

GE MOBILE COMMUNICATIONS SERVICE PARTS CATALOG

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This Catalog is a good place to file your Service Parts Price Lists for reference.
Appropriate versions as of May 30, 1988 are :

	ECX-356-8	Service Parts Price List, January 1, 1988 Addendum # 1, dated March 30, 1988
For Domestic use:	ECX-805F	Price List Supplement for Test Equipment, Service Aids and Shop Supplies, dated June 1, 1988
For International use:	ECX-806F	Price List Supplement for Test Equipment, Service Aids and Shop Supplies, dated June 1, 1988

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Listings for Crystals and Channel Oscillator Modules have been made by the product and by application to either Transmitters or Receivers. Within the Charts for a specific product, the Part Ordering Number and other necessary information is given in order of operating frequency bands. To locate a specific crystal or channel oscillator, consult the index above for the page number of the product. On that page you will be able to determine from the desired operating frequency and application the required device.

When ordering Channel Crystals or Oscillator Modules, it is necessary to include:

- 1) The part number of the device you are ordering
- 2) The operating frequency in MHz
- 3) The crystal or oscillator module frequency if so noted on chart and
- 4) Whether for T (Transmit) or R (Receive)

Fixed-frequency IF crystals and modules are often shipped from stock, but items which must be made to

order normally take from ten days to five weeks to produce. You may want to "RUSH" orders in an emergency situation. Expedited service is available, but a premium is charged for the additional efforts required.

For high-stability modules requiring an aging process, "BASE STATION- OFF-THE-AIR" emergencies can be handled by furnishing a temporary, "RED ICOM". The Red Icom shortcuts the aging or compensating processes and can restore temporary operation while the properly aged and compensated device is made. The "Red ICOM" must be returned to GE upon receipt of the standard item. This service is not supplied for frequency changes or new stations, but only for base stations suffering an oscillator module failure.

We prefer for all orders for modules to be manufactured to order on a specific frequency to be mailed since telephoned orders are subject to misunderstanding. We will, however, take emergency orders by phone.

All channel elements listed here are for radio units with Standard IF Frequencies and Standard Channel Spacings. For radios with Alternate IF Frequencies and for Tertiary Channels (i.e., 12.5 KHz or 15 KHz channel spacing), please consult the radio maintenance manual or Service Parts ID.

	TRANSMITTER ORDER NUMBER	RECEIVER ORDER NUMBER	
DELTA 150-174MHz	19A701562G6	19A701562G6	Crystalled Only!
450-470MHz	19A701562G6	19A701562G6	
PHOENIX 150-174 MHz	19B233066G1	19B233066G2	Crystalled Only!
450-470 MHz	19B233066G5	19B233066G7	
CENTURY II (M5 SERIES)			
150-174 MHz	19B233066G1	19B233066G2	
450-470 MHz	19B233066G5	19B233066G7	
EXECUTIVE II & BEACON® MONITOR PAGERS			TONE NETWORKS
33-50 MHz		SW/BQ-124B	SW/EFM-R15M
150-174 MHz		SW/BQ-119A	SW/EFM-R15M
450-470 MHz		SW/BQ-111A	SW/EFM-R15M
MPI PERSONALS			
VHF (136-174 MHz)	19A702375G2	19A702375G2	
UHF (450-512 MHz)	19A702375G1	19A702375G2	
PE/MPE			
LOW BAND (30-36 MHz)	4EG31A10	4EG28A17	
(36-42 MHz)	4EG31A10	4EG28A18	
(42-50 MHz)	4EG31A10	4EG28A17	
MID BAND (66-88 MHz)	4EG27A13	4EG28A30	
(75-88 MHz)	4EG27A13	4EG28A31	
HIGH BAND(138-150.8 MHz)	4EG27A10	4EG28A15	
(150.8-174 MHz)	4EG27A10	4EG28A11	
UHF BAND (406-420 MHz)	4EG27A11	4EG28A12	
(450-512 MHz)	4EG27A11	4EG28A13	
PY(MVP Personal)			
HI-BAND (150.8-174 MHz)	4EG27A10	4EG36A10	
UHF BAND (450-470 MHz)	4EG27A11	4EG28A28	
MPX 800 MHz BAND		19A137645G13	
OFFSET Oscillator	19D430310G1		
REPEAT/DIRECT OFFSET	19D433665G1		
MPR/MPX Channel Oscillators			
VHF (138-174 MHz)	19A137646G1	19A137645G1	
UHF (406-512 MHz)		19A137645G7	
	19A137646G3 (ONLY IF SEP TX/RX)		
MPR/MPX UHF (406-512 MHz) OFFSET OSCILLATORS			
SIMPLEX (0 MHz Offset)		19D429739G2	21.4 MHz (STOCKED)
3.0 MHz Offset (Std 470-512 MHz)		19D429739G3	24.4 MHz (STOCKED)
5.0 MHz Offset (Std 450-470 MHz)		19D429739G4	26.4 MHz (STOCKED)
Other than 0, 3, or 5 MHz		19D429739G1	(Formula)(ORDERED)

Note: It is not necessary to specify any frequency on the order for 19D429739G2, 19D429739G3, or 19D429739G4, since these are for the fixed frequencies defined by the group numbers. You must specify the frequency for 19D429739G1 using the formula:

$$\text{OFFSET OSCILLATOR FREQ} = (\text{TRANSMIT FREQ} - \text{RECEIVE FREQ} + \text{IF FREQ})$$

(The offset oscillator frequency must be between 14.85 MHz and 29.0 MHz.)

CRYSTALS

MPR Personal



COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —						
H,J,K	138—174	KT-167-A/B/C KT-168-A/B/C	$\frac{F_o}{3}$	46.00—58.00 MHz	Crystal Module (5 ppm)	19A137646G1
N,R,S	406—512	KT-175-A/B/C KT-176-A/B/C	$FT-FR+21.4$	14.85—28.10 MHz	TX Offset	Standard 21.4 MHz Rx IF
			$FT-FR+23.0$	14.85—26.10 MHz	Crystal Module TX Offset	19D429739G1 Optional 23.0 MHz Rx IF
					Crystal Module	19D429739G11

NOTE: Use the offset ordering information in the Quick Reference Chart, Page 1.02

— RECEIVERS —						
H,J,K	138—174	ER-109-A/B/C	$\frac{F_o-21.4}{2}$	58.30—76.35 MHz	Crystal Module (5 ppm)	Standard 21.4 MHz IF 19A137645G1
N,R,S	406-512	ER-114-A/B/C	$\frac{F_o-23.0}{2}$	57.50—75.50 MHz	Crystal Module (5 ppm)	Optional 23.0 MHz IF 19A137645G5
			$\frac{FR-21.4}{6}$	64.10—81.77 MHz	Crystal Module (5 ppm)	Standard 21.4 MHz IF 19A137645G7
			$\frac{FR-23.0}{6}$	63.84—81.50 MHz	Crystal Module (5 ppm)	23.0 MHz IF 19A137645G11

(FT = Transmit frequency, FR = receive frequency)

MPX Personal

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY (MHz)	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —						
H,J,K	138-174	KT-167-A/B/C/D/E/F KT-168-A/B/C/D/E/F KT-191-D/E/F	$\frac{F_o}{3}$	46-58	Osc. Module	19A137646G1

UHF Transmitter Oscillator modules only used with Independent TX/RX Option

N,R,S	406-512	(None)	$\frac{F_o}{10}$	40.6-51.2	Osc. Module	19A137646G3
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— TRANSMITTER OFFSET OSCILLATORS —

N,R,S N,R,S S R	406-512	KT-175-A/B/C & KT-176-A/B/C KT-176-A/B/C KT-176-A/B/C	Tx-Rx+1F	14.85-29	Offset Osc. Zero Offset Osc. 3 MHz Offset Osc. 5 MHz Offset Osc.	19D429739G1 19D429739G2 19D429739G3 19D429739G4
	406-512		Tx-Rx+1F	21.4		
	470-512		Tx-Rx+1F	24.4		
	450-470		Tx-Rx+1F	26.4		
W W W	806-825	KT-181-A/B KT-181-A/B KT-181-A/B		16.6	Std. Offset Osc. Alt. IF Offset Osc. Zero Offset Osc. (Repeater Talk-Around)	19D430310G1 19D430310G2 19D433665G1
	806-825			17.0		
	806-825			10.7		

See the Offset Oscillator ordering information in the Quick Reference Chart, Page 1.02

— RECEIVERS —						
H,J,K	138-174	ER-109-A/B/C ER1-121-A/B/C	$\frac{F_o-21.4}{2}$	58.3-76.3	5 ppm Standard Rx	19A137645G1
			$\frac{F_o-23}{2}$	57.5-75.5	5 ppm Altr. IF Rx	19A137645G5
			$\frac{F_o-21.4}{2}$	58.3-76.3	2 ppm Standard Rx	19A137645G2
			$\frac{F_o-23}{2}$	57.5-75.5	2 ppm Altr. IF Rx	19A137645G6
N,R,S	406-512	ER-114-A/B/C ER-114-A/B/C ER-114-A/B/C ER-114-A/B/C ER-114-A/B/C ER-114-A/B/C	$\frac{F_o-21.4}{6}$	64.1-81.77	5 ppm Standard Rx	19A137645G7
			$\frac{F_o-23}{6}$	63.83-81.5	5 ppm Altr. IF Rx	19A137645G11
			$\frac{F_o-21.4}{6}$	64.1-81.77	2 ppm Standard Rx	19A137645G8
			$\frac{F_o-23}{6}$	63.83-81.5	2 ppm Altr. IF Rx	19A137645G12
			$\frac{F_o-21.4}{6}$	64.1-81.77	±12.5 kHz Std Rx	19A137645G8
			$\frac{F_o-23}{6}$	63.83-81.5	±12.5 kHz Altr. IF Rx	19A137645G12
W	851-870	ER-115-A/B/C	$\frac{F_o+21.4}{12}$	72.7-74.3	Standard Rx	19A137646G13
			$\frac{F_o+23}{12}$	72.83-74.42	Alternate IF	19A137645G14

CRYSTALS

MPI Personal Portables

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (IN MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY (IN MHz)	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —						
H,J	136-174	TR-103-A, TR-120-A	$\frac{F_o}{3}$	45.33-58	Crystal	19A702375G2
M,N,R, S,T	403-512	TR-122-A TR-102-A, TR-121-A TR-121-B, TR-121-C	$\frac{F_o}{8}$	44.777-56.889	Crystal	19A702375G1
— RECEIVERS —						
H,J	136-174	TR-103-A, TR-120-A	$\frac{F_o-10.7}{3}$	41.76-54.334	Crystal	19A702375G2
M,N,R, S,T	403-512	TR-122-A TR-102-A, TR-121-A TR-121-B, TR-121-C	$\frac{F_o-21.4}{9}$	10.245 42.40-54.511 20.945	2nd Osc. Crystal Crystal 2nd Osc Crystal	19A702284G1 19A702375G2 19A702284G3

EXECUTIVE II AND BEACON™ MONITOR PAGER

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (IN MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY (IN MHz)	DESCRIPTION	ORDERING NUMBER
— RECEIVERS —						
B/C/D/E	33-50	ER-145-A/B/C	$F_o + 10.7$	11.155* 10.245*	Crystal 2nd Osc. Crystal Alt. 2nd Osc. Crystal	SW/BQ-124B SW/BQ-62B SW/BQ-62B SW/BQ-119A
G/H/J/K	142-174	ER-146-A1/B1	$\frac{F_o-10.7}{3}$	10.245* 11.155*	2nd Osc. Crystal Alt. 2nd Osc. Crystal	SW/BQ-62B SW/BQ-62B SW/BQ-111A
M	406-430	—	$\frac{F_o-21.6}{9}$	21.245* 22.055*	2nd Osc. Crystal Alt. 2nd Osc. Crystal	SW/BQ-62B SW/BQ-62B SW/BQ-111A
P/S	450-512	ER-147-A1/B1	$\frac{F_o-21.6}{9}$	21.245* 22.055*	2nd Osc. Crystal Alt. 2nd Osc.	SW/BQ-62B SW/BQ-62B

*You must specify the exact frequency desired for the 2nd Oscillator Crystal

CRYSTALS

DELTA MOBILES (CRYSTALLED) (PCM4)

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (IN MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
- TRANSMITTERS -						
G	136-153	KT-215-A, KT-216-A	$\frac{F_o}{3}$	45.33-51.00	Crystal	19A701526G6*
H	150.8-174	KT-217-A KT-215-A, KT-216-A KT-217-A	$\frac{F_o}{3}$	50.266-58.00	Crystal	19A701526G6*
U	450-470	KT-218-A, KT-219-A, KT-220-A	$\frac{F_o}{9}$	50.00-52.222	Crystal	19A701526G6*
- RECEIVERS-						
G	136-153	ER-139-A	$\frac{F_o-10.7}{3}$	41.76-47.433 47.433	Crystal	19A701526G6*
H	150.8-174	ER-139-A	$\frac{F_o-10.7}{3}$	46.70-54.43	Crystal	19A701526G6*
U	450-470	ER-140-A	$\frac{F_o-10.9}{9}$	48.81-51.03	Crystal	19A701526G6*

* You must specify the operating frequency and whether for Transmit (T) or Receive (R)!

PHOENIX MOBILES (CRYSTALLED) (PCM3)

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (IN MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
- TRANSMITTERS -						
J	150-174	TR-100-A	$\frac{F_o}{3}$	50.00-58.00	Crystal	19B233066G1
U	450-470	TR-101-D	$\frac{F_o}{9}$	50.00-52.222	Crystal	19B233066G5
- RECEIVERS -						
J	150-174	TR-100-A	$\frac{F_o-10.7}{3}$	46.64-54-43	Crystal	19B233066G2
U	450-470	TR-101-A	$\frac{F_o-21.4}{3}$	47.622-49.844	Crystal	19B233066G6

CENTURY II MOBILES (PCM5)

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
- TRANSMITTERS -						
J	146-174	KT-171-A KT-172-A	$\frac{F_o}{3}$		Crystal (5 ppm) Crystal (10 ppm)	19B233066G1 19B233066G3
T	420-450	KT-179-2	$\frac{F_o}{9}$		Crystal (5 ppm)	19B233066G5
U,V,W	440-470	KT-180-A	$\frac{F_o}{9}$		Crystal (5 ppm)	19B233066G5
Y	806-825	KT-196-A, KT-196-B	$\frac{F_o}{24}$	IF = 45.000 MHz	Oscillator Module	19A701712G1
Y	806-825	KT-196-A, KT-196-B	$\frac{F_o}{24}$	IF = 45.0125 MHz	Oscillator Module	19A701712G8
- RECEIVERS -						
J	146-174	ER-111-A	$\frac{F_o-10.7}{3}$	10.245 MHz 11.155 MHz	1st Osc. Crystal (5 ppm) 2nd Osc. Crystal 1st Osc. Crystal (10 ppm) Altr. 2nd Osc. Crystal	19B233066G2 19A134802P1 19B233066G4 19A134802P2
T	420-450	ER-116-A	$\frac{F_o+21.4}{9}$	20.945 MHz 21.855 MHz	1st Osc. Crystal (5 ppm) 2nd Osc. Crystal Altr. 2nd Osc. Crystal	19B233966G6 19A134892P3 19A134892P4
U,V,W	440-470	ER-116-A	$\frac{F_o-21.4}{9}$	20.945 MHz 21.855 MHz	1st Osc. Crystal (5 ppm) 2nd Osc. Crystal Altr. 2nd Osc. Crystal	19B233066G7 19A134802P3 19A134802P4
Z	851-870	ER-127-A	2nd Osc	45.455 MHz	2nd Osc. Crystal	19B233066G8
Z	851-870	ER-127-A	2nd Osc.	45.4675 MHz	45.0125 MHz IF 2nd 0	19B233066G9

CRYSTALS

MASTR II MOBILE & STATION TRANSMITTERS

COMB. NO. FREQ. RANGE DIGITS	FREQUENCY BAND (MHz)	FORMULA	CRYSTAL RANGE (MHz)		5 ppm 5C ICOMS ORDER NO.	5 ppm EC ICOMS ORDER NO.	5 ppm FCC TYPES KT-	2 ppm 2C ICOMS ORDER NO.	2 ppm FCC TYPES KT-
12	25-30	Fo 3	8.33-10		19A129393G14	19A129393G16	See List KT-1	19A129393G13	See List KT-2
13	29.7-36	Fo 3	9.9-12		19A129393G19	19A129393G16	See List KT-1	19A129393G13	See List KT-2
23	36-42	Fo 3	12-14		19A129393G19	19A129393G16	See List KT-1	19A129393G13	See List KT-2
33	42-50	Fo 3	14-16.67		19A129393G19	19A129393G16	See List KT-1	19A129393G13	See List KT-2
44, 45	66-88	Fo 6	11-14.67		19A129393G40	19A129393G39	155-A, 156-A, 157-A	19A129393G38	155-A, 156-A, 157-A
56	138-155	Fo 12	11.5-12.92	STD	19A129393G20	19A129393G17	See List KT-3	19A129393G14	See List KT-4
				PLL-	19A130605G8	19A130605G14	See List KT-5	19A130605G1	See List KT-5
66	150.8-174	Fo 12	12.56-14.5	STD	19A129393G20	19A129393G17	See List KT-3	19A129393G14	See List KT-4
				PLL-	19A130605G9	19A130605G15	See List KT-5	19A130605G2	See List KT-5
77	406-420	Fo 36	11.27-11.66	STD	19A129393G21	19A129393G18	See List KT-7	19A129393G15	See List KT-8
				PLL-	19A130605G10	19A130605G16	NO FCC TYPE#	19A130605G3	NO FCC TYPE #
78	420-450	Fo 36	11.66-12.5		19A129393G21	19A129393G18	See List KT-7	19A129393G15	See List KT-8
88	450-470	Fo 36	12.5-13.05	STD	19A129393G21	19A129393G18	See List KT-7	19A129393G15	See List KT-8
				PLL-	19A130605G11	19A130605G17	NO FCC TYPE#	19A130605G4	See List KT-9
89	470-494	Fo 36	13.05-13.72	STD	19A129393G21	19A129393G18	See List KT-7	19A129393G15	See List KT-8
				PLL-	19A130605G12	19A130605G18	NO FCC TYPE#	19A130605G5	See KT-9
91	494-512	Fo 36	13.72-14.222	STD	19A129393G21	19A129393G18	See List KT-7	19A129393G15	See List KT-8
				PLL-	19A130605G13	19A130605G19	NO FCC TYPE#	19A130605G6	See List KT-9
92	851-870	Fo 48	17.729-18.125					19A136999G1 (1 ppm)	150-A, 185-A, 189-A

The lists shown below contain the FCC Transmitter Type Numbers that may be applicable to the channel elements referencing that particular list. The letters "KT-" are assumed as a prefix for each type number listed. For an example, a listing of "30-A" would represent the FCC Transmitter Type "KT-30-A".

List KT-1: 30-A, 31-A, 39-A, 56-A, 58-A, 59-A, 60-A, 61-A, 70-A, 70-E, 71-A, 80-A, 80-E, 81-A.

List KT-2: 30-C, 31-C, 39-C, 56-C, 57-C, 58-C, 59-C, 60-C, 61-C, 70-C, 70-G, 71-C, 80-C, 80-G, 81-C.

List KT-3: 32-B, 33-A, 34-A, 41-B, 42-A, 43-A, 44-B, 45-A, 46-A, 47-B, 48-A, 49-A, 72-B, 72-F, 73-A, 73-E, 74-A, 78-A, 79-A, 82-B, 82-F, 83-A, 83-E, 84-A, 100-B, 204-A.

List KT-4: 32-B, 33-C, 34-C, 41-B, 42-C, 43-C, 44-B, 45-C, 46-C, 47-B, 48-C, 49-C, 72-B, 72-F, 73-C, 73-G, 74-C, 78-A, 79-A, 820B, 82-F, 83-C, 83-G, 84-C, 100-B, 204-A.

List KT-5: 32-K, 33-J, 34-J, 41-J, 42-J, 43-J, 44-J, 45-J, 46-J, 47-J, 48-J, 49-J, 72-J, 73-J, 73-K, 74-J, 78-J, 79-J, 204-J.

List KT-7: 35-B, 35-D, 36-B, 37-A, 75-B, 75-Fm 76-Bm 76-F, 77-Am 85-B, 85-F, 86-B, 86-F, 87-A, 101-B, 102-B, 112-A, 119-A, 126-A.

List KT-8: 35-B, 35-D, 36-C, 36-D, 37-C, 50-D, 51-D, 52-D, 53-D, 54-D, 55-D, 75-D, 75-H, 76-D, 76-H, 77-C, 85-D, 85-H, 86-D, 86-H, 87-C, 88-C, 101-D, 102-D, 112-C, 113-C, 114-C, 115-C, 116-C, 117-C, 118-C, 119-C, 126-C, 200-C.

List KT-9: 50-K, 51-K, 52-K, 53-K, 54-K, 55-K, 113-K, 114-K, 115-K, 116-K, 117-K, 118-K, 200-K.

PLL: Phase—Locked—Loop Exciter Models with FM Modulated Oscillator Modules
STD: Standard Models

MASTR II MOBILE & STATIONS RECEIVERS

COMB. NO. FREQ. RANGE DIGITS	FREQUENCY BAND (MHz)	ICOM FORMULA	CRYSTAL RANGE (MHz)	5 PPM 5C ICOMS ORDER NO	5 PPM EC ICOMS ORDER NO	2 PPM 2C ICOMS ORDER NO	2 PPM FCC TYPE
12	25-30	$\frac{F_o + 11.2}{3}$	23.06-13.73	19A129393G10	19A129393G6	19A129393G2	ER-63-A
13	29.7-36	$\frac{F_o + 9.4}{3}$	13.13-15.13	19A129393G9	19A129393G5	19A129393G1	ER-63-A
23	36-42	$\frac{F_o + 11.2}{3}$	15.73-17.73	19A129393G10	19A129393G6	19A129393G2	ER-63-A
33	42-50	$\frac{F_o + 9.4}{3}$	17.13-19.8	19A129393G9	19A129393G5	19A129393G1	ER-63-A
44, 45	66-88	$\frac{F_o - 11.2}{6}$	12.86-16.54	19A129393G37	19A129393G36	19A129393G35	ER-101-A
56	138-155	$\frac{F_o - 11.2}{9}$	14.08-15.98	19A129393G11	19A129393G7	19A129393G3	ER-64-A
66	150.8-174	$\frac{F_o - 11.2}{9}$	15.51-18.08	19A129393G11	19A129393G7	19A129393G3	ER-64-A
	138-174 (NOTE 1)	$\frac{F_o + 11.2}{9}$	16.57-20.57	19A130283G5	19A130283G3	19A130283G1	ER-64-A
77	406-420	$\frac{F_o - 11.2}{27}$	14.62-15.14	19A129393G12	19A129393G8	19A129393G4	ER-65-A
78	420-450	$\frac{F_o - 11.2}{27}$	15.14-16.25	19A129393G12	19A129393G8	19A129393G4	ER-65-A
88	450-47-	$\frac{F_o - 11.2}{27}$	16.25-16.99	19A129393G12	19A129393G8	19A129393G4	ER-65-A
89	470-494	$\frac{F_o - 11.2}{27}$	16.99017.88	19A129393G12	19A129393G8	19A129393G4	ER-65-A
91	494-512	$\frac{F_o - 11.2}{27}$	17.88-18.54	19A129393G12	19A129393G8	19A129393G4	ER-65-A
	450-512 (Note 1)	$\frac{F_o + 11.2}{27}$	17.08-19.38	19A130283G	19A130283G	19A130283G	ER-65-A
92	806-820	$\frac{F_o - 45}{48}$	15.85-16.25			19A136999G2 (1 ppm)	ER-97-D

NOTES:

- NOTE 1: Formula is for high-side injection option and is required for MAST II "E" Series when combination number 6th digit is A thru P and 7th digit is D or L; and, is not used for MASTR II stations. HB rcvrs (138-174 MHz) require Option 9054.
- 2: MASTR II radios may use either 5 ppm or 2 ppm ICOMs as follows:
- Use all 2C-ICOMs when 10th digit is B.
 - In "M" Series radios, use only one 5C-ICOM (master) (normally in F1 position) and all others must be EC-ICOMs (slave). (The 5C-ICOM may be used in any xmtr or rcvr position.)
 - In "E" series (system package) mobiles using 5 ppm ICOMs, a 5C-ICOM is required in each layer (top & bottom) and all others must be EC-ICOMs.
 - In all MASTR II stations using 5 ppm ICOMs, a 5C-ICOM is required in the xmtr and one in the rcvr. EXCEPTION — only one 5C-ICOM is required in the Intermittent Duty, Local Control Station.
- 3: For MASTR II DFE receivers with non-matching IF's, a second mixer/converter (19C320691G1) is used to convert the 9.4 MHz IF to 11.2 MHz. Use Xtal 19B226002G1 (1.8 MHz).

CRYSTALS



MASTR EXECUTIVE II MOBILES & STATIONS (For IMTS/RCC Mobiles see IMTS or RCC Tables)

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
- TRANSMITTERS -						
13	30—36	KT-120-A/B, KT-123-A/B KT-128-A, KT-138-A/B	$\frac{F_o}{3}$	10—12 MHz	Crystal Module (5 ppm)	19B226962G1
23	36—42	KT-120-A/B, KT-123-A/B KT-128-A, KT-138-A/B	$\frac{F_o}{3}$	12—14 MHz	Crystal Module (5 ppm)	19B226962G2
33	42—50	KT-120-A/B, KT-123-A/B KT-128-A, KT-138-A/B	$\frac{F_o}{3}$	14—16.66 MHz	Crystal Module (5 ppm)	19B226962G3
44	66—78	KT-158-A/B, KT-159-A	$\frac{F_o}{6}$	11.00—13.00 MHz	Crystal Module (5 ppm)	19B226962G31
45	77—88	KT-158-A/B, KT-159-A	$\frac{F_o}{6}$	12.83—14.67 MHz	Crystal Module (5 ppm)	19B22692G32
55	138—150.8	KT-121-A/B, KT-124-A/B KT-129-A, KT-139-A/B KT-137-A/B	$\frac{F_o}{12}$	11.5—12.56 MHz	Crystal Module (5 ppm)	19B226962G4
66	150.8—174	KT-121-A/B, KT-122-A/B KT-139-A/B, KT-137-A/B	$\frac{F_o}{12}$	12.56—14.5 MHz	Crystal Module (5 ppm)	19B226962G5
77	406—420	KT-122-A/B, KT-125-A/B/C KT-130-A/C, KT-140-A/B KT-141-A/B	$\frac{F_o}{36}$	11.27—11.66 MHz	Crystal Module (5 ppm) 2C-ICOM (2 ppm)	19B226962G6 19A129393G15
78	420—450	KT-122-A/B, KT-125-A/B/C KT-130-A/C, KT-140-A/B KT-141-A/B	$\frac{F_o}{36}$	11.66—12.50 MHz	Crystal Module (5 ppm) 2C-ICOM (2 ppm)	19B226962G28 19A137763G15
88	450—470	KT-122-A/B, KT-125-A/B/C KT-130-A/C, KT-140-A/B KT-141-A/B	$\frac{F_o}{36}$	12.5—13.05 MHz	Crystal Module (5 ppm) 2C-ICOM (2 ppm)	19B226962G7 19A129393G15A
89	470—404	KT-122-A/B, KT-125-A/B/C KT-130-A/C, KT-140-A/B KT-141-A/B	$\frac{F_o}{36}$	13.05—13.72 MHz	Crystal Module (5 ppm) 2C-ICOM (2 ppm)	19B226962G8 19A129393G15B
91	494-512	KT-122-A/B, KT-125-A/B/C KT-130-A/C, KT-140-A/B KT-141-A/B	$\frac{F_o}{36}$	13.782—14.22 MHz	Crystal Module (5 ppm) 2C-ICOM (2 ppm)	19B226962G9 19A129393G15C
92	806—825	KT-147-C/D, KT-148-C KT-140-C/D, KT-154-C/D	$\frac{F_t}{48}$	16.79—17.18 MHz	FM Oscillator (2 ppm)	19A130605G7
- RECEIVERS -						
13	30—36	ER-88-A	$\frac{F_o + 9.4}{3}$	13.13—15.2 MHz	Crystal Module (5 ppm)	19B226962G10
23	36—42	ER-88-A	$\frac{F_o + 11.2}{3}$	15.8—17.8 MHz	Crystal Module (5 ppm)	19B226962G11
33	42—50	ER-88-A	$\frac{F_o + 9.4}{3}$	17.13—19.8 MHz	Crystal Module (5 ppm)	19B226962G12
44	66—78	ER-108-A	$\frac{F_o + 11.2}{6}$	12.86—14.87 MHz	Crystal Module (5 ppm)	19B226962G33
45	77—88	ER-108-A	$\frac{F_o + 11.2}{6}$	14.70—16.54 MHz	Crystal Module (5 ppm)	19B226962G34
55	138—150.8	ER-89-A	$\frac{F_o - 11.2}{9}$	14.08—15.51 MHz	Crystal Module (5 ppm)	19B226962G13
66	150.8—174	ER-89-A	$*\frac{F_o + 11.2}{9}$	16.57—18 MHz	Crystal Module (5 ppm)	19B226962G19
			$\frac{F_o - 11.2}{9}$	15.51—18.08 MHz	Crystal Module (5 ppm)	19B226962G14
			$*\frac{F_o + 11.2}{9}$	18—20.57 MHz	Crystal Module (5 ppm)	19B226962G20
77	406—420	ER-90-A	$\frac{F_o - 11.2}{27}$	14.62—15.14 MHz	Crystal Module (5 ppm)	19B226962G15
			$*\frac{F_o + 11.2}{27}$	15.45—15.97 MHz	Crystal Module (5 ppm)	19B226962G21
78	420—450	ER-90-C	$\frac{F_o - 11.2}{27}$	14.62—15.1 MHz	2C-ICOM (2 ppm)	19A129393G4
		ER-90-A	$\frac{F_o - 11.2}{27}$	15.14—16.26 MHz	Crystal Module (5 ppm) 2C-ICOM (2 ppm)	19B226962G29 19A137763G4
88	450—470	ER-90-A	$\frac{F_o - 11.2}{27}$	16.25—16.99 MHz	Crystal Module (5 ppm)	19B226962G16
			$*\frac{F_o + 11.2}{27}$	17.08—17.82 MHz	Crystal Module (5 ppm)	19B226962G22
89	470—494	ER-90-C	$\frac{F_o - 11.2}{27}$	16.25—16.99 MHz	2C-ICOM (2 ppm)	19A129393G4A
		ER-90-A	$\frac{F_o - 11.2}{27}$	16.99—17.88 MHz	Crystal Module (5 ppm)	19B226962G17
		ER-90-C	$*\frac{F_o + 11.2}{27}$	17.82—18.711 MHz	Crystal Module (5 ppm)	19B226962G23
			$\frac{F_o - 11.2}{27}$	16.99—17.88 MHz	2C-ICOM (2 ppm)	19A129393G4B

CRYSTALS

EXECUTIVE II MOBILES & STATIONS
(For IMTS/RCC Mobiles see IMTS or RCC Tables)



COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
- RECEIVERS -						
91	494-512	ER-90-A	$\frac{F_o - 11.2}{27}$	17.88—18.54 MHz	Crystal Module (5 ppm)	19B226962G18
			$\frac{*F_o + 11.2}{27}$	18.71—19.37 MHz	Crystal Module (5 ppm)	19B226962G24
		ER-90-C	$\frac{F_o - 11.2}{27}$	17.88—18.54 MHz	2C-ICOM (2 ppm)	19A129393G4C
92	851-870	ER-96-C/D	$\frac{F_r - 45}{48}$	(See Note) 35.6 MHz	— 2nd Osc Crystal	— 19B206221G3

*Crystal formula for highside injection. H.B. (138—174 MHz) receivers requires Option 9054. Not used for statons.

NOTE: The receiver frequency is always exactly 45 MHz above the transmitter frequency.

The transmitter Oscillator sets both transmit and receive frequency. (Fr = receive frequency) (ft = transmit frequency)

GE-MARC V MASTR MOBILE & BASE CRYSTAL ELEMENT FREQUENCY CONTROL

OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
- TRANSMITTERS -					
806-825	KT-147-D KT-154-D	$\frac{F_o}{48}$	16.79-17.19 MHz	2C-FM-ICOM (2 ppm)	19A130605G7
- RECEIVER -					
851-870	ER-96-D	$\frac{F_r - 45}{48}$	(See Note 1) 5.600 MHz	2nd Osc. Crystal	19B206221G3

SYNTHESIZED FREQUENCY CONTROL

- TRANSMITTER -					
806-825	KT-187-A		All transmit operating frequencies required.	PROM	19A143246G2
- RECEIVER -					
851-870	ER-96-D		(See Note 1) 35.600 MHz	2nd Osc. Crystal	19B206221G3

NOTE: The receiver frequency is always 45 MHz above the transmitter frequency and is also controlled from the transmitter frequency module.

EXECUTIVE II PAGER & "BEACON" MONITOR PAGER

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (IN MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY (MHz)	DESCRIPTION	ORDERING NUMBER
- RECEIVERS -						
B/C/D/C	33-50	ER-145-A/B/C	$\frac{F_o + 10.7}{9}$	11.155* 10.245*	Crystal 2nd Osc. Crystal Alt. 2nd Osc.	SW/BQ-124B SW/BQ-62B SW/BQ-62B
G/H/J/K	142-174	ER-146-A1/B1	$\frac{F_o - 10.7}{3}$	10.245* 11.155*	Crystal 2nd Osc. Crystal Alt. 2nd Osc.	SW/BQ-119A SW/BQ-62B SW/BQ-62B
M	406-430	—	$\frac{F_o - 21.6}{9}$	21.245* 22.055*	Crystal 2nd Osc. Crystal Alt. 2nd Osc.	SW/BQ-111A SW/BQ-62B SW/BQ-62B
P/S	450-512	ER-147-A1/B1	$\frac{F_o - 21.6}{9}$	21.245* 22.055*	Crystal 2nd Osc. Crystal Alt. 2nd Osc.	SW/BQ-111A SW/BQ-62B SW/BQ-62B

* You must specify the exact frequency desired for the 2nd Oscillator Crystal

CRYSTALS



MASTR EXECUTIVE II RCC MOBILES (Radio Common Carrier)

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
(The 1st Digit of combination number is "V")						
- TRANSMITTERS -						
66	150.8—174	KT-134-A	$\frac{F_o}{12}$	12.56—14.5 MHz	Crystal Module (5 ppm)	19B226962G5
66	150.8—174	KT-173-A	Δ	12.166250 MHz	EC-FM-ICOM (5 ppm)	19A130605G20
66	150.8—174	KT-173-A	Δ	12.166250 MHz	2C-FM-ICOM (2 ppm)	19A130605G24
78	420—450	KT-144-A	$\frac{F_o}{36}$	11.66—12.50 MHz	Crystal Module (5 ppm)	19B226962G28
88	450—570	KT-144-A	$\frac{F_o}{36}$	12.50—13.06 MHz	Crystal Module (5 ppm)	19B226962G7
88	450—470	KT-174-A	Δ	16.526388 MHz	EC-FM-ICOM (5 ppm)	19A130605G22
88	450—470	KT-174-B	Δ	16.526388 MHz	2C-FM-ICOM (2 ppm)	19A130605G26
89	470—494	KT-145-A	$\frac{F_o}{36}$	13.05—13.73 MHz	Crystal Module (5 ppm)	19B226962G8
91	494—512	KT-145-A	$\frac{F_o}{36}$	13.72—14.23 MHz	Crystal Module (5 ppm)	19B226962G9
	(ALL Δ)	Reference Oscillator	Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A137763G43 *(See note below)
			Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A129393G44

- RECEIVERS -						
66	150.8—174	ER-98-A	$\frac{F_o - 11.2}{12}$	11.63—13.57 MHz	Crystal Module (5 ppm)	19B226962G35
66	150.8—174	ER-112-A	Δ	14.312777 MHz	EC-ICOM (5 ppm)	19A137763G29
78	420—450	ER-99-A	$\frac{F_o + 11.2}{27}$	14.312777 MHz	2C-ICOM (2 ppm)	19A137763G33
				15.97—17.09 MHz	Crystal Module (5 ppm)	19B226962G36
88	450—470	ER-99-A	$\frac{F_o + 11.2}{27}$	17.08—17.83 MHz	Crystal Module (5 ppm)	19B226962G22
88	450—470	ER-113-A	Δ	15.926388 MHz	EC-ICOM (5 ppm)	19A137763G31
88	450—470	ER-113-A	Δ	15.926388 MHz	2C-ICOM (2 ppm)	19A137763G41
89	470—490	ER-99-A	$\frac{F_o + 11.2}{27}$	17.82—19.82 MHz	Crystal Module (5 ppm)	19B226962G23
91	494—512	ER-99-A	$\frac{F_o + 11.2}{27}$	18.71—19.38 MHz	Crystal Module (5 ppm)	19B226962G24
	(ALL Δ)	Reference	Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A137763G43 *(see note below)
			Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A129393G44

MASTR EXECUTIVE II IMTS (IMPROVED MOBILE TELEPHONE SYSTEM) MOBILES

(The 1st Digit of combination number is "C")						
- TRANSMITTERS -						
66	150.8—174	KT-143-A	$\frac{F_o}{12}$	12.56—14.5 MHz	Crystal Module (5 ppm)	19B226962G5
66	150.8—174	KT-173-A	Δ	12.106250 MHz	EC-FM-ICOM (5 ppm)	19A130605G21
78	420—450	KT-144-A	$\frac{F_o}{36}$	12.106250 MHz	2C-FM-ICOM (2 ppm)	19A130605G25
				11.67—12.50 MHz	Crystal Module (5 ppm)	19B226962G28
88	450—470	KT-144-A	$\frac{F_o}{36}$	12.50—13.06 MHz	Crystal Module (5 ppm)	19B226962G7
88	450—470	KT-174-A	Δ	16.539351 MHz	EC-FM-ICOM (5 ppm)	19A130605G23
88	450—470	KT-174-B	Δ	16.539351 MHz	2C-FM-ICOM (2 ppm)	19A130605G27
89	470—494	KT-145-A	$\frac{F_o}{36}$	13.05—13.73 MHz	Crystal Module (5 ppm)	19B226962G8
91	494—512	KT-145-A	$\frac{F_o}{36}$	13.72—14.23 MHz	Crystal Module (5 ppm)	19B226962G9
	(ALL Δ)	Reference Oscillator	Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A137763G43 (See note below)
			Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A129393G44

- RECEIVERS -						
66	150.8—174	ER-98-A	$\frac{F_o + 11.2}{9}$	18—20.58 MHz	Crystal Module (5 ppm)	19B226962G20
66	150.8—174	ER-112-A	Δ	14.312777 MHz	EC-ICOM (5 ppm)	19A137763G30
78	420—450	ER-99-A	$\frac{F_o + 11.2}{27}$	14.312777 MHz	2C-ICOM (2 ppm)	19A137763G34
				15.97—17.09 MHz	Crystal Module (5 ppm)	19B226962G36
88	450—470	ER-99-A	$\frac{F_o + 11.2}{27}$	17.08—17.83 MHz	Crystal Module (5 ppm)	19B226962G22
88	450—470	ER-113-A	Δ	15.939351 MHz	EC-ICOM (5 ppm)	19A137763G32
88	450—470	ER-113-A	Δ	15.939351 MHz	2C-ICOM (2 ppm)	19A137763G42
89	470—494	ER-99-A	$\frac{F_o + 11.2}{27}$	17.82—18.72 MHz	Crystal Module (5 ppm)	19B226962G23
91	494—512	ER-99-A	$\frac{F_o + 11.2}{27}$	18.71—19.38 MHz	Crystal Module (5 ppm)	19B226962G24
	(ALL Δ)	Reference Oscillator	Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A137763G43 *(see note below)
			Δ	9.600000 MHz	5C-ICOM (5 ppm)	19A129393G44

* NOTE: In equipment shipped before April 1980.

Δ NOTE: This is for a Synthesized Radio and only these specific frequencies are needed to achieve all of the proper operating frequencies.

MASTR CUSTOM MVP TRANSMITTERS

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
13	30—36	KT-133-A	$\frac{F_o}{3}$	10—12 MHz	Crystal Module (5 ppm)	19B226962G1
23	36—42	KT-133-A	$\frac{F_o}{3}$	12—14 MHz	Crystal Module (5 ppm)	19B226962G2
33	42—50	KT-133-A	$\frac{F_o}{3}$	14—16.66 MHz	Crystal Module (5 ppm)	19B226962G3
44	66—78	KT-160-A	$\frac{F_o}{6}$	11.00—13.00 MHz	Crystal Module (5 ppm)	19B226962G31
45	77—88	KT-160-A	$\frac{F_o}{6}$	12.83—14.67 MHz	Crystal Module (5 ppm)	19B226962G32
55	138—150.8	KT-134-A, KT-151-A	$\frac{F_o}{12}$	11.5—12.56 MHz	Crystal Module (5 ppm)	19B226962G4
66	150.8—174	KT-134-A, KT-151-A	$\frac{F_o}{12}$	12.56—14.5 MHz	Crystal Module (5 ppm)	19B226962G5
77	406—420	KT-135-A, KT-136-C	$\frac{F_o}{36}$	11.27—11.66 MHz	Crystal Module (5 ppm) *2C-ICOM (2 ppm)	19B226962G6 19A129393G15
88	450—470	KT-135-A, KT-142-A KT-136-C	$\frac{F_o}{36}$	12.5—13.05 MHz	Crystal Module (5 ppm) *2C-ICOM (2 ppm)	19B226962G7 19A129393G15A
89	470—494	KT-135-A, KT-142-A KT-136-C	$\frac{F_o}{36}$	13.05—13.72 MHz	Crystal Module (5 ppm) *2C-ICOM (2 ppm)	19B226962G8 19A129393G15B
91	494—512	KT-135-A, KT-142-A KT-136-C	$\frac{F_o}{36}$	13.72—14.22 MHz	Crystal Module (5 ppm) *2C-ICOM (2 ppm)	19B226962G9 19A129393G15C
92	806—825	KT-153-C (See Note)	$\frac{F_t}{48}$	16.79—17.9 MHz	FM Oscillator	19A130605G7

MASTR CUSTOM MVP RECEIVERS AND MONITOR RECEIVERS

COMB NO. FREQ RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
13	30—36	ER-91-A, ER-105-A	$\frac{F_p + 9.4}{3}$	13.13—15.13 MHz	Crystal Module (5 ppm)	19B226962G10
23	36—42	ER-910A, ER-105-A	$\frac{F_o + 11.2}{3}$	15.73—17.73 MHz	Crystal Module (5 ppm)	19B226962G11
33	42—50	ER-910A, ER-105-A	$\frac{F_o + 9.4}{3}$	17.13—19.8 MHz	Crystal Module (5 ppm)	19B226962G12
44	66—78	ER-103-A, ER-108-A	$\frac{F_o + 11.2}{6}$	12.86—14.87 MHz	Crystal Module (5 ppm)	19B226962G33
45	77—88	ER-103-A, ER-108-A	$\frac{F_o + 11.2}{6}$	14.70—16.54 MHz	Crystal Module (5 ppm)	19B226962G34
55	138—150.8	ER-92-A, ER-106-A	$\frac{F_o - 11.2}{9}$	14.08—15.51 MHz	Crystal Module (5 ppm)	19B226962G13
66	150.8—174	ER-92-A, ER-106-A	** $\frac{F_o + 11.2}{9}$	16.57—18 MHz	Crystal Module (5 ppm)	19B22696219
			$\frac{F_o - 11.2}{9}$	15.51—18.08 MHz	Crystal Module (5 ppm)	19B226962G14
77	406—420	ER-93-A, ER-107-A	** $\frac{F_o + 11.2}{9}$	18—20.57 MHz	Crystal Module (5 ppm)	19B226962G20
			$\frac{F_o - 11.2}{27}$	14.62—15.14 MHz	Crystal Module (5 ppm)	19B226962G15
88	450—470	ER-93-A, ER-107-A	** $\frac{F_o + 11.2}{27}$	14.62—15.97 MHz	Crystal Module (5 ppm)	19B226962G21
			$\frac{F_o - 11.2}{27}$	16.25—16.99 MHz	Crystal Module (5 ppm)	19B226962G16
89	470—494	ER-93-A, ER-107-A	** $\frac{F_o + 11.2}{27}$	17.08—17.82 MHz	Crystal Module (5 ppm)	19B226962G22
			$\frac{F_o - 11.2}{27}$	16.99—17.88 MHz	Crystal Module (5 ppm)	19B226962G17
91	494—512	ER-93-A, ER-107-A	** $\frac{F_o + 11.2}{27}$	17.82—18.71 MHz	Crystal Module (5 ppm)	19B226962G23
			$\frac{F_o - 11.2}{27}$	17.88—18.54 MHz	Crystal Module (5 ppm)	19B226962G18
92	851—870	ER-104-C (See Note)	$\frac{F_r - 45}{48}$	35.6 MHz	2nd Osc. Crystal	19B206221G3

*Not available for low-power (5-watt) unit. **Crystal Formula for high side injection. H.B. (138-174 MHz) receivers require Option 1917.

NOTE: The receiver frequency is always exactly 45 MHz above the transmitter frequency. The transmitter oscillator sets both the transmit and receive frequency. (Fr = receive frequency) (Ft = transmit frequency.)

CRYSTALS

PORTA-MOBILE™ II PORTABLE, MOBILE & MOTORCYCLE RADIOS
(PORTA-MOBILE™ II COMBINATION NUMBERS HAVE NINE DIGITS)

COMB. NO FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	ORDERING DESCRIPTION	NUMBER
— TRANSMITTER —						
A	30—36	KT-28-A/B	$\frac{F_o}{3}$	10—12 MHz	SICOM	4EG31A10
B	36—42	KT-24-A/B	$\frac{F_o}{3}$	12—14 MHz	SICOM	4EG31A10
C	42—50	KT-23-A/B	$\frac{F_o}{3}$	14—16.66 MHz	SICOM	4EG31A10
D,	66—76		$\frac{F_o}{6}$	11—12.66 MHz	SICOM	4EG27A13
E	76—88		$\frac{F_o}{6}$	12.66—14.66 MHz	SICOM	4EG27A13
G, H	138—174	KT-132-A/B	$\frac{F_o}{12}$	11.5—14.5 MHz	SICOM	4EG27A10
K, M	406—470	KT-131-A/B	$\frac{F_o}{24}$	16.91—19.58 MHz	SICOM	4EG37A10
N	470—494	KT-131-A/B	$\frac{F_o}{24}$	19.58—20.58 MHz	SICOM	4EG37A10
R	494—512	KT-131-A/B	$\frac{F_o}{24}$	20.5—21.33 MHz	SICOM	4EG37A10

(Refer to Note 1 for F_{IF})

— RECEIVERS —

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQ. (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY (Std IF = 20 MHz)	DESCRIPTION	ORDERING NUMBER (20 MHz IF)	ORDERING NUMBER (20.2 MHz IF)	ORDERING NUMBER (23 MHz IF)
A	30—36	ER-61-A, ER-73-A	$\frac{F_o+F_{IF}}{3}$	16.66—18.66 MHz	SICOM	4EG28A17	4EG28A37	4EG28A18
B	36—42	ER-61-A, ER-73-A	$\frac{F_o+23}{3}$	19.66—21.66 MHz (23 MHz IF only)	SICOM	—	—	4EG28A18
C	42—50	ER-61-A, ER-73-A ER-83-A	$\frac{F_o+F_{IF}}{3}$	20.66—23.33 MHz	SICOM	4EG28A17	4EG28A37	4EG28A18
D,	66—76	ER-87-A	$\frac{F_o+F_{IF}}{5}$	17.2—19.2 MHz	SICOM	4EG28A30	—	—
E	75—88	ER-87-A	$\frac{F_o+23}{5}$	19.6—22.2 MHz (23 MHz IF only)	SICOM	—	—	4EG28A31
G	138—150.8	ER-59-A	$\frac{F_o-F_{IF}}{8}$	14.75—16.35 MHz	SICOM	4EG38A13	4EG28A36	4EG28A29
H	150.8—174	ER-59-C, ER-83-A ER-84-A, ER-85-A ER-86-A	$\frac{F_o-F_{IF}}{9}$	14.53—17.11 MHz	SICOM	4EG38A14	4EG28A33	4EG28A26
K	406—420	ER-60-A	$\frac{F_o+F_{IF}}{21}$	20.28—20.95 MHz	SICOM	4EG38A10	4EG28A34	4EG28A27
M	450—470	ER-60-A, ER-80-A ER-81-A, ER-85-A	$\frac{F_o-F_{IF}}{21}$	20.47—21.42 MHz	SICOM	4EC38A11	4EG28A35	4EG28A28
N	470—494	ER-62-A, ER-81-A ER-82-A	$\frac{F_o-F_{IF}}{21}$	21.42—22.57 MHz	SICOM	4EC38A11	4EG28A35	4EG28A28
R	494—512	ER-62-A, ER-81-A ER-82-A	$\frac{F_o-F_{IF}}{21}$	22.57—23.42 MHz	SICOM	4EC38A11	4EG28A35	4EG28A28

NOTE:

- Standard IF is 20 MHz (F_{IF} = 20)
With Option 4473, IF is 23 MHz (F_{IF} = 23)
With Option 4673, IF is 20.2 MHz (F_{IF} = 20.2)
For frequency ranges 36—42 MHz and 75—88 MHz, IF is always 23.

MASTR PERSONAL PE SERIES, MPE SERIES

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —						
A	30—36	KT-17-A, KT-18-A	$\frac{F_o}{3}$	10—12 MHz	SICOM	4EG31A10
B	36—42	KT-17-A, KT-18-A	$\frac{F_o}{3}$	12—14 MHz	SICOM	4EG31A10A
C	42—50	KT-17-A, KT-18-A	$\frac{F_o}{3}$	14—16.666 MHz	SICOM	4EG31A10B
D	66—76	KT-127-A	$\frac{F_o}{6}$	11—12.666 MHz	SICOM	4EG27A13
E	76—88	KT-127-A	F_o	12.66—14.66 MHz	SICOM	4EG27A13A
G, H	138—174	KT-19-A, KT-20-A ET-95-A, ET-96-A	F_o	11.5—14.5 MHz	SICOM	4EG27A10
K, L, M	406—470	KT-107-A, KT-106-A KT-22-A, ET-98-A	$\frac{F_o}{24}$	16.916—19.583 MHz	SICOM	4EG27A11
	(450—470) (450—470)	KT-104-A, KT-105-A				
N	470—494	KT-26-A/B, KT-100-A KT-111-A	$\frac{F_o}{24}$	19.583—20.583 MHz	SICOM	4EG27A11A
R	494—512	KT-26-A/B, KT-110-A KT-111-A	$\frac{F_o}{24}$	20.583—21.333 MHz	SICOM	4EG27A11B

— RECEIVERS —

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY (Std. IF 20 MHz)	DESCRIPTION	ORDERING NUMBER (Std. 20 MHz IF)	ORDERING NUMBER (20.2 MHz IF)	ORDERING NUMBER (23 MHz IF)
A	30—36	ER-61-A/B, ER-73-A	$\frac{F_o+F_{IF}}{3}$	16.666—18.666 MHz	SICOM	4EG28A17	4EG28A37	4EG28A18
B	36—42	ER-61-A/B, ER-73-A	$\frac{F_o+23}{3}$	19.666—21.666 MHz (23 MHz IF)	SICOM	—	—	4EG28A18
C	42—50	ER-61-A/B, ER-73-A ER-83-A	$\frac{F_o+F_{IF}}{3}$	20.666—23.333 MHz	SICOM	4EG28A17A	4EG28A37	4EG28A18
D	66—76	ER-87-A/B	$\frac{F_o+F_{IF}}{5}$	17.2—19.2 MHz	SICOM	4EG28A30	—	—
E	75—88	ER-87-A/B	$\frac{F_o+23}{5}$	19.6—22.3 MHz (23 MHz IF)	SICOM	-	-	4EG28A31
G	138—150.8	ER-59-A/B	$\frac{F_o-F_{IF}}{8}$	14.750—16.35 MHz	SICOM	4EG28A15	4EG28A36	4EG28A29
H	150.8—174	ER-59-C/D, ER-71-A ER-83-A, ER-84-A ER-85-A, ER-86-A	$\frac{F_o-F_{IF}}{9}$	14.533—17.111 MHz	SICOM	4EG28A11	4EG28A33	4EG28A26
K	406—420	ER-60-A/B	$\frac{F_o+F_{IF}}{21}$	20.285—20.976 MHz	SICOM	4EG28A12	4EG28A34	4EG28A27
M	450—470	ER-60-A/B, ER-72-A ER-80-A, ER-81-A ER-85-A	$\frac{F_o-F_{IF}}{21}$	20.476—21.428 MHz	SICOM	4EG28A13	4EG28A35	4EG28A28
N	470—494	ER-62-A/B ER-82-A	$\frac{F_o-F_{IF}}{21}$	21.428—22.571 MHz	SICOM	4EG28A213A	4EG28A35	4EG28A28A
R	494—512	ER-62-A/B, ER-81-A	$\frac{F_o-F_{IF}}{21}$	22.571—23.428 MHz	SICOM	4EG28A13B	4EG28A35	4EG28A28B

- NOTE 1: — Standard IF is 20 MHz ($F_{IF} = 20$)
 — With Option 4473, IF is 23 MHz ($F_{IF} = 23$)
 — With Option 4673, IF is 20.2 MHz ($F_{IF} = 20.2$)
 — For frequency ranges 36—42 MHz, and 75—88 MHz, IF is always 23 MHz.

MASTR PROFESSIONAL/ROYAL PROFESSIONAL (Mobiles & Stations)

(Specify exact crystal frequency in kHz when ordering)

TRANSMITTERS

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	FCC TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
11	25—33	ET-54-A/B, ET-55-A/B ET-69-A/B, ET-84-A/B	B	$\frac{F_o}{12}$	2.08—2.75 MHz	Crystal	19B206175P1
22	33—42	ET-54-A/B, ET-55-A/B ET-69-A/B, ET-84-A/B	B	$\frac{F_o}{12}$	2.75—3.5 MHz	Crystal	19B206175P2
33	42—50	*ET-54-A/B, *ET-55-A/B ET-69-A/B, ET-84-A/B	B	$\frac{F_o}{12}$	3.5—4.5 MHz	Crystal	19B206175P3
44	66—77	ET-56-A/B	B	$\frac{F_o}{12}$	5.5—6.41 MHz	Crystal	19B206175P4
45	77—88	ET-56-A/B	B	$\frac{F_o}{12}$	6.41—7.33 MHz	Crystal	19B206175P5
55	132—150.8	ET-57-A/B, ET-58-A/F/K ET-70-A/B	B	$\frac{F_o}{12}$	11—12.56 MHz	Crystal	19B206175P6
66	150.8—174	ET-57-C, ET-58-H ET-70-G, ET-85-A/B	—	—	—	ICOM (2 ppm)	4EG25A11
		ET-57-A/B, ET-58-A/F/K ET-70-A/B	B	F_o	12.56—14.5 MHz	Crystal	19B206175P7
	150.9—159.5	ET-57-C, ET-58-H ET-70-E/G, ET-85-A/B ET-58-J (Wide Spaced Transmitter)	—	—	—	ICOM (2 ppm)	4EG25A11
77	406—420	ET-59-B/D, ET-60-B/D ET-59-C, ET-60-C	B	$\frac{F_o}{36}$	11.27—11.66 MHz	Crystal	19B206175P6A
	450—470	ET-59-B/D, ET-60-B/D ET-59-C, ET-60-C	—	—	—	ICOM (2 ppm)	4EG25A10
88	450—470	ET-59-B/D, ET-60-B/D ET-59-C, ET-60-C	B	$\frac{F_o}{36}$	12.5—13.05 MHz	Crystal	19B206175P7A
89	470—494	ET-59-H, ET-60-H ET-59-G, ET-60-G	—	—	—	ICOM (2 ppm)	4EG25A10
		ET-71-C	B	$\frac{F_o}{36}$	13.05—13.72 MHz	Crystal	19B206175P7B
91	494—512	ET-59-H, ET-60-H ET-59-G, ET-60-G	—	—	—	ICOM (2 ppm)	4EG25A10A
			B	$\frac{F_o}{36}$	13.72—14.2 MHz	Crystal	19B206175P7C
			—	—	—	ICOM (2 ppm)	4EG25A10B

*NOTE: Requires removing Thermistor Part No. 19B209294P1 and replacing it with Thermistor Part No. 19B209284P3 when ordering Crystal Part No. 19B206175P3. Units affected: (42-54 MC range only).

ET-54 Prior to Revision Letter
 -A12 & A15 F
 -A18 E
 -A21 & A24 J
 -A27 H

ET-55 Prior to Revision Letter
 -A12 & A15 G
 -A18 F
 -A21 & A24 K
 -A27 J

Prior to Revision Letter
 ALSO EXCITER BOARDS:
 19D402385G13 D
 19D402385G3, G8, G28 E
 19D402385G18, G23 F

MASTR IMPERIAL MOBILES

TRANSMITTERS

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	FCC TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
11	25—33	KT-23-A	B	$\frac{F_o}{12}$	2—2.75 MHz	Xmit Xtal	19B206175P1
22	33—42	KT-23-A	B	$\frac{F_o}{12}$	2.75—3.5 MHz	Xmit Xtal	19B206175P2
33	42—54	KT-23-A	B	$\frac{F_o}{12}$	3.5—4.5 MHz	Xmit Xtal	19B206175P3
66	150.8—174	KT-24-A	—	F_o	12.5—14.5 MHz	Xmit ICOM	4EG25A11
88	450—470	KT-14-A/B	—	$\frac{F_o}{36}$	12.5—13.1 MHz	Xmit ICOM	4EG25A10

SEE MASTR Professional on Page 1.13 for Receiver Crystals.

MASTR PROFESSIONAL/ROYAL PROFESSIONAL (Mobiles & Stations)

(Specify exact crystal frequency in kHz when ordering)

RECEIVERS

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	FCC TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
11	25—33	ER-39-A (Rev. C or later) ER-39-C ER-39-A (Prior to Rev. C)	B	$Fo+5.3$	10.1—12.76 MHz	1st Osc. Crystal	19B206576P1
			F	3	4.845 MHz	2nd Osc. Crystal	19A110192G3
			F		5.755 MHz	Spec. 2nd Osc. Crystal	19A110192G4
		ER-39-B/D	B	$Fo+5.26$	10.08—12.75 MHz	1st Osc. Crystal	19B206176P1
			F	3	4.805 MHz	2nd Osc. Crystal	19A110192G1
			F		5.715 MHz	Spec. 2nd Osc. Crystal	19A110192G
32	33—42	ER-39-A (Rev. C or later) ER-39-C ER-39-A (Prior to Rev. C)	B	$Fo+12.4$	12.46—15.13 MHz	1st Osc. Crystal	19B206576P10
			F	3	11.945 MHz	2nd Osc. Crystal	19A110398P1
			B	$Fo+5.3$	12.76—15.76 MHz	1st Osc. Crystal	19B206576P2
		ER-39-B/D	F	3	4.845 MHz	2nd Osc. Crystal	19A110192G3
			F		5.755 MHz	Spec. 2nd Osc. Crystal	19A110192G4
			B	$Fo+5.26$	12.75—15.75 MHz	1st Osc. Crystal	19B206176P2
33	42—54	ER-39-A (Rev. C or later) ER-39-C ER-39-A (Prior to Rev. C)	F	3	4.805 MHz	2nd Osc. Crystal	19A110192G1
			F		5.715 MHz	Spec. 2nd Osc. Crystal	19A110192G2
			B	$Fo+12.4$	15.13—18.13 MHz	1st Osc. Crystal	19B206576P11
		ER-39-B/D	F	3	11.945 MHz	2nd Osc. Crystal	19A110398G1
			B	$Fo-5.3$	12.12—16.23 MHz	1st Osc. Crystal	19B206576P3
			F	3	4.845 MHz	2nd Osc. Crystal	19A110192G3
44	66—77	ER-39-C ER-40-A/C ER-40-B/D	F		5.755 MHz	Spec. 2nd Osc. Crystal	19A110192G4
			B	$Fo-5.26$	12.24—16.24 MHz	1st Osc. Crystal	19B206176P3
			F	3	4.805 MHz	2nd Osc. Crystal	19A110192G1
		ER-40-B/D	F		5.175 MHz	Spec. 2nd Osc. Crystal	19A110192G2
			B	$Fo+12.4$	18.13—20.8 MHz	1st Osc. Crystal	19B206576P1
			F	3	11.945 MHz	2nd Osc. Crystal	19A110398G1
45	77—88	ER-39-C ER-40-A/C ER-40-B/D	B	$Fo-5.3$	15.175—17.92 MHz	1st Osc. Crystal	19B206576P6
			F	4	4.845 MHz	2nd Osc. Crystal	19A110292G3
			F		5.755 MHz	Spec. 2nd Osc. Crystal	19A110192G4
		ER-40-B/D	B	$Fo-12.4$	13.4—16.15 MHz	1st Osc. Crystal	19B206576P13
			F	4	11.945 MHz	2nd Osc. Crystal	19A110398G1
			B	$Fo-5.3$	17.93—20.67 MHz	1st Osc. Crystal	19B206576P7
55	132—150.8	ER-41-A (Rev. C or later) ER-41-C ER-41-E ER-41-A (Prior to Rev. C)	F	4	4.845 MHz	2nd Osc. Crystal	19A110192G3
			F		5.755 MHz	Spec. 2nd Osc. Crystal	19A110192G4
			—			ICOM (2 ppm 1st Osc.)	4EG26A11
		ER-41-B/D	B	$Fo-5.26$	14.08—16.17 MHz	1st Osc. Crystal	19B206176P4
			F	9	4.805 MHz	2nd Osc. Crystal	19A110192G1
			F		5.715 MHz	Spec. 2nd Osc. Crystal	19A110192G2
66	150.8—174	ER-41-A (Rev. C or later) ER-41-C ER-41-E ER-41-A (Prior to Rev. C)	B	$Fo-12.4$	13.28—15.37 MHz	1st Osc. Crystal	19B206576P8
			F	9	11.945 MHz	2nd Osc. Crystal	19A110398G1
			B	$Fo-5.3$	16.16—18.74 MHz	1st Osc. Crystal	19B206576P5
		ER-41-B/D	F	9	4.845 MHz	2nd Osc. Crystal	19A110192G3
			F		5.755 MHz	Spec. 2nd Osc. Crystal	19A110192G4
			—			ICOM (2 ppm 1st Osc.)	4EG26A11
77	406—420	ER-42-A/B/E/F ER-42-C/D/G/H	B	$Fp-5.26$	16.17—18.74 MHz	1st Osc. Crystal	19B206176P5
			F	9	4.805 MHz	2nd Osc. Crystal	19A110192G1
			F		5.175 MHz	Spec. 2nd Osc. Crystal	19A110192G2
		ER-42-A/B/E/F ER-42-C/D/G/H	B	$Fo-12.4$	15.37—17.95 MHz	1st Osc. Crystal	19B206576P9
			F	9	11.945 MHz	2nd Osc. Crystal	19A110398G1
			—				
88	450—470	ER-42-A/B/E/F ER-42-C/D/G/H	B	$Fo-12.4$	16.4—16.98 MHz	1st Osc. Crystal	19B206576P6A
			F	24	11.948 MHz	2nd Osc. Crystal	19A110398P1
89	470—494	ER-42-K ER-42-L	—			ICOM (2 ppm 1st Osc.)	4EG26A10
			B	$Fo-12.4$	18.23—19.06 MHz	1st Osc. Crystal	19B206576P7A
91	494—512	ER-42-K ER-42-L	F	24	11.948 MHz	2nd Osc. Crystal	19A110398G1
			—			ICOM (2 ppm 1st Osc.)	4EG26A10
89	470—494	ER-42-K ER-42-L	B	$Fo-12.4$	19.06—20.06 MHz	1st Osc. Crystal	19B206576P7B
			F	24	11.948 MHz	2nd Osc. Crystal	19A110398G1
91	494—512	ER-42-K ER-42-L	—			ICOM (2 ppm 1st Osc.)	4EG26A10A
			B	$Fo-12.4$	20.06—20.8 MHz	1st Osc. Crystal	19B206576P7C
91	494—512	ER-42-K ER-42-L	F	24	11.948 MHz	2nd Osc. Crystal	19A110398G1
			—			ICOM (2 ppm 1st Osc.)	4EG26A10B

CRYSTALS



IMTS (IMPROVED MOBILE TELEPHONE SERVICE) MOBILES

(MASTR PROFESSIONAL TYPE)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	DESCRIPTION			ORDERING NUMBER					
					MOBILE Tx FREQ.	MOBILE Rx FREQ.	CRYSTAL FREQ. (kHz)						
— IMTS MOBILES TRANSMITTERS —													
152—157	ET-67-A	B		$\frac{F_o}{12}$	157.77	152.51	13147.500	19A110683G1-JL					
					157.80	152.54	13150.000	19A110683G1-YL					
					157.83	152.57	13152.500	19A110683G1-JP					
					157.86	152.60	13155.000	19A110683G1-YP					
					157.89	152.63	13157.500	19A110683G1-YJ					
					157.93	152.66	13160.000	19A110683G1-YK					
					157.95	152.69	13162.500	19A110683G1-JS					
					157.98	152.72	13165.000	19A110683G1-YS					
					158.01	152.75	13167.500	19A110683G1-YR					
					158.04	152.78	13170.000	19A110683G1-JK					
					158.07	152.81	13172.500	19A110683G1-JR					
					FOR USE OUTSIDE NORTH AMERICA								
										157.56	152.30	13132.500	19A110683G1-AF
										157.59	152.33	13135.000	19A110683G1-AE
										157.62	152.36	13137.500	19A110683G21-AD
										157.65	152.39	13140.000	19A110683G1-AC
										157.68	152.42	13142.500	19A110683G1-AB
										157.71	152.45	13145.000	19A110683G1-AA
										157.74	152.48	13147.500	19A110683G1-JJ
										158.10	152.84	13175.000	19A110683G1-JW (Also used in Canada)
										158.13	152.87	13177.500	19A110683G1-JV (Also used in Canada)
										158.16	152.90	13180.000	19A110683G1-BA
										158.19	152.93	13182.500	19A110683G1-BB
										158.22	152.96	13185.000	19A110683G1-BC
										158.25	152.99	13187.500	19A110683G1-BD
										158.28	153.02	13190.000	19A110683G1-BE
													19A110683G1-BF
					— RECEIVERS —								
152—157	ER-45-A		F		No 1st Oscillator Crystal Required. (See comment below)								
			F		4.805 MHz 2nd Osc. Crystal			19A110192G1					
					5.175 MHz 2nd Osc. Crystal			19A110192F2					

Note that the ER-45-A Receiver does not require a 1st Osc. Crystal in the IMTS configuration. Order the Transmitter Crystal only since the Transmitter and Receiver use a common Osc. Crystal

STATIONS (IMTS)

(Specify exact crystal frequency in kHz when ordering)

(MASTR PROFESSIONAL TYPE)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —							
150.8—174	ET-58-L	B		$\frac{F_o}{12}$	12.56—14.56 MHz	Transmit Crystal (5 ppm)	19B206175G7
						Transmit ICOM (2 ppm)	4EG25A11
— RECEIVERS —							
150.8—174	ER-41-C	B		$\frac{F_o-5.3}{9}$	16.6—18.74 MHz	1st Osc. Crystal (MU System)	19B206576G5
					15.37—17.95 MHz	1st Osc. Crystal-MARITIME Systems (Specify receiving freq. — see NOTE 1)	19B206576G9
					4845 kHz	2nd Osc. Crystal	19A110192G3

Other Mobile and Station Transmitters and Receivers may be used in the IMTS systems. Refer to the specific models under the appropriate heading for data (e.g., Professional Transmitters and Receivers may have been converted for operation in an IMTS system and the Crystal data is located under the heading PROFESSIONAL).

NOTE 1:

MARITIME PUBLIC CORRESPONDENCE

CHANNEL	SHIP-RCVR FREQ. (MHz)	STATION-RCVR FREQ. (MHz)
24	161.800	157.200
84	161.825	157.225
25	161.850	157.250
85	161.875	157.275
26	161.900	157.300
86	161.925	157.325
27	161.950	157.350
87	161.975	157.375
28	162.000	157.400

MASTR EXECUTIVE/MASTR ROYAL EXECUTIVE SERIES MOBILES AND STATIONS

(Specify exact crystal frequency in kHz when ordering)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	FCC TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —							
11	25—33	KT-10-A	B	$\frac{F_o}{12}$	2.08—1.75 MHz	Crystal	19B206175P11
22	33—42	ET-72-A/B, ET-82-A/B	B	$\frac{F_o}{12}$	2.75—3.50 MHz	Crystal	19B206175P21
33	42—50	KT-10-A ET-72-A/B, ET-82-A/B	B	$\frac{F_o}{12}$	3.5—4.16 MHz	Crystal	19B206175P31
44	66—77	ET-73-B	B	$\frac{F_o}{12}$	5.5—6.41 MHz	Crystal	19B206175P41
45	77—88	ET-73-B	B	$\frac{F_o}{12}$	6.41—7.33 MHz	Crystal	19B206175P51
55	132-150.8	ET-75-A/B/E, ET-83-A/B	B	$\frac{F_o}{24}$	5.5—6.28 MHz	Crystal	19B206204G1
66	150.8—174	KT-12-A/B, ET-74-E	B	$\frac{F_o}{24}$	6.28—7.25 MHz	Crystal	19B206204G1
77, 88	406—470	ET-75-A	B	$\frac{F_o}{72}$	5.63—6.52 MHz	Crystal	19B206204G1A
		ET-76-A, KT-15-A	—	$\frac{F_o}{36}$	11.27—13.05 MHz	ICOM (3 & 4 freq. units 2 ppm stability)	4EG245A10
88	450—470	KT-14-A, ET-94-A	B	$\frac{F_o}{72}$	6.25—6.52 MHz	Crystal	19B206204G1A
		ET-99-A	—	$\frac{F_o}{36}$	12.5—13.05 MHz	ICOM (3 & 4 freq. units 2 ppm stability)	4EG25A10

— RECEIVERS —							
11	25—33	ER-46-A/B	E	$\frac{F_o+5.3}{2}$	15.15—19.15 MHz 5.755 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206357G17 19B206356G4
22	33—42	ER-46-A/B	E	$\frac{F_p-5.3}{2}$	13.85—18.35 MHz 5.755 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206357G18 19B206356G4
33	42—50	ER-47-A/B	E	$\frac{F_o-5.3}{3}$	12.23—14.9 MHz 5.755 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206357G19 19B206356G4
			E		**4.845 MHz	Spec. 2nd Osc. Crystal	19B206356G3
44/45	66—88	ER-47-B	E	$\frac{F_o+10.7}{2}$	38.35—49.35 MHz 10.245 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206221G1A 19A110215P1
55/66	132—174	ER-48-A/B/C	E	$\frac{F_o-10.7}{3}$	40.43—54.43 MHz 10.245 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206221G1 19A110215G1
66	150.8—174	ER-48-C	E	$\frac{F_o-10.7}{3}$	**11.155 MHz	Spec. 2nd Osc. Crystal	19A110215G2
			E	$\frac{F_o+10.7}{3}$	53.83—61.56 MHz	1st Osc. Crystal (for RCC Mobile)	19B206221G11
			E		10.245 MHz	2nd Osc. Crystal	19A110215G1
77, 78, 88	406—470	ER-49-A, ER-50-A	E	$\frac{F_o-12.4}{9}$	43.73—50.84 MHz 11.945 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206890G1 19B213403G1
		ER-49-A, ER-50-A	—	$\frac{F_p-12.4}{27}$	14.57—16.94 MHz	1st Osc. ICOM (3 & 4 freq. units only, 2 ppm stability)	4EG26A13

*The 1st oscillator crystal has been changed from low side injection to high side injection, only for RCC Mobiles.

**The following are known tweet frequencies. All receivers operating on 50 MHz, 152.15 MHz, and 159.36 MHz must use the special 2nd Osc. Crystal.

MASTR CUSTOM EXECUTIVE

(Specify exact crystal frequency in kHz when ordering)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	FCC TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTER —							
66	150.8—174	KT-25-A	B	$\frac{F_o}{24}$	6.28—7.25 MHz	Crystal	19B206205G1
— RECEIVER —							
66	150.8—174	ER-48-C	E	$\frac{F_o-10.7}{3}$	46.7—54.4 MHz 10.245 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206221G1 19A110215G1

CRYSTALS



MASTR PERSONAL MVP (PY)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —							
H	150.8—174	KT-10-A, KT-20-A KT-107-A	—	$\frac{F_o}{12}$	12.566—14.5 MHz	SICOM	4EG27A10
M	450—470	KT-22-A, KT-105-A	—	$\frac{F_o}{24}$	18.75—19.583 MHz	SICOM	4EG27A11
— RECEIVERS —							
H	150.8—174	ER-71-A	— E	$\frac{F_o-20}{9}$	14.533—17.111 MHz 19.545 MHz	SICOM 2nd Osc. Crystal	4EG36A10 19B206367G6
M	450—470	ER-72-A	— E	$\frac{F_o-23}{21}$	20.33—21.28 MHz 23.455 MHz	SICOM 2nd Osc. Crystal	4EG28A28 19B206357G11

MASTR PERSONAL PR

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —						
55-66	132—174	ET-90-B	$\frac{F_o}{12}$	11—14.5 MHz	SICOM	4EG27A10
77, 88	406—470	ET-91-A	$\frac{F_o}{24}$	16.916—19.583 MHz	SICOM	4EG27A11
— RECEIVERS —						

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER (20 MHz IF)*	ORDERING NUMBER (23 MHz IF)*
55	132—150.8	ER-56-A	$\frac{F_o+F_{IF}}{9}$	16.888—16.977 MHz	SICOM	4EG28A10	4EG28A25
66	150.8—174	ER-56-A	$\frac{F_o-F_{IF}}{9}$	14.533—17.111 MHz	SICOM	4EG28A11	4EG28A26
77	406—420	ER-57-A	$\frac{F_o+F_{IF}}{21}$	20.285—20.952 MHz	SICOM	4EG28A12	4EG28A27
88	450—470	ER-57-A	$\frac{F_o-F_{IF}}{21}$	20.476—21.428 MHz	SICOM	4EG28A13	4EG28A28

*NOTE: — Standard IF is 20 MHz ($F_{IF} = 20$).
 — With IF frequency changed to 23 MHz, $F_{IF} = 23$.

EXECUTIVE PAGER - AHO SERIES

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— RECEIVERS —							
66	150—174	ER-94-A	E	$\frac{F_o-20}{3}$	43.333—51.333 MHz 19.545 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206890P7 19B206357G7
88	450—470	ER-95-A	E E E E	$\frac{F_o-20}{9}$	47.777—50 MHz 19.545 MHz 20.455 MHz	1st Osc. Crystal 2nd Osc. Crystal *Spec. 2nd Osc. Crystal	19B206899P8 19B206357G7 19B206357G9

*470 MHz is a known tweet frequency. All receivers using this frequency must use this special 2nd Osc. Crystal.

CRYSTALS



PORTA-MOBILE I PORTABLES, MOBILES & MOTORCYCLE RADIOS

(Specify exact crystal frequency in kHz when ordering) (Combination Numbers are Seven Digits)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —							
11, 22, 33	25—50	ET-61-A, ET-77-A	B	$\frac{F_o}{8}$	3.125—6.25 MHz	Crystal	19B206275P1
55, 55	132—174	ET-62-A, ET-78-A	B	$\frac{F_o}{24}$	5.5—7.25 MHz	Crystal	19B206204P1
77, 88	406—470	ET-88-A	—	$\frac{F_o}{36}$	11.27—13.05 MHz	ICOM	4EG25A10
— RECEIVERS —							
11	25—33	ER-43-A	E	$\frac{F_o+5.26}{2}$	15.13—19.13 MHz 4.805 MHz 5.715 MHz	1st Osc. Crystal 2nd Osc. Crystal Spec. 2nd Osc. Crystal	19B206357G14 19B206356G1 19B206356G2
22	33—42	ER-43-A	E	$\frac{F_o-5.26}{2}$	4.845 MHz 5.755 MHz 13.67—18.37 MHz	Spec. 2nd Osc. Crystal Spec. 2nd Osc. Crystal 1st Osc. Crystal 2nd Osc., same as 25—33 MHz	19B206356G3 19B206356G4 19B206357G15
33	42—50	ER-43-A	E	$\frac{F_o-5.26}{3}$	12.24—14.91 MHz	1st Osc. Crystal 2nd Osc., same as 25—33 MHz	19B206357G16
55, 66	132—174	ER-44-A	E	$\frac{F_o-10.7}{3}$	40.43—54.43 MHz 10.245 MHz 11.155 MHz	1st Osc. Crystal 2nd Osc. Crystal Spec. 2nd Osc. Crystal	19B206221G1 19A110215G1 19A110215G2
77, 88	406—470	ER-53-A	E	$\frac{F_o-19}{9}$	43—50.11 MHz 18.545 MHz 19.455 MHz	1st Osc. Crystal 2nd Osc. Crystal Spec. 2nd Osc. Crystal	19B2068980G2 19B206357G2 19B206357G3

PERSONAL PAGERS: PCO/PVO SERIES

COMB. NO FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER										
— PCO RECEIVERS —																	
66	150.8—174	ER-54-A	E	$\frac{F_o-12.4}{3}$	46.133—53.86 MHz 11.945 MHz 12.855 MHz	1st Osc. Crystal 2nd Osc. Crystal *Spec. 2nd Osc. Crystal	19B206890P3 19B213403P11 19B213403P21										
88	450—470	ER-55-A	E	$\frac{F_o-19}{9}$	47.88—50.11 MHz 18.545 MHz 19.455 MHz	1st Osc. Crystal 2nd Osc. Crystal *Spec. 2nd Osc. Crystal	19B206890P4 19B206357G4 19B206357G5										
<p>*The following are known tweet frequencies. All receivers with a frequency listed below must use this special 2nd Osc. Xtal.</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Fo — Frequency (HB)</td> <td style="text-align: center;">Fo — Frequency (UHF)</td> </tr> <tr> <td style="text-align: center;">154.400</td> <td style="text-align: center;">419.175</td> </tr> <tr> <td style="text-align: center;">155.280</td> <td style="text-align: center;">463.750</td> </tr> <tr> <td style="text-align: center;">155.295</td> <td style="text-align: center;">462.750</td> </tr> <tr> <td style="text-align: center;">155.400</td> <td style="text-align: center;">464.425</td> </tr> </table>								Fo — Frequency (HB)	Fo — Frequency (UHF)	154.400	419.175	155.280	463.750	155.295	462.750	155.400	464.425
Fo — Frequency (HB)	Fo — Frequency (UHF)																
154.400	419.175																
155.280	463.750																
155.295	462.750																
155.400	464.425																
— PVO RECEIVERS —																	
66	150.8—174	ER-68-A	E	$\frac{F_o-20}{3}$	43.6—51.33 MHz 19.545 MHz	1st Osc. Crystal 2nd Osc. Crystal	19B206890P5 19B206357G7										
88	450—470	ER-69-A	E	$\frac{F_o-20}{9}$	47.77—50 MHz 19.545 MHz 20.455 MHz	1st Osc. Crystal 2nd Osc. Crystal *Spec. 2nd Osc. Crystal	19B206890P6 19B206357G7 19B206357G9										

*470 MHz is a known tweet frequency. All receivers using this frequency must use this special 2nd Osc. Crystal.

CRYSTALS



MTS STATIONS

(Specify exact crystal frequency in kHz when ordering)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —							
30—54		ET-25-C & ET-23-A	A	$\frac{Fo}{12}$	2.5—4.5 MHz	Unheated Xtal (Contains ET-23-A Exciter & EF-4-B Pwr Ampl)	7147191G1
150.8—174		ET-26-B & ET-21-A & ET-48-A	B	$\frac{Fo}{24}$	6.2—7.3 MHz	Heated Xtal only (Contains ET-21-A Exciter & EF-5-B Pwr Ampl)	7147159G6
			G			Heated Xtal in oven	7147159G7
		G			2 Heated Xtals in oven	7147159G8	
		G			CRYSTAL OVEN	NLA	
		ET-58-A	B	$\frac{Fo}{12}$	12.5—14.5 MHz	Unheated Xtal	19B206175G7
		ET-26-C, ET-48-B	B	$\frac{Fo}{24}$	6.2—7.3 MHz	Heated Xtal (ET-26-C contains Stable Oscillator 19C303026G1)	4033316P1
			—		—	CRYSTAL OVEN	NLA
450—470		ET-66-A, ET-24-A	B	$\frac{Fo}{36}$	12.5—13.1 MHz	Heated Xtal (ET-66-A contains ET-24-A Exciter & EF-6-B Pwr Amp)	4031994P3
			G			CRYSTAL OVEN	5490303P2
— RECEIVERS —							
30—54		ER-24-C	A	$\frac{Fo-3.2}{3}$	8.9—17 MHz	Unheated 1st Osc. Xtal	7488901G1
			B			3490 kHz	2nd Osc. Xtal	7142762G2
150.8—174		ER-25-C	B	$\frac{Fo-8.7}{12}$	11.8—13.8 MHz	Heated 1st Osc. Xtal only	7488901G5
			G			Heated 1st Osc. Xtal in oven	7488901G7
			G			2 Xtals in oven	7488901G8
			B			2nd Osc. Xtal	7146355G1
		B			8410 kHz	Special 2nd Osc. Xtal	7146355G2
		B			8990 kHz	Special 2nd Osc. Xtal	7146355G3
		B			8610 kHz	CRYSTAL OVEN	NLA
		G			—	Unheated 1st Osc. Xtal	19B206576G5
ER-41-A	B	$\frac{Fo-5.3}{9}$	16.1—18.8 MHz	2nd Osc. Xtal	19A110192G1		
	F			4805 kHz	2nd Osc. Xtal (Rev. —, A, B, only)		
	F			4845 kHz	2nd Osc. Xtal (Rev. C & later)	19A110192G3	
	F						

CRYSTALS



MTS MOBILES (DUPLEX)

(Specify exact crystal frequency in kHz when ordering)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —							
150—174	ET-20-A		B G	$\frac{F_o}{24}$	6.2—7.25 MHz	Heated Xtal CRYSTAL OVEN	7147159G6 NLA
— RECEIVERS —							
150—174	ER-25-E10, F10		B B B G	$\frac{F_o-8.7}{12}$	11.7—13.8 MHz 8410 kHz 8990 kHz 8610 kHz —	Heated 1st Osc. Xtal 2nd Osc. Xtal Spec. 2nd Osc. Xtal Spec. 2nd Osc. Xtal CRYSTAL OVEN	7488901G5 7146355G1 7146355G2 7146355G3 NLA

MTS MOBILES (SIMPLEX)

(Specify exact crystal frequency in kHz when ordering)

COMB. NO. FREQ. RANGE DIGITS	OPERATING FREQUENCY (Fo MHz)	TYPE NO.	FIG.	FORMULA	CRYSTAL FREQUENCY	DESCRIPTION	ORDERING NUMBER
— TRANSMITTERS —							
25—54	ET-22-A		A	$\frac{F_o}{12}$	2.0—4.5 MHz	Unheated Xtal	7147191G1
150.8—174	ET-20-A		B G G G	$\frac{F_o}{24}$	6.2—7.25 MHz —	Heated Xtal Heated Xtal in oven Two Heated Xtals in oven CRYSTAL OVEN	7147159G6 7147159G7 7147159G8 NLA
450—470	ET-24-A		A	$\frac{F_o}{36}$	17.3—18.1 MHz	Unheated Xtal	40319943
— RECEIVERS —							
25—54	ER-24-A		B A B B	$\frac{F_o-3.2}{3}$	21.8—50.8 MHz 7.2—17.0 MHz 3490 kHz 2910 kHz	Unheated Xtal; 1 freq. units Unheated Xtal; multi-freq. units 2nd Osc. Xtal Spec. 2nd Osc. Xtal	7489151G1 7488901G1 7142762G2 7142762G3
150.8—174	ER-25-C		B B B B G	$\frac{F_o-8.7}{12}$	11.8—13.8 MHz 8410 kHz 2nd Osc. Xtal 8990 kHz —	Heated 1st Osc. Xtal 2nd Osc. Xtal 7146355G3 2nd Osc. Xtal CRYSTAL OVEN	7488901G5 7146355G1 7146355G2 NLA
450—470	ER-26-B1, 3, 11, 13		A	$\frac{F_o-48}{36}$	11.1—11.8 MHz	1st Osc. Xtal (See Note)	7487003G2
(See below)			—	—	44.4—45.2 MHz	2nd Osc. Xtal	7491399G1
(See below)	ER-26-B2, 12, 40		B	$\frac{F_o-48}{36}$	3490 kHz	3rd Osc. Xtal	7142762G2
			—	—	11.1—11.8 MHz	Heated, 1st Osc. Xtal (See Note)	7488901G5
			—	—	44800 kHz	2nd Osc. Xtal	7491399G1
			—	—	44700 kHz	Spec. 2nd Osc. Xtal	7491399G2
			B	—	3490 kHz	2nd or 3rd Osc. Xtal	714276G2
			B	—	3590 kHz	Spec. 2nd or 3rd Osc. Xtal	7142762G4
			G	—	—	CRYSTAL OVEN	NLA
454.40	ER-26-B		—	$\frac{F_o-48.2}{36}$	11283.333 kHz	1st Osc. Xtal (See Note)	SEE NOTE
460.55					11454.166 kHz		
460.60					11455.555 kHz		
460.65					11.456.944 kHz		
460.70					11458.333 kHz		
460.75					11459.722 kHz		
460.80					11.461.111 kHz		
460.85					11462.500 kHz		
461.65					11484.720 kHz		

NOTE: For the special frequency listed, when used with Receiver ER-26-B, tune the HI-IF to 48.2 MHz, specify a 45.0 MHz 2nd Osc. Xtal (7491399P1) and use the 1st Osc. Xtal listed above. (1st Osc. Xtal ordering no. is the same as listed for the appropriate receiver type no.)

CRYSTALS

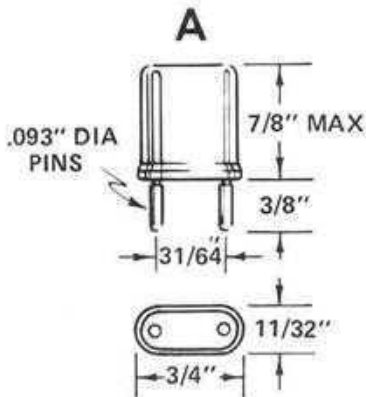


TEST SETS

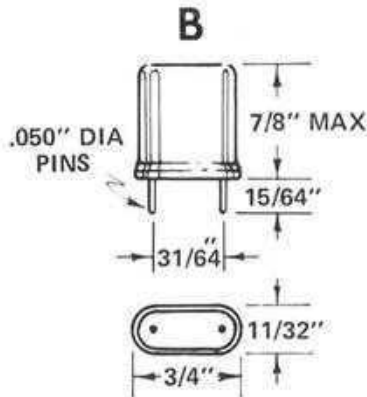
CRYSTAL FREQUENCY	FIG.	DESCRIPTION	ORDERING NUMBER
4EX1D, E May use the same xtals as 4EX1B, C or the following alignment xtals.			
150—500 kHz	B	Specify exact frequency desired	19B200360G1
280 kHz	B	Specify frequency listed	19B200360G2
285 kHz	B		19B200360G3
290 kHz	B		19B200360G4
295 kHz	B		19B200360G5
300 kHz	B		19B200360G6
435 kHz	B		19B200360G13
445 kHz	B		19B200360G8
447.5 kHz	B		19B200360G7
450 kHz	B		19B200360G9
455 kHz	B		19B200360G10
460 kHz	B		19B300460G11
465	B		19B200360G12
3.2 MHz	A		19B206802G1
4.7 MHz	A		19B206802G1
5.3 MHz	A		19B206802G1
8.7 MHz	A		19B206802G1
4EX7A10 (IF Test Generator — TE41 Test Set) Alignment Crystals (Fig. B)		4EX9A10 (IF Test Generator — TE46 Test Set) Alignment Crystals (Specify exact frequency) (Fig. A)	
280 kHz	19B200360G2	9.4 MHz	For MASTR II equipment testing
285 kHz	19B200360G3	11.2 MHz	For MASTR II equipment testing
290 kHz	19B200360G4	12.4 MHz	For testing Personal radios
295 kHz	19B200360G5	19.0 MHz	For testing Personal radios
300 kHz	19B200360G6	20.0 MHz	For testing Personal radios
445 kHz	19B200360G8	5—23 MHz	Specify exact frequency desired
450 kHz	19B200360G9		
455 kHz	19B200360G10		
460 kHz	19B200360G11		
465 kHz	19B200360G12		
4EX5A10 (IMTS Logic Test Set — TL53) Crystals for Optional Signal Generator (Option 5711) (Fig. B)			
		FOR USE OUTSIDE NORTH AMERICA	
12665.417 kHz	Fo = 151.985 MHz	12691.667 kHz	Fo = 152.300 MHz
12709.167 kHz	152.510 MHz	12694.167	152.330 MHz
12711.667 kHz	152.540 MHz	12696.667	152.360 MHz
12714.167 kHz	152.570 MHz	12699.167 kHz	152.390 MHz
12716.667 kHz	152.600 MHz	12701.667 kHz	152.420 MHz
12719.167 kHz	152.630 MHz	12704.167 kHz	152.450 MHz
12721.667 kHz	152.660 MHz	12706.667 kHz	152.480 MHz
12724.167 kHz	152.690 MHz	12736.667	152.840 MHz
12726.667 kHz	152.720 MHz	12739.167 kHz	152.870 MHz
12729.167 kHz	152.750 MHz	12741.667 kHz	152.900 MHz
12731.667 kHz	152.780 MHz	12744.167 kHz	152.930 MHz
12734.167 kHz	152.819 MHz	12746.667	152.960 MHz
		12749.167	152.990 MHz
			19A110648G1-AF
			19A110648G1-AE
			19A110648G1-AD
			19A110648G1-AC
			19A110648G1-AB
			19A110648G1-AA
			19A110648G1-JJ*
			19A110648G1-JW*
			19A110648G1-BA
			19A110648G1-BB
			19A110648G1-BC
			19A110648G1-BD
			19A110648G1-BE

*Also used in Canada

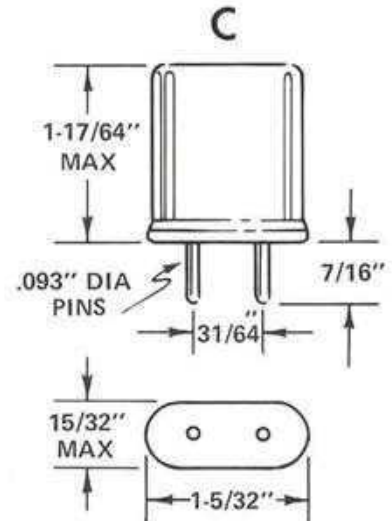
CRYSTAL OUTLINES



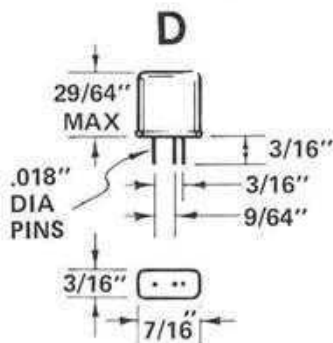
CASE KK-32C401-G64



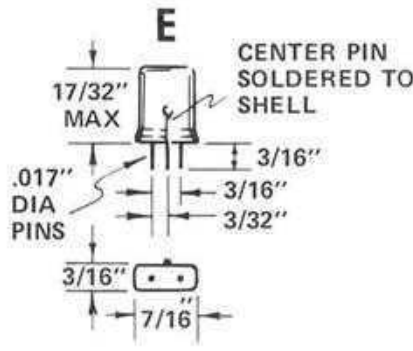
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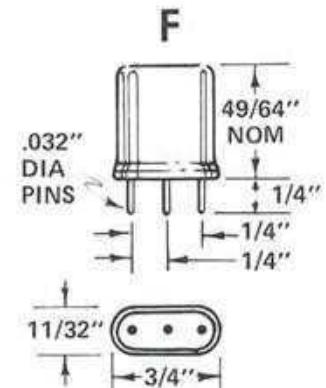
CASE KK-32C401-G82



CASE KK-32C401-G80



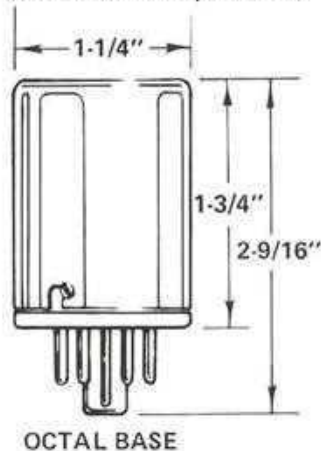
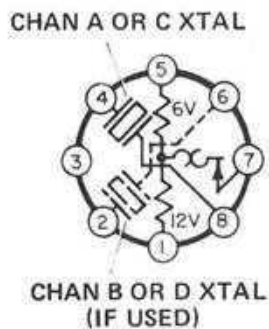
CASE KK-32C401-G80



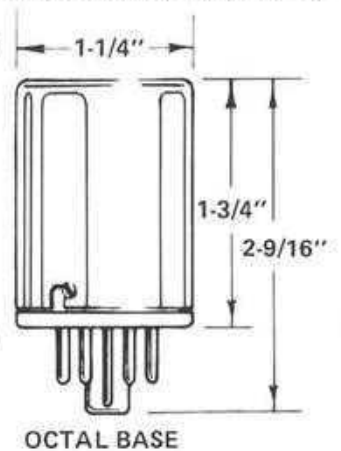
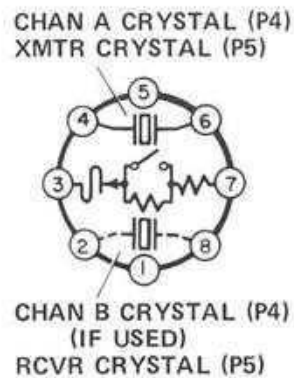
CASE KK-32C401-G64

OVEN OUTLINES AND CIRCUITS

G
CRYSTAL OVEN 5490303-P2 (6/12-V, 87-1/2°C)
CRYSTAL OVEN 7489306-P3 (6/12-V, 100°C)



H
CRYSTAL OVEN 5491357-P4 (6/12-V, 87.5°C)
CRYSTAL OVEN 5491357-P5 (12-V, 87.5°C)





MOBILE RADIO



MICROPHONES



GENERAL ELECTRIC MICROPHONES

HANDSETS	Page 1 – 6
HAND HELD SETS	Page 7 – 15
SPEAKER MIKES	Page 16 – 18
DESK MIKES	Page 19 – 20
HEADSETS	Page 20
HOOKSWITCHES	Page 21

HANDSETS

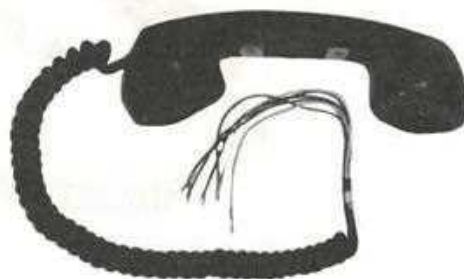
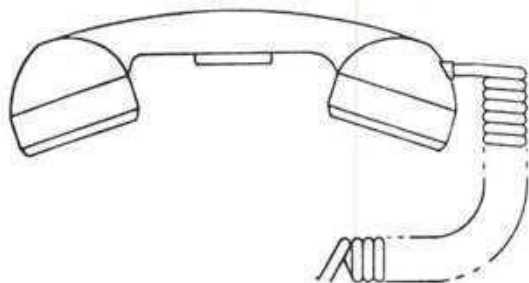


GE MODEL NUMBER	GE DRAWING NUMBER	CARTRIDGE	CABLE	CASE SET	NAME-PLATE	SWITCH BUTTON	SWITCH ASSEMBLY	MISCELLANEOUS
4EM12A10*	19B209100P2	Rec: RP41 (R1) Xmt: RP42 (R5D)	RP30* (90L262)*	RP44*			RP43* (RP81)	Handset
4EM12B10		Rec: RP41 (R1) Xmt: RP42 (R5D)	90A1099*	RP49			RP43* (RP81)	Handset
4EM22B38	19A116792P3	Rec: RP132* (R1) Xmt: RP144* (R6)						Black Handset
4EM22B40	19A116792P1	Rec: RP132* (R1) Xmt: RP144* (R6)	RP135*	RP133*	RP137*	RP137*	RP137*	Beige Handset
4EM22B41	19A116792P2	Rec: RP132* (R1)	RP136*	RP134*	RP138*	RP138*	RP138*	Gray Handset
19B209100P5	19B209100P5	Rec: RP41 (R1) Xmt: RP13 (R5D)		RP49	RP82	RP82	RP81	Handset
19B209468P1	19B209468P1	Rec: RP140 (R1) Xmt: RP139 (RP117)	RP141	RP142	RP82	RP82		Handset
19B209468P2	19B209468P2	Rec: RP140 (R1) Xmt: RP139 (RP117)		RP142	RP82	RP82		Handset

MASTR[®] CONTROLLER MICROPHONES



MOBILE TELEPHONE (IMTS)
FOR INDEPENDENT TELEPHONE
COMPANIES



PARTS LIST

19A134183P1

GE PART NO.	DESCRIPTION
19A134183P1	Handset, transistorized dynamic, black; sim to Telephone Components TG-4. Includes Receiver Cartridge Telephone Components R-5 SR555, Transmitter cartridge Shure Bros. RP-117, switch Telephone Components 741.
19B226901G1	Housing.
19B226897G1	Base Plate (Not shown).
19B226900G1	Mounting Plate (Left side mount hookswitch). Not shown.
19B226899G1	Mounting Plate (Right side mount hookswitch). Not shown.
19B226921G1	Cable: approx. 7 ft. long. Includes P1. (Right side mount hookswitch)
19B226922G3	Cable: approx. 3 ft. long. Includes P1. (Left side mount hookswitch)

19B209308P1
(4EM22B30)

Carbon handsets are used exclusively with Mobile Telephone Systems (MTS), to meet the exacting requirements of speech reproduction in telephone service.

Specifications

Type	
Transmitter	Carbon
Receiver	Dynamic
Freq. Response	
Transmitter	200-4,000 CPS
Receiver	400-3,000 CPS
Output	
Transmitter	53 DB
Receiver	3 w, 72 DB
Impedance	
Transmitter	75 ohms
Receiver	150 ohms
Case	High impact Phenolic
Cable	Tinsel, coiled cord, 6 conductor, with spade lugs.
Switch	Leaf type, 1 amp, 18 VDC
Dimensions	8" long, 2-3/8" wide, 2-3/4" deep
Weight	12 ounces

*Model Numbers According to Color

MODEL 4EM22A10	- Black	REPLACED BY	19B209308P1
MODEL 4EM22B10	- Black	REPLACED BY	19B209308P1
MODEL 4EM22B12	- Blue	REPLACED BY	No Longer Avail.
MODEL 4EM22B13	- Red	REPLACED BY	No Longer Avail.
MODEL 4EM22B18	- White	REPLACED BY	No Longer Avail.
MODEL 4EM22B20	- Beige	REPLACED BY	4EM22B40
MODEL *4EM22C10	- Black	REPLACED BY	No Longer Avail.

*(With varistor to prevent audio overloading)

Replacement Parts, 19B209308P1 (B30)

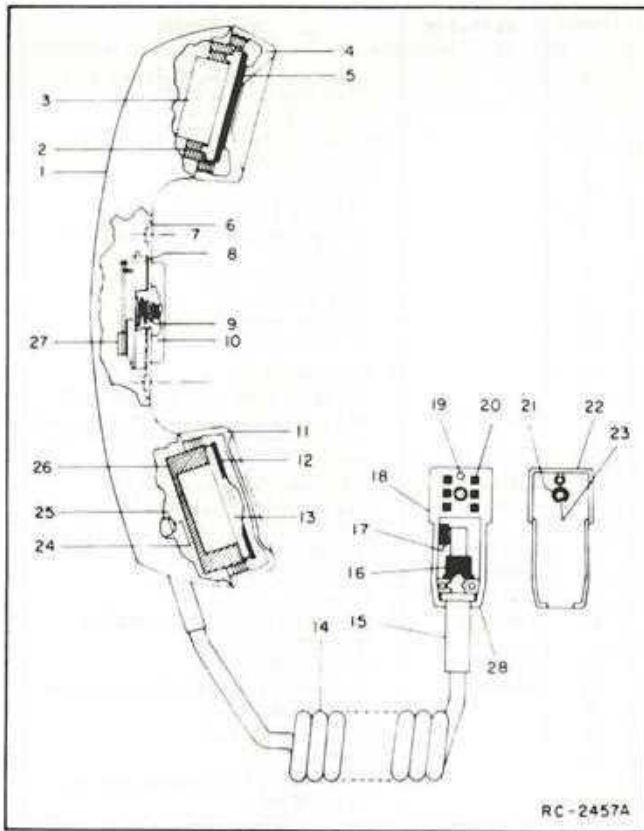
75547	Receiver cartridge
75555	Transmitter cartridge
80032	Switch assembly
101900	Black coiled cord
101902	Red coiled cord
101912	Blue coiled cord
101913	Beige coiled cord
101915	White coiled cord

Parts as listed are interchangeable

MASTR II MICROPHONE & HOOKSWITCH



PARTS LIST TRANSISTORIZED DYNAMIC HANDSET 19C320478G1

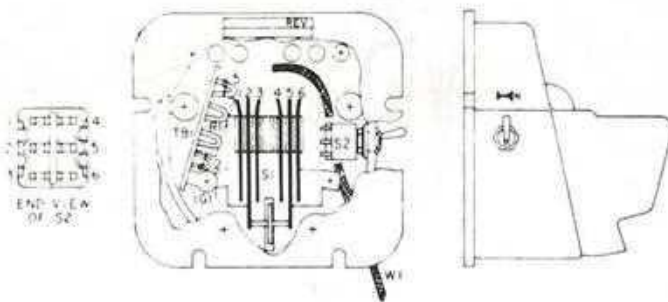


SYMBOL	GE PART NO	DESCRIPTION
1		Case Assembly - Includes items 1, 2, 4, 5, 11, 12, 26. Shure Brothers RP142.
2		Adapter - Part of item 1.
3		Receiver Cartridge - Shure Brothers RP140.
4		Receiver Cap - Part of item 1.
5		Washer - Part of item 1.
6		Escutcheon - Part of item 27.
7		Flat head screw, socket cap - No. 4-40 x 1/4, Part of item 27.
8		Actuator - Part of item 27.
9		Spring - Part of item 27.
10		Plunger bar - Part of item 27.
11		Transmitter cap - Part of item 1.
12		Washer - Part of item 1.
13		Transmitter Cartridge - Shure Brothers RP139.
14	19C321016G2	Cable assembly - Includes items 14, 23 and cable RP141.
15	19B219749P1	Flex relief.
16	19A116937P1	Cable clamp - sim to Malco 21012-3.
17	3R77P427K	Resistor - 5% Composition, 4700 ohms, 10%, 1/2 w.
18	19D416766P1	Connector case.
19	N136AP005C	Screw.
20	19A129435P1	Pin contact.
21	7109043P1	Retaining ring - 3-16 inch, sim to National Lockwasher WA 510.
22	19D416767P1	Connector Cover.
23	19B219723G1	Screw - (Secures cover, item 22 to case, item 18).
24		Screw - Part of item 14.
25		Cable clamp - Part of item 14.
26		Shield - Part of item 1.
27		Switch Assembly - Includes items 6, 10, Shure Brothers RP143.
28	19C321016G3	Connector assembly - Includes items 15, 16, 18, 23. Does not include resistor, item 17.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

PARTS LIST HOOKSWITCH 19B219846G1

OUTLINE DIAGRAM



SYMBOL	GE PART NO	DESCRIPTION
--- RESISTORS ---		
R1	5493035P11	Wirewound - 40 ohms ±5%, 5 w.; sim to Hamilton Hall Type Hr. Earlier than REV A.
	5493035P12	Wirewound - 60 ohms ±5%, 5 w.; sim to Hamilton Hall Type HR.
--- SWITCHES ---		
S1	19A129585P1	Holder and switch - Thermoplastic case, contact rating 1 amp at 125 v.
S2	19A116877P6	Toggle - DPDT, 1 ma at 6 VDC, sim to G and K Components 7201G. (CHANNEL GUARD DISABLE).
--- TERMINAL BOARDS ---		
TB1	7775500P203	Phen - 5 terminals.
--- CABLES ---		
W1	19B219841G1	6 conductor, 5 feet long.
--- MISCELLANEOUS ---		
	N190AF1312C	Tap screw, phillips pozidriv - No. 6 x 3/4. (Secures housing to base plate).
	N101P1510P	Tap screw, phillips - No. 8 x 5/8. (Used for mounting base plate).
	19A129586P1	Bumper, rubber. (2).

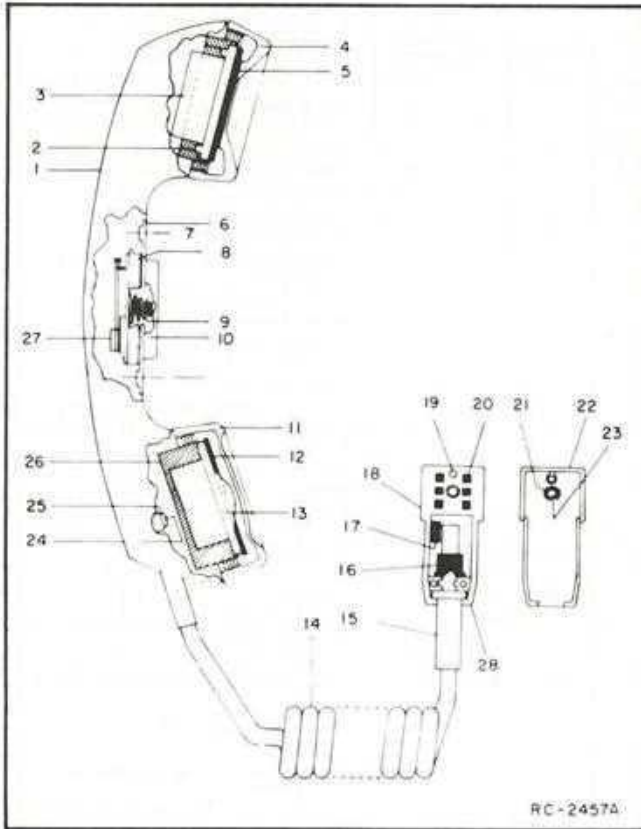
GE-MARC V CONTROL UNIT

MICROPHONE & HOOKSWITCH



PARTS LIST

TRANSISTORIZED DYNAMIC HANDSET 19C320478G1



PARTS LIST

HANDSET HOOKSWITCH 19B219846G5 ISSUE 1

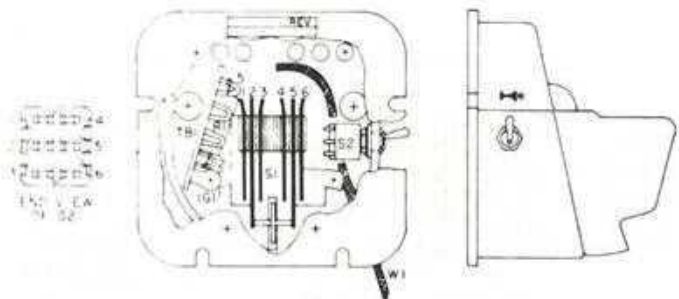
SYMBOL	GE PART NO.	DESCRIPTION
----- RESISTORS -----		
R2	5493035P52	Wirewound: 8.2 ohms $\pm 10\%$; 5 w; sim to Hamilton Hall 1 type MR
----- SWITCHES -----		
S1	19A129589G1	Holder & switch: Thermoplastic case; contact rating 1 amp at 125 v
S2	19A116877P6	Toggle: DPDT; 5 amps at 28 VDC or 115 VAC; sim to C & K Components 7201G (CHANNEL GUARD DISABLE)
----- TERMINAL BOARDS -----		
TB1	7775500P203	Phen: 5 terminals
----- CABLES -----		
W1	19B219841G1	Cable: 6 conductor; approx. 9 feet long
----- MISCELLANEOUS -----		
	N190P1312C	Tap screw, phillips: No. 6-20 x 3/4 (Secures housing to base plate)
	N101P1510P	Tap screw, phillips: No. 8-15 x 5/8 (Used for mounting base plate)
	19A129588G1	Bumper, rubber: (2)
	19B219852P1	Base plate
	NP276142B	Nameplate

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

SYMBOL	GE PART NO.	DESCRIPTION
1		Case Assembly. Includes items 1, 2, 4, 5, 11, 12, 26. Shure Brothers RP142.
2		Adapter. Part of item 1.
3		Receiver Cartridge: Shure Brothers RP140.
4		Receiver Cap. Part of item 1.
5		Washer. Part of item 1.
6		Escutcheon. Part of item 27.
7		Flat head screw, socket cap: No. 4-40 x 1/4; Part of item 27.
8		Actuator. Part of item 27.
9		Spring. Part of item 27.
10		Plunger bar. Part of item 27.
11		Transmitter cap. Part of item 1.
12		Washer. Part of item 1.
13		Transmitter Cartridge: Shure Brothers RP139.
14	19C32101BG2	Cable assembly: Includes items 14 - 23 and cable RP141.
15	19B219749P1	Flex relief.
16	19A116937P1	Cable clamp: sim to Malco 21012-3.
17	3R77P472K	Resistor (R1) Composition, 4700 ohms $\pm 10\%$, 1/2 w
18	19D416766P1	Connector case.
19	N136AP905C	Screw.
20	19A129435P1	Pin contact.
21	7109043P1	Retaining ring: 3/16 inch, sim to National Lockwasher WA 510.
22	19D416767P1	Connector Cover.
23	19B219723G1	Screw: (Secures cover, item 22 to case; item 18).
24		Screw: Part of item 14.
25		Cable clamp. Part of item 14.
26		Shield: Part of item 1.
27		Switch Assembly. Includes items 6-10: Shure Brothers RP143.
28	19C32101GG3	Connector assembly: Includes items 15, 16, 18-23. Does not include resistor, item 17.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

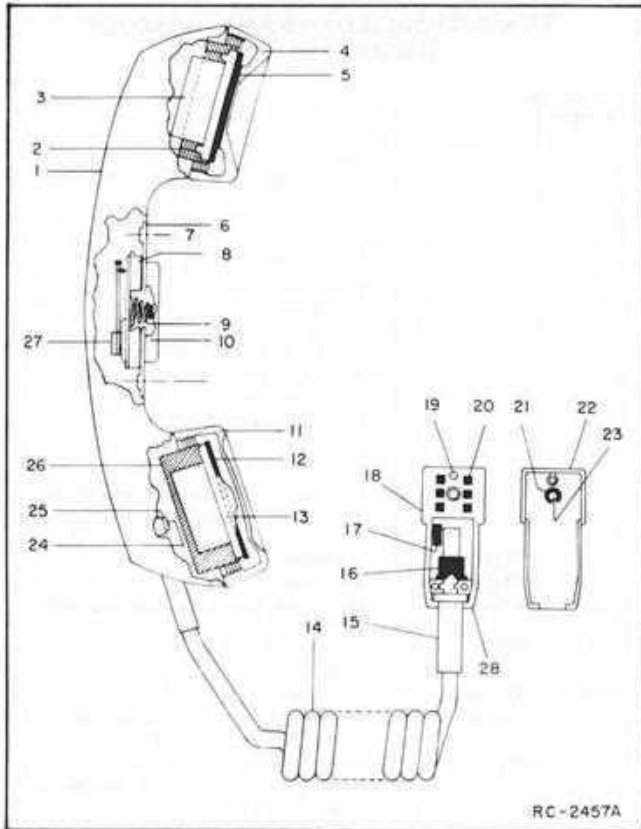
OUTLINE DIAGRAM



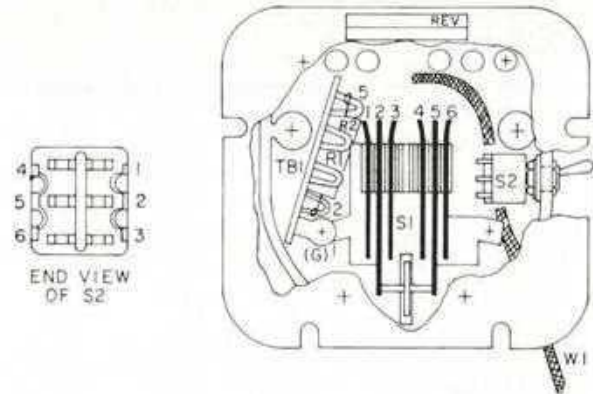
C-900 SERIES CONTROL UNIT MICROPHONES



TRANSISTORIZED DYNAMIC HANDSET
19C320478G1



HANDSET HOOKSWITCH
19B219846G1

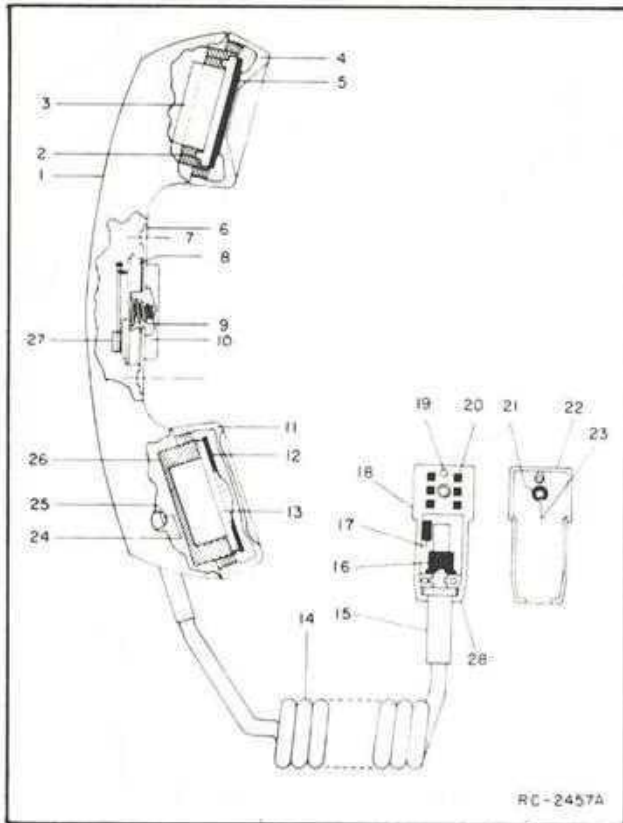


SYMBOL	GE PART NO.	DESCRIPTION
1		Case Assembly. Includes items 1, 2, 4, 5, 11, 12, 26. Shure Brothers RP142.
2		Adapter. Part of item 1.
3		Receiver Cartridge. Shure Brothers RP140.
4		Receiver Cap. Part of item 1.
5		Washer. Part of item 1.
6		Escutcheon. Part of item 27.
7		Flat head screw, socket cap. No. 4-40 x 1/4, Part of item 27.
8		Actuator. Part of item 27.
9		Spring. Part of item 27.
10		Plunger bar. Part of item 27.
11		Transmitter cap. Part of item 1.
12		Washer. Part of item 1.
13		Transmitter Cartridge. Shure Brothers RP139.
14	19C321016G2	Cable assembly. Includes items 14, 23 and cable RP141.
15	19B219749P1	Flex relief.
16	19A116937P1	Cable clamp. sim to Malco 21012-3.
17	3R77P472K	Resistor (R1) Composition, 4700 ohms $\pm 10\%$, 1/2 w.
18	19D416766P1	Connector case.
19	N136AP905C	Screw.
20	19A129435P1	Pin contact.
21	7109043P1	Retaining ring. 3/16 inch, sim to National Lockwasher WA 510.
22	19D416767P1	Connector Cover.
23	19B219723G1	Screw. (Secures cover, item 22 to case, item 18).
24		Screw. Part of item 14.
25		Cable clamp. Part of item 14.
26		Shield. Part of item 1.
27		Switch Assembly. Includes items 6-10. Shure Brothers RP143.
28	19C321016G3	Connector assembly. Includes items 15, 16, 18-23. Does not include resistor, item 17.

SYMBOL	GE PART NO.	DESCRIPTION
----- RESISTORS -----		
R1	5493035P11	Wirewound: 40 ohms $\pm 5\%$, 5 w; sim to Hamilton Hall Type Hr. Earlier than REV A.
	5493035P12	Wirewound: 60 ohms $\pm 5\%$, 5 w; sim to Hamilton Hall Type HR.
----- SWITCHES -----		
S1	19A129585P1	Holder and switch. Thermoplastic case, contact rating 1 amp at 125 v.
S2	19A116877P6	Toggle: DPDT, 1 ma at 6 VDC, sim to C and K-Components 7201G. (CHANNEL GUARD DISABLE).
----- TERMINAL BOARDS -----		
TB1	7775500P203	Phen: 5 terminals.
----- CABLES -----		
W1	19B219841G1	6 conductor, 5 feet long.
----- MISCELLANEOUS -----		
	N190AP1312C	Tap screw, phillips pozidriv. No. 6 x 3/4. (Secures housing to base plate).
	N101P1510P	Tap screw, phillips. No. 8 x 5/8. (Used for mounting base plate).
	19A129586P1	Bumper, rubber. (2).

PARTS LIST

TRANSISTORIZED DYNAMIC HANDSET 19C320478G1



SYMBOL	GE PART NO.	DESCRIPTION
1		Case Assembly. Includes items 1, 2, 4, 5, 11, 12, 26. Shure Brothers RP142.
2		Adapter. Part of item 1.
3		Receiver Cartridge. Shure Brothers RP140.
4		Receiver Cap. Part of item 1.
5		Washer. Part of item 1.
6		Escutcheon. Part of item 27.
7		Flat head screw, socket cap: No. 4-40 x 1/4, Part of item 27.
8		Actuator. Part of item 27.
9		Spring. Part of item 27.
10		Plunger bar. Part of item 27.
11		Transmitter cap. Part of item 1.
12		Washer. Part of item 1.
13		Transmitter Cartridge. Shure Brothers RP139.
14	19C321016G2	Cable assembly: Includes items 14 - 23 and cable RP141.
15	19B219749P1	Flex relief.
16	19A116937P1	Cable clamp: sim to Malco 21012-3.
17	3R77P472K	Resistor. (R1) Composition, 4700 ohms $\pm 10\%$, 1/2 w.
18	19D416766P1	Connector case.
19	N136AP905C	Screw.
20	19A129435P1	Pin contact.
21	7109043P1	Retaining ring. 3/16 inch, sim to National Lockwasher WA 510.
22	19D416767P1	Connector Cover.
23	19B219723G1	Screw. (Secures cover, item 22 to case, item 18).
24		Screw. Part of item 14.
25		Cable clamp. Part of item 14.
26		Shield. Part of item 1.
27		Switch Assembly. Includes items 6-10. Shure Brothers RP143.
28	19C321016G3	Connector assembly: Includes items 15, 16, 18-23. Does not include resistor, item 17.

MICROPHONES



GE MODEL NUMBER	GE DRAWING NUMBER	CARTRIDGE	CABLE	CASE SET	NAME-PLATE	SWITCH BUTTON	SWITCH ASSEMBLY	MISCELLANEOUS
4EM9B	19C307105P1	RP58	RP65	RP59		RP76	RP61	RP60 Base Assembly RP77 Hardware
4EM9C1	19C307106P1	RP58	RP66	RP59			RP62	RP60 Base Assembly RP77 Hardware
4EM10A1	B-7488422P1 19B209102P1	RP6 (R5F)(RP13)(R5D)	RP29 (C10)	RP2		RP5	RP3	RP1 (RK4H) Case Closing Screws RP4 Hardware
4EM10A2	B-7488422P3 19B209102P1	RP13 (R5D)	RP14 (C11C)	RP11 (RK2C)	RP17	RP18 (RK3SB)	RP15 (RK8S)	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM10B2	B-7488422P4 19B209102P1	RP6 (R5F)(RP13)(R5D)	RP29	RP2		RP5	RP3	RP1 (RK4H) Case Closing Screws RP4 Hardware
4EM10C1	B-7488422P5 19B209102P1	RP13 (R5D)	70A372	RP11 (RK2C)	RP17	RP18 (RK3SB)	RP15 (RK8S)	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM12C10	19B209100P2	Rec: RP41 (R1) Xmt: RP13 (R5D)	90H619 (RP48)	RP49	RP82	RP82	RP81	
4EM13A1	B-7487533P1	RP51 (R55)	RP52 (C55)	RP55 (RK37C)	(RK341S)	(RK341S)	(RK341S)	RP53 Swivel Hardware RP54 (RK30CA) Connector Assem. RP56 (RK35T) Transformer
4EM18A10	B-5491402P1 4EM18D10	RP22 (R5C)	RP28 (C28)	RP21	RP17	RP25	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware RP27 Switch Button Hardware
4EM18B10	B-5491402P2 4EM18D10	RP22 (R5C)	RP80 (C28C)	RP21	RP17	RP25	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware RP27 Switch Button Hardware
4EM18C10	B-5491402P3 4EM18D10	RP22 (R5C)	RP80 (C28C)	RP21	RP17	RP25	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware RP27 Switch Button Hardware
4EM18D10		RP22 (R5C)	RP24 (C27C)	RP21	RP17	RP25	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware RP27 Switch Button Hardware

MICROPHONES



GE MODEL NUMBER	GE DRAWING NUMBER	CARTRIDGE	CABLE	CASE SET	NAME-PLATE	SWITCH BUTTON	SWITCH ASSEMBLY	MISCELLANEOUS
4EM21A10		RP78 (R3)	RP7	RP12 (RK1C)	RP17	RP18 (RK3SB)	RP15 (RK8S)	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM21810	19B209308P1	RP78 (R3)	RP79	RP12 (RK1C)	RP17	RP18 (RK3SB)	RP15 (RK8S)	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM25A10-B1	19B209102P1	RP13 (R5D)	RP14 (C11C)	RP67	RP17	RP25	RP26	RP1 (RK4K) Case Closing Screws RP16 Internal Hardware
4EM25C10	19B209308P1	RP85 (R5D)	SEE MISC.	RP67	RP17	RP25		RP1 (RK4H) & RP16 - See above RP84 Cable With Brass Terminals RP799 Cable with MC6M Connector
4EM25E10-F10	19B209102P2	RP13 (R5D)	RP14 (C11C)	RP96	RP17	RP97	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM25K10	19B209102P4	RP13 (R5D)	RP14 (C11C)	RP898	RP17	RP531	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM25L10	19B209102P5	RP13 (R5D)	RP786	RP897	RP17	RP97	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM25M10	19B209102P6	RP13 (R5D)	RP14 (C11C)	RP100	RP17	RP189	RP26	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware
4EM26A10C1	19B209100P3	Rec: RP41 (R1) Xmt: RP13 (R5D)	RP48	RP49	RP82	RP82	RP81	
4EM26A10	19B209100P3	Rec: RP41 (R1) Xmt: RP13 (R5D)			RP82	RP82	RP81	
4EM26C10	19B209100P3	Rec: RP41 (R1) Xmt: RP42 (R5D)	RP738	RP899	RP82	RP82	RP81	
4EM28A10	19C307105P1	RP13 (R5D)	RP65	See Misc.	RP73	RP68	RP70	RP72 Base Assembly RP98 Cap and Screen Assembly
4EM28B10	19C307106P1	RP13 (R5D)	RP66	See Misc.	RP74	RP69	RP71	RP72 Base Assembly RP98 Cap and Screen Assembly
4EM30A10	19B209182P1	RP87 (R88A)	RP14 (C11C)	RP88 (RK21C)	---	RP18 (RK3SB)	RP15 (RK8S)	RP1 (RK4H) Case Closing Screws RP16 Internal Hardware

MICROPHONES



GE MODEL NUMBER	GE DRAWING NUMBER	CARTRIDGE	CABLE	CASE SET	NAME-PLATE	SWITCH BUTTON	SWITCH ASSEMBLY	MISCELLANEOUS
4EM31A10	19B209183P1	RP89	RP24	RP90 (RK22C)	---	RP18 (RK3SB)	RP15 (RK8S)	RP1* (RK4H) Case Closing Screws RP16 Internal Hardware
4EM33A10	19B209199P3	RP32 (R14A)	See Misc.	RP31A RP31B	---	RP34	RP33	RP38 (RK17H) Internal Hardware RP39 Case Closing Screws RP35 Cable & Plug - RP35A Less Plug
4EM33B10	19B209199P3	RP32 (R14A)	RP35 See Misc.	RP31A (RP31B- No Hangup button)	---	RP34	RP33	RP35A Cable (Less Plug) RP38 (RK17H) Internal Hardware RP39 Case Closing Screws
4EM33C10	19B209306P1	RP95 (R19A)	RP35 See Misc.	RP94	---		RP33	RP35A Cable (Less Plug) RP38 (RK17H) Internal Hardware RP39 Case Closing Screws
4EM33D10	19B209199P3	RP32 (R14A)	RP35 See Misc.	RP31 (RP31B- No Hangup button)	---	RP34	RP33	RP35A Cable (Less Plug) RP38 (RK17H) Internal Hardware RP39 Case Closing Screws
19A120772P1	19A120772P1	RP32 (R14A)	(90AD1188)	RP31 (RP31B- No Hangup button)	---		RP33	RP38 (RK17H) Internal Hardware RP39 Case Closing Screws
4EM33F10	19C317594G2	RP32 (R14A)	RP35A	RP31 (RP31B- No Hangup Button)	---	RP34	RP33	RP38 (RK17H) Internal Hardware RP39 Case Closing Screws
4EM33G10	19D424867G1	99A360			---	RP175	RP233	SPKR/MIKE
4EM33G11		99A360			---	RP175	RP233	SPKR/MIKE
4EM33L10		RP32 (R14A)	RP35 See Misc.	RP174	---		RP33	RP35A Cable (Less Plug) RP38 (RK17H) Internal Hardware RP39 Case Closing screws
4EM34A10	19B209198P1	Rec: RP41 (R1) Xmt: RP13 (R5D)	RP47	RP49	RP81	RP81	RP81	
4EM35A10	19B209337P1	(R50)	(C74)	(RK86C)				

MICROPHONES

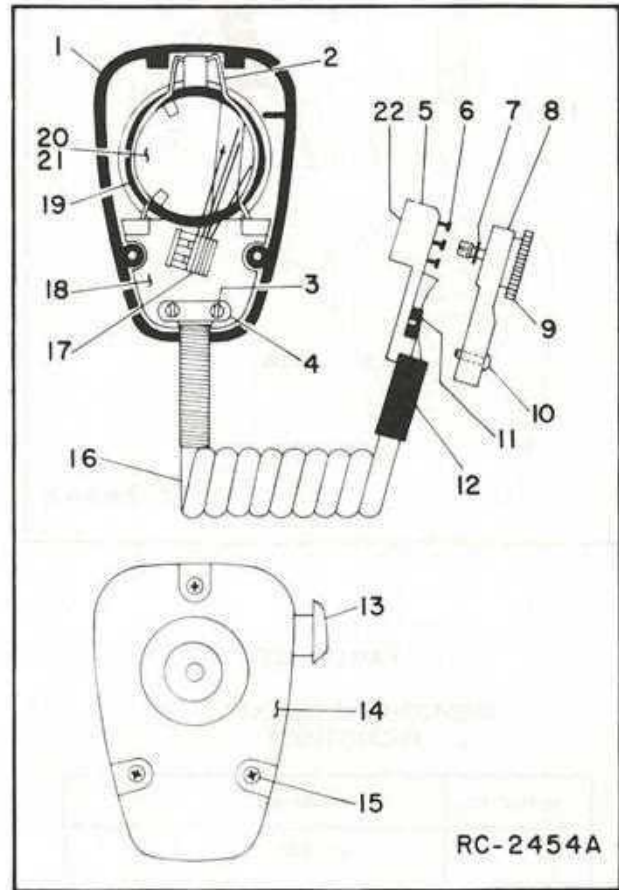


GE MODEL NUMBER	GE DRAWING NUMBER	CARTRIDGE	CABLE	CASE SET	NAME-PLATE	SWITCH BUTTON	SWITCH ASSEMBLY	MISCELLANEOUS
19B209458P1	19B209458P1	RP117	RP123	See Misc.	See Misc.	RP124	RP124	RP121 Stem Assembly RP122 Head Assembly RP125 Base Assembly
19B209459P1	19B209459P1	RP117	RP118	See Misc.	See Misc.	RP119	RP119	RP120 Base Assembly RP121 Stem Assembly RP 122 Head Assembly
19B209459P2	19B209459P2	RP117	RP118	See Misc.	See Misc.	RP119	RP119	RP121 Stem Assembly RP122 Head Assembly
19B209585P1	19B209585P1	(90A2490) (94A1461B)	RP129	RP127	---	RP126	RP128	
19B209693P1	19B209693P1	RP252	RP259	See Misc.	See Misc.	RP255	RP255	RP253 Base Assembly RP257 Stem Assembly RP258 Head Assembly
19B209694P1	19B209694P1	RP252	RP260	See Misc.	See Misc.	RP256	RP256	RP254 Base Assembly RP257 Stem Assembly RP258 Head Assembly
19B233577P1	19B233577P1	RP117	RP263	RP262	---	RP261	RP128	
19C320270G1		RP117	RP129	RP127	---	RP126	RP128	
19C320270G2		RP117	RP129	RP127	---	RP126	RP128	
19C320477G1		RP147 (R88T)	RP146*	RP145	---	RP148	RP148 (RK24S)	RP149 Transistor amplifier

MASTR II MICROPHONE & HOOKSWITCH

PARTS LIST TRANSISTORIZED DYNAMIC MICROPHONE 19C320270G1

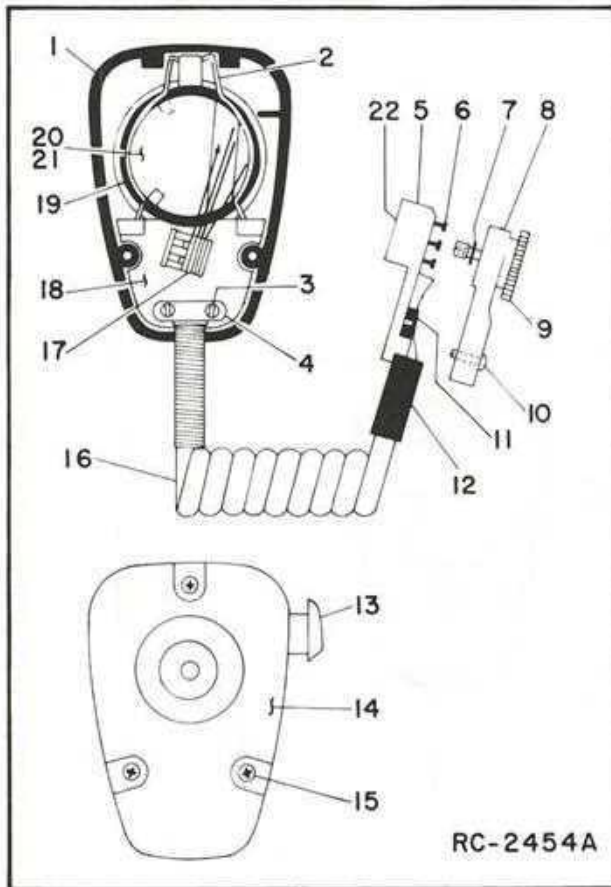
SYMBOL	GE PART NO.	DESCRIPTION
1		Front Case Assembly, RP127. (includes items 14, 15).
2		Retaining spring. (Part of item 18).
3		Tap screw, phillips. (Part of item 16).
4		Retaining bar. (Part of item 16).
5	19D416766P1	Connector base.
6	19A129435P1	Contact.
7	7109043P1	Retaining ring.
8	19D416767P1	Connector cover.
9	19B219723G1	Screw.
10	N136AP905C	Tap screw, phillips. No. 4 x 5/16.
11	19A116937P1	Cable clip.
12	19B219740P1	Strain relief.
13		Switch button kit. RP126.
14		Rear Case Assembly. (Part of item 1).
15		Tap screw, phillips. (Part of item 1).
16	19C321016G1	Cable assembly: includes items 3, 12 and cable RP129.
17		Switch Assembly, RP128.
18		Grille Assembly. RP130. (includes items 2, 19, 21).
19		"O" Ring. (Part of item 18).
20		Transistorized Cartridge. RP117.
21		Washer. (Located under cartridge. (Part of item 18).
22	19C321016G3	Connector assembly: Includes items 5, 12.



PARTS LIST MICROPHONE HOOKSWITCH 19C320318G1

GE PART NO.	DESCRIPTION
----- SWITCHES -----	
19B219698G1	Slide. SPST. 3 amp at 125 VAC. 2.2 amp at 14 VAC. sim to Switchcraft 46202LH. (S1 includes switch and housing).
19A116676P1	Sensitive. SPDT. 5 amp at 24 VDC or 5 amp at 250 VRMS. sim to Microswitch 111SM1-T2.
----- CABLES -----	
19A129414G1	2 conductor cable: approx 5 feet long. includes (2) 19A116781P3 contacts.
----- MISCELLANEOUS -----	
19A116768P6	Strain relief. sim to Heyco SR-3P-4. (Used with W1).
N193P1410C	Tap screw, phillips. No. 8 x 5/8.
N84P5008C6	Screw, phillips. No. 2-56 x 1/2. (Secures S2).
N210P5C6	Hexnut. No. 2-56. (Secures S2).
N404P8C6	Lockwasher, internal tooth. No. 2. (Secures S2).

MICROPHONE & HOOKSWITCH



PARTS LIST

TRANSISTORIZED DYNAMIC MICROPHONE 19C320270G1, G2 (SEE RC-2454)

SYMBOL	GE PART NO.	DESCRIPTION
1		Front Case Assembly, RP127, (includes items 14, 15).
2		Retaining spring. (Part of item 18).
3		Tap screw, phillips. (Part of item 16).
4		Retaining bar. (Part of item 16).
5	19D416766P1	Connector base.
6	19A129435P1	Contact.
7	7109043P1	Retaining ring.
8	19D416767P1	Connector cover.
9	19B219723G1	Screw.
10	N136AP905C	Tap screw, phillips: No. 4 x 5/16.
11	19A116937P1	Cable clip.
12	19B219749P1	Strain relief.
13		Switch button kit, RP126.
14		Rear Case Assembly. (Part of item 1).
15		Tap screw, phillips. (Part of item 1).
16	19C321016G1	Cable assembly: Includes items 3-12 and cable RP129.
17		Switch Assembly, RP128.
18		Grille Assembly, RP130. (includes items 2, 19, 21).
19		"O" Ring. (Part of item 18).
20		Transistorized Cartridge, RP117.
21		Washer. (Located under cartridge- part of item 18).
22	19C321016G3	Connector assembly: Includes items 5-12.

PARTS LIST

MICROPHONE HOOKSWITCH 19C320318G4

GE PART NO.	DESCRIPTION
	----- SWITCHES -----
19A116676P1	Sensitive: SPDT, 5 amp at 24 VDC or 5 amp at 250 VRMS; sim to Microswitch 1115M1-T2.
	----- CABLES -----
19A129414G1	Cable: 2 conductor; approx 5 feet long, includes (2) 19A116781P5 contacts.
	----- MISCELLANEOUS -----
19B219694P1	Base plate.
19A116768P6	Bushing, strain relief: sim to Heyco SR 3P-4.
N193P1410C	Tap screw: No. 8-18 x 5/8. (Secures base plate to mounting surface).
19B219698G5	Housing.



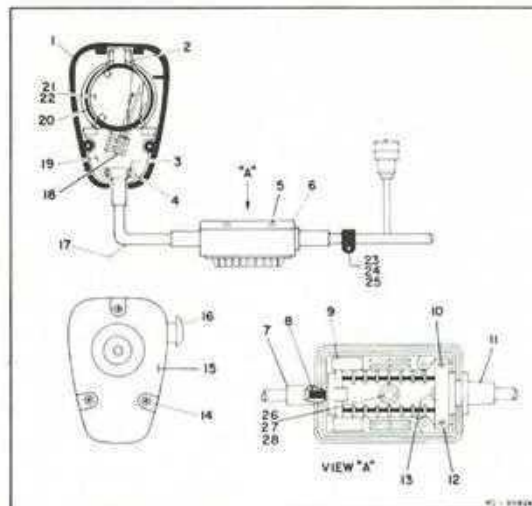
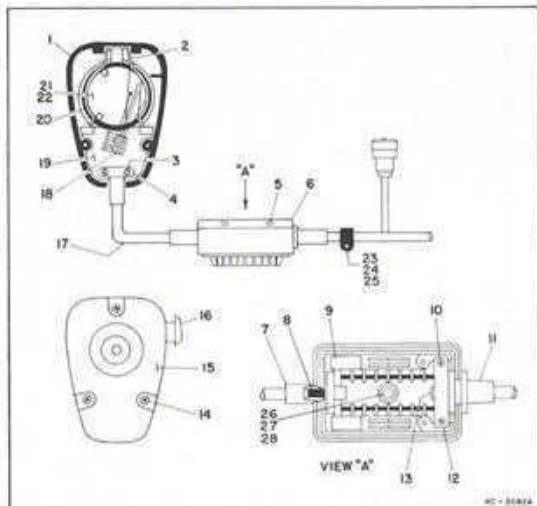
PARTS LIST

TRANSISTORIZED MICROPHONE 19B209670P1

GE PART NO.	DESCRIPTION
19A116659P20	Cable connector shell; sim to Molex 09-50-3081.
19A116781P6	Contact, electrical: wire range No. 22-26 AWG; sim to Molex 08-50-D108. (Quantity 4- Used with 19A116659P20 connector shell).
NP280575	Faceplate. (GENERAL ELECTRIC).
4033271G1	Strain relief. (Located on cable 10 inches from connector).
MP101	Case front & back including switch; mounting screws; GE nameplate; individually packaged.
MP102	D11-70B cartridge with lead wire attached. Individually packaged.
MP103	Cable assembly to include trimming, spring, connector, strain relief. Individually packaged.

GE PART NO.	DESCRIPTION
	MIKE HANGER/HOOKSWITCH 19C320318G3
	----- SWITCHES -----
19A134398P1	Push: sim to Chicago Switch S-1527-1.
	----- CABLES -----
19A129414G1	Cable: approx 5 feet. (Includes (2) contacts 19A116781P5).
	----- MISCELLANEOUS -----
19B209261P18	Switch, slide: 1 pole, 2 positions, 0.5 amp VDC or 3 amp VAC at 125 v; sim to Switchcraft 46202LH.
19B219694P1	Base plate.
19B219698G4	Housing.
19B219693P2	Spring.
19A116768P6	Strain relief.
N193P1410C	Tap screw, phillip head: No. 8-18 x 5/8. (Secures assembly to mounting surface).
19A134398P101	Plate.

PORTA-MOBILE II MICROPHONES



PARTS LIST

POWER CABLE AND NOISE CANCELLING MICROPHONE

- 19C321929G4 MOTORCYCLE
- 19C321929G5 MOTORCYCLE REAR MOUNT
- 19C321922G6 MOBILE

SYMBOL	GE PART NO.	DESCRIPTION
-----CABLES-----		
W1	19A134268P1	Conduit, nonmetallic; approx 8 feet long; sim to Co-Operative Inc. C-11000-18.
W2	19B227262G1	Cable; approx 3 inches long.
W3	19B227262G2	Cable; approx 3 inches long.
W4	19B227262G3	Cable; approx 3 inches long.
W5	19B227262G4	Cable; approx 3 inches long.
W6	19C321016G4	Cable assembly with (4) 7147199P1 contacts.
W7	19B227391G1	Cable assembly.
W8	19A134268P1	Conduit, nonmetallic, approx 1 foot long; sim to Co-Operative Inc. C-11000-18.
MECHANICAL PARTS (See RC3684)		
1	RP148	Switch with switch pushbutton
2	19A116773P106	Tap screw, Phillips POZIDRIV ; No. 7-19 x 3/8.
3	19D417745P1	Cover.
4	7488373P2	Cable clamp, 5/16 inch loop; sim to Thomas Associates TA717-S85. (FRONT MOUNT ANTENNA).
5	7488373P4	Cable clamp, 7/16 inch loop; sim to Thomas Associates TA717-S87. (REAR MOUNT ANTENNA).
6	N80P21006C6	Machine screw; No. 1/4-20 x 3/8.
7	N405P41C6	Lockwasher, spring type; 1/4 inch.
8	19A130903P1	Support.
9	19A130080P1	Cable clip.
10	19B219749P1	Flex relief.
11	RP147	Cartridge with shield ring.
12	RP145	Case set with internal hardware.
13	N22P21022C6	Cap screw; size No. 1/4.
14	19A134297P1	Lockwasher, steel; sim to Shakeproof 3079-14-00.
15	4037064P21	Washer, non metallic; .281 ID.
16	19A134268P1	Conduit, non metallic sim to Co-Operative Inc. C-11000-18. (See W1 and W8).
17	19A130897P1	Strain relief.
18	19B226586P1	Seal.
19	19A116773P105	Tap screw, Phillips POZIDRIV ; No. 7-19 x 5/16.

PARTS LIST

POWER CABLE & MICROPHONE ASSEMBLY

- 19C321929G1 STANDARD
- 19C321929G2 REAR MOUNT
- 19C321929G3 MOBILE

SYMBOL	GE PART NO.	DESCRIPTION
-----CABLES-----		
W1	19A134268P1	Conduit, nonmetallic; approx 8 feet long; sim to Co-Operative Inc. C-11000-18.
W2	19B227262G1	Cable; approx 3 inches long.
W3	19B227262G2	Cable; approx 3 inches long.
W4	19B227262G3	Cable; approx 3 inches long.
W5	19B227262G4	Cable; approx 3 inches long.
W6	RP129	(See item 17 on RC3062).
W7	19B227391G1	Cable assembly.
W8	19A134268P1	Conduit, nonmetallic, approx 8 feet long; sim to Co-Operative Inc. C-11000-18.
MECHANICAL PARTS (SEE RC3062)		
1	RP127	Front Case assembly. (Includes items 14 and 15).
2		Retaining spring. (Part of item 19).
3		Tap screw, phillips. (Part of item 17).
4		Retaining bar. (Part of item 17).
5	19A116773P106	Tap screw, Phillips POZIDRIV ; No. 7-19 x 3/8.
6	19D417745P1	Cover.
7	19B219749P1	Flex relief.
8	19A130080P1	Cable clip.
9	19A130903P1	Support.
10	19A116773P105	Tap screw, Phillips POZIDRIV ; No. 7-19 x 5/16.
11	19B226586P1	Seal.
12	19A130897P1	Strain relief.
13	19A134268P1	Conduit, non metallic, 8 feet long; sim to Co-Operative Industries Inc. C-11000-18.
14		Tap Screw, phillips. (Part of item 1).
15		Rear Case assembly. (Part of item 1).
16	RP126	Switch button kit.
17	RP129	Cable assembly. (Includes items 3 and 4).
18	RP128	Switch assembly.
19	RP130	Grille assembly. (Includes items 2, 20, and 21).
20		"O"-Ring. (Part of item 19).
21		Washer. (Located under cartridge Part of item 19).
22		Dynamic cartridge, 200 ohms nominal imp; Shure Brothers 99A698.
23	7488373P2	Cable clamp, 5/16 inch loop; sim to Thomas Associates TA717-S85.
24	N80P21006C6	Machine screw; No. 1/4-20 x 3/8.
25	N405P41C15	Lockwasher, spring type; 1/4 inch.
26	N22P21022C13	Cap screw; size No. 1/4.
27	19A134297P1	Lockwasher, steel; sim to Shakeproof 3079-14-00.
28	4037064P21	Washer, non metallic; .281 ID.

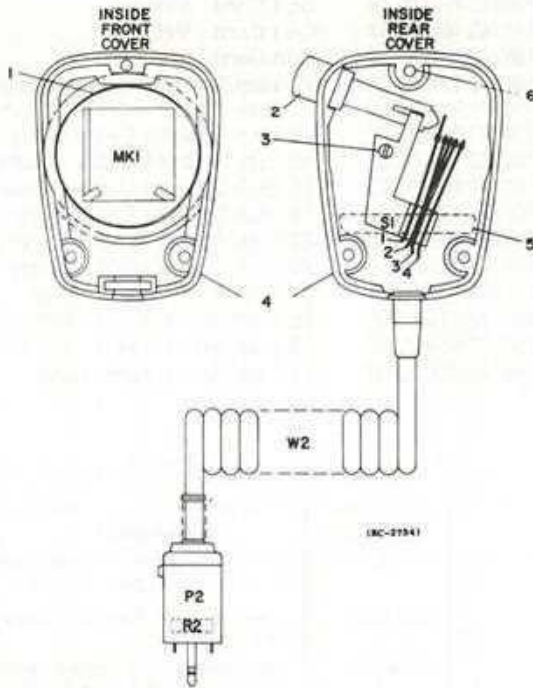
MICROPHONES AND ACCESSORIES

(For PR & PE Model Personal Radios)



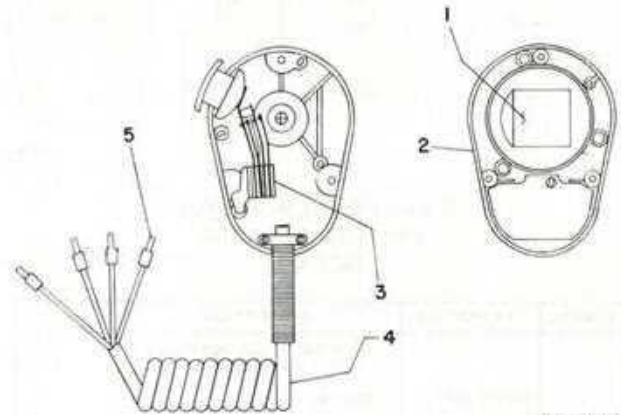
NOISE-CANCELLING MICROPHONE 19C317593G2

OUTLINE DIAGRAM



PARTS LIST
NOISE CANCELLING MICROPHONE
19C317593G2

SYMBOL	GE PART NO.	DESCRIPTION
----- MICROPHONES -----		
MK1		Controlled Magnetic Cartridge. Shure Brothers RP95
----- PLUGS -----		
P2		(Part of W2).
----- RESISTORS -----		
R2	3R151P472K	Composition: 4700 ohms \pm 10%, 1/8 w. (Located in P2).
----- SWITCHES -----		
S1		Pushbutton. Shure Brothers RP33.
----- CABLES -----		
W2	19C317877G5	Cable and Plug assembly. (Includes P2).
MECHANICAL PARTS (See RC-2754)		
1		Shield. Shure Brothers RP36. (Quantity 5).
2		Pushbutton. Shure Brothers RP34. (Quantity 5).
3		Miscellaneous hardware. Shure Brothers RP38.
4		Cover Set. Shure Brothers RP40.
5		Nameplate (GE). Shure Brothers RP37. (Quantity 10).
6		Case closing hardware. Shure Brothers RP39. Screws (Quantity 50) and Washers (Quantity 50).

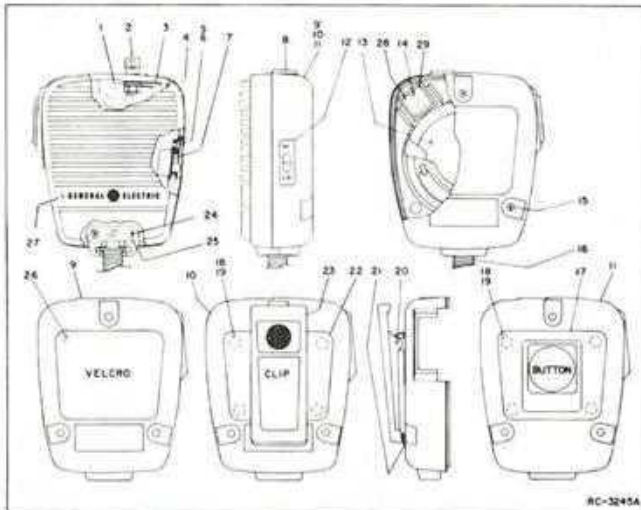


RC-3668

PARTS LIST
MICROPHONE - NOISE CANCELLING
19C320477G10
(See RC3668)

SYMBOL	GE PART NO.	DESCRIPTION
1	RP147	Cartridge with shield ring.
2	RP145	Case set with internal hardware.
3	RP148	Switch with switch push button.
4	19C321016G4	Cable assembly with (4) 7147199P1 contacts. Item 5.
5	7147199P1	Contact, electrical: male: sim to Winchester Electronics 21737.

PE SPEAKER/MICROPHONE



SPEAKER MICROPHONE
19D424867G46-G60
ISSUE 1

19D424867G46-60

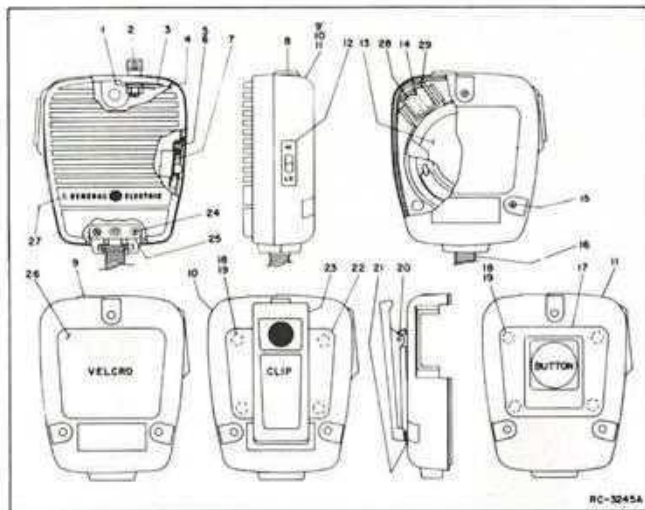
MICROPHONES & CABLES

- | | |
|--------------|---------------------------------|
| 19D424867G46 | Coil Cord - Button |
| 19D424867G47 | Coil Cord - Velcro |
| 19D424867G48 | Coil Cord - Clip |
| 19D424867G49 | 22 Inch Straight Cable - Button |
| 19D424867G50 | 22 Inch Straight Cable - Velcro |
| 19D424867G51 | 22 Inch Straight Cable - Clip |
| 19D424867G52 | 18 Inch Straight Cable - Button |
| 19D424867G53 | 18 Inch Straight Cable - Velcro |
| 19D424867G54 | 18 Inch Straight Cable - Clip |
| 19D424867G55 | 22 Inch Armor Cord - Button |
| 19D424867G56 | 22 Inch Armor Cord - Velcro |
| 19D424867G57 | 22 Inch Armor Cord - Clip |
| 19D424867G58 | 18 Inch Armor Cord - Button |
| 19D424867G59 | 18 Inch Armor Cord - Velcro |
| 19D424867G60 | 18 Inch Armor Cord - Clip |

SYMBOL	GE PART NO.	DESCRIPTION
		MECHANICAL PARTS (See RC3245)
1	19A129701P1	Bushing.
2	19A137100P1	Stud.
3	4033714P10	Solderless terminal. (G2).
4	4033714P5	Solderless terminal. (E2).
5	19A134481P1	Machine screw: No. 1.6-.35 x 4 mm.
6	19A134480P1	Hex nut: No. 1.6-.35 mm.
7	19B216602P1	Plate.
8	19B232108P1	Plug button.
9	19D424953G1	Rear housing. (VELCRO-STRAIGHT CORD).
	19D424953G4	Rear housing. (VELCRO-COIL CORD).
10	19D424953G2	Rear housing. (CLIP-STRAIGHT CORD).
	19D424953G5	Rear housing. (CLIP-COIL CORD).
11	19D424953G3	Rear housing. (BUTTON-STRAIGHT CORD).
	19D424953G6	Rear housing. (BUTTON-COIL CORD).
12	NP280373	Nameplate.
13	19C327898G1	Cavity.
14	19B232161P1	(Not Used).
15	N136AP1310C6	Tap screw, phillips POZIDRIV: No. 6-20 x 5/8.
16	19A134472P1	Helical spring.
17	19A137098G1	Stud plate. (BUTTON).
18	N327P9012Y6	Tubular rivet.
19	N402P4C6	Flatwasher, steel: No. 3.
20	N509P614C6	Pin.
21	19B227411P2	Bumper.
22	19B232182G1	Plate. (Clip).
23	19C327838P1	Clip.
24	19A134483P3006	Machine screw: No. 3-0.5 x 6 mm.
25	19B232106P1	Strain relief.
26	19A129143P2	Fastener pad. (VELCRO).
27	19C327887G1	Front housing.
28		(Not Used).
29		(Not Used).

GE PART NO.	DESCRIPTION
	----- CABLES -----
19C327875G1	Cable, coiled cord: 6 conductor, approx. 6 feet long. (Includes P1).
19D424930G1	Cable assembly: 22 inch straight. (Includes E1, G1, P1 - replaceable as an assembly only).
19D424934G1	Cable assembly: 22 inch armor. (Includes E1, G1, P1 - replaceable as an assembly only).
19D424930G2	Cable assembly: 18 inch straight. (Includes E1, G1, P1 - replaceable as an assembly only).
19D424934G2	Cable assembly: 18 inch armor. (Includes E1, G1, P1 - replaceable as an assembly only).

PE SPEAKER/MICROPHONE MPR SPEAKER/MICROPHONE



SPECIFICATIONS

Speaker Impedance 8 ohms
 Speaker Rating 500 Milliwatts
 Accoustical Output (EIA) 85 dB @ 1000 Hz
 Microphone Output -76 dB @ 1000 Hz
 (0.16 millivolts)
 Hi/Lo Audio Switch Attenuation 15 dB
 Temperature Range -30°C to +60°C

MICROPHONES & CABLES

- 19D424867G1 Coil Cord - Button
- 19D424867G2 Coil Cord - Velcro
- 19D424867G3 Coil Cord - Clip
- 19D424867G4 22 Inch Straight Cable - Button
- 19D424867G5 22 Inch Straight Cable - Velcro
- 19D424867G6 22 Inch Straight Cable - Clip
- 19D424867G7 18 Inch Straight Cable - Button
- 19D424867G8 18 Inch Straight Cable - Velcro
- 19D424867G9 18 Inch Straight Cable - Clip
- 19D424867G10 22 Inch Armor Cord - Button
- 19D424867G11 22 Inch Armor Cord - Velcro
- 19D424867G12 22 Inch Armor Cord - Clip
- 19D424867G13 18 Inch Armor Cord - Button
- 19D424867G14 18 Inch Armor Cord - Velcro
- 19D424867G15 18 Inch Armor Cord - Clip
- 19D424867G16 Coil Cord - Button
- 19D424867G17 Coil Cord - Velcro
- 19D424867G18 Coil Cord - Clip
- 19D424867G19 22 Inch Straight Cable - Button
- 19D424867G20 22 Inch Straight Cable - Velcro
- 19D424867G21 22 Inch Straight Cable - Clip
- 19D424867G22 18 Inch Straight Cable - Button
- 19D424867G23 18 Inch Straight Cable - Velcro
- 19D424867G24 18 Inch Straight Cable - Clip
- 19D424867G25 22 Inch Armor Cord - Button
- 19D424867G26 22 Inch Armor Cord - Velcro
- 19D424867G27 22 Inch Armor Cord - Clip
- 19D424867G28 18 Inch Armor Cord - Button
- 19D424867G29 18 Inch Armor Cord - Velcro
- 19D424867G30 18 Inch Armor Cord - Clip

----- CABLES G1-15 -----

- 19C327875G1 Cable, coiled cord: 6 conductor, approx. 6 feet long. (Includes P1).
- 19D424930G1 Cable assembly: 22 inch straight. (Includes E1, G1, P1 - Replaceable as an assembly only).
- 19D424934G1 Cable assembly: 22 inch armor. (Includes E1, G1, P1 - replaceable as an assembly only).
- 19D424930G2 Cable assembly: 18 inch straight. (Includes E1, G1, P1 - replaceable as an assembly only).
- 19D424934G2 Cable assembly: 18 inch armor. (Includes E1, G1, P1 - replaceable as an assembly only).

----- CABLES 16-30 -----

- 19C328378G1 Cable, coiled cord: 6 conductor, approx 6 feet long. (Includes P1).
- 19C328409G1 Cable assembly: 22 inch straight. (Includes P1).
- 19C328387G1 Cable assembly: 22 inch armor. (Includes P1).
- 19C328409G2 Cable assembly: 18 inch straight. (Includes P1).
- 19C328387G2 Cable assembly: 18 inch armor. (Includes P1).

SPEAKER MICROPHONE 19D424867G1-G15

SYMBOL	GE PART NO.	DESCRIPTION
	19C327895G1	----- MICROPHONES -----
		MECHANICAL PARTS (See RC3245)
1	19A129701P1	Bushing.
2	19A137100P1	Stud.
3	4033714P10	Solderless terminal. (G2).
4	4033714P5	Solderless terminal. (E2).
5	19A134481P1	Machine screw: No. 1.6-.35 x 4mm.
6	19A134480P1	Hex nut: No. 1.6-.35 mm.
7	19B216602P1	Plate.
8	19B232108P1	Plug button.
9	19D424953G1	Rear housing. (VELCRO-STRAIGHT CORD).
	19D424953G4	Rear housing. (VELCRO-COIL CORD).
10	19D424953G2	Rear housing. (CLIP-STRAIGHT CORD).
	19D424953G5	Rear housing. (CLIP-COIL CORD).
11	19D424953G3	Rear housing. (BUTTON-STRAIGHT CORD).
	19D424953G6	Rear housing. (BUTTON-COIL CORD).
12	NP280373	Nameplate.
13	19C327898G1	Cavity.
14	19B232161P1	Gasket.
15	19A134482P3516	Tap screw: size No. 3.5-1.27 x 16 mm.
16	19A134472P1	Helical spring.
17	19A137098G1	Stud plate. (BUTTON).
18	N327P9012E	Tubular rivet.
19	N402P4C6	Flatwasher, steel: No. 3.
20	N509P614C6	Pin.
21	19B227411P2	Bumper.
22	19B232182G1	Plate. (Clip).
23	19C327838P1	Clip.
24	19A134483P3006	Machine screw: No. 3-0.5 x 6 mm.
25	19B232106P1	Strain relief.
26	19A129143P2	Fastener pad. (VELCRO).
27	19C327887G1	Front housing.
28	3R152P103J	Resistor, composition: 10K ohms ±5%, 1/4 w.
29	3R152P132J	Resistor, composition: 1.3K ohms ±5%, 1/4 w.

SPEAKER MICROPHONE 19D424867G16-G30

SYMBOL	GE PART NO.	DESCRIPTION
	19C327895G1	----- MICROPHONES -----
		MECHANICAL PARTS (See RC3245)
1	19A129701P1	Bushing.
2	19A137100P1	Stud.
3	4033714P10	Solderless terminal. (G2).
4	4033714P5	Solderless terminal. (E2).
5	19A134481P1	Machine screw: No. 1.6-.35 x 4mm.
6	19A134480P1	Hex nut: No. 1.6-.35 mm.
7	19B216602P1	Plate.
8	19B232108P1	Plug button.
9	19D424953G1	Rear housing. (VELCRO-STRAIGHT CORD).
	19D424953G4	Rear housing. (VELCRO-COIL CORD).
10	19D424953G2	Rear housing. (CLIP-STRAIGHT CORD).
	19D424953G5	Rear housing. (CLIP-COIL CORD).
11	19D424953G3	Rear housing. (BUTTON-STRAIGHT CORD).
	19D424953G6	Rear housing. (BUTTON-COIL CORD).
12	NP280373	Nameplate.
13	19C327898G1	Cavity.
14	19B232161P1	Gasket.
15	19A134482P3516	Tap screw: size No. 3.5-1.27 x 16 mm.
16	19A134472P1	Helical spring.
17	19A137098G1	Stud plate. (BUTTON).
18	N327P9012E	Tubular rivet.
19	N402P4C6	Flatwasher, steel: No. 3.
20	N509P614C6	Pin.
21	19B227411P2	Bumper.
22	19B232182G1	Plate. (Clip).
23	19C327838P1	Clip.
24	19A134483P3006	Machine screw: No. 3-0.5 x 6 mm.
25	19B232106P1	Strain relief.
26	19A129143P2	Fastener pad. (VELCRO).
27	19C327887G1	Front housing.

MICROPHONES AND ACCESSORIES

(For PR & PE Model Personal Radios)



Remote Speaker-Microphone
 4EM33H10 (Velcro Hanger)
 4EM33H11 (Hang-up Button)
 4EM33H14 (Velcro Hanger)
 4EM33H15 (Hang-up Button)



Junction Box
 19C317596G2



PARTS LIST

REMOTE SPEAKER/MICROPHONE/ANTENNA
 4EM33H10 (19C320546G1) VELCRO
 4EM33H11 (19C320546G2) BUTTON
 4EM33H14 (19C320546G3) VELCRO
 4EM33H15 (19C320546G4) BUTTON

GE PART NO.	DESCRIPTION
19A116818P1	Speaker/Mike Cartridge
----- RESISTORS -----	
3R152P200J	Composition: 20 ohms ±5%, 1/4 w.
----- SWITCHES -----	
RP33	Switch.
19A116107P1	Slide: 0.5 amp at 100 VAC; sim to Sarnet SS-12 (LG-HI)
----- CABLES -----	
19D417070G1	Armored, Approx. 2 feet long. Includes P1.
19D417157G2	Plastic jacket. Approx. 2 feet long. Includes P1.
MECHANICAL PARTS (See RC2743)	
NP243611	Nameplate. (GE).
NP276241	Nameplate. (LG-HI).
403371MP5	Terminal, solderless; sim to Zierick 541.
19A129704P1	Connector, antenna.
19A129701P1	Button.
N84P13008C6	Screw, Phillips; flat head; No. 6-32 x 1/2.
7141225P3	Hex nut; No. 6-32.
100209440P5	Pad, foam.
190219784P1	Shield.
100209440P4	Spring.
N41P1004	Screw, slotted, steel; No. 0.80 x 1/4.
19A116257P1	Hex nut, brass; No. 0.80.
RP34	Pushbutton. (Quantity 5).
19C317564G4	Case assembly (button). Includes S1, items 13 & 18.
NP276280	Nameplate. (4EM33H15).
NP276277	Nameplate. (4EM33H11).
19C317564G3	Case assembly. (VELCRO). Includes S1, items 13 and 18.
NP276279	Nameplate. (4EM33H14).
NP276276	Nameplate. (4EM33H10).
RP30	Case closing screws and washers. (Quantity 50).
19A129143P1	VELCRO Pad.

PARTS LIST

JUNCTION BOX
 19C317596G2

GE PART NO.	DESCRIPTION
----- JACKS & RECEPTACLES -----	
19A116494P2	Jack, telephone; sim to Nexut TJ-120.
----- SWITCHES -----	
190215158P2	Push button (black); SPDT, .05 ohm res max; sim to Switchcraft 913.
----- TRANSFORMERS -----	
19A116521P1	Audio freq: 300 to 4000 Hz. Pri: 1.65 ohm max. Sec: 2500 ohms max.
CABLE ASSEMBLY 19B219193C2	
----- RESISTORS -----	
3R152P200J	Composition: 20 ohms ±5%, 1/4 w.
----- MISCELLANEOUS -----	
19A127944G1	Cover.
4029851P5	Clip loop.
N84P9006C6	Screw, phillips; No. 4-40 x 3/8.
190219015P1	Can.
N647P9003P2	Screw, socket, hexhead; No. 4-40 x 3/16.
19A127944G1	Back plate.

MICROPHONES FOR CONTROL PANELS



19B209404P1 (4EM35A10)
19B209337P1

Dynamic FLOATING ARM microphone



Model 4EM13A1
(Requires external transmit switch or foot switch).

GOOSENECK MICROPHONE

Specifications

Type	Dynamic
Freq. Response	60- 10,000 CPS
Output	55 dB below 1 volt per microbar
Impedance	200 ohms
Case	Black chrome satin finish metal, stainless steel grille. Gooseneck and flange to be chrome plated.

(Note 1 — Specifications for 6" Gooseneck microphone (19B209404P1) with flange for mounting to control panel, cable is two conductor under shield without terminal plug. 12" Gooseneck microphone (19B209337P1) is no longer available. However, the 6" Gooseneck microphone may be substituted.

Replacement Parts:

99A350, Microphone cartridge

Foot Switch 19B201488P4

A heavy duty foot switch for station applications using floating arm, goose-neck or similar microphones without internal push-to-talk switch. 8 ft. two conductor cable with spade lugs. Black wrinkle finish. Rated 10 amps, 125 VAC. Weight, 1 lb.



7487533P1
(4EM13A1)

A "Unidyne" general purpose microphone. Highly recommended for fine quality communications systems as well as public address, recording and remote broadcasting. Leaves operators hands free. Features a multi-impedance switch.

Specifications

Type	Dynamic
Freq. Response	50-15,000 CPs
Output Level	L-35-50 ohms, -54 dB, M-150-250 ohms, H-35,000 ohms.
Polar pattern	Ultra-Cardioid, response at rear down 15 dB from front.
Case	Die cast zinc, satin chrome finish.
Swivel	Positive action with 80° head tilt.
Cable	Two conductor, shielded, 18 Stand thread, 5/8-27.
Dimensions	7 3/8" high, 2 3/16" deep, 3 1/16" wide.
Weight	(Packaged less boom), 3 1/8 lbs., (Packaged with boom), 8 3/8 lbs.

Replacement Parts, 4EM13A1

RP-51	Cartridge
RP-52	Cable and plug
RP-53	Swivel hardware, microphone
RP-54	Connector assembly
RP-55	Microphone housing
RP-56	Transformer and switch assy.
7774934P2	Mike mounting boom and cable w/standard 4-pin mike plug for transistorized control console.
7774934P4	Same as P2 has bead chain style connector for MASTR CONTROLLER.

GE-MARC V DESK MICROPHONE

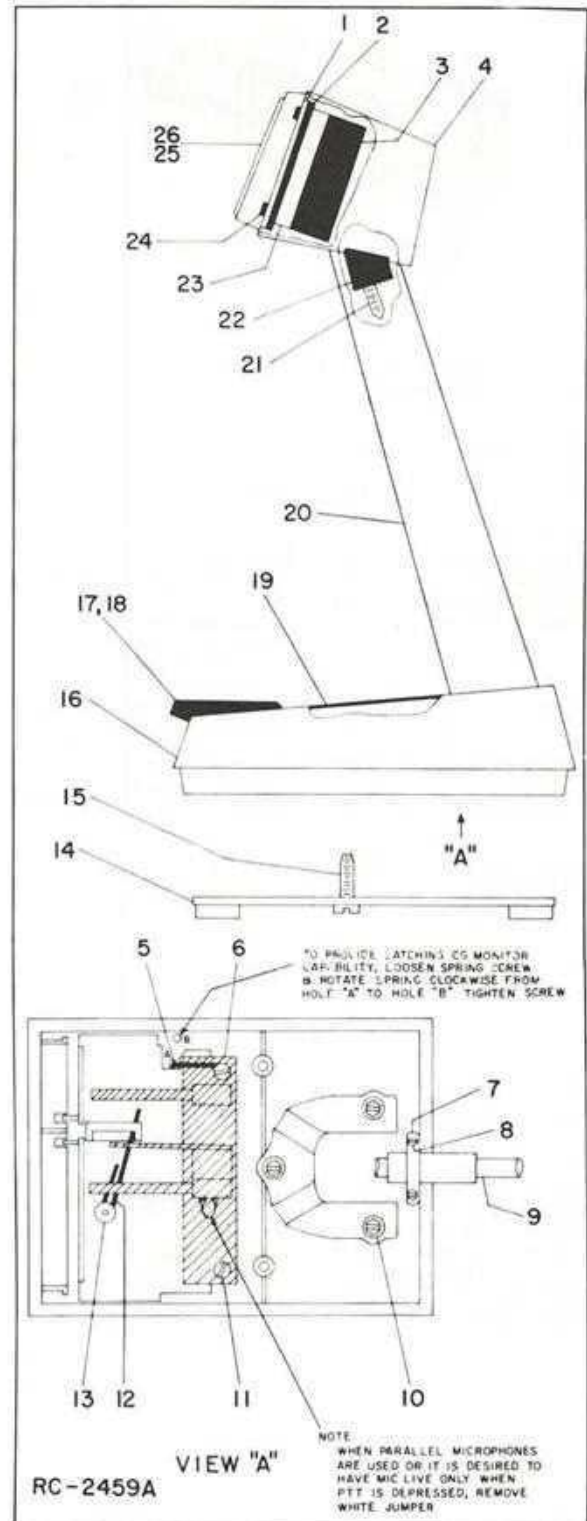


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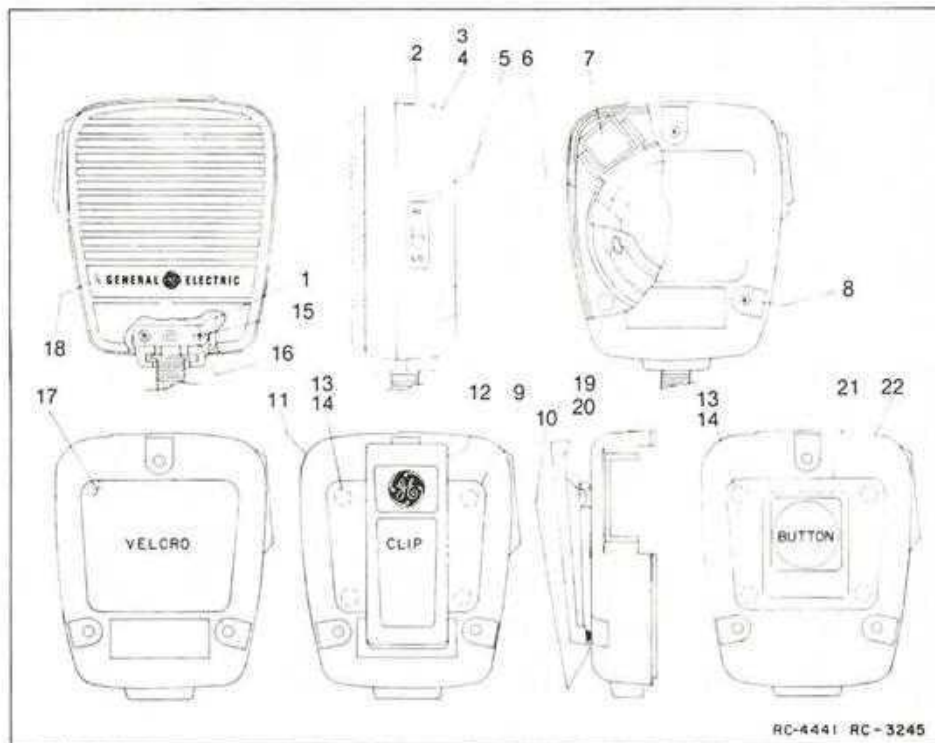
PARTS LIST

SYMBOL	GE PART NO.	DESCRIPTION
1		Locking plate. (Part of item 4).
2		Gasket. (Part of item 4).
3		"O" Ring. (Part of item 4).
4	RP122	Head Assembly. (Includes items 1-3, 24-26).
5		Lock spring. (Part of item 6).
6	RP119	Switch Kit. (Includes items 5, 11, 12, 13, 17, 18).
7		Retaining Bar. (Part of item 9).
8		Screw, thread forming, slotted: No. 4 x 1/2. (Part of item 9).
9	RP118	Cable Kit. (Includes items 7, 8).
10		Screw, thread forming, slotted: No. 8 x 3/4. (Part of item 20).
11		Screw, thread forming, slotted: No. 4 x 5/8. (Part of item 6).
12		Spring. (Part of item 6).
13		Retainer. (Part of item 6).
14		Base plate. (Part of item 16).
15		Screw, thread forming slotted: No. 8 x 3/4. (Secures Base Plate-Part of item 16).
16	RP120	Base Assembly. (Includes items 14, 15, 19).
17		Pushbutton, CLEAR. (Part of item 6).
18		Pushbutton, Transmit. (Part of item 6).
19		Nameplate. (Part of item 16).
20	RP121	Stem Assembly.
21		Screw, thread forming, slotted: No. 8 x 1/2. (Part of item 20).
22		Clamp. (Secures Head Assembly to Stem Assembly-Part of item 20).
23	RP117	Transistorized Cartridge.
24		Screw, thread forming, slotted: No. 4 x 1/2. (Part of item 4).
25		Grille. (Part of item 4).
26		Dust cloth. (Part of item 4).



MPX/MPI/MPR

SPEAKER/MICROPHONE



MPR/MPX
 19D424867G67 BUTTON
 19D424867G68 VELCRO
 19D424867G69 CLIP

MPI
 19D437483G1 CLIP
 19D437483G3 VELCRO

RC-4441 RC-3245

Symbol	GE Part No.	Description
1	4033714P5	Terminal.
2	19A700031P406	Machine screw.
3	19C327887G1	Front housing.
4	19B232106P1	Strain relief.
5	19B232108P1	Plug button.
*6	19D424953G10	Velcro rear housing MPI.
	19D424953G4	Velcro rear housing MPR/MPX.
*7	19D433484G1	Clip rear housing MPI.
	19D42953G5	Clip rear housing MPR/MPX.
8	NP280373	Nameplate. MPR only.
9	19C327898G1	Cavity.
10	19B232142P2	Boot mike — (MPI).
11	N136AP1310C13	Top screw.
12	19A129143P2	Fastener pad.
13	N327P9012X6	Tubular rivet.
14	N402P4C6	Fiat washer, steel.
15	19C327831P1	Clip, MPR.
	19C327838P1	Clip, MPI.
16	19B232182G1	Plate MPR.
	19B234070G1	Plate MPI.
17	19B227411P2	Bumper.
18	N509P614C6	Pin.
19	19A144439P1	Spring.
20	19A137098G1	Stud plate button.
21	19D424953G6	Rear housing button MPR.

Operator's HEADSET



Model R52SW

R52SW

A lightweight and compactly designed telephone operator's headset. Comfortable to wear and easy to use. Multi-adjustment joints assure perfect operator fit.

Specifications

Carbon microphone,	
Freq. Response	300-5,000 CPS
Magnetic receiver	
Freq. Response	300-3,000 CPS
Cord	5 ft. nylon braided 4 conductor
Weight	9.8 ounces



19A116495P1
HIGH NOISE (120 dB) HEADSET.
Supplied with ear muffs and inter-
face cable w/PTT switch.

19A116495P1

A headset designed for use in areas with high noise levels (120dB). Dual muffs provide excellent external noise attenuation and mike is dynamic, noise cancelling type on adjustable boom. Cable is terminated in 4-conductor, phone type plug for easy disconnect. May be used with PE/PR series by using junction box 19C317596G2 (with P.T.T. switch). Color of headset is green and black.

Headset with Junction Box	Option 4312
Headset only	19A116495P1
Junction Box (With P.T.T. switch)	19C317596G2

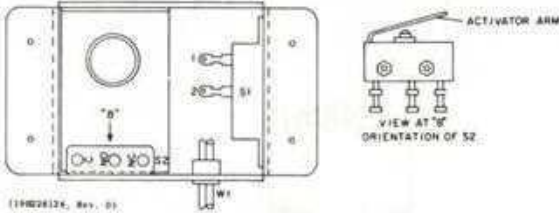
Specifications:

Type	Dynamic, noise cancelling
Impedance:	
Mike	5 Ω
Receiver	10 Ω

HOOKSWITCHES



OUTLINE DIAGRAM



(19B2124, Rev. 0)

PARTS LIST MICROPHONE HOOKSWITCH 19C303571G1

SYMBOL	GE PART NO.	DESCRIPTION
----- SWITCHES -----		
S1	19B21998G1	Slide: SPST, 3 amp at 125 VAC, 2.2 amp at 14 VAC; sim to Switchcraft 46202LH. (S1 includes switch and housing).
S2	19A11667P1	Sensitive: SPDT, 5 amp at 24 VAC or 5 amp at 250 VRMS; sim to Microswitch 1115M1-T2.
----- CABLES -----		
W1	19A12941AG1	2 conductor cable; approx 5 feet long, includes (2) 19A116781P2 contacts.
----- MISCELLANEOUS -----		
	19A116788P6	Strain relief; sim to Hayco SR-3P-4. (Used with W1).
	NP193P1410C	Tap screw, phillips; No. 8 x 5/8.
	N84P5008C6	Screw, phillips; No. 2-56 x 1/2. (Secures S2).
	N210P5C6	Hexnut; No. 2-56. (Secures S2).
	N404P8C6	Lockwasher, internal tooth; No. 2. (Secures S2).

Universal Decoder Hookswitch



Part No. 19C303571G1

19C303571G1

For all station and mobile Sel-Call applications. Metal spring loaded hookswitch and cable assembly. Contacts: 2 form B. Weight, 4 ounces.

Rubber Handset HANGUP CUP



Part No. 7141414G3

7141414G3

General purpose rubber hangup cup for all handsets. No switch. With mounting hardware. Weight, 5 ounces.

Universal Sel-Call Handset HOOKSWITCH



Part No. 19B204970G1

19B204970G1

For all station and mobile Sel-Call applications. Black high impact phenolic. Contacts: 2 form C. Weight, 5 ounces.

19A121612P1 ----- Switch only

Station/Mobile Handset HOOKSWITCH



Part No. 19B204867G1

Hookswitch for use without Sel-Call

Part No. 19B204867G2

Hookswitch for use with or without Sel-Call.

19B204867G1

19B204867G2

May be used on all MASTR and Progress Line stations and mobiles, without Sel-Call, and with or without Channel Guard. Black high impact Phenolic. Contacts: 2 form C. Weight, 8 ounces, prox.

19B204867G1

19A121612P1 ----- Switch only

19A121581G1 ----- Cable, 2' five conductor.

19B204867G2

19A121612P1 ----- Switch only



GE Mobile Communications

SERVICE PARTS HALF-PRICE MICROPHONE SALE MARCH 1 TO 31ST, 1989



<u>Part Number</u>	<u>Description</u>	<u>List Price</u>	<u>Net Price</u>
RP117	Transistorized Cartridge for MASTR II microphone	\$44.20	\$22.00
RP13	Cartridge kit for MASTR Professional mike	33.80	16.00
RP14	Replacement cord for MASTR Prof. Mikes EM25A/B/E/F	25.80	12.90
19A148863P1	Handsfree microphone for Carfone, with visor clip	60.00	30.00
19B209102P1	4EM25A10 for use with MASTR Professional	93.50	46.00
19B209199P7	PORTA MOBIL II Microphone (Brown)	90.60	45.00
19B209459P1	MASTR Controller Microphone, with CG monitor sw.	111.20	55.00
19B209694P2	GE-MARC V Desk Microphone	140.00	70.00
19C320270G1	MASTR II - style standard microphone	75.00	37.00
19D424867G69	MPR Speaker/Mike (lightweight cord + clip on back)	115.00	57.00
19D424867G72	PE Speaker/Mike (sim. to G3, lightweight cord + clip on back)	130.00	65.00
19D900141G12	Dark Gray DELTA Microphone with heavy duty cable	65.00	32.00
19D900141G3	Beige DELTA Microphone	65.00	32.00

PARTS IDENTIFICATION CORNER

K19/2PCB001256 BNC antenna jack part number was left off of the PLS LBI
 19A702793P1/P2 Contacts for the MPI charger (PSPS10/11)
 19C851151P1 Small red jewel on the Carfone handset
 19D900141G7 Replacement mike cord for the 19D900141G1/2/3 DELTA microphone
 N19/60-804-0 Handset cord for CF1000/2000 and TMX8510 handsets

NEW! MIX & MATCH 50 PACKS

Our best price on batteries just got better. Order 50 or more Nickel-Cadmium Rechargeable Batteries from GE Service Parts and take advantage of **super low pricing**. YOU decide how many of each battery you want - the total must add up to at least 50 batteries. Only the batteries listed below apply. Prices shown are list and subject to any applicable discount.

<u>Order Number</u>	<u>Description</u>	<u>Reg. List Price</u>	<u>Mix & Match List</u>	<u>YOU SAVE</u>
	<u>MPE/PE/PY</u>			
19D413522G4MIX	STD 700 mAh -P64239	\$54.00	\$34.00	37%
	<u>MPI</u>			
19D900639G2MIX	Standard 450 mAh - 2W-P5PA14	48.60	33.00	32%
19D900639G3MIX	Standard 450 mAh - 4W-P5PA15	60.00	44.00	27%
	<u>MPR/MPS</u>			
19D429763G1MIX	Standard 750 mAh-P2PA10	66.00	41.00	38%
19D429763G8MIX	Intrinsically Safe 750 mAh-P2PA12	71.00	53.00	25%
19D429777G9MIX	Standard 1200 mAh-P2PA11	81.00	60.00	26%
19D429777G8MIX	Intrinsically Safe 1200 mAh Gray -P2PA14	81.00	60.00	26%
	<u>MPX/GE-MARC V</u>			
19D429763G3MIX	Standard 750 mAh Black-P4PA10	66.00	41.00	38%
19D429763G7MIX	Intrinsically Safe 750 mAh Black-P4PA10	71.00	53.00	25%
19D429777G10MIX	Standard 1200 mAh Black-P4PA11	81.00	60.00	26%
19D429777G7MIX	Intrinsically Safe 1200 mAh Black-P4PA14	81.00	60.00	26%

THESE ORDER RULES APPLY TO THE HALF-PRICE MICROPHONE SALE:

SALE PRICES ARE IN EFFECT MARCH 1 TO MARCH 31ST, 1989.
 ALL ORDERS AT THESE PRICES MUST BE RECEIVED BY MARCH 31ST, 1989
 SALE PRICES SHOWN ARE NET PRICES
 ONLY LIMITED QUANTITIES ARE AVAILABLE FOR SOME ITEMS
 ORDER INCLUDING ITEMS ON SALE MUST TOTAL AT LEAST \$100 AT USER PRICE

SERVICE PARTS ORDERS 1-800-368-3277

GENERAL ELECTRIC COMPANY, SERVICE PARTS P.O. BOX 4164, LYNCHBURG, VA 24502

19B226036P1 LOW BAND: PE



19B219888P1 HIGH BAND: PE/PY/MPE



19B219888P2 HIGH BAND: MPX/MPR MPS = SEE CHART



19B800763P100 HIGH BAND: MPI (UNCUT)



19B209548P1 UHF: PE/PY/MPE



19B209548P2 UHF: MPR/MPX



19B800886P3 UHF: MPI



19B219887P1 UHF: PE/PY/MPE



19B219887P3 UHF: MPR/MPX



19B800763P13 UHF: MPI



19B800936P1 800 MHz: MPX GAIN



19B801219P1 800 MHz: GE-MARC V PERSONAL



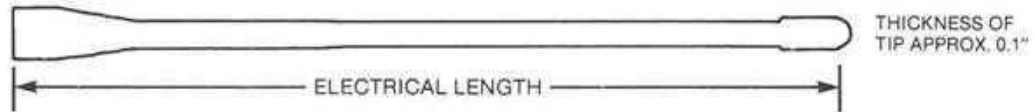
19B209548P3 800 MHz: MPX



MPS SYNTHESIZED PERSONAL PORTABLE

SEE SEPARATE PAGE
IN ANTENNA SECTION
OF CATALOG.

19B209548 STANDARD UHF ANTENNA



REPLACEMENT PART NO.	OPERATING FREQUENCY (MHz)	ELECTRICAL LENGTH
19B209548P4	406-435	5.9 ± 0.1
19B209548P5	430-470	5.5 ± 0.1
19B209548P6	470-512	5.1 ± 0.1

19B234609 STANDARD HIGH BAND/"STUBBY" UHF ANTENNA

PART NO.	USABLE MPS FREQUENCY*	MKG ON ANT BASE	LENGTH (INCHES)
19B234609P1	138-144	609P1	6.8 ± 0.4
19B234609P2	144-150.8	609P2	6.4 ± 0.4
19B234609P3	150.8-156	609P3	6.0 ± 0.4
19B234609P4	156-162	609P4	5.8 ± 0.4
19B234609P5	162-168	609P5	5.6 ± 0.4
19B234609P6	168-174	609P6	5.5 ± 0.4
19B234609P11	403-435	609P11	2.3 ± 0.3
19B234609P12	403-450*	609P12	2.2 ± 0.3
19B234609P13	450-470	609P13	2.1 ± 0.3
19B234609P14	470-494	609P14	2.0 ± 0.3
19B234609P15	494-512	609P15	1.9 ± 0.3
19B234609P100	SEE FIG. 4	609P0	UNCUT

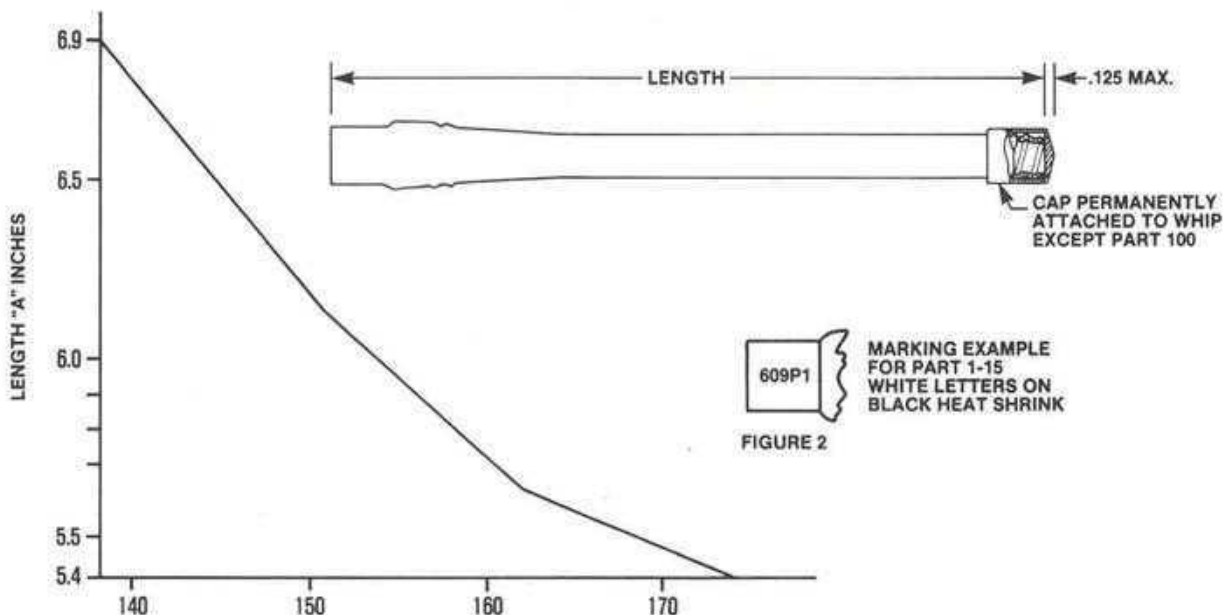
Radios shipped on Customer's Frequencies

New Radios shipped set up on Customer's Frequencies will include the specific antenna as called for in the chart. If no frequencies were specified on the order, the 19B234609P100 would be included.

Replacement antennas available thru Service Parts are all **19B234609P100**, the **uncut version**. On receipt, the antenna **must be cut to length** according to the frequency of operation as shown on the Cutting Chart. A copy of the Cutting Chart is included with each 19B234609P100.

Packing Lists with customer radios make reference to antenna **19A148591G1**. This drawing selects one of the 19B234609P1-15 antennas to match the required frequencies or the 19B234609P100 if no frequencies are listed on the order. **DO NOT ORDER 19A148591G1** as it does not exist as a orderable part.

*CHOOSE ANTENNA PER LOWEST TX FREQ IN RADIO IF OVERLAP OCCURS



609P1 MARKING EXAMPLE FOR PART 1-15 WHITE LETTERS ON BLACK HEAT SHRINK

FIGURE 2

FIG. 4 - P100 CUTTING CHART FOR MPS APPL.

"PE", "MPE" & "PY" PORTABLES

132—174 MHz Solid Whip Antenna. 17" long.

Part No.
19B219954G1 Whip Antenna Assembly. (Figure 1)

406—512 MHz Solid Whip Antenna. 17" long.

Part No.
19B219954G2 Whip Antenna Assembly. (Figure 1)

132—174 MHz Telescoping Antenna. Stainless Steel.

Part No.
19B219953G3 Antenna Assembly, 4 section. (Figure 2)
Requires bushing 19A129651P1 when ordering this antenna model as a replacement for earlier model 19B216849G1.

Replacement Parts:

19A129649P1	Cap
N70P703C13	Set Screw
19C320352P1	Bushing
19A129652P1	Nut

406—512 MHz Telescoping Antenna. Stainless Steel

Part No.
19B219953G4 Antenna Assembly, 2-section. (Figure 2)
Requires bushing 19A129651P1 when ordering this antenna model as a replacement for earlier model 19B216849G2.

Replacement Parts:

19A129649P1	Cap
N70P703C13	Set Screw
19C320352P1	Bushing
19A129652P1	Nut

138—174 MHz Insulated Spring Antenna.

Part No.
19B219888P1 Antenna Assembly. (Figure 3)
Requires adapter 19A129650P1 when ordering this antenna model as a replacement for earlier model 19B216613P1.
Rubber tip 601A3-1.

406—512 MHz Insulated Spring Antenna.

Part No.
19B209548P1 Antenna Assembly, 6-in. (Figure 3)
Requires adapter 19A129650P1 when ordering this antenna model as a replacement for earlier model 19B3129127P1.

19B219887P1 Antenna Assembly, 2-in. (Figure 3)
Requires adapter 19A129650P1 when ordering this antenna model as a replacement for earlier model 19B219126P1.

132—174/
406—470 MHz Flexible Wire Antenna.

Part No.
19B219955G1 Antenna Assembly. (Figure 4)
Requires adapter 19A129650P1 when ordering this antenna model as a replacement for earlier model 19B216887P1.

MASTR Personal Series "PE" Models, 30—50 MHz

Part No.
19B219768G1 Telescoping Antenna Assembly, 30—50 MHz. (Figure 5).

19B226036P1 Spring Whip Antenna Assembly, 30—50 MHz. (Figure 6).



Figure 1



Figure 2

Figure 3



Figure 4



Figure 5



Figure 6

MASTR PERSONAL - PR SERIES

- 132—174 MHz Solid Whip Antenna. 17" long.
 Part No.
 19B219954G1 Whip Antenna Assembly. (Figure 1)
- 406—512 MHz Solid Whip Antenna. 17" long.
 Part No.
 19B219954G2 Whip Antenna Assembly. (Figure 1)
- 132—174 MHz Telescoping Antenna. Stainless Steel.
 Part No.
 19B219953G1 Antenna Assembly. (Figure 2)
 Three section. Requires bushing 19A129651P1 when ordering
 this antenna model as a replacement for earlier model 19B21658G1.
 Replacement Parts:
 19A129649P1 Cap
 N70P703C13 Set Screw
 19C320352P1 Bushing
 19A129652P1 Nut
- 406—512 MHz Telescoping Antenna, 1/4 waave, stainless steel.
 Part No.
 19B219953G2 Antenna Assembly.(Figure 2)
 One section. Requires bushing 19A12951P1 when ordering this
 antenna model as a replacement for earlier model 19B216585G2.
 Replacement Parts:
 19A129649P1 Cap
 N70P703C13 Set Screw
 19C320352P1 Bushing
 19A129652P1 Nut
- 132—174 MHz Insulated Spring Antenna.
 Part No.
 19B219888P1 Antenna Assembly. (Figure 3)
 Requires adapter 19A129650P1 when ordering this antenna model
 as a replacement for earlier model 19B216613P1.
 Rubber tip 601A3-1.
- 406—470 MHz Insulated Spring Antenna.
 Part No.
 19B219887P1 Antenna Assembly, 2-in. (Figure 3)
 Requires adapter 19A129650P1 when ordering this antenna model
 as a replacement for earlier model 19B219126P1.
 19B209548P1 Antenna Assembly, 6-in. (Figure 3)
 Requires adapter 19A129650P1 when ordering this antenna model
 as a replacement for earlier model 19B219127P1.
- 132—174/
 406—470 MHz Flexible Wire Antenna.
 Part No.
 19B219955G1 Antenna Assembly. (Figure 4)
 Requires adapter 19A129650P1 when ordering this antenna model
 as a replacement for earlier model 19B216887G1.



Figure 1



Figure 2



Figure 3

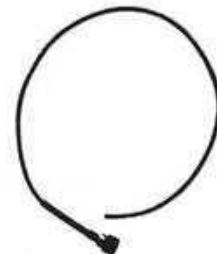


Figure 4

STANDARD HIGH BAND & UHF BAND

MASTR II CENTURY II GE-MARC V
AND OTHER CURRENT PRODUCTION RADIOS

PARTS LIST

	DB-060025-002	DB-060326-001	DB-068046-001	DB-068047-001	DB-068048-001	DB-068110-001	DB-068115-001	DB-068116-001	DB-068146-002	DB-068330-001	DB-007007-010	DB-007059-122	DB-19B209018P5
19B209568P1				X	X	X	X		X			X	
19B209568P2	X	X			X	X		X	X	X	X	X	
19B209568P4			X	X	X	X						X	X

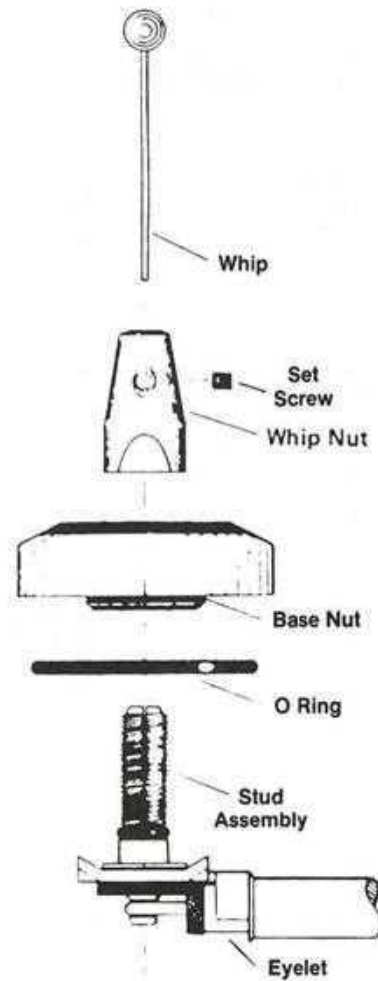


Figure 1

PREVIOUSLY USED ON MASTR PROFESSIONAL, ETC.

Rooftop mobile antenna. 1/4 wavelength whip. Has snap-in split finger mounting sleeve for fast 3/8" diameter installation. With 15 ft. RG-58/U cable and PL-259 connector. 130-174 MHz/406-470 MHz.

4EY12A13 Rooftop antenna. For use with MASTR, TPL and IMTS. (Figure 2)

- 5490969P15
Parts:
- A. 5490969P4 Whip
 - B. 5490969P5 Adapter
 - C. 5490969P6 Whip and Adapter Cable (For 4EY12A13)
 - D. 7120690P1 Cable
 - E. RA25-1 Insulator
 - F. RA25-3 Clamp Assembly
 - G. RA25-5 Braid Assembly
 - H. RA25-8 Insert Sleeve
 - I. RA25-12 Rubber Gasket
 - J. 5490969P14 Base assembly including parts E thru I

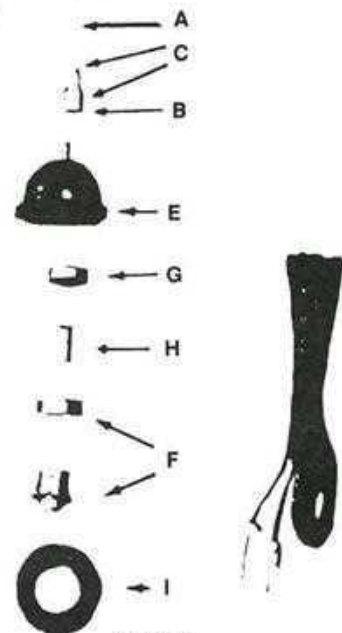


Figure 2

PORTA-MOBILE I & II PORTABLE 25-50 MHz

Stainless steel whip and loading coil assembly. Weatherproof coil is tapped for SO-239 connector. Tuneable. (Figure 1)

Part No.		Old Part No.
19C303707P1	Antenna Assembly 25-29 MHz	(4EY18A10)
19C303707P2	Antenna Assembly 29-33 MHz	(4EY18A11)
19C303707P3	Antenna Assembly 33-36 MHz	(4EY18A12)
19C303707P4	Antenna Assembly 36-42 MHz	(4EY18A13)
19C303707P5	Antenna Assembly 42-48 MHz	(4EY18A14)
19C303707P6	Antenna Assembly 48-54 MHz	(4EY18A15)

PORTA-MOBILE I & II PORTABLE HB & UHF

132—174/406—470 MHz. Stainless steel, insulated whip and adapter. Fits SO-230 connector. Different colored epoxy used in the assembly for each frequency range.

Model (Figure 2)		Color Code	Frequency
4EY19C10	Antenna Assembly	Red	132-150.8 MHz
4EY19C11	Antenna Assembly	Yellow	150.8-162 MHz
4EY19C12	Antenna Assembly	Green	162-166 MHz
4EY19C13	Antenna Assembly	Blue	166-174 MHz
4EY19C14	Antenna Assembly	Black	406-420 MHz
4EY19C15	Antenna Assembly	White	450-470 MHz



Figure 1



Figure 2

MOTORCYCLE RADIO (PORTA-MOBILE I & II)

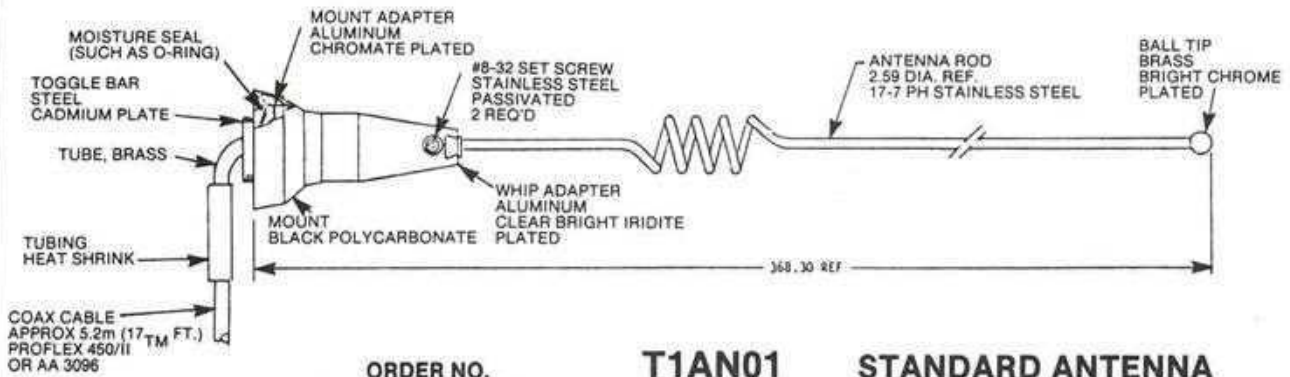
Stainless steel whip. Includes 4 ft. RG-58/U cable with PL-259 connector. Mounts in 3/4" hole. Gasket for water tight mounting.

Model (Figure 3)		Frequency
4EY21A13	Order 19C320571P1	132-174/406-470 MHz



Figure 3

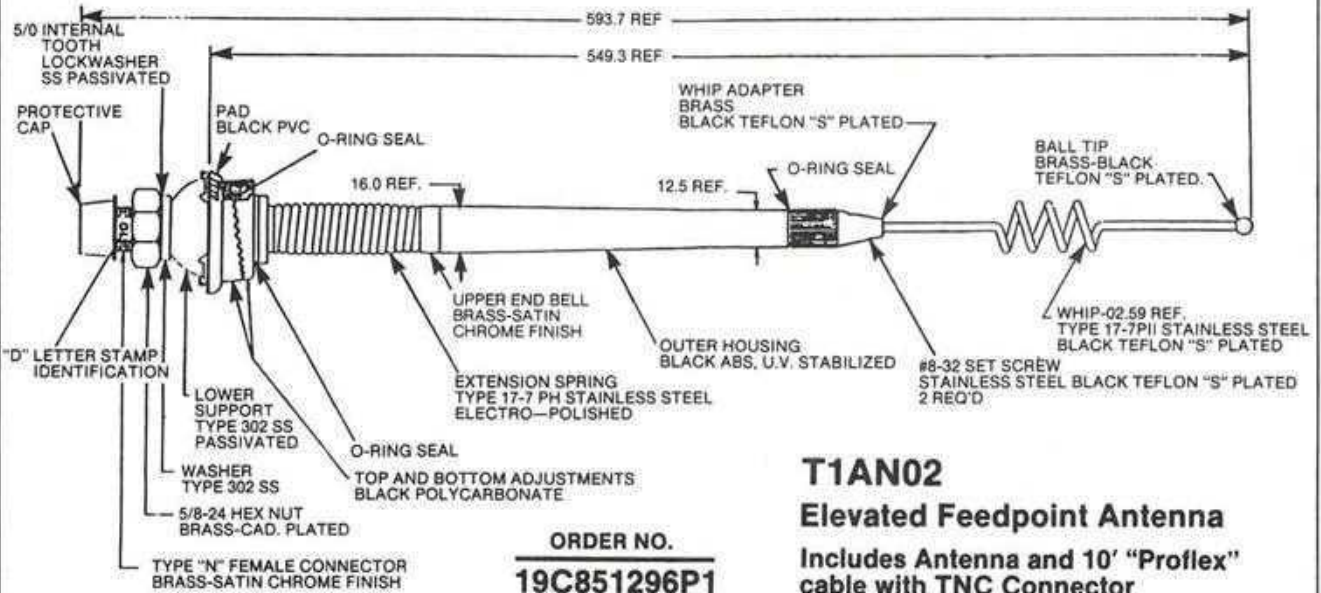
Dimensions are in mm



ORDER NO.
19B801182P1

T1AN01 STANDARD ANTENNA

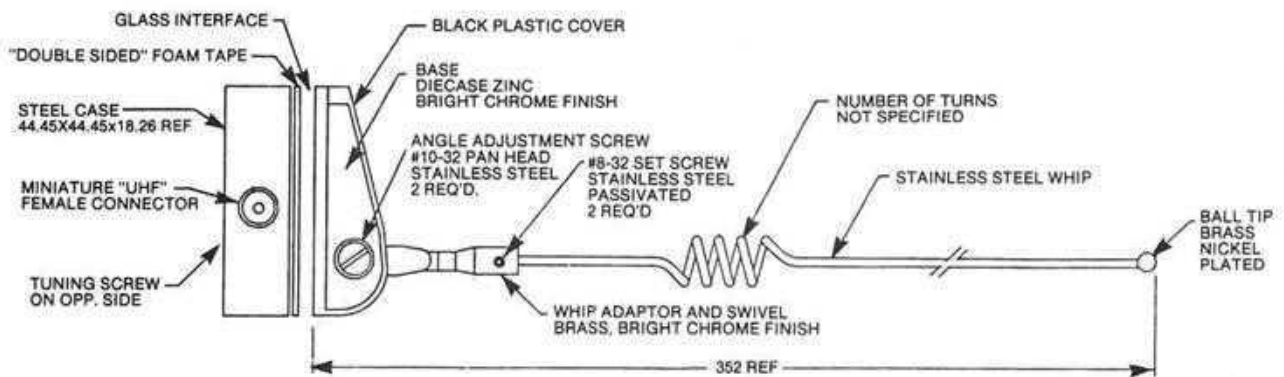
Includes Antenna and 17' "Proflex" cable with TNC Connector



ORDER NO.
19C851296P1

T1AN02 Elevated Feedpoint Antenna

Includes Antenna and 10' "Proflex" cable with TNC Connector

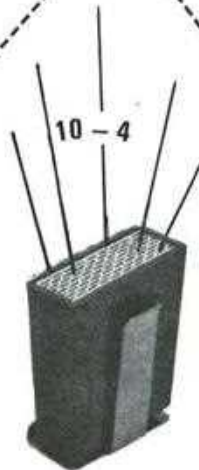
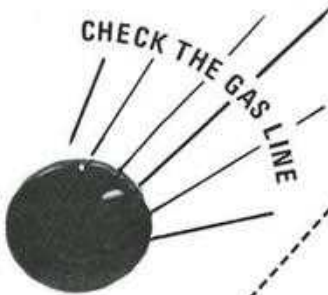
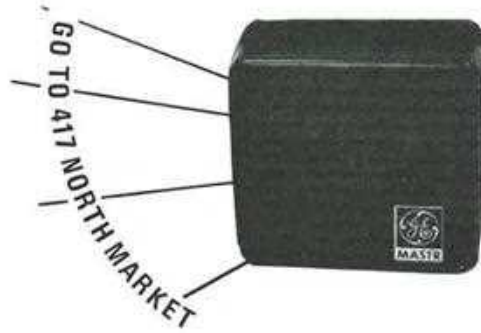
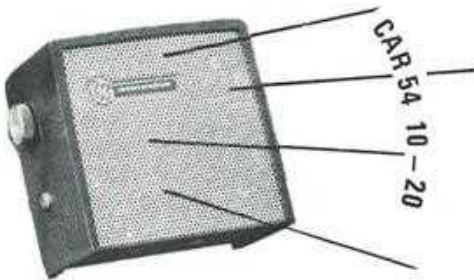
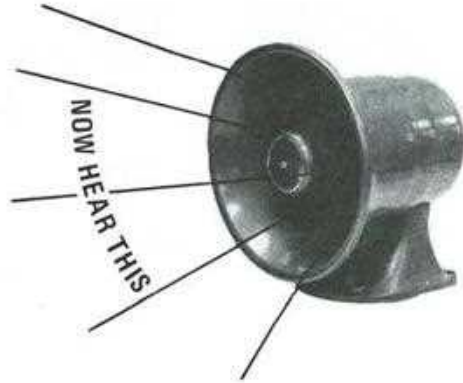
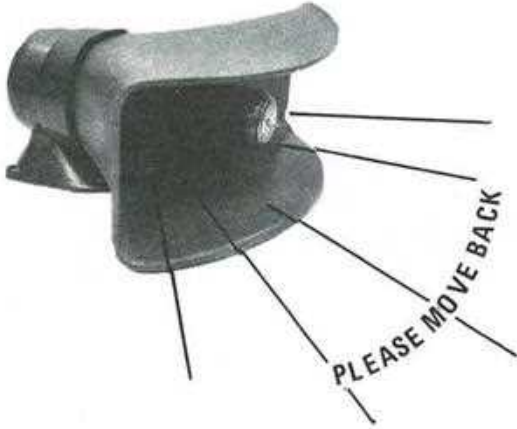


ORDER NO.
19C851295P2

T1AN03 Glass Mount Antenna

Includes Antenna and 15' RG58/U Cable with Crimp-on TNC Connector

SPEAKERS





19B205525

The 19B205525G1, G2 Speaker Control Kit is designed for use in applications requiring internal and external speakers.

Speaker selection is determined by the setting of internal-external (INT-EXT) switch (S1) on front of the kit. When S1 is in






the INT position, all power is applied to the internal speaker. Setting S1 to EXT position transfers approximately 90% of output power to external speaker, while maintaining 10% input to the internal speaker.

REPLACEMENT PARTS

Speaker Control Kit 19B205525G				
DESCRIPTION	PART NO.	Group 1	Group 2	Group 3
Capacitor	19B209233P1	X		
Resistor	5493035P26	X	X	
Switch	5491899P1	X	X	X
Screw	19A115539P1	X	X	X
Nut, Hex	7115195P2	X	X	X
Nut, Knurl	403394P1	X	X	X
Washer, Lock	7115130P11	X	X	X
Contacts	19A116781P5			X (3)

APPLICATION

- 19B205525G1 Was applied to the MASTR Professional Series.
- 19B205525G2 Has been applied to many products.
- 19B205525G3 Includes contacts on the cable for Phoenix applications.

				
19B209425	4EZ19C10	4EZ19E10	4EZ19G10	4EZ19J10
Bell Dia. 7-1/4"	8-1/2"	8-1/2"	6 x 14-1/4"	7-1/4"
Length 6-1/4"	8-3/4"	8-3/4"	11-1/2"	6-3/4"

The horn speakers may be used as external speakers, in PA systems and/or with the sirens. All of the horn speakers listed herein are of the reentrant type, and are weatherproof. The horn speakers are available in several different output ratings and several impedance ratings. Spare parts that are available for discontinued models are listed in the replacement parts table.

MASTR MOBILES (External Speaker)

19B209425P1 — A reentrant type, heavy duty weatherproof external horn type speaker. Used with MASTR Mobile Professional and MASTR Executive. Also order cable kit 19A121771G3 when ordering this speaker as no cable is supplied.

Power Call 4EZ22A10

Power Call/Sirens 4EZ22B10

4EZ19 Series — The speaker is a reentrant weatherproof horn with cast base to provide greater strength and ease in mounting. The speaker cable is connected under the base of the speaker for protection against weather and vandalism.

Discontinued Horn Speakers

- 4EZ6C1 (Not Available)
- 7487594P3 (Not Available — use 19B209425P1)
- 19B209349P1 (Not Available — use 19B209425P1)
- 4EZ19B10, D10, F10, H10 (Not Available)

SPECIFICATIONS

ORDER NO.	DESCRIPTION	VOICE COIL IMP. (OHMS)	RATED WATTS	VOICE COIL DC RESISTANCE	FINISH
19B209425P1	Standard	4 ±10%	15	3.2 ±15%	Gray Enamel
19B209425P2	Standard	8 ±10%	25	6.75 ±15%	Gray Enamel
4EZ19C10	(12/28V) Standard	10	75	4.2 ±20%	Gray Enamel
4EZ19E10	(12/28V) Deluxe	10	75	4.2 ±20%	Chrome Plated Bell w/Black Base
4EZ19G10	(12/28V) Low Profile Type	10	75	4.2 ±20%	Gray Enamel
4EZ19J10	(12/28V) Short Length Type	10	75	4.2 ±20%	Gray Enamel

REPLACEMENT DIAPHRAMS VOICE COILS

ORDER NO.	WHERE USED
4124 (Driver unit MID-4[s])	7487594P3 (Progress Line & TPL Railroad)
D-20I (16 ohms)	4EZ6C1 (Audio amplifier 4EA5A, 4EA12A & Audio Siren Amplifier 4EA12B)
D-20L (10 ohms)	4EZ19C10, E10, G10, J10
D-20M (3 ohms)	4EZ19B10, D10, F10, H10



4EZ16A11
(Replaced by 4EZ16A20)



4EZ16A21



4EZ16A22

4EZ16A__ SERIES (2 & 5 WATTS)

These speakers are constructed using Lexan® plastic grilles with a black metal back and mounting bracket. The plastic grilles provide greater protection than metal when subjected to high impact destructive forces. Current production of the 4EZ16A__ series models are the 5-watt speaker assemblies that replaced the former 2- and 5-watt designs.

Originally, the speakers in the 4EZ16A__ series were constructed using an aluminum grille and metal back and housing. Replacement parts for the previous model speaker assemblies are listed according to availability. If any parts for 4EZ16A10 thru A19 assemblies need to be replaced and are not available, it is recommended that the parts for the current production speaker be considered for use.

MASTR ROYAL PROFESSIONAL MOBILES
MASTR PROFESSIONAL MOBILES

- 4EZ16A10 (2 watts) — Replaced by 4EZ20A10
- 4EZ16A15 (5 watts) — Replaced by 4EZ20A10
- 4EZ16A19 (5 watts) — Replaced by 4EZ20A10

MASTR STATIONS (Including MTS and IMTS)

- 4EZ16A11 (2 watts w/volume control) — Replaced by 4EZ16A20.
- 4EZ16A12 (2 watts w/o volume control) — Replaced by 4EZ16A21
- 4EZ16A16 (5 watts w/volume control) — Replaced by 4EZ16A20.
- 4EZ16A17 (5 watts w/o volume control) — Replaced by 4EZ16A21.

MASTR EXECUTIVE MOBILES AND WALL STATIONS
MASTR ROYAL EXECUTIVE MOBILES AND WALL STATIONS
MASTR RADIO COMMON CARRIER (RCC)
MASTR ROYAL EXECUTIVE II MOBILES

- 4EZ16A13 (2 watts) — Replaced by 4EZ20A11.
- 4EZ16A14 (5 watts) — Replaced by 4EZ20A11.
- 4EZ16A18 (5 watts) — Replaced by 4EZ20A11.

MASTR PROFESSIONAL & ROYAL PROFESSIONAL STATIONS

- 4EZ16A20 — Grey w/black back; 7.5 watts (max.), 5" permanent magnet speaker; voice coil impedance 3.2 ohms (±10%). Volume control located on side. Cable terminated w/two spade lugs.

MASTR PROGRESS LINE STATION SATELLITE RECEIVER
MASTR PROFESSIONAL & ROYAL PROFESSIONAL STATIONS (w/2nd Receiver)

MASTR EXECUTIVE II STATION OPTION

- 4EZ16A1 — Same as 4EZ16A20 w/o volume control.

MASTR PERSONAL PE & PY SERIES (External speaker)

- 4EZ16A22 — Was black housing for use with OE & PY Mobile Chargers. Rated at 15 watts. Use (19C320302G8)

NOTE: The 4EZ16A16 speaker was the optional external speaker used with Line Amplifiers.

REPLACEMENT PARTS

DESCRIPTION	PART NO.	4EZ16A10	4EZ16A11	4EZ16A12	4EZ16A13
Speaker	19A116910P1	X	X	X	X
Speaker Grille	19C303500P1	OBSELETE	OBSELETE	OBSELETE	OBSELETE
Housing	Not Available	X	X	X	
	19C303504G3				OBSELETE
Cover	19A121550G1	X	X	X	X
Speaker Cable (assy)	19A121546G1	X		X	
	Not Available		X	X	
	19A122167G1				X
Knob	19A115837P1		X		
Mounting Bracket	19A121521G1	X	X	X	X
Volume Control	7478301P48		X		
Capacitor	19B209233P1	X	X	X	X
Nameplate	NP243513	X	X	X	X
Screw	19B209214P610	X	X	X	X
Pin	19A121429P1	X			
Plug	5493018P2				OBSELETE
Plug Cap	5493018P4				X

REPLACEMENT PARTS

DESCRIPTION	PART NO.	4EZ16A14	4EZ16A15	4EZ16A16	4EZ16A17
Speaker	19A116910P1	X	X	X	X
Speaker Grille	19C303500P1	OBSELETE	OBSELETE	OBSELETE	OBSELETE
Housing	19C303504G3	OBSELETE			
	Not Available		X	X	X
Cover	19A121550G1	X	X	X	X
Speaker Cable (assy)	19A122167G1	X			
	19A121546G1		X		
	Not Available			X	X
Knob	19A115837P1			X	
Mounting Bracket	19A121521G1	X	X	X	X
Volume Control	7478301P48			X	
Capacitor	19B209233P1	X	X	X	X
Nameplate	NP243513	X	X	X	X
Screw	19B209214P610	X	X	X	X
Plug	5493018P2	OBSELETE			
Plug Cap	5493018P4	X			
Pin	19A121429P1		X		

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4EZ20A11



4EZ20A12

4EZ20A SERIES (5 WATTS)

MASTR PROFESSIONAL & ROYAL PROFESSIONAL MOBILES

Order No.
4EZ20A10 — Dark grey w/light grey grille; 7.5 watts,
(See 5" permanent magnet speaker; voice coil
19C320302G3) impedance 3.2 ohms (10%). Cable is termi-
nated in two pins.
for Parts

MASTR EXECUTIVE MOBILES & STATIONS

MASTR ROYAL EXECUTIVE MOBILES

MASTR RCC MOBILES

Order No.
4EZ20A11 — Same as 4EZ20A10 except in black w/grey
(See grille and cable is terminated in 5-pin plug.
19C320302G2)
for Parts

MASTR PROFESSIONAL IMPERIAL MOBILES

Order No.
4EZ20A12 — Same as 4EZ20A10 except is moonstone
(See brown w/ash beige grille and cable is
19C320302G4) terminated in two pins.
for Parts.

REPLACEMENT PARTS

DESCRIPTION	PART NO.	4EZ18A18	4EZ18A19	4EZ18A20	4EZ18A21	4EZ18A22
Speakers	19A115910P1	X	X	X	X	5491260P3
Housing	19B216269G1	X				X
	19B216269G2		X		X	
	19B216269G3			OBSELETE		
Cover	19A121550G3	X	X	X	X	X
Speaker Cable (855)	19A122167G1	X				X
	19A121549G1		X			
	Not Available			X	X	
Knob	19A115837P1			OBSELETE		
Mounting Bracket	19A121521G1	X	X	X	X	X
Volume Control	7478301P48			X		
Capacitor	19B206233P1	X	X	X	X	
Nameplate	NP243013	X	X	X	X	X
Screw	19A115499P1	X	X	X	X	X
Plug	5493018P2		X			X
Plug Cap	5493018P4	OBSELETE				OBSELETE
Pins	19A121426P1		X			

MASTR II PRODUCTS — 19C320302G SERIES

Maximum durability was a major design criteria for these speaker assemblies. The housings and brackets are made of Lexan® plastic which is resistant to high impact type destructive forces. Several color combinations are used to match the color schemes of the mobile combinations. All mounting brackets are charcoal grey. Internal speakers may be replaced by removing four screws to separate the housing, replacing the defective speaker and re-installing the four screws.

These speaker assemblies should be used for replacement of the other 2- and 5-watt speaker assemblies when replacement of a complete speaker assembly is required. See next page for parts.

**MASTR II MOBILE & STATIONS
MASTR EXECUTIVE II CONTROL UNITS & MOBILES**

19C320302G1 — Moonstone brown w/ash beige grille; 20-watts (max.) 5" permanent magnet speaker; voice coil impedance 8 ohms (±10%). Cord terminated in 2 contacts.

**MASTR EXECUTIVE MOBILE & STATIONS
MASTR ROYAL EXECUTIVE MOBILES
MASTR RCC MOBILES**

19C320302G2 — Black w/grey grille; 7.5-watts (max.),
(Order No. 5" permanent magnet speaker; voice coil
4EZ20A11) impedance 3.2 ohms (±10%). Cable terminated in 5-pin plug.

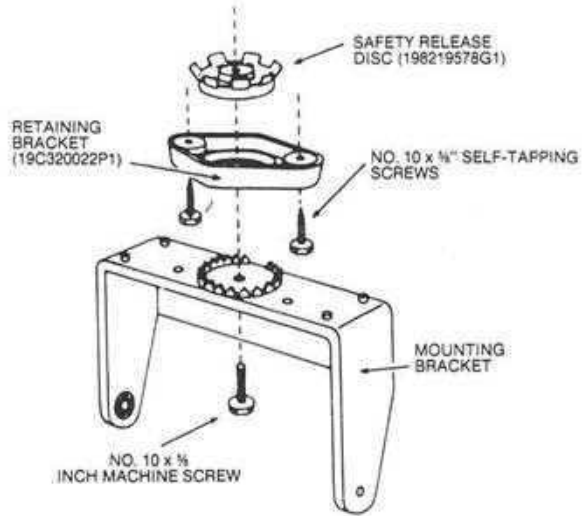
**MASTR ROYAL PROFESSIONAL MOBILES
MASTR PROFESSIONAL MOBILES**

19C320302G3 — Dark grey w/light grey grille; 7.5-watts
(Order No. (max.), 5" permanent magnet speaker;
4EZ20A10) voice coil impedance 3.2 ohms (±10%).
Cable terminated in 2 pins.

MASTR PROFESSIONAL IMPERIAL

19C320302G4 — Moonstone brown w/ash beige grille;
(Order No. 7.5-watts (max.), 5" permanent magnet
4EZ20A12) speaker; voice coil impedance 3.2 ohms
(±10%). Cable terminated in 2 pins.

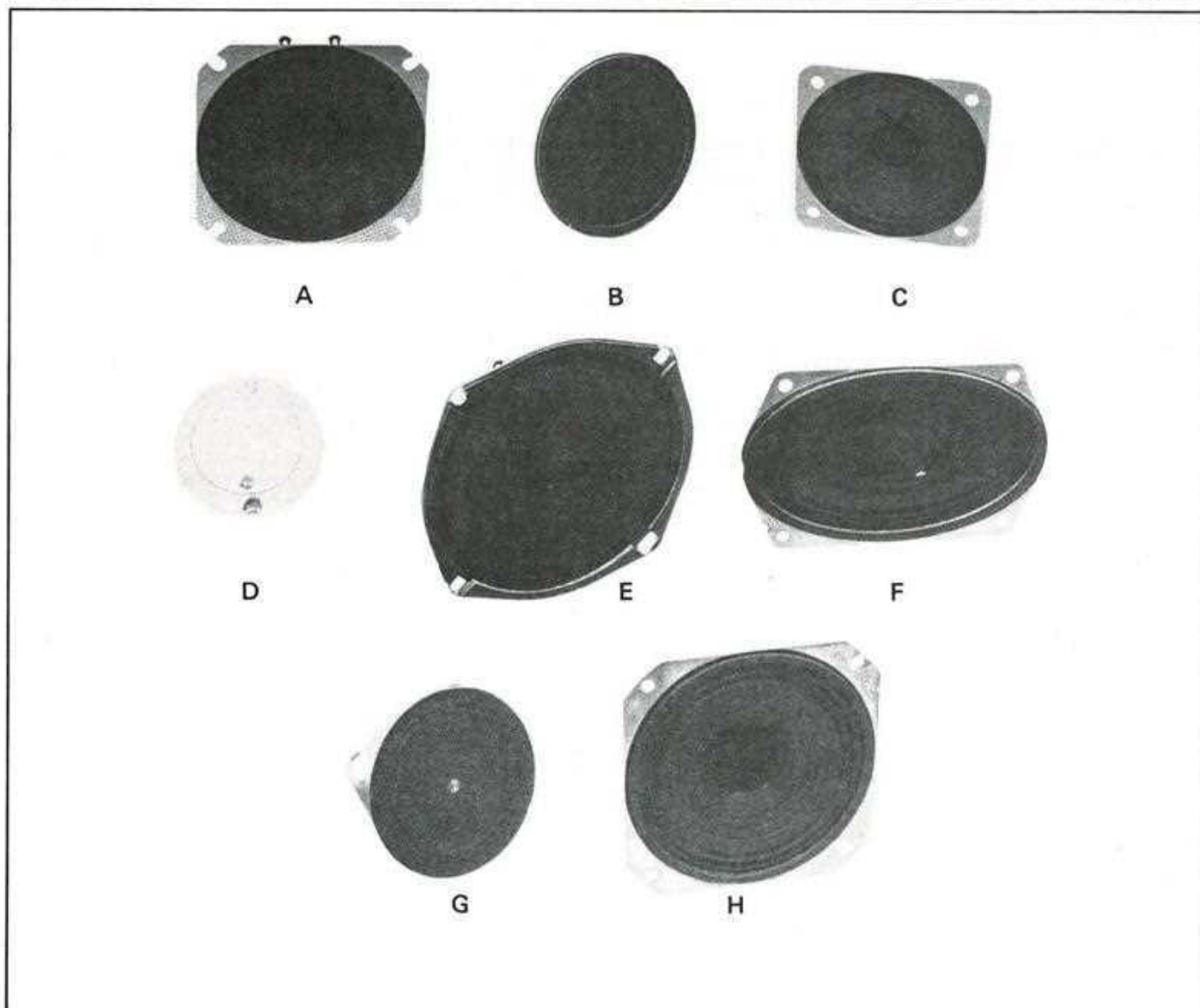
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REF	19C320001 MASTR II	19C320002 EXC	19C320003 PROF	19C320004 IMPERIAL	19C320005 MASTR EXEC II	19C320006 PE CHANGER	19C320007 CUSTOM MVP	19C320008 REPLACE 86Z-18A2	19C320009 GE-MARC * MASTR	19C320010 CENTURY II FIBRE	19C320011 CENTURY II BLACK GRAY	19C320012 CENTURY II BROWN	19C320013 BRANDED MASTR II	19C320014 2 IN PL VEH. CDR	19C320015 BRANDED PE	19C320016 DELTA MOBILE
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SPEAKER 19A116894P1	LS1	1														
SPEAKER 19A116910P1	LS2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SPEAKER 19A116894P2	LS3															1
CABLE 19A129414G1	W1	1					1	1	1	1	1	1	1	1	1	1
CABLE 19A122187G1	W2		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CABLE 19A121546G1	W3		1	1	1	1	1	1	1	1	1	1	1	1	1	1
CABLE 19A130648G1	W4															1
CABLE 19A136514G1	W5															1
GRILL 19B219692G1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
GRILL 19B219692G2			1	1	1	1	1	1	1	1	1	1	1	1	1	1
GRILL 19B219692G3				1	1	1	1	1	1	1	1	1	1	1	1	1
GRILL 19B219692G4																1
GRILL 19B219692G5																1
GRILL 19B219692G6																1
HOUSING 19B227593G1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
HOUSING 19B227593G2			1	1	1	1	1	1	1	1	1	1	1	1	1	1
HOUSING 19B227593G3				1	1	1	1	1	1	1	1	1	1	1	1	1
HOUSING 19B227593G4																1
HOUSING 19B227593G5																1
MOUNT 19C320016P1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MOUNT 19C320016P2			1	1	1	1	1	1	1	1	1	1	1	1	1	1
MOUNT 19C320016P3																1
MOUNT 19C320016P4																1
SPEAKER SCREW 19A116996P108	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
HOUSING SCREW 19A116996P112	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
MOUNTING INSTAL. SCREW N120P1610C6	13	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
MOUNT SCREW N187P16010C6	25	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
GRAY BREAKAWAY MT. HDW. 19A129361G1		1														1
BLACK BREAKAWAY HDW. KIT 19A129461G2			1													1
BEIGE BREAKAWAY HDW. KIT 19A129461G3																1

19C320302G16 for Delta was replaced in Early Shipments by 19C850550G1



PART NO.	FIG. NO.	DIM.	SHAPE	Z (ohms)	POWER (WATTS)	WHERE USED
19A115964P1	A	3-1/2"	Square	18 (±10%)	1.5	Deskon, Deskon, II, Pagecon, and Service Speaker Assemblies 19B219618G1 and 19C320728G1, G2.
19A116090P1	B	2"	Round	8 (±10%)	0.5 (500 mW)	Personal Pager, MVP Personal PE & PY
19A116090P2	B	2"	Round	4 (±10%)	0.5 (500 mW)	Personal Executive Pager II
19A116151P1	B	2-1/4"	Round	8 (±10%)	0.5 (500 mW)	Personal—PR Series. Test Set 4EZ12A10 (Option 4384) Speaker is weatherproof type.
19A116151P2	B	2-1/4"	Round	8 (±10%)	0.5 (500 mW)	Same as P2 except non-weatherproof.
19A116694P1	B	5"	Round	8 (±10%)	20 (max.)	MASTR II and Personal PE Series external speaker options. Speaker assemblies 19C320302G1 and G6. Weatherproof treated paper cone w/paper dustcap.
19A116694P2	B	5"	Round	8 (±10%)	20 (max.)	Same as P1 except cone and dustcap are acrylic impregnated cloth and gasket is rubber or asbestos compound.
19A116701P1	C	3"	Square	3.2 (±10%)	2 (max.)	Custom Executive
19A116730P1	D	1-1/4"	Round			Type 99 Tone Series 101 Transducer (ceramic). Impedance at resonance is dependent on mtg. & load but is 500-1000 ohms shunted by 0.035 uf. Maximum drive level is 25 Vrms (continuous) & 100 Vrms for 25% duty cycle (pulsed).
19A116910P1	E	5"	Round	3.2 (±15%)	7.5 (max.)	MASTR mobiles and stations; MASTR Executive II, Custom MVP and 4EZ16A20, A21 and 4EZ20A10. A11, A12. Replaces 19B209101P1 and 19B209422P1 speakers in 4EZ16A10 thru A19 speaker asm.

REPLACEMENT SPEAKERS (INTERNAL)

See Photographs on previous page for Figures.

PART NO.	FIG. NO.	DIM.	SHAPE	Z (ohms)	POWER (WATTS)	WHERE USED
19A143389P1	E	5"	Square	2 ($\pm 10\%$)	7.5 (max.)	Century II PA Speaker
19A134460P1	B	2"	Round	8 ($\pm 10\%$)	500 mw	MPR, MPX, MPS, MPI
19A702080P3	F	3"x5"	Oval	4 ($\pm 10\%$)	18 (max.)	Delta Mobile Water-proof treated paper cone.
19A702080P4	F	3"x5"	Oval	8 ($\pm 10\%$)	18 (max.)	Classic II Water-proof treated paper cone.
19B204055P1						Use 19C300588P1
19B209101P1						Use 19A116910P1
19B209422P1						Use 19A116910P1
19B209541P1	F	3"x5"	Oval	8 ($\pm 10\%$)	15 (max.)	Porta-Mobil II
19C307094P1	F	3"x5"	Oval	3.2 ($\pm 10\%$)	5 (max.)	Porta-Mobil — EC-60A MASTR Controller Series 539 & 549.
19C307094P3	F	3"x5"	Oval	8 ($\pm 15\%$)	5 (max.)	MASTR Controller Series 659 & 759.
19C307123P1						Use 19C307123P3
19C307123P3	G	6"	Round	3.2 ($\pm 10\%$)	7.5 (max.)	MASTR Desk Mate Stations replacement for 7477049-P1 in Progress Line Desk Mate stations EC6A1, B1; 4CR1C1, 1D1; and speaker assemblies 4EZ3A1/B1.
5491260P1						Use 5491260P7
5491260P3	G	5"	Round	8 ($\pm 10\%$)	15 (max.)	Railroad Control Unit — EC-49 & EC-50.
5491260P7	G	5"	Round	3.2 ($\pm 10\%$)	15 (max.)	MASTR Control Panels (EC-76) and MASTR Progress Line Monitor Panels (EC-77), Voting Selector, Monitor Receivers, TCC-EC-71A, Line Amplifier EA23A, LPI and Porta-Mobil Motorcycle EC-66A. Also 4EZ18A10 thru A15.
5493383P1 NLA	G	2-1/4"	Round	160 ($\pm 10\%$)	0.5 (500 mW)	Voice Commander EC-46A.
5493383P3 NLA	G	2-1/4"	Round	200 ($\pm 10\%$)	0.5 (500 mW)	Voice Commander II.
5493383P5						Use 5493383P7.
5493383P7	B	2-1/4"	Round	100 ($\pm 10\%$)	0.5 (500 mW)	Sounder in MTS Control Unit EC-75, IMTS Control Unit EC-63, 64, 65, IMTS Test Set 4EX5A10, IMTS Logic Test Set TL-53.
7477049P1						Use 19C307123P3.
7485089P1	H	4"	Square	3.2 ($\pm 50\%$)	4 (max.)	EC-16A, EC32A1, Speaker assemblies 4EZ1A1 thru A4, 4EZ1B1, B2, B3 and Test Set 4NX1A1.

NLA = NO LONGER AVAILABLE



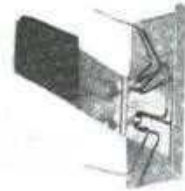
G



H



J

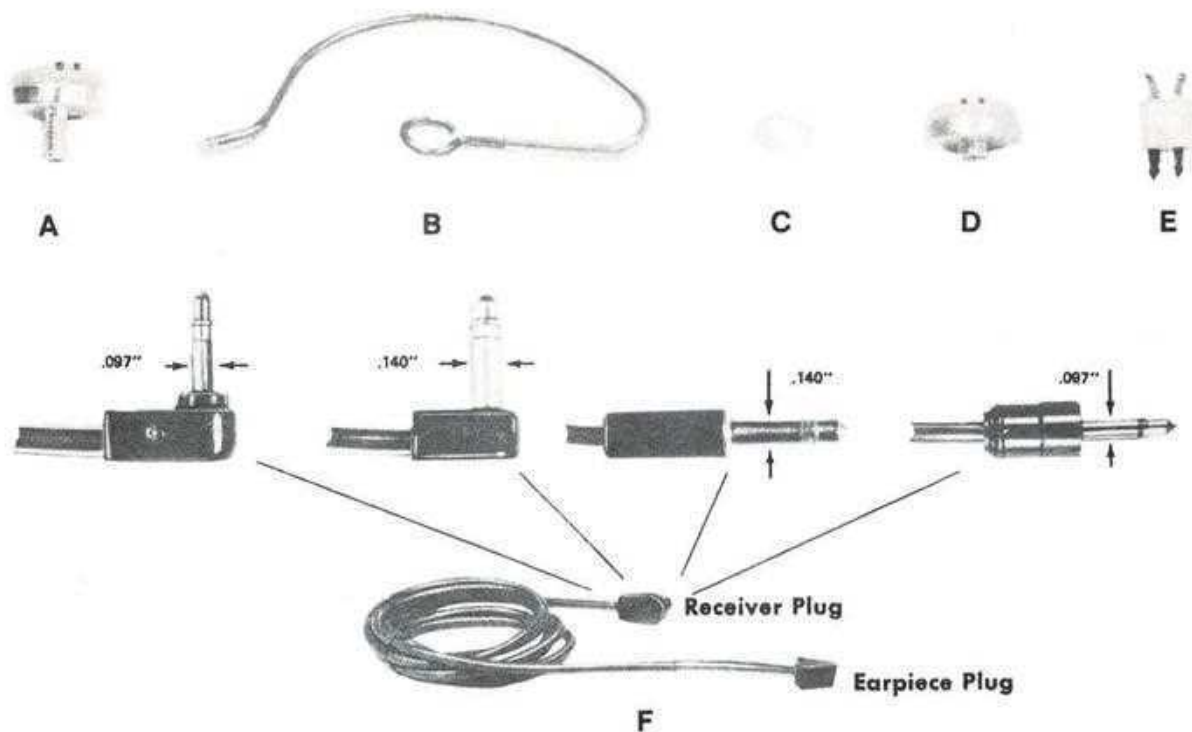


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ORDERING NO.	FIG. NO.	DESCRIPTION	WHERE USED
19B209076P4 No Longer Available	G	Lapel Speaker, same as P1 except 8 ohms ($\pm 20\%$) impedance.	Personal Paging Receiver, Executive Pager II
5495088P4	A	Earphone, 1000 ohms impedance, 25 mW (max.)	Voice Director I, MASTR Personal "PE" Series
5495088P7 No Longer Available	D	Sounder, 500 ohms impedance, 25 mW (max.)	MTS Control Unit EC-44A
5495088P8	A	Earphone, 1000 ohms impedance (w/22 ohm resistor in parallel in housing) 25 mW (max.)	Personal Paging Receiver and Executive Pager II (p/o 4033570G5 kit)
5495088P19	F	Cordset, gray 3' w/right-angle plug (.097" dia.)	Executive Pager II
5495088P20	F	Cordset, gray 3', w/straight plug (.097" dia.)	Voice Director II (Series "W")
5495088P21	B	Earclip	w/5495088P - Earphones
5495088P28 No Longer Available	E	Miniature plug, 2-pin, polarized	MTS sounder (5495088P7)
5495088P29	F	Cordset, gray, 4' w/straight plug (.097" dia.)	Personal Paging Receiver
5495088P30	F	Cordset, gray, 4' w/right angle plug (.097" dia.)	MPR/MPX (Option AC19)

19B233510G1

ORDERING NO.	DESCRIPTION
19B233510G1	UDC Connector with earphone Jack. Used on MPR/MPX/MPS. Equivalent to Option P2AD12, P4AD12 and P9AD12. (Not required if earphone jack is built in to the side rail of the radio.)



The following tables list the lapel speakers and earpieces that have been used with GE two-way radios. Detailed descriptions and replacement parts for radios listed in the right-hand column are provided. If a kit is listed and a part in the kit is listed as not available, the kit is available as a kit but the part is not available separately.

ORDERING NO.	FIG. NO.	DESCRIPTION	WHERE USED
4033570G4 5495088P4 5495099P21 5495088P20	A B F	Earpiece Kit, consisting of: Earphone "PE" Series (Option 4315) Ear clip Cordset w/right-angle plug (.097" dia.)	MASTR personal "PR" & MPR (Option AC14)
4033570G5 5495088P8 5495088P21 5495088P19	A B F	Earpiece Kit, consisting of: Earphone Earclip Cordset w/right-angle plug (.097" dia.)	Personal Paging Receiver and Executive Pager II
4033570G6 5495088P4 5495088P21 5495088P30	A B F	Earpiece Kit, consisting of: Earphone Earclip Cordset	MPR Option P2AC19 MPR Option P4AC19 MPI Option P5AC19
19A116502P1	H	Lapel Speaker, 2-1/2" dia., 125 mW 15 ohms ($\pm 25\%$) impedance,	MASTR Personal "PR" & "PE" Series-MPR (Option RD10)
19A116502P2	F	Cordset, gray 3-1/4', w/straight plug, (.097 dia.)	MASTR Personal "PR" & "PE" Series
19A122060G4	G	Lapel Speaker Assembly, 100 mW.	Personal Paging Receiver, Executive Pager II

See reverse side for additional photos & part numbers.

(USED WITH GE MARC V CLASSIC RM SERIES)

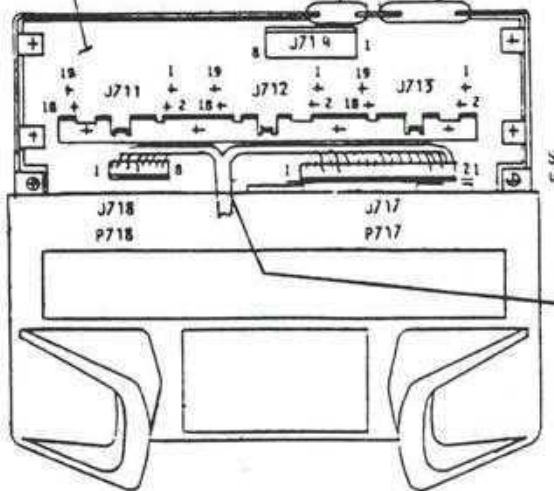


CONTROL UNIT INTERFACE BD
19D900892

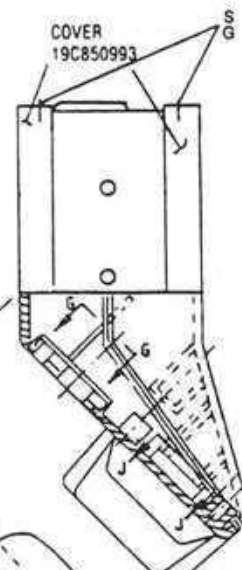
5490407P8
GROMMET

5490407P14
GROMMET

COVER
19C850993



HARNESS
19B800694 REF



TOP VIEW

NAMEPLATE
19D900248

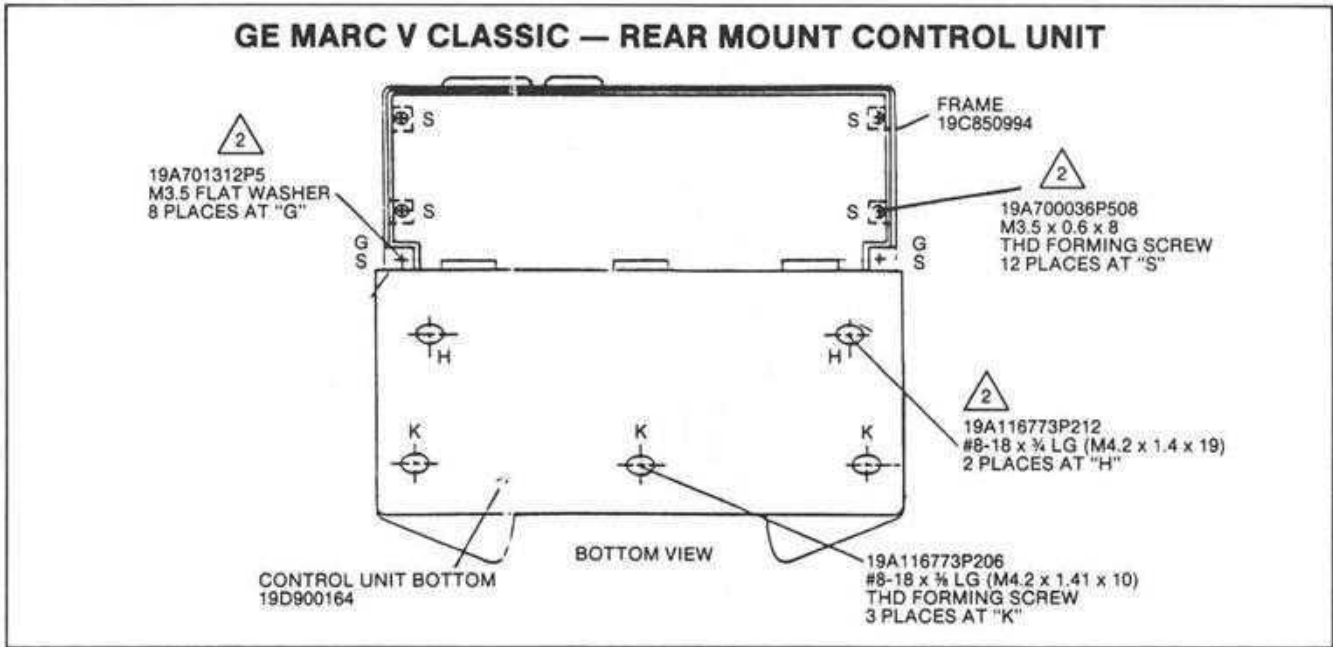
19A701312P3
M2.5 FLAT WASHER
2 PLACES AT "J"

19A700032P3
M2.5 LOCK WASHER
2 PLACES AT "J"

19A700031P308
M2.5 X 0.45 X 8
MACHINE SCREW
2 PLACES AT "J"

CONTROL UNIT TOP
19C850661

HANDSET
19C850651

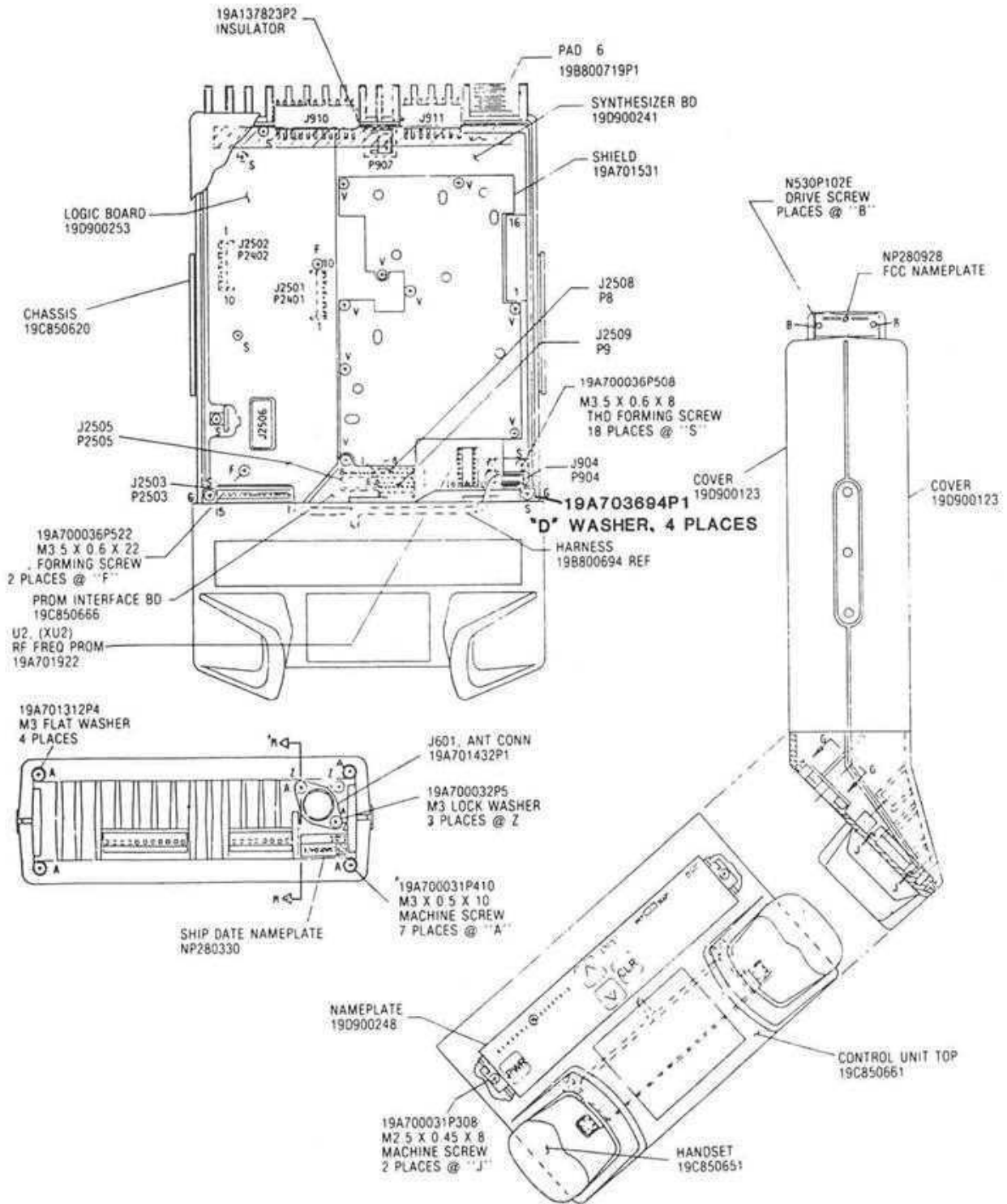


ORDERING NUMBER	DESCRIPTION
	SPEAKER ASSEMBLY 19B800682G1 PLUGS
19A700041P29	Connector. Includes:
19A700041P26	Shell.
	Contact: sim to Molex 08-50-0113. (Quantity 2).
	MISCELLANEOUS
19A134460P1	Permanent magnet: 2 inches, 8 ohms ± 10%, imp too mW, 450 ± 100 Hz resonant freq; sim to Pioneer 850AP1301F.
	HOOKSWITCH 19B800699G1
	CABLES HARNESSES 19B800693G1 PLUGS
	Connector. Includes:
19A700041P32	Shell.
19A700041P26	Contact: sim to Molex 08-50-0113. (Quantity 5).
	SWITCHES
19A116676P2	Sensitive: SPDT; contacts rated 5 amps at 24 VDC; sim to Micro Switch 311SM1-T.
	MISCELLANEOUS
19D900169P1	Handset case, top, black.
19D900170P1	Handset case, bottom, black.
19B800609P1	Handset pushbutton.
19A7011476P1	Support, handset board. (Located under B1).
19J706212P202	Screw, thd. forming: No. 4 x 6.35MM. (Secures B1 to Handset case).
19A701847P305	Screw, thd. forming. (Secures Handset case halves together).
19A702573P1	Accoustical filter.
19J706212P203	Screw, thd. forming: No. 4 x 7.94MM. (Secures accoustical filter).

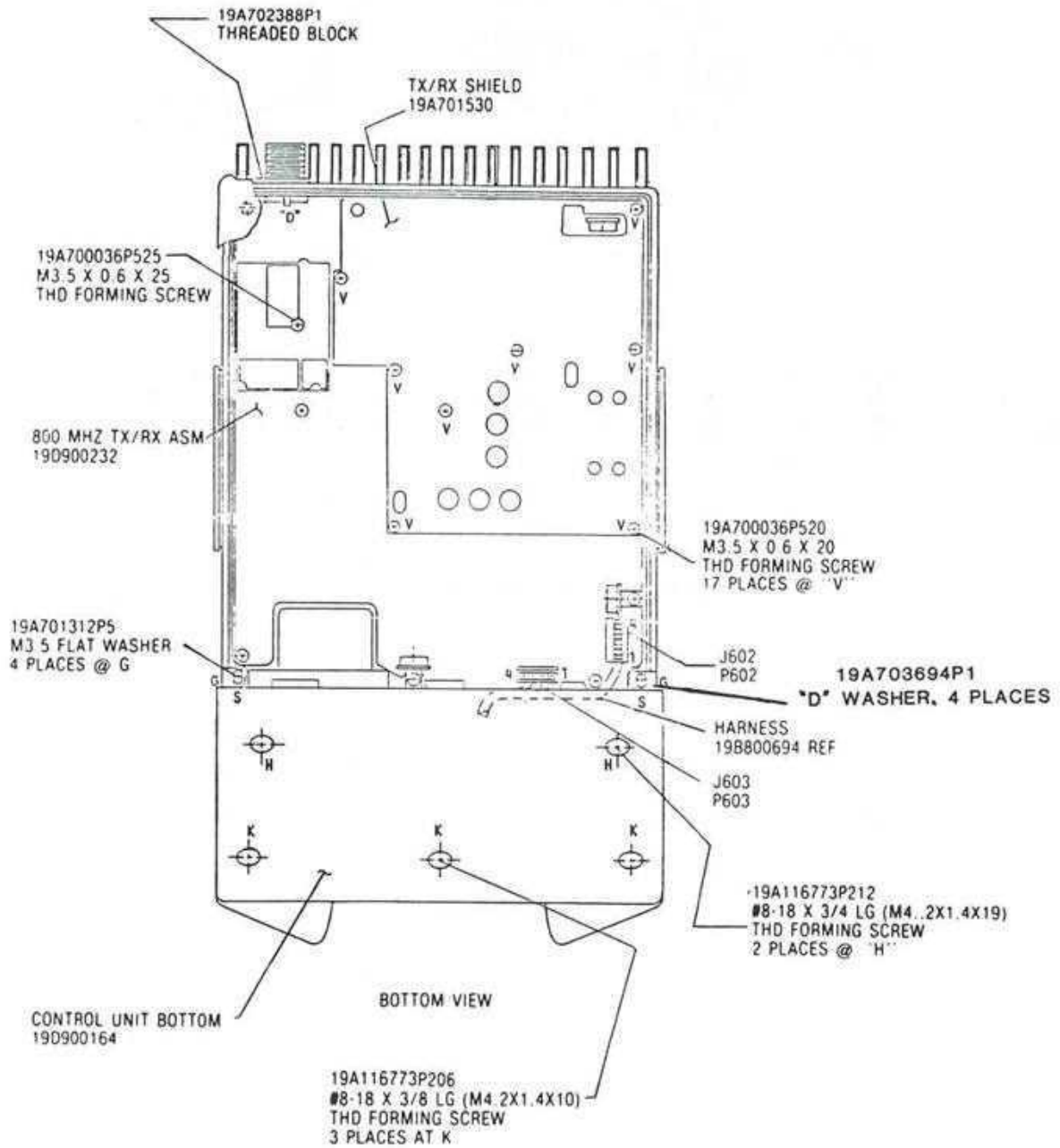
ORDERING NUMBER	DESCRIPTION
	SWITCH KIT 19A143490G7 BASE 19A143490G8 TELEPHONE 19A143490G9 EXTERNAL ALARM 19A143490G10 EXTERNAL SPEAKER 19A143490G11 ALTERNATE BUSY
19B209580P19	Switch, push, DPDT, contacts rated 100 mA at 28 VDC; sim to Schadow Series G.
19C850640P1	Pushbutton.
19A701692P2	Nameplate. (BASE).
19A701692P3	Nameplate. (TEL).
19A701692P4	Nameplate. (ALARM).
19A701692P6	Nameplate. (SPKR).
19A701692P10	Nameplate. (BUSY).
	TOP HOUSING 19C850661G1
19B800623G1	Handset retaining spring.
19B800597P1	Switch button. (Quantity 2).
19B800596P1	Switch actuator. (Quantity 2).
19A700140P2	Compression spring. (Quantity 2 — Located between actuator and switch button).
N145AP904B	Screw, phillips POZIDRIV® thd. forming: No. 4-24 x 1/4. (Secures actuator to switch button).
	STANDARD MOUNTING HARDWARE KIT 19A138051G5 BLACK
19A134653P4009	Bolt, machine, hex: Metric, 8MM. (Secures radio to mounting bracket).
19A700032P7	Lockwasher, internal tooth: No. M2.2. (Metric). (Secures radio to mounting bracket).
19J706152P9	Retaining strap; sim to Dennison BAR-LOK 08471. (Secures power leads under dash).
N130P1610C6	Screw, thread forming: No. 10-16 x 1/4. (Secures mounting bracket to mounting surface with thin mounting surface).
N130P1624C6	Screw, thread forming: No. 10-16 x 1-1/4. (Secures mounting bracket to mounting surface when thick carpet is on mounting surface).
5490407P6	Rubber grommet. (Located on fire wall).
19C850638P2	Mounting bracket. (BLACK).
19A702241G1	Mounting bracket, desk top, suction type.

ORDERING NUMBER	DESCRIPTION
CLASSIC RM CONTROL UNIT (CONTD.)	
19A700041P47 19A700041P26	Connector. Includes: Shell. Contact: sim to Molex 08-50-0113. (Quantity 21). Connector. Includes:
19A700041P34 19A700041P26	Shell. Contact: sim to Molex 08-50-0113. (Quantity 7).
HANDSET SPEAKER 19A701933G1	
19A701703P1	Cartridge. Connector. Includes:
19A700041P28 19A700041P26	Shell. Contact: sim to Molex 08-50-0113. (Quantity 2).
HANDSET BOARD 19B800614G1 HANDSET AMPLIFIER 19C850650G1	
CAPACITORS	
19A700234P12	Polyester: 0.068 uF ±10%, 50 VDCW.
19A700234P11	Polyester: 0.045 uF ±10%, 50 VDCW.
19A700235P17	Ceramic: 22 pF ±5%, 50 VDCW.
19A701534P9	Tantalum: 47 uF ±20%, 6.3 VDCW.
19A701352P1	Aluminum: 0.1 uF ±20%, 25 VDCW.
19A700235P25	Ceramic: 100 pF ±5%, 50 VDCW.
19A701534P7	Tantalum: 10 uF ±20%, 16 VDCW.
JACKS	
19J706197P1	Connector: 6 position, 6 contacts rated 100 mA at 6 VAC; sim to AMP 520250-3.
19A700072P28	Printed wire: 2 contacts rated @ 2.5 amps; sim to Molex 22-27-2021.
TRANSISTORS	
19A116774P2	Silicon, NPN; simto 2N5210.
RESISTORS	
19A700019P50	Deposited carbon: 12K ohms ±5%, ¼ w.
19A700019P42	Deposited carbon: 2.7K ohms ±5%, ¼ w.
19A700019P54	Deposited carbon: 27K ohms ±5%, ¼ w.
19A700019P60	Deposited carbon: 82K ohms ±5%, ¼ w.
19A700019P37	Deposited carbon: 1K ohms ±5%, ¼ w.
19A700019P30	Deposited carbon: 270 ohms ±5%, ¼ w.
19A700019P23	Deposited carbon: 68 ohms ±5%, ¼ w.
SWITCHES	
19B800606P2	Push: rated 2.5 mA at 5 VDC; sim to Switchcraft 2545B.
HANDSET MIKE 19B8800612G1	
CAPACITORS	
19A700233P5	Ceramic: 470 pF ±20%, 50 VDCW.

ORDERING NUMBER	DESCRIPTION
FUSED LEAD ASSEMBLY 19A137818G10 (Part of 19B232925G4)	
19A115776P3	Contact. (Located inside fuseholder).
19A115776P6	Fuseholder.
19A115776P5	Fuse cap:
19A115776P7	Spring. (Located in fuseholder).
1R16P5	Fuse.
MECHANICAL PARTS	
19D900164P1	Bottom housing.
19C850993P1	Control Unit Cover. (Quantity 2).
19C850994G1	Chassis.
19A701508P1	Handset cable, black: 6 conductor, includes (1) 08-50-0161 Molex contact & (1) 09-50-3081 Molex plug.
19D900248P1	Faceplate. (NO OPTIONS).
19D900248P2	Faceplate. (BASE/NORM OR TEL/NORM).
19D900249P3	Faceplate. (EXTERNAL ALARM).
19D900249P4	Faceplate. (EXTENRRAL SPEAKER).
19D900248P5	Faceplate. (BASE/NORM OR TEL/NORM & EXTERNAL ALARM).
19D900248P6	Faceplate. (BASE/NORM OR TEL/NORM & EXTERNAL SPEAKER).
19D900248P7	Faceplate. (EXTERNAL ALARM & EXTERNAL SPEAKER).
19D900248P8	Faceplate. (BASE/NORM OR TEL/NORM, EXTERNAL ALARM & EXTERNAL SPEAKER).
19D900248P9	Faceplate. (GROUP SELECT).
19D900248P10	Faceplate. (BASE NORM OR TEL NORM & GROUP SELECT).
19D900248P11	Faceplate. (EXTERNAL ALARM & GROUP SELECT).
19D900248P12	Faceplate. (EXTERNAL SPEAKER & GROUP SELECT).
19D900248P13	Faceplate. (BASE/NORM OR TEL/NORM, EXTERNAL ALARM & GROUP SELECT).
19D900248P14	Faceplate. (BASE/NORM OR TEL/NORM, EXTERNAL SPEAKER & GROUP SELECT).
19D900248P15	Faceplate. (EXTERNAL ALARM, EXTERNAL SPEAKER & GROUP SELECT).
19D900248P16	Faceplate. (BASE/NORM OR TEL/NORM, EXTERNAL ALARM, EXTERNAL SPEAKER & GROUP SELECT).
19D900248P17	Faceplate. (GROUP & AREA SELECT).
19D900248P18	Faceplate. (BASE/NORM OR TEL/NORM, GROUP & AREA SELECT).
19D900248P19	Faceplate. (EXTERNAL ALARM, GROUP & AREA SELECT).
19D900248P20	Faceplate. (EXTERNAL SPEAKER, GROUP & AREA SELECT).
19D900248P21	Faceplate. (BASE/NORM OR TEL NORM EXTERNAL ALARM, GROUP & AREA SELECT).
19D900248P22	Faceplate. (BASE/NORM OR TEL NORM, EXTERNAL SPEAKER, GROUP & AREA SELECT).
19D900248P23	Faceplate. (EXTERNAL ALARM, EXTERNAL SPEAKER, GROUP & AREA SELECT).
19D900248P24	Faceplate. (BASE/NORM OR TEL NORM, EXT. ALARM, EXTERNAL SPEAKER GROUP & AREA SELECT).
19A701734P1	Gasket. (Located under control unit speaker).
5490407P8	Grommet, rubber. (Located in chassis — Used with handset cable).
5490407P14	Grommet, rubber. (Located in chassis — Used with power cable).
19A701312P3	Machine screw, metric: M2.5-.45 x 8. (Secures flatplate).
19A701312P3	Flatwasher, metric: No. 2.5MM. (Secures faceplate).



**Bypass Capacitor Assembly
FL701 19A703219G1**





COMBINATION NOMENCLATURE

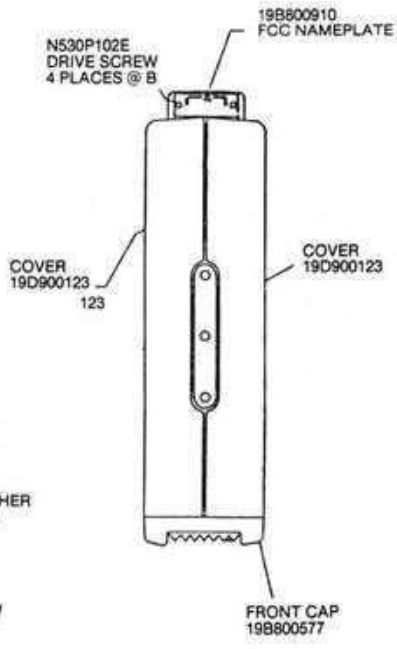
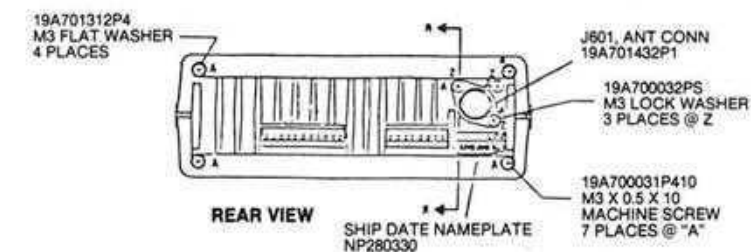
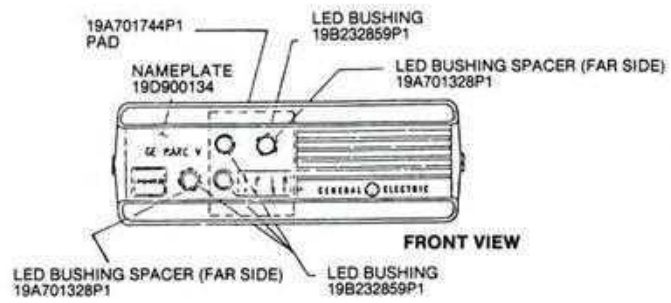
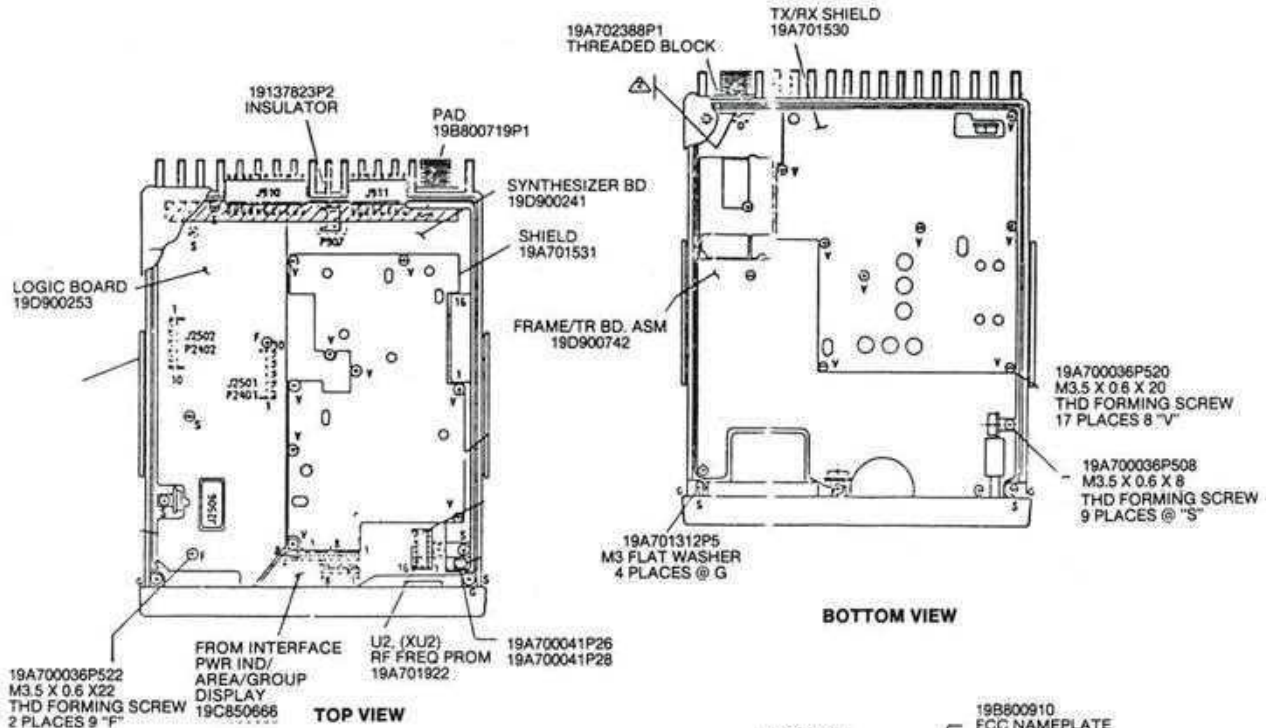
DIGITS 1 & 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGIT 6	DIGIT 7-9	DIGIT 10	DIGIT 11	DIGIT 12	DIGIT 13	DIGIT 14	DIGIT 15	DIGIT 16	DIGIT 17
Product Code	Transmit Frequency Range	Receive Frequency Range	Channel Spacing	Type	RF Power Output	Frequency Capacity	Control	Assembly	Oscillator Stability	Mechanical Package	System Voltage	Receiver Type	Audio Power
M6	Y 818-820 MHz	Z 861-865 MHz	2 25 kHz	B Black	015 15-Watts	S 29 (Corona)	O Standard	U MRPD	A ± 2.5 PPM	S Standard 800 MHz	0 + 12 VDC Neg Gnd	0 Standard	0 3-Watts
				P Pebble		F 5 (Centura)	X Less Personality & Freq. PROM	P Private Brandable			1 AC Power Supply (Mobile)		
											2 AC Power Supply w/ DC Remote (Mobile)		
											3 AC Power Supply (Control Station)		
											4 AC Power Supply w/ DC Remote (Control Station)		

	CENTURA	CORONA
CHANNELS (MAX)	20	25
AREAS (MAX)	1	5/1*
GROUPS (MAX)	1	5/1*
SPL CALL	NO	YES
SECOND DECODE	YES	YES
RF POWER OUTPUT	15WE	15 or 30W
DTMF	EXTERNAL MIC AVAIL	EXTERNAL MIC AVAIL
CALL LIGHT	SELECTABLE	SELECTABLE

- Mobile Packages Come Equipped with:**
- Microphone 19B209670P1.
 - Microphone Hookswitch 19C320318G4.
 - Ignition/Power Cable 19B232925G2 & 19A137818G10
 - Mounting Bracket 19A138051G6

Antenna is not included in standard packages

CORONA/CENTURA & CENTURA TC



14 C

ORDERING NUMBER	DESCRIPTION
	FRONT CAP ASSEMBLY 19B800577G1 BLACK (CENTURA) 19B800577G2 PEBBLE (CORONA)
19A134771P1	LOUDSPEAKERS Permanent magnet: 4 ohms ± 10% imp, resonant frequency 400 Hz at 1 VRMS, 3 watts max; sim to Storno 97.5038-00.
19A700041P28	PLUGS Connector. Includes:
19A700041P26	Shell.
4034221P1	Contact: sim to Molex 08-50-0113. (Quantity 2).
	MISCELLANEOUS Nut, push-on: sim to Tinnerman C1617-010-67. (Secures LS901 to front cap).
	POWER CABLE 19B232925G2
19A116659P143	PLUGS Connector. Includes:
19A116781P5	Shell.
19C328587P1	Contact, electrical: wire range No. 18-24 AWG; sim to Molex 08-50-0106.
NP280878P7	MISCELLANEOUS Pushbutton. (Used with S51 & S52).
NP280878P8	Nameplate. (BASE).
NP280878P9	Nameplate. (TEL).
19D900134P15	Nameplate. (ALARM).
19D900134P16	Nameplate. BASE/NORM OR TEL/NORM, GROUP SELECT & 2ND OPTION SWITCH.
19D900134P17	Nameplate. BASE/NORM OR TEL/NORM AND GROUP SELECT.
19D900134P18	Nameplate. GROUP SELECT.
19D900134P19	Nameplate. BASE/NORM OR TEL/NORM AND 2ND OPTION SWITCH.
19D900134P20	Nameplate. BASE/NORM OR TEL/NORM.
19D900134P21	Nameplate. NO OPTIONS.
19D900134P22	Nameplate. BASE/NORM OR TEL/NORM, AREA SELECT & 2ND OPTION SWITCH.
19D900134P23	Nameplate. BASE/NORM OR TEL/NORM AND AREA SELECT.
19D900134P24	Nameplate. AREA SELECT.
19D900134P25	Nameplate. GROUP SELECT & 2ND OPTION SWITCH.
19D900134P26	Nameplate. AREA SELECT & 2ND OPTION SWITCH.
19D900134P27	Nameplate. 2ND OPTION SWITCH.

ORDERING NUMBER	DESCRIPTION
	TRANSISTORIZED MICROPHONE 19B209670P1
19A116659P20	Cable connector shell; sim to Molex 09-50-3081.
19A116781P6	Contact, electrical: wire range No. 22-26 AWG; sim to Molex 08-50-0107. (Quantity 4 - Used with 19A116659P20 connector shell).
NP280575	Faceplate. (GENERAL ELECTRIC).
4033271G1	Strain relief. (Located on cable 10 inches from connector).
MP101	Case, front & back with push to talk switch.
MP102	Cartridge, with leads.
MP103	Cable assembly.
	800 MHz ANTENNA 19B209568P4 SEE ANTENNA SECTION FOR REPLACEABLE PARTS
	STANDARD MOUNTING HARDWARE KIT 19A138051G5 BLACK (CENTURA) 19A138051G6 PEBBLE (CORONA) 19A138051G8 DESK TOP
19A134653P4008	Bolt, machine, hex: Metric, 8MM. (Secures radio to mounting bracket).
19A700032P7	Lockwasher, internal tooth: No. M2.2. (Metric). (Secures radio to mounting bracket).
19J706152P9	Retaining strap; sim to Dennison BAR-LOK 08471. (Secures power leads under dash).
N130P1610C6	Screw, thread forming: No. 10-16 x 1/4. (Secures mounting bracket to mounting surface with this mounting surface).
N130P1624C6	Screw, thread forming: No. 10-16 x 1-1/4. (Secures mounting bracket to mounting surface when thick carpet is on mounting surface).
5490407P6	Rubber grommet. (Located in fire wall).
19C850638P2	Mounting bracket. (Black).
19C850638P3	Mounting bracket. (Pebble).
19A702241G1	Mounting bracket. (Desk Top).
	SWITCH KITS 19A143490G3 BASE 19A143490G4 TEL 19A143490G5 ALARM
	SWITCHES Switch, push: DPDT, 1 station, alternate action; sim to Schadow Co. Series "F".
19B800563P2	



COMBINATION NOMENCLATURE

DIGITS 1 & 2	DIGIT 3	DIGIT 4
Product Code	Radio Type	Frequency Plan
N7	A 15W Simplex	C USA-3
	B 30W Simplex	M Mexico
	C 15W Duplex	R USA-2
		S USA-1
		T Australia

GE-MARC™ V-E CLASSIC II DUPLEX

Mobile Packages Come Equipped with:

- Handset Control Head with Hookswitch
- Radio to Control Head Cable (15 FT.)
- Ignition/Power Cable
- Built-in Lighted DTMF Encoder with 30 Number Memory
- Field Adaptable for Standard or Alternate Busy Tone
- Mounting Brackets
- Tx Fuse Block
- External Speaker

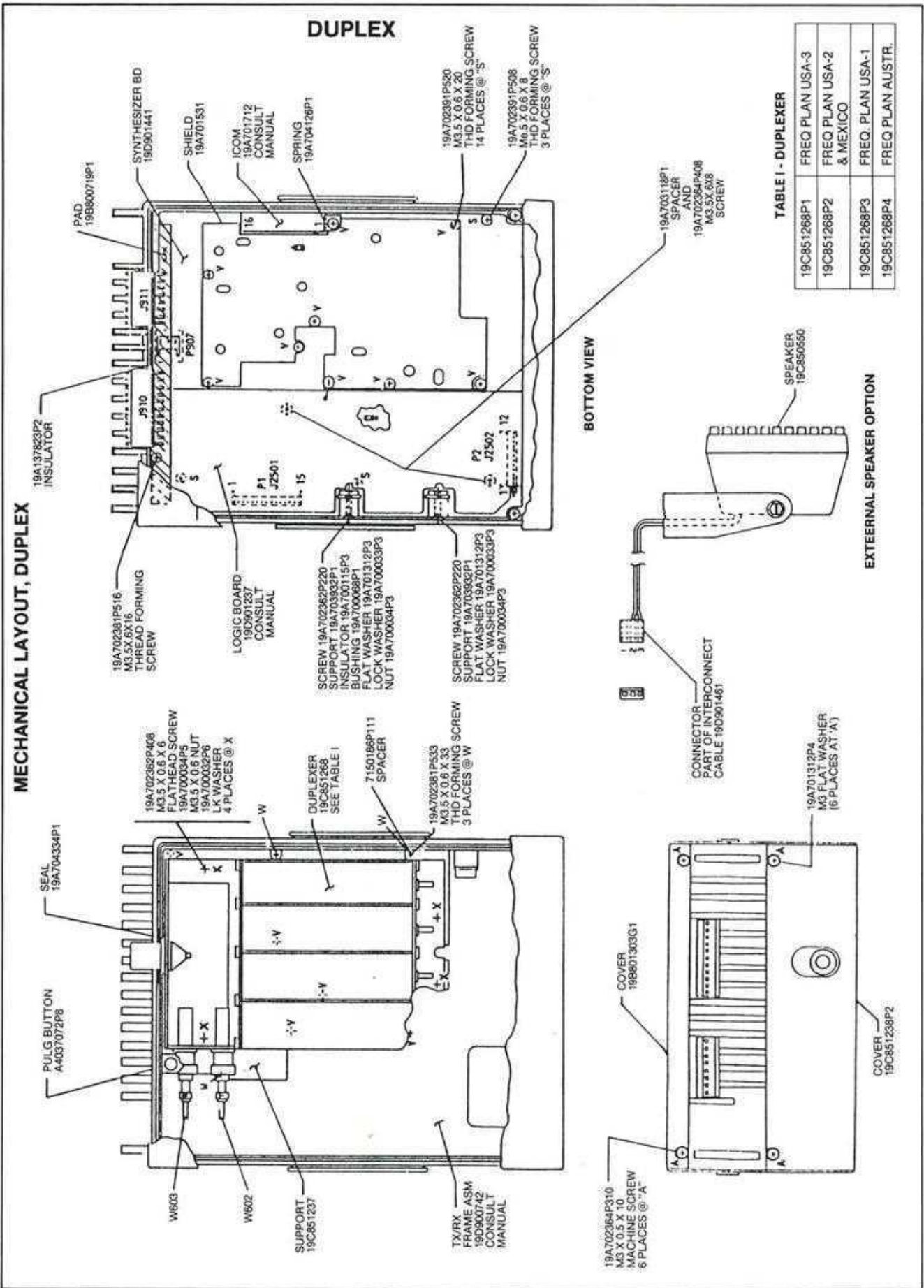
NOTE: Antenna and feedline must be ordered separately

GE-MARC™ V-E CLASSIC II SIMPLEX

Mobile Packages Come Equipped with:

- Handset Control Head with Hookswitch
- Radio to Control Head Cable (15 Ft.)
- Ignition/Power Cable
- Mounting Brackets
- Tx Fuse Block
- External Speaker
- Built-in Lighted DTMF Encoder with 30 Number Memory
- Field Adaptable for Standard or Alternate Busy Tone

NOTE: Antenna and Feedline must be ordered separately.





GE-MARC™ V Personal

COMBINATION NOMENCLATURE

Digits 1 & 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7	Digit 8	Digit 9	Digit 10
Product Code	Package	Tx/Rx Frequency Range (MHz)	Programming	Channel Spacing	RF Power	Maximum Channel Capacity	Control	Power Source
P7	B Basic	CANADIAN BDR 1 Tx 806-811 Rx 851-856 MHz	C Customer	5 25 kHz	5 1.7-3.8 Watts	S Synthesized 180	K Deluxe	N 750 mAh Ni-Cd
		USA 2 2 Tx 811-816 Rx 856-861 MHz						M 1200 mAh Ni-Cd
		USA 1 3 Tx 816-821 Rx 861-866 MHz						X No Batt
		AUS 4 Tx 820-825 Rx 865-870 MHz						
		MEXICAN BDR 5 Tx 811-816 Rx 856-861 MHz						

REFERENCE OSCILLATORS:
See Module list on following pages.

SPEAKER/MICROPHONE
Uses the same audio accessories as the MPR and MPX Personals-See the microphone section for these items.

PORTABLE ANTENNA
Standard: 19B801219P1

BATTERIES		
OPTION	DESCRIPTION	ORDER NUMBER
P7PA10	750 MAH STANDARD	19D429763G3
P7PA12	750 MAH I/S GROUP D	19D429763G4
P7PA14	750 MAH I/S GROUP C	19D429763G7
P7PA11	1200 MAH STANDARD	19D429777G3
P7PA13	1200 MAH I/S GROUP D	19D429777G4
P7PA15	1200 MAH I/S GROUP C	19D429777G7

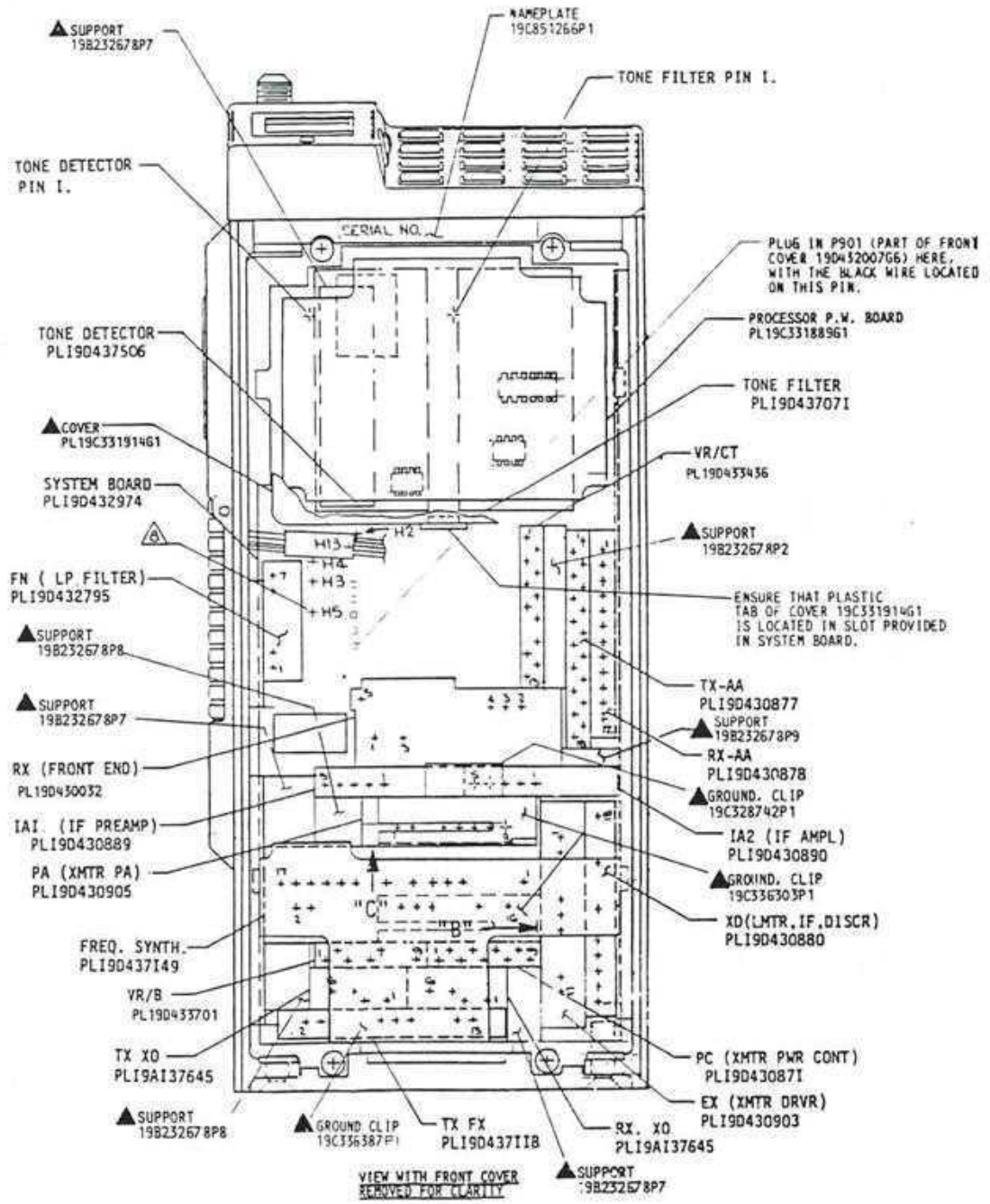
CARRYING ACCESSORIES

Leather carrying cases are available for the GE-MARC V Personal only in Belt-mounting models. Swivel Belt-loop cases are not application.

ORDER NO.	DESCRIPTION
P7HC10	Leather Carry Case for use with 750 mAh Batteries
P7HC11	Leather Carry Case for use with 1200 mAh Batteries

Other accessory options can be inserted in the rear cover retainer in the same manner as the MPR and MPX Series personals.

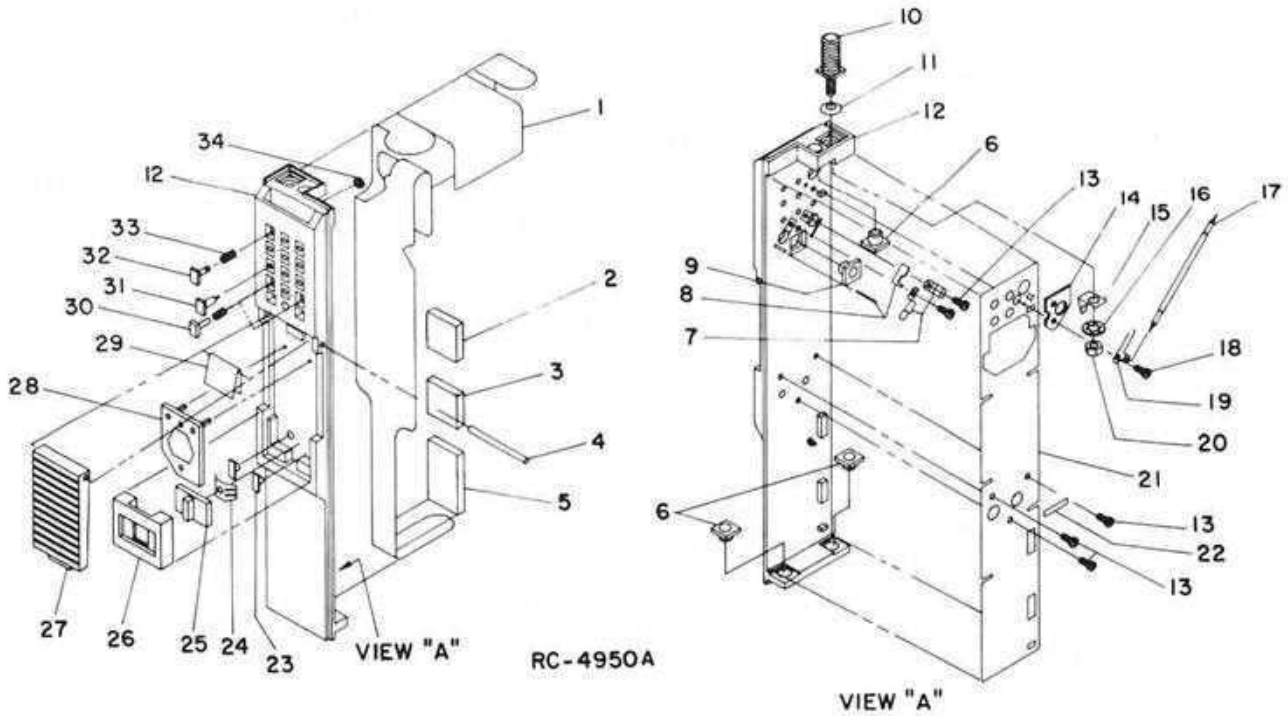
P7HC15	Shoulder Strap
P7HC16	Hand Strap
P7HC17	Swivel Plate (for back of radio; not for leather case) and swivel Belt Loop.
P7HC18	Pocket Clip Plate.
P7HC20	Spare Swivel Belt Loop.



VIEW WITH FRONT COVER REMOVED FOR CLARITY

- NOTES:**
2. TORQUE M2.5 PANHEAD SCREWS TO 4±0.5 INCH LBS.
 3. ITEMS IDENTIFIED BY ▲ ARE PART OF HARDWARE KIT PL19A148075.
 4. TORQUE #1-64 SCREWS TO 1.5 - 2.0 INCH LBS.
 5. TORQUE #0-80 SCREWS TO 16±5 INCH OZ.
8. WIRE TERMINALS H2, H3, H4, H5 AND H13 TO BE CLEAVED.
 9. REMOVE ADHESIVE LINER FROM PAD 19B232682P11 AND STICK TO FACE OF SYSTEM BOARD 19D432974 IN POSITION SHOWN.

19D429373G7 SIDE RAIL ASSEMBLY



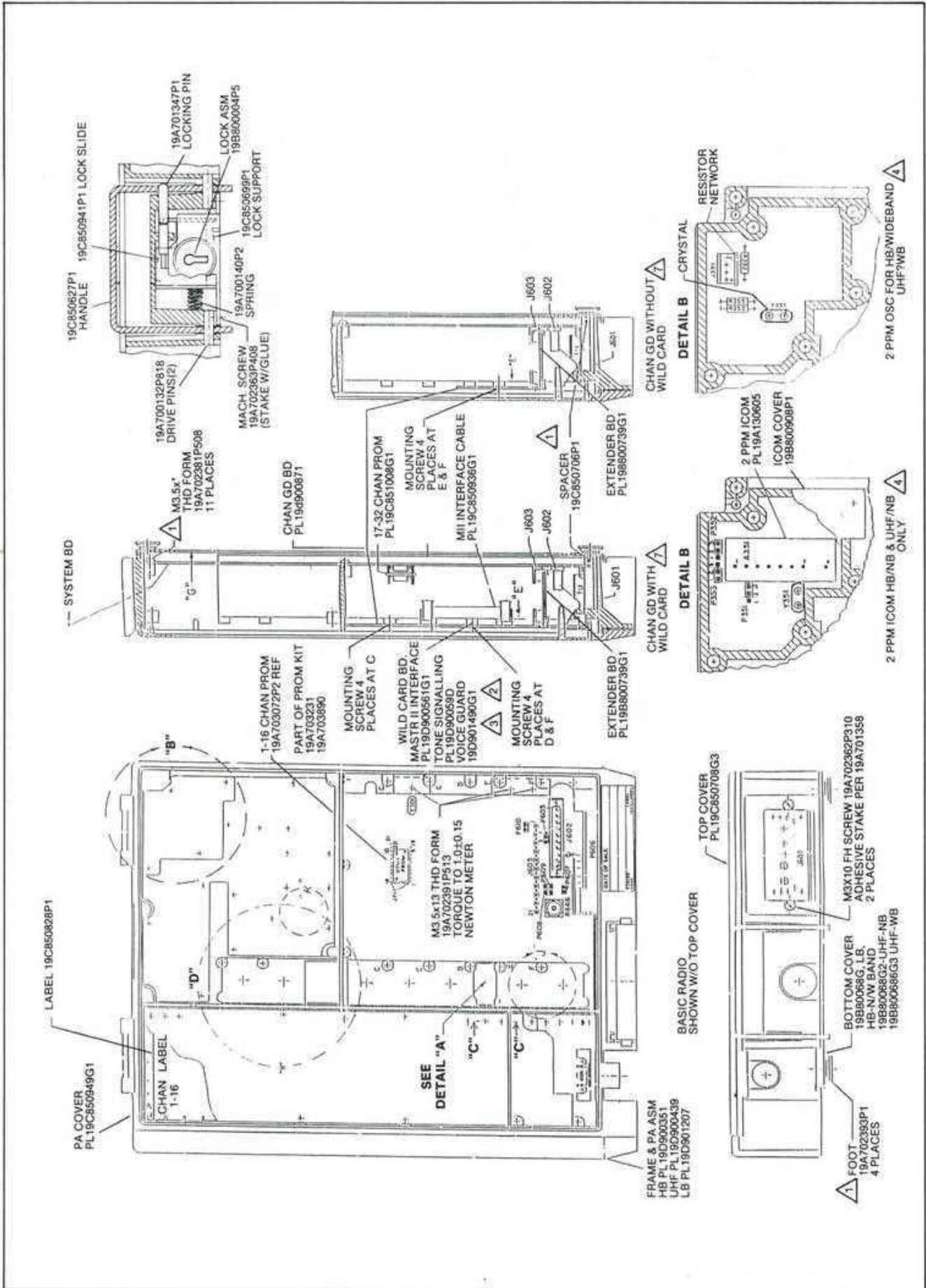
ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	19D429686P1	Flex board.	27	19C328176P1	Button. (Part of S702).
2	19B232682P23	Pad.	28	19B800847P1	Switch, push; contacts rated 25 uA @ 9 VDC; sim to Bomar KB3256-1D. (Part of S702).
3	19B232682P9	Pad.	29	19A137414P1	Spring (Part of S702).
4	19A134585P1	Pin, spring. (Part of S702).	30	19B234407G4	Contact. (Part of S703 & S704).
5	19B232682P5	Pad.	31	19B234407G1	Contact. (J701-2 thru J701-9, J701-11).
6	19A137410P1	Bushing	32	19B234407G2	Contact. (Part of S703-S705).
7	19A144581G1	Contact. (Part of S704 & S704).	33	4035235P13	Spring. (Part of S703-S705).
8	19B234407G5	Contact. (Part of S703 & S704).	34	19A137413P1	Seal. (Part of S704-S705).
9	19B232415P1	Bushing.			
10	19C951265P1	Antenna stud.			
10A	Nut	(Not Shown-supplied with item 10)			
11	19A115983P13	Packing.			
12	19B234529G1	Left side rail.			
13	19A134588P1	Drive screw. (Part of S703 & S704).			
14	19B232672P2	Insulator. (Part of S705).			
15	19B234494P1	Ground strap. (Part of S705).			
16	N414P16C	Lockwasher, internal tooth, M2.2.			
17	19A137417G4	Cable wire, approx 2 inches long. (W703).			
18	19A134588P4	Screw, panhead: No. 0 - 40x¼. (Part of S705).			
19	19B232670P1	Contact. (Part of S705).			
20	19A700034P3	Hexnut: M2.5 x 0.45.			
21	19C328385P2	Shield.			
22	19A137609G2	Strap.			
23	19B234407G3	Contact. (Part of S701).			
24	19B232560P1	Spring. (Part of S701).			
25	19A137826G1	Slide. (Part of S701).			
26	19C329373P1	Plate. (Part of S701).			

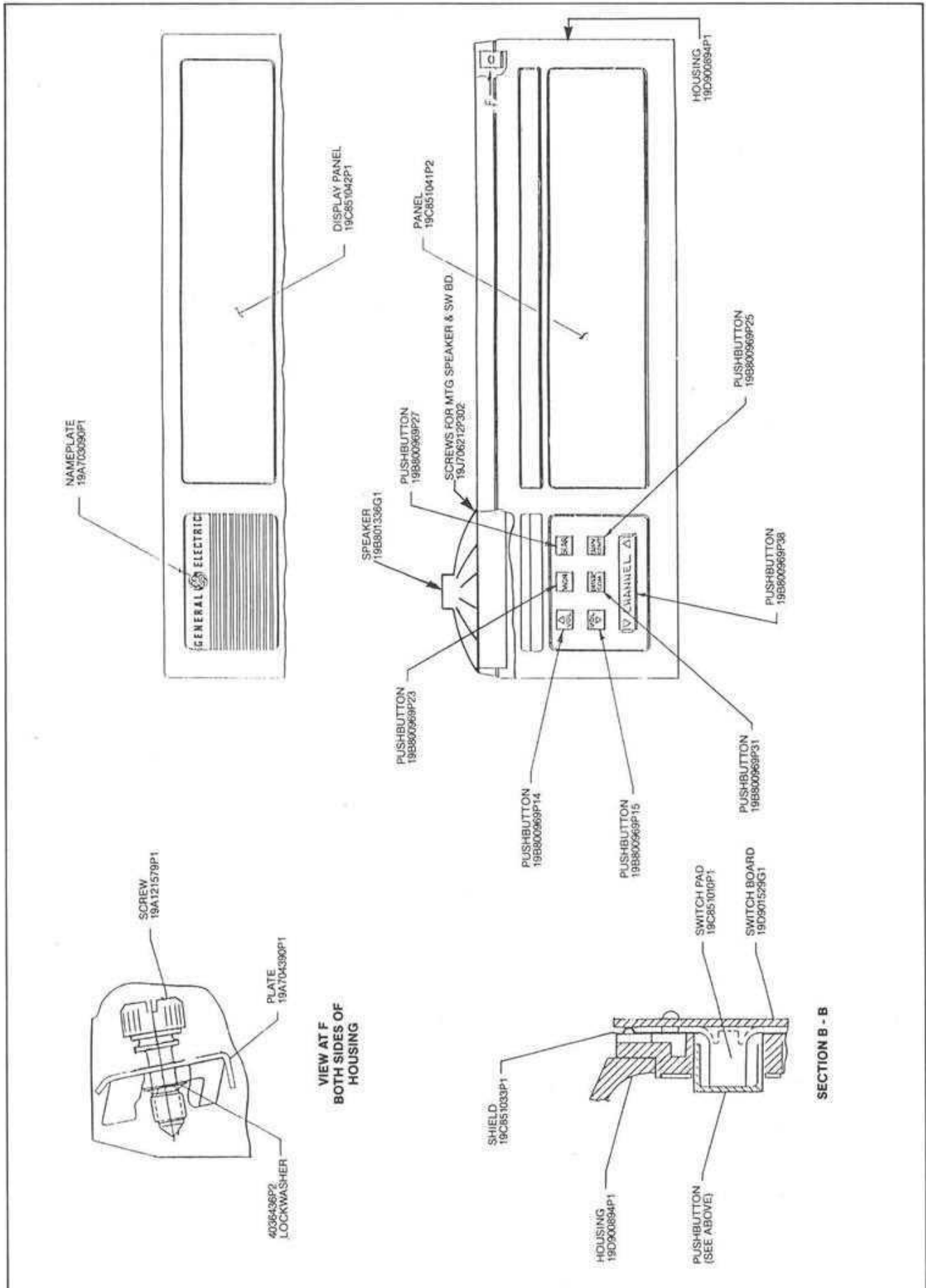
ITEM NO.	ORDERING NUMBER	DESCRIPTION
DTD	19D437506G1	Digital Tone Decoder.
EX	19D430903G2	Exciter. 820 MHz.
FN	19D432795G1	Low Pass Filter.
FS	19D437149G1	Frequency Synthesizer. (USA-1, TX 816-821 MHz, RX 861-866 MHz).
	19D437149G2	Frequency Synthesizer. (USA-2 and MEXICAN BORDER, TX 811-816 MHz, RX 856-861 MHz).
	19D437149G3	Frequency Synthesizer. (CANADIAN BORDER, TX 806-811 MHz, RX 851-856 MHz).
	19D437149G4	Frequency Synthesizer. (AUSTRALIAN, TX 820-825 MHz, RX 856-870 MHz).
IA1	19D430889G1	Amplifier.
IA2	19D430890G1	IF Amplifier.
PA	19D430905G2	Power Amplifier.
PC	19D430871G2	Power Control.
RC	19D430032G2	Amplifier/Mixer.
RX-AA	19D430978G2	Audio Amplifier.
RX-XO	19A137645G15	Oscillator. (USA-1, 72.351042 MHz).
	19A137645G19	Oscillator. (USA-2, 71.934375 MHz).
	19A137645G21	Oscillator. (MEXICAN BORDER, 71.933333 MHz).
	19A137654G23	Oscillator. (CANADIAN BORDER, 71.517708 MHz).
	19A137645G25	Oscillator. (AUSTRALIAN, 72.684375 MHz).
T-FN	19D437071G1	Tone Filter.
TX-AA	19D430977G2	Audio Amplifier.
TX-FX	19D437118G1	Buffer.
TX-XO	19A137645G16	Oscillator. (USA-1, 66.817708 MHz).
	19A137645G20	Oscillator. (USA-2, 66.401042 MHz).
	19A137645G22	Oscillator. (MEXICAN BORDER, 66.400000 MHz).
	19A137645G24	Oscillator. (CANADIAN BORDER, 65.984375 MHz).
	19A137645G26	Oscillator. (AUSTRALIAN, 67.151042 MHz).
VR/B	19D433701G1	Voltage Regulator.
VR-CT	19D433436G6	Voltage Regulator.
XD	19D430880G1	Limiter/Detector.

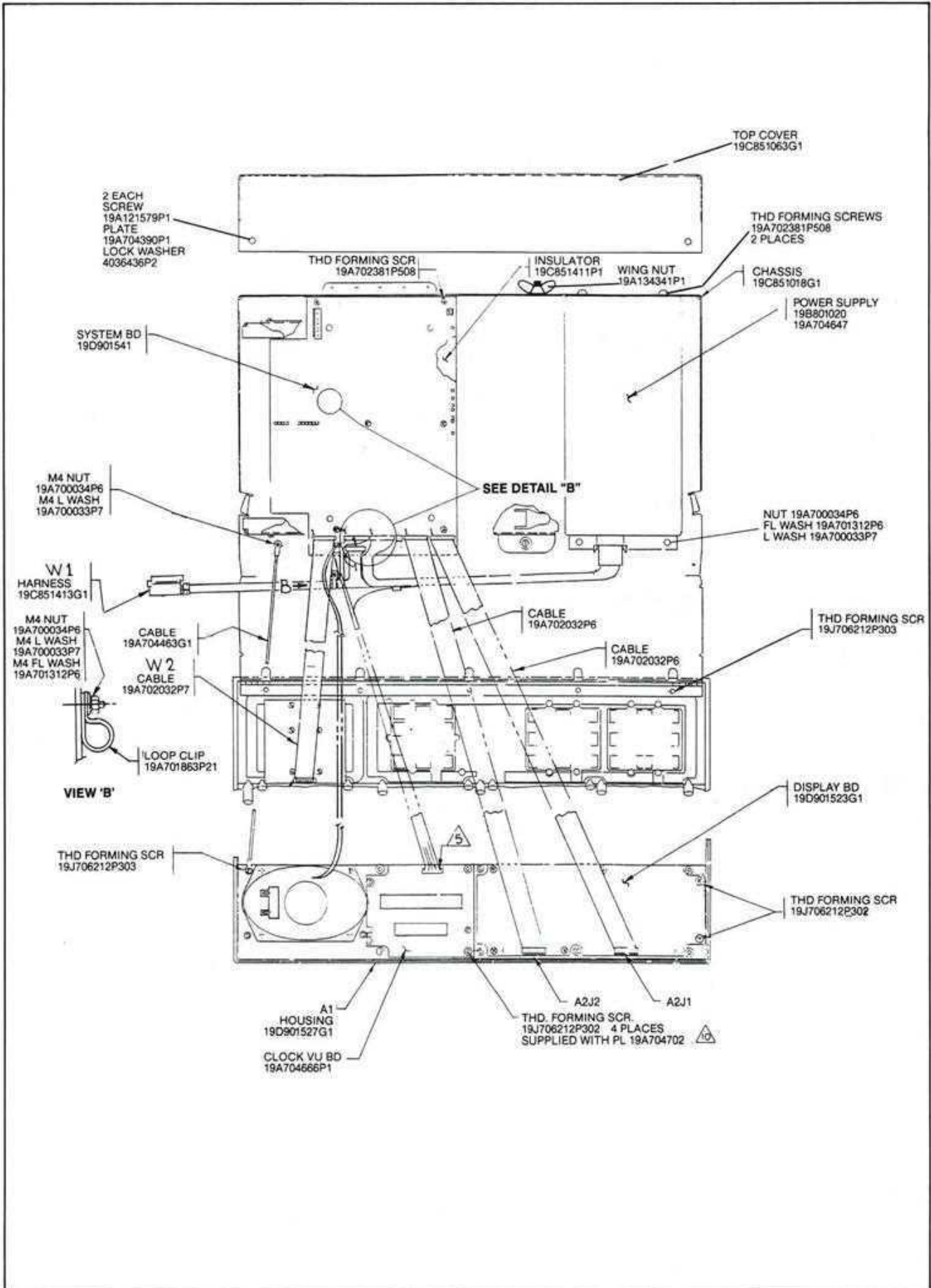


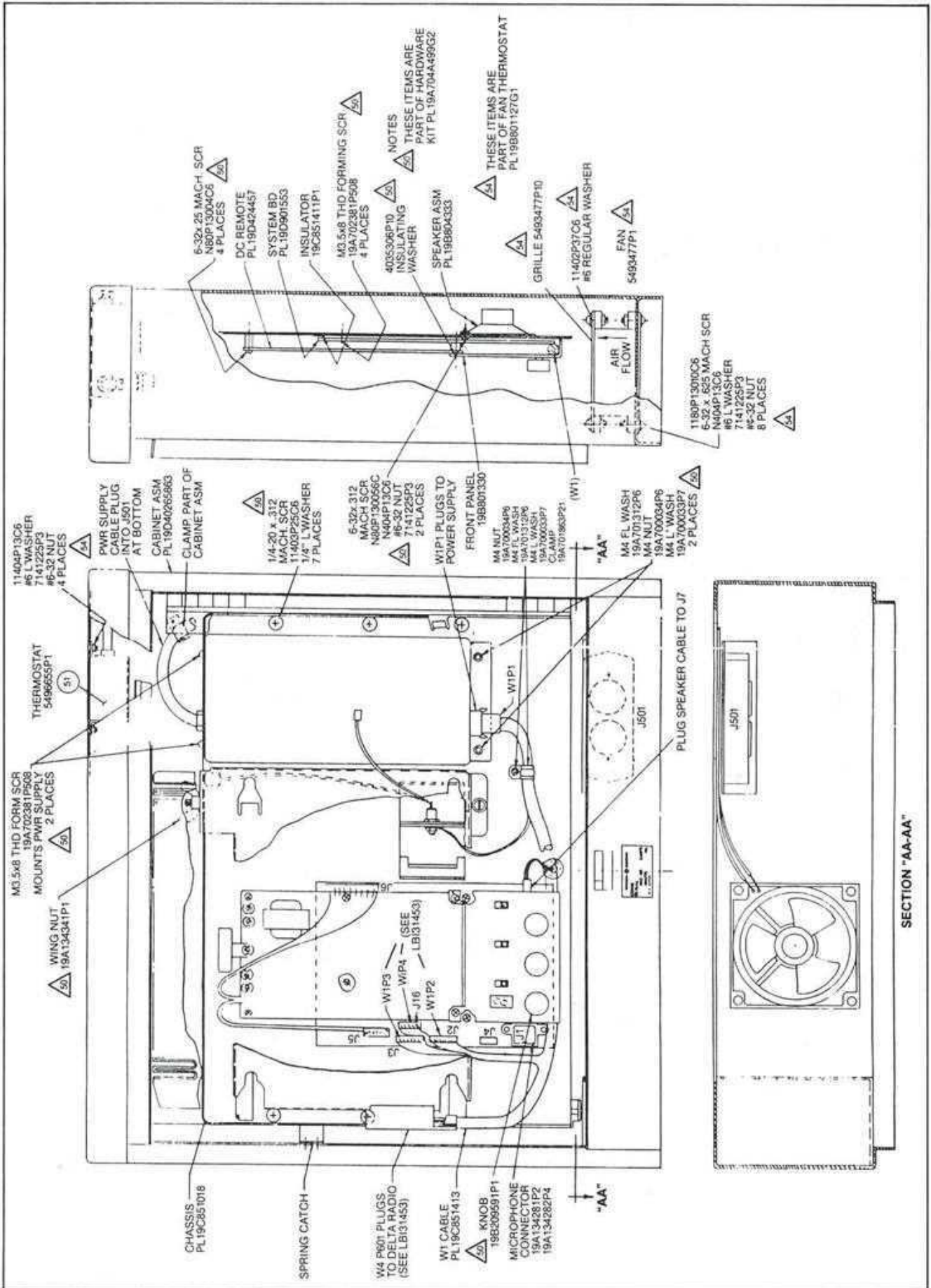
COMBINATION NOMENCLATURE

DIGITS 1 & 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGIT 6	DIGITS 7, 8, 9	DIGIT 10	DIGIT 11
Product Code	Transmit Freq. Range	Receive Frequency Range	Channel Spacing	Radio Type	RF Power Output	Frequency Capacity	Oscillator Stability
N3	B 29.7-36 MHz	B 29.7-36 MHz	1 30 kHz	N Narrow Band	035 35 Watts	T 16 Channels	A 2 PPM
	C 36-42 MHz	C 36-42 MHz	2 25 kHz	W Wide Band	040 40 Watts	Z 32 Channels	B 5 PPM
	D 42-50 MHz	D 42-50 MHz	3 20 KHz		050 50 Watts		
	G 136-153 MHz	G 136-153 MHz			060 60 Watts		
	H 150.8-174 MHz	H 150.8-174 MHz			065 65 Watts		
	R 403-430 MHz	R 403-430 MHz			075 75 Watts		
	U 450-470 MHz	U 450-470 MHz			080 80 Watts		
	V 470-494 MHz	V 470-494 MHz			090 90 Watts		
	W 494-512 MHz	W 494-512 MHz			100 100 Watts		
					110 110 Watts		



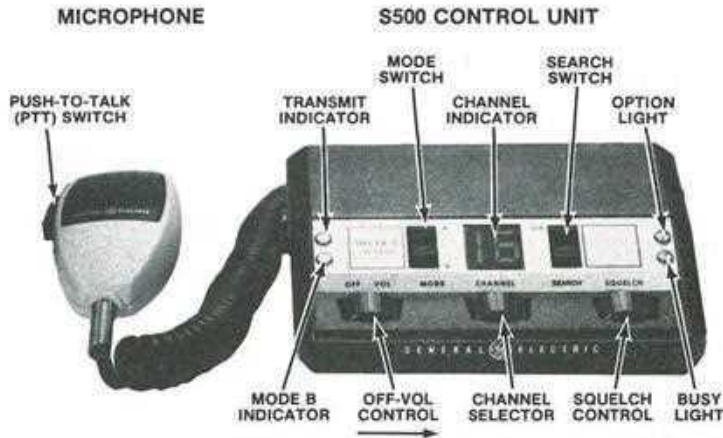






ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
		DELTA DESK TOP STATION 19D901569G1			ASSOCIATED ITEMS
A1		A1-19D901527G1 (HOUSING)		19C851063G1	Top cover.
A2		A2-19D901523G1 (DISPLAY MODULE)		2R22P2	Plug, coaxial: right angle, sim to Amphenol 83-1AP.
A4		A4-19D901541G1 (SYSTEM BOARD)		19B800716P2	Tuning tool.
		DELTA DESK TOP STATION (HOUSING) 19D901527G1		19B800004P3	Key.
		(See Separate Parts List).		19B801331G1	Battery, 9 volt, Memory Back-Up.
		(See Separate Parts List).		19C851412G1	Delta Station Decode Cable (W-7).
		----- SPEAKERS -----		19C851412G2	Delta Station Encode Cable (W-8).
B1	19B801336G1	Speaker Assembly.		19A702609P1	Nameplate.
B1	19C307094P3	Permanent magnet: 8 ohms ±15% voice coil imp, 3 x 5 inch speaker; sim to Pioneer Sample 5A7106		19A702184P1	Nameplate.
		Connector, Includes:		19B801213P1	Heat sink. (Used with Option BU02).
P1		Shell.			TELEPHONE LINE SURGE PROTECTOR KIT 19A129368G2
	19A700041P28	Contact: sim to Molex 08-50-0113.	E1 and E2	19A134356P1	Protector, telephone, gas filled; sim to Joslyn 2022-24.
	19A700041P26				STANDBY BATTERY CABLE 19B80121G1
		----- SWITCHES -----			----- FUSES -----
S1		Switch, Includes:	F1	7102673P2	Cartridge, quick blow: 15 amps at 32 v; sim to Littelfuse 311015 or Bussmann AGC-15.
	19C851033P1	Shield.	F1	19A115857P2	Cartridge, quick blow, 30 amp at 125 v; sim to Bussmann AGC-30.
	19C851010P1	Pad.			----- PLUGS -----
	19D901529G1	Board.	P1		Connector, Includes:
		----- SYSTEM CABLE -----		19A134281P1	Shell.
W1	19C851413G1	Cable.		19A134282P2	Contact. (Quantity 2).
P1		Connector, Includes:			----- FUSE HOLDER -----
	19A134281P3	Plug.	XF1		Fuse Holder. Consists of:
	19A134282P4	Contact. (Quantity 2).		19A703780P4	Fuseholder spring.
	19A134282P5	Contact. (Quantity 4).		19A703780P3	Fuseholder contacts.
P2 thru P4		Connector, Includes:		19A703780P2	Fuseholder.
	19A700041P26	Contact: sim to Molex 08-50-0113. (Quantity 23).		19A703780P1	Fuseholder knob.
P601	19A700041P36	Shell. (Quantity 2).			DELTA DESK TOP STATION BATTERY POWERED STANDBY UNIT 19D901490G1
	19D900037P1	Connector, Includes:			----- FUSES -----
	19A701376P1	Shell. (Quantity 1).	F1	19A704351P1	Circuit Breaker.
	19A701376P1	Contact, electrical rated @ 4 amps; sim to AMP 350657-1. (Quantity 24).			----- JACKS -----
	19A701376P3	Contact, electrical rated @ 35 amps; sim to AMP 350655-1. (Quantity 2).	J1		Connector, Includes:
W2	19A703032P7	Cable.		19A134281P2	Shell. (Quantity 1).
W3 and W4	19A702032P6	Cable.	J2	19A134282P4	Contact. (Quantity 2).
		----- MISCELLANEOUS -----		19A134281P4	Connector, Includes:
	19C851018G1	Chassis.		19A134282P2	Plug. (Quantity 1).
	19C851411P1	Insulator. (Used with A4).		19A134282P2	Contact. (Quantity 8).
	19J706212P302	Screw, thd. forming: POZIDRIV®: No. 6. (Secures A2).			----- MISCELLANEOUS -----
	19J706212P303	Screw, thd. forming: POZIDRIV®: No. 6. (Quantity 5).		19C851389G1	Support.
	19A702381P508	Screw, thd. form: No. 3.5-0.6 x 8. (Secures A4).		19B209268P6	Terminal, solderless.
	19A704463G1	Cable. (Chassis Ground).			(OPTION BU02) STANDBY STATION BATTERY 19C851129G1
	19A701863P21	Clip, loop, (Secures W1).			----- DIODES -----
	19D900894P1	Housing.	D1	19A115791P1	Rectifier, stud mounted: silicon; sim to N1186.
	19C851041P2	Switch panel.			----- PLUGS -----
	19C851042P1	Panel.	P2		Connector, Includes:
	19B800969G14	Pushbutton. (VOL UP)		19A700041P26	Contact: sim to Molex 08-50-0113.
	19B800969G15	Pushbutton. (VOL DOWN)		19A700041P28	Shell.
	19B800969G23	Pushbutton. (MON)			----- CABLES -----
	19B800969G25	Pushbutton. (SUPV CONT)	W1	19B801210G1	Cable Assembly.
	19A121759P1	Thumbscrew.	W2	19B801211G1	Cable Assembly.
	4036436P2	Lockwasher, sim to Fastex 8063-21-00.			----- MISCELLANEOUS -----
	19A700140P4	Spring.		19A703493P1	Heat sink.
	19A703090P1	Nameplate (GENERAL ELECTRIC)		19A115276P2	Insulator, washer. (Secures D1).
	19J706212P302	Screw, thd. forming: POZIDRIV®: No. 6.		19A115275P2	Insulator, disk. (Secures D1).
	19B800969G27	Pushbutton. (SCAN)		N403P25C6	Lockwasher, external tooth: ¼ inch. (Secures D1).
	19B800969G31	Pushbutton. (INTER COM)		N210P20C6	Hex nut: No. ¼-28. (Secures D1).
	19B800969G38	Pushbutton. (CHANNEL)			
	19A704390P1	Plate.			

FOR DELTA S/SX APPLICATIONS



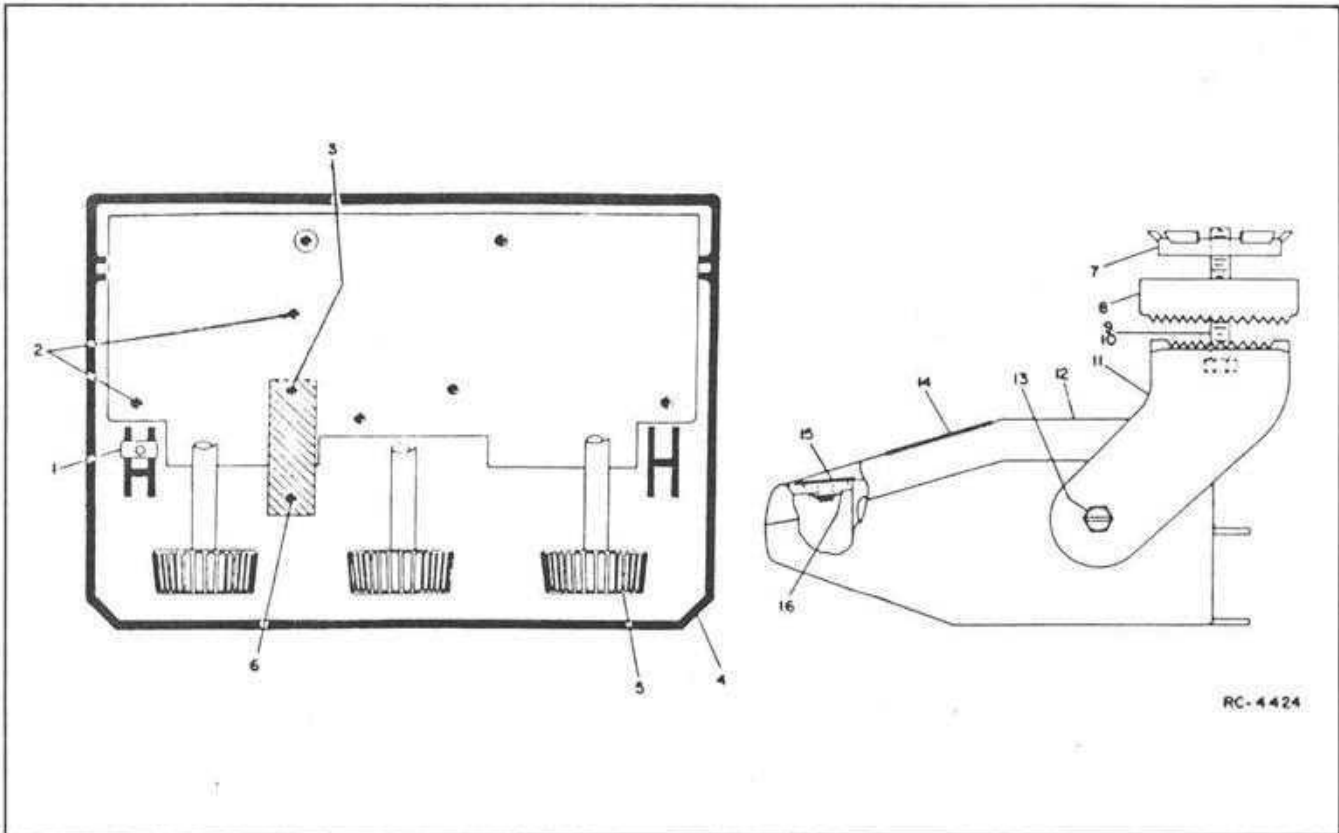
COMBINATION NOMENCLATURE

DIGITS 1 & 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGIT 6
Product Code	Frequency Capacity	Mode Selection	Control Unit Application	Configuration
S5	A 1-Frequency	O Standard (None)	B Delta-S	O STANDARD
	K 1-8 Frequencies	1 Mode A/B		P PSLM
	T 1-16 Frequencies			

CHARACTERISTICS	ORDER NO
Single Frequency (No Options)	19D423590G11
Single Frequency (Option Compatible)	19D423590G12
1-8 Frequency (Option Compatible)	19D423590G13
1-16 Frequency (Option Compatible)	19D423590G14
1-8 Frequency w/2 Freq. Scan	19D423590G16
1-16 Frequency w/2 Freq. Scan	19D423590G17

ASSOCIATED MICROPHONES

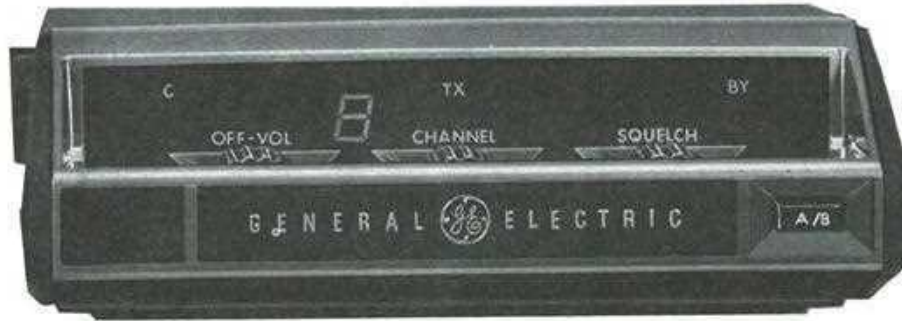
Standard Delta	19D900141G3
MASTR II Style	19C320270G1
MASTR II Noise Cancelling	19C320477G1
Handset	19C320478G1



RC-4424

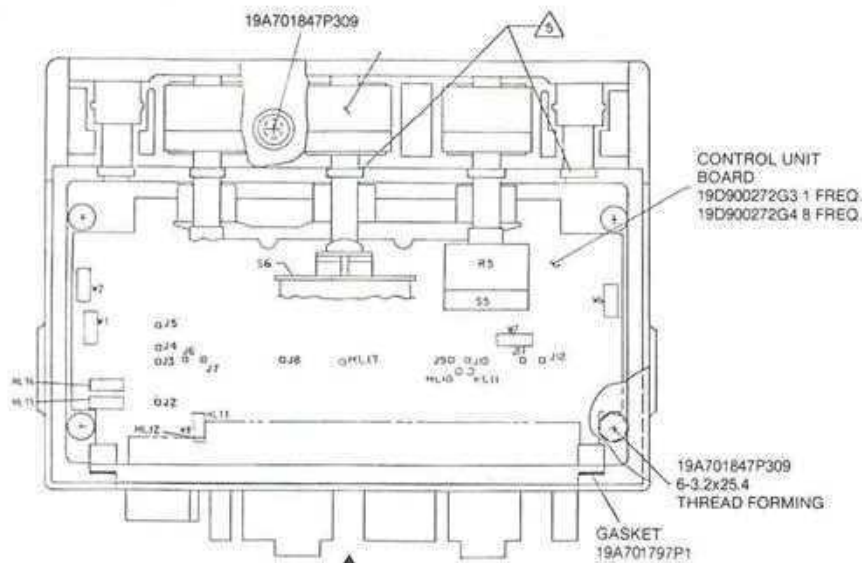
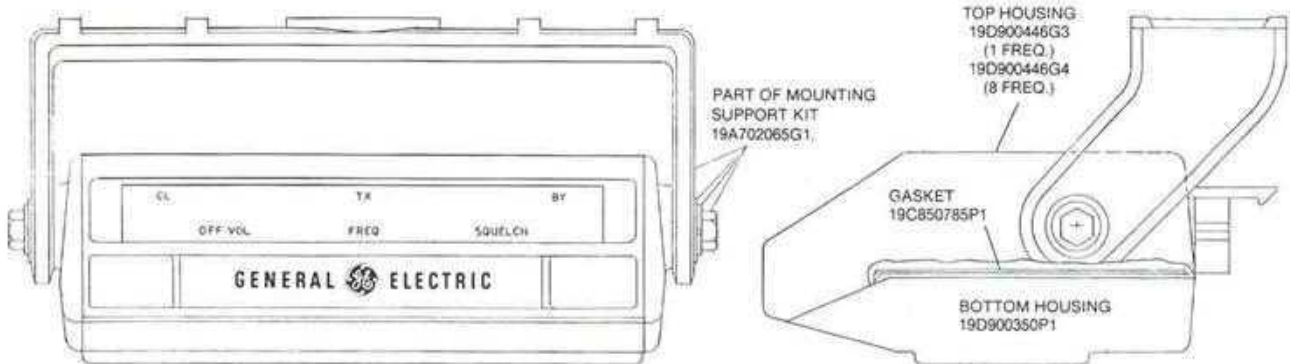
ITEM NO.	ORDERING NUMBER	DESCRIPTION
MECHANICAL PARTS (SEE RC4424)		
1	19A116807P1	Clip, spring tension.
2	19A116773P106	Tap screw, POZIDRIV®; 7-19 x 3/8.
3	19B201074P204	Tap screw, phillips POZIDRIV®; No. 4-40 x 1/4.
4	19C320389G5	Housing.
5	19B219825G1	Knob.
6	N117P9004C6	Tap screw, phillips; No. 4-40 x 1/4.
7	19B219578G1	Safety Release Disc.
8	19C320022P1	Retaining bracket.
9	N187P16010C6	Machine screw; No. 10-32 x 5/8. (Quantity 1 - Used with safety release disc and retaining bracket).
10	N130P1612C6	Screw, hexhead, slotted; No. 10-16 x 3/4. (Quantity 3 - Used without safety release disc and retaining bracket).
	N130P1624C6	Screw, thread forming; No. 10-16 x 1-1/2. (Quantity 3 - Used without safety release disc and retaining bracket for extra thick carpet).
11	19D416594P1	Mounting bracket.
12	19C331834G3	Cover.
13	N187P16010C6	Machine screw; No. 10-32 x 5/8.
14	19D437260P1	Nameplate. (CHANNEL-SQUELCH).
	19D437260P2	Nameplate. (MODE-CHANNEL-SQUELCH).
	19D437260P3	Nameplate. (CHANNEL-SPEAKER-SQUELCH).
	19D437260P4	Nameplate. (CHANNEL-PA-SQUELCH).
	19D437260P5	Nameplate. (CHANNEL-CONTROL-SQUELCH).

ITEM NO.	ORDERING NUMBER	DESCRIPTION
MECHANICAL PARTS (SEE RC4424)		
	19D437260P6	Nameplate. (CHANNEL-OPTION-SQUELCH).
	19D437260P7	Nameplate. (CHANNEL-TONE-SQUELCH).
	19D437260P8	Nameplate. (MODE-CHANNEL-SPEAKER-SQUELCH).
	19D437260P9	Nameplate. (MODE-CHANNEL-PA-SQUELCH).
	19D437260P10	Nameplate. (MODE-CHANNEL-OPTION-SQUELCH).
	19D437260P11	Nameplate. (MODE-CHANNEL-TONE-SQUELCH).
	19D437260P12	Nameplate. (MODE-CHANNEL-CONTROL-SQUELCH).
	19D437260P13	Nameplate. (CHANNEL-SEARCH-SQUELCH).
	19D437260P14	Nameplate. (MODE-CHANNEL-SEARCH-SQUELCH).
	19D437260P15	Nameplate. (CHANNEL-MONITOR-SQUELCH).
	19D437260P16	Nameplate. (MODE-CHANNEL-MONITOR-SQUELCH).
	19D437260P17	Nameplate. (CHANNEL-RESET-SQUELCH).
	19D437260P18	Nameplate. (MODE-CHANNEL-RESET-SQUELCH).
15	19B219626P2	Knob plug.
16	7140578P6	Nut, push on; sim to Tinnerman C318-012-67. (Used with item 15).



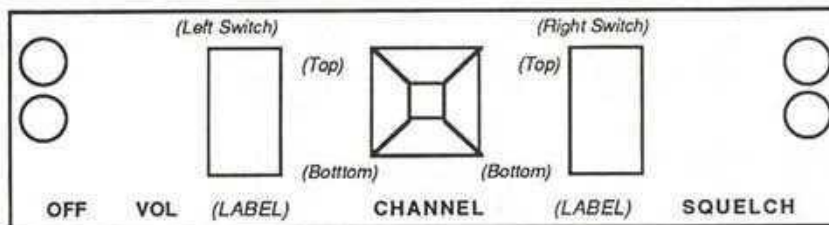
COMBINATION NOMENCLATURE

DIGITS 1 & 2	DIGITS 3 & 4	DIGIT 5	DIGIT 6	DIGIT 7	DIGITS 8 - 15
Product Code	Number of Frequencies	Mounting	Frequency Capacity	Control Unit Application	Configuration
C4	01 1 Frequency	O Standard	A 1 Frequency	B Delta S	O STANDARD
	08 8 Frequencies		K 18 Frequencies		



**VIEW "A"
VIEW FROM BOTTOM WITH BOTTOM HOUSING REMOVED**

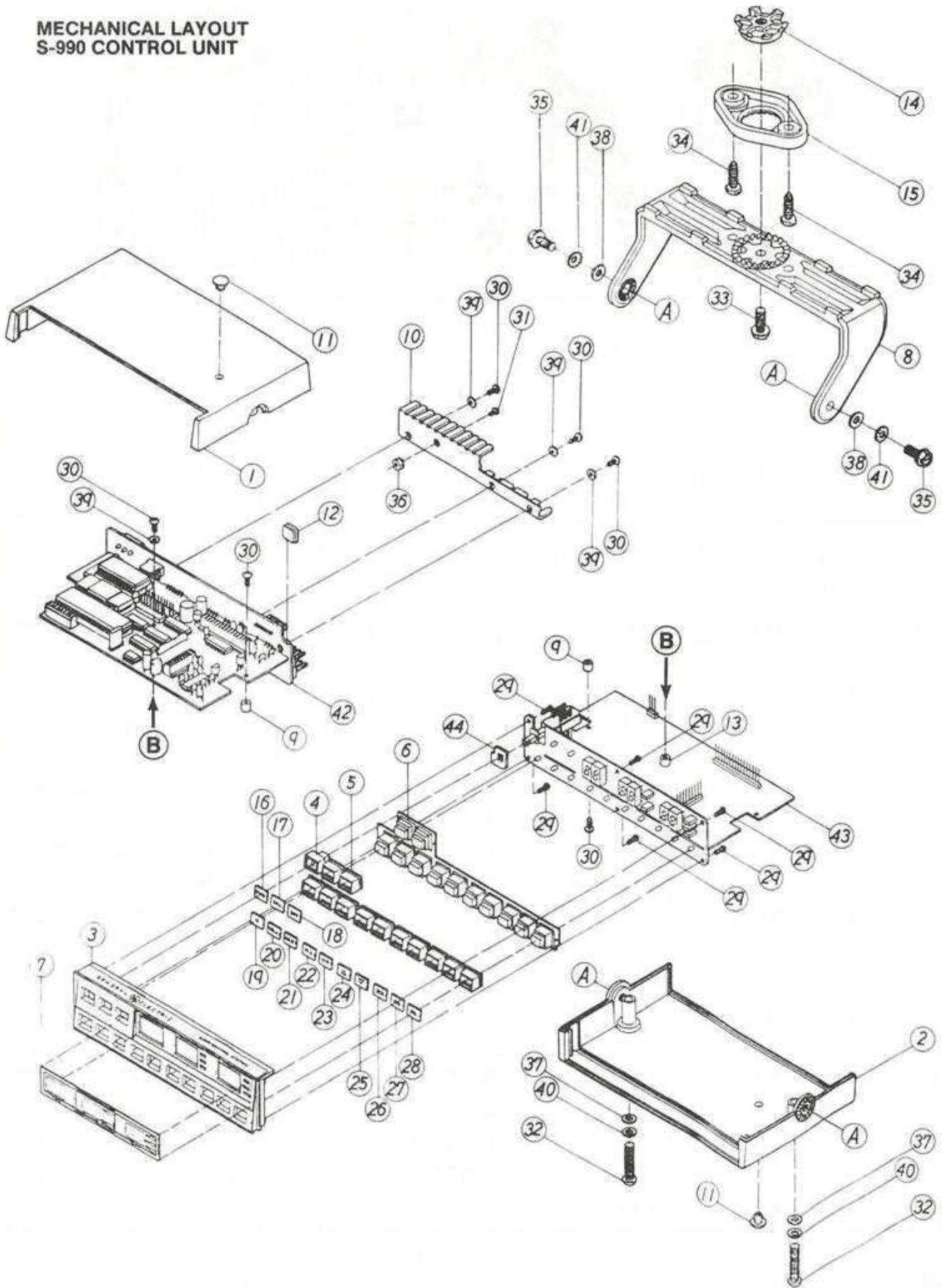
ORDER NO.	DESCRIPTION	ORDER NO.	DESCRIPTION
	TOP HOUSING 19D900446G3 SINGLE FREQUENCY 19C900446G4 MULTI FREQUENCY		MOUNTING SUPPORT KIT 19A702065G1
19B800768P1	Nameplate. (GENERAL ELECTRIC).	19D900344P1	Control unit mounting support.
19B800767P1	Nameplate. (DISPLAY — SINGLE FREQ.).	19A701631P516	Machine screw, hex: No. 10-32 x 5/16. (Secures control unit to mounting support).
19B800767P2	Nameplate. (DISPLAY — MULTI FREQ.).	19A700033P10	Lockwasher, external tooth: No. 10. (Secures control unit to mounting support).
19D900334P1	Insert. (Located over display nameplate).	19A701312P7	Lockwasher: No. 10 (Secures control unit to mounting support).
18B800703P1	Button. (Located on each side of GENERAL ELECTRIC nameplate).		BREAKAWAY MOUNTING KIT 19A129361G1
19A701502P3	Bumper, plastic. (Plugs CL and BY displays).	19C320022P1	Retaining bracket. (With locking jaws).
19B800704P1	Plug button. (Used in single freq. when S4 is not used).	19B219578G1	Safety Release Disc. (Mates with mounting surface).
19A701799P1	Plate. (Used in single freq. when S4 is not used).	N187P16010C6	Machine screw: No. 10-32 x 1/8. (Quantity 1 — Used with safety release disc with retaining bracket).
19J706212P202	Screw, thd. forming: No. 4 x 6.35MM. (Secures 19A701799P1 plate).	N130P16012C6	Tap screw, thd. forming: No. 10-16 x 1/8. (Quantity 3 — Used without safety release disc & retaining bracket).
	HOUSING HARDWARE KIT 19A701796G1	N130P16024C6	Tap screw, td. forming: No. 10-16 x 1-1/8. (Quantity 3 — Used without safety release disc & retaining bracket — for extra thick carpet).
19A701847P309	Screw, thd. forming: no. 6.32 x 25.4MM. (Secures top housing to bottom housing).	N402AP9C6	Flatwasher: No. 10. (Used with 10-16 thread forming screws).
19A700031P410	Machine screw: No. M3-0.5 x 10. (Secures J1 to rear of housing).		



All Parts from both drawings are shown, but not all may be available. Check your current Price List for listings. The Function Markings are identical, and Nameplates with same part number suffixes are functionally the same.

OPTION SWITCH LABELING						CONTROL UNIT APPLICATION	
LEFT SWITCH MARKING			RIGHT SWITCH MARKING			DELTA-S SYNTHESIZED	S-500 CONTROL SYSTEM
TOP	BOTTOM	LABEL	TOP	BOTTOM	LABEL	ORDER PART NO.	ORDER PART NO.
.	.	.	.	.	.	19D437260P1	19D438248P1
A	B	MODE	.	.	.	19D437260P2	19D437248P2
.	.	.	INT	EXT	SPEAKER	19D437260P3	19D438248P3
.	.	.	ON	.	PA	19D437260P4	19D438248P4
.	.	.	ON	.	CONTROL	19D437260P5	19D438248P5
.	.	.	ON	.	OPTION	19D437260P6	19D438248P6
.	.	.	ON	.	tone	19D437260P7	19D438248P7
A	B	MODE	INT	EXT	SPEAKER	19D437260P8	19D438248P8
A	B	MODE	ON	.	PA	19D437260P9	19D438248P9
A	B	MODE	ON	.	OPTION	19D437260P10	19D438248P10
A	B	MODE	ON	.	tone	19D437260P11	19D438248P11
A	B	MODE	ON	.	CONTROL	19D437260P12	19D438248P12
.	.	.	ON	.	SEARCH	19D437260P13	19D438248P13
A	B	MODE	ON	.	SEARCH	19D437260P14	19D438248P14
.	.	.	ON	.	MONITOR	19D437260P15	19D438248P15
A	B	MODE	ON	.	MONITOR	19D437260P16	19D438248P16
.	.	.	ON	.	RESET	19D437260P17	19D438248P17
A	B	MODE	ON	.	RESET	19D437260P18	19D438248P18

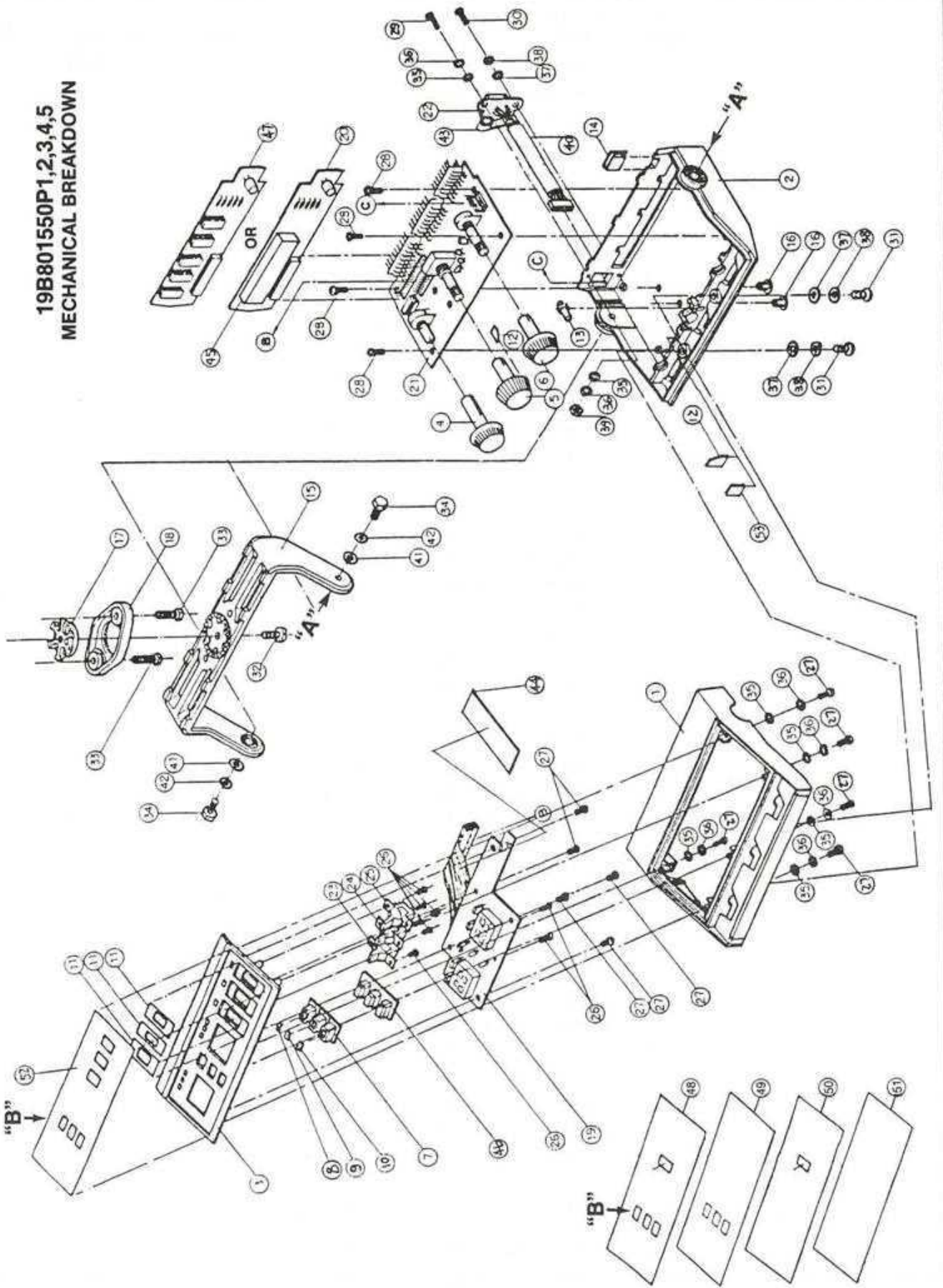
**MECHANICAL LAYOUT
S-990 CONTROL UNIT**



MECHANICAL PARTS LISTING

SYMBOL NUMBER	PARTS ORDERING NUMBER	DESCRIPTION
1	T19/ME-0S990-023	UPPER CASE
2	T19/ME-0S990-024	LOWER CASE
3	T19/ME-0S990-025	FRONT CASE
4	T19/ME-0S990-026	KEY TOP (PWR)
5	T19/ME-0S990-027	KEY TOP (12 Others)
6	T19/MD-0S990-006	RUBBER KEY
7	T19/ME-0S990-007	NAME PLATE
8	T19/ME-0S990-009	MOUNTING BRACKET
9	T19/ML-0S990-018	SUPPORTER (NYLON)
10	T19/MP-0S990-020	HEAT SINK
11	T19/ME-0S990-021	CAP (NYLON)
12	T19/MD-0S990-022	BACK BOARD COVER
13	T19/ML-0S990-031	SUPPORTER 2 (BRASS)
14	19B219578G1	BREAKAWAY DEVICE
15	19C320022P1	RETAINER MOUNTING
16	T19/MS-0S990-101	KEY PLATE (PWR)
17	T19/MS-0S990-102	KEY PLATE (SQ UP)
18	T19/MS-0S990-103	KEY PLATE (SQ DN)
19	T19/MS-0S990-104	KEY PLATE (*)
20	T19/MS-0S990-105	KEY PLATE (VOL UP)
21	T19/MS-0S990-106	KEY PLATE (VOL DN)
22	T19/MS-0S990-107	KEY PLATE (M. UP)
23	T19/MS-0S990-108	KEY PLATE (M. DN)
24	T19/MS-0S990-109	KEY PLATE (UP)
25	T19/MS-0S990-110	KEY PLATE (DN)
26	T19/MS-0S990-111	KEY PLATE (SCN)
27	T19/MS-0S990-112	KEY PLATE (ADD)
28	T19/MS-0S990-113	KEY PLATE (DEL)
29	T19/77PA-020-006	SCREW 2x6 Pan Head Tapping
30	T19/77PA-130-006	SCREW M3x6LB Pan Head Machine
31	T19/77PA-1N4-006	SCREW #4-40UNCx6Lg Pan Head Machine
32	T19/77PA-140-025	SCREW M4x25Lg Pan Head Machine
33	T19/81HF-3N8-016	BOLT #10-32UNFx16Lg, Slotted Hex Head
34	T19/77HF-048-020	BOLT 4.8x20Lg Slotted Hex Head
34	T19/77HF-048-040	BOLT 4.8x40Lg Slotted Hex Head
35	T19/77HF-150-012	BOLT M5x12Lg Slotted Hex Head
36	T19/83HX-1N4-040	NUT #4-40 w/Washer
37	T19/79FL-040-100	4mm Flat Washer
38	T19/79FL-050-120	5mm Flat Washer
39	T19/79ET-030-065	3mm Ext Tooth Washer
40	T19/79IT-040-090	4mm Int Tooth Washer
41	T19/79ET-050-100	5mm Ext Tooth Washer
42	T19/MA-B3108318	CPU/Backboard Assembly
43	T19/MA-B3138321	IO/DC Board Assembly
44	T19/MD-0S990-028	Dust Seal (PWR)
CR105- CR110	T19/2775012000	SEVEN-SEGEMENT DIGITAL LED

**19B801550P1,2,3,4,5
MECHANICAL BREAKDOWN**



MECHANICAL PARTS LISTING

198801550 APPLICATION					198801550 APPLICATION				
SYMBOL		PT		PT		PT		PT	
NUMBER	1	2	3	4	5	NUMBER	1	2	3
1	X	X	X	X	X	29	X	X	X
2	X	X	X	X	X	30	X	X	X
3	X	X	X	X	X	31	X	X	X
4	X	X	X	X	X	32	X	X	X
5	X	X	X	X	X	33	X	X	X
6	X	X	X	X	X	34	X	X	X
7	X	X	X	X	X	35	X	X	X
8	X	X	X	X	X	36	X	X	X
9	X	X	X	X	X	37	X	X	X
10	X	X	X	X	X	38	X	X	X
11	X	X	X	X	X	39	X	X	X
12	X	X	X	X	X	40	X	X	X
13	X	X	X	X	X	41	X	X	X
14	X	X	X	X	X	42	X	X	X
15	X	X	X	X	X	43	X	X	X
16	X	X	X	X	X	44	X	X	X
17	X	X	X	X	X	45	X	X	X
18	X	X	X	X	X	46	X	X	X
19	X	X	X	X	X	47	X	X	X
20	X	X	X	X	X	48	X	X	X
21	X	X	X	X	X	49	X	X	X
22	X	X	X	X	X	50	X	X	X
23	X	X	X	X	X	51	X	X	X
24	X	X	X	X	X	52	X	X	X
25	X	X	X	X	X	53	X	X	X
26	X	X	X	X	X				
27	X	X	X	X	X				
28	X	X	X	X	X				

PARTS		PARTS	
ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
T19/ME-0S550-001	FRONT HOUSING	T19/77-S3020-POM	M3x20 MACHINE SCREW
T19/ME-0S550-002	REAR HOUSING	T19/77-S4010-POM	4x10 SELF TAPPING SCREW
T19/ME-0S550-003	CONTROL PANEL	T19/77-0S550-032	PTB 4x10 MC SCREW
T19/ME-0S550-004	VOLUME KNOB	T19/81-SA010-H1Z	10-32 UNF x 5/8" LONG
T19/ME-0S550-005	CHANNEL KNOB	T19/77-S4820-H1M	4.8x20 SELF TAPPING SCREW
T19/ME-0S550-006	SQUELCH KNOB	T19/75-S5012-C1B	M5x12 MACHINE SCREW
T19/ME-0S550-007	KEY TOP	T19/79-S3070-F5M	M3 FLAT WASHER
T19/MS-0S550-301	KEY PLATE (SCN)	T19/79-S3060-S7Z	M3 SPRING WASHER
T19/MS-0S550-302	KEY PLATE (ADD)	T19/79-S4080-F8M	M4 FLAT WASHER
T19/MS-0S550-303	KEY PLATE (DEL)	T19/79-S4080-S0Z	M4 SPRING WASHER
T19/MP-0S550-011	MASK	T19/78-S3000-HXM	M3 NUT
T19/MP-0S550-012	KNOB PLATE	T19/72-00711-01P	TUBE
T19/ML-0S550-013	STOPPER	T19/79-S5010-EBM	M5 FLAT WASHER
T19/MR-0S550-019	DUSTCOVER	T19/79-S5010-EBM	M5 EXTERNAL TOOTH WASHER
T19/ME-0S990-009	MOUNTING BRACKET	T19/86-0ALC1-59N	MOUNTING TIE
T19/ME-0S990-021	CAP	T19/74-0S550-031	TAPE
T19/ME-0S990-032	BREAKAWAY DEVICE	T19/MP-0S550-022	SHIELD CAN
T19/ME-0S990-033	RETAINER MOUNTING	T19/MR-0S550-008	RUBBER KEY
T19/69-0S550-003	DISPLAY BOARD	T19/69-0S550-004	NON-SCAN BOARD
T19/69-0S550-002	SCAN BOARD	T19/MS-0S550-101	NAMEPLATE
T19/69-0S550-001	SYSTEMS BOARD	T19/MS-0S550-102	NAMEPLATE
T19/51-006S0-500	MICROPHONE JACK	T19/MS-0S550-103	NAMEPLATE
T19/55-1011K-08M	ON-OFF SWITCH	T19/MS-0S550-104	NAMEPLATE
T19/55-1021K-08M	ON-OFF-ON SWITCH	T19/MS-0S550-105	NAMEPLATE
T19/55-7108K-J2Z	ON-MOMENTARY SWITCH	T19/MP-0S550-027	KNOB PLATE FASTENER
T19/77-S2006-P0Z	2x6 SELF TAPPING SCREW		
T19/77-S3008-P0M	3x8 SELF TAPPING SCREW		
T19/77-S3006-P0M	3x6 SELF TAPPING SCREW		

**DELTA S/SX MOBILE POWER/CONTROL CABLES
OLD STYLE TO NEW STYLE CROSS-REFERENCE CHART**

CONTROL UNIT APPLICATION	(ORIGINAL STYLE) OLD CABLE	(REVISED STYLE) NEW CABLE	FOR LONG GROUND, ADD 19A136690G1 KIT	
S600	19D900436G1	19D901740G3		
	19D900436G2	19D901740G3	X	
	19D900436G3	19D901740G1		
	19D900436G4	19D901740G1	X	
	19D900436G5	19D901740G2		
	19D900436G6	19D901740G2	X	
	19D900436G7	19D901740G3		
	19D900436G8	19D901740G3	X	
	19D900436G9	19D901740G1		
	19D900436G10	19D901740G2	X	
	19D900436G11	19D901740G2		
	19D900436G12	19D901740G2	X	
S500, S550	19D900447G1	19D901739G5		
	19D900447G2	19D901739G5	X	
	19D900447G3	19D901739G1		
	19D900447G4	19D901739G1	X	
	19D900447G5	19D901739G2		
	19D900447G6	19D901739G2	X	
	19D900447G10	19D901739G5		
	19D900447G11	19D901739G5	X	
	19D900447G12	19D901739G1		
	19D900447G13	19D901739G1	X	
	19D900447G14	19D901739G2		
	19D900447G15	19D901739G2	X	
	S950, S990	19D900447G16	19D901739G5	
		19D900447G17	19D901739G5	X
		19D900447G18	19D901739G1	
19D900447G19		19D901739G1	X	
19D900447G20		19D901739G2		
19D900447G21		19D901739G2	X	

Long A- (Ground Lead) Kit 19A136690G1 CONTAINS 33 FT of BLACK POWER CABLE to carry RADIO NEGATIVE to the Vehicle BATTERY

(DISCONTINUED CABLES)

19D900447G3	*19D901739G3
19D900447G5	*19D901739G4
19D900447G1	*19D901739G6

* Cables Eliminated did not have Reset/ Restore leads included.

GENERAL APPLICATION DATA FOR MASTR DELTA, DELTA-S AND DELTA -SX MOBILE UNITS
ALSO APPLIES TO RANGR MOBILES WITH S500, S600, S990 series Control Units

	FOR CONTROL UNITS-	S950, S990, S550 USE CABLE	S600 (C4, ETC.) USE CABLE
CABLE	18 FT Cables (Standard)	19D901739G1	19D901740G1
TYPE	30 FT Cables (Extra Long)	19D901739G2	19D901740G2
	10 FT Cables (Short, Bench)	19D901739G5	19D901740G3

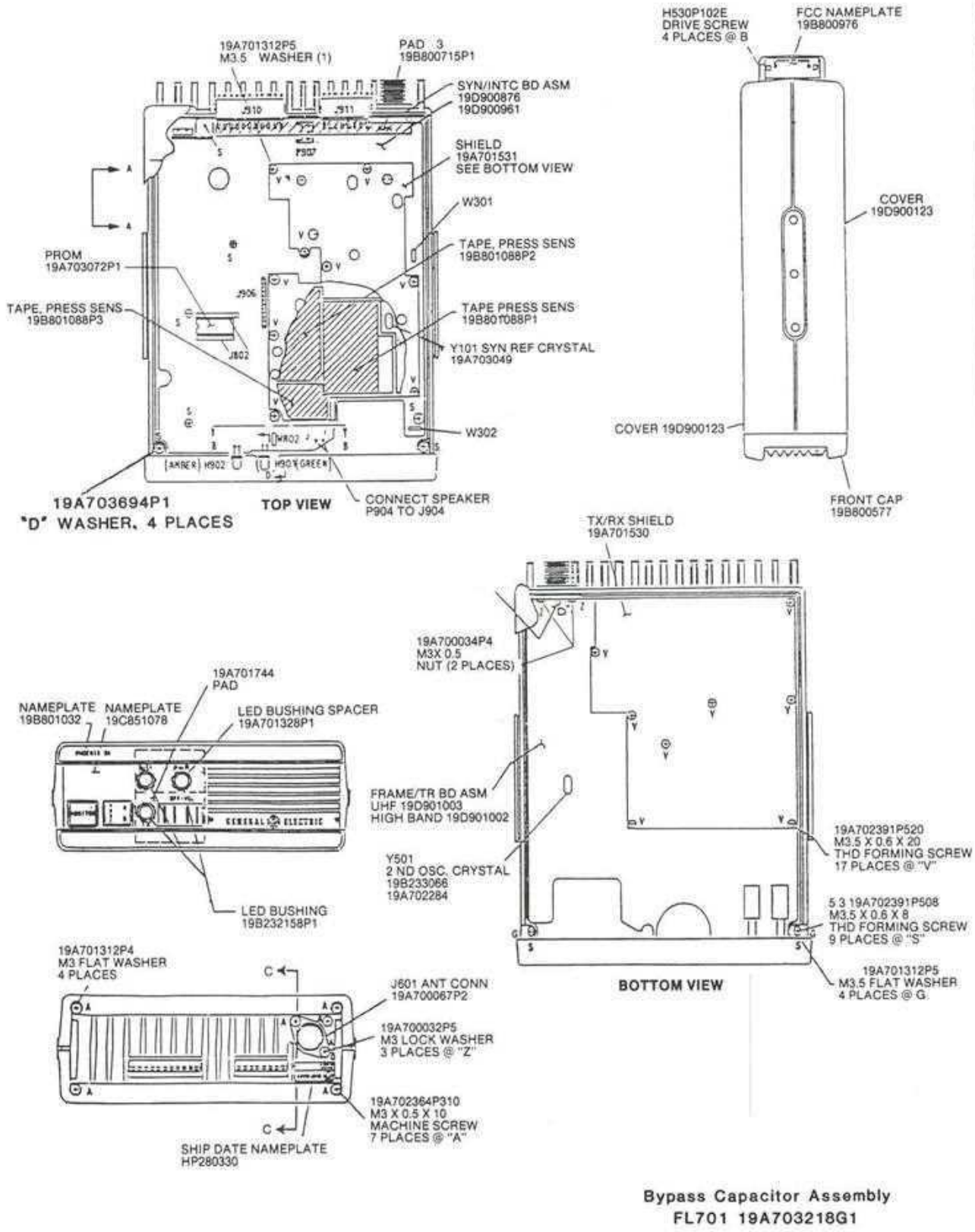


COMBINATION NOMENCLATURE

DIGITS 1 & 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGIT 6	DIGITS 7 & 8	DIGIT 9	DIGIT 10
Product Code	Transmit Frequency Range	Receive Frequency Range	Channel Spacing	Radio Type	RF Power Output	Frequency Capacity	Oscillator Stability
N5	G 136-153 MHz	H 150-174 MHz	1 30 kHz	N Narrow Band	25 25 Watts	A 1 Channel Tx/Rx	A ±2.5 PPM
	H 150-174 MHz	U 450-470 MHz	2 25 kHz	W Wide Band	40 40 Watts	B 2 Channel Tx/Rx	B ±5 PPM
	R 403-440 MHz	J 150-162 MHz				T 16 Channel Tx/Rx	
	U 450-470 MHz	G 136-153 MHz				P 16 Channel Tx/Rx PSLM	
	W 470-512 MHz	K 161-174 MHz					
		R 403-440 MHz					
		W 470-512 MHz					

ASSOCIATED MICROPHONES:

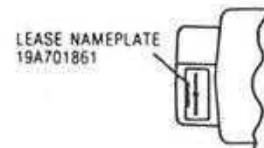
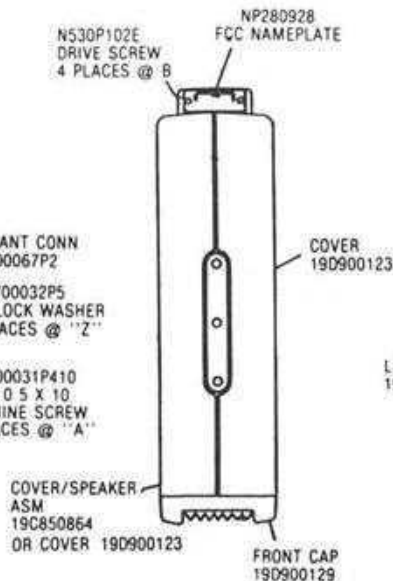
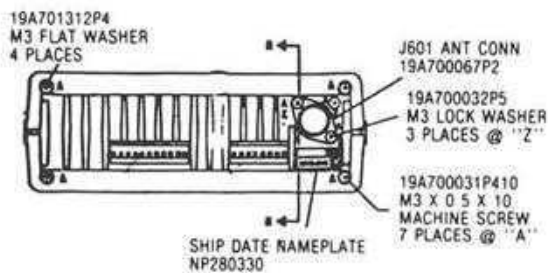
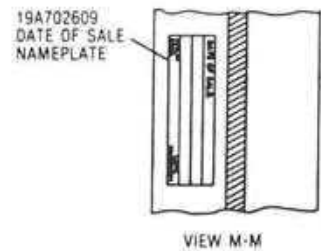
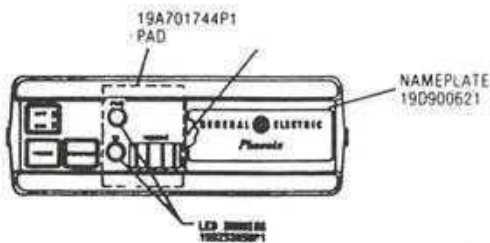
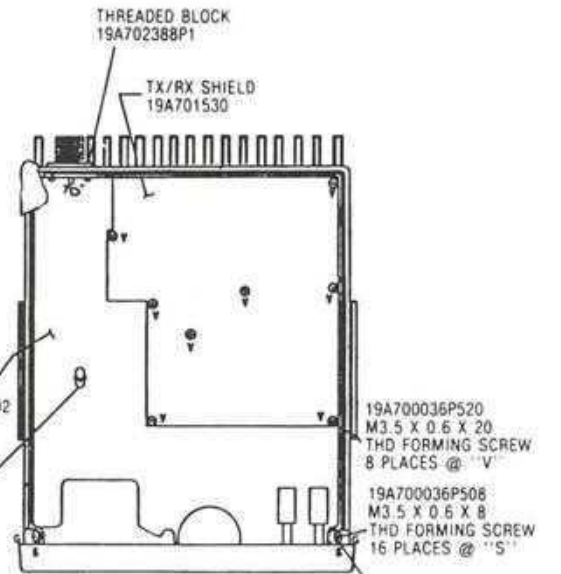
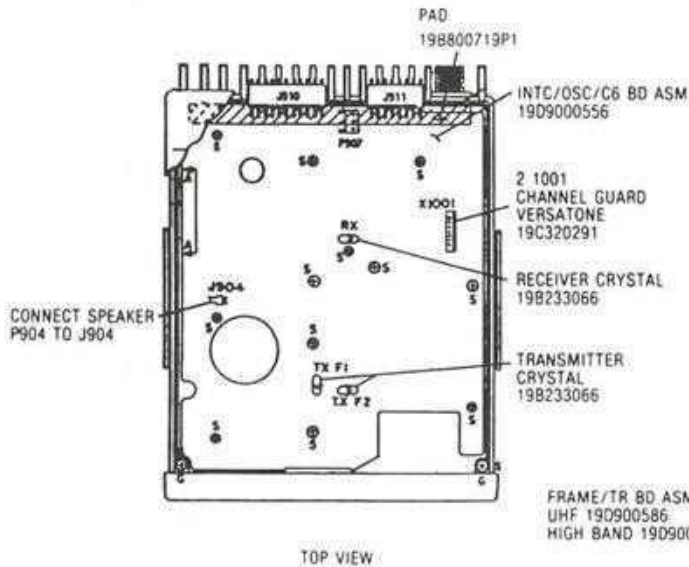
APPLICATION	ORDER NO.
STANDARD	19C850857P2
MASTR II STYLE	19B233577P2
DELTA STYLE	19D900141G9
DELTA STATION TYPE	19C851086P2
MASTR II STATION TYPE	19B209694P1



ORDERING NUMBER	DESCRIPTION
	PHOENIX S, SX ASSOCIATED PARTS AND ASSEMBLIES
19A701530G2	Transmit/Receive Shield.
19A701531G1	Frequency Synthesizer, Audio Processor Shield.
19D900123P2	Top Cover.
19B209694P1	Desk Microphone. Transistorized with Channel Guard.
19B800741P3	Microphone: Transistorized. (Electret cartridge), with connector.
19C850857P2	Microphone: Transistorized; (Electret cartridge); sim to PRIMO DM-1532 with EM-96 cartridge).
19C851086P2	Desk Microphone: Transistorized. (Electret cartridge); sim to PRIMO MX-1781A.
	INTERCONNECT CABLE 19D417126G1
	JACKS
7489183P7	Plug: 9 contacts rated at 7.5 amps max; sim to Winchester M9P-LS-H19CS.
	PLUGS
7489183P10	Plug: 9 contacts rated at 7.5 amps max; sim to Winchester M9P-LS-H19C.
	POWER CABLE 19B232925G3
	PLUGS
	Connector. Includes:
19A116659P143	Shell.
19A116781P5	Contact, electrical; wire range No. 18-24 AWG; sim to Molex 08-50-0106.
	FUSED LEAD ASSEMBLY 19A137818G11 (Part of Power Cable 19B232925G3)
7484390P3	Cartridge, quick blow: 15 amp at 250 v; sim to Bussman ABC15.
19A115776P6	Fuseholder: sim to Bussmann 9835.
19A115776P5	Fuse housing cap.
19A115776P7	Spring: sim to Bussmann 1A1853. (Located in fuse housing).
19A115776P3	Contact: sim to Littelfuse 904-88. (Crimped on wire inside fuse housing and cap).
	FRONT CAP ASSEMBLY 19B800577G7
	SPEAKERS
19A703265P1	Permanent magnet: 4 ohm imp., 4 watts.
	MISCELLANEOUS
4034221P1	Clip (Secures LS901).
	Connector. (Used with LS901). Includes:
19A700041P28	Shell.
19A700041P26	Contact. (Quantity 2).

ORDERING NUMBER	DESCRIPTION
	3 x 5 INCH SPEAKER 19C850550G1 DASH MOUNT 19C850550G2 WINDOW MOUNT
	LOUDSPEAKERS
19A702080P3	Permanent magnet: 76 x 1 mm, 8 ohms ± 10% imp at 400 Hz. 18 w.
	CABLES
19A129414G1	2 conductor cable: approx. 5 feet long, includes (2) 19A116781P5 contacts.
19B226189G1	Window mount: approx. 17 inches retracted, 84 inches extended. (Includes 2 19A116781P5 contacts).
	132-512 MHz ANTENNA 19B209568P1
	RUGGEDIZED MIROPHONE 19B233577P1 BLACK 19B233577P2 PEBBLE
RP117	Transistorized cartridge.
RP128	Switch assembly.
RP261	Switch button. Black.
RP277	Switch button. Pebble.
RP262	Case set. Black.
RP275	Case set. Pebble.
RP263	Cable assembly. (Includes connector shell 19A116659P20 & 4 contacts 19A116781P6).
RP276	Chassis assembly, inner module.

CRYSTAL PHOENIX (PC M3)



**Bypass Capacitor Assembly
FL701 19A703219G1**



DESK MATE



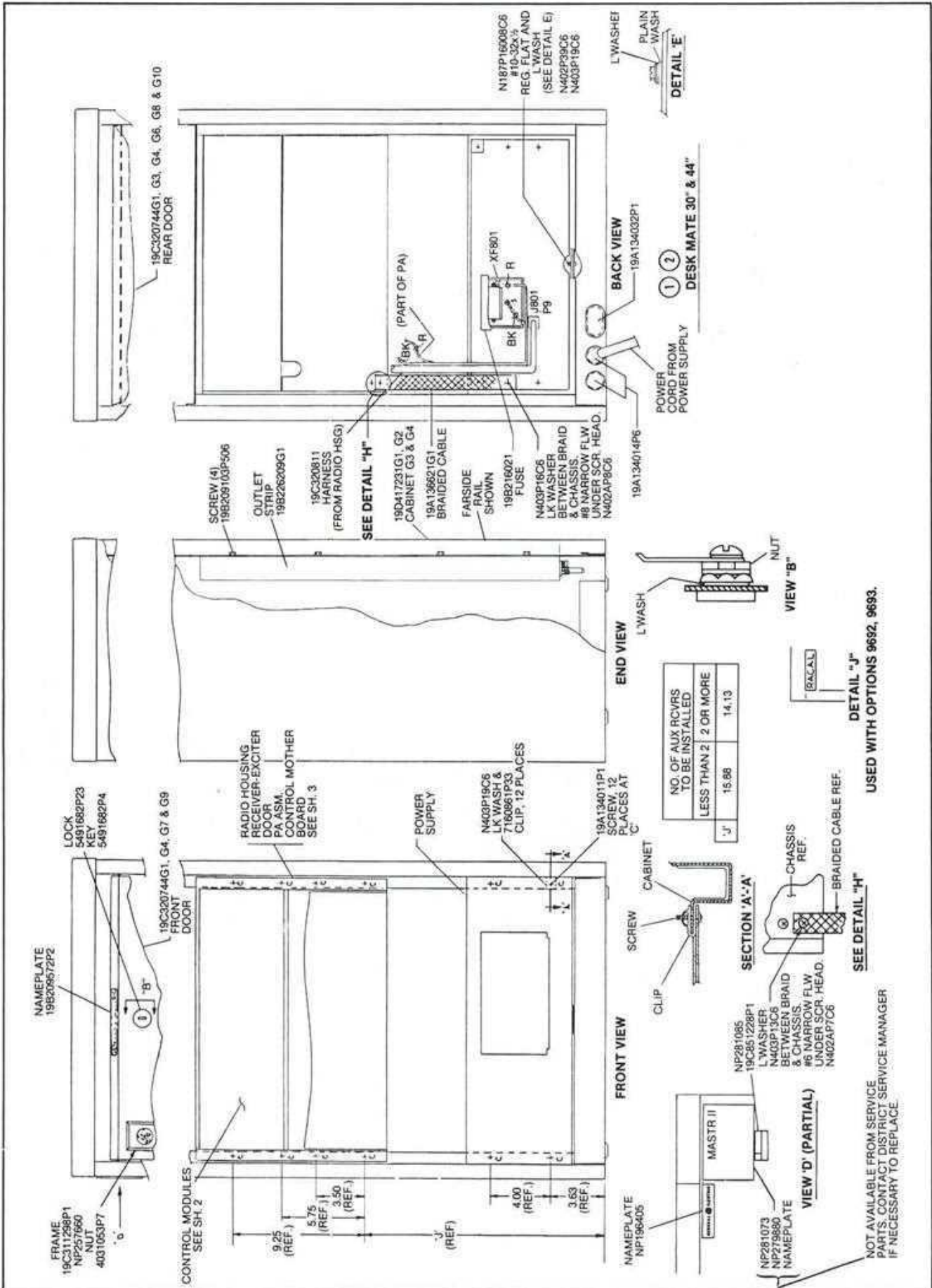
POLE MOUNT



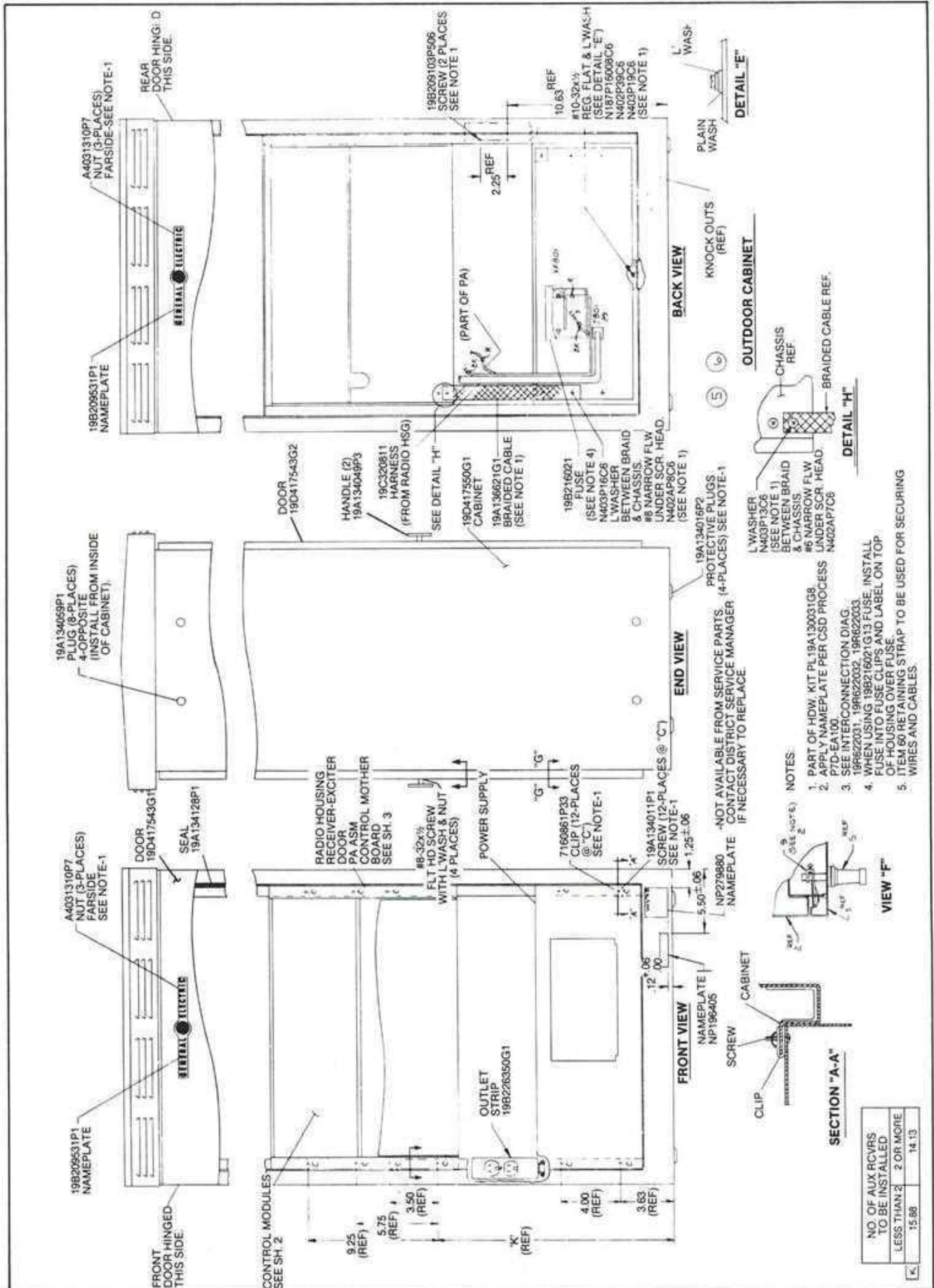
FLOOR MOUNT

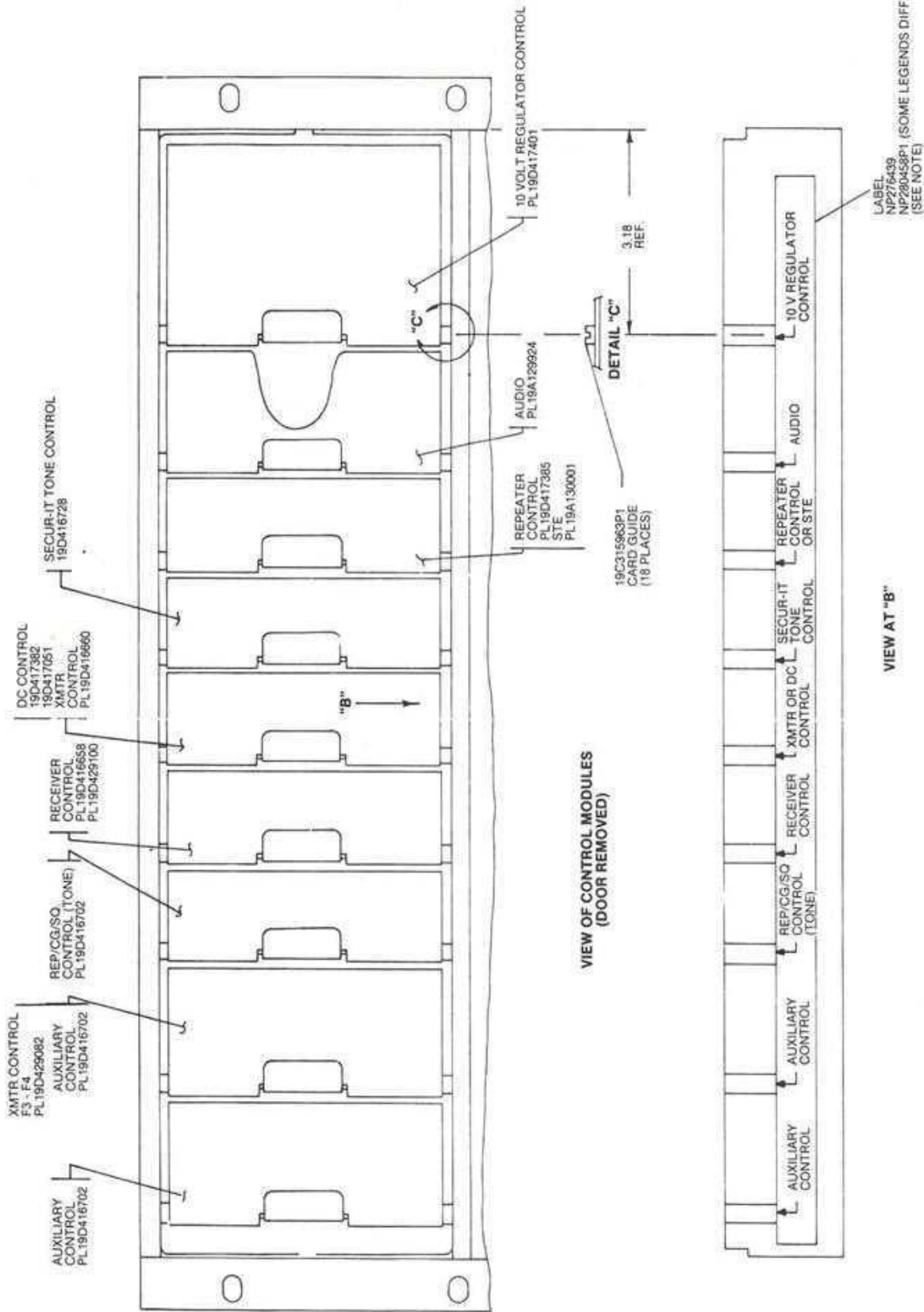
COMBINATION NOMENCLATURE

1st Digit	2nd Digit	3rd Digit	4th Digit	5th Digit	6th Digit	7th Digit	8th & 9th Digit		10th Digit
Mechanical Package	Duty Cycle	RF Power Output	Channel Spacing	Control	Number of Frequency	Options	Frequency Range MHz		Oscillator Stability
D 30 - inch Desk Mate	I Intermittent Duty	4 8 - 16 Watts	4 20 kHz	E Extended Local	A 1 TX 1 RX	D Duplex	12	13	A 5 PPM
S 44 - inch Desk Mate		5 16 - 38 Watts	5 25 kHz				B 2 TX 1 RX	G CG & UHS		23	33	B 2 PPM
P Pole Mount	C Continuous Duty	6 38 - 66 Watts	6 30 kHz	J Local/ Tone Remote	C 2 TX 2 RX	L CG/Duplex	56	66	
		7 66 - 128 Watts					K Local DC Remote	D 1 TX 2 RX	N Noise Blanker	77	88
V Floor Mount		8 128-250 Watts		N Local/Repeat	E 3 Freq. TX 3 Freq. RX	P UHS	89	91	
		9 256-Up Watts					R DC Remote	F 4 Freq. TX 4 Freq. RX	S Standard	470-494	450-470	494-512
				T Tone Remote		U Channel Guard			
				U DC Remote Repeat			W CG & NB		
				V Repeat					



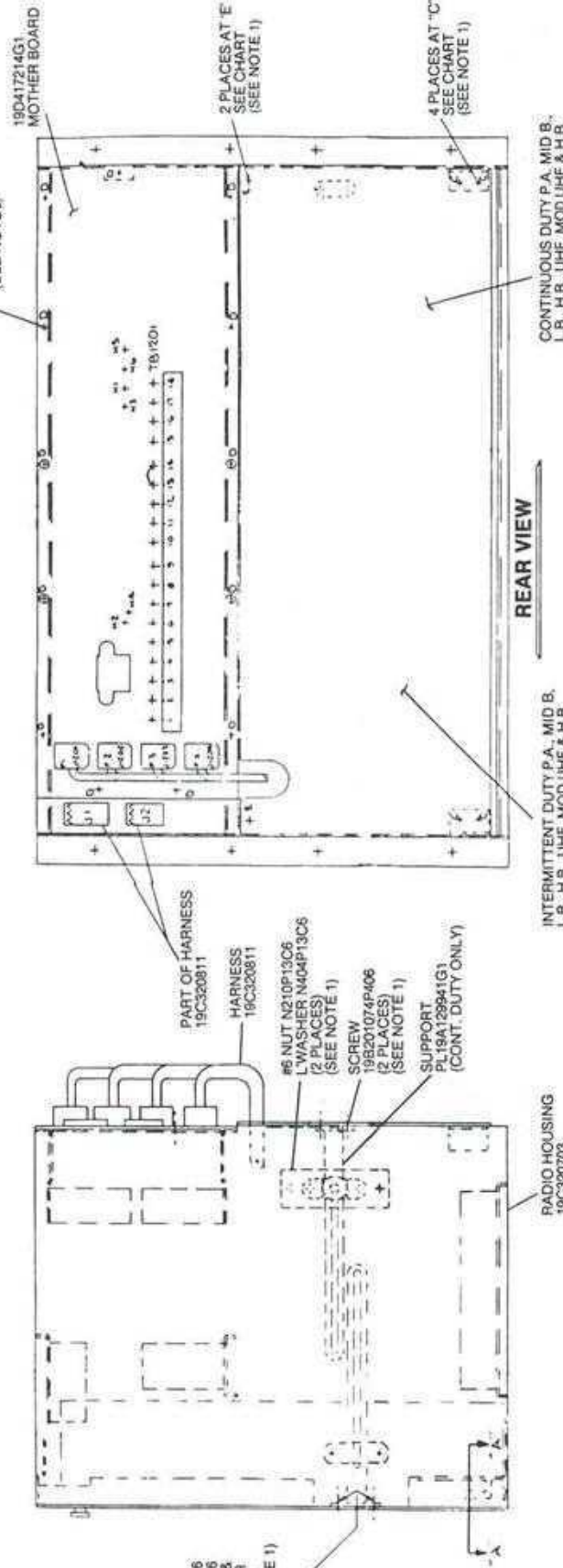
NOT AVAILABLE FROM SERVICE PARTS. CONTACT DISTRICT SERVICE MANAGER IF NECESSARY TO REPLACE





FOR CONTROL SHELF MODULE CARD GUIDES.

SEE Page

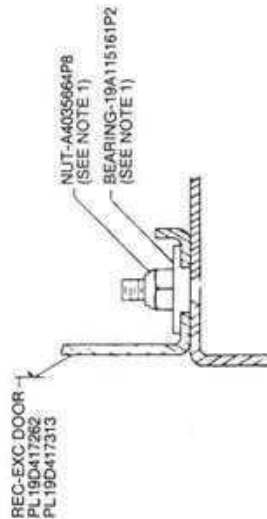


**RADIO HOUSING
19C320703G1**

- NOTES:**
1. PART OF REC-EXC DOOR HDW KIT PL19A130031G1 (INTMT. DUTY) G2 (CONT. DUTY)
 2. PART OF HDW KIT PL19A130031G3.

SEE NOTE 1

CHART FOR PANEL THICKNESS	LOCATION 'C'	LOCATION 'E'
.062	SCREW 6-32 x 1/2 LG. N80P13006C6	SCREW 6-32 x 1/2 LG. N80P15006C6
.250	6-32 x 1/2 LG. N80P13006C6	6-32 x 1/2 LG. N80P15006C6
.625	6-32 x 1.00 LG. N80P13016C6	6-32 x 1.00 LG. N80P15016C6



ENLARGED SECTION A-A (PARTIAL)
TYPICAL OPPOSITE SIDE

DOOR ASSEMBLY 19D417262

See Next Page for Part Ordering Numbers

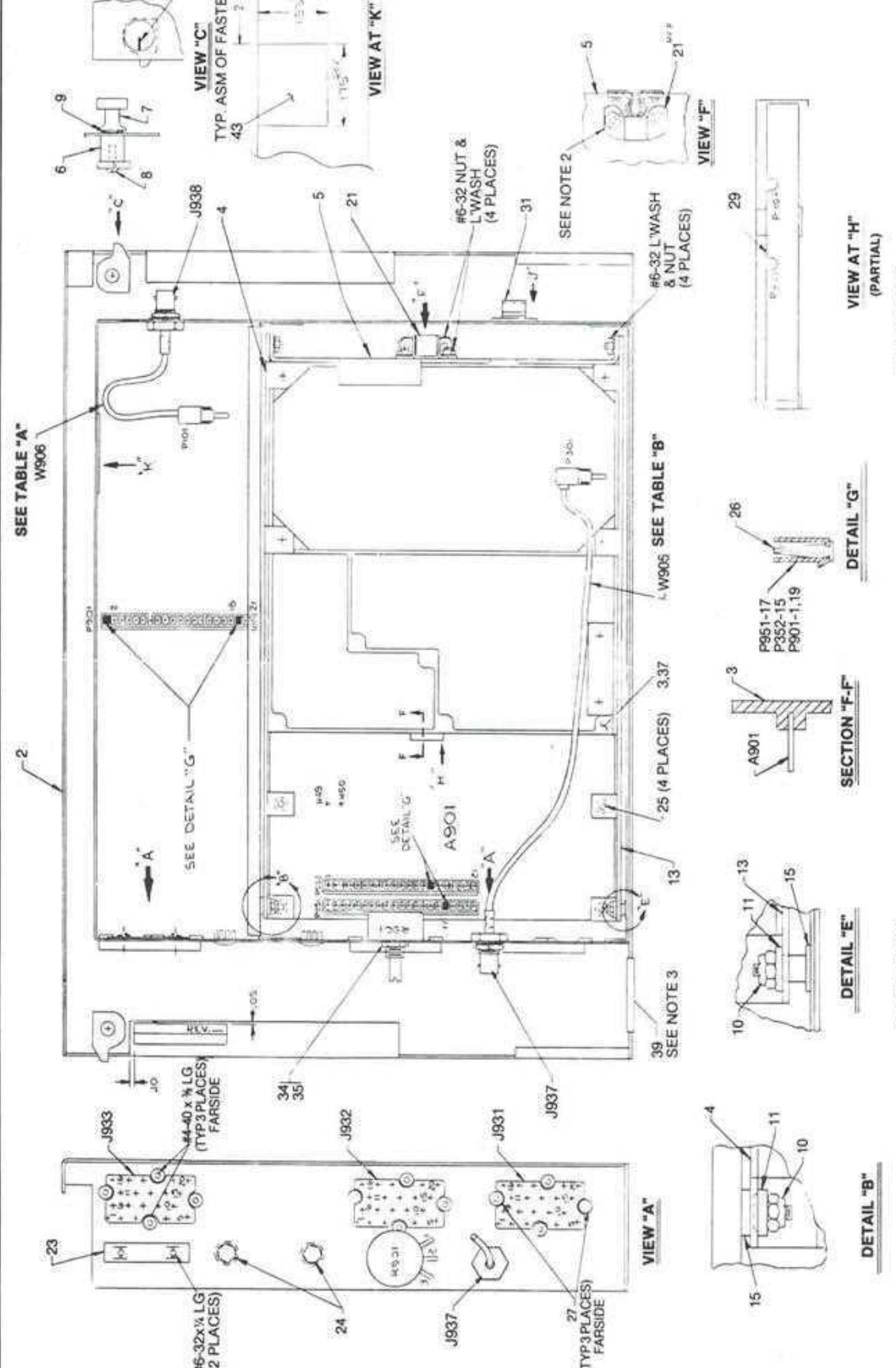


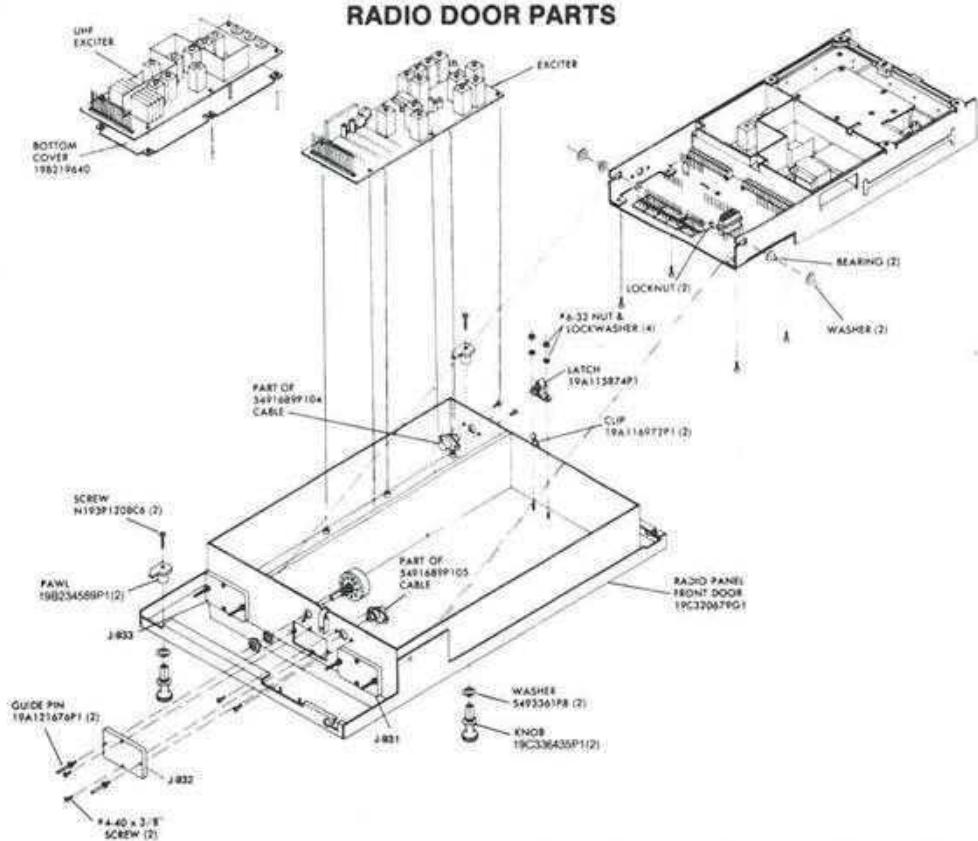
TABLE "B"

SYMBOL	PART NO	USE
W901	19B233742G1	LB, MB, HB, UHF
W905	19A136930G2	800 MHz

TABLE "A"

SYMBOL	PART NO	USE
W902	5491689P104	LB, MB, HB, UHF
W906	19A136930G1	800 MHz

RF Cables in Tables "A" & "B" include the connectors on both ends.

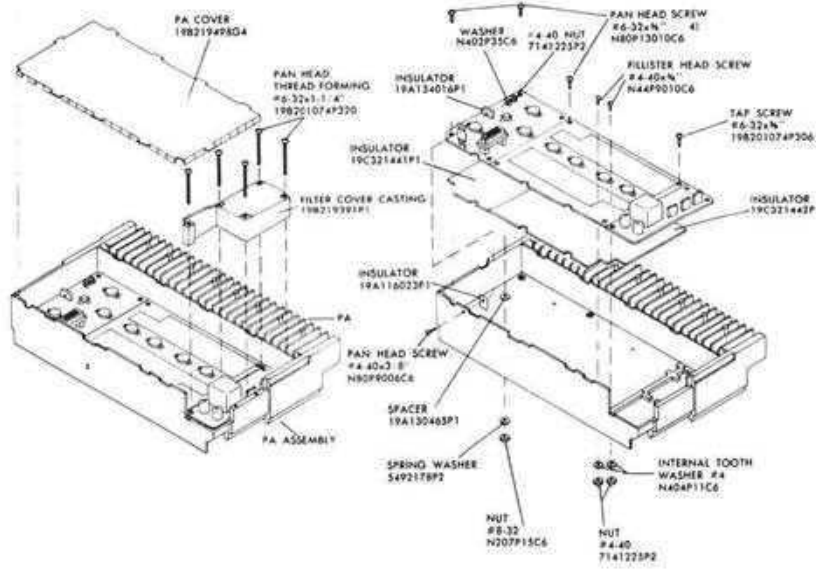


ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
A901	19D417213G1	Systems Board	21	19A115874P1	Catch, Friction
J931	19C303426G1	Connector: 20 pin contacts.	22	19B201074P204	Screw, Tap (4)
J932			23	19A116686P2	Nut, Spring
J933			24	10529P11C6	Plug Button (2)
2	19C320679G1	Door Panel	25	19B201074P305	Screw, Tap (4)
3	19C320664P1	Frame, Mounting for Exciter and Receiver Modules.	26	19B209519P1	Tab, Polarizing (2)
4	19B226035G1	Support	27	19A121676P1	Guide Pin (6)
5	19B226105G2	Support	29	19B226352G1	Label
6	19B234589P1	Panel (2)	31	19A116496P1	Cable Clip
7	19C336435P1	Knob (2)	34	7115130P9	Lock washer, for R901
8	N193P1208C6	Screw, Taping (2)	35	7165075P2	Hex Nut, for R901
9	5493361P8	Wsher, Spring Tension (2)	37	19C320066P3	Frame, Sim to Part #2, except for 800 MHz
10	4035664P8	Nut, Self-Locking (2)	43	19A121175P10	Insulator Plate
11	19A115161P2	Bearing, Sleeve (2)			
13	19B226035G2	Support			
15	N402P39C6	Washer, Plain (2)			

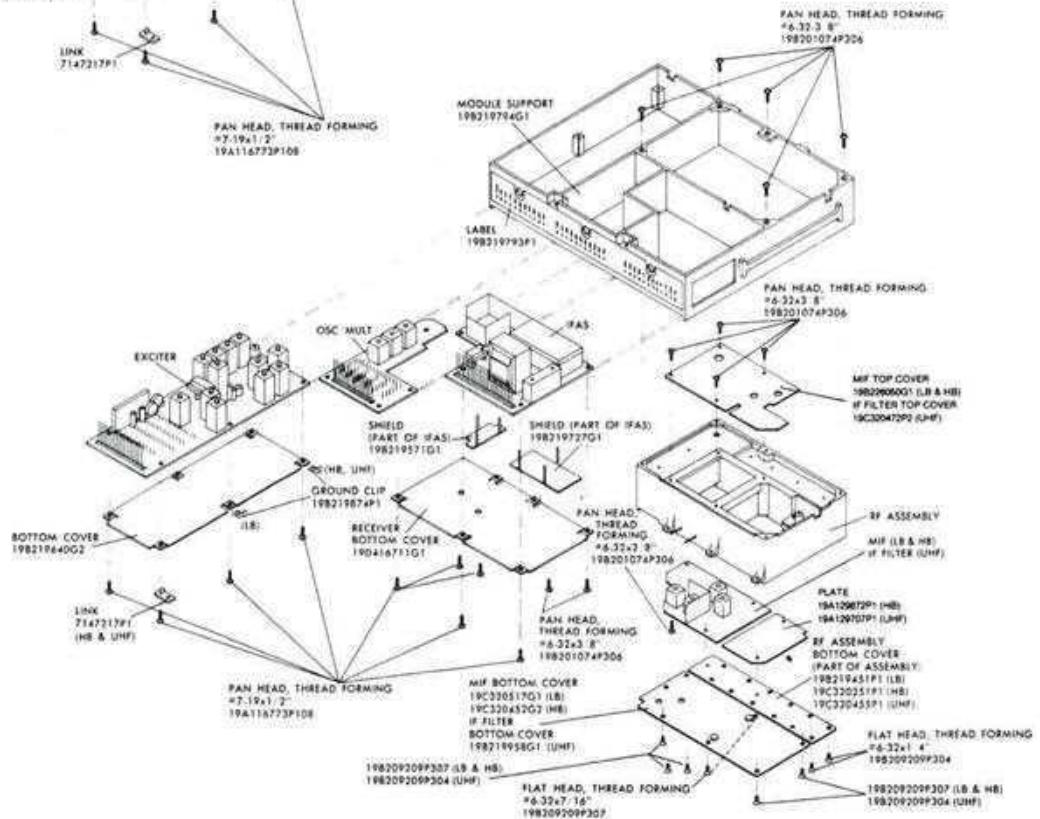
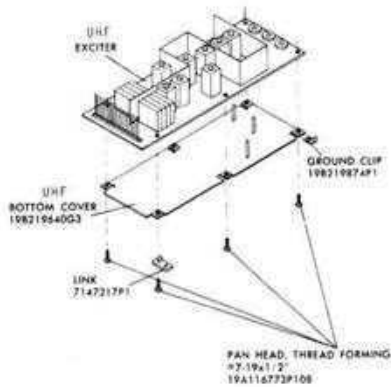


COMBINATION NOMENCLATURE

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7	Digits 8 & 9	Digit 10	
Mechanical Package	Operating Voltage	RF Power Output Range	Channel Spacing	Frequency Capacity	Number of Freq. Tx / Rx	Options	Frequency Range (MHz)	Oscillator Stability	
M Basic Package	C ±12 VDC	4 8-20 Watts	4 20 kHz	A 1 Freq.	A 1/1	S Standard	12 25-30	A ±0.0005%	
		X ±12 VDC less Accessory Group	5 21-40 Watts	5 25 kHz	C 2 Freq.	B 2/1	G Channel Guard & UHS Receiver	13 30-36	B ±0.0002%
	6 41-80 Watts		6 30 kHz	K 8 Freq.	C 2/2	N Noise Blanker	23 36-42	C Phase-Lock Loop ±0.0005%	
	7 81-128 Watts		7 81-128 Watts			D 1/2	P UHS Receiver	33 42-50	D Phase-Lock Loop ±0.0002%
						E 3/3	U Channel Guard	44 66-78	
						F 4/4	W Channel Guard & Noise Blanker	45 77-88	
						G 5/5		56 138-155	
						H 6/6		66 150.8-174	
						J 7/7		77 406-420	
					K 8/8		78 420-450		
					88 450-470				
					89 470-494				
					91 494-512				



HIGH BAND & UHF PA ASSEMBLIES



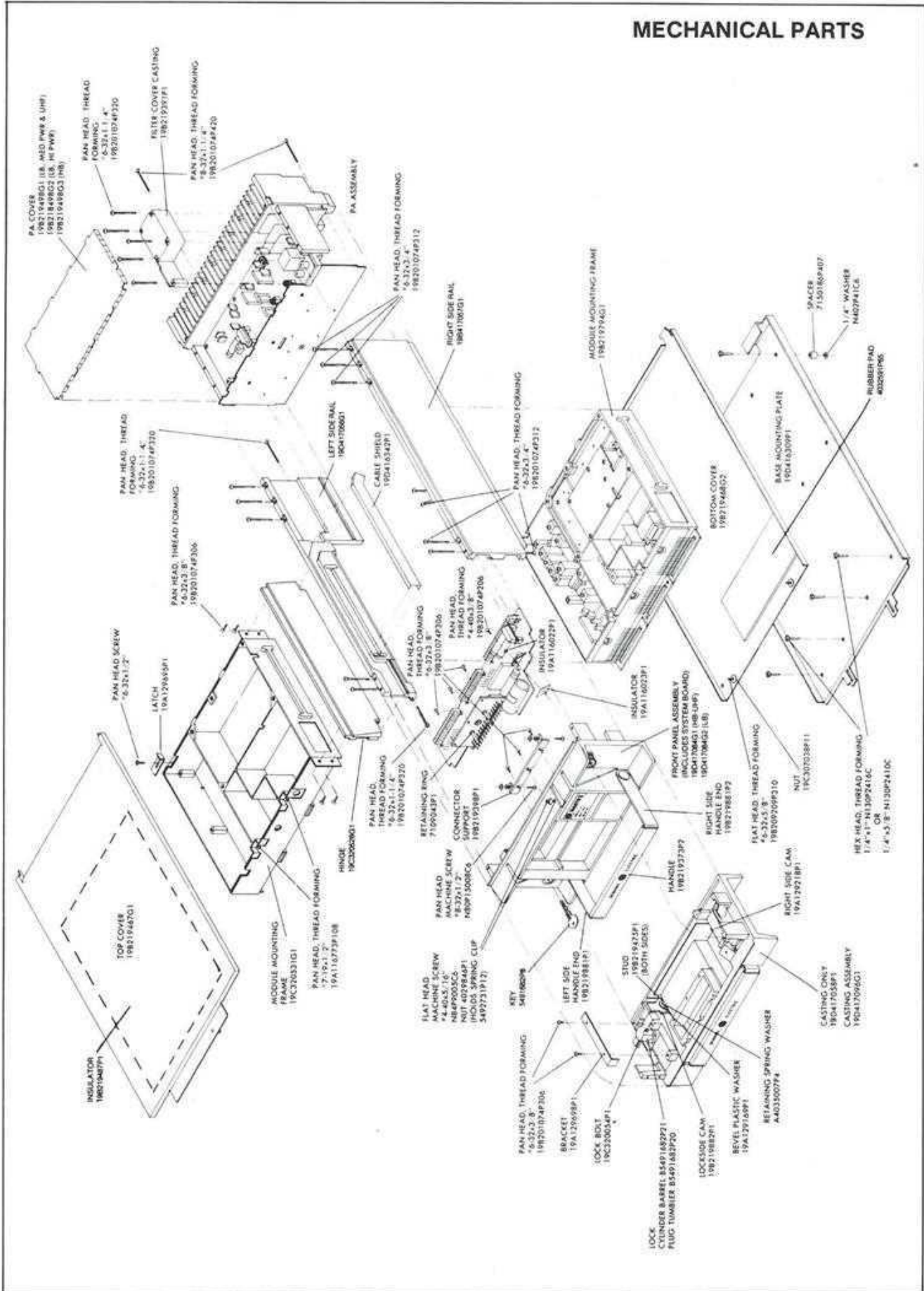
RECEIVERS



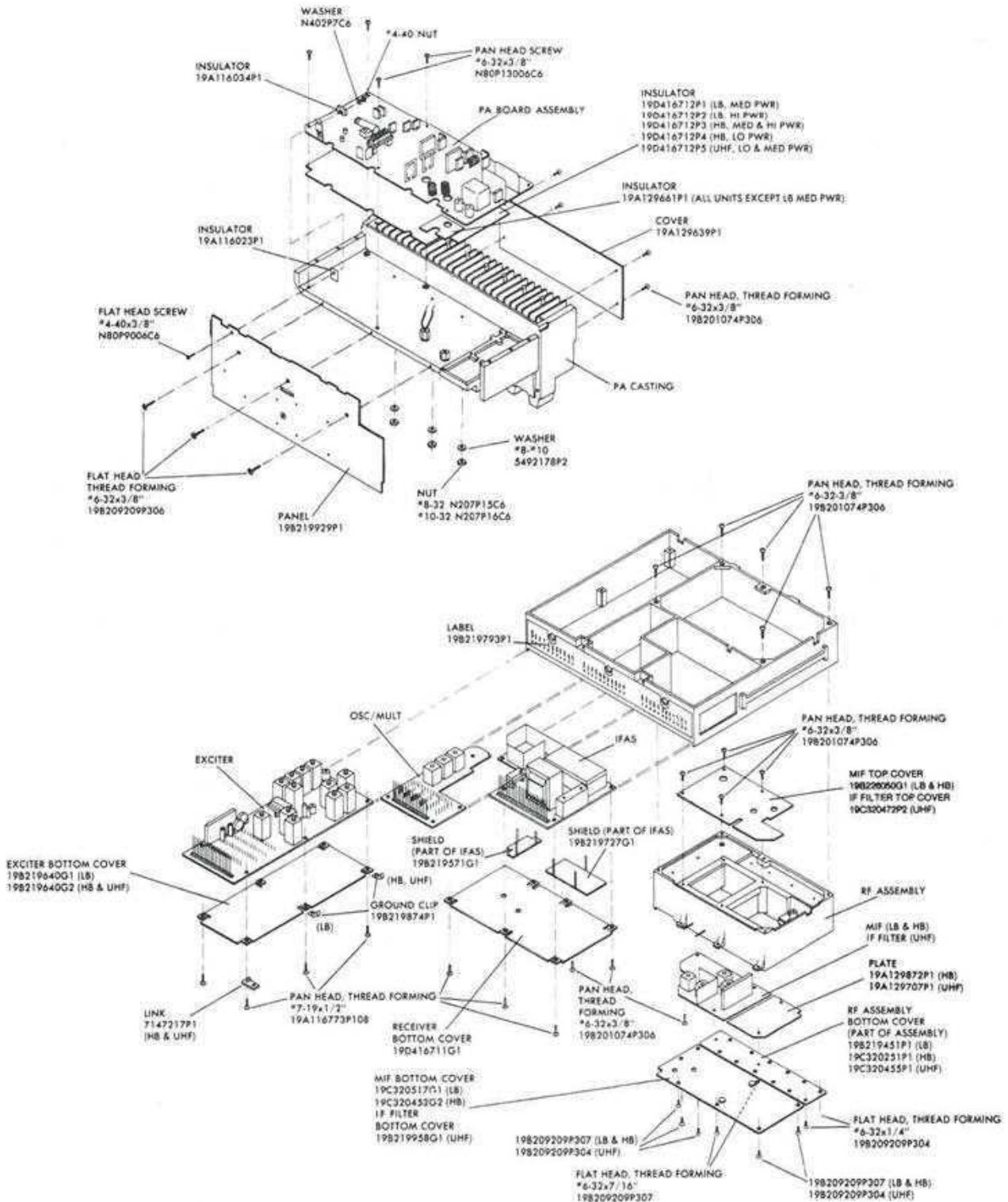
COMBINATION NOMENCLATURE

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7	Digits 8 & 9	Digit 10
Mechanical Package	Operating Voltage	RF Power Output Range	Channel Spacing	Frequency Capacity	Number of Freq. Tx / Rx	Options	Frequency Range (MHz)	Oscillator Stability
E Extended Package	C ± 12 VDC	4 8-20 Watts	4 20 kHz	A 1 Freq.	A 1/1	S Standard	12 25-30	A ± 0.0005%
	J + 16 to 60 VDC (Neg. Grnd)	5 21-40 Watts	5 25 kHz	C 2 Freq.	B 2/1	G Channel Guard & UHS Receiver	13 36-36	B ± 0.0002%
	X ± 12 VDC less Accessory Group	6 41-80 Watts	6 30 kHz	K 8 Freq.	C 2/2	N Noise Blanker	23 36-42	C Phase Lock Loop ± 0.0005%
	Y ± 16-60 VDC less Accessory Group	7 81-128 Watts		P 12 Freq.	D 1/2	P UHS Receiver	33 42-50	D Phase Lock Loop ± 0.0002%
					E 3/3	U Channel Guard	44 66-78	
					F 4/4	W Channel Guard & Noise Blanker	45 77-88	
					G 5/5	D Duplex	56 138-155	
					H 5/6	L Duplex & CG	66 150.8-174	
					J 7/7		77 406-420	
					K 8/8		78 420-450	
					L 9/9		88 450-470	
					M 10/10		89 470-494	
					N 11/11		91 494-512	
					P 12/12			

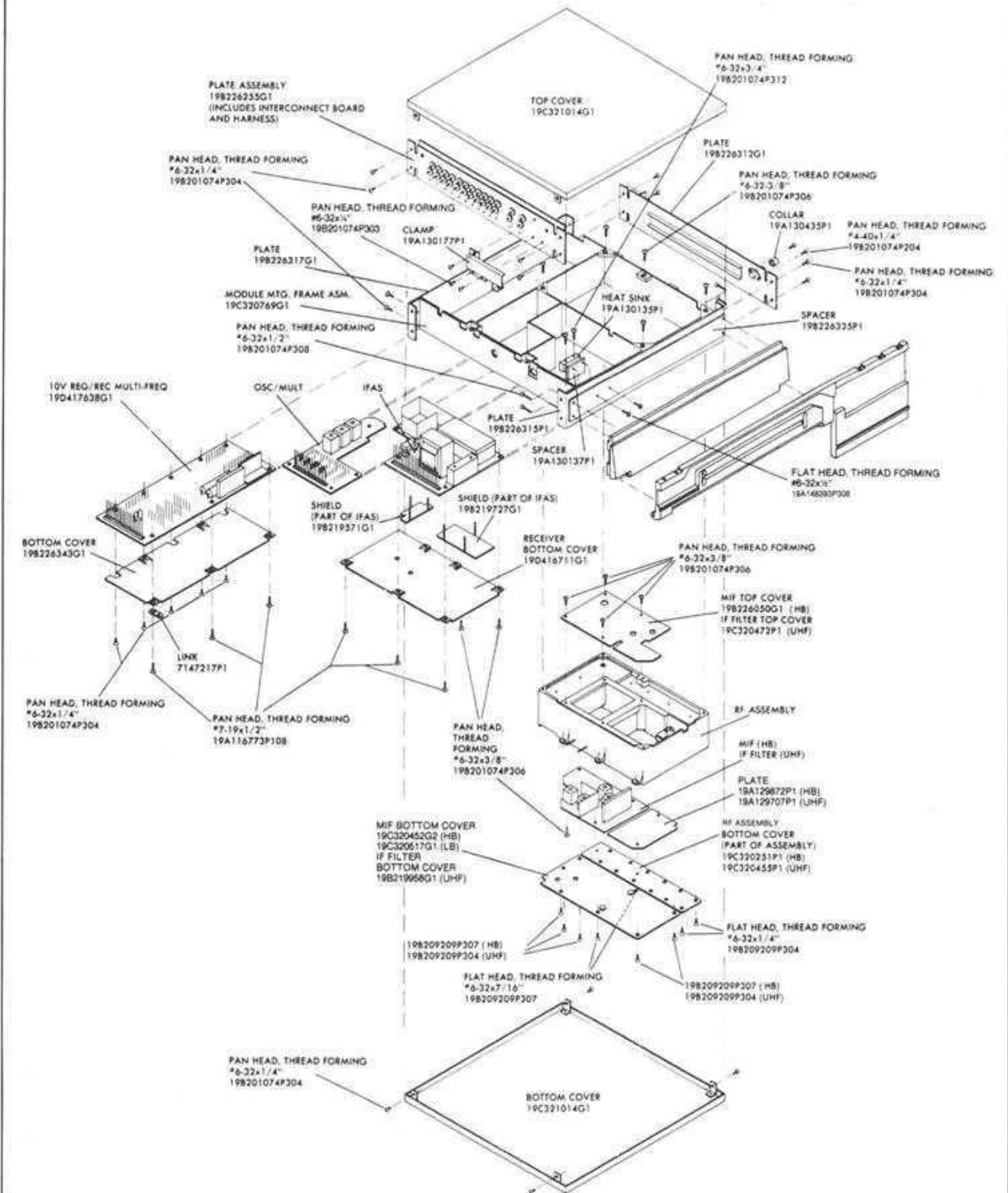
MECHANICAL PARTS

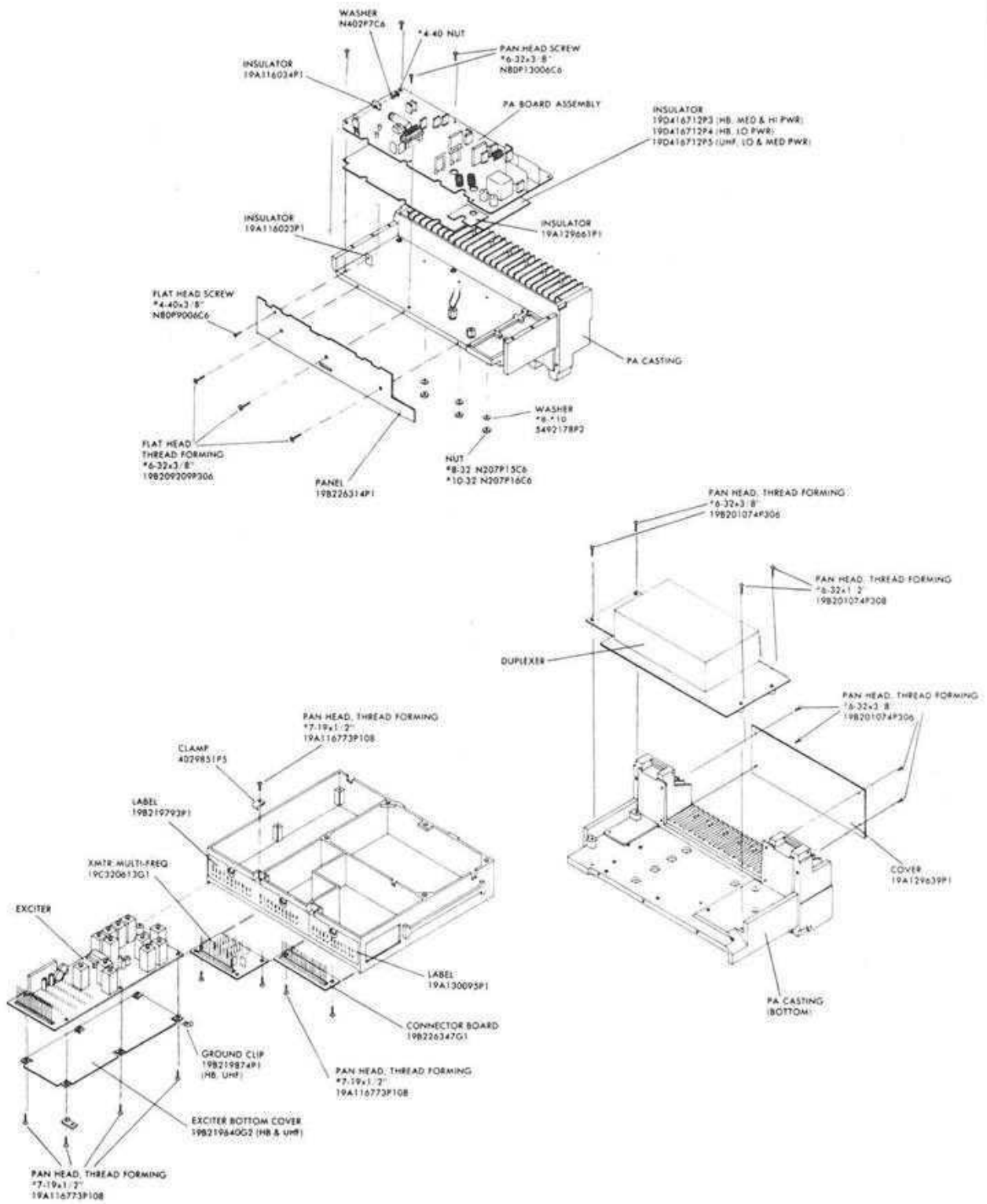


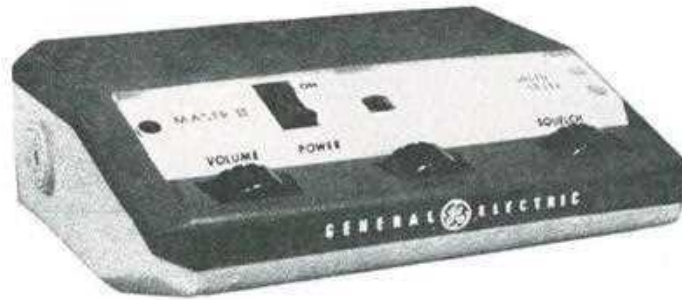
PA & RECEIVER PARTS



TOP LAYER FRAME







- 19D423590G1 Single Frequency, No Options
- 19D423590G2 Two Frequency, No Options
- 19D423590G3 One Frequency, Option Compatible
- 19D423590G4 Eight Frequency, Option Compatible
- 19D423590G5 Twelve Frequency, Option Compatible

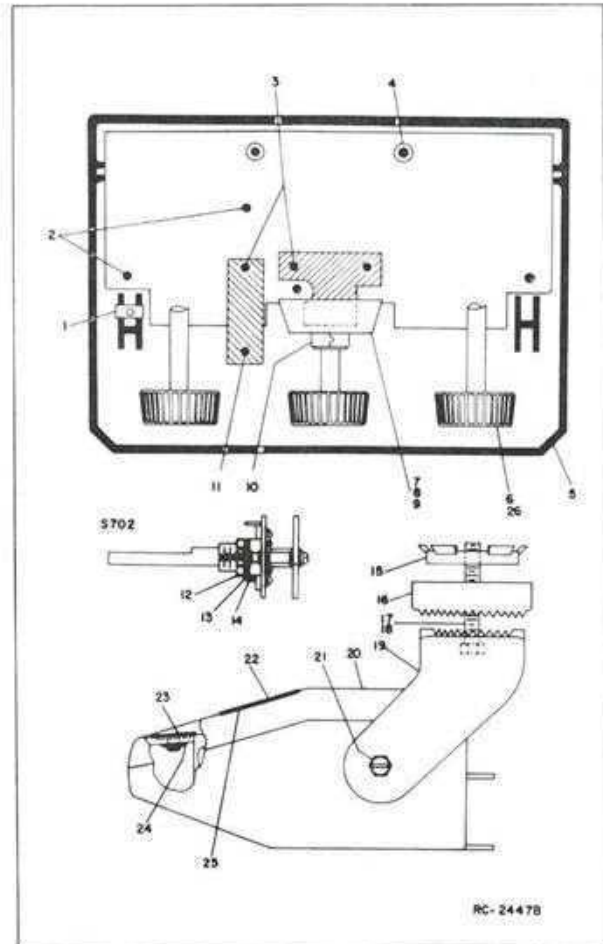
COMBINATION NOMENCLATURE

DIGIT 1	DIGIT 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGITS 6&7	DIGIT 8	
Mechanical Package	System Voltage	Channel Capacity	Number of Operating Channels	Microphone or Handset	Options	Options (cont'd)	Control Unit Series
F Control Unit w/mounting Bracket only	1 ±12 VDC	P 12 Channels	A One	1 None	BB Standard May apply all four digit options and Handset with Hookswitch	AA No Option	5 C-500
G Control Unit w/mounting Bracket, Cables and Speaker. Mast II Appl.	2 ±24 to 48 VDC Mast II Appl.		C Two	2 Std. Microphone	CC Dual Control	GK Type 90 Decoder w/External Alarm	
			E Three	3 Std. Microphone w/CG Hookswitch	DD Public Address	GL Type 90 Encoder	
			F Four	4 Handset with Hookswitch (Compatible with C.G.)	EE Marine Hi-L. Power Option	GM Type 90 Encoder with Auto Burst	
			G Five	5 Noise Cancelling Microphone	FF Type 90 Decoder Group Call	HH Int/Ext Speaker	
			H Six	6 Noise Cancelling Microphone with C.G. Hookswitch	FG Type 90 Decoder Group Call	LL PSLM-3-Frequency	
			J Seven	7 Handset with Hookswitch, Duplex (Compatible with C.G.)	FH Type 90 Decoder Individual Call w/External Alarm	LM PSLM-2- of 8-Frequency (Locked Priority)	
			K Eight	8 Handset (Decoder App.)	FJ Type 90 Decoder Group Call with External Alarm	LN PSLM-2- of 8-Frequency (Locked non-priority)	
			L Nine		GG Type 90 Encoder/Decoder	MM External CG Encoder Application Kit	
			M Ten		GH Type 90 Encoder/Decoder with External Alarm	NN GE Star Encoder	
			N Eleven		GJ Type 90 Decoder		
			P Twelve				



- 1-FREQUENCY CONTROL UNIT - 19D423590G1**
- 2-FREQUENCY CONTROL UNIT - 19D423590G2**
- 1-FREQUENCY CONTROL UNIT WITH OPTIONS - 19D423590G3**
- 1-THRU 8-FREQUENCY CONTROL UNIT - 19D423590G4**
- 1-THRU 12-FREQUENCY CONTROL UNIT - 19D423590G5**

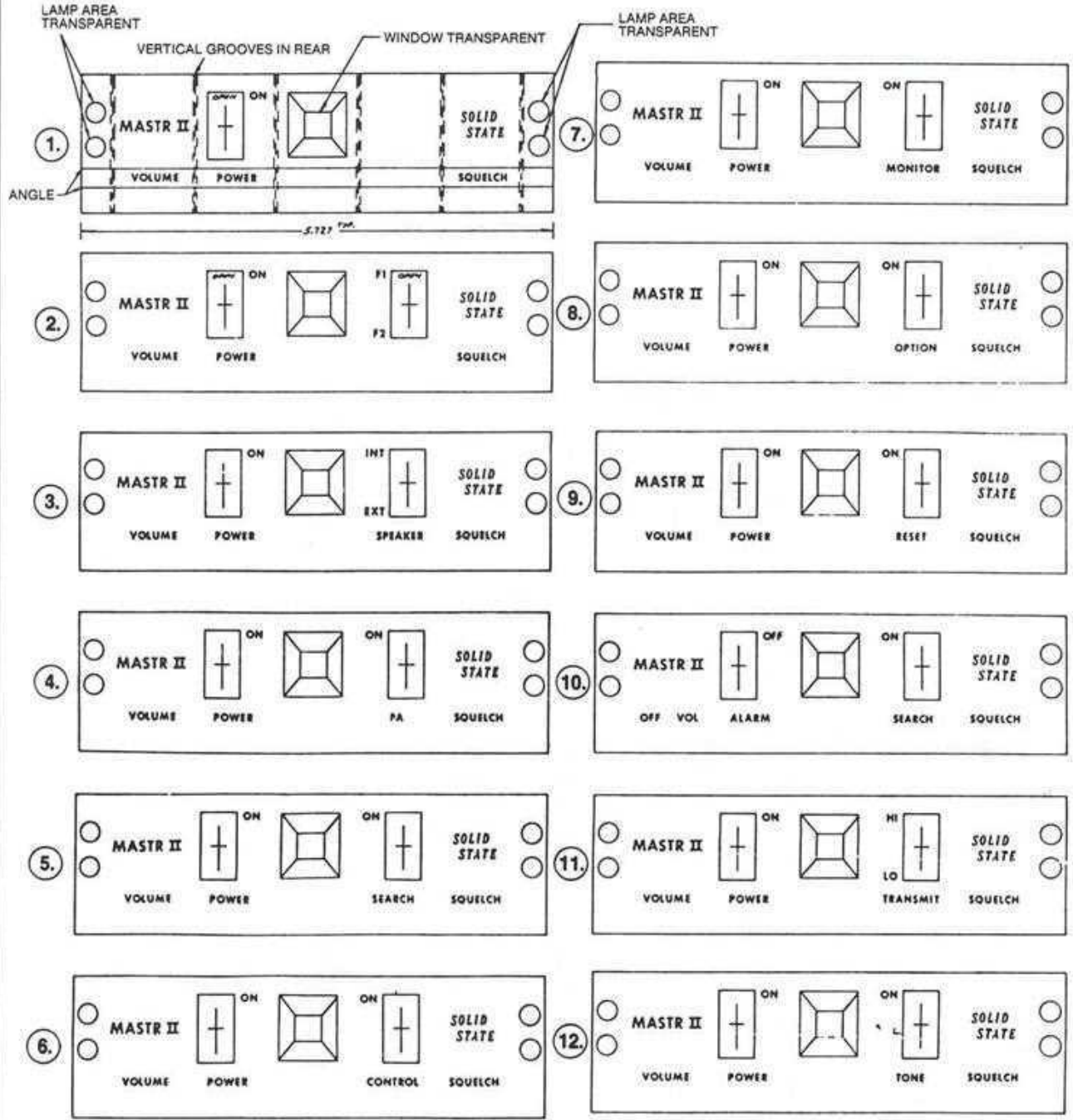
SYMBOL	GE PART NO.	DESCRIPTION
MECHANICAL PARTS (SEE RC-2447)		
1	19A116807P1	Clip, spring tension.
2	19A116773P106	Tap screw: thd size No. 7-19 x 3/8.
3	19B201074P204	Tap screw, Phillips POZIDRIV; No. 4-40 x 1/4.
4	N402P8C6	Washer: No. 8.
5	19C320389G1	Housing.
6	19B219825G1	Knob.
7	19B219699G1	Frequency indicator (For 19D423690G1 & 2)
7	19C320175P1	Frequency indicator (For 19D412590G3 & 4)
8	NP27075A	Nameplate. (1-12)
9	NP270754B	Nameplate. (OFF: A-H).
10	4029006P1	Retainer strap: sim to Tinnerman C2386-020-1.
11	N117P9004C13	Tap screw: No. 4-40 x 1/4.
12	7165075P2	Hex nut: (brass: thd size No. 3/8 - 32.)
13	7115130P9	Lockwasher: sim to Shakeproof 1220-2.
14	19A134017P1	Adjustable stop.
15	19B219578G1	Safety release disc.
16	19C320022P1	Retaining bracket.
17	N187P16010C6	Screw, hexhead, slotted: No. 10-32 x 3/4. (Quantity 1, used with safety release disc and retaining bracket).
18	N130P1612C6	Screw, hexhead, slotted: No. 10-16 x 3/4. (Quantity 3, used without safety release disc and retaining bracket for extra thick carpet).
	N402AP9C6	Washers (Qty 3) used with Item 18
	N130P1624C6	Screw, thread forming: No. 10-16 x 1-1/2. (Quantity 3, used without safety release disc and retaining bracket for extra thick carpet).
19	19D416594P1	Mounting bracket.
20	19C331834G1	Cover.
21	N187P16010C6	Machine screw, slotted, Hex/washer head: No. 10-32 x 3/4.
22	NP270753P1	Nameplate. (MASTR II SOLID STATE).
23	19B219626P1	Knob plug. (Frequency switch S702).
24	7140578P6	Nut, push on: sim to Tinnerman C1259-014-27. (Used with item 23).
25	19A130009P1	Diffuser.
26	7160615P4	Not Used.



NP270753 ESCUTCHEON

Order the "nameplates" using the Order Number "NP270753P" and the number in the circle to the left of the drawing showing the legend desired.

Example: To order an escutcheon for a control unit with a Transmitter HI/LO Power Switch, order NP270753P11.



This page shows all of the parts on the standard drawing. Not all of these parts may be available. Check the current Service Parts Price List for availability.

19D423424G1-18 MASTR II POWER & CONTROL CABLES
19D423424G1-18 MASTR II POWER & CONTROL CABLES

18-Conductor Power and Control Cables are applied to units with up to two frequencies, transmit and receive, with Channel Guard monitor functions.

30-Conductor Power and Control Cables are applied to units with up to eight frequencies, with Channel Guard monitor functions.

38-Conductor Power and Control Cables are applied to units with up to Twelve Frequencies, with Channel Guard monitor function, and all units using the Multiple Tone Channel Guard Encoder in C800 or C900 Control Units, which requires an extra shielded audio conductor.

The 19D423424 MASTR II Power and Control Cables with long A- conductors are not currently manufactured. For long A- applications, use the appropriate short A- lead version of the 19D423424 and add the long A- conductor using the Ground Extension Cable Kit 19A136690G1 (Also known as Option 9081)

The standard length of the MASTR II Mobile Power and Control Cable is 18 feet. Optional Cables are available in 9 foot and 27 foot length versions. In all cases the A+ lead is six feet longer than the control cable to allow connection to the vehicle battery forward of the fire wall. Therefore, the A+ lead on 18 foot cables measures 24 feet in length. The length of the short A- cable is always six feet. Length dimensions are plus-or-minus 6 inches.

All of the parts associated with the cable connector to the MASTR II radio unit are contained in the Connector Repair Kit 19A130920G1. This Connector Repair Kit includes the connector block, covers, thumbscrew, screws, and contacts necessary to replace in its entirety the connector on the radio end of the MASTR II Power/Control Cables.

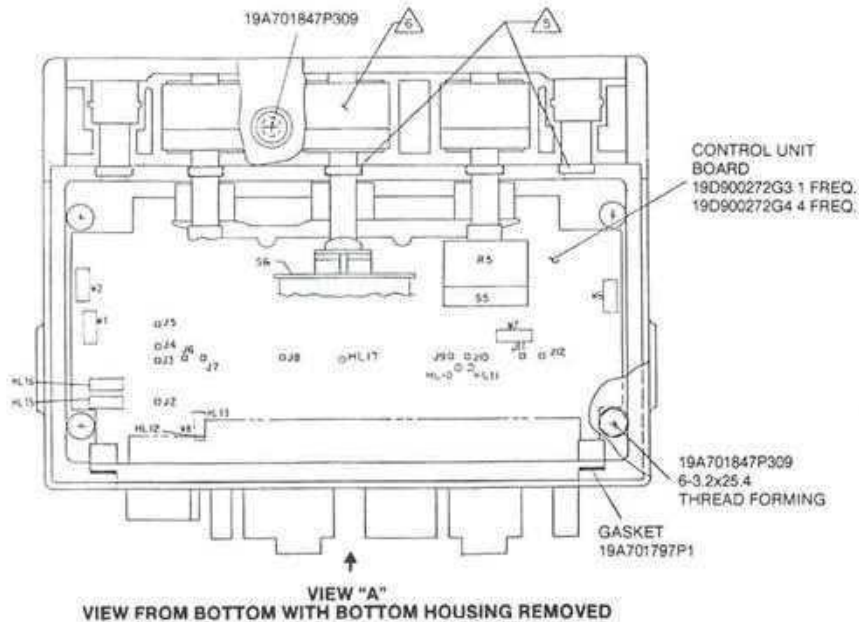
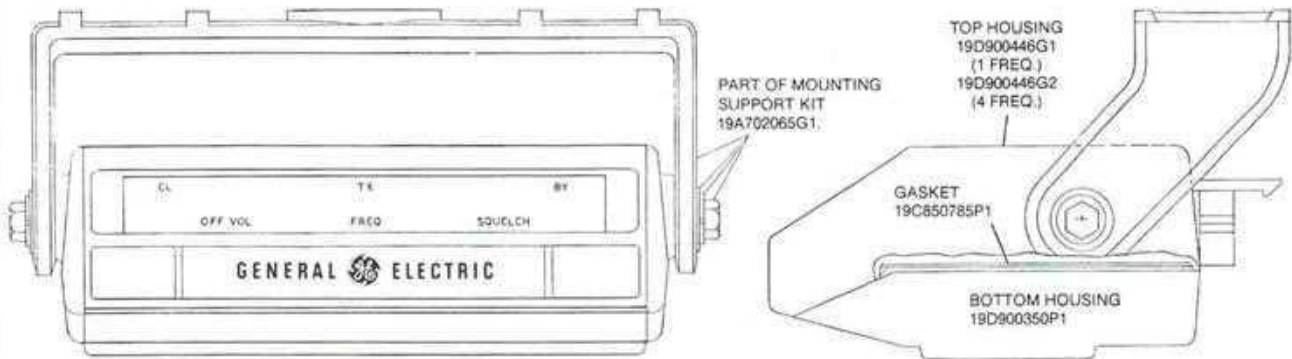
Replacement of the connectors on the control unit end of the MASTR II Power/Control Cables can be accomplished using the basic purchased connector 19C320257P1. The connectors normally referred to in maintenance manuals are in the series 19B226516G1-8. The basic 19C320257P1 can be stocked and the un-needed index rib removed to match the correct guide slots for the application.

CABLE NUMBER	NUMBER OF CONDUCTORS	CABLE LENGTH	A-MINUS LENGTH	
19D423424G1	18 Cond.	9 foot	Short	
19D423424G2	18 Cond	18 foot	Short	
19D423424G3	18 Cond	27 foot	Short	
19D423424G4	18 Cond	9 foot	Long	NOT AVAILABLE
19D423424G5	18 Cond	18 foot	Long	NOT AVAILABLE
19D423424G6	18 Cond	27 foot	Long	NOT AVAILABLE
19D423424G7	30 Cond	9 foot	Short	
19D423424G8	30 Cond	18 foot	Short	
19D423424G9	30 Cond	27 foot	Short	
19D423424G10	30 Cond	9 foot	Long	NOT AVAILABLE
19D423424G11	30 Cond	18 foot	Long	NOT AVAILABLE
19D423424G12	30 Cond	27 foot	Long	NOT AVAILABLE
19D423424G13	38 Cond	9 foot	Short	
19D423424G14	38 Cond	18 foot	Short	
19D423424G15	38 Cond	27 foot	Short	
19D423424G16	38 Cond	9 foot	Long	NOT AVAILABLE
19D423424G17	38 Cond	18 foot	Long	NOT AVAILABLE
19D423424G18	38 Cond	27 foot	Long	NOT AVAILABLE



**S-600 SERIES CONTROL UNIT
COMBINATION NOMENCLATURE**

DIGITS 1 & 2	DIGITS 3 & 4	DIGIT 5	DIGIT 6	DIGIT 7	DIGIT 8
Product Code	Number of Frequencies	Squelch	Frequency Capacity	Control Unit Application	Configuration
C4	01 1 Frequency	O Standard	A 1 Frequency	A DELTA	O STANDARD
	02 2 Frequencies		C 2 Frequencies	C MASTR® II	
	03 3 Frequencies		F 4 Frequencies	D Executive II	
	04 4 Frequencies				



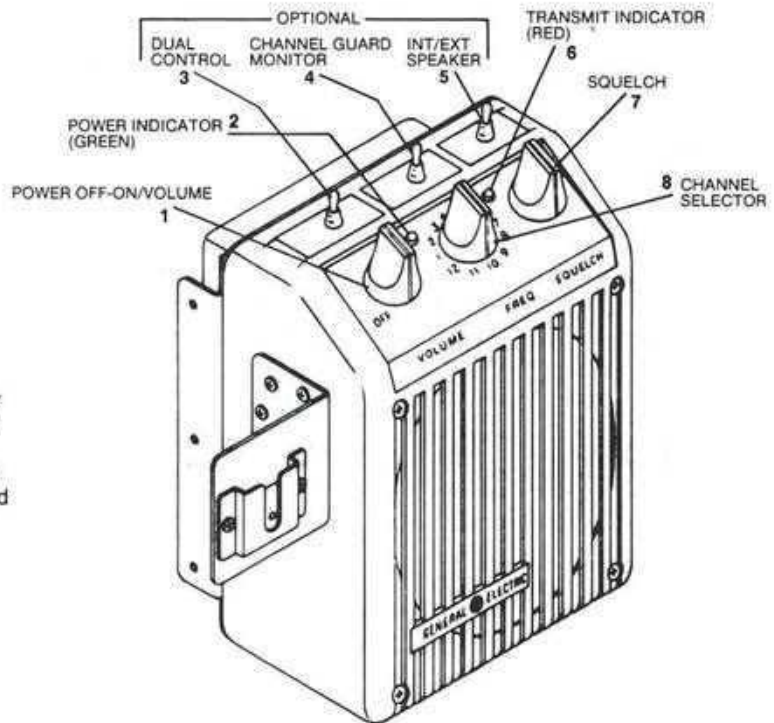
ORDER NO.	DESCRIPTION	ORDER NO.	DESCRIPTION
	TOP HOUSING 19D900446G1 SINGLE FREQUENCY 19C900446G2 MULTI FREQUENCY		MOUNTING SUPPORT KIT 19A702065G1
19B800768P1	Nameplate. (GENERAL ELECTRIC).	19D900344P1	Control unit mounting support.
19B800767P1	Nameplate. (DISPLAY — SINGLE FREQ.).	19A701631P516	Machine screw, hex: No. 10-32 x 5/16. (Secures control unit to mounting support).
19B800767P2	Nameplate. (DISPLAY — MULTI FREQ.).	19A700033P10	Lockwasher, external tooth: No. 10. (Secures control unit to mounting support).
19D900334P1	Insert. (Located over display nameplate).	19A701312P7	Lockwasher: No. 10 (Secures control unit to mounting support).
18B800703P1	Button. (Located on each side of GENERAL ELECTRIC nameplate).		BREAKAWAY MOUNTING KIT 19A129361G1
19A701502P3	Bumper, plastic. (Plugs CL and BY displays).	19C320022P1	Retaining bracket. (With locking jaws).
19B800704P1	Plug button. (Used in single freq. when S4 is not used).	19B219578G1	Safety Release Disc. (Mates with mounting surface).
19A701799P1	Plate. (Used in single freq. when S4 is not used).	N187P16010C6	Machine screw: No. 10-32 x 1/2. (Quantity 1 — Used with safety release disc with retaining bracket).
19J706212P202	Screw, thd. forming: No. 4 x 6.35MM. (Secures 19A701799P1 plate).	N130P16012C6	Tap screw, thd. forming: No. 10-16 x 3/4. (Quantity 3 — Used without safety release disc & retaining bracket).
	HOUSING HARDWARE KIT 19A701796G1	N130P16024C6	Tap screw, thd. forming: No. 10-16 x 1-1/2. (Quantity 3 — Used without safety release disc & retaining bracket — for extra thick carpet).
19A701847P309	Screw, thd. forming: no: 6.32 x 25.4MM. (Secures top housing to bottom housing).	N402AP9C6	Flatwasher: No. 10. (Used with 10-16 thread forming screws).
19A700031P410	Machine screw: No. M3-0.5 x 10. (Secures J1 to rear of housing).		

DESCRIPTION

WEATHERPROOF CONTROL UNIT

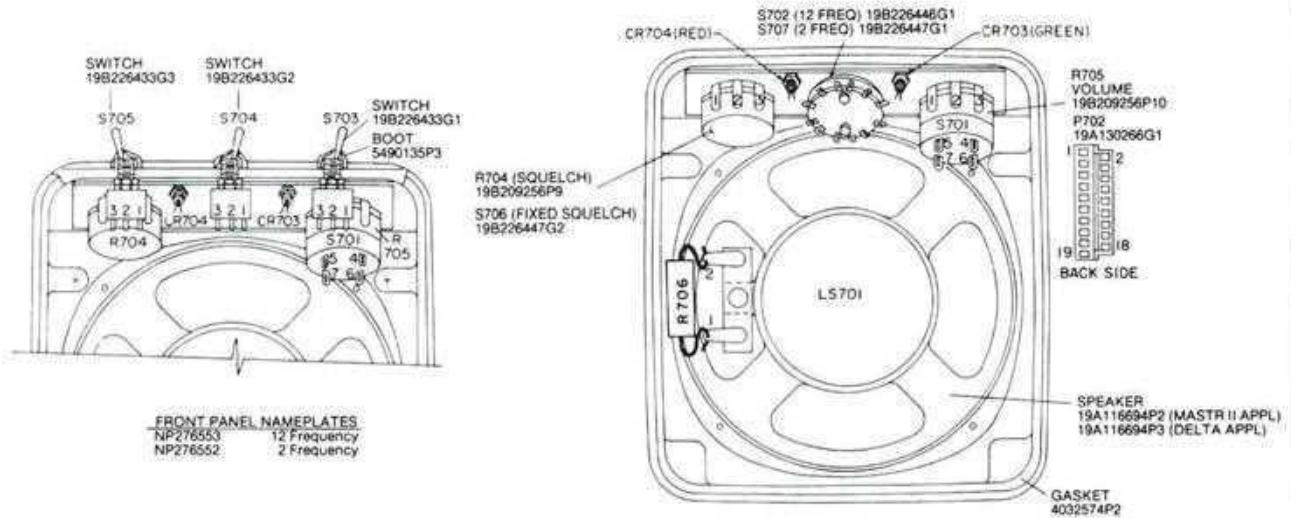
MASTR II Weatherproof Control Units are highly functional units that are enclosed in a weatherproof cast aluminum housing for durability and ease of disassembly.

The Weatherproof Control Unit contains an OFF-ON/VOLUME control, SQUELCH control, a weatherproof speaker, power ON indicator (green), Transmit indicator (Red), a printed wire board, and optional controls. All external connections are made to the back plate which attaches to the rear of the cast aluminum housing. The back plate is secured to the cast housing by four (4) No. 8 screws that pass through the corners of the cast housing. An attaching hood (rear cover) is secured to the back plate by 9 screws. A weatherproof seal between the back plate and the rear cover is provided by a rubber gasket around the edge of the back plate.



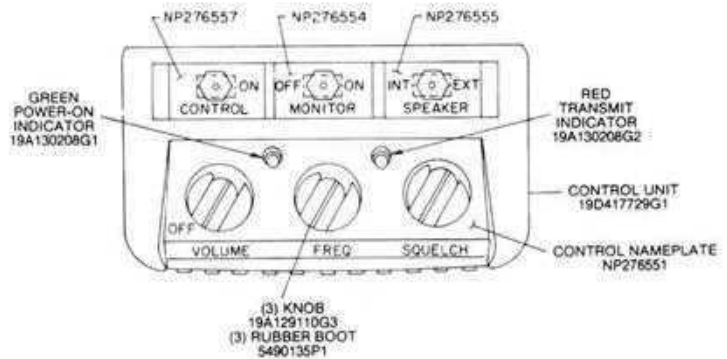
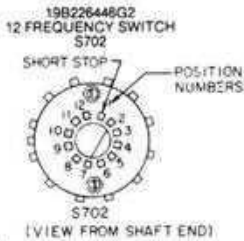
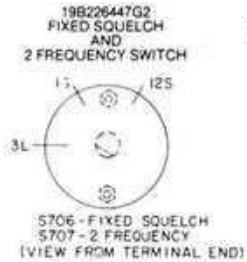
- | | | |
|---|------------------|------------------|
| 1 | — 19B209256P10 | Power ON/OFF |
| 2 | — 19A130208G1 | Power Indicator |
| 3 | — 19B206433G1 | Dual Control |
| 4 | — 19B226433G2 | Channel Guard |
| 5 | — 19B226433G3 | INT/EXT Speaker |
| 6 | — 19A130208G2 | Transmitter RED |
| 7 | — 19B226447G2 | Squelch |
| 8 | — 19B226446G1 | Channel Selector |
| | 19C321075G1 | Component Board |
| | (Not Identified) | |

Assembled complete control unit as pictured above are not stocked by Service Parts. This page is included for parts reference only.



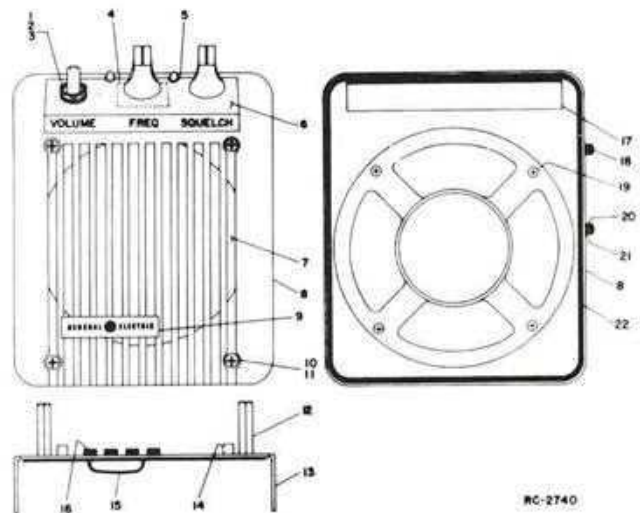
WEATHERPROOF CONTROL UNIT HOUSING

19D417729G1 MASTR II Applications
19D417729G3 DELTA Applications

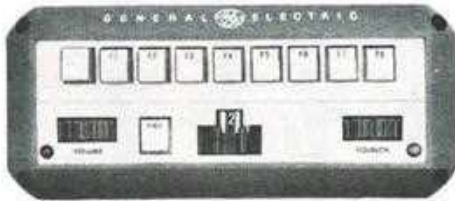


**MECHANICAL PARTS
(SEE RC-2740)**

1	7165075P2	Hex nut, brass: thd. size No. ¼-32.
2	7115130P9	Lockwasher, internal tooth: No. ¼.
3	7127662P1	Flatwasher: ¼ OD.
4	4034204P7	Tape, insulated.
5	N210P16C6	Hex nut: No. 10-32.
6	NP276551	Faceplate.
7	19B226425P1	Grille.
8	19D417599P1	Casting.
9	NP248872	Nameplate, etched aluminum.
10	N53P15024	Machine screw: thd size No. 6-32 x 1 ½.
11	19A115014P4	Bushing.
12	7142162P102	Spacer.
13	19B205168G3	Backplate. (Includes items 12, 14-16).
14	7150186P105	Spacer.
15	19A130224G1	Jumper.
16	19B209008P2	Bushing.
17	19B226289P1	Plate.
18	N80P15005C6	Machine screw, phillips head: No. 8-32 x 5/16.
19	N80P13006C6	Machine screw, phillips head: No. 6-32 x ¾.
20	N403P16C6	Lockwasher, internal tooth: No. 8.
21	N402P8C6	Flatwasher, steel: No. 8.
22	4032574P2	Gasket, cover, neoprene: approx 27-¼ inches.



ROTARY CONTROL



CONTROL MODULE
19D417750G1

PUSHBUTTON CONTROL



CONTROL MODULE
19D417661G1 1 FREQ
19D417661G2 2 FREQ
19D417661G3 4 FREQ

DESCRIPTION

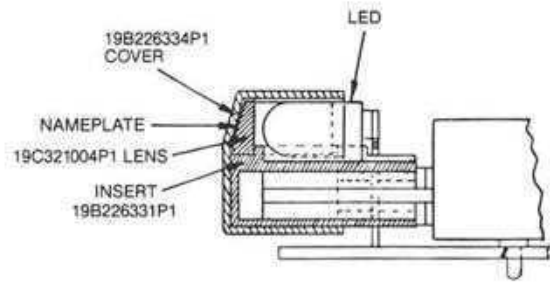
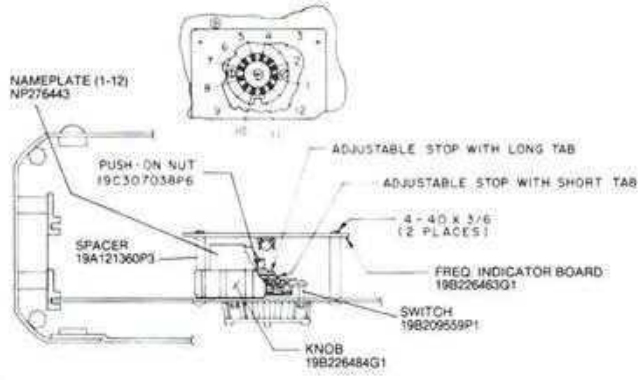
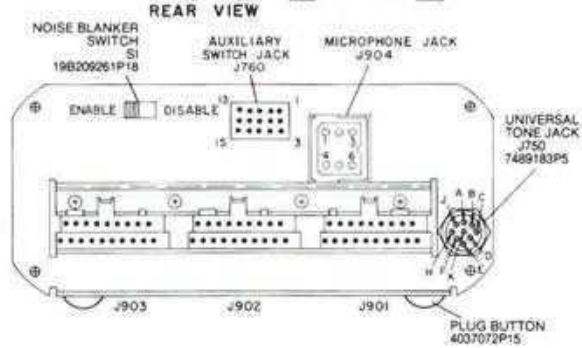
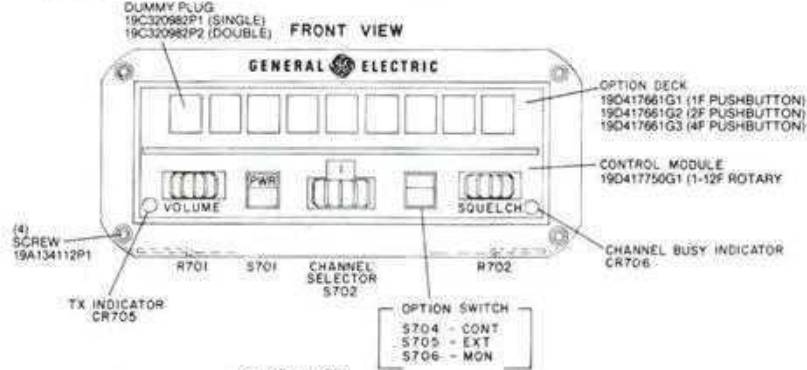
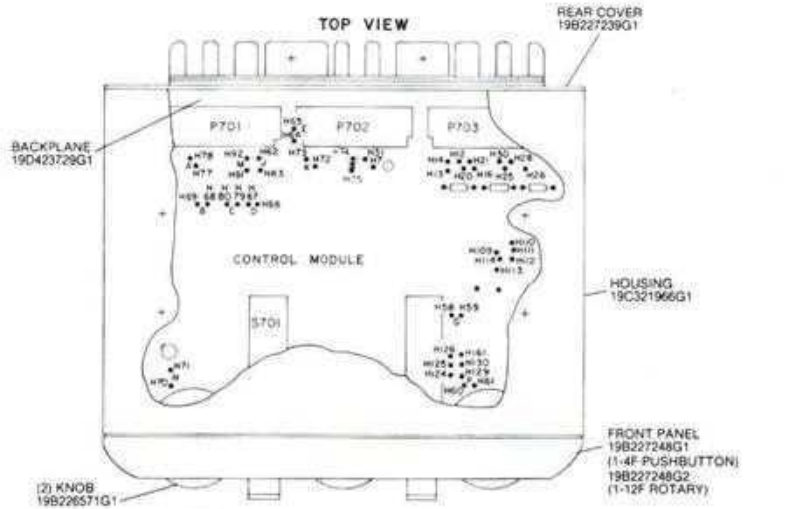
The C-800 Control Unit (with rotary control) is an attractively styled, highly functional unit that provides maximum versatility in radio control. This control unit can be used to control either the MASTR II or MASTR Executive II radios. The C-800 series control unit may be equipped with one of three different pushbutton switch options, one of six different component board options, a Noise blanker Disable switch, and may be modified to include the Fixed Squelch option.

DESCRIPTION

The C-800 Control Unit with pushbutton control is an attractively styled, highly functional unit that provides maximum versatility in radios with up to four RF channels. This control unit can be used to control either the MASTR II or MASTR Executive II "S" Series radios. The C-800 series control unit may be equipped with up to three different pushbutton switch options, one of six different component board options, a Noise Blanker Disable switch, a Universal tone connector and may be modified to include the Fixed Squelch option.

PARTS LIST

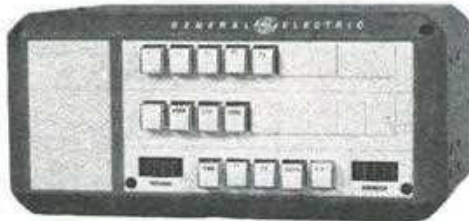
GE PART NO.	DESCRIPTION	GE PART NO.	DESCRIPTION
	----- ASSOCIATED ASSEMBLIES -----		----- MISCELLANEOUS -----
19D423424G8	Power Control Cable Mastr II Interface - 30 conductor.	19C321966G1	Housing.
19D423424G14	Power Control Cable Mastr II Interface - 38 conductor.	19B227239G1	Rear Cover.
19C321890G1	Power Control Cable Negative Ground - Executive II Interface.	19B227248G1	Front Panel.
19B219537G4	Ignition Switch Cable, 12-Volt, 2-Wire	19A134112P1	Cap screw. (Secures Front Panel to Housing - Part of front panel).
19B219537G3	DC Converter, Ignition Switch Cable	19B226571G1	Knob.
19B219537G1	Optional 12-Volt 3-Wire Ignition Switch Cable.	19A130261G1	Contact.
19A130896G1	Fixed Squelch Switch	19C320982P1	Dummy plug (Single).
19B227037G5	Dual Control Switch Kit	19C320982P2	Dummy plug (double).
19B227037G4	Channel Guard Monitor Switch	19B200525P6	Lockout rivet. Prohibits switch operation.
19B227037G6	Internal/External Speaker (Pushbutton Only)	4037072P15	Plastic Plug Buttons on outside of housing.
19B227159G1	Universal Tone Connector (cable)		
19B209425P2	Loudspeaker, permanent magnet, horn; 8 ohms \pm 10%, imp at 600 Hz, 25 watt, 300-13,000 Hz freq range; sim to Atlas SA-340M2. (Rotary Control only)		
	----- ANTENNAS -----		
7491074P1	25 — 50 MHz		
19C320111P3	66 — 88 MHz		
19B209568P1	132 — 512 MHz		
19B209568P4	800 — 870 MHz		
	----- MOUNTING KITS -----		
19A130890G1	Dash Mounting Kit		
19A130201G2	Hump Mounting Kit (requires dash mounting kit A150)		



NAMEPLATES

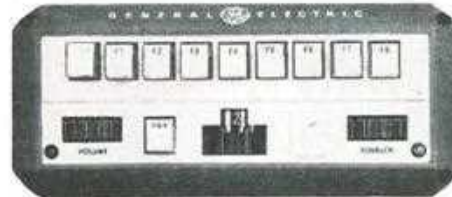
NP276459P11	F1
NP276459P12	F2
NP276459P13	F3
NP276459P14	F4
NP276459P19	POWER

PUSHBUTTON CONTROL



CONTROL MODULE
 19D417661G1 1 FREQ
 19D417661G2 2 FREQ
 19D417661G3 4 FREQ

**ROTARY CONTROL
(C-800 Shown)**



CONTROL MODULE
 19D417750G1

DESCRIPTION

The C-900 Series Control Unit with pushbutton control is an attractively styled, highly functional unit that provides maximum versatility in radios with up to 4 RF channels. This control unit can be used to control either the MASTR II or MASTR Executive II ("S" Series) radios. The C-900 series control unit may be equipped with up to three different pushbutton switch options, two of six different component board options, a Noise blanker Disable switch, a universal tone connector, and may be modified to include the Fixed Squelch option.

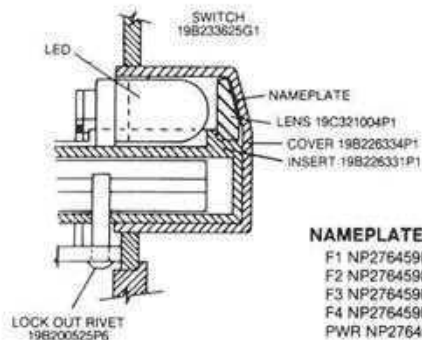
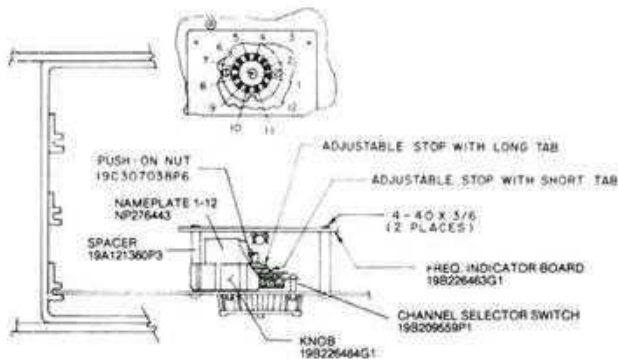
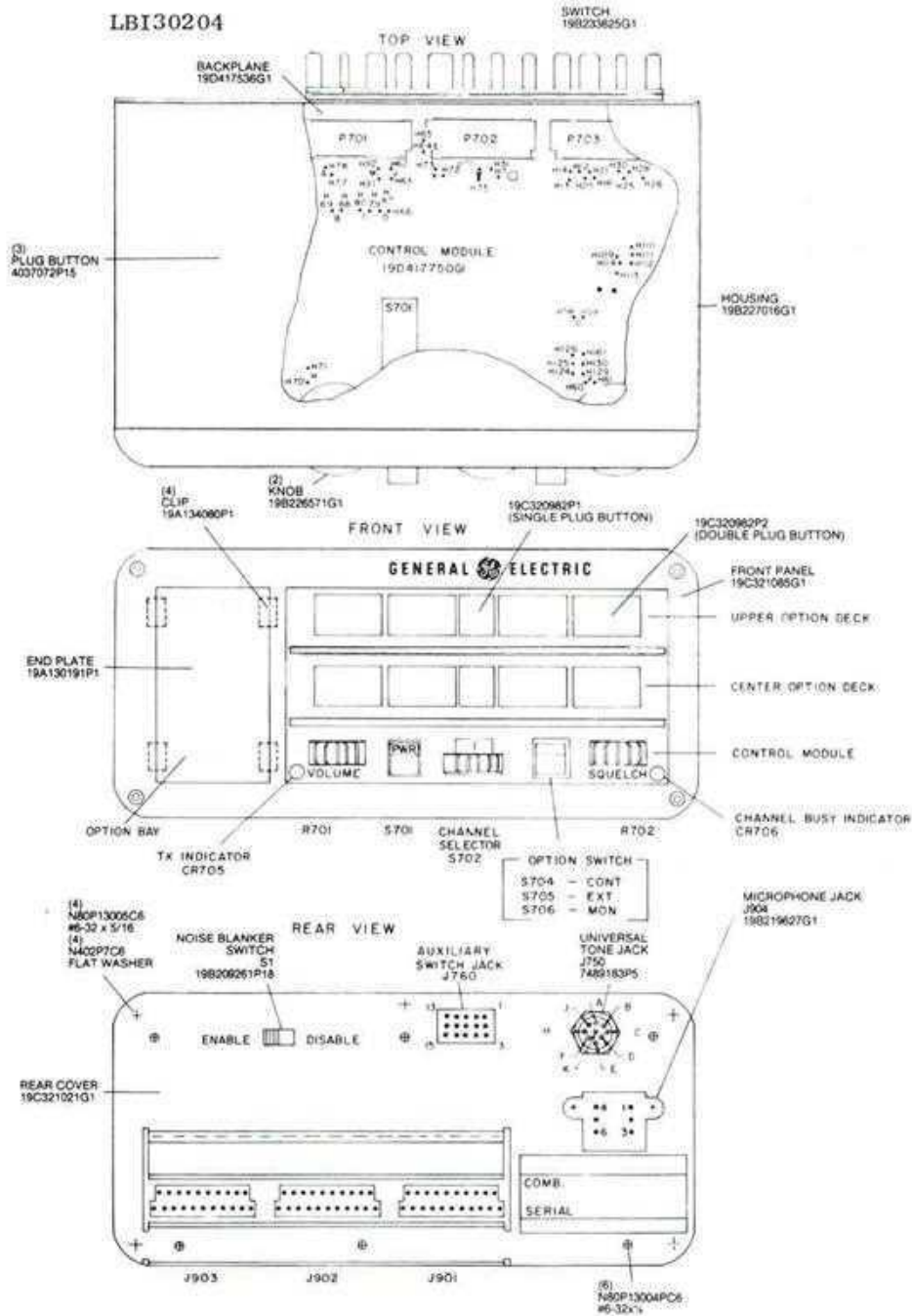
DESCRIPTION

The C-900 Control Unit (with rotary control) is an attractively styled, highly functional unit that provides maximum versatility in radio control. This control unit can be used to control either the MASTR II or MASTR Executive II "S" Series radios. The C-900 series control unit may be equipped with one of three different pushbutton switch options, two of six different component board options, a Noise Blanker Disable switch, and may be modified to include the Fixed Squelch option.

PARTS LIST

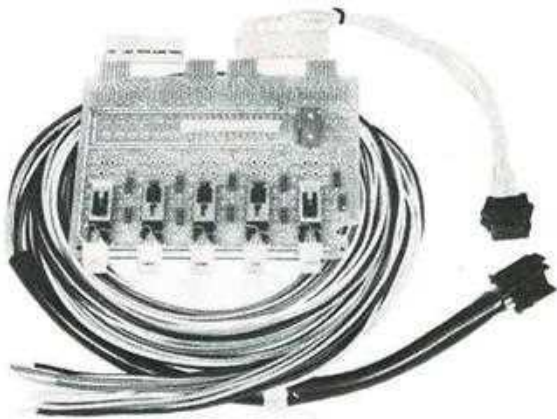
GE PART NO.	DESCRIPTION	GE PART NO.	DESCRIPTION
	----- MISCELLANEOUS -----		
19B227016G1	Housing (C-900 Series).	19D423424G8	Power Control Cable Mastr II Interface - 30 conductor.
19C321021G1	Rear Cover (C-900 Series).	19D423424G14	Power Control Cable Mastr II Interface - 38 conductor.
19C321085G1	Front Panel (C-900 Series without Fixed Squelch).	19C321890G1	Power Control Cable Negative Ground - Executive II Interface.
19C321085G3	Front Panel (C-900 Series with Fixed Squelch).	19B219537G4	Ignition Switch Cable, 12-Volt, 2-Wire.
19A134112P1	Cap screw. (Secures Front Panel to Housing - Part of front panel).	19B219537G3	DC Converter, Ignition Switch Cable.
19B226571G1	Knob.	19B219537G1	Optional 12-Volt 3-Wire Ignition Switch Cable.
19C321004P1	Lens.	19B227179G1	Noise Blanker Disable Switch.
19A130261G1	Contact.	19A130896G1	Fixed Squelch Switch.
7139880P16	Cable: 34 conductor, 20 feet.	19B227037G5	Dual Control Switch.
7142878G1	Clip loop (strain relief).	19B227037G4	Channel Guard Monitor Switch.
10A115799P1	Terminal, solderless: sim to AMP 33460. (Quantity 2).	19B209425P2	Internal/External Speaker Rotary.
		19B227037G6	Internal/External Speaker Pushbutton.
		19B227159G1	Universal Tone Connector.

LBI30204



NAMEPLATES FOR SWITCH

- F1 NP276459P11
- F2 NP276459P12
- F3 NP276459P13
- F4 NP276459P14
- PWR NP276459P19



DESCRIPTION

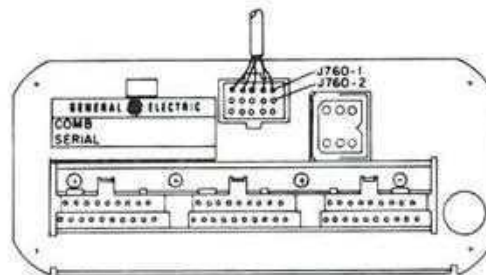
The General Electric Auxiliary Switch module used with the C-800 and C-900 Series Control Units provides the user with added flexibility to control peripheral devices. The Auxiliary Switch module plugs into the option deck(s) of the control unit and is interconnected to the peripheral devices through auxiliary switch jack J760 and selectable strapping on the module.

The Auxiliary Switch module contains five double pole throw switches and associated LED circuitry, two interconnect cables, and a sheet of peel-off labels for function identification.

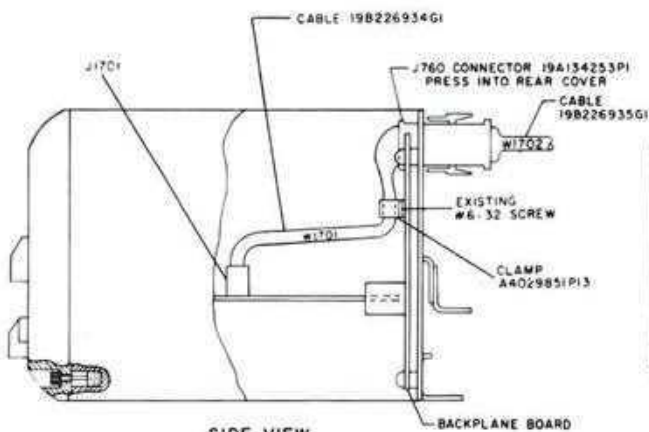
All switches are backlitged at a low level using LED's for high reliability and low power consumption. When a switch is selected (pushed in), the LED will glow at maximum brightness. Since one set of contacts on each switch is used to operate the LED, the other set of switch contacts (SPDT) is available to control an external device.

The two outboard switches are momentary action switches, the other three are push-push type switches.

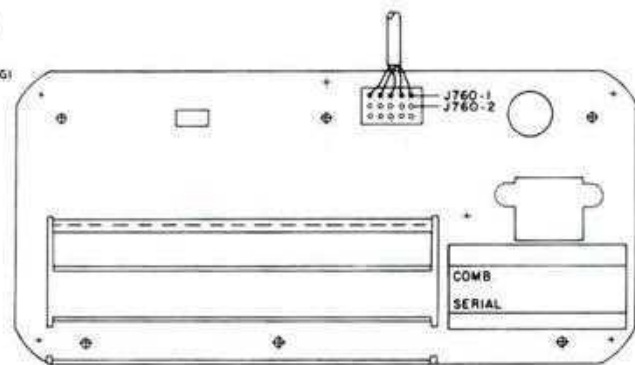
GE PART NO.	DESCRIPTION
19D423246G1	Auxiliary Switch Module includes Module Assembly with Switches, Cable and one sheet of assorted labels for switches.
----- MISCELLANEOUS -----	
19B226334P1	Pushbutton Cover.
19B226331P1	Actuator Insert.
19C321004P1	Lens.
19A115010P3	Contact, electrical: sim to Malco 13A009-11.
4038946P3	Support.
19B200525P103	Rivet, tubular.
4029851P13	Clip loop.
19D423245G1	Auxiliary Switch Module with switches.
19D423246G2	Auxiliary Switch Module without switches.
----- CABLES -----	
19B226935G1	12-ft., 15-conductor used externally to interconnect the control unit and the customer-furnished controlled device.
19B226934G1	15-conductor to interconnect the auxiliary switch module to the controlled external device.



REAR VIEW
(C-800)



SIDE VIEW



REAR VIEW
(C-900)

TMX Series



TMX-8415



TMX-8615/8630



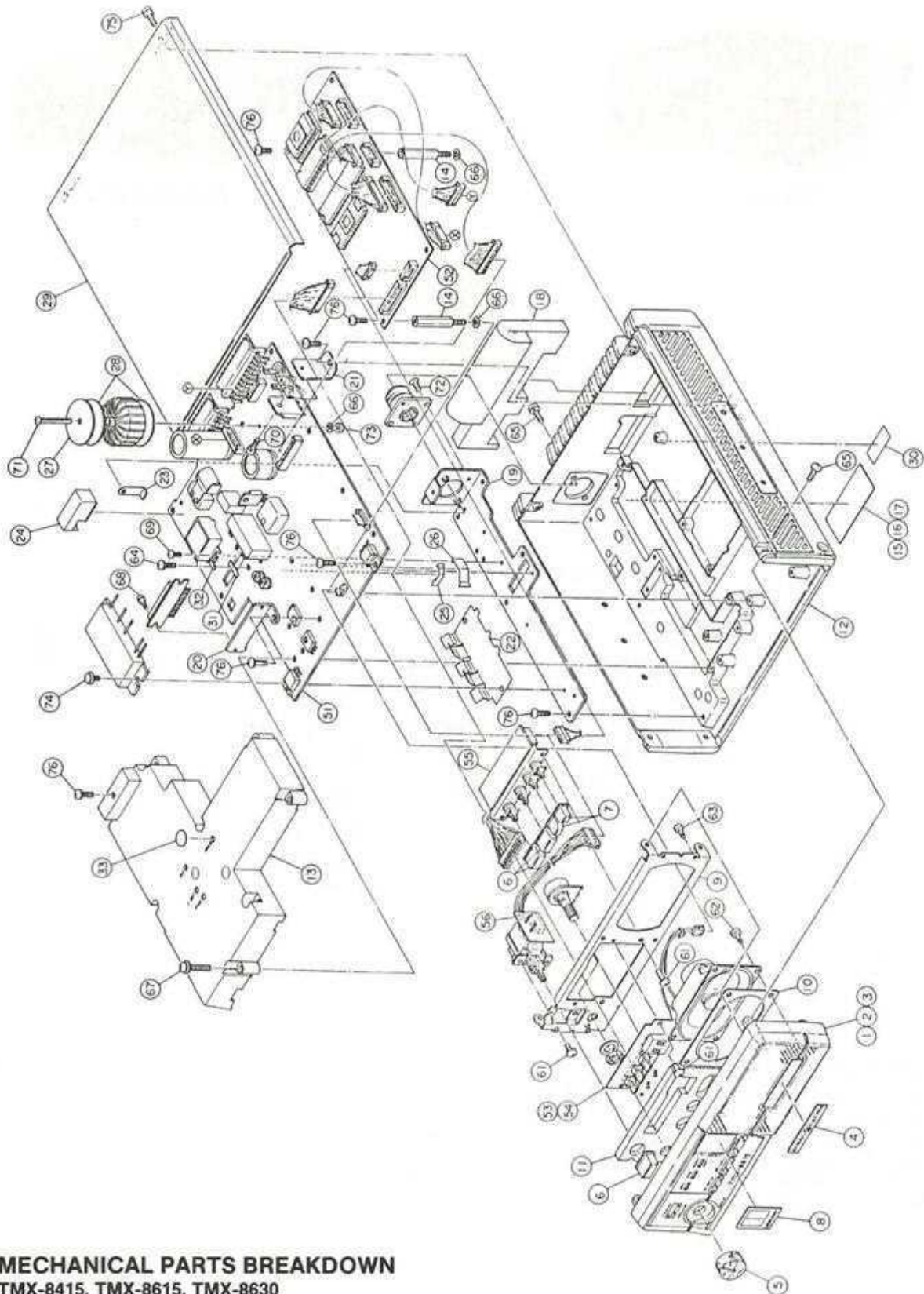
COMBINATION NOMENCLATURE

DIGITS 1&2	DIGIT 3	DIGIT 4	DIGIT 5	DIGITS 6&7
Product Code	Radio Type	Frequency	Features	Power Output
TM	X Wide Band	8 800 MHz	4 Standard	15 15 Watts
			6 Full Features	30 30 Watts

GE-MARC™ V•E TRUNKED
Mobile Packages Come Equipped with:

- Microphone
- Microphone Hookswitch
- Ignition/Power Cable
- Mounting Brackets

NOTE: Antenna and feedline must be ordered separately



MECHANICAL PARTS BREAKDOWN
TMX-8415, TMX-8615, TMX-8630

TMX-8415

PART NO.	DESCRIPTION	DRAWING NO.
1	Front Cap A Sub Assy	KEC/A3WL07338
2	NA	NA
3	NA	NA
4	Name Plate	KEC/A4WL07406
5	Volume Knob	KEC/A4WL07243
6	Button A	KEC/A4WL07244
7	NA	NA
8	NA	NA
9	Switch Panel	KEC/A2WL07247
10	Spacer	KEC/A4WL07248
11	Sponge A	KEC/A4WL07367
12	Frame	KEC/A1WL07249
13	Shield Cover	KEC/A1WL07281
14	Post	KEC/A4WL07317
15	FCC Name Plate	KEC/A4WL07345
16	NA	NA
17	NA	NA
18	Sponge B	KEC/A4WL07368
19	Heat Sink Plate	KEC/A3WL07313
20	Heat Sink A	KEC/A4WL07314
21	Heat Sink B	KEC/A4WL07315
22	Plate For PA Pack IC	KEC/A4WL07316
23	Antenna Lead	KEC/A4WL07405
24	Filter Cover	KEC/A4WL07596
25	Shield A	KEC/A4WL07597
26	Shield B	KEC/A4WL07598
27	Core Plate	KEC/A4WL05645
28	Spacer	KEC/A4WL04937
29	Cover	KEC/A3WL07250
30	Date Code Label	KEC/A3WL07648
31	Strip	KEC/A4WL07602
32	Short Bar	KEC/A4WL07726
33	Sheet	KEC/A4WL07723
51	Radio P.W.B.	KEC/A2202685
52	Logic P.W.B.	KEC/A3202677
53	Led A P.W.B.	KEC/A4202679
54	NA	NA
55	NA	NA
56	Power SW P.W.B.	KEC/A4202681
61	Pan Hd Scr, M3x6	19A700031P406
62	Pan Hd Tap Scr, M3x6	19A700036P406
63	Pan Hd Tap Scr, M2.5x6	19A700036P306
64	Pan Hd Scr, M3x8	19A700031P408
65	Pan Hd Scr, M3x10	19A700031P410
66	Lock Washer, M3	19A700033P5
67	Pan Hd Scr, M3x20	19A700031P420
68	Pan Hd Scr, M2x6	19A700031P206
69	Pan Hd Scr, M2.5x6	19A700031P306
70	Pan Hd Scr, M2.5x8	19A700031P308
71	Pan Hd Scr, M3x25	19A700031P425
72	Flat Hd Scr, M3x6	19A700035P406
73	Nut, Hex, M3	19A700034P4
74	Pan Hd Scr, M3x8	19A700031P408
75	Pan Hd Scr, M3x10	19A700031P410
76	Pan Hd Scr, M3x10	19A700031P410
	Lock Washer, M2	19A700033P1
	Lock Washer, M2.5	19A700033P3
	Lock Washer, M3	19A700033P5
	Flat Washer, M3	19A701312P4

TMX-8615

PART NO.	DESCRIPTION	DRAWING NO.
1	NA	NA
2	Front Cap B1 SubAssy	KEC/A3WL07339
3	NA	NA
4	Name Plate	KEC/A4WL07406
5	Volume Knob	KEC/A4WL07243
6	Button A	KEC/A4WL07244
7	Button B	KEC/A4WL07245
8	Window	KEC/A4WL07246
9	Switch Panel	KEC/A2WL07247
10	Spacer	KEC/A4WL07248
11	Sponge A	KEC/A4WL07367
12	Frame	KEC/A1WL07249
13	Shield Cover	KEC/A1WL07281
14	Post	KEC/A4WL07317
15	NA	NA
16	FCC Name Plate	KEC/A4WL07346
17	NA	NA
18	Sponge B	KEC/A4WL07368
19	Heat Sink Plate	KEC/A3WL07313
20	Heat Sink A	KEC/A4WL07314
21	Heat Sink B	KEC/A4WL07315
22	Plate For PA Pack IC	KEC/A4WL07316
23	Antenna Lead	KEC/A4WL07405
24	Filter Cover	KEC/A4WL07596
25	Shield A	KEC/A4WL07597
26	Shield B	KEC/A4WL07598
27	Core Plate	KEC/A4WL05645
28	Spacer	KEC/A4WL04937
29	Cover	KEC/A3WL07250
30	Date Code Label	KEC/A3WL07648
31	Strip	KEC/A4WL07602
32	Short Bar	KEC/A4WL07726
33	Sheet	KEC/A4WL07723
51	Radio P.W.B.	KEC/A2202685
52	Logic P.W.B.	KEC/A3202677
53	NA	NA
54	Led B P.W.B.	KEC/A4202678
55	Switch P.W.B.	KEC/A4202680
56	Power SW P.W.B.	KEC/A4202681
61	Pan Hd Scr, M3x6	19A700031P406
62	Pan Hd Tap Scr, M3x6	19A700036P406
63	Pan Hd Tap Scr, M2.5x6	19A700036P306
64	Pan Hd Scr, M3x8	19A700031P408
65	Pan Hd Scr, M3x10	19A700031P410
66	Lock Washer, M3	19A700033P5
67	Pan Hd Scr, M3x20	19A700031P420
68	Pan Hd Scr, M2x6	19A700031P206
69	Pan Hd Scr, M2.5x6	19A700031P306
70	Pan Hd Scr, M2.5x8	19A700031P308
71	Pan Hd Scr, M3x25	19A700031P425
72	Flat Hd Scr, M3x6	19A700035P406
73	Nut, Hex, M3	19A700034P4
74	Pan Hd Scr, M3x8	19A700031P408
75	Pan Hd Scr, M3x10	19A700031P410
76	Pan Hd Scr, M3x10	19A700031P410
	Lock Washer, M2	19A700033P1
	Lock Washer, M2.5	19A700033P3
	Lock Washer, M3	19A700033P5
	Flat Washer, M3	19A701312P4

TMX-8630

PART NO.	DESCRIPTION	DRAWING NO.
1	NA	NA
2	NA	NA
3	Front Cap B2 SubAssy	KEC/A3WL07699
4	Name Plate	KEC/A4WL07406
5	Volume Knob	KEC/A4WL07243
6	Button A	KEC/A4WL07244
7	Button B	KEC/A4WL07245
8	WINDOW	KEC/A4WL07246
9	Switch Panel	KEC/A2WL07247
10	Spacer	KEC/A4WL07248
11	Sponge A	KEC/A4WL07367
12	Frame	KEC/A1WL07249
13	Shield Cover	KEC/A1WL07281
14	Post	KEC/A4WL07317
15	NA	NA
16	NA	NA
17	FCC Name Plate	KEC/A4WL07347
18	Sponge B	KEC/A4WL07368
19	Heat Sink Plate	KEC/A3WL07313
20	Heat Sink A	KEC/A4WL07314
21	Heat Sink B	KEC/A4WL07315
22	Plate For PA Pack IC	KEC/A4WL07316
23	Antenna Lead	KEC/A4WL07405
24	Filter Cover	KEC/A4WL07596
25	Shield A	KEC/A4WL07597
26	Shield B	KEC/A4WL07598
27	Core Plate	KEC/A4WL05645
28	Spacer	KEC/A4WL04937
29	Cover	KEC/A3WL07250
30	Date Code Label	KEC/A3WL07648
31	NA	NA
32	NA	NA
33	Sheet	KEC/A4WL07723
51	Radio P.W.B.	KEC/A2202685
52	Logic P.W.B.	KEC/A3202677
53	NA	NA
54	Led B P.W.B.	KEC/A4202678
55	Switch P.W.B.	KEC/Z4202680
56	Power SW P.W.B.	KEC/Z4202681
61	Pan Hd Scr, M3x6	19A700031P406
62	Pan Hd Tap Scr, M3x6	19A700036P406
63	Pan Hd Tap Scr, M2.5x6	19A700036P306
64	Pan Hd Scr, M3x8	19A700031P408
65	Pan Hd Scr, M3x10	19A700031P410
66	Lock Washer, M3	19A700033P5
67	Pan Hd Scr, M3x20	19A700031P420
68	Pan Hd Scr, M2x6	19A700031P206
69	Pan Hd Scr, M2.5x6	19A700031P306
70	Pan Hd Scr, M2.5x8	19A700031P308
71	Pan Hd Scr, M3x25	19A700031P425
72	Flat Hd Scr, M3x6	19A700035P406
73	Nut, Hex, M3	19A700034P4
74	Pan Hd Scr, M3x8	19A700031P408
75	Pan Hd Scr, M3x10	19A700031P410
76	Pan Hd Scr, M3x10	19A700031P410
	Lock Washer, M2	19A700033P1
	Lock Washer, M2.5	19A700033P3
	Lock Washer, M3	19A700033P5
	Flat Washer, M3	19A701312P4

NA: NOT APPLICABLE

ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
OPTIONS		TEST EQUIPMENT	
TMAN02	800 MHz Antenna 19B209568P4	19A704295P2	Handset
TMCC01	Power/Ignition Cable 19B232925G2 (Battery) and 19A137818G10 (Ignition)	19D901461P2	Cable, Handset to radio.
TMCY01	DC Remote Control 19C330118G2 with 19A142545G1	19A702104P1	Test Mode Jumper
TMLS01	External Speaker (Black) 19C850550G6	19A704826P1	Tuning Tool
TMAA06	Mounting Bracket 19A138051G5	TQ2310 U.R.P. Accessories	
TMAA12	Desk Stand (Suction Type) 19A138051G8	TQ2346	Programming Software
TMMC01	Microphone 19A704599P12	TQ2347	Programming Cable.
TMMC05	Microphone, Desk (Black) 19B209694P2		
TMMC07	Microphone, Desk 19B209694P3		
TMMK01	Battery Standby Kit 19A142546G1		
TMMN03	Microphone Hookswitch 19C320318G4		
TMPD01	Noise Suppression Kit 4035219G1		
TMPD13	Noise Suppression 19A148539G1 with 19A703965P1 Filter		
TMPS01	Power Supply, 120 VAC 19D430175G1 15 Watts ONLY		
TMPS02	Power Supply, 120/240 VAC 19D430225G1 with 19A134713P2 Power Cable; 19A142546G1 Mod. Kit 15 Watts ONLY		
TMSU01	Alarm Relay Kit 19B226025G4		
PERSONALITY PROM			
19A703952P1	Prom, Blank EE (Spare)		

NA: NOT APPLICABLE



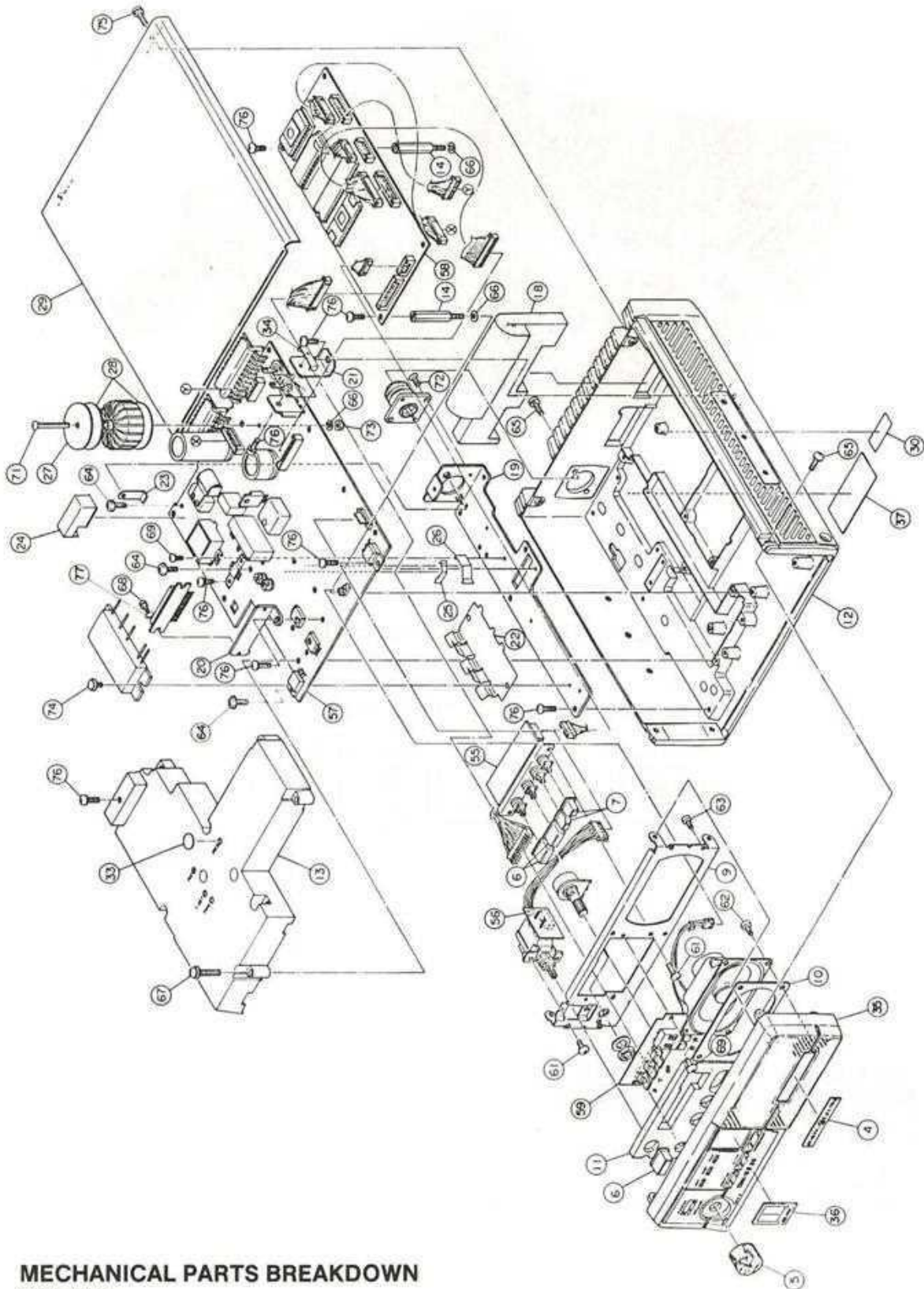
COMBINATION NOMENCLATURE

DIGITS 1&2	DIGIT 3	DIGIT 4	DIGIT 5	DIGITS 6&7
Product Code	Radio Type	Frequency	Features	Power Output
CM	X Wide Band	8 800 MHz	6 Full Feature	30 30 Watts

CM 800 MHz MOBILE RADIO
Mobile Packages Come Equipped with:

- Microphone
- Microphone Hookswitch
- Ignition/Power Cable
- Mounting Bracket

NOTE: Antenna and Feedline must be ordered separately



MECHANICAL PARTS BREAKDOWN
CMX-8630

PART NO.	DESCRIPTION	DRAWING NO.
1	NA	NA
2	NA	NA
3	NA	NA
4	Name Plate	KEC/A4WL07406
5	Volume Knob	KEC/A4WL07243
6	Button A	KEC/A4WL07244
7	Button B	KEC/A4WL07245
8	NA	NA
9	Switch Panel	KEC/A2WL07247
10	Spacer	KEC/A4WL07248
11	Sponge A	KEC/A4WL07367
12	Frame	KEC/A1WL07249
13	Shield Cover	KEC/A1WL07281
14	Post	KEC/A4WL07317
15	NA	NA
16	NA	NA
17	NA	NA
18	Sponge B	KEC/A4WL07368
19	Heat Sink Plate	KEC/A3WL07313
20	Heat Sink A	KEC/A4WL07314
21	Heat Sink B	KEC/A4WL07315
22	Plate For PA Pack IC	KEC/A4WL07316
23	Antenna Lead	KEC/A4WL07405
24	Filter Cover	KEC/A4WL07596
25	Shield A	KEC/A4WL07597
26	Shield B	KEC/A4WL07598
27	Core Plate	KEC/A4WL05645
28	Spacer	KEC/A4WL04937
29	Cover	KEC/A3WL07250
30	Date Code Label	KEC/A3WL07648
31	NA	NA
32	NA	NA
33	Sheet	KEC/A4WL07723
34	Plate Nut	KEC/A4WL07836
35	Front Cap C Sub Assy	KEC/A3WL07756
36	Window	KEC/A4WL07758
37	FCC Name Plate	KEC/A4WL07759
51	NA	NA
52	NA	NA
53	NA	NA
54	NA	NA
55	Switch P.W.B.	KEC/A4Z02680
56	Power SW P.W.B.	KEC/A4Z02681
57	Radio P.W.B.	KEC/A2Z02774
58	Logic P.W.B.	KEC/A3Z02787
59	Led C P.W.B.	KEC/A4Z02783
61	Pan Hd Scr, M3x6	19A700031P406
62	Pan Hd Tap Scr, M3x6	19A700036P406
63	Pan Hd Tap Scr, M2.5x6	19A700036P306
64	Pan Hd Scr, M3x8	19A700031P408
65	Pan Hd Scr, M3x10	19A700031P410
66	Lock Washer, M3	19A700033P5
67	Pan Hd Scr, M3x20	19A700031P420
68	Pan Hd Scr, M2x6	19A700031P206
69	Pan Hd Scr, M2.5x6	19A700031P306
70	NA	NA
71	Pan Hd Scr, M3x25	19A700031P425
72	Flat Hd Scr, M3x6	19A700035P406
73	Nut, Hex, M3	19A700034P4
74	Pan Hd Scr, M3x8	19A700031P408
75	Pan Hd Scr, M3x10	19A700031P410
76	Pan Hd Scr, M3x10	19A700031P410
77	Flat Washer, M2	19A701312P1
	Lock Washer, M2	19A700033P1
	Lock Washer, M2.5	19A700033P3
	Lock Washer, M3	19A700033P5
	Flat Washer, M3	19A701312P4

ORDERING NUMBER	DESCRIPTION
	OPTIONS
CMAN02	800 MHz Antenna 19B209568P4
CMMC01	Microphone 19B801398P2
CMMN03	Microphone Hookswitch 19C320318G4
CMMA06	Mounting Bracket 19A138051G5
CMCC01	Power/Ignition Cable 19B232925G2, 19A137818G10

NA: NOT APPLICABLE



RANGR Mobile Radio Unit

Control Unit, Microphone, Speaker, Antennas and Power and Ignition Switch Cables must be purchased separately.

RANGR Synthesized Mobile Units require a Transistorized Microphone and have a 10 Watt, 4 Ohm Audio Output.

ACCESSORIES

RADIO MOUNTING PLATE B19/MPBX14964
 RADIO MTG HARDWARE KIT B19/MPXP01744
 RADIO KEY B19/MPDM01167

ANTENNAS

Low Band WHIP 7491074P1
 Low Band BASE (Standard) 19C307172P1
 Low Band BASE, (Wide Band) 19C307172P2
 LB, WB Matcher, 29.7-38 MHz 19C851530P1
 LB, WB Matcher, 33-43 MHz 19C851530P2
 LB, WB Matcher, 37-49 MHz 19C851530P3

VHF AND up to 60 Watts, UHF 19B209568P1
 UHF, 80 Watts and up 19B209568P2

COMBINATION NOMENCLATURE

PRODUCT CODE	TRANSMIT FREQUENCY (MHz)	RECEIVER FREQUENCY (MHz)	RESERVED	CHANNEL SPACING /OPTION	RF POWER OUTPUT WATTS	FREQUENCY STABILITY
N9 RANGR	A 29-42	A 29-42	O	A STANDARD	00L 300 MW	A ±2 PPM
	B 35-50	B 35-50		B LB NS BKNR	010 10W	B ±5 PPM
	G 136-153	G 136-153		E 12.5KHz	030 30W	
	H 150-174	H 150-174		T TRUNKED	035 35W	
	P 403-423	P 403-423		R VEH REPTR	040 40W	
	R 410-430	R 410-430			060 60W	
	S 420-440	S 420-440			080 80W	
	T 440-460	T 440-460			100 100 W	
	U 450-470	U 450-470			110 110 W	
	V 470-488	V 470-488				
	W 482-500	W 482-500				
	X 494-512	X 494-512				
	Z 806-825	Z 851-870				

SERVICING ACCESSORIES

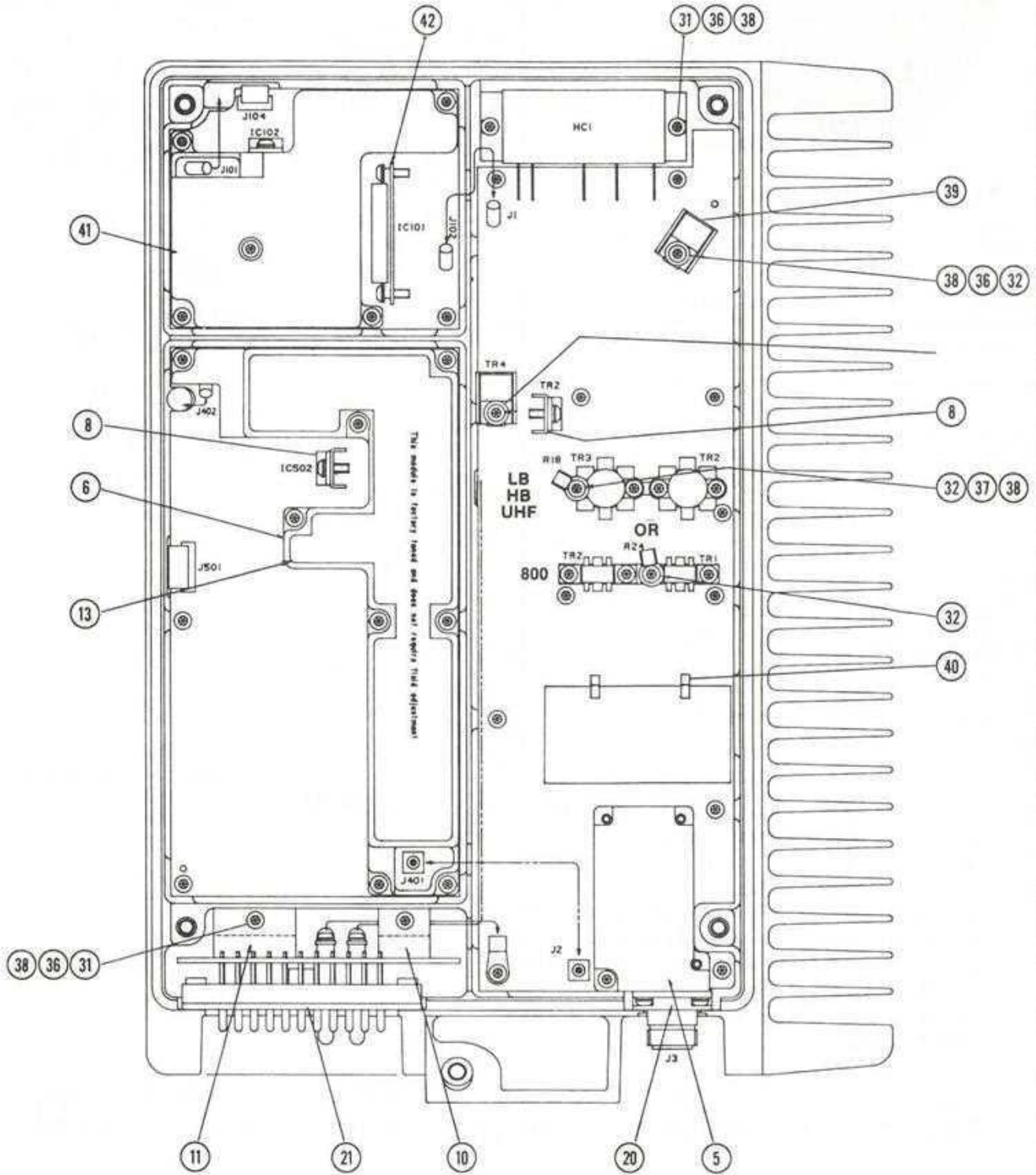
ORDERING NUMBER	DESCRIPTION
B19/MPTC00003	Tuning Tool
B19/6JJFD00057	Extension Cable, 22 Conductor
B19/6JJFD00058	Extension Cable, 10 Conductor
B19/6JJFD00059	Extension Cable, 20 Conductor
B19/6JJFD00060	Extension Cable, 4 Conductor
B19/6JJFD00061	Extension Cable, 6 Conductor
B19/6JJFD00062	Extension Cable, Coaxial
B19/6JJFD00063	Extension Cable, Coaxial

TQ2357 Radio Unit Programming Software for use in TQ2310 Programmer
TQ2358 Radio Unit Programming Cable for use with TQ2310 Programmer.

SPK039 VHS Video Service Training Package. Includes Product Overview and Programming, & Microcomputer.

SPK040 VHS Video Service Training Package. Includes Synthesizer and RF Circuitry.

**MECHANICAL BREAKDOWN
(ALL BAND)**



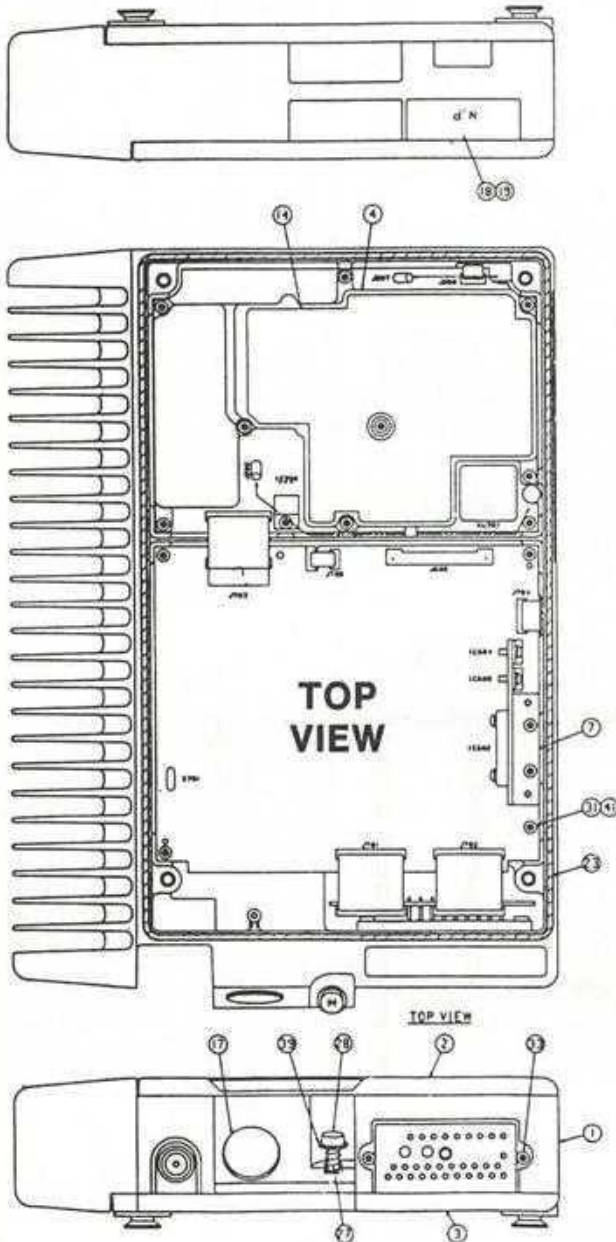
BOTTOM VIEW

THIS IS A COMPOSITE VIEW FOR ALL FREQUENCY BANDS.
CONSULT PARTS CHART FOR APPLICATION TO YOUR BAND.
(REFERENCE NUMBERS MAY DIFFER FROM MAINT. MANUAL)

See Page 16.3 for Part Numbers

MECHANICAL PARTS LISTING

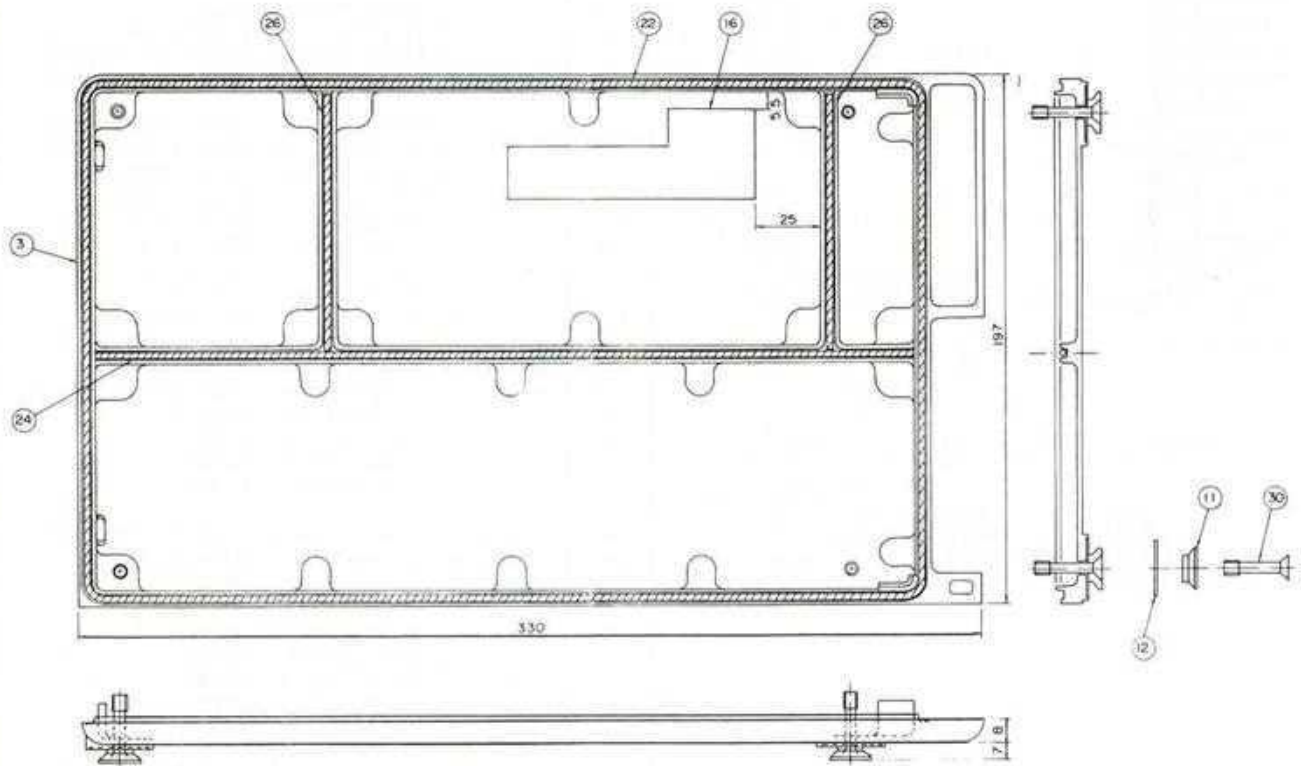
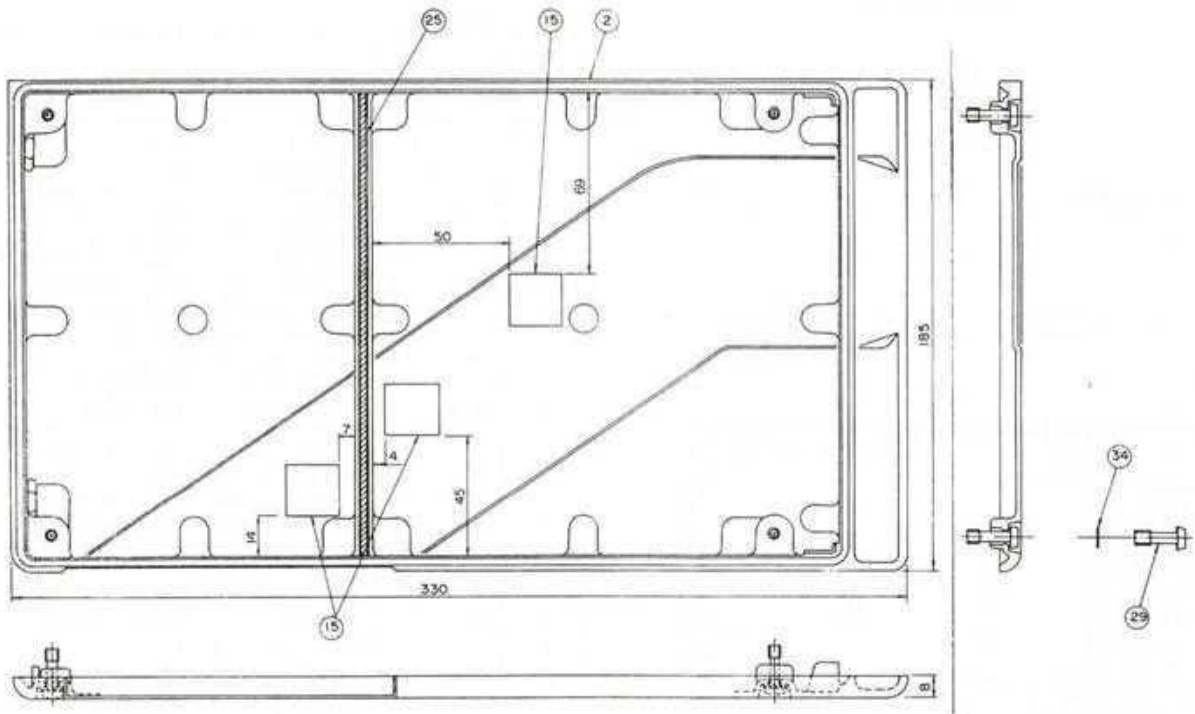
ALL BAND



APPLICATION

SYMBOL NUMBER	APPLICATION			PARTS ORDERING NUMBER	DESCRIPTION
	L O W	U H W	B H F O		
1	X	X		B19/MTG002415C	FRAME
1			X X	B19/MTG002415B	FRAME
2	X			B19/MPBC07108	TOP COVER ASM, LB
2		X		B19/MPBC07109	TOP COVER ASM, HB
2			X	B19/MPBC07110	TOP COVER ASM, UHF
2			X	B19/MPBC07111	TOP COVER ASM, 600
3	X	X	X X	B19/MPBC07112	BOTTOM COVER ASM -ALL BDS
4	X	X	X	B19/MTG002425B	CASE, SHIELD
4			X	B19/MTG002425A	CASE, SHIELD
5	X	X	X	B19/MTG002426B	CASE, SHIELD
5			X	B19/MTG002426A	CASE, SHIELD
6	X	X	X X	B19/MTG002428A	CASE, SHIELD
7	X	X	X X	B19/MTB145936	PLATE, HEAT SINK
8	X	X	X	B19/MTB147952A	PLATE, HEAT SINK
8			X	B19/MTB147952	PLATE, HEAT SINK
9	X	X	X	B19/MTB147949B	PLATE, GROUNDING
9			X	B19/MTB147949A	PLATE, GROUNDING
10	X	X	X X	B19/MTB147950A	PLATE, GROUNDING
11	X	X	X X	B19/MTL032906B	FOOT
12	X	X	X X	B19/MTT021134A	SPACER
13	X	X	X X	B19/MTT021171A	SEAL
14	X	X	X	B19/MTT021172B	SEAL
14			X	B19/MTT021172A	SEAL
15	X	X	X X	B19/MTT021158	PAD, PRESSURE
16	X	X	X X	B19/MTT021217	PRESSURE PAD
17	X	X	X	B19/MTV002836	COVER
18	X	X	X X	SERIAL # PLATE	UNAVAIL AS REPAIR PART
19	X	X	X X	NOT AVAILABLE	OVERLAY
20	X		X	B19/MPPK01210	GASKET, ANTENNA CONN.
20		X		B19/MPPK01254A	GASKET, ANTENNA CONN.
20			X	B19/MPPK01109A	GASKET, ANTENNA CONN.
21	X		X	B19/MPPK01211	GASKET, INTERFACE CONN
21		X		B19/MPPK01255A	GASKET, INTERFACE CONN
21			X	B19/MPPK01149	GASKET, INTERFACE CONN
22	X		X	B19/MPPK01158A	GASKET, SHIELD
22		X		B19/MPPK01259	GASKET, SHIELD
22			X	B19/MPPK01159	GASKET, SHIELD
23	X		X	B19/MPPK01160A	GASKET, SHIELD
23		X		B19/MPPK01260	GASKET, SHIELD
23			X	B19/MPPK01160	GASKET, SHIELD
24	X	X	X X	B19/MPPK01161	GASKET, SHIELD
25	X	X	X X	B19/MPPK01162	GASKET, SHIELD
26	X	X	X X	B19/MPPK01163	GASKET, SHIELD
27	X	X	X X	B19/MPSR02159A	SPRING
28	X	X	X X	B19/MPTG02014A	SCREW
29	X	X	X X	B19/MPTG02015	SCREW
30	X	X	X X	B19/MPTG02016	SCREW
31	X	X	X X	B19/BRTG03290	SCREW, PH, M3x8
32	X	X	X X	B19/BRTG03291	SCREW, PH, M3x12
33	X	X	X X	B19/BRTG03293	SCREW, FLTHD, M3x10
34	X	X	X X	B19/BRTG01781	WASHER, THRUST
35	X	X	X	B19/BRTG03301	WASHER
36			X	B19/BRTG03300	WASHER
36	X	X		B19/BSFW03000S	WASHER
37	X	X		B19/MTL035255	SPACER
38	X	X		B19/BRTG03493	LOCKWASHER
39			X	B19/MTB150008	PLATE, HEATSINK
40			X	B19/MTB155520	PLATE, CONDUCTING
41		X	X	B19/MTG002430A	CASE, SHIELD
42			X	B19/MTB147822	PLATE, GROUNDING

TOP COVERS



BOTTOM COVERS

See Page 16.3 for Part Numbers



COMBINATION NOMENCLATURE

PRODUCT CODE	RADIO TYPE	FREQUENCY BAND	FREQUENCY SPLIT	RF POWER OUTPUT
ML	S SYNTHESIZED	L LOW BAND	1 29.7-42 MHz LOW BAND	30 WATTS 800 BAND
		H HIGH BAND	1 403-420 MHz UHF BAND	40 WATTS HIGH-BAND
		U UHF BAND	2 42-50 MHz LOW BAND	40 WATTS UHF BAND
		8 800 MHz BAND	2 450-470 MHz UHF BAND	60 WATTS LOW BAND
		0 NONE VHF, 800 BANDS		

MLS Option & Accessories

ACCESSORIES

ORDERING NUMBER	DESCRIPTION
MLMC04	ADD Desk Station Microphone with split key for monitoring Channel Guard equipped systems.
MLMC05	ADD Heavy Duty Desk Station Microphone with split key monitoring in Channel, Guard equipped systems.
MLMA02	ADD Desk Mounting Adapter for use when using radio as Desk Mounted base station
MLPS03	ADD AC Power Supply for Load Control Desk Station Application. 121 VAC, 60 Hz.
MLPS04	Same as MLPS03, except for 121/240 VAC, 50/60 Hz. Built-in Battery Standby (Battery not included)

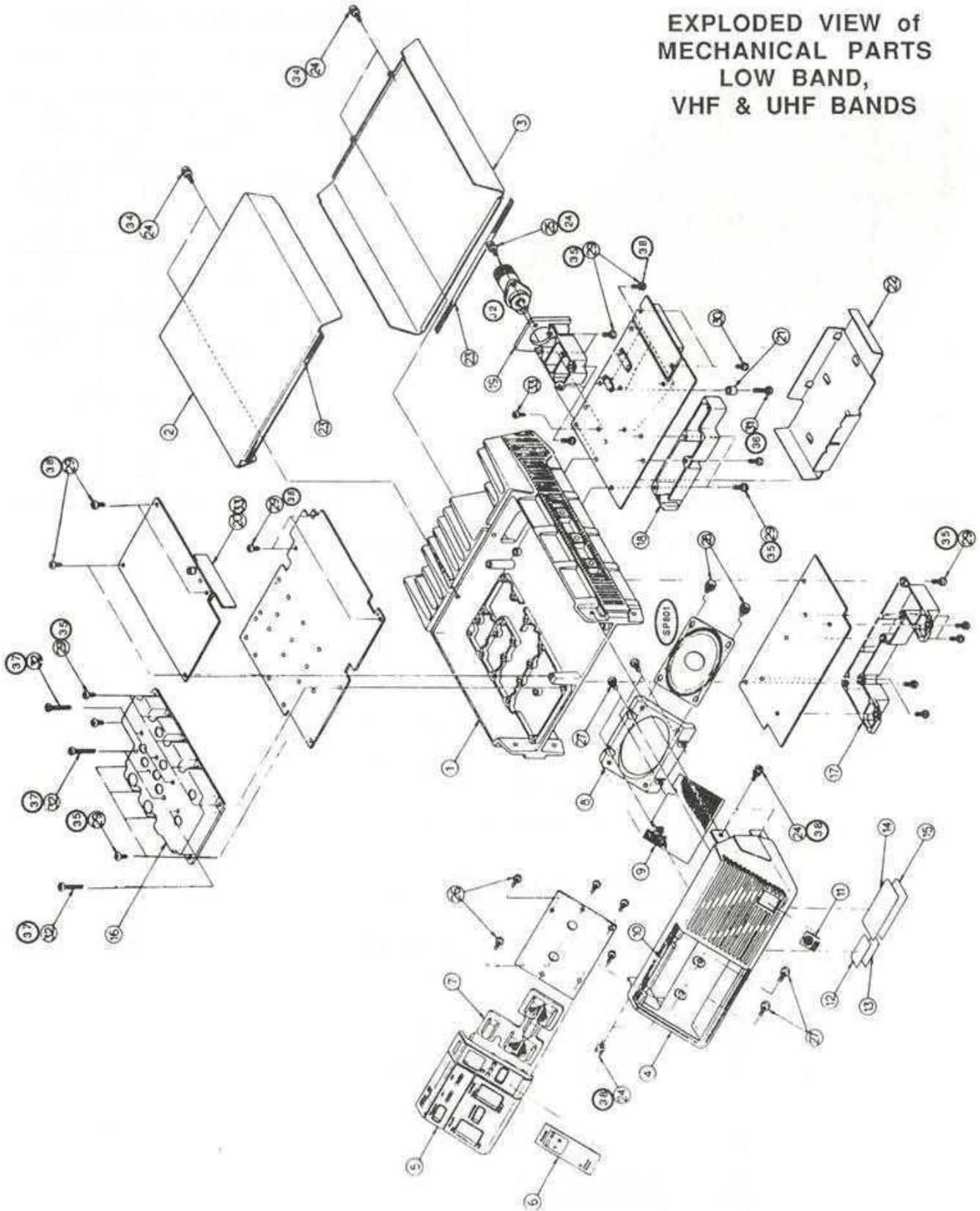
FREQUENCY CONTROL MODULES

ORDERING NUMBER	DESCRIPTION
MLMK02	8 Channel Option Kit. Field Install ONLY
MLMK03	8 Channel SCAN Option Kit. Field Install ONLY
MLMK04	16 Channel Option Kit. Field Install ONLY.
MLMK05	16 Channel SCAN Option Kit. Field Install ONLY.

ANTENNAS

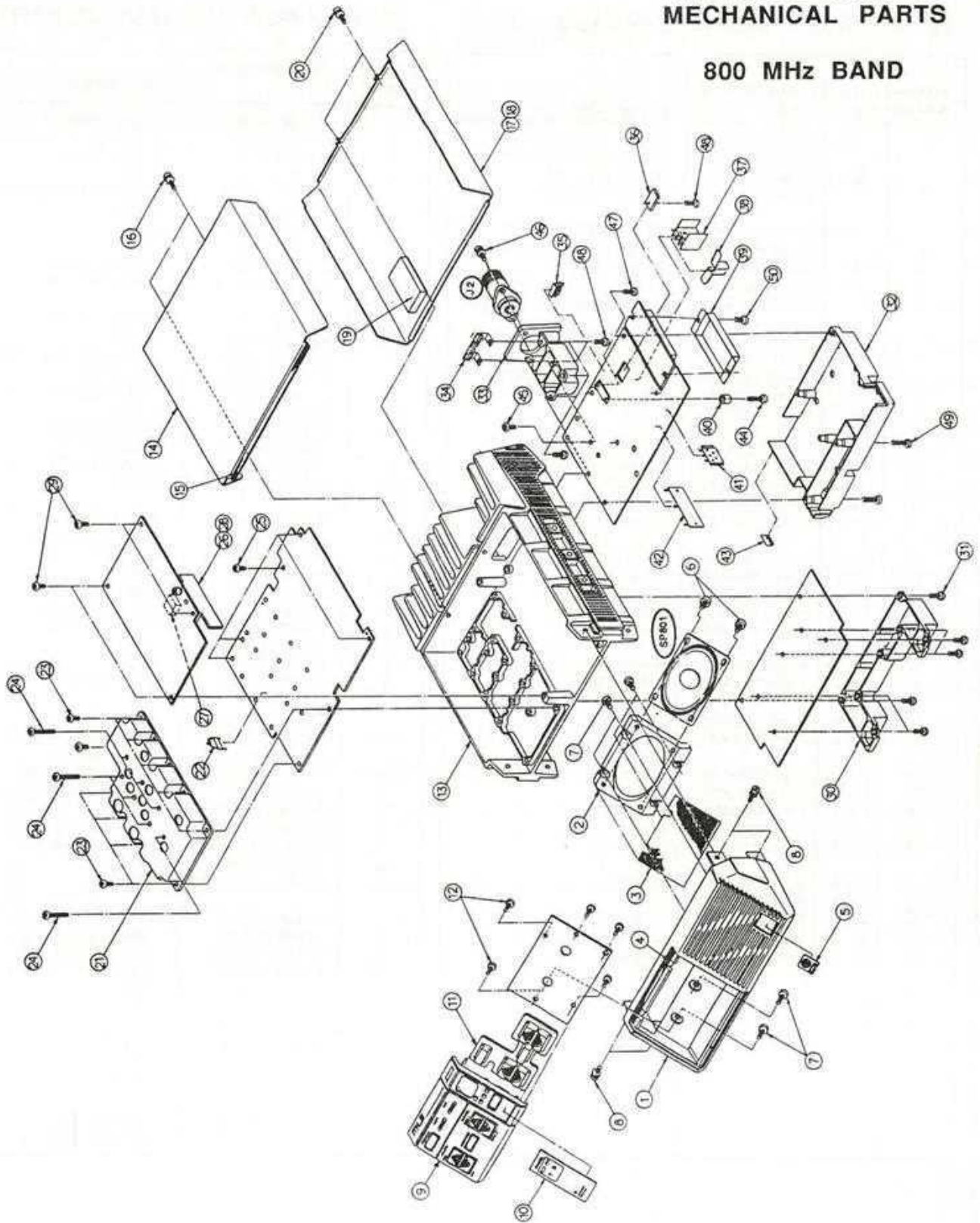
ORDERING NUMBER	DESCRIPTION
MLAN01	High Band (VHF) Unity Gain Antenna
MLAN01	UHF Unity Gain Antenna
MLAN02	800 MHz Antenna Kit. Includes RF Cable, Unity Gain Rod & Base for 800 MHz Mobile

**EXPLODED VIEW of
MECHANICAL PARTS
LOW BAND,
VHF & UHF BANDS**



**EXPLODED VIEW of
MECHANICAL PARTS**

800 MHz BAND



LB, VHF & UHF MLS MECHANICAL PARTS

800 MHZ MLS MECHANICAL PARTS

SYMBOL NUMBER	L V U O H H W F F	PARTS ORDERING NUMBER	DESCRIPTION
1	X X	B19/MTC002453A	CABINET CENTER SECTION
1	X	B19/MTC002453B	CABINET CENTER SECTION
2	X X	B19/MTB147733	CABINET TOP COVER
2	X	B19/MPBC07172	CABINET TOP COVER
3	X X	B19/MTB147734	CABINET BOTTOM COVER
3	X	B19/MPBC07173	CABINET BOTTOM COVER
4	X X X	B19/MTV002874	CABINET FRONT
5	X X	B19/MTV002878	CONTROL INSERT (A OPTION)
5	X	B19/MTV002878A	CONTROL INSERT (A OPTION)
6	X X X	B19/MTV002880A	DISPLAY INSERT (A OPTION)
7	X X X	B19/MTV002876	CONTROL KNOB 1
8	X X X	B19/MTV002875	MOUNTING BASE FOR SPEAKER
9	X X X	B19/MTZ002808	BAFFLE CLOTH
10	X X X	B19/MTZ002816	CLOTH
11	X X X	B19/MPNL16972	CO SIGNATURE MEDALLION
12	X X X	NOT REPAIR PART	SHIPPING LABEL
13	X X X	NOT REPAIR PART	OVERLAY
14	X X X	NOT REPAIR PART	SERIAL NAMEPLATE
15	X X X	NOT REPAIR PART	OVERLAY
16	X X X	B19/MTC002459	SHIELD CASE
17	X X X	B19/MTC002458	SHIELD CASE
18	X X X	B19/MTC002456	SHIELD CASE
19	X X X	B19/MTC002457	SHIELD CASE
20	X X X	B19/MTB151938A	MOUNTING PLATE
21	X X X	B19/MTL035255	SPACER
22	X X	B19/MTB149977A	SHIELD COVER
23	X X X	B19/MTZ002818A	DAMPER CLOTH
24	X X	B19/BRTG03432	SCREW
25	X X X	B19/BRTG03433	SCREW
26	X X X	B19/BRTG03159	SCREW
27	X X X	B19/BRTG03095	SCREW
28	X X X	B19/BRTG03429	SCREW
29	X X	B19/BRTG01226	SCREW
30	X X	B19/BRTG03486	SCREW
31	X X	B19/BRTG03434	SCREW
32	X X	B19/BRTG03436	SCREW
33	X X X	B19/BRTG03485	SCREW
34	X	B19/BRTG03652	SCREW
35	X	B19/BRTG03334	SCREW
36	X	B19/BRTG01620	SCREW
37	X	B19/BRTG03645	SCREW
38	X	B19/BRTG01452	SCREW

SYMBOL NUMBER	PARTS ORDERING NUMBER	DESCRIPTION
1	B19/MTV002874A	CABINET FRONT
2	B19/MTV002875	MOUNTING BASE FOR SPKR
3	B19/MTZ002808	BAFFLE CLOTH
4	B19/MTZ002816	CLOTH
5	B19/MPNL16972	CO SIGNATURE MEDALLION
6	B19/BRTG03429	SCREW
7	B19/BRTG03095	SCREW
8	B19/BRTG01452	SCREW
9	B19/MTV002878A	CONTROL INSERT
10	B19/MTV002880A	DISPLAY INSERT
11	B19/MTV002876	CONTROL KNOB
12	B19/BRTG03159	SCREW
13	B19/MTC002915	CABINET CENTER SECTION
14	B19/MTB147733	TOP COVER
15	B19/MTZ002818A	DAMPER CLOTH
16	B19/BRTG03652	SCREW
17	B19/MTB147754	BOTTOM COVER
18	B19/MTZ002818A	DAMPER CLOTH
19	B19/MTT022860	PRESSURE PAD
20	B19/BRTG03652	SCREW
21	B19/MTC002459	SHIELD CASE
22	B19/MTB158749	GROUNDING PLATE
23	B19/BRTG03334	SCREW
24	B19/BRTG02850	SCREW
25	B19/BRTG01452	SCREW
26	B19/MTB151938A	HEAT SINK PLATE
27	B19/MTT022896	PRESSURE PAD
28	B19/BRTG03845	SCREW
29	B19/BRTG01452	SCREW
30	B19/MTC002458	SHIELD CASE
31	B19/BRTG03334	SCREW
32	B19/MTC002903A	SHIELD CASE
33	B19/MTC002457	SHIELD CASE
34	B19/MTB158598	GROUNDING PLATE
35	B19/MTB158748	GROUNDING PLATE
36	B19/MTB158747	SPACER
37	B19/MPH00960	HEAT SINK
38	B19/MTB160658	HEAT SINK PLATE
39	B19/MTB155695	COVER
40	B19/MTL035255	SPACER
41	B19/MTB158513	MOUNTING PLATE
42	B19/MTB147822	GROUNDING PLATE
43	B19/MPSR02306	GROUNDING PLATE
44	B19/BRTG01620	SCREW
45	B19/BSNA03008S	SCREW
46	B19/BRTG03432	SCREW
47	B19/BRTG01452	SCREW
48	B19/BRTG03334	SCREW
49	B19/BSNA03016S	SCREW
50	B19/BRTG00024	SCREW
J2	B19/6JAFD00003	RF CONN, TYPE N
SP801	B19/5USAF0061	SPEAKER, 4 Ohm

COMBINATION NOMENCLATURE

PRODUCT CODE	RADIO PACKAGE	FREQUENCY BAND	FREQUENCY SPLIT	CONTROL PANEL	CHANNEL SPACING	RF POWER OUTPUT
NP	F FRONT MOUNT	H High Band	1 Low Split 136-153 MHz or 403-440 MHz	O None 800 MHz	S Standard	S Standard Power
			2 Mid Split UHF 440-470 MHz			
			3 High Split 150-174 MHz or 470-512 MHz			



MVS OPTIONS and ACCESSORIES CONTROL MODULES

ORDERING NUMBER	DESCRIPTION
NPCC01	OPTION CABLE. Brings all option connections to outside of radio - Required with all external options
NPCC02	UNIVERSAL TONE CABLE - Provides connection for external decoder or decoder.
NPCC03	POWER CABLE, 20 feet (Spare)
NPCC04	ENCODER/DECODER TONE CABLE - Provides connection for external decoder and decoder.
NPCC05	REMOTE MOUNTING CABLE, 9 foot (Spare)
NPAN01	UNITY GAIN ANTENNA, HB/UHF
NPPD01	ELECTRICAL NOISE SUPPRESSION KIT
NPLS01	DELTA STYLE MOBILE SPEAKER. For mounting external to radio - Requires NPCC01
NPSU01	ALARM RELAY KIT. For Type 99 Tone Options. Furnishes one pair dry contacts.
NPSU02	ALARM SWITCH. Required to disable NPSU01.
NPSU03	PUBLIC ADDRESS RELAY KIT. Requires NPCC01 Option Cable.

CABLES

MISCELLANEOUS

BASE STATION CONFIGURATION OPTIONS

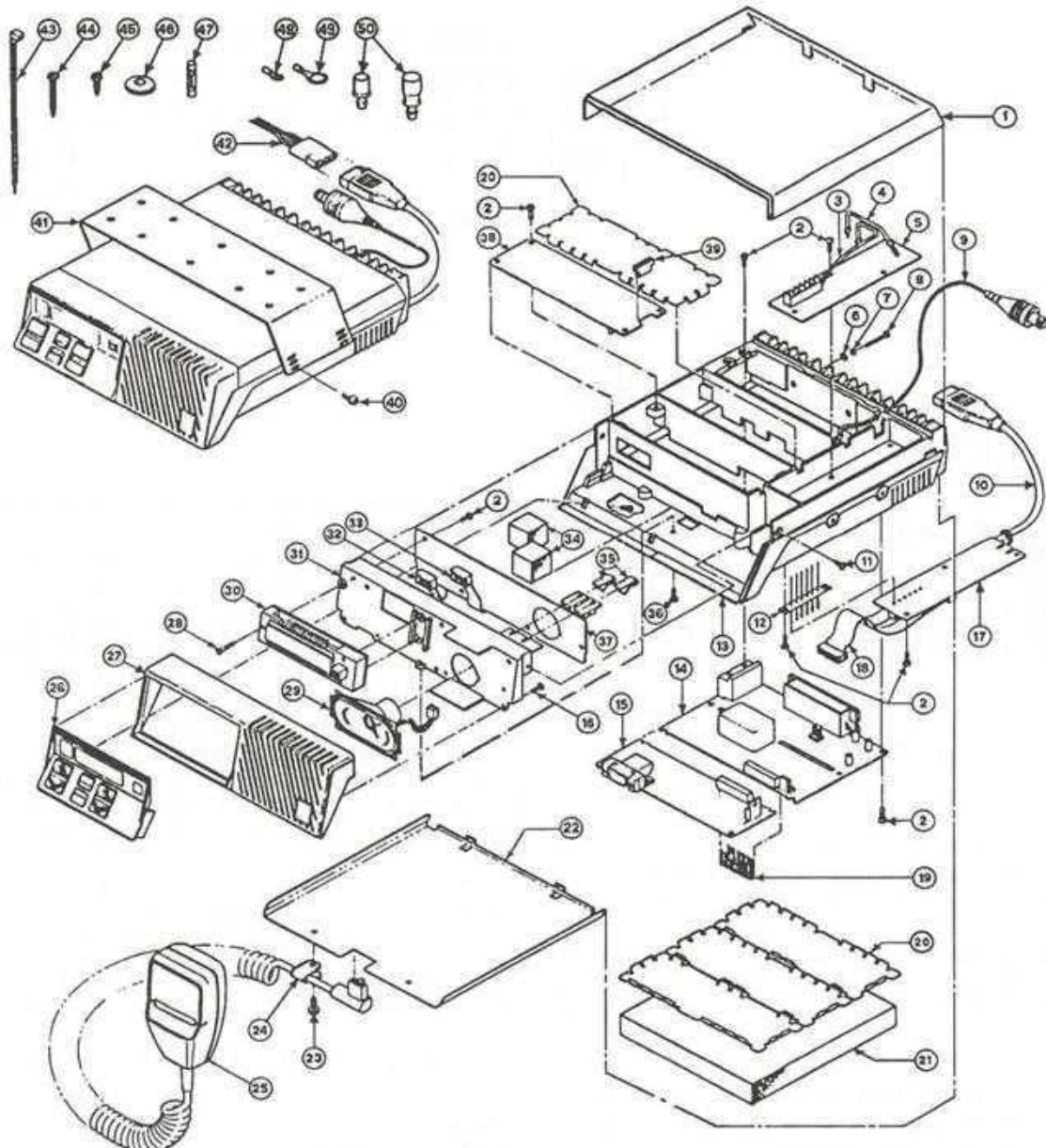
ORDERING NUMBER	DESCRIPTION
NPCC01	OPTION CABLE. Brings all option connections to outside of radio - Required with all external options
NPCC02	UNIVERSAL TONE CABLE - Provides connection for external decoder or decoder.
NPCC03	POWER CABLE, 20 feet (Spare)
NPCC04	ENCODER/DECODER TONE CABLE - Provides connection for external decoder and decoder.
NPCC05	REMOTE MOUNTING CABLE, 9 foot (Spare)
NPAN01	UNITY GAIN ANTENNA, HB/UHF
NPPD01	ELECTRICAL NOISE SUPPRESSION KIT
NPLS01	DELTA STYLE MOBILE SPEAKER. For mounting external to radio - Requires NPCC01
NPSU01	ALARM RELAY KIT. For Type 99 Tone Options. Furnishes one pair dry contacts.
NPSU02	ALARM SWITCH. Required to disable NPSU01.
NPSU03	PUBLIC ADDRESS RELAY KIT. Requires NPCC01 Option Cable.
NPBY01	LOCAL/DC REMOTE CONTROL KIT - For use with Power Supplies NPPS01 or NPPS02. Provides control interface with +6ma, -2.5ma remote control units. Use Desk Mikes below.
NPMC02	ADD DELTA DESK MICROPHONE
NPPS01	Add AC Power Supply, 60 Hz, 13 Amp.
NPPS02	Add AC Power Supply, 50/60 Hz, 13 Amp
NPBC01	REMOTE MOUNT KIT. Includes Remote Control Units, System and Power Cables and Mounting Brackets.
NPMA01	SPARE STANDARD RADIO MOUNTING BRACKET
NPMA02	SPARE REMOTE MOUNTING BRACKET
NPMA03	DESKTOP MOUNTING WEDGE

SERVICE AIDS

The MVS Mobile Units are Programmable, Synthesized radios. Programming for the specific requirements of customers is accomplished by use of an IBM-compatible Personal Computer, the PC Programming Interface Module TQ3310, the product connecting cable TQ3315, and Product Programming Software TQ3318.

Other useful service helps are:

- 19A704875P1** Extension Cable for the Audio Board
- 19B801348P4** Extension Cable for the Logic Board
- 19A705235P2** Extension Cable for the Systems Board
- ST3712** Extractor Tool for Option Cable connector plug
- TQ2370** Test Point Adapter Box
- SPK053** Video Training Parts 1&2
- SPK054** Video Training Parts 3&4
- ST2617** TNC Connector Crimp Tool



ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	19A705261G1	Top Cover	25	19B801398P4	Microphone
2	19A702381P508	Screw M3.5-0.6 x 8 (Qty 27)	26	19B801450-	Control Panel - See Manual
3	19A704884P4	RF Cable Assembly (W8)	27	19D901890P1	Front Cap
4	19A704884P3	RF Cable Assembly (W7)	28	19A702364P316	Screw, M3 -0.5 x 16 (Qty 3)
5		PA Board (See Manual)	29	19A705165P1	Loudspeaker (B901)
6	19A700033P6	Lockwasher, M3.5 (Qty 2)	30	19B801459P1	LCD Assembly (A7)
7	19A701312P5	Flatwasher, M3.5 (Qty 2)	31	19D901889G1	Shield Can
8	19A702381P520	Screw, M3.5 - 0.5 x20 (Qty 2)	32	19A705234P1	Cable Assembly (W5)
9	19A705301P1	RF Cable Assembly (W1)	33	19A705234P1	Cable Assembly (W4)
10		Power Cable (W901- Part of Systems Board)	34	19A705421P2	Foam Pad (Qty 2)
11	19A702362P908	Screws M3.5-0.6x8 (Qty 2)	35	19A705244P2	Clip, Spring Tension (Qty 2)
12	19A705126P1	Capacitor Arm (Z903)	36	19A702364P408	Screw, M3.5 -0.6x8
13	19D901881G1	Castling	37		Control Board (A6) See Manual
14		RF Board (A2)- See Manual	38		Audio Board (A3) See Manual
15		Logic Board (A1)- See Manual	39	19A705282P1	Clip
16	19A705381P13008	Screw, Tapping #6x1/2" (Qty 4)	40	19A705406P408	Screw M4-0.7 x8 (Qty 4)
17		Systems Board (A5) See Manual	41	19C851586G1	Mounting Bracket
18	19A705235P1	Cable Assembly (W3)	43	19J706152P9	Cable Tie (Qty 1)
19	19B801359P3	Connector (P702)	44	N130P1624B6	Screw, #10 x 1-1/2, (Qty 6)
20	19C851442P1	Cover (Qty 4)	45	N130P1610B6	Screw, #10 x 5/8 (Qty 6)
21	19A705421P1	Dust Pad	46	5490407P6	Rubber Grommet (Qty 1)
22	19C851573G1	Bottom Cover	47	1R16P5	Fuse, 2 Amp, Sim to Type AGC2
23	19A705406P408	Screw, M4 - 0.7x8 (Qty 2)		7102673P2	Fuse, 15 Amp, Sim to Type AGC15
24	19A701863P17	Cable Clamp	50	19A149451P2	Fuse Holder (Qty 2)



COMBINATION NOMENCLATURE

PRODUCT CODE	RADIO PACKAGE	FREQUENCY BAND	FREQUENCY SPLIT	CHANNEL SPACING	OSCILLATOR STABILITY		
CN	L Low Power	H High Band	O None 800 MHz	S Standard	A 2.5 pp (800 MHz)		
			U UHF			B 5.0 ppm	
			8 800 MHz				1 Low Split 136-153 MHz or 403-440 MHz
							2 Mid Split UHF 440-470 MHz
3 High Split 150-174 MHz or 470-512 MHz							

MCS OPTIONS and ACCESSORIES

CABLES

ORDERING NUMBER	DESCRIPTION
CNCC01	POWER CABLE, 20 feet
CNCC02	POWER AMPLIFIER CABLE, 20 foot
CNCC03	EXTENSION SYSTEM CABLE, 6 foot
CNCC04	EXTENSION SYSTEM CABLE, 18 foot

POWER AMPLIFIER

(For conversion of basic MCS to High Power)

CNRA01	POWER AMP, 136-174 MHz (40 Watts)
CNRA02	POWER AMP, 403-440 MHz (25 Watts)
CNRA03	POWER AMP, 440-470 MHz (25 Watts)
CNRA04	POWER AMP, 470-512 MHz (25 Watts),

MISCELLANEOUS

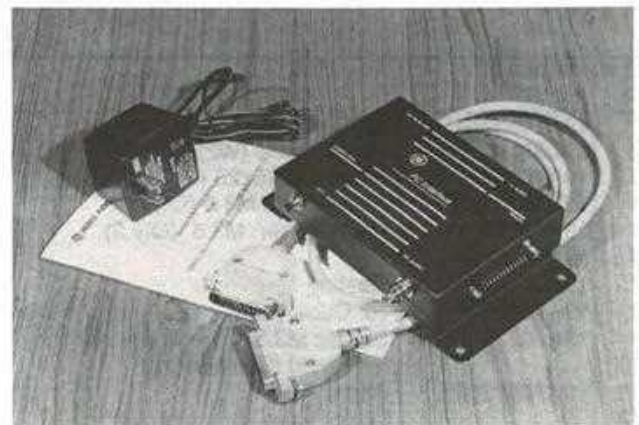
CNAN01	UNITY GAIN ANTENNA, HB/UHFO
CNMC02	NOT AVAILABLE as Option. ORDER Microphone 19B801398P3 and Microphone Hanger/Hookswitch 19C320318G4 separately
CNPD01	ELECTRICAL NOISE SUPPRESSION KIT

SERVICE AIDS

The MCS Mobile Units are Programmable, Synthesized radios. Programming for the specific requirements of customers is accomplished by use of an IBM-compatible Personal Computer, the PC Programming Interface Module **TQ3310**, the product connecting cable **TQ3314**, and Product Programming Software **TQ3317**.

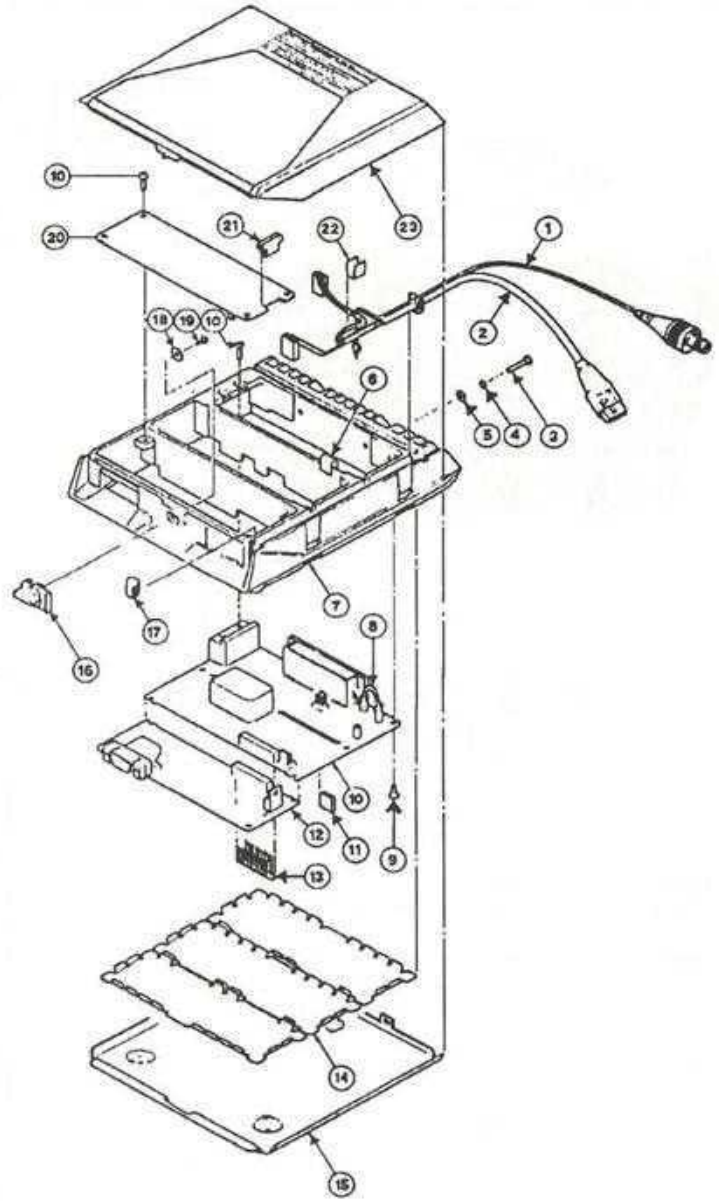
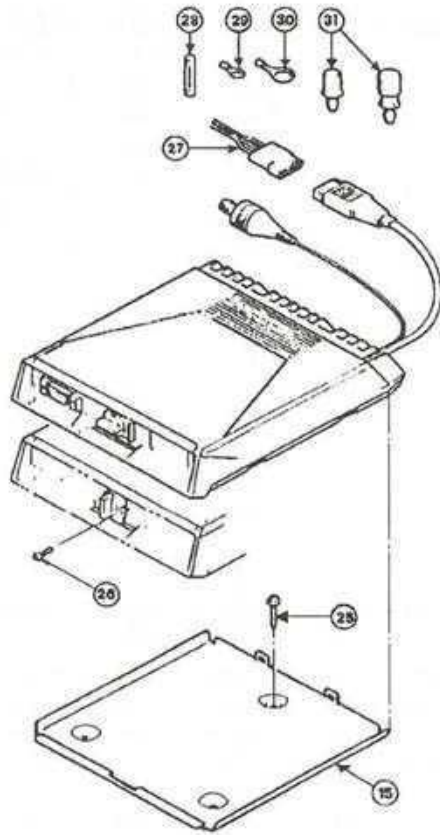
Other usefull service helps are:

19A704875P1	Extension Cable for the Audio Board
TQ2356	Test Point Adapter Box
SPK051	Video Training Parts 1&2
SPK052	Video Training Parts 3&4
ST2617	TNC Connector Crimp Tool



PC Programming Equipment

MECHANICAL PARTS LISTING

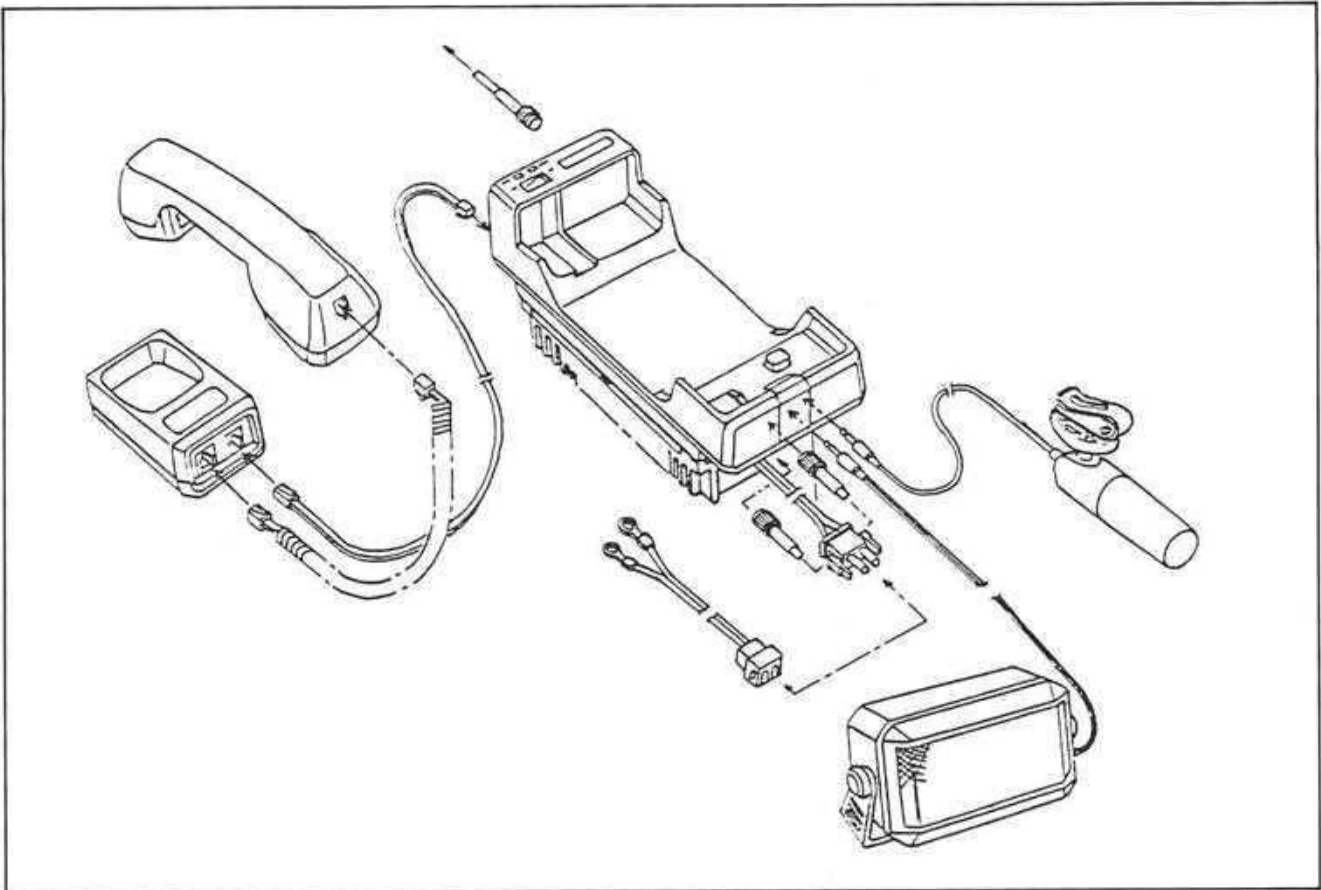


ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	19A7053301P1	RF Cable (W1)	18	N402P37B6	Flat Washer, #6.
2	19C851497P3	Power Cable (W2)	19	N130P1206B6	Screw: #6-20x 3/8"
3	19A702381P525	Screw: M3.5x25 (Qty 2)	20		Audio Board (See Manual)
4	19A701312P5	Flatwasher: M3.5 (Qty 2)	21	19A705282P1	Clip
5	19A700033P6	Lockwasher: M3.5 (Qty 2)	22	19A704943P1	Clip, Spring Tension
6	19A705244P1	Clip	23	19B801397G3	MCS Top Cover
7	19D901728G1	Casting	25	N743P1716B	HDWR Kit19A704685G1Incl #25 & 26
8	19A704884P2	RF Cable (W6)	26	19A703668P510	Screw, Self Tap #10-16x1" (Qty 3)
9	19A702381P508	Screw: M3.5-0.6 x 8 (Qty 13)	27	19B801358P7	Screw, Tamper -resistant, T15H; M3.5-0.6 x 10. Replaces Item 9
10		RF Board (See Manual)	28	1R16P5	Battery Cable, 9 foot
11	19A705220P1	Clip (Qty 2)	29		Includes Items 28, 29, 30 & 31
12		Logic Board (See Manual)	30		
13	19B801359P3	Connector (P702)	31	19A149451P2	Fuse, 2 AMP
14	19C851442P1	Cover (Qty 3)			Fuse, 5 AMP
15	19C851504G1	Bottom Cover			Terminal (Qty 2)
16	19C851505P1	Latch			Terminal (Qty 2)
17	19C851497P2	Hole Plug			Fuse Holder (Qty 2)



GE-STAR™ CELLULAR MOBILE ACCESSORIES

ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
T1AN02	ELEVATED FEED ANTENNA. Provides elevation of the radiating elements for trunk deck mounting. Antenna provides 3 dB gain.	T1MN01	HANDSET HOLDER. Small handset mounting affixes to dashboard or elsewhere. Requires no electrical connections.
T1AN03	GLASS ANTENNA. Eliminates need to drill a hole in the vehicle. Ideal for use on vehicles with non-metallic bodies. Antenna adheres to windshield or windows.	T1MN02	MTG FRAME-RADIO. Frame provides secure mounting of mobile to a flat surface. Has slot to accept mobile lock.
T1CC01	9' CONTROL CABLE. Reduced length control cable for radio mounting locations, such as under front seat.	T1PM01	NUMBER ASSIGNMENT PROM. Blank NAM.
T1CC02	15' CONTROL CABLE provides adequate length for trunk mounting in vehicles.	T1SU01	HORN RELAY. Relay activated by incoming call when horn function is energized to operate horn or light. Capacity ½ ampere.
T1CC05	19' POWER CABLE. Standard length power cable adequate length to connect from trunk mounted radio to vehicle battery in most vehicles.	INSTALLATION KITS	
T1CC08	27' POWER CABLE. Extra length power cable for longer vehicles.	T1MA01	LONG 15' CABLES W/ANTENNA. Installation accessories to facilitate using radio and handset in second vehicle. Includes power and control cables, standard antenna, radio mtg frame, handset hanger and mounting hardware.
T1CC06	21' REARSEAT CABLE. Control cable has receptacle to facilitate connecting a second control cable for an extension control unit for use in limousines and recreational vehicles. Each cable requires a hand set.	T1MA02	SHORT 9' CABLES W/ANTENNA. Same as MA01 with 9' cable.
T1CC09	DATA CABLE for use with JB01 speaker module. Provides audio in, audio out, ring detect and hookswitch control for use with customer supplied, telephone line compatible data equipment.	T1MA03	LONG 15' CABLES W/O ANTENNA. Same as MA01 w/o antenna.
T1JB01	SPEAKER MODULE. Connects between handset and control cable to provide additional audio output for ringing and on hook call progress monitoring. Conveniently mounts under dash. Also has connector for 2 way data sets which provides receiver and transmitter audio, ring detect and control functions. Requires a cable to connect to external data unit. (CC09)	T1MA04	SHORT 9' CABLES W/O ANTENNA. Same as MA02 w/o antenna.
T1JB02	HANDSET SPEAKER & MICROPHONE, consists of compact speaker and directional, noise cancelling microphone to provide full duplex operation.	MOUNTING ACCESSORIES FOR HANDSET	
T1MT07	HANDSET, BEIGE EXTENDED FEATURES. Two color handset with retractable cord and connector. Colors back, beige; underside, black.	T1MN03	WEDGE. Mounts behind MN01 to facilitate angular corrections. Has flat surface which conveniently accepts Velcro® or adhesives for no-drill mounting.
T1MT10	HANDSET, BLACK EXTENDED FEATURES. Black handset with retractable cord and connector.	T1MN04	Z MOUNTING BRACKET. Provides flexibility to alter direction. Useful for mounting on perpendicular or odd-angled surfaces.
		T1MN05	HORIZONTAL HANDSET MOUNTING. Facilitates mounting on hump or other surfaces. Provides support to both ends of the handset.
		T1MN06	SWIVEL MOUNT. Provides mounting flexibility for MN01 and MN05.
		T1MN07	CABLE MOUNT. Mounts beneath swivel mount to provide a convenient, accessible location for the handset and control cable connections.



ACCESSORIES FOR GE★MINI

ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
T2BU01	<p align="center">BATTERY</p> <p>BATTERY, Spare rechargeable, 700 mAh.</p>	T2PS01	<p align="center">DESK CHARGERS</p> <p>DESK CHARGER, 16-Hr, 121 VAC, 50/60 Hz. Charges battery in radio and spare battery simultaneously at 16-hr rate.</p>
T2PS03	<p align="center">VEHICULAR CHARGERS</p> <p>VEHICULAR CHARGER, 16-Hr, with handset & Mounting Cradle, Speaker, pedestal mount, and coupling capability for an external antenna (order antenna separately).</p>	T2PS02	<p>DESK CHARGER, 1.5/16-Hr., 121 VAC, 50.60 Hz. Charges spare battery in 1.5 Hr and battery in radio at 16-hr rate.</p>
T2PS04	<p>VEHICULAR CHARGER, with hands free capability and visor mountable, directional microphone. Otherwise, same as T2PS03.</p>	T2AN03	<p align="center">ANTENNA</p> <p>ANTENNA, thru-glass, 3-dB gain. No drilling required for mounting.</p>
T2PA012	<p align="center">POWER BOOSTER</p> <p>POWER BOOSTER, Raises the output power to a full 3 watts. Mounts with Vehicular Charger T2PS03 or T2PS04 (order separately).</p>		

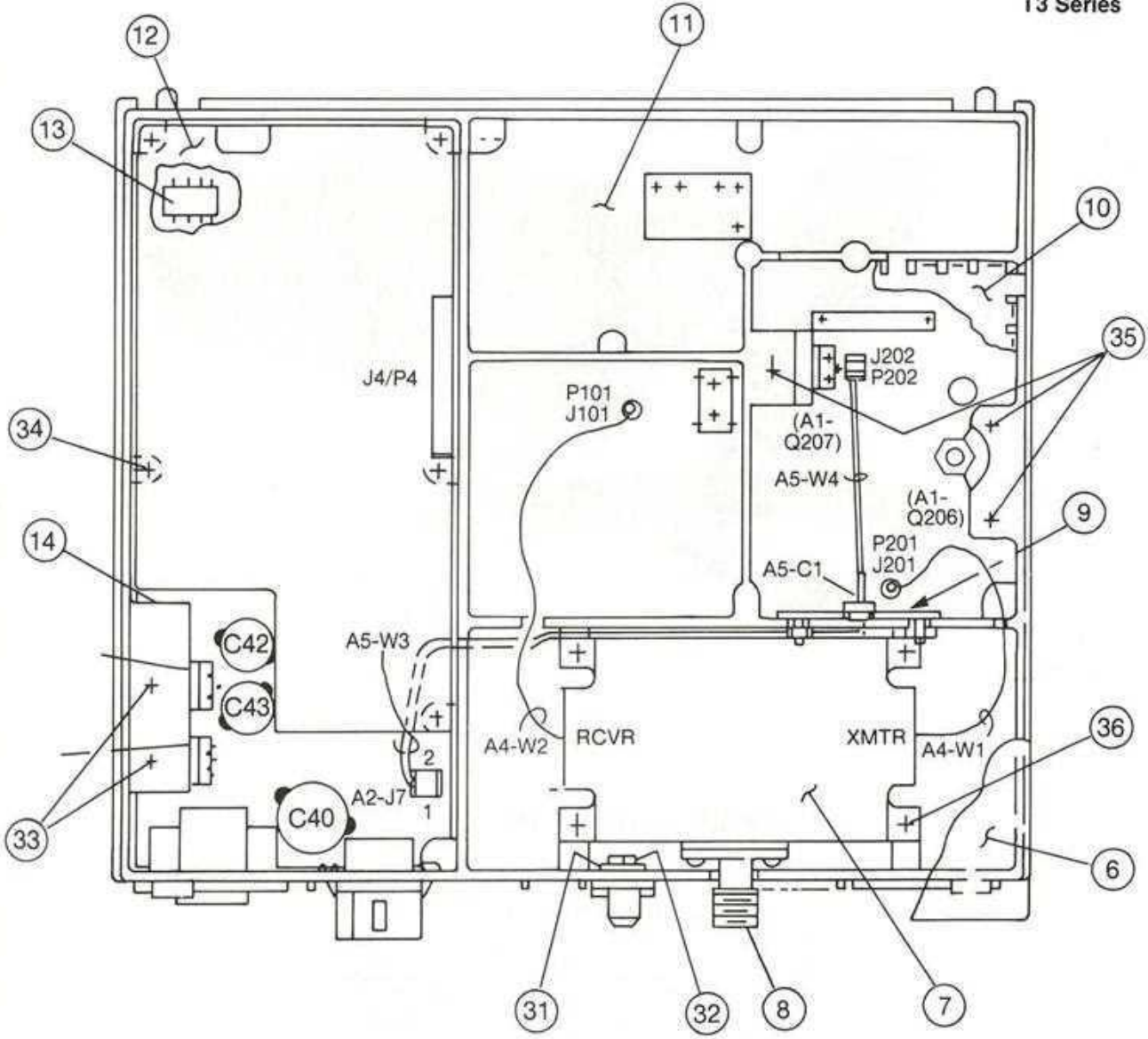
T3 Series



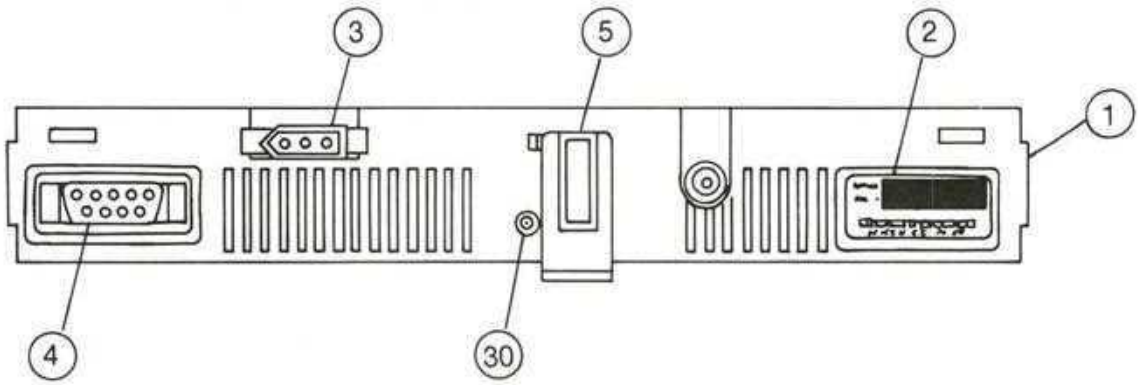
COMBINATION NOMENCLATURE

DIGITS 1&2	DIGIT 3	DIGIT 4	DIGITS 5&6
Product Code	Radio Type	Version	Radio Nameplate
T3	A Trunk Mount	C Leader	GE General Electric
		D Step-Up	

T3 Series



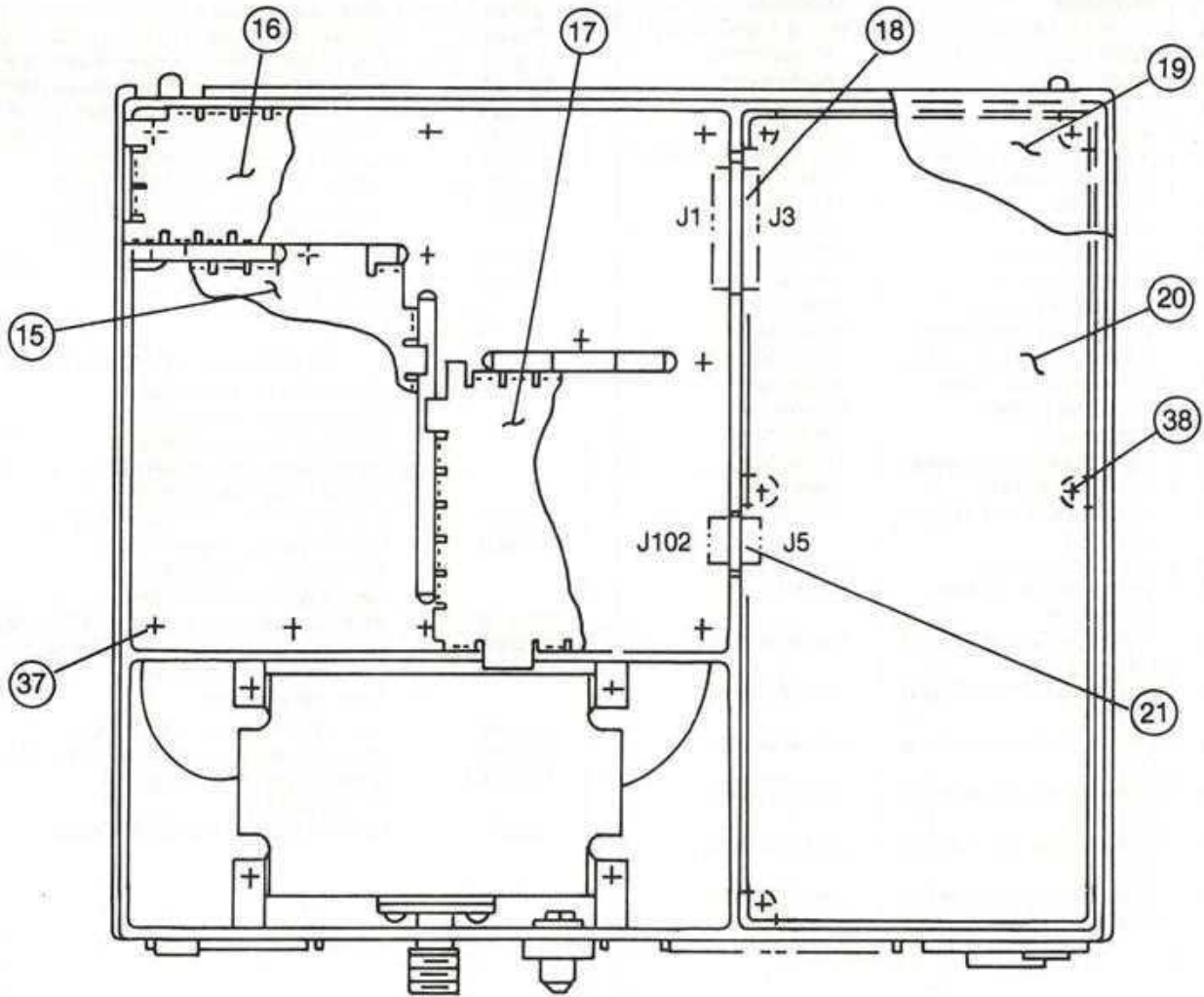
TOP VIEW



PARTS BREAKDOWN

FRONT VIEW

T3 Series



BOTTOM VIEW

PARTS BREAKDOWN

PART NO.	DESCRIPTION	DRAWING NO.	ORDERING NUMBER	DESCRIPTION
				OPTIONS
1	Radio Casting	19D901625P1	T3AN01	Roofmount Antenna. Order 19B801182P1
2	Nameplate	19C851490P1	T3AN02	Elevated Feed Antenna. Order 19C851296P1
3	Power Connector J2	Part of 19B801379P1	T3AN03	Glassmount Antenna. Order 19C851295P2
4	System Connector J1	19B209727P29	T3CC01	19 Foot Power Cable. Order 19B801358P1
5	Latch	19C851460P1	T3CC02	6 Foot System Cable. Order 19B801348P2
6	Top Cover	19A704774G1	T3CC03	18 Foot System Cable. Order 19B801348P1
7	Duplexer (A4)	19B801362P1	T3CC04	Service Cable. Order 19C581493P1
8	Antenna Connector J3	Part of 19B801362P1	T3JB01	Speaker Module. Order 19A704878P1
9	Capacitor Plate (A5)	19B801383P1	T3JB02	Handsfree Speaker and Microphone. Order 19A704878P3 and 19A148863P1
10	Transmitter Top Shield	19C851468P4	T3MT01	Black Handset (Basic). Order 19A704849P1
11	RF Board (A1)	19D901559G1	T3MT02	Grey Handset (Extend. Feat.). Order 19A704810P1
12	Audio Board (A3)	19D901562G1		
13	EEPROM (A2-U6)	19A704724P1		
14	Heat Sink Assembly	19B801378G1		
15	Transmitter Bottom Shield	19C851468P2		
16	Synthesizer Bottom Shield	19C851468P3		
17	Receiver Bottom Shield	19C851468P1		
18	Connector for W6	19B801359P3	T3MA01	15 Foot Cable Kit Includes: Bottom Cover 19B801381G1 Hardware Kit 19A704685G1 Power Cable 19B801358P1 System Cable 19B801348P1
19	Bottom Cover	19B801381G1		
20	Logic/Power Supply Board	19D901566G2		
21	Connector for W5	19B801359P4	T3MN01	Handset Holder. Order 19B801150G1
30	TORX® screw, thd. forming M3.5 x 10	19A702381P510	T3MN02	Radio Mounting Frame. Includes: Bottom Cover 19B801381G1 Hardware Kit 19A704685G1
31	Flat Washer, No. 6	N402P37C6		
32	Tap screw, thd. forming, No. 6-20 x 3/8	N130P1206C6		
33	TORX® screw, thd. forming M3.5 x 10	19A702381P510	T3MN03	Handset Wedge Mount. Order 19B801150G2
34	TORX® screw, thd. forming M3.5 x 8	19A702381P508	T3MN04	Handset Z Mount Order. 19A701870G2
35	TORX® screw, thd. forming M3.5 x 8	19A702381P508	T3MN05	Handset Horizontal Mount. Order 19B801227G1
36	TORX® screw, thd. forming M3.5 x 13	19A702381P513	T3MN06	Swivel Mount. Order 19B801228G1
37	TORX® screw, thd. forming M3.5 x 8	19A702381P508	T3MN07	Cable Mount Swivel Order 19A704041G1
38	TORX® screw, thd. forming M3.5 x 8	19A702381P508	T3PD13	Noise Suppression Kit Includes: Kit 19A148539G1
			T3SU01	Alarm Relay Kit Order 19B226025G4

TORX® is a registered trademark of CAMCAR DIVISION OF TEXTRON, INC.



MPR Personal Radio



MPX Personal Radio

COMBINATION NOMENCLATURE

DIGIT 1 & 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGIT 6	DIGIT 7	DIGIT 8	DIGIT 9	DIGIT 10
PRODUCT CODE	PACKAGE	TX FREQUENCY RANGE *	RX FREQUENCY RANGE *	CHANNEL SPACING	RF POWER	MAXIMUM CHANNEL CAPACITY	CONTROL	POWER SOURCE
P4 MPX	A BASIC	H 138-155 MHz	H 138-150 MHz	2 125 kHz	4 0.9-1.6 WATTS	A One	E STANDARD	N 750 mAh NiCd
P2 MPR	B MEDIUM	J 150-174 MHz	J 150-162 MHz	5 25 kHz	5 1.7-3.8 WATTS	B Two	K DELUXE	M 1200 mAh NiCd
	C EXTENDED	K 150-174 MHz	K 162-174 MHz	5 30 kHz	6 3.9-6.4 WATTS	C Three	D STANDARD IND. TX & RX	X NC BATT
		N 406-435 MHz	N 406-435 MHz			D Four	J DELUXE IND. TX & RX **	
		R 435-470 MHz	R 435-470 MHz			E Five		
		S 470-512 MHz	S 470-512 MHz			F Six		
		W 806-825 MHz (MPX ONLY)	W 851-870 MHz (MPX ONLY)			G Seven		
						H Eight		
						J Nine		
						K Ten		

*NO CROSS SPLIT OFFERED

**FOR INTERNATIONAL USE ONLY.

Channel Elements (Standard Channel Stability)

When ordering Channel Elements, you must specify operating frequency.

	TRANSMITTER ORDER NUMBER	RECEIVER (STANDARD IF) ORDER NUMBER	RECEIVER (ALTERNATE IF) ORDER NUMBER
MPR/MPX Channel Oscillators			
VHF (138-174 MHz)	19A137646G1	19A137645G1	19A137645G5
UHF (406-512 MHz)		19A137645G7	19A137645G11
UHF (406-512 MHz)	19A137646G3 (ONLY IF SEP TX/RX)		

MPX 800 MHz BAND

19A1376454G13

OFFSET Oscillators

When ordering Offset Oscillators, specify the Oscillator Frequency. (See Note).

MPR/MPX UHF (450-512 MHz) OFFSET Oscillators

	ORDER NUMBER	CRYSTAL FREQ
SIMPLEX (0 MHz Offset)	19D429739G2	21.4 MHz (STOCKED)
3.0 MHz Offset (470-512 MHz)	19D429737G3	24.4 MHz (STOCKED)
5.0 MHz Offset (450-470 MHz)	19D429739G4	26.4 MHz (STOCKED)
Other than 0, 3, or 5 MHz	19D429739G1	(Use Formula) (ORDERED)

Note: It is not necessary to specify any frequency on the order for 19D429739G2, 19D429739G3, or 19D429739G4, since these are for the fixed frequencies defined by the group numbers. You must specify the frequency for 19D429739G1 using the formula:

$$\text{OFFSET OSCILLATOR FREQ} = (\text{TRANSMIT FREQ} - \text{RECEIVE FREQ} + \text{IF FREQ})$$

(The offset oscillator frequency must be between 14.85 MHz and 29.0 MHz.)

MPX 800 MHz BAND

OFFSET Oscillator
REPEAT/DIRECT OFFSET

ORDER NUMBER

19D430310G1
19D433665G1

800 MHz Band Offset Oscillators are
Fixed Frequency devices. No frequency is required.

RECHARGEABLE BATTERY PACKS

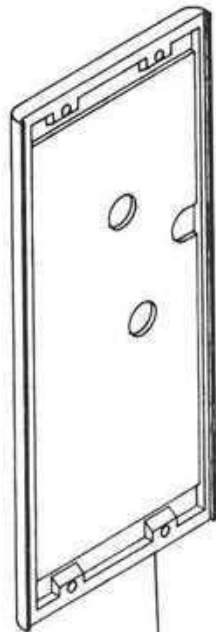
TYPE	MPR (GRAY) ORDER NUMBER	MPX (BLACK) ORDER NUMBER
750 MAH STANDARD	19D429763G1 or P2PA10	19D429763G or P4PA10
850 MAH OPTION F2 I/S GROUP D	19D429763G2 or P2PA12	19D429763G4 or P4PA12
750 MAH OPTION F4 I/S GROUP C	19D429763G8 or P2PPA14	19D429763G4 or P4PA14
1200 MAH STANDARD	19D429777G1 or P2PA11	19D429777G3 or P4PA11
1200 MAH OPTION F2 I/S GROUP D	19D429777G2 or P2PA13	19D429777G4 or P4PA13
1200 MAH OPTION F4 I/S GROUP C	19D429777G8 or P2PA15	19D429777G7 or P4PA15

MPR batteries can also be used with MPS radios.
MPX batteries can also be used with GE-MARC V personal radios.

The preferred ordering number is the "19D" number. We translate the "P2"- or "P4-" option numbers to the "19D" number to ship.

ANTENNAS





MPR BACK COVER
 19D429534G1 (A)
 19D429534G2 (B)
 19D429534G3 (C)

MULTI-FREQUENCY SWITCH
 S1 MPR 19D429876G1
 S1 MPX 19A134040P3
 KNOB 19C328108P2 ("F")
 DIAL SCALE 19C328193P1 ("1-10")
 SET SCREW 19A143453P1
 NUT 19A127319P2

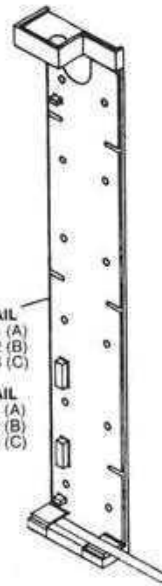
TOP COVER
 MPR 19D429335P1
 MPX 19D429335P2

VOLUME CONTROL CONTROL
 KNOB "V" 19C328108P1
 SET SCREW 19A143453P1
 DIAL SCALE 19C328193P2 ("MIN-MAX")
 NUT 19A127319P1
 WASHER 4037064P25
SQUELCH CONTROL CONTROL
 KNOB "S" 19C328108P2
 SET SCREW 19A143453P1
 DIAL SCALE 19C328193P3 ("SQ")
 NUT 19A127319P1
 WASHER 4037064P25
 DUMMY MODULE 19B232517P1

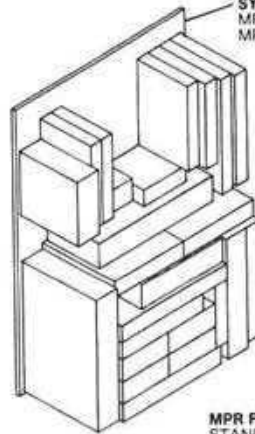
MPR TOP PLATE (PART OF CONTROL ASM)
MPX TOP PLATE
 19C330621G1 (A)
 19C330621G2 (B) (C)

MPR SIDE RAIL
 19C328376G1 (A)
 19C328376G2 (B)
 19C328376G3 (C)

MPX SIDE RAIL
 19D429242P1 (A)
 19D429242P2 (B)
 19D429242P3 (C)



SYSTEM BOARD
 MPR 19D429108G1
 MPX 19D430750G1



MPR CONTROL ASSEMBLY
 19C328418G1 (A)
 19C328418G2 (B)
 19D328418G3 (C)

MPX CONTROL ASSEMBLY
 19D429373G1 (A)
 19D429373G2 (B)
 19D429373G3 (C)

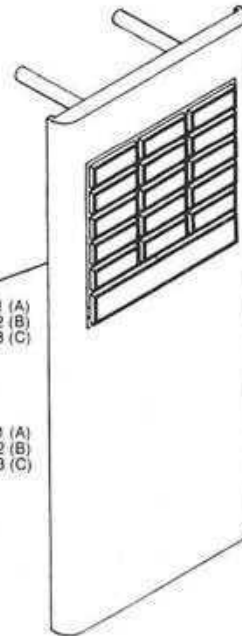
(DOES NOT INCLUDE TOP PLATE ASM IN MPX)

MPR FRONT COVER
 STANDARD 19D429544G1 (A)
 STANDARD 19D429544G2 (B)
 STANDARD 19D429544G3 (C)

DTMF 19D429544G4 (B)
 DTMF 19D429544G5 (C)

MPX FRONT COVER
 STANDARD 19D432007G1 (A)
 STANDARD 19D432007G2 (B)
 STANDARD 19D432007G3 (C)

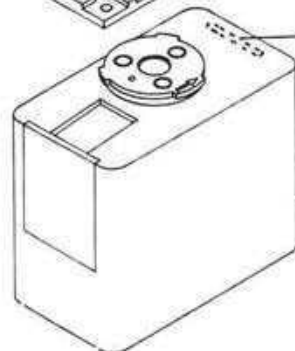
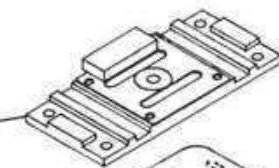
DTMF 19D432007G4 (B)
 DTMF 19D432007G5 (C)



STANDARD BASE ASSEMBLY
 19C328377G3

INTRINSICALLY SAFE BASE ASSEMBLY
 19C328377G4

FUSE
 19A702169P12
 (7 AMPS)



MPR BATTERY PACK
 19D429763G1 750 MAH
 19D429777G1 1200 MAH

I/S OPTION F2
 19D429763G2 750 MAH GRP D
 19D429777G2 1200 MAH GRP D

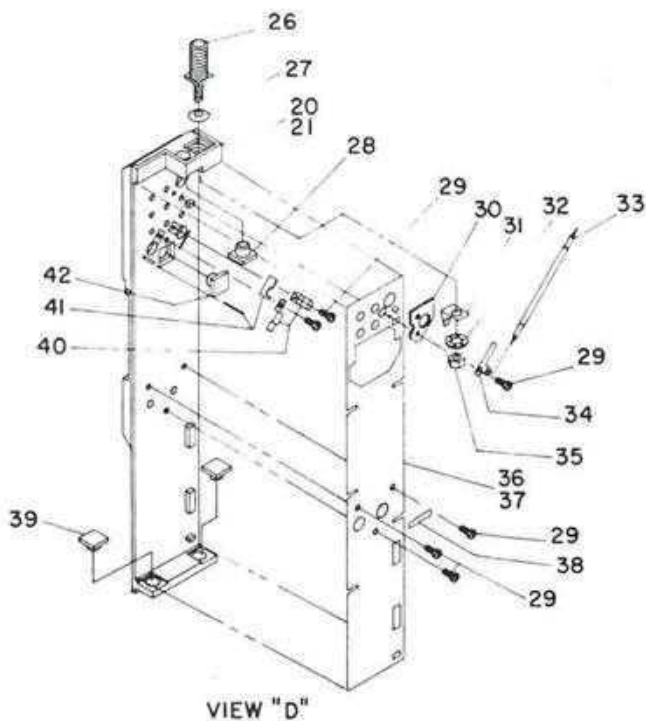
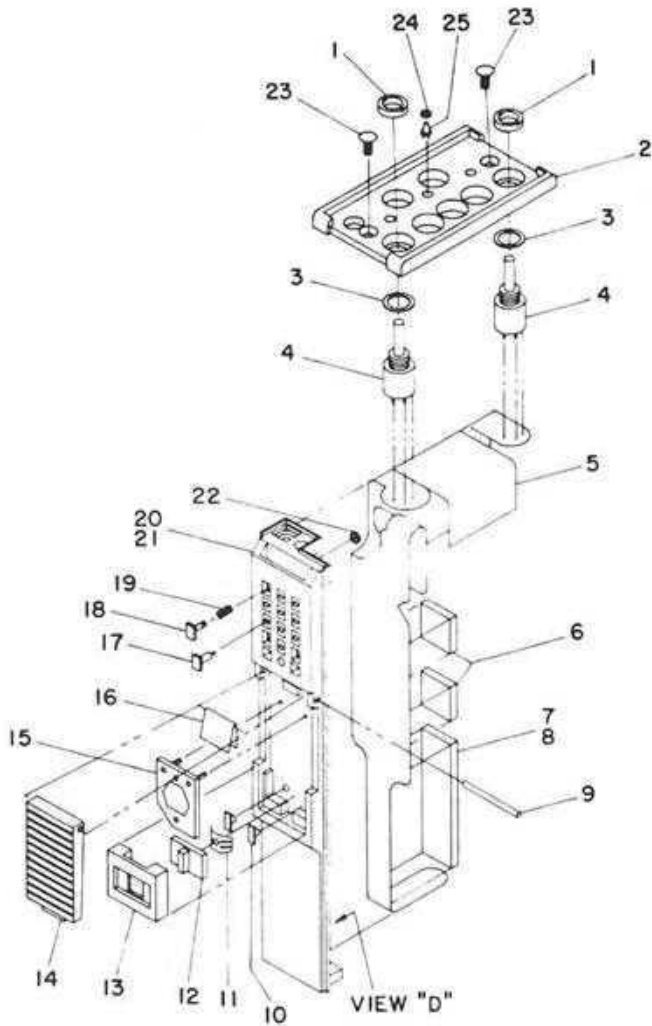
I/S OPTION F4
 19D429777G8 1200 MAH GRP C
 19D429763G8 750 MAH GRP C

MPX BATTERY PACK
 19D429763 750 MAH
 19D429777G3 1200 MAH

I/S OPTION F2
 19D429763G4 750 MAH GRP D
 19D429777G4 1200 MAH GRP D

I/S OPTION F4
 19D429777G7 1200 MAH GRP C
 19D429763G7 750 MAH GRP C

NOTE
 Letters as (A) (B) (C) Represent the Case Size of the Radio (Digit 3 of the Combination Number of the Radio)



SYMBOL	GE PART NO.	DESCRIPTION
MECHANICAL PARTS		
1	19A127319P1	Nut; 1/4-32. (Used with R701 & R702 Volume & Squelch).
2	19D429340P1	Top plate.
3	4037064P14	Washer, non-metallic. (Used with R701 & R702 - Volume & Squelch, & dummy plug).
4	19A134528P1	Resistor, variable: 50K ohms $\pm 10\%$, 1 w. (R701 & R702).
5	19D429686P1	Printed Board. (A702).
6	19B232682P8	Pad.
7	19B232682P9	Pad. (B CASE).
8	19B232682P10	Pad. (C CASE).
9	19A134585P1	Pin, spring. (Part of S702).
10	19B232651P1	Contact. (Part of S701).
11	19B232560P1	Spring. (Part of S701).
12	19A137826G1	Slide. (Part of S701).
13	19C328373P1	Plate. (Part of S701).
14	19C328176P1	Button. (Part of S702).
15	19B209643P2	Switch, push: 200 milliohms res max; sim to Bowmar KB Series. (Part of S702).
16	19A137414P1	Spring. (Part of S702).
17	19B232413P1	Contact. (J701-2 thru J701-9, J701-11).
18	19B232416P1	Contact. (Part of S703-S705).
19	4035235P13	Spring. (Part of S703-S705).
20	19D429241P2	Left side rail. (B CASE).
21	19D429241P3	Left side rail. (C CASE).
22	19A137413P1	Seal. (Part of S703-S705).
23	19A134586P2506E	Machine screw: 2.5-0.45 x 6MM. (Secures top plate & Base assembly to side rails).
24	19A134582P1	Washer, non-metallic.
25	19A134323P1	Diode, optoelectronic: red; sim to Opcoa LLL-7A. (DS701).
26	19A137411P1	Antenna stud.
27	19C307091P1	Packing.
28	19B232415P2	Bushing. (Secures top plate to left side rail).
29	19A134588P1	Drive screw. (Part of S703-S705).
30	19B232672P1	Insulator. (Part of S705).
31	19B232671P1	Contact. (Part of S705).
32	19A134657P2	Lockwasher, internal tooth: Metric, M2.2.
33	19A137417G1	Cable. (W701).
34	19B232670P1	Contact. (Part of S705).
35	19A134590P4	Hex nut, Metric: 2.5 x 0.45.
36	19C328385P2	Shield. (B CASE).
37	19C328385P3	Shield. (C CASE).
38	4039064P34	Strap.
39	19A137410P1	Bushing. (Secures base assembly to side rails).
40	19B232417P1	Contact. (Part of S703 & S704).
41	19B232414P1	Contact. (Part of S703 & S704).
42	19B232415P1	Bushing

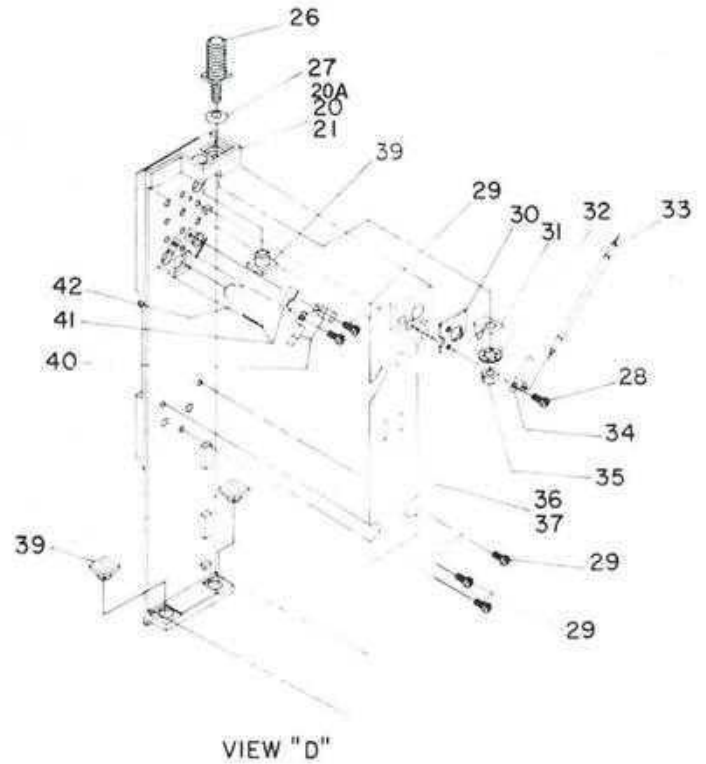
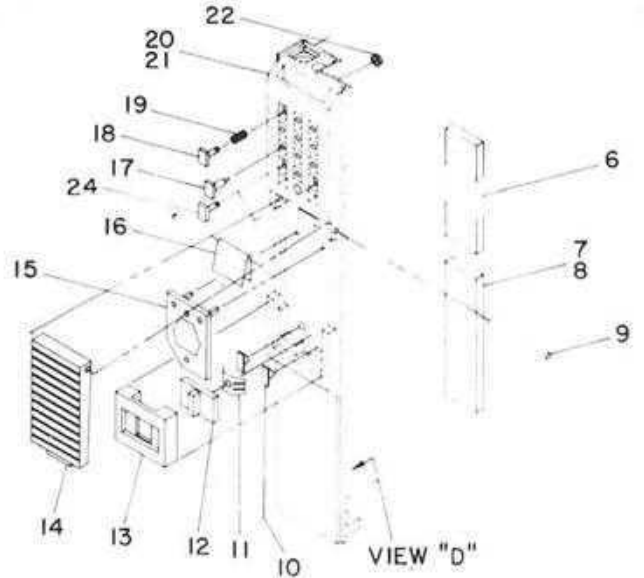
MPX CASE

PARTS LIST

SIDE RAIL

19D429373G1 "A" CASE
19D429373G2 "B" CASE
19D429373G3 "C" CASE
ISSUE 2

Symbol	GE Part No.	Description
J701		JACKS AND RECEPTACLES (See items 17-19, 22, 24 on RC4109)
S701		SWITCHES See items 10-13 on RC4109.
S702		(See items 9, 14-16 on RC4109)
S703 and S704		(See items 19, 22, 24, 29, 40 on RC4109)
S705		(See items 18, 19, 22, 28, 30, 31, 34 on RC4109)
CABLES		
W701	19A137417G1	Cable wire; approx 1 inches long
MECHANICAL PARTS (SEE RC4109)		
6	19B232682P16	Pad.
7	19B232662P9	Pad. ("B" Case).
8	19B232682P10	Pad. ("C" Case).
9	19A134585P1	Pin; spring. (Part of S702).
10	19B232651P1	Contact. (Part of S701).
11	19B232560P1	Spring. (Part of S701).
12	19A137826G1	Slide. (Part of S701).
13	19C328373P1	Plate. (Part of S701).
14	19C328176P1	Button. (Part of S702).
15	19B209643P2	Switch, push; 200 milliohms res max; sim to Bowmar KB3256-1D. (Part of S702).
16	19A137414P1	Spring. (Part of S702).
17	19B232413P1	Contact. & J701-2 thru J701-9, J701-11).
18	19B232416P2	Contact. (Part of S705).
19	4035235P13	Spring, helical. (Part of S703-S705).
20A	19D429241P1	Left side rail. ("A" Case)
20	19D429241P2	Left side rail. ("B" Case)
21	19D429241P3	Left side rail. ("C" Case)
22	19A137413P1	Seal. (Part of S705-S705).
24	19B232416P1	Contact. (Part of S703 & S704).
26	19A137411P1	Antenna stud.
27	19A115983P13	Packing.
28	19A134586P4	Screw, panhead; size 0-40. (Part of S705).
29	19A134588P1	Drive screw. (Part of S703 & S704).
30	19B232672P1	Insulator. (Part of S705).
31	19B232671P1	Contact. (Part of S705).
32	19A702593P1	Lockwasher, internal tooth; Metric, M2.2.
33	19A137417G3	Cable, RF; approx 2 inches long. (W702).
34	19B232670P1	Contact. (Part of S705).
35	19A700034P3	Hex nut, metric; M2.5 x 0.45
36	19D432008G1	Interconnect Board.
37		(Not Used).
40	19A144581G1	Contact. (Part of S703 & S704).
41	19B232414P1	Contact. (Part of S703 & S704).
42	19B232415P1	Bushing

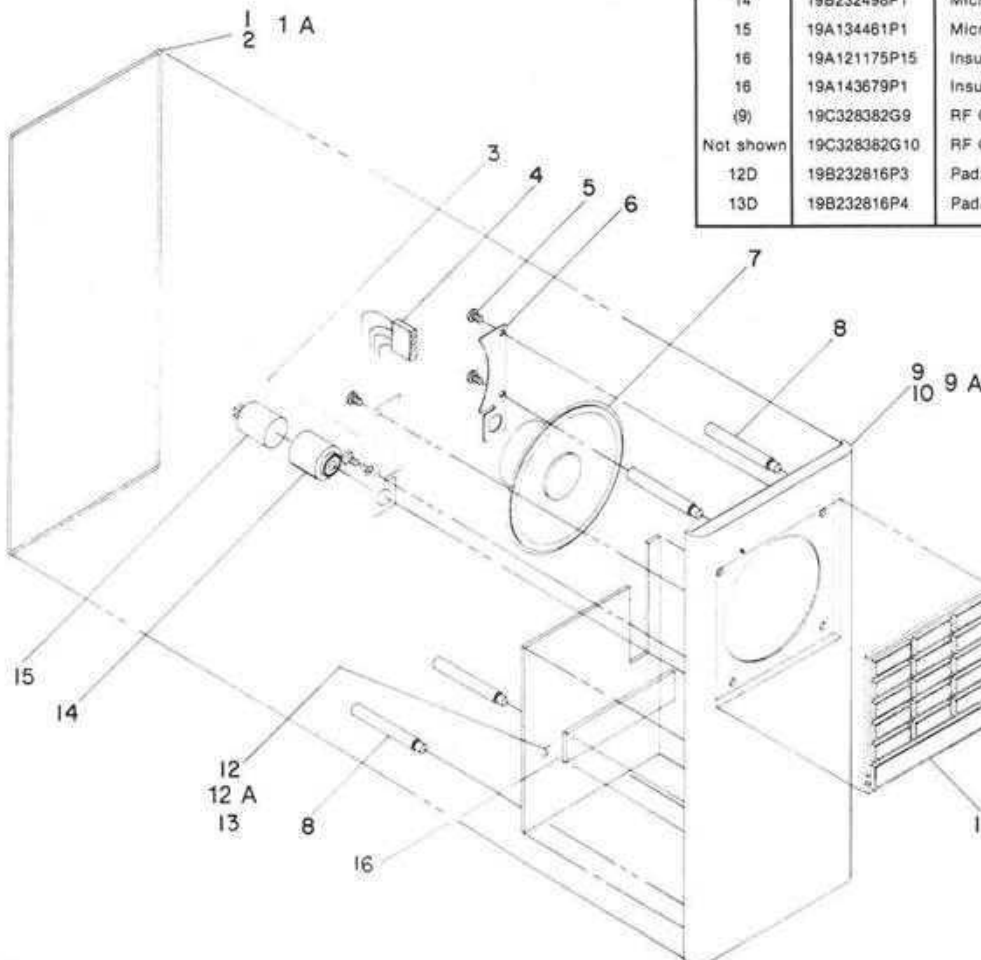


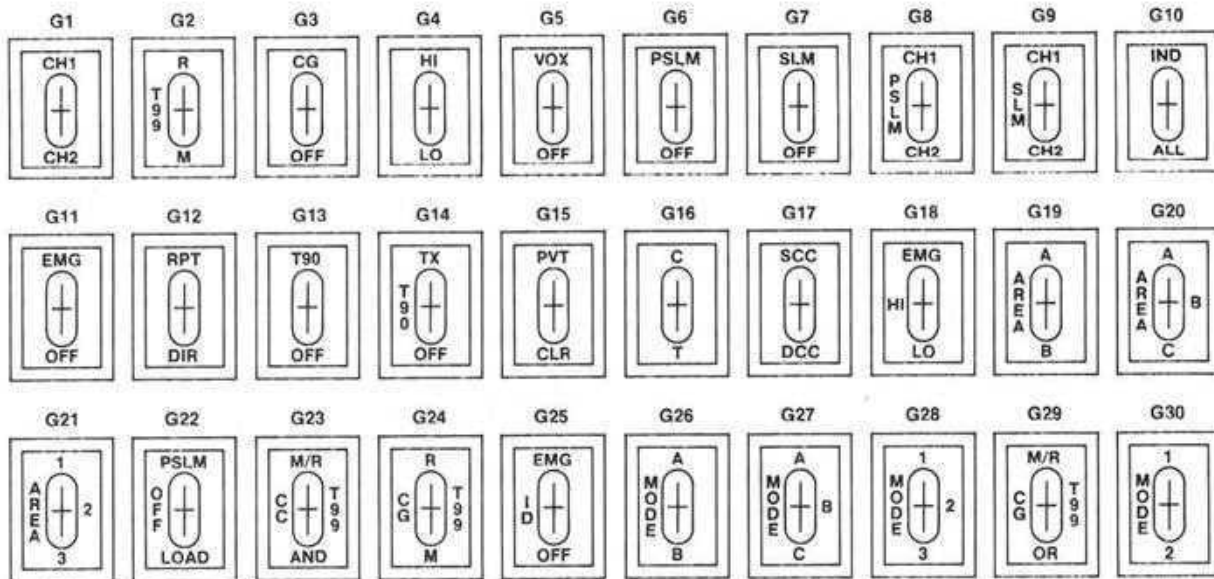
PARTS LIST

FRONT COVER
 19D432007G1 "A" CASE
 19D432007G2 "B" CASE
 19D432007G3 "C" CASE
 19D432007G4 "B" CASE WITH DTMF
 19D432007G5 "C" CASE WITH DTMF
 ISSUE 2

Symbol	GE Part No.	Description
A1	19C330125G1	Component Board. (Used with DTMF only)
A2	19C328207G1	Component Board. (Used with DTMF only)
C1 and C2	19A700226P53	Ceramic: 47 pF ± 5%, 100 VDCW, temp coef .750 PPM.
LS1	19A134460P1	LOUDSPEAKERS Permanent magnet; 2 inches, 8 ohms ± 10%, imp 500 mW, 450 ± 100 Hz resonant freq; sim to Pioneer 850AP1301F.
MK1	19A134461P1	MICROPHONES Cartridge: 200-850 ohms imp, 1.5-10 VDC; sim to PRIMO EM-60-PM12.
P901	1(Part of W1)	PLUGS
W1		CABLE 19B233023G1
P901		PLUGS Connector. Includes:
	19A134825P1	Shell.
	19A134825P2	Contact, electrical; sim to Berg 47650. (Quantity 4).

Symbol	GE Part No.	Description
MECHANICAL PARTS (SEE RC4101)		
1	19A134583P2	Cover seal, rubber. ("B" Case).
1A	19A134583P1	Cover seal, rubber. ("A" Case).
2	19A134583P3	Cover seal, rubber. ("C" Case).
3	4033714P14	Solderless terminal.
4	19A134825P1	Shell. (P901).
	19A134825P2	Contact, electrical. (Quantity 4 — P901).
5	19A134793P804	Screw, thd. forming; No. 1-64 x 5/32.
6	19B232496P1	Speaker retaining plate.
7	19A134460P1	Speaker, permanent magnet. (LS1).
8	19A137709P1	Spacer. (Quantity 4).
9	19C328382G7	Cover. ("B" Case).
9A	19C328382G6	Cover. ("A" Case).
10	19C328382G8	Cover. ("C" Case).
11	19D429300P1	Grille.
12	19B232816P1	Pad. ("B" Case).
12A	19B232682P2	Pad. ("A" Case).
	19B232682P1	Pad. ("A" Case).
13	19B232816P2	Pad. ("C" Case).
14	19B232498P1	Microphone boot.
15	19A134461P1	Microphone. (MK1).
16	19A121175P15	Insulator, plate.
16	19A143679P1	Insulator. (Used with DTMF).
(9)	19C328382G9	RF Cover, "B" Case with DTMF.
Not shown	19C328382G10	RF Cover, "C" Case with DTMF.
12D	19B232816P3	Pad. ("B" Case with DTMF).
13D	19B232816P4	Pad. ("C" Case with DTMF).



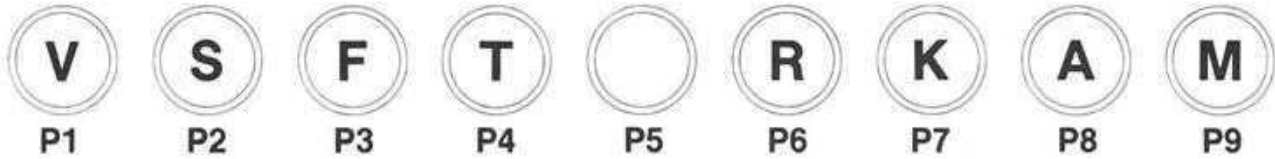
19B232996 OPTION SWITCH DECOR MODULES


These Switch Label Caps are included in the option modification kits. If necessary to replace just the decor caps, compare the labels and order the full ordering number for the cap as listed below:

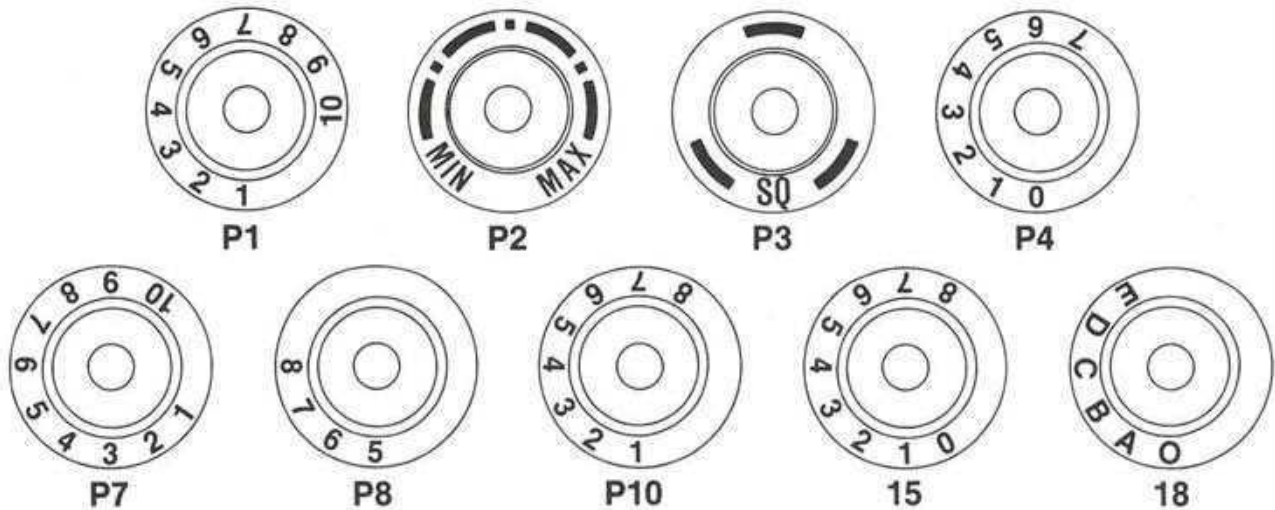
ORDER NO.	GROUP NUMBER DESCRIPTION				
	TOP	BOTTOM	LEFT SIDE	RIGHT SIDE	OPTION DESCRIPTION
19B232996G1	CH 1	CH 2			FREQ SEL
19B232996G2	R	M	T99		T99
19B232996G3	CG	OFF			CG
19B232996G4	HI	LO			HI-LO POWER
19B232996G5	VOX	OFF			VOX
19B232996G6	PSLM	OFF			PSLM
19B232996G7	SLM	OFF			SLM
19B232996G8	CH 1	CH 2	PSLM		PSLM W/FREQ SEL
19B232996G9	CH 1	CH 2	SLM		SLM W/FREQ SEL
19B232996G10	IND	ALL			AND GATE
19B232996G11	EMG	OFF			GE★STAR
19B232996G12	RPT	DIR			OFFSET (TALK AROUND)
19B232996G13	T90	OFF			T90
19B232996G14	TX	OFF	T90		TX/90
19B232996G15	PVT	CLR			SCRAMBLER
19B232996G16	C	T			TALK AROUND
19B232996G17	SCC	DCC			CG ENCODE
19B232996G18	EMG	LO	HI		GE STAR/HI-LO PWR
19B232996G19	A	B	AREA		AREA/A,B
19B232996G20	A	C	AREA	B	AREA/A,B,C
19B232996G21	1	3	AREA	2	AREA/1,2,3
19B232996G22	PSLM	LOAD	OFF		PSLM/LOAD
19B232996G23	M/R	AND	CG	T99	CG/T99/AND
19B232996G24	R	M	CG	T99	CG/T99
19B232996G25	EMG	OFF	ID		GE STAR/ID
19B232996G26	A	B	MODE		MODE/A,B
19B232996G27	A	C	MODE	B	MODE/A,B,C
19B232996G28	1	3	MODE	2	MODE/1,2,3
19B232996G29	M/R	OR	CG	T99	CG/T99/OR
19B232996G30	1	2	MODE		MODE/1,2

NOTE: We have shown all modules currently on standard drawings. They may or may not have ever been used in current products. Consult Price List for availability of specific modules.

19C328108 SWITCH AND CONTROL KNOBS



19C328193 DIAL SCALES



ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
19C328108P1	CONTROL KNOB, "V"	19C328193P1	DIAL SCALE, 1-10
19C328108P2	CONTROL KNOB, "S"	19C328193P2	DIAL SCALE, VOL MIN/MAX
19C328108P3	CONTROL KNOB, "F"	19C328193P3	DIAL SCALE, SQ
19C328108P4	CONTROL KNOB, "T"	19C328193P4	DIAL SCALE, 0-7
19C328108P5	CONTROL KNOB, " "	19C328193P5	DIAL SCALE, 1-10
19C328108P6	CONTROL KNOB, "R"	19C328193P8	DIAL SCALE, 5-8
19C328108P7	CONTROL KNOB, "K"	19C328193P10	DIAL SCALE, 1-8
19C328108P8	CONTROL KNOB, "A"	19C328193P15	DIAL SCALE, 0-8
19C328108P9	CONTROL KNOB, "M"	19C328193P18	DIAL SCALE, O,A,B,C,D,E

NOTE: We have shown the standard knobs and dial scales that have been shown on standard drawings, as well as some that have been applied only to special orders. Consult the Service Parts Price List for availability of specific knobs or dial scales.



MPS Personal SYNTHESIZED RADIO

Digits 1&2	Digit 3	Digit 4	Digit 5
Product Code	Transmit Frequency Range	Power Source	Maximum Channel Capacity
P9	H 138-152 MHz	N 750 mAh NiCd	A 12 Freq
	J 148-163 MHz	M 1200 mAh NiCd	B 24 Freq
	K 157-174 MHz	X NO BATT	C 36 Freq
	M 403-435 MHz		D 48 Freq Numeric
	R 450-470 MHz		E 48 Freq Alpha
			F 64 Freq
			T 8 Freq

REFERENCE OSCILLATORS

19D437530G1 13.2 MHz for Standard 21.4 MHz IF High Band or UHF Band

19D437530G2 13.8 MHz for Alternate IF 23.0 MHz High Band or UHF Band

SPEAKER/MICROPHONES

Uses the same audio accessories as the MPR/MPX Personals-See the Microphone section for these items.

TONE OPTIONS:

See MPR/MPX sections for tone option parts.

BATTERIES

DESCRIPTION	ORDER NUMBER
750 MAH STANDARD	19D429763G1
750 MAH I/S GROUP	19D429763G
750 MAH I/S GROUP	19D429763
1200 MAH STANDARD	19D429777G1
1200 MAH I/S GROUP	19D429777G
1200 MAH I/S GROUP	19D429777G

CARRYING ACCESSORIES

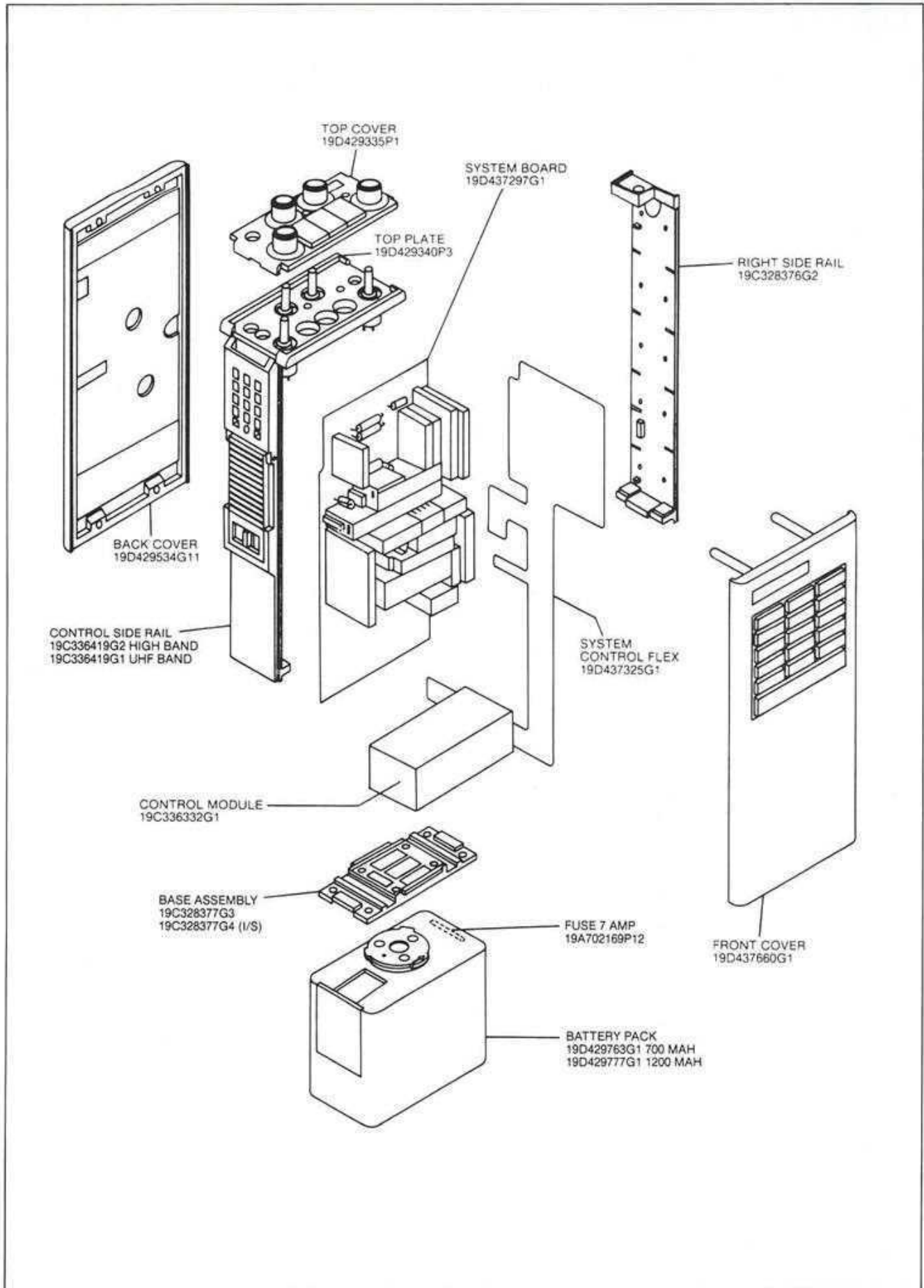
Uses the same carrying accessories as the MPR. The MPS is the same size as the "X" case MPR.

PORTABLE ANTENNAS

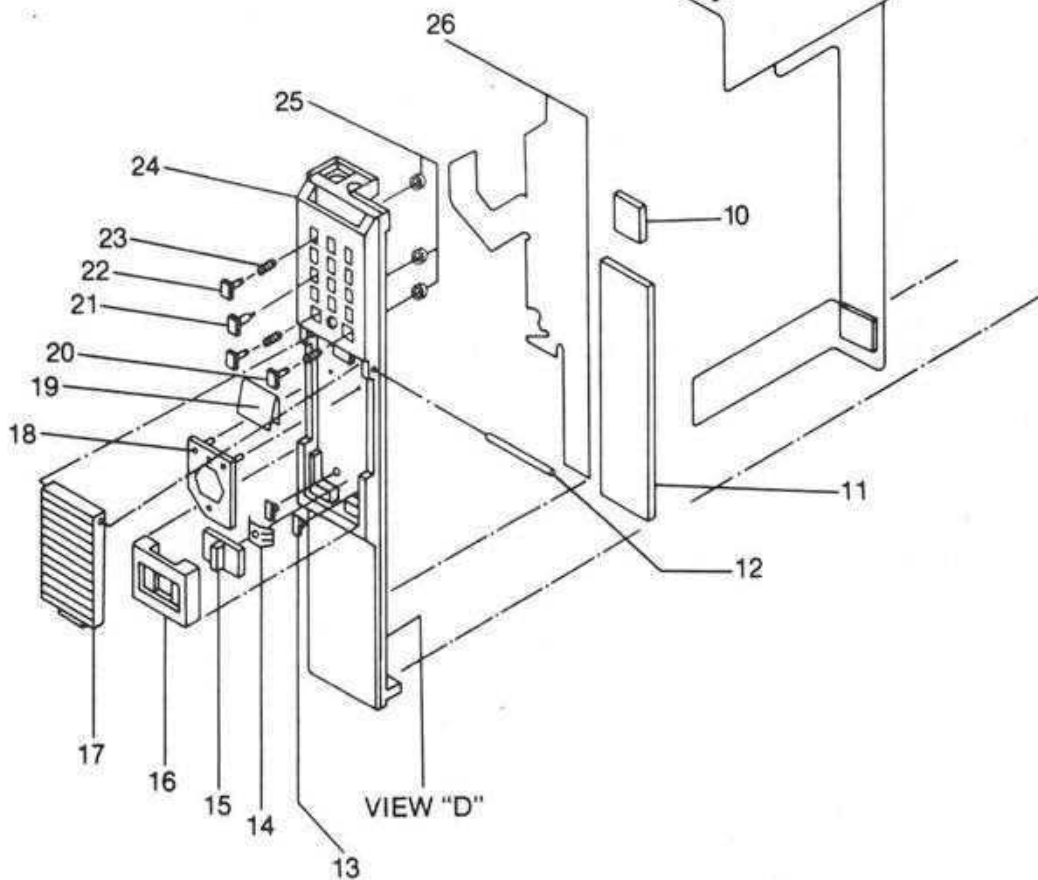
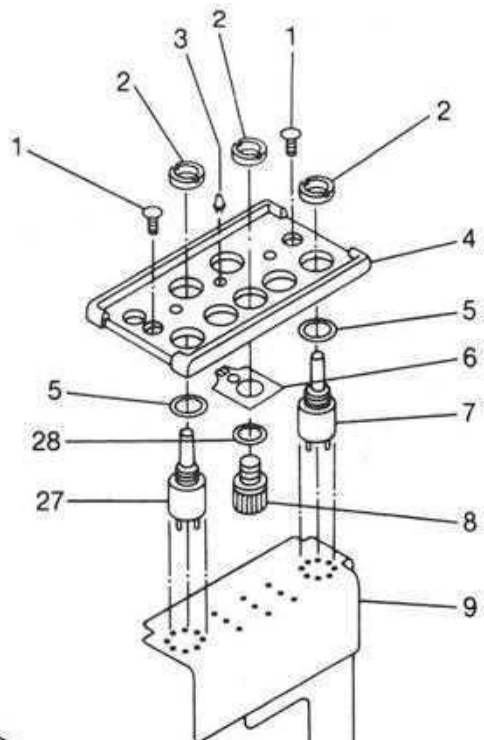
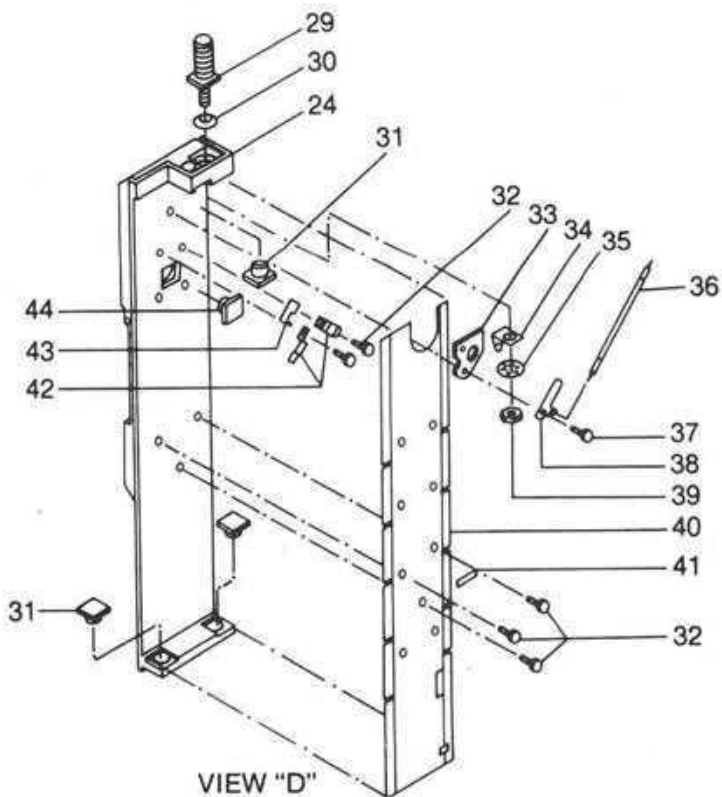
DESCRIPTION	ORDER NUMBER
High Band	19B234609P100 Cut to length using chart.
UHF 403-435 MHz	19B209548P4
435-470 MHz	19B209548P5
470-512 MHz	19B209548P6
UHF STUBBY	19B209609P13

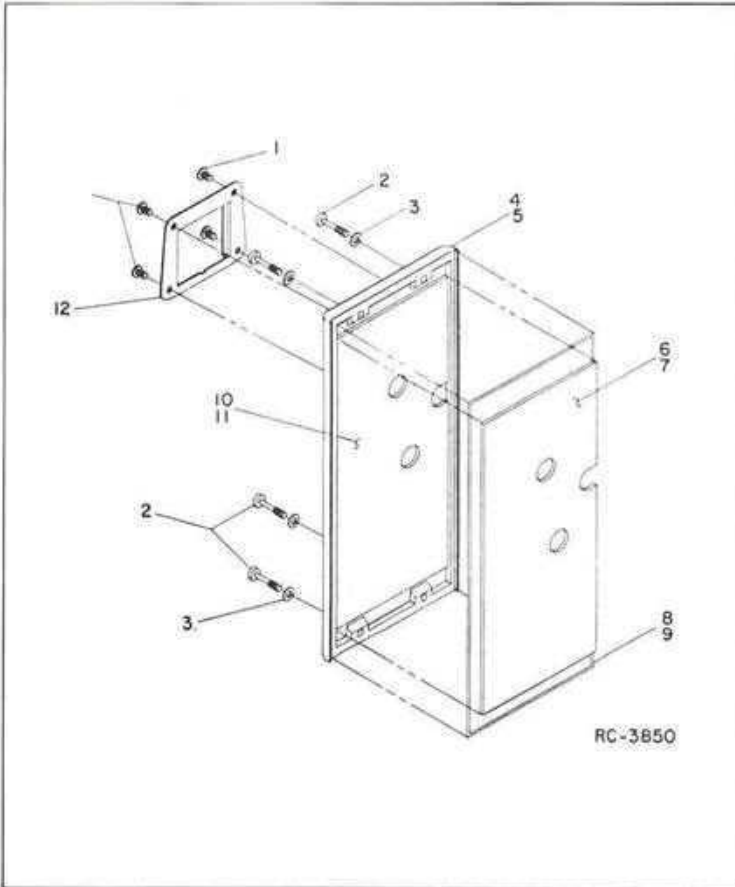
VHF MODULE LIST
MPS SYNTHESIZED PORTABLE
UHF MODULE LIST

ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
EX/PA	19D429471G5	Exciter and Power Amplifier. (138-152 MHz).	XO	19D437530G1	Reference Oscillator. (21.4 MHz IF).
	19D429471G6	Exciter and Power Amplifier. (148-174 MHz).		19D437530G2	Reference Oscillator. (23.0 MHz IF).
FN	19D429438G1	Low Pass Filter. (148-174 MHz).	EX/PA	19D429888G2	Exciter and Power Amplifier for 1.6 to 3.8 Watt transmit (435-470 MHz Low Power).
FS	19D429438G2	Low Pass Filter. (138-152 MHz).		19D429888G4	Exciter for 3.8 to 6.4 Watt transmit. (403-435 MHz).
	19D437544G6	Frequency Synthesizer. (138-152 MHz).		19D429888G5	Exciter for 3.8 to 6.4 Watt transmit. (435-470 MHz).
	19D437544G7	Frequency Synthesizer. (148-163 MHz).		19D429888G6	Exciter for 3.8 to 6.4 Watt transmit. (470-512 MHz).
	19D437544G8	Frequency Synthesizer. (154-174 MHz).	FN	19D429965G1	Low Pass Filter.
IA-1	19D429542G1	IF Preamp. (21.4 MHz IF).	FS	19D437544G1	Freq. Syn. (403-435 MHz).
	19D429542G2	IF Preamp. (23.0 MHz IF).		19D437544G2	Freq. Syn. (435-450 MHz).
IA-2	19D429482G1	IF Preamp. (21.4 MHz IF).		19D437544G3	Freq. Syn. (450-470 MHz).
	19D429542G2	IF Preamp. (23.0 MHz IF).		19D437544G4	Freq. Syn. (470-494 MHz).
IU	19D437754G1	Interface. (138-152 MHz).		19D437544G5	Freq. Syn. (494-512 MHz).
PA	19D437754G2	Interface. (148-174 MHz).	IA-1	19D429542G1	IF Preamp. (21.4 MHz IF).
	19D429414G1	RF Power Amplifier. (138-152 MHz).		19D429542G2	IF Preamp. (23.0 MHz IF).
	19D429414G2	RF Power Amplifier. (148-174 MHz).	IA-2	19D429482G1	IF Preamp. (21.4 MHz IF).
PC	19D429538G1	Power Control.		19D429482G2	IF Preamp. (23.0 MHz IF).
RC	19D437787G1	Receive Front End. (148-174 MHz).	IU	19D43761G1	Interface. (403-435 MHz).
	19D437787G2	Receive Front End. (138-152 MHz).		19D43761G2	Interface. (435-450 MHz).
RX/AA	19A429420G2	Receive Audio Amplifier.		19D43761G3	Interface. (450-470 MHz).
SQ	19D429426G1	Squelch.		19D43761G4	Interface. (470-494 MHz).
TX/AA	19D429486G2	Transmit Audio Processor.		19D43761G5	Interface. (494-512 MHz).
VR-CT	19D433436G1	Voltage Regulator.	PA	19D429854G1	RF Power Amplifier. (403-435 MHz).
XD	19D429422G1	Receiver Discriminator.		19D429854G2	RF Power Amplifier. (435-470 MHz).
				19D429854G3	RF Power Amplifier. (470-512 MHz).
			PC	19D437626G1	Power Control.
			RC	19D437567G1	Receive Front End. (403-435 MHz).
				19D437567G2	Receive Front End. (435-470 MHz).
				19D437567G3	Receive Front End. (470-512 MHz).
			RX-AA	19D429420G2	Receive Audio Amplifier.
			SQ	19D429426G1	Squelch.
			TX-AA	19D429486G2	Transmit Audio Processor.
			VR/CT	19D433436G1	Voltage Regulator.
			XD	19D429422G1	Receiver Discriminator. (21.4 MHz IF).
				19D429422G2	Receiver Discriminator. (23.0 MHz IF).
			XO	19D437530G1	Reference Oscillator. (21.4 MHz IF).
				19D437530G2	Reference Oscillator. (23.0 MHz IF).

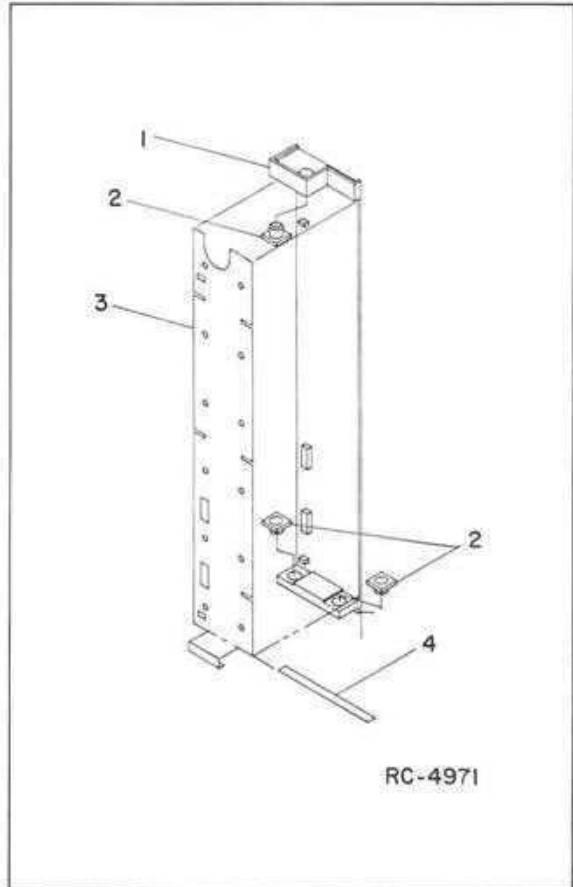


ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
A701		FLEX BOARD 19C336411G2	2.	19A127319P1	Nut: No. thd. size 1/4-32. (Used with R702 and R705, Squelch and Volume).
C701	19A702061P61	CAPACITORS Ceramic, 100 pF ± 5% VDCW, temp coef 0 ±30 PPM.	3.	19A134323P1	Optoelectronic: red, sim to Opcoa LLL-7A.
W701	19A137417G3	CABLES Cable, RF: approx. 2 inches long.	4.	19D429340P3	Top plate/
		SIDE RAIL 19D429564G4	5.	4037065P25	Washer, non-metallic. (Used with R702 and R705).
J701		JACKS (See Items 20-23 & 25 on RC 5040)	6.	19C336413G1	Display board. (A703).
S701		SWITCHES (See Items 13-16 on RC 5040).	7.	19A134528P3	Variable, cermet: 50K ohms ± 10%, 1 w. (R702 - Squelch).
S702		(See Items 12 & 17-19 on RC 5040)	8.	N170P21004C6	Screw.
S703		(See Items 20, 23, 24, 32 & 42-44 on RC 5040).	9.	19D437325G1	System Flex Board. (A702).
S704		(See Items 20, 23, 25, 32 & 42-44 on RC 5040).	10.	19B232682P8	Pad.
S705		(See Items 22, 23, 25, 30-35 & 37-39 on RC 5040).	11.	19B232682P8	Pad.
		ASSOCIATED ASSEMBLIES	12.	19A134585P1	Pin, spring. (Part of S702).
A702		SYSTEM FLEX BOARD 19D437325G1	13.	19B234407G3	Contact. (Part of S701).
A703	19C336413G1	Display Board. (See Item 6 on RC 5040).	14.	19B2325601P1	Spring. (Part of S701).
R701	3R131P683J	RESISTORS Composition: 68K ohms ± 5%, 1/8 w.	15.	19A137826G1	Slide. (Part of S701).
R702	19A134528P3	Variable cermet: 50K ohms ± 10%, 1 w. (See Item 26 on RC 5040)	16.	19C238373P1	Plate. (Part of S701).
R703	3R131P123J	Composition: 12K ohms ± 5%, 1/8 w.	17.	19C328176P1	Button. (Part of S703).
R704	3R151P103J	Composition: 10K ohms ± 5%, 1/8 w.	18.	19B80084P1	Push switch: contacts rated 25 mA @ 9 VDC; sim to Bowmar KB3256-1D. (Part of S702).
R705	19A134528P3	Variable, cermet: 50K ohms ± 10%, 1 w. (See Item 7 on RC 5040).	19.	19A137414P1	Spring. (Part of S702).
R706	3R151P104J	Composition: 100K ohms ± 5%, 1/8 w.	20.	19B234407G2	Contact. (Part of S703 & S704).
S706	19A134781P1	SWITCHES Rotary: 1 section, 1 pole, 2-12 position (adj. stops), non-shorting contacts: sim to Grayhill 51MY2326.	21.	19B234407G1	Contact. (J701-2 thru J701-9, J701-11).
1.	19A134586P2506E	MECHANICAL PARTS (SEE RC 5040) Machine screw, metric: 2.5-0.45 x 6MM. (Secures Top Plate and Base Assembly to side rail).	22.	19B234407G4	Contact. (Part of S705).
			23.	4035235P13	Spring. (Part of S703-S705).
			24.	19D429241P2	Left side rail.
			25.	19A137413P1	Seal. (Part of S703-S705).
			26.	19C336414G2	Flex board.
			27.	19A134528P3	Variable, cermet: 50K ohms ± 10%, 1 w. (R705-Volume).
			28.	4037064P14	Washer, non-metallic: 9/32. (Used with A703).
			29.	19A137411P1	Antenna stud.
			30.	19A700127P32	Packing.
			31.	19A137410P1	Bushing. (Secure Top Plate to left side rail).
			32.	19A134588P1	Drive screw, pan head: 0-40 x 5/32. (Part of S701, S703 and S704).
			33.	19B232672P1	Insulator. (Part of S705)
			34.	19B234497P1	Contact. (Part of S705)
			35.	19A702593P1	Lockwasher, internal tooth: Metric M2.2.
			36.	19A137417G3	Cable, RF: approx 2 inches long. (F701).
			37.	19A134588P4	Screw, panhead: size 0-10. (Part of S705).
			38.	19B232670P1	Contact. (Part of S705).
			39.	19A700034P3	Hex nut, metric M2.5 x 0.45.
			40.	19C328385P2	Shield.
			41.	19A137609G2	Strap.
			42.	19A144581G1	Contact. (Part of S703 & S704).
			43.	19B234407G5	Contact. (Part of S703 & S704).
			44.	19B232415P1	Bushing.





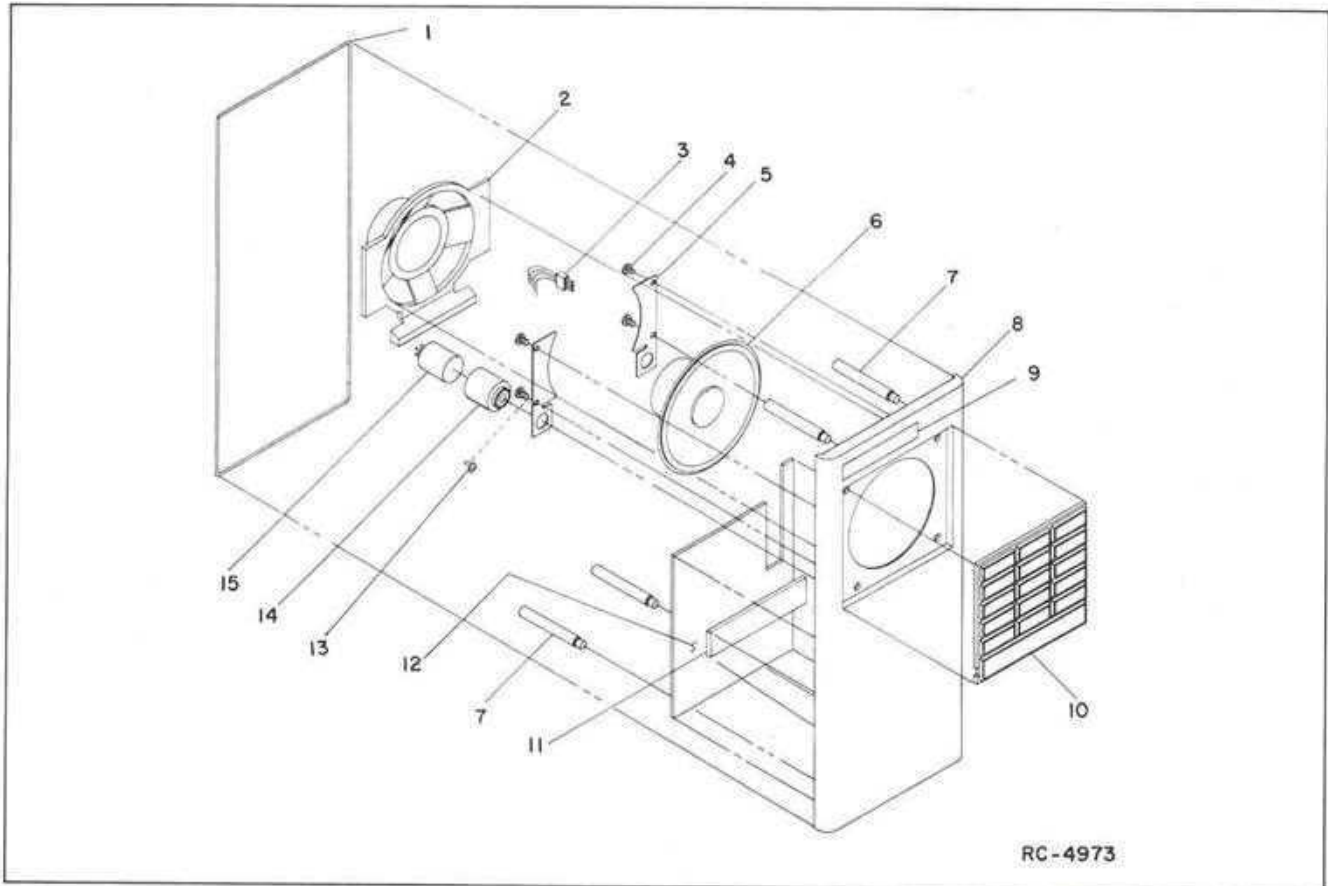
RC-3850



RC-4971

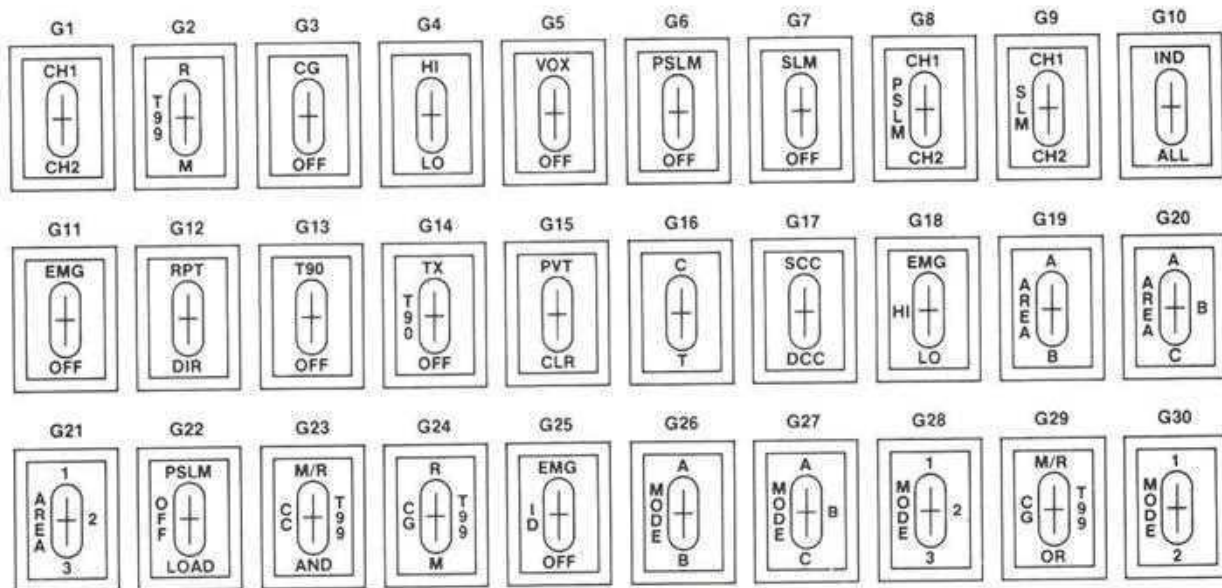
ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	N327P9010Y6	Rivet, tubular.
2	19A702863P1	Machine screw: TORX® Drive. Ms - .45 x 13.
3	19A700032P3	Lockwasher, internal tooth, M2.5.
4	19C329384G11	Rear cover.
6	19B232524P1	Pad.
8	19A134583P2	Cover seal, rubber.
10	19C336406P1	Pad. (Adheres to item 4).
11	19C336405P1	Pad. (Adheres to item 10).
12	19C850865P1	Option receptacle.
13	19A134285P1	Tape, pressure sensitive.

ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	19D429242P2	Side rail.
2	19A137410P1	Bushing. (Secures base assembly and top plate to right side rail - not included with side rail).
3	19C329322P2	Shield.
4	19A137609G1	Strap.



ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	19A134583P2	Cover seal, rubber.			
2	19D429414P1	Speaker boot.			
3		Connector plug. (P901). Consists of 19A702405P4 Shell and three 19A702405P27 contacts.			
4	19A134793P1804	Screw, thread forming: No. 1-64 x 5/32.			
5	19B234460P1	Speaker retaining plate.			
6	19A134460P1	Speaker, permanent magnet: 2 inch, 8 ohms \pm 10% imp, 500 mW, 450 \pm 100 Hz resonant frequency; sim to Pioneer 850AP1301F. (LS1).			
7	19A137709P1	Spacer.			
8	19C328382G12	RF Cover.			
9	19A148345P1	Nameplate (SYNTHESIZED).			
10	19D429300P1	Grille.			
11	19A121175P15	Insulator, plate.			
12	19B232816P6	Pad.			
13	4033714P14	Solderless terminal.			
14	19B234459P1	Microphone boot.			
15	19A701301P2	Microphone. (MK1).			
			C1	19A700226P53	CAPACITORS Ceramic: 47 pF \pm 5%, 100 VDCW, temp coef -750 PPM.
			LS1	19A134460P1	SPEAKERS Permanent magnet: 2 inches, 8 ohms \pm 10%, imp 500 mW, 450 \pm 100 Hz resonant freq; sim to Pioneer A50AP13-01F.
			MK1	19A701301P2	MICROPHONES Microphone cartridge: 1800 \pm 30% ohms imp, 1.1 - 10 VDC; sim to Primo EM-78.
			P901	19A702405P4 19A702405P27	PLUGS Connector. Includes: Shell. Contact, electrical. (Quantity 3).
			S1	19C851212P2	SWITCHES Pushbutton: sim to Amp Keyword Technology CP83-41190.
			W1	19B233923G3	CABLES Cable assembly.

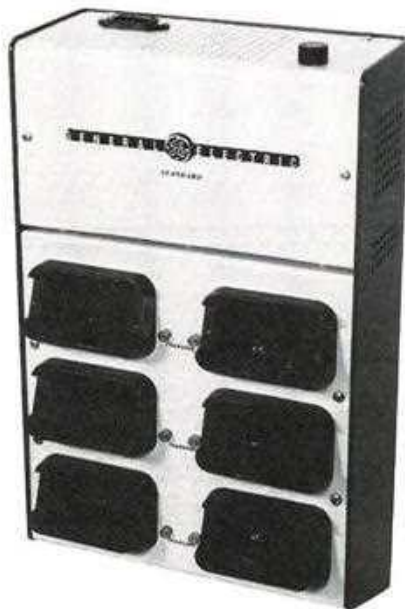
19B232996 OPTION SWITCH DECOR MODULES



These Switch Label Caps are included in the option modification kits. If necessary to replace just the decor caps, compare the labels and order the full ordering number for the cap as listed below:

GROUP NUMBER DESCRIPTION					
ORDER NO.	TOP	BOTTOM	LEFT SIDE	RIGHT SIDE	OPTION DESCRIPTION
19B232996G1	CH 1	CH 2			FREQ SEL
19B232996G2	R	M	T99		T99
19B232996G3	CG	OFF			CG
19B232996G4	HI	LO			HI-LO POWER
19B232996G5	VOX	OFF			VOX
19B232996G6	PSLM	OFF			PSLM
19B232996G7	SLM	OFF			SLM
19B232996G8	CH 1	CH 2	PSLM		PSLM W/FREQ SEL
19B232996G9	CH 1	CH 2	SLM		SLM W/FREQ SEL
19B232996G10	IND	ALL			AND GATE
19B232996G11	EMG	OFF			GE★STAR
19B232996G12	RPT	DIR			OFFSET (TALK AROUND)
19B232996G13	T90	OFF			T90
19B232996G14	TX	OFF	T90		TX/90
19B232996G15	PVT	CLR			SCRAMBLER
19B232996G16	C	T			TALK AROUND
19B232996G17	SCC	DCC			CG ENCODE
19B232996G18	EMG	LO	HI		GE STAR/HI-LO PWR
19B232996G19	A	B	AREA		AREA/A,B
19B232996G20	A	C	AREA	B	AREA/A,B,C
19B232996G21	1	3	AREA	2	AREA/1,2,3
19B232996G22	PSLM	LOAD	OFF		PSLM/LOAD
19B232996G23	M/R	AND	CG	T99	CG/T99/AND
19B232996G24	R	M	CG	T99	CG/T99
19B232996G25	EMG	OFF	ID		GE STAR/ID
19B232996G26	A	B	MODE		MODE/A,B
19B232996G27	A	C	MODE	B	MODE/A,B,C
19B232996G28	1	3	MODE	2	MODE/1,2,3
19B232996G29	M/R	OR	CG	T99	CG/T99/OR
19B232996G30	1	2	MODE		MODE/1,2

NOTE: We have shown all modules currently on standard drawings. They may or may not have ever been used in current products. Consult Price List for availability of specific modules.



352L3B1X

ORDERING NUMBER	DESCRIPTION
	<p>VEHICULAR CHARGERS (12VDC, Negative Ground) <i>MPR/MPX Vehicular Chargers are Rapid-Three type and will charge an MPR/MPX radio equipped with either a 750 or 1200 mAh, standard or Green Label (FM-Approved), rechargeable battery. See CAUTION below.</i></p>
354C3A3X	<p>VEHICULAR CHARGER PACKAGE, (HB & UHF) includes charger, speaker, standard mobile microphone and hanger, mounting bracket, and mounting hardware. Order antenna separately. Radio may be operated "like a mobile" when inserted into the charger.</p>
354C3A4X	<p>Same as above except for 800 MHz. (MPX ONLY)</p>
	<p>SINGLE BATTERY CHARGERS (105/120/210/240 VAC, 50.60 Hz) <i>Single-Battery Desk Chargers will charge 750 mAh or 1200 mAh, standard or Green Label (FM-Approved) MPR/MPX rechargeable batteries, separately or attached to radio. See CAUTION below.</i></p>
351L1A1X	<p>DESK CHARGER, 14 hour. 121 VAC, 50/60 Hz.</p>
351L3A1X	<p>RAPID-THREE DESK CHARGER, 3 hour. 121 VAC, 50/60 Hz.</p>
351L4A1X	<p>RAPID-ONE DESK CHARGER, 1 hour. 121 VAC, 50/60 Hz.</p>
351M1A2X	<p>DESK CHARGER, 14 hour. 105/120/240 VAC, 50/60 Hz. (See Note).</p>
351M3A2X	<p>RAPID-THREE DESK CHARGER, 3 hour. 105/120/210/240 VAC, 50/60 Hz. (See Note).</p>
351M4A1X	<p>RAPID-ONE, 1 hour. 105/120/210/240 VAC, 50/60 Hz. (See Note).</p>
	<p>MULTI-BATTERY CHARGERS (105/120/210/240 VAC, 50/60 Hz) <i>Multi-Battery Wall Charges will charge up to six 750 or 1200 mAh, standard or Green Label (FM-Approved), MPR/MPX rechargeable batteries, separately or attached to radios. See CAUTION below.</i></p>
352K1B1X	<p>MULTI-CHARGER, 14-hour, 121 VAC, 50/60 Hz.</p>
352L3B1X	<p>RAPID-THREE MULTI-CHARGER, 3 hour. 121 VAC, 50/60 Hz.</p>
352L4B1X	<p>RAPID-ONE MULTI-CHARGER, 1 hour. 121 VAC, 50/60 Hz.</p>
352L4C1X	<p>RAPID-ONE MULTI-CHARGER, 1 hour. 121 VAC, 50/60 Hz, with Exerciser/Tester for standard battery only.</p>
352M1B1X	<p>MULTI-CHARGER, 14 hour, 105/120/210/240 VAC, 50/60 Hz. (See Note).</p>
352M3B1X	<p>RAPID-THREE MUTI-CHARGER, 3 hour. 105/120/210/240 VAC, 50/60 Hz. (See Note).</p>
352M4C1X	<p>RAPID-ONE MULTI-CHARGER, 1 hour, 105/120/210/240 VAC, 50/60 Hz, with Discharger for standard battery only. (See Note).</p>
	<p>Note: Charger models 351M & 352M are connected for 240 VAC operation and the AC cables are not terminated.</p>
	<p style="text-align: center;">CAUTION</p> <p>Although MPX & MPR Battery Chargers are recommended for charging Green Label (FM-Approved, Intrinsically Safe) batteries, the chargers are not FM-Approved for operation in hazardous areas.</p>

RAPID ONE DESK CHARGER COMBINATION 351L4A1X



RAPID 3 DESK CHARGER COMBINATION 351L3A1X

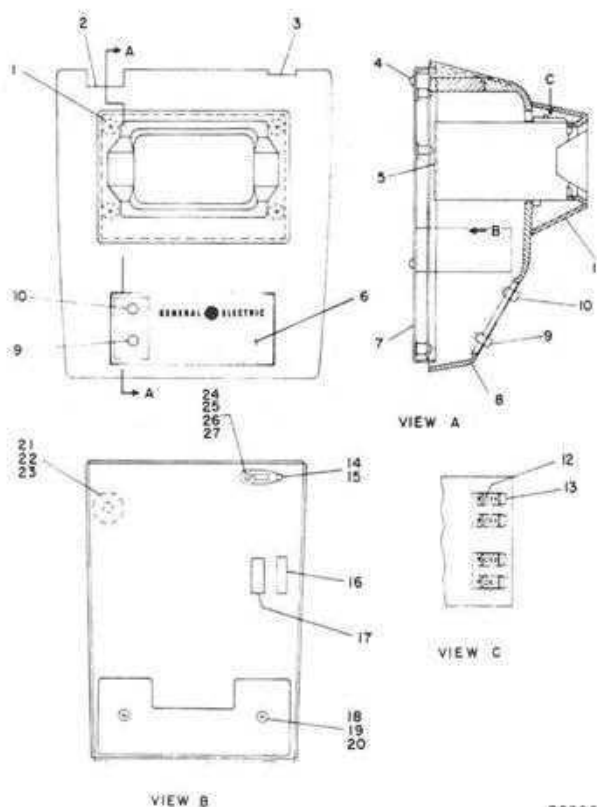


General Electric one hour desk charger combination 351L4A1X will recharge 700 mAh or 1200 mAh battery packs, used with the MPR Personal series, two-way FM radios. A fully discharged 1200 mAh battery pack will charge back to a full charge in one hour. A fully discharged 700 mAh battery pack will charge back to a full charge in less than one hour.

General Electric Rapid Three Desk Chargers will recharge both 700 mAh and 1200 mAh battery packs used with the MPR Personal Series, FM two-way radios. A fully discharged battery pack will be recharged back to a full charge in 3 hours at a constant current charge rate of C/3 for the 1200 mAh battery pack (420 mA) and C/2 for the 700 mAh battery pack (370 mA).

PARTS LIST

SYMBOL	GE PART NO.	DESCRIPTION
MECHANICAL PARTS		
1	19A116773P108	Tap screw, Phillips POZIDRIV : No. 7-19 x 1/2.
2	19C317175P3	Plug.
3	19B227249P1	Grommet.
4	19A116773P106	Tap screw, Phillips POZIDRIV : No. 7-19 x 3/8.
5	19C328544G1	Sleeve assembly. (Includes items 12 & 13).
6	NP280659	Nameplate. (General Electric). 351L3A1X
	NP280658	Nameplate. (General Electric). 351L4A1X
7	19C321499G1	Base assembly. (Includes items 19-24). 351L3A1X
	19C328910G1	Base assembly. (Includes items 23-27 & 32.) 351L4A1X
8	19E500894P3	Housing.
9	19A134521P3	Lens.
10	19A134521P2	Lens.
11	19D429698P1	Collar.
12	N136P503C	Tap screw, phillips head: No. 2-32 x 3/16.
13	19C327044P1	Contact, spring.
14	19A115185P3	Strap. 351L3A1X
	19A115185P2	Strap. 351L4A1X
15	19A115185P4	Strap buckle: sim to Panduit Corp. TA-1.
16	19A130456G1	Fuse cover.
17	NP279917P10	Nameplate. (Fuse rating). 351L3A1X
	NP279913P12	Nameplate. 351L4A1X
18	N80P13005C6	Machine screw, phillips: No. 6-32 x 5/16
19	4035656P37	Spacer, threaded, metallic: No. 6-32 x 1/4.
20	N404P19C13	Lockwasher, internal tooth: No. 10.
21	19A134365P1	Bumper, rubber.
22	19A134366P1	Rivet, tubular.
23	N402P37C6	Flatwasher, steel: No. 6.
24	7141225P3	Hex nut: No. 6-32.
25	N404P13C6	Lockwasher, internal tooth: No. 6.
26	N402P7C6	Flatwasher, narrow: No. 6.
27	4037460P6	Stud, self clinching.



RC3865

MPR PERSONAL SERIES



STANDARD 14-HOUR DESK CHARGER COMBINATIONS 351L1A1X AND 351M1A1X

General Electric standard 14-hour desk charger combinations 351L1A1X and 351M1A1X, will recharge battery packs used with MPR Personal Series, FM two-way radios.

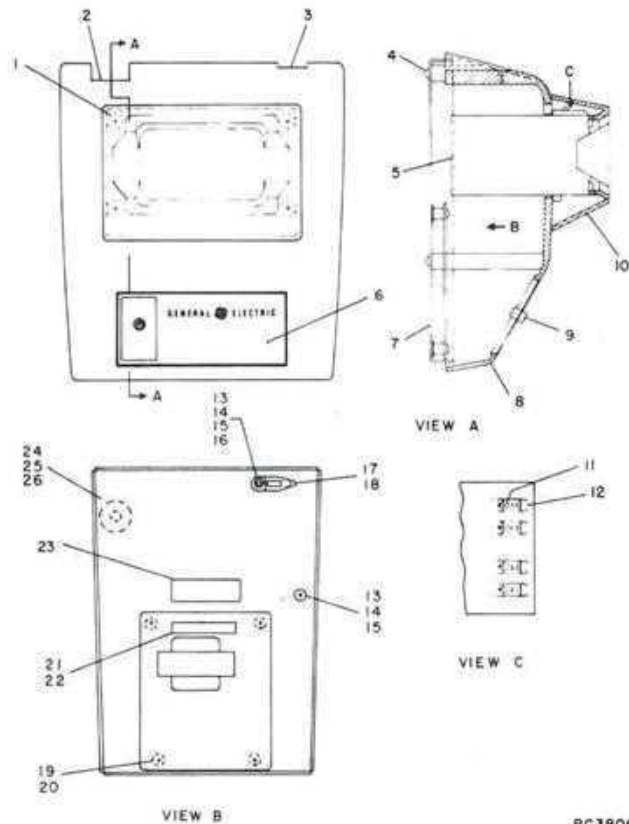
Charger combination 351L1A1X, for 121 VAC operation and charger combination 351M1A1X for 220 VAC operation will recharge a standard MPR 700 mAh or 1200 mAh battery pack.



PARTS LIST

MPR 14 HOUR DESK CHARGER
351L1A1X 19D429767G1 121 VAC
351M1A1X 19D429767G2 220/240 VAC

SYMBOL	GE PART NO.	DESCRIPTION
MECHANICAL PARTS:		
1	19A116773P108	Tap screw, Phillips POZIDRIV : No. 7-19 x 1/2.
2	19C317175P3	Plug.
3	19B227249P1	Grommet.
4	19A116773P106	Tap screw, Phillips POZIDRIV : No. 7-19 x 3/8.
5	19C328544G1	Sleeve assembly. (Includes items 11 & 12).
6	NP280569	Nameplate. (GENERAL ELECTRIC).
7	19C317108G2	Base assembly. (Includes items 16, 23, 26, 27 & 28).
8	19E500894P3	Housing.
9	19A134521P3	Lens.
10	19D429698P1	Collar.
11	N136P503C	Tap screw, phillips head: No. 2-32 x 3/16.
12	19C327044P1	Contact, spring.
13	7141225P3	Hex nut: No. 6-32.
14	N404P13C6	Lockwasher, internal tooth: No. 6.
15	N402P7C6	Flatwasher, narrow: No. 6.
16	4037480P6	Stud, self cinching.
17	19A115185P4	Strap buckle.
18	19A115185P5	Strap.
19	N80P9004C6	Machine screw, phillips: No. 4-40 x 1/4.
20	4035656P7	Spacer, threaded, metallic: No. thd. size 4-40.
21	19A116688P1	Clip, fuse. (Quantity 2).
22	19A130456G1	Fuse cover.
23	NP279917P9	Nameplate. (Fuse rating).
24	19A134365P1	Bumper, rubber.
25	19A134366P1	Rivet, tubular.
26	N402P37C6	Flatwasher, steel: No. 6.



RC3806

RAPID THREE MULTI-CHARGER COMBINATION 352L3B1X

STANDARD 14-HOUR MULTI-CHARGER COMBINATION 352L1B1X

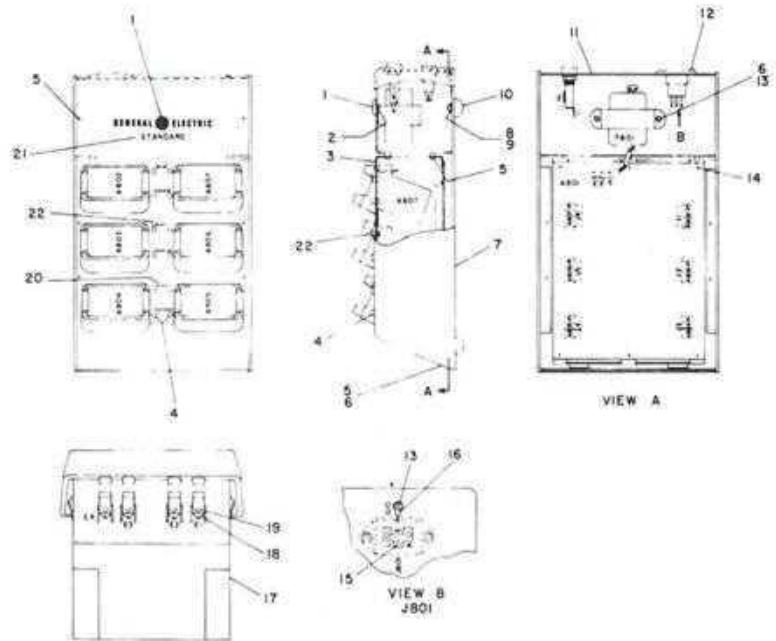


General Electric Rapid Three Multi-Charger Combination 352L3B1X, will recharge both 750 mAh and 1200 mAh battery packs used with MPR Personal Series, FM, two-way radios. A fully discharged nickel-cadmium battery pack will be recharged to a full charge in three hours at a constant current rate of C/3, for the 1200 mAh battery pack (420 milliamps), and C/2, for the 750 mAh battery pack (375 milliamps).

General Electric 14 Hour Multi-Charger Combination, 352L1B1X, will recharge battery packs used with MPR Personal Series, FM, two-way radios. A fully discharged, nickel-cadmium, 750 mAh or 1200 mAh battery pack will recharge 100% in 14 hours at a C/10 constant current rate.

PARTS LIST

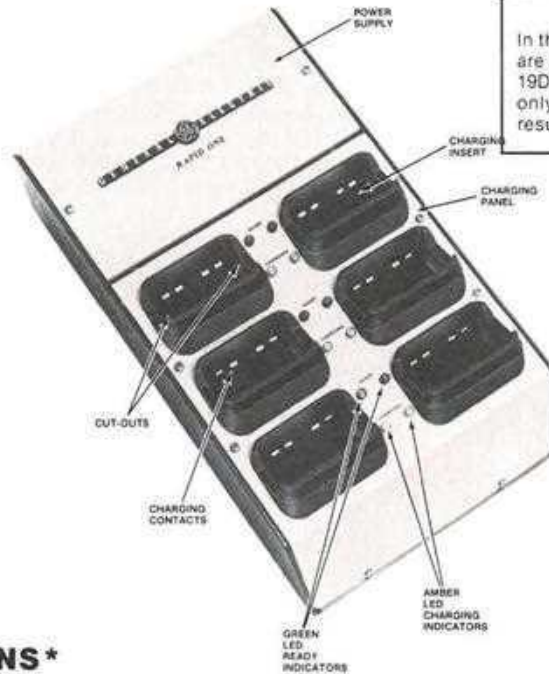
SYMBOL	GE PART NO.	DESCRIPTION
MECHANICAL PARTS		
1	196209572P2	Identification plate (General Electric)
2	19C307638P7	Nut, push on (Secures GE identification plate)
3	19C328758G1	Chassis 352L3B1X
3	19C328758G2	Chassis 352L1B1X
4	19A134521P3	Lens, amber (Charging indicator)
5	N80P13005C6	Machine screw, No. 6-32 x 5-16
6	N402P7C6	Flat washer, narrow, No. 6
7	196233062G1	Base
8	N210P15C6	Hex nut, No. 8-32
9	N403P16G6	Lockwasher, external tooth, No. 8
10	4037559P9	Rubber bumper
11	19C328964G1	Cover
11	19C328964G2	Cover
12	N80P9006C6	Machine screw, No. 4-40 x 3-8
13	7141225P3	Hex nut, No. 6-32
14	19B201074P305	Tap screw, Phillips Pozidriv, No. 6-32 x 5-16
15	19A134783P2	Contact, electrical, sim to Molex 16-02-1105, LOOSE FORM
16	196209260P4	Terminal, solderless, sim to AMP 41330
17	19C328838G1	Sleeve assembly (Includes items 18 & 19) 352L3B1X
17	19C328838G2	Sleeve assembly (Includes items 18 & 19) 352L1B1X
18	19C327044P1	Sliding contact
19	N136P503C	Tap screw, Phillips head, No. 2-32 x 3-16
20	NP280667P1	Nameplate (CHARGING)
21	NP280667P2	Nameplate (STANDARD)
21	NP280667P3	Nameplate (RAPID THREE)
22	19A134521P2	Lens, green (READY INDICATOR) 352L1B1X only



MPR Personal Series

352L4BIX
352M4CIX

RAPID MULTI-CHARGER COMBINATIONS



WARNING
In this Maintenance Manual, General Electric Chargers are designed for charging GE 750 mAh battery pack 19D429763G1 and 1200 mAh battery pack 19D429777G1 only. Charging any other battery pack or batteries may result in damage to equipment, leakage or explosion.

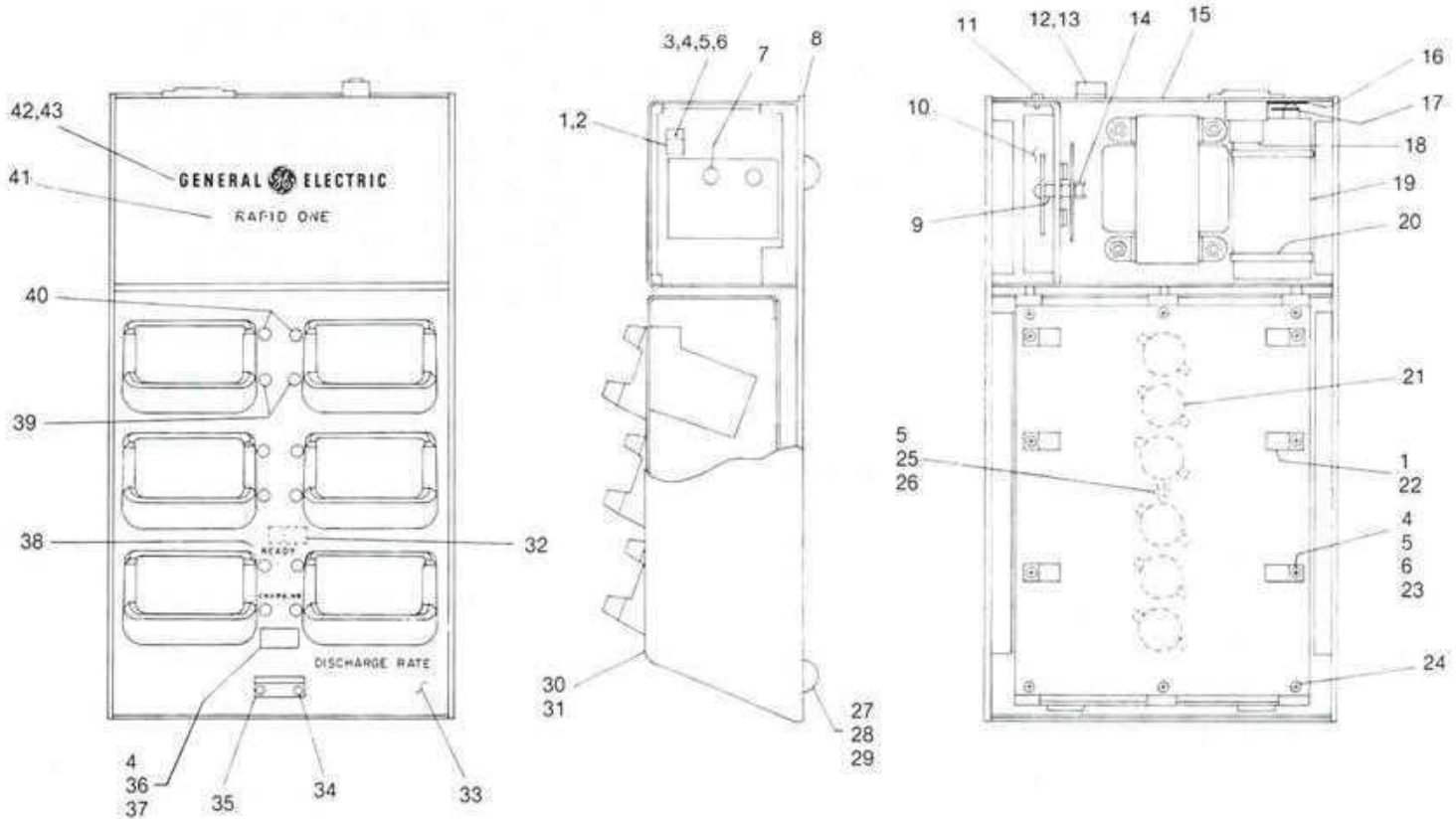
SPECIFICATIONS*

Dimensions (H x W x D)	5.66'' x 9.16'' x 16.4'' (14.4 cm x 23.3 cm x 41.7 cm)
Weight	15 pounds (6.8 Kilograms)
Capacity	6 Charging Inserts
Indicators	Amber CHARGING Green READY
Charge Time (100%)	1 hour (1200 mAh battery pack)
Charging Temperature Range	5°C to 45°C
Typical Charge Current	
High Rate	1200 Milliamps
Trickle Rate	85 Milliamps

MPR Personal Series

RAPID I MULTI-CHARGER COMBINATIONS

352L4BIX
352M4CIX



Symbol	GE Part No.	Description
MECHANICAL PARTS		
1	19A700068P1	Insulator, bushing. (Used with Q1-Q6 on A801).
2	19A116023P1	Insulator, plate. (Used with Q8010).
3	N80P9007C6	Machine screw, phillips; No. 4-40 x 7/16. (Secures Q801).
4	7141225P2	Hex nut; No. 4-40. (Secures Q1-Q6 on A801 & Q801).
5	N404P11C6	Lockwasher, internal; No. 4. (Secures Q1-Q6 on A801 & Q801).
6	N402P35C6	Washer, steel; No. 4. (Secures Q1-Q6 on A801 & Q801).
7	19A701332P4	Insulator, washer; nylon. (Used with Q1 on A802).
8	19B233062G1	Base assembly.
9	7150186P107	Spacer; No. 5 x 1/4.
10	19B233413G1	Heat sink.
11	19B201074P306	Tap screw, Phillips POZIDRIV [®] ; No. 6-32 x 3/8.
12	19A134796P4	Fuseholder; sim to Schurter 031.1663.
13	19A134796P4	Fuseholder; sim to Schurter 031.1663.
14	19A701863P27	Clip, loop.
15	19C330295G1	Cover.
16	19A142819P1	Insulator.
17	19B209268P106	Terminal, solderless; sim to AMP 41184. (NOT USED).
18	19B800914P2	Contact; rated 15 amps at 125 VAC; sim to Molex 16-02-1103. (Quantity 3 — Located on J801).
19	19B233255P1	Support. (C801).
20	19J706152P9	Retaining strap; sim to Dennison BAR-LOK 08471. (C801).

Symbol	GE Part No.	Description
21	19A134141P1	Rubber grommet. (Used with L1-L6).
22	19A700115P3	Insulator, plate. (Used with Q1-Q6 on A8010).
23	N80P9006C6	Machine screw; No. 4-40 x 3/8. (Secures Q1-Q6 on A801).
24	19B201074P305	Tap screw, Phillips POZIDRIV [®] ; No. 6-32 x 5/16. (Secures A801).
25	N80P9004C6	Machine screw; No. 4-40 x 1/4.
26	7142162P20	Spacer, hex; No. 4-40. (Secures TB1).
27	4037559P9	Rubber bumper.
28	N210P15C6	Nut, hex; No. 8-32 (Secures rubber bumpers, item 1).
29	N403P18C6	Lockwasher, internal tooth; No. 8. (Secures rubber bumpers).
30	19C330308G1	Chassis. (Discharge option).
31	19C328758G2	Chassis. (Without Discharge option).
32	19A134403P4	Cable clip. (Quantity 2).
33	NP28076Z	Nameplate. (DISCHARGE RATE).
34	N84P5007C6	Machine screw, phillips head; No. 2-56 x 7/16.
35	19D413467P1	Fastener.
36	19A142573P1	Window.
37	7150186P1	Spacer, sleeve.
38	NP280667P1	Nameplate. (CHARGING).
39	19A134521P3	Lens; amber.
40	19A134521P2	Lens; green.
41	NP280667P4	Nameplate. (RAPID ONE).
42	19B209572P2	Identification plate. (GENERAL ELECTRIC).
43	19C307038P7	Nut, push on. (Secures GE identification plate).

MPR PERSONAL SERIES



VEHICULAR CHARGER

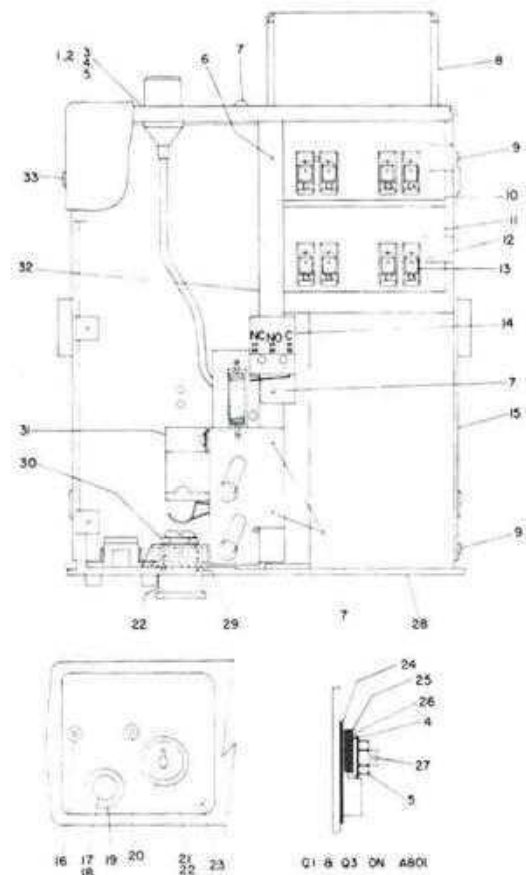
General Electric Vehicular Charger combinations provide a system for using an MPR Personal Series, FM, two-way radio as a mobile unit while recharging the MPR radio's battery pack. The vehicular charger will recharge the nickel-cadmium 1200 mAh battery pack 100% in 3 hours and a 750 mAh battery pack in less than 3 hours.



PARTS LIST

MPR 3 - HOUR VEHICULAR CHARGER 19D429957G1

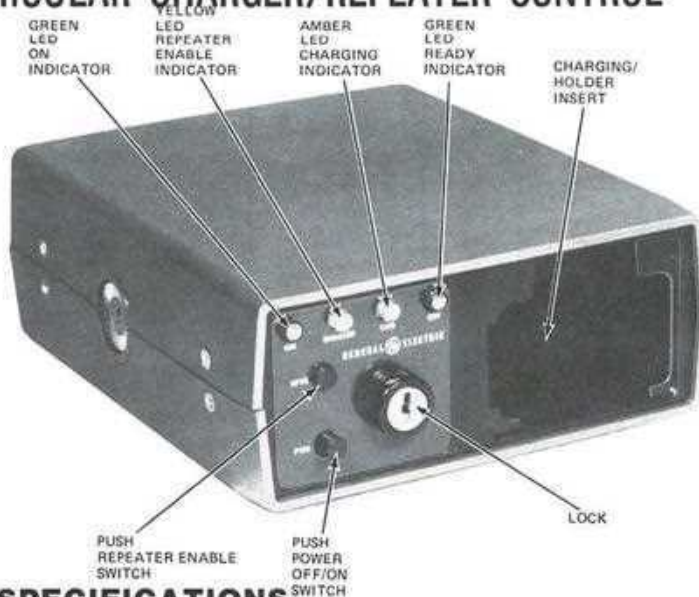
SYMBOL	GE PART NO.	DESCRIPTION
MECHANICAL PARTS		
1	19D429684P1	Top cover.
2	19C328676G1	Bottom cover.
3	19A134483P2510	Machine screw, Metric: 2.5-.45 x 10MM.
4	19A134657P2	Lockwasher, tooth, Metric: 2.5.
5	19A134661P3	Hex nut, Metric: M2.5 x 0.45.
6	N136AP905C6	Tap screw, phillips POZIDRIV : No. 4 24 x 5/16.
7	19A134589P3006	Tap Screw, Metric: 3-0.5 x 6MM.
8	19C328689P1	Cap.
9	N190AP905C6	Flat head, phillips POZIDRIV : No. 4 24 x 5/16.
10	19B233002G1	Sleeve.
11	19B233002G2	Sleeve.
12	N136P503C	Tap screw, phillips head: No. 2-32 x 3/16.
13	19C327044P1	Contact spring.
14	19A137881G1	Plate.
15	19B233001G1	Frame.
16	19A134521P3	Lens.
17	19C328108P5	Knob.
18	19A134642P2503	Set screw, Metric: 2.5-.45 x 3MM.
19	19C328193P2	Knob, scaled.
20	19A134521P2	Lens.
21	5491682P25	Rim lock. (Key is not included - order key 5491682-P4).
22	19C321643P1	Push button.
23	NP280586	Faceplate.
24	19A116023P3	Insulator, plate.
25	19A130016P1	Insulator, bushing.
26	19A134656P4	Flatwasher, Metric: No. 2.5 MM.
27	19A134586P2510C6	Machine screw, Metric: 2.5-0.45 x 10MM.
28	19D429665P1	Front cap.
29	19A130622P1	Spring.
30	19B232998P1	Lock Stop.
31	19C328718G1	Connector support.
32	19C328679P1	Channel.
33	19A134586P3508C6	Machine screw: No. M3.5 x 8MM.



RC-3873

MPR Personal Series

VEHICULAR CHARGER/REPEATER CONTROL



WARNING
 General Electric Vehicular Charger Combinations are designed for recharging GE 1200 mAh battery pack 19D429777G1 and the 750 mAh battery pack 19D429763G1 only. Attempting to recharge any other battery pack or batteries may result in damage to equipment, leakage or explosion.

SPECIFICATIONS

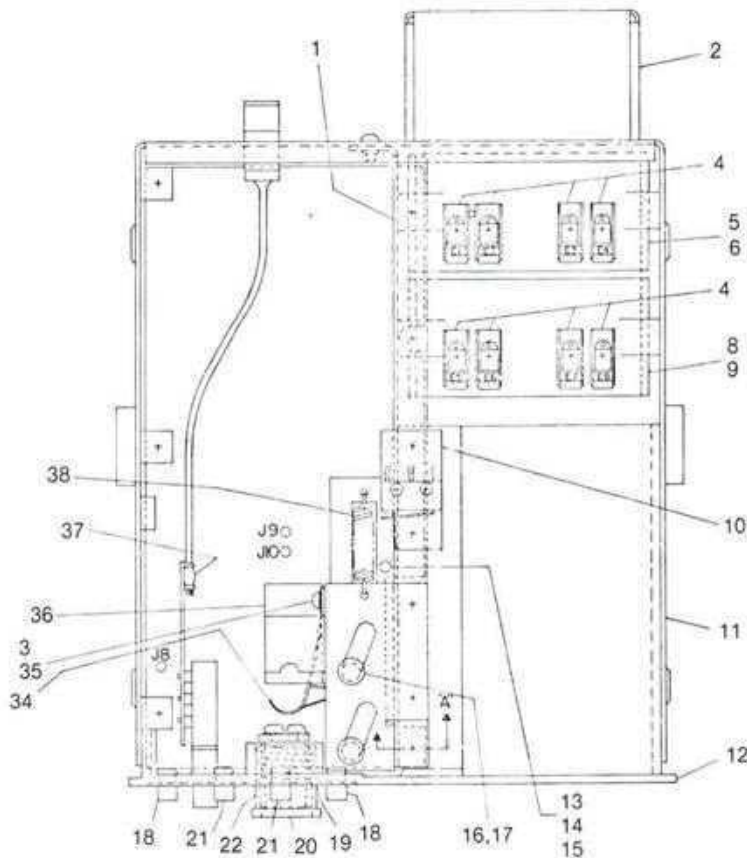
USED WITH	MPR Model Two-Way Radios in Vehicular Repeater Systems
INPUT VOLTAGE	11 VDC — 16.6 VDC
INPUT CURRENTS (@ 13.8 VDC)	
Standby	150 mA
CHARGE CURRENTS	
Rapid Charge	450 mA
Trickle Charge	50 mA
CHARGE TIME	3 Hours (100% Capacity)

CHARGE CAPACITY & TIME VS TEMPERATURE

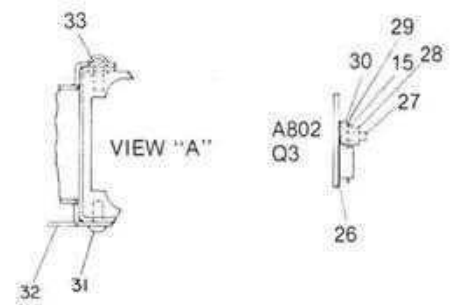
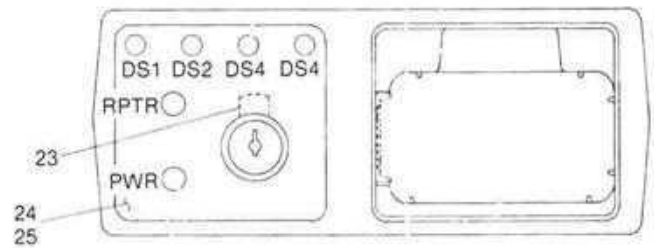
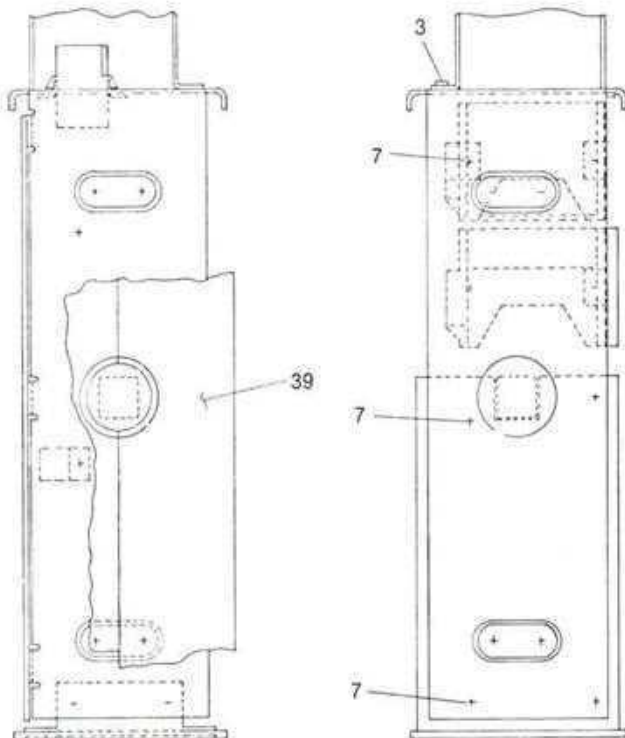
Temperature	Time	Capacity
+5°C (41°F)	3.3 Hours	100%
+25°C (77°F)	3.0 Hours	100%
+45°C (113°F)	2.7 Hours	70%

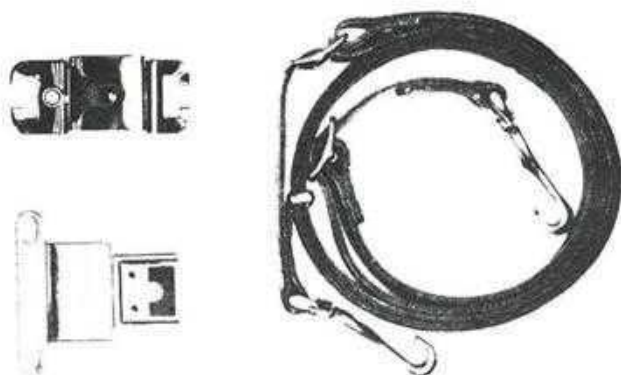
INDICATORS	Amber	CHARGE
	Green	READY
	Amber	ENABLED
	Green	ON

MPR VEHICULAR CHARGER

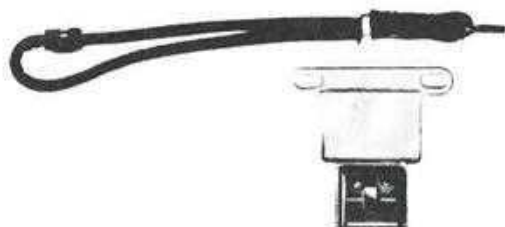


Symbol	GE Part No.	Description
MECHANICAL PARTS		
1	19C328679P1	Channel.
2	19C328689P1	Rear Cap.
3	19A134589P3006	Tap screw, thd. forming: 3-0.5 x 6MM.
4	19C327044P1	Contact spring. (E1-E8).
5	19B233002G1	Rear sleeve. (E1-E4).
6	19C328542P1	Upper sleeve. (E1-e4).
7	N190AP905C6	Tap screw, Phillips-POZIDRIV: No. 4-24 x 5/16.
8	19B233002G2	Rear sleeve. (E5-E8).
9	19C328542P2	Upper sleeve. (E5-E8).
10	19A137881G1	Plate.
11	19B233001G1	Frame.
12	19C330651G1	Front Cap.
13	19A138061P1	Spacer, thd. size M2.5 x 0.45.
14	19A134483P2510	Machine screw, Metric: No. 2.5-0.45 x 10MM.
15	19A134657P2	Lockwasher, tooth: Metric: size 2.5.
16	19A134647P1	Shield screw, pan. head Metric.
17	19A137927P1	Spacer, sleeve.
18	19A134521P2	Lens, panel light: green; sim to Visual Comm CLF-280-GTP.
19	19A130622P1	Spring.
20	5491682P25	Rim lock.
21	19A134521P3	Lens, panel light: amber; sim to Visual Comm CLF-280-ATP.
22	19C321643P1	Push button.
23	19B232998P1	Lock stop.
24	NP280821	Nameplate. (CHARGER).
25	NP280822	Nameplate. (STANDARD).
26	19A116023P3	Insulator, plate.
27	19A134586P2510C6	Machine screw, Metric: 2.5-0.45 x 10MM.
28	19A134661P3	Hex nut, Metric: size No. M2.5 x 0.45.
29	19A134656P4	Flatwasher: screw dia. 2.6 (2.5) MM.
30	19A13416P1	Insulator, bushing.
31	N136P906C6	Tap screw, phillips head: No. 4-24 x 3/8.
32	19B233442P1	Support.
33	N136P905C6	Tap screw, phillips head: No. 4-24 x 5/16.
34	19B233091G1	Spring.
35	19A134656P5	Flatwasher: screw dia. 3.0MM.
36	19C328718G2	Connector support.
37	4029851P1	Clip loop.
38	19A137862P1	Spring.
39	19D429684P1	Cover.

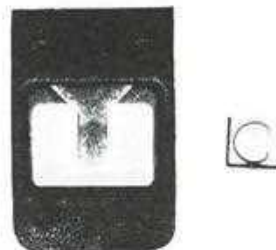




MPR Option-P2HC15, Shoulder Strap
MPX-Option-P4HC15, Shoulder Strap



MPR-Option P2HC15, Hand Strap
MPX-Option P4HC16, Hand Strap



MPR-Option P2HC17, Swivel Mount
MPX-Option P4HC17, Swivel Mount



MPR-Option P2HC18, Pocket Clip
MPX-Option P4HC18, Pocket Clip

ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
NOTE 1	CARRY CASES USED WITH 750 mAh Batteries	NOTE 1	CARRYING ACCESSORIES
P4HC10 Δ	Case/Belt Loop for "A" case radio	P4HC20 Δ	BELT LOOP with "swivel" socket, spare, for use with Carrying Cases (Options HC21 thru HC25) or radios equipped with Swivel Mount.
P4HC11 Δ	Case/Belt Loop for "B" case radio	P4HC16 Δ	HAND STRAP, with mounting plate.
P4HC13 Δ	Case/Belt Loop for "C" case radio	P4HC15 Δ	SHOULDER STRAP, for use on radios with or without carrying cases, includes mounting plate and microphone clip.
P4HC21 Δ	Case/Swivel Mtg/Belt Loop for "A" radio	P4HC18 Δ	BELT CLIP mounts on radios' back cover.
P4HC22 Δ	Case/Swivel Mtg/Belt Loop for "B" radio	P4HC17 Δ	SWIVEL MOUNT PLATE, mounts on radios' back cover. Includes Belt Loop with "Swivel socket."
P4HC23 Δ	Case/Swivel Mtg/Belt Loop for "C" radio	P4HC26 Δ	SWIVEL HARDWARE KIT, for adding "swivel socket" directly to user-furnished belt.
	CARRY CASE USED WITH 1200 mAh BATTERIES		
P4HC11 Δ	Case/Belt Loop for "A" Case radio		
P4HC12 Δ	Case/Belt Loop for "B" case radio		
P4HC14 Δ	Case/Belt Loop for "C" case radio		
P4HC22 Δ	Case/Swivel/Mtg/Belt Loop for "A" radio		
P4HC23 Δ	Case/Swivel/Mtg/Belt Loop for "B" radio		
P4HC25 Δ	Case/Swivel/Mtg/Belt Loop for "C" radio		
	Note 1. Options listed represent the same options listed in the Equipment Catalog for the MPR Radio, Cases for the MPR, which are listed in the Equipment Catalog as P2HC10, etc., are IDENTICAL. Service Parts Stock is under the P4HC10, etc., label. Please order using the P4 version of the option number.		
			Note Δ Options shown with symbol Δ are approved for use with radios rated as Intrinsically Safe.

COMBINATION NOMENCLATURE

DIGITS 1 & 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGIT 6	DIGIT 7	DIGIT 8	DIGIT 9	DIGIT 10
Product Code	Package	TX Frequency Range	RX Frequency Range	Channel Spacing	RF Power Output	Max Channel Capacity	Control	Power Source
P5 MPI	B Accessory Cover Local	H 136-150 MHz	H 136-150 MHz	6 30 kHz	5 1.7-3.8 Watts	B 2 Tx-2 Rx	E Standard	N NiCd 450 mAh
	C Local/Remote	J 150-174 MHz	J 150-174 MHz	5 25 kHz	6 3.9-6.4 Watts	C 2 Tx-1 Rx		
		M 403-425 MHz	M 403-425 MHz			D 1 Tx-2 Rx		
		N 420-450 MHz	N 420-450 MHz					
		R 450-470 MHz	R 450-470 MHz					
		S 470-494 MHz	M 470-494 MHz					
		T 489-512 MHz	T 489-512 MHz					



ANTENNAS

UHF (Stubby)
19B800763P13

UHF (Flexible)
19B800886P3

HIGHBAND
19B800763P100

BATTERIES

7.5V (2w)	19D900639G2
10v (4w)	19D900639G3

FUSES

3 Amp (2w)	19A702169P9
5 Amp (4w)	19A702169P10

AUDIO

INTERNAL MICROPHONE	19J706041P1
SPEAKER	19A134460P1

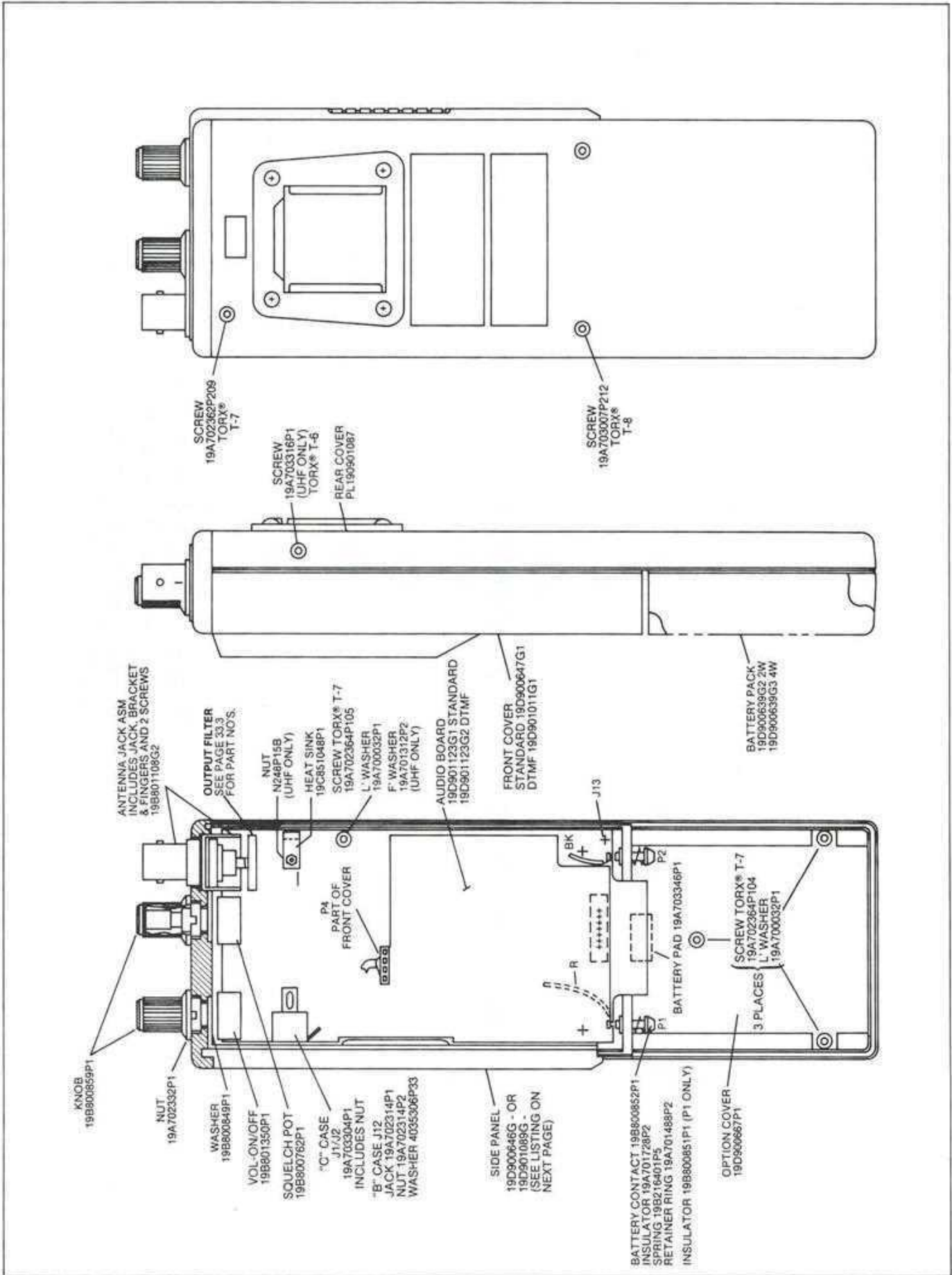
CONTROLS

VOLUME-ON/OFF	19B801350P1
SQUELCH	19B800762P1
PTT SWITCH	19B800847P1
2 FREQ. SWITCH	19A702244P1

CHANNEL CRYSTALS

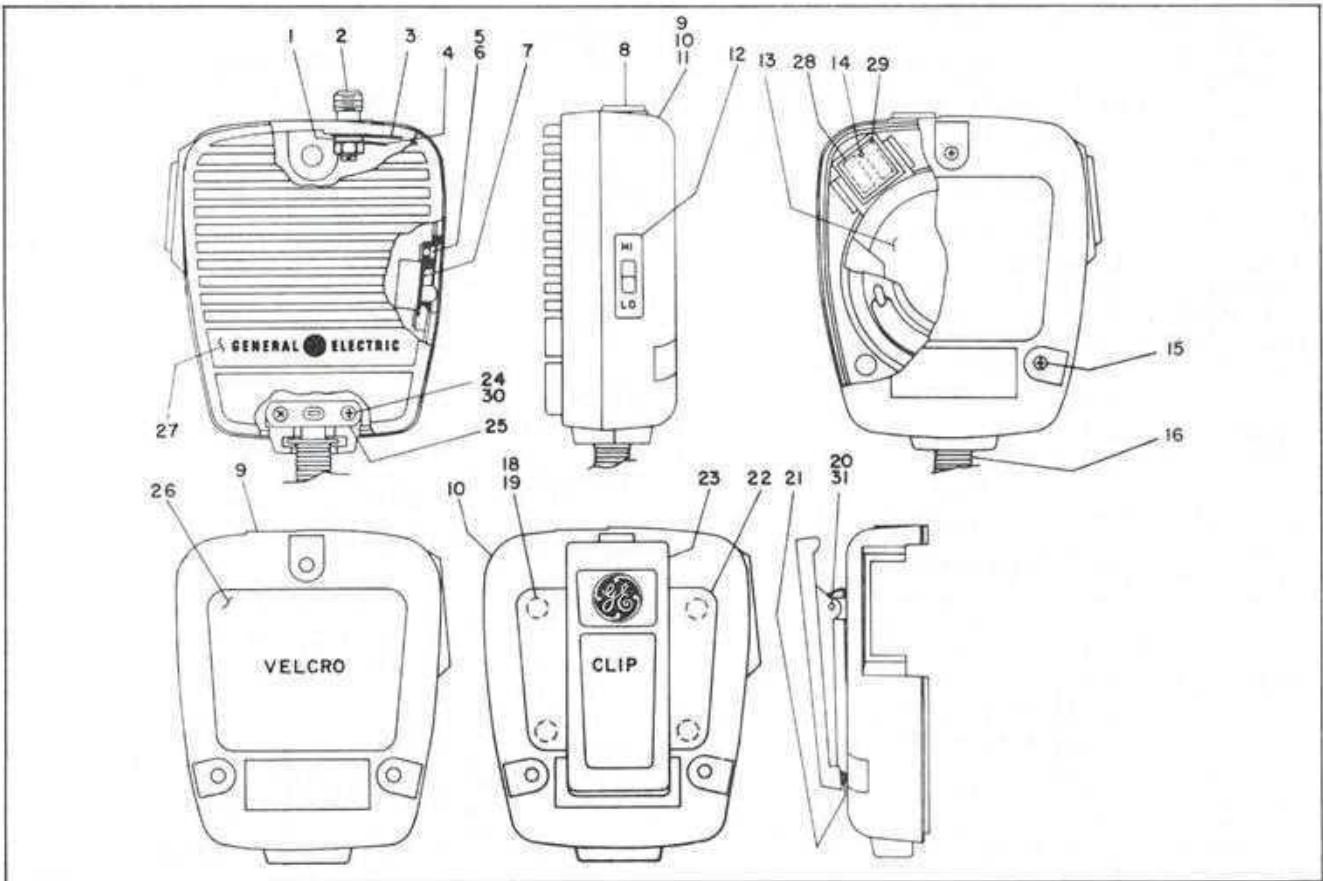
FREQ RANGE	TX	RX
136-174 MHz	19A702375G2	19A702375G2
403-512 MHz	19A702375G1	19A702375G2

Specify operating frequency and whether (T) for Transmit or (R) for Receive.



ORDERING NUMBER	DESCRIPTION
FRONT COVERS (NO DTMF)	
19D900647G1	Standard.
19D900647G4	Originally used on "C" Case High Band. Use-G1
19A134460P1 19J706041P1 19A700232P64 19B800650P13 19B800860G1	Front Covers include: Loudspeaker. Microphone Cartridge Ceramic Capacitor Tantalum Capacitor Cable assembly. (Includes P4). P4 Connector. Includes: Shell. Contact, electrical.
19A702405P4 19A702405P28	Shell. Contact, electrical.
--- MISCELLANEOUS ---	
19A702396P1	Nameplate. (GENERAL ELECTRIC).
FRONT COVERS WITH DTMF	
19D901011G1	Front Cover, with DTMF Encoder. Standard, except when CG Encode Options HA or HB are used.
19D901011G3	Front Cover, with DTMF Encoder, used with CG Encode Options HA or HB.
19A134460P1 19J706041P1 19A700232P64 19B800650P13 19B800860G1	Front Covers with DTMF include: Loudspeaker. Microphone Cartridge Ceramic Capacitor Tantalum Capacitor Cable assembly. (Includes P4). P4 Connector. Includes: Shell. Contact, electrical.
19A702405P4 19A702405P28	Shell. Contact, electrical.
--- MISCELLANEOUS ---	
19A702396P1	Nameplate. (GENERAL ELECTRIC).
19D900965G1 19A116125P1002	DTMF Encoder Board Screw, mounts Encoder Bd. No. 0-80 x 1/8
19C851082P1 19A702471P6 19A134958P1 19A702511G1	Touch Pad Switch (Number Pad Switch) Insulator Pad Used with U1 Encoder-IC chip Encoder reference crystal
SIDE PANELS	
"C" Case Models	
19D901089G1 19D901089G2	Side Panel; 2 FT & 2 FR Side Panel; 2 FT/1 FR or 1 FT/2 FR
"B" Case Models	
19D900646G1 19D900646G3	Side Panel; 2 FT & 2 FR Side Panel; 2 FT/1 FR or 1 FT/2 FR
AUDIO BOARDS	
19D901123G1 19D901123G2	Standard. Used with DTMF Encoder.

ORDERING NUMBER	DESCRIPTION
REAR COVER	
19D900644G1 19D901087G1 19D901087G2 19D901087G3 19D901087G4	"B" Case, all "C" Case, HB, High Power "C" Case, UHF, High Power "C" Case HB, Low Power "C" Case UHF, Low Power
19B800852P1 19A701728P2 19A701488P2 19B216401P5 19B800851P1	REAR COVERS INCLUDE: P1 Connector. Includes: Contact, electrical. Washer, non-metallic. Retaining ring. Spring. Insulator.
19B800852P1 19A701728P2 19A701488P2 19B216401P5	P2 Connector. Includes: Contact, electrical. Washer, non-metallic; Retaining ring. Spring.
19A702405P26	P3 & P4 Contact, electrical: rated @ 3 amps.
--- MISCELLANEOUS ---	
19C85086P1 N327P9008E 19A702471P6 19C850861P2	Option receptacle. Rivet, tubular. Foam pad. Insulator, glass epoxy.
APPLICATION HARDWARE KITS (USED TO ASSEMBLE RADIOS)	
19A702379G1 19A702379G2 19A702379G3	SINGLE/MULTI FREQ Hardware Kit UHF Hardware Kit. HIGH BAND Hardware Kit.
19A7024071P3 19A702471P2 19A702332P1	Crystal pad. (Used with Y3). Crystal pad. (Used with Y1, Y2, Y4, Y5). Nut, slotted: M7 x .75. (Secures R32 & S1)
19B800849P1	Washer, rectangular. (Located between ON-OFF switch and housing).
19A702314P2 19A703007P212	Knurled nut. (Secures J11). Machine screw, Torx drive: M2.5-.45 x 12. (Secures rear cover below nameplates). T-8
19A702362P208	Machine screw, Torx drive: M2.5-.45 x 8. (Secures rear cover at top). T-7
19B800859P1 19A702364P103	Knob, push on. Machine screw, Torx drive: M2-.4 x 3. (Secures option cover). T-7
19A700032P1	Lockwasher, internal tooth: No. 2. (Secures option cover).
19D900667P1	Option Cover.
OUTPUT FILTER ASSEMBLIES	
19B800877G1 19B800895G1 19B801039G1 19B801130G1	"B" Case UHF Filter Board "B" Case High Bd. Filter Board "C" Case UHF Filter Board "C" Case High Bd. Filter Board
RF JACK ASSEMBLY	
19B801108G2	Jack, Mounting Bracket with tapped holes and two screws.



ITEM NO.	ORDERING NUMBER	DESCRIPTION
	19D437483G2	Speaker Microphone with Clip Back.
	19D437483G4	Speaker Microphone with Velcro® Back.
The Speaker/Microphones may include.		
	19C331660G2 19A703687G1	Cable and Plug Assembly Replacement Cable plug kit. Contains all parts to replace (add) the plug on the cable.
M1	19C328976G3	Microphone Cartridge
LS1	19A137235G1	Loud Speaker.
J1	19A134491P1	Jack, earpiece.
S1	19A134798P1	Slide Switch.
S2	19B232265G1	PTT Switch Asm.
5	19A134481P1	Machine screw; No. 1-6-.35 x 4mm.
6	19A134480P1	Hex nut: No. 1.6-.35mm.
7	19B216602P1	Plate.
8	19B233108P1	Plug button.
9	19D42953G4	Rear housing. (VELCRO-COIL-CORD).
10	19D43348G2	Rear housing. (CLIP-COIL-CORD).

ITEM NO.	ORDERING NUMBER	DESCRIPTION
12	NP280373	Nameplate. (HI-LO).
13	19C327898G1	Cavity.
14		(NOT USED).
15	N136AP1310C13	Tap screw; No. 3.5-1.27 x 16mm.
18	N327P9012Y6	Tubular rivet.
19	N402P4C6	Flatwasher, steel: No. 3.
20	N505P614C6	Pin.
21		(NOT USED).
22	19B234070G1	Plate. (Clip).
23	19C327838P1	Clip.
24	19A700031P406	Machine screw, metric; 3-0.5 x 6mm.
25	19B232106P1	Strain relief.
26	19A129143P2	Fastener pad. (VELCRO).
27	19C327887G1	Front housing.
28	19B232142P2	Boot, mike.
29		(NOT USED).
30	4033714P5	Terminal: sim to Zierick 541.
31	19A14439P1	Spring.
NOTE:		
Item #'s not listed are not used in MPI Speaker Microphones.		
VELCRO BADGE		
NS	19A129791G1	Velcro® Clothing Patch
EARPIECE KIT		
NS	4033570G6	Earpiece Kit
NS = Not Shown		

STONE OPTION APPLICATION CHART

NOTES: 1. 19A144192G3 Type 99 Tone Plugs must be ordered separately, specifying the two tones desired for each plug.
 2. The installation kit DOES NOT INCLUDE the tone Encoder or Encoder/Decoder module with which it is associated!

CHART CODING

X = Applies to

1, 2 = Quantity Required

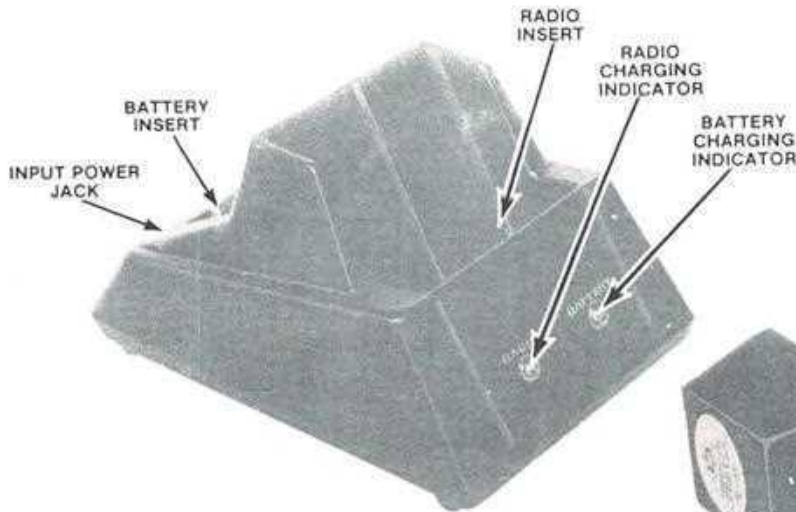
OPTION DESCRIPTION

OPTION DESCRIPTION	LOCAL ONLY - "B" CASE	LOCAL/REMOTE - "C" CASE	19A192765G2 Install Kit	19A192765G3 Install Kit	19A192765G4 Install Kit	19D429618G5 CG Enc Module	19D429618G6 CG Enc Module	19A192805G1 Install Kit	19A192805G2 Install Kit	19A192805G3 Install Kit	19D900701G2 Install Kit	19A144192G3 Type 99 Module	LBI-31192 Code Plug	LBI-31174 DCG Module	LBI-31316 DCG Module
C2 1 Tone Encode CG	X	1		1											X
C2 1 Tone Encode CG	X	1		1											X
CU 1 Tone Enc/Dec CG	X		1		1										X
CU 1 Tone Enc/Dec CG	X		1		1										X
C4 1 Tone Enc Digital CG	X	1									1				X
C4 1 Tone Enc Digital CG	X	1									1				X
CD Tone Enc/Dec Digital CG	X		1								1				X
CD 1 Tone Enc/Dec Digital CG	X		1								1				X
CR 1 Tone Enc CG w/switch	X		1	1							1				X
CR 1 Tone Enc CG w/switch	X		1	1											X
CS 1 Tone Enc DCG w/switch	X		1								1				X
CS 1 Tone Enc DCG w/switch	X		1								1				X
DL T99 Ind. Call	X						1			1	1				X
DL T99 Ind. Call	X								1	1	1				X
DM T99 Ind. & Grp Call	X						1			1	2				X
DM T99 Ind. & Grp. Call	X								1	1	2				X
DN T99 Ind. & CG Enc.	X							1		1	1				X
DN T99 Ind. & CG Enc.	X									1	1	1			X

ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
19D429618G5	CTCSS ENCODE CG Module	19A702805G1	Install Kit: includes the 19C850943G2 Top Cover and other mechanical parts to install the 19D900701G2 Type 99 Module in "B" Case radios for Option "DL" or "DM."
19D429618G6	CTCSS ENC/DEC CG Module	19A702805G2	Install Kit; includes the 19C850943G2 Top Cover and other mechanical parts to install 19D900701G2 Type 99 Module in "B" Case radios for Option "DN".
19D432610G10	DIGITAL C.G. ENC/DEC Module	19A702805G3	Install Kit; includes the 19C850943G4 Top Cover and other mechanical parts to install the 19D900701G2 Type 99 Module in "C" case radios for Options "DL" or "DM."
19D900701G2	Type 99 Tone Decoder Module	19A702805G4	Install Kit; includes the 19C850943G4 Top Cover and other mechanical parts to install the 19D900701G2 Type 99 Module in "C" Case radios for Options "DN."
19A702765G2	Install Kit: includes the mechanical to install 19D429618G5 or 19D432610G10 Modules for Options "C2" or "C4".		
19A702765G3	Install Kit: includes the 19C850943G1 Top Cover and other mechanical parts to install 19D429618G6 or 19D432610G10 modules in a "B" case radio for Options "CU", "CR", "CD", or "CS."		
19A7020765G4	Install Kit: includes the 19C850943G3 Top Cover and other mechanical parts to install the 19D429618G6 or the 19D432610G10 modules in a "C" Case radio for Options "CU," "CR," "CD," or "CS."		

DTMF Addition to Existing MPI Personal Radio

Replace the Front Cover with 19D901011G1 DTMF FRONT COVER and replace Audio Board 19D901123G1 with 19D901123G2 Audio Board except when CG Encode Option HA or HB are used. With option HA or HB, replace the Front Cover with 19D901011G3, and replace Audio Board 19D901123G1 with 19D901123G2.



19D901190G1 CHARGER



19B800850P2 POWER UNIT

OPTION CONTENTS

OPTION NUMBER	CHARGER DESCRIPTION	RADIO/BATTERY HOLDER	POWER UNIT
P5PS10	C/10 Radio Only, 121VAC, 60 Hz	19D900654G2	19B800850P2
P5PS11	C/10 Radio Only, 121VAC, 50/60 Hz	19D900654G2	19B800888P1
P5PS16	C/3 + C/10, 121VAC, 60 Hz	19D901190G1	19B800850P2
P5PS17	C/3 + C/10, 121VAC, 50/60 Hz	19D901190G1	19B801171P1
P5PS18	C/3 + C/10, 220VAC, 50/60 Hz	19D901190G1	19B801158P1

Each charger consists of one Radio/Battery Holder and one Power Unit.

PARTS LIST

ORDER NO.	DESCRIPTION
	CHARGER BOARD 19C850964G1
	DIODES
19J706135P3	Optoelectronic; yellow; sim to Hewlett Packard 5082-4555.
	JACKS
19B800783P1	Receptacle, power; 3 terminals rated 1.2 amp at 125 VDC.
	PLUGS
19A702981P1	Quick disconnect terminal; sim to Malco 003-0731-019.
	RESISTORS
19A700113P59	Composition; 680 ohms $\pm 5\%$; 1/2 w.
19A700113P53	Composition; 390 ohms $\pm 5\%$; 1/2 w.
19A700113P59	Composition; 680 ohms $\pm 5\%$; 1/2 w.
	TERMINALS
19A702282P1	Contact.
	MISCELLANEOUS
19B800888P1	Cover.
19A702392P1	Rubber bumper. (Quantity 4).
19J708212P203	Screw, thd. forming; No. 4 x 7.94MM. (Secures rubber bumpers).
19A702380P3	Panel light lens. (Used with D1 & D2).
19A702569P1	Faceplate.

NOTE

Temperature characteristics of nickel-cadmium batteries, prevent a full charge at temperature extremes. For a maximum charge, recharge the battery at room temperature of between 65° to 85° Fahrenheit whenever possible.

To order a complete charger unit, order the option number.

Example: P5PS10 is a unit consisting of one 19D900654G2 Radio Holder and one 19B800850P2 Power Unit.

The Power Units contain no replaceable parts.



COMBINATION NOMENCLATURE

DIGIT 1 & 2	DIGIT 3	DIGIT 4	DIGIT 5	DIGIT 6	DIGIT 7	DIGIT 8
PRODUCT CODE	STONE OPTION	CONTROL	COLOR	CHANNEL SPACING	RX FREQ RANGE* (MHz)	DISTRIBUTION
P8	L T99	B Push-To-Reset	W Black	4 20 kHz	B 33-37	A All Other
		M Monitor	R Red	5 25 kHz	C 37-41	B Less Xtal's, Reeds
				6 30 kHz	D 41-45	D Dealer
					E 45-50	E (Dealer) Less Xtal's, Reeds
					G 132-143	
					H 142-153	

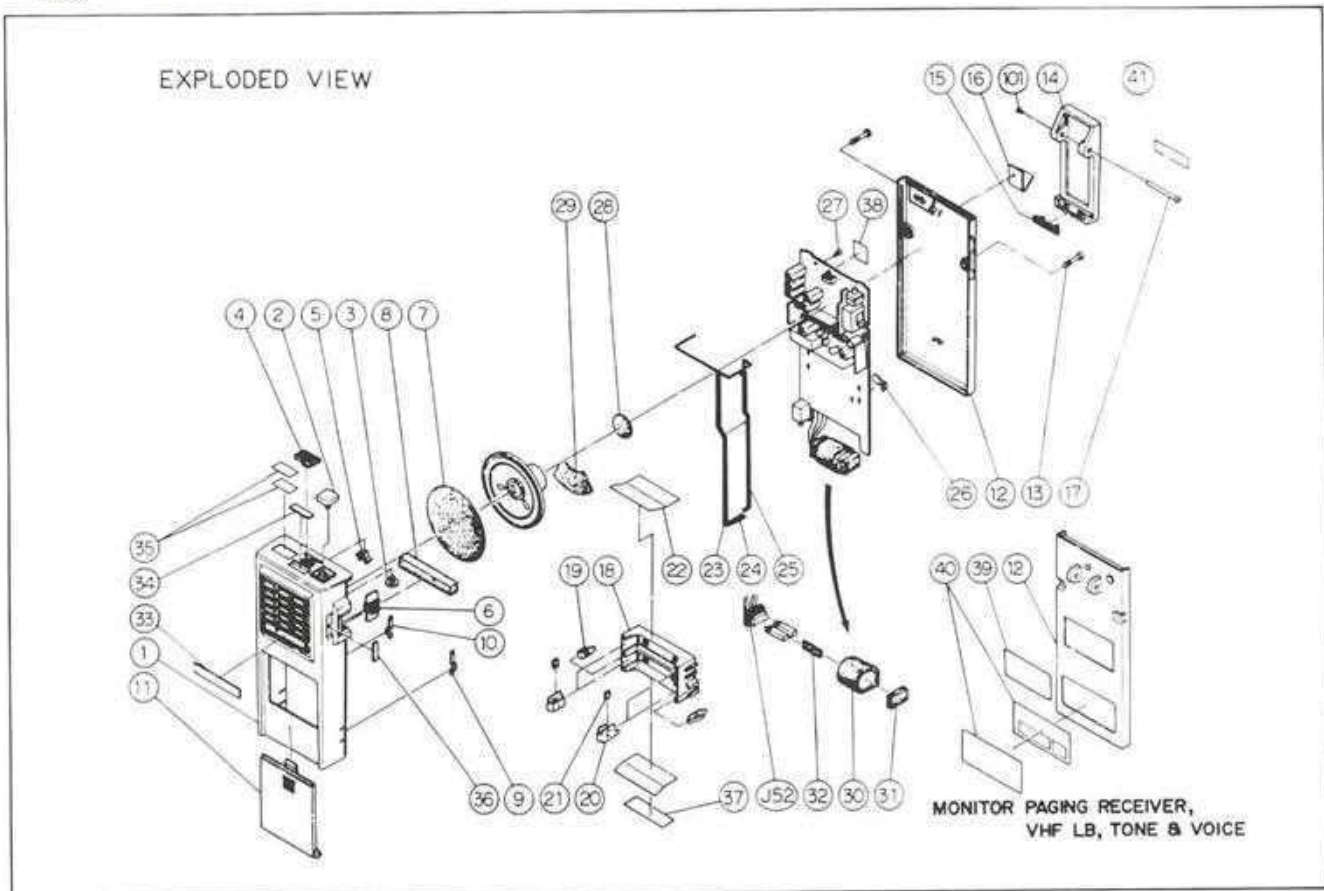
INDEX TO PARTS PAGES

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BATTERIES

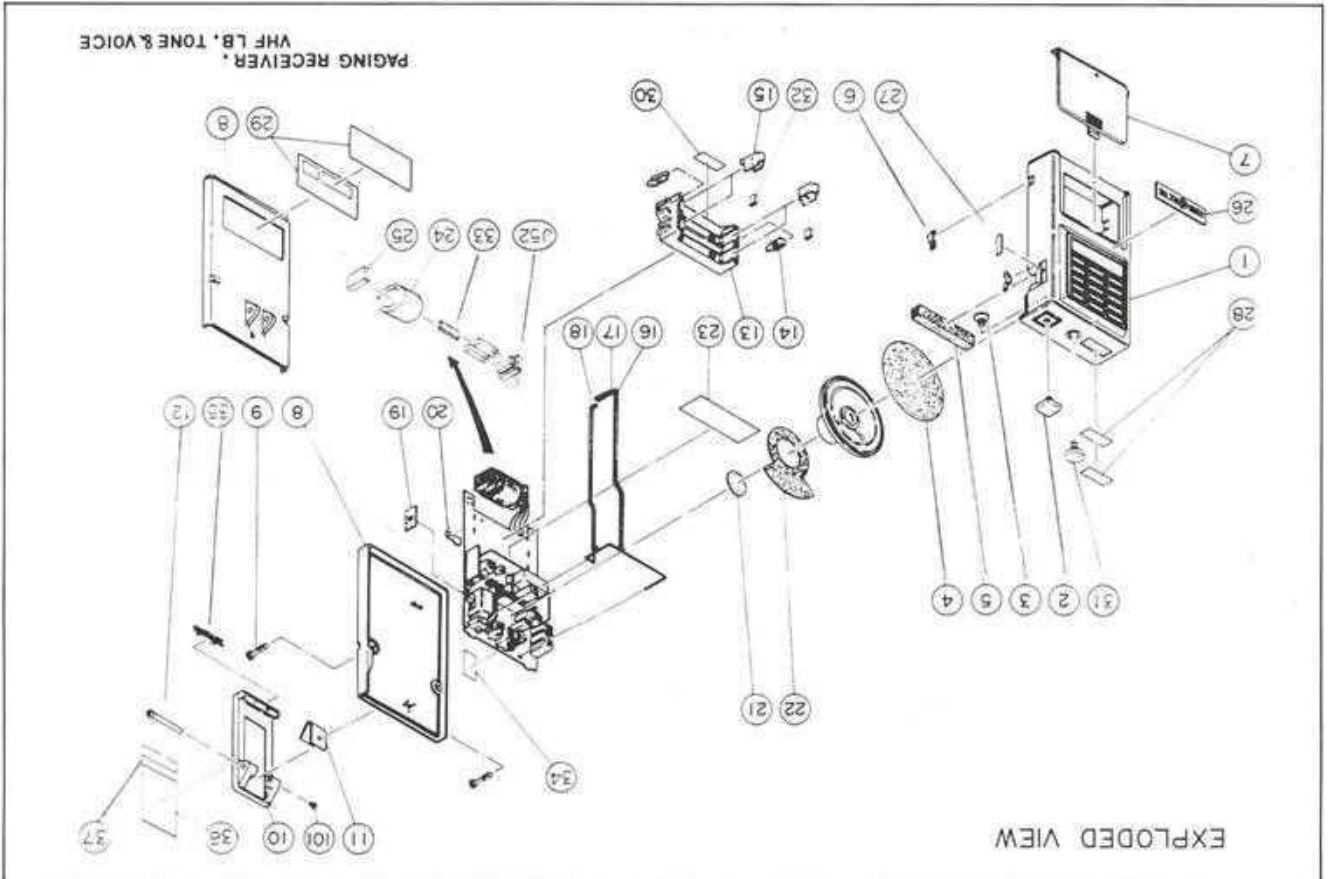
ORDER NO.	DESCRIPTION
P8PA10	Pack of two NiCd Batteries

J 148-160
K 159-174
M 406-430
P 450-470
S 470-512



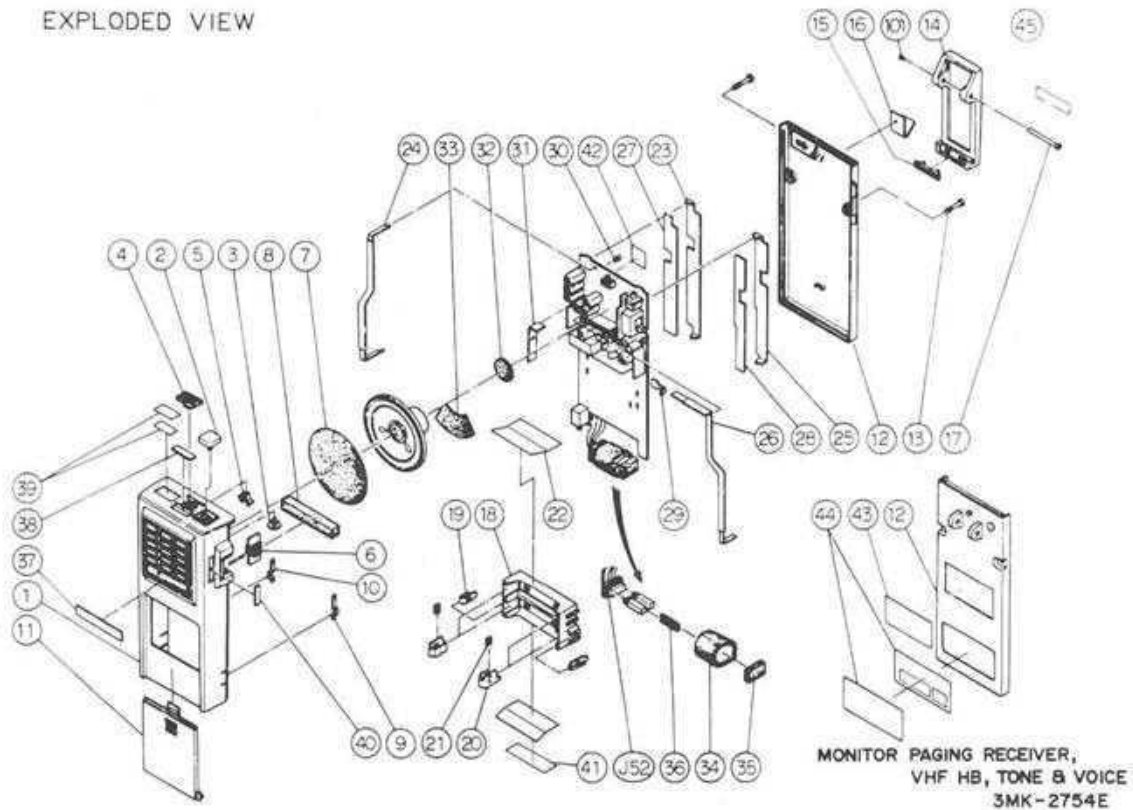
ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	SW/2MZ—2111	Front Case	33	SW/4MZ—1770	Name Plate
2	SW/4MZ—1760—3	Push Button (1)	34	SW/4MN—2132	Switch Name Plate
3	SW/4MZ—1761—3	Push Button (2)	35	SW/4MN—1771	Call Seal
4	SW/4MZ—2128	Switch Parts (1)	36	SW/4MN—1741	Switch Name Plate
5	SW/4MZ—2129	Switch Parts (2)	37	SW/4MN—1883	Number Seal
6	SW/4MZ—2114	Switch Plate	38	SW/4MN—2088	Dealer Label
7	SW/4MZ—1277	Speaker Net	39	SW/4MN—2130	Factory Mutual Label
8	SW/4MZ—0489—57	Cushion	40		Not Available
9	SW/4MB—7098—1	Charge Contact	41	SW/4MN—2356—2	Trade Mark Label
10	SW/4MB—7098—2	Charge Contact	101	SW/M1.7x5	Cylinder Screw
11	SW/3MZ—2113	Battery Cover			
12	SW/4MK—2778E	Rear Cover Asm			
13	SW/4MH—0634	Anti Removable Screw			
14	SW/3MZ—1894	Clip			
15	SW/4MZ—1258	Non, Sliding Pad			
16	SW/4MB—5960	Spring			
17	SW/4MH—0829	Clip Pin			
18	SW/3MZ—2047	Battery Case			
19	SW/4MB—4287	Contact			
20	SW/4MB—7070	Contact Point			
21	SW/4MZ—2085	Cushion			
22	SW/4MZ—2190	Partition Plate			
23	SW/4MB—6645	Antenna (1)			
24	SW/4MB—6646	Antenna (2)			
25	SW/4MB—6647	Antenna (3)			
26	SW/4MB—7073	Battery Contact			
27	SW/4MH—0841	Antenna Contact Point			
28	SW/4MZ—1333	Supporter			
29	SW/4MZ—2201	Insulator			
30	SW/4MZ—1971—1	Cushion (Poron)			
31	SW/4MZ—1971—2	Cushion (Poron)			
32	SW/4MZ—1971—3	Cushion (Poron)			

"EXECUTIVE II" PAGING RECEIVER
LOW BAND



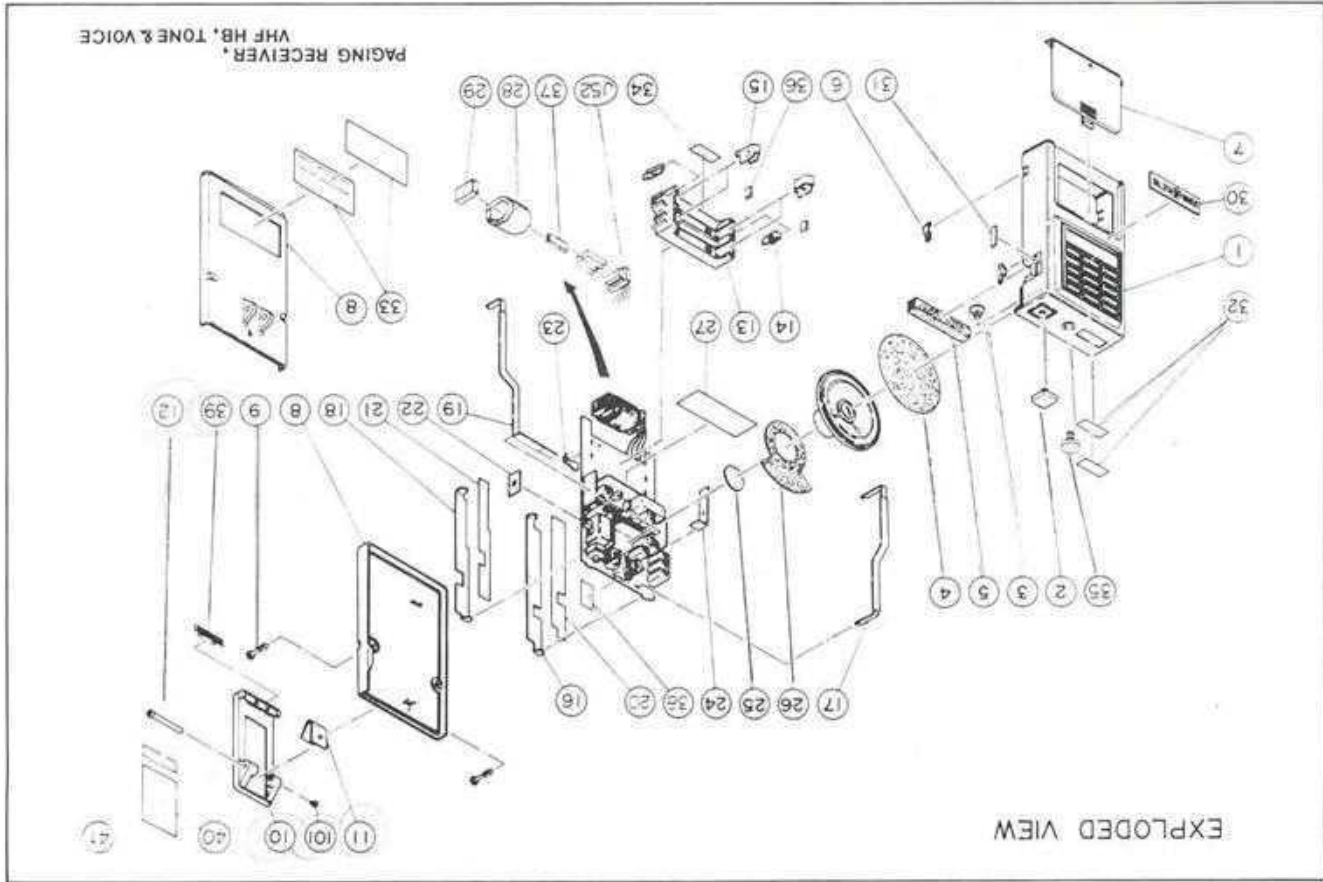
ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	SW/2MZ-1892	Front Case
2	SW/4MZ-1760-2	Push Button (1)
3	SW/4MZ-1761-2	Push Button (2)
4	SW/4MZ-1277	Speaker Net
5	SW/4MZ-0489-57	Cushion
6	SW/4MB-4288	Contact
7	SW/3MZ-1895	Battery Cover
8	SW/2MZ-1893	Rear Cover
9	SW/4MH-0634	Anti Removable Screw
10	SW/3MZ-1894	Clip
11	SW/4MB-5960	Spring
12	SW/4MH-0892	Clip Pin
13	SW/3MZ-2047	Battery Case
14	SW/4MB-4287	Contact
15	SW/4MB-7070	Contact Point
16	SW/4MB-6645	Antenna (1)
17	SW/4MB-6646	Antenna (2)
18	SW/4MB-6647	Antenna (3)
19	SW/4MZ-1280	Slide Plate
20	SW/4MB-7073	Battery Contact
21	SW/4MZ-1333	Supporter
22	SW/4MZ-1308	Insulator
23	SW/4MZ-1275	Partition Plate
24	SW/4MZ-1971-1	Cushion (Foron)
25	SW/4MZ-1971-2	Cushion (Foron)
26	SW/4MN-1770	Name Plate
27	SW/4MN-1741	Switch Name Plate
28	SW/4MN-1771	Call Seal
29	Not Available	Not Available
30	SW/4MN-1883	Number Seal
31	SW/4MZ-2074	Jack Cover
32	SW/4MZ-2085	Cushion
33	SW/4MZ-1971-3	Cushion (Foron)
34	SW/4MZ-2088	Dealer Label
35	SW/4MZ-1258	Non, Sliding Pad
36	SW/4MN-2130	Factory Mutual Label
37	SW/4MN-2356-1	Trade Mark Label
101	SW/M1.7x5	Cylinder Screw
J52	SW/FS-412	Reed Socket

EXPLODED VIEW



ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	SW/2MZ-2111	Front Case	33	SW/4MZ-2201	Insulator
2	SW/4MZ-1760-3	Push Button (1)	34	SW/4MZ-1971-1	Cushion (Poron)
3	SW/4MZ-1761-3	Push Button (2)	35	SW/4MZ-1971-2	Cushion (Poron)
4	SW/4MZ-2128	Switch Parts (1)	36	SW/4MZ-1971-3	Cushion (Poron)
5	SW/4MZ-2129	Switch Parts (2)	37	SW/4MN-1770	Name Plate
6	SW/4MZ-2114	Switch Plate	38	SW/4MN-2132	Switch Name Plate
7	SW/4MZ-1277	Speaker Net	39	SW/4MN-1771	Call Seal
8	SW/4MZ-0489-57	Cushion	40	SW/4MN-1741	Switch Name Plate
9	SW/4MB-7098-1	Charge Contact	41	SW/4MN-1883	Number Seal
10	SW/4MB-7098-2	Charge Contact	42	SW/4MN-2088	Dealer Label
11	SW/3MZ-2113	Battery Cover	43	SW/4MN-2130	Factory Mutual Label
12	SW/4MK-2778E	Rear Cover Ass.	44		Not Available
13	SW/4MH-0634	Anti Removable Screw	45	SW/4MN-2356-2	Trade Mark Label
14	SW/3MZ-1894	Clip	101	SW/M1.7x5	Cylinder Screw
15	SW/4MZ-1258	Non-Sliding Pad	J52	SW/FS-412	Reed Socket
16	SW/4MB-5960	Spring			
17	SW/4MH-0829	Clip Pin			
18	SW/3MZ-2047	Battery Case			
19	SW/4MB-4287	Contact			
20	SW/4MB-7070	Contact Point			
21	SW/4MZ-2085	Cushion			
22	SW/4MZ-2190	Partition Plate			
23	SW/4MB-4317	Antenna (1)			
24	SW/4MB-4329	Antenna (2)			
25	SW/4MB-6733	Antenna (3)			
26	SW/4MB-6734	Antenna (4)			
27	SW/4MZ-1266	Insulator			
28	SW/4MZ-1970	Insulator			
29	SW/4MB-7073	Battery Contact			
30	SW/4MH-0841	Antenna Contact Point			
31	SW/4MB-6735	Shielding Plate			
32	SW/4MZ-1333	Supporter			

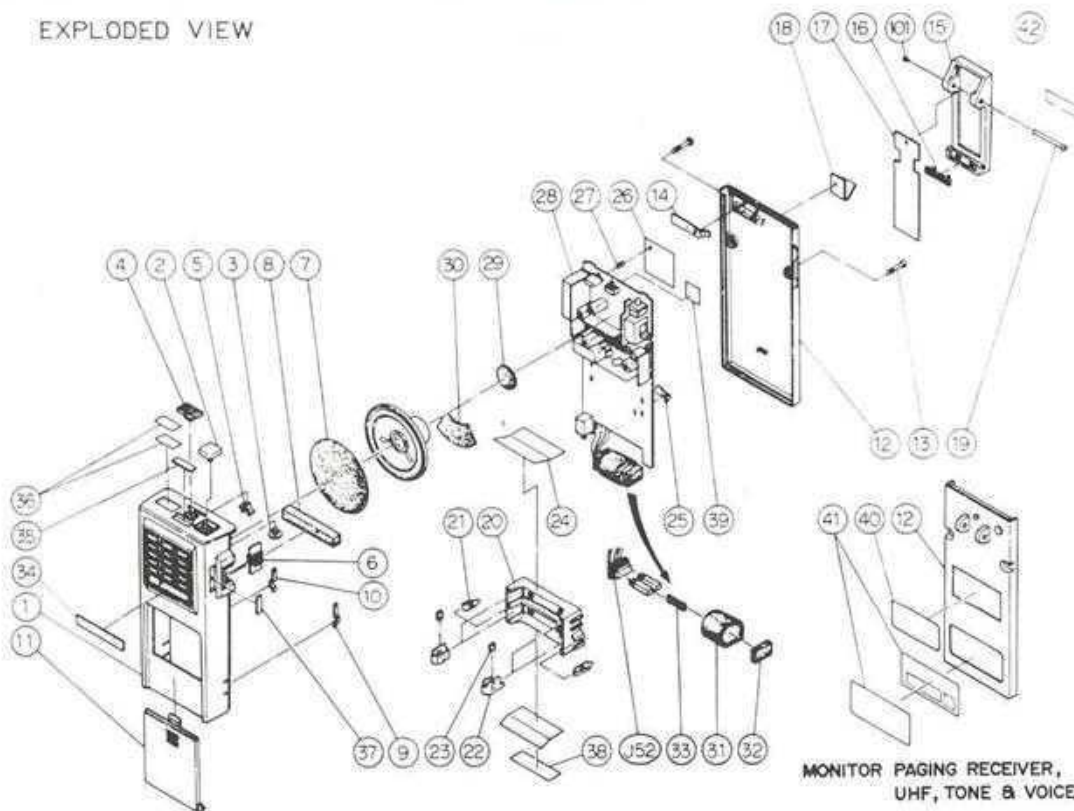
ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	SW/2MZ-1892	Front Case
2	SW/4MZ-1760-2	Push Button (1)
3	SW/4MZ-1761-2	Push Button (2)
4	SW/4MZ-1277	Speaker Net
5	SW/4MZ-0489-57	Cushion
6	SW/4MB-4288	Contact
7	SW/3MZ-1895	Battery Cover
8	SW/2MZ-1893	Rear Cover
9	SW/4MH-0634	Anti Removable Screw
10	SW/3MZ-1894	Clip
11	SW/4MB-5960	Spring
12	SW/4MH-0829	Clip Pin
13	SW/3MZ-2047	Battery Case
14	SW/4MB-4287	Contact
15	SW/4MB-7070	Contact Point
16	SW/4MB-4317	Antenna (1)
17	SW/4MB-4329	Antenna (2)
18	SW/4MB-6733	Antenna (3)
19	SW/4MB-6734	Antenna (4)
20	SW/4MZ-1266	Insulator
21	SW/4MZ-1970	Insulator
22	SW/4MZ-1280	Slide Plate
23	SW/4MB-7073	Battery Contact
24	SW/4MB-6735	Shielding Plate
25	SW/4MZ-1333	Supporter
26	SW/4MZ-1308	Insulator
27	SW/4MZ-1275	Partition Plate
28	SW/4MZ-1971-1	Cushion (Poron)
29	SW/4MZ-1971-2	Cushion (Poron)
30	SW/4MN-1770	Name Plate
31	SW/4MN-1741	Switch Name Plate
32	SW/4MN-1771	Call Seal
33	SW/4MF-1883	Number Seal
34	SW/4MZ-2074	Jack Cover
35	SW/4MZ-2085	Cushion
36	SW/4MZ-2085	Cushion
37	SW/4MZ-1971-3	Cushion (Poron)
38	SW/4MZ-2088	Dealer Label
39	SW/4MZ-1258	Non-Sliding Parts
40	SW/4MN-2130	Factory Mutual Label
41	SW/4MN-2356-1	Trade Mark Label
101	SW/M1.7X5	Cylinder Screw
J52	SW/FS-412	Reed Socket



"EXECUTIVE II" PAGING RECEIVER HIGH BAND

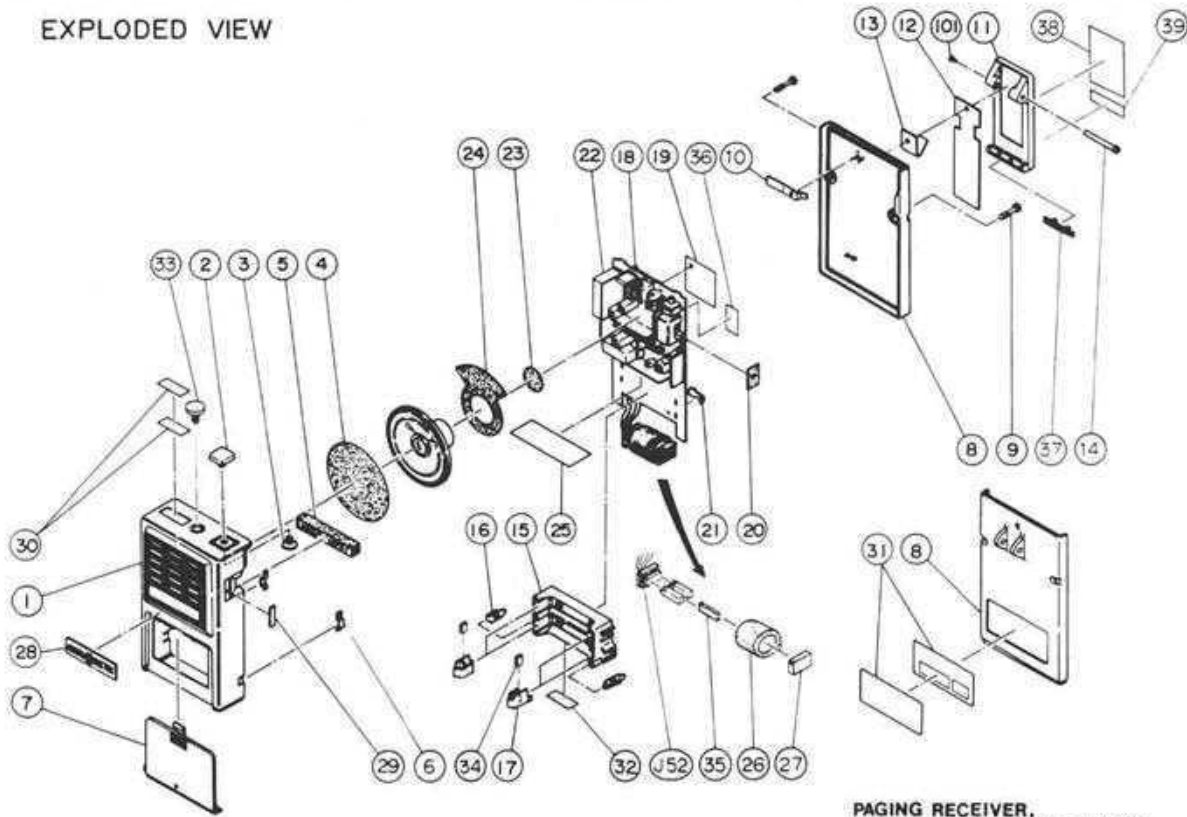


EXPLODED VIEW



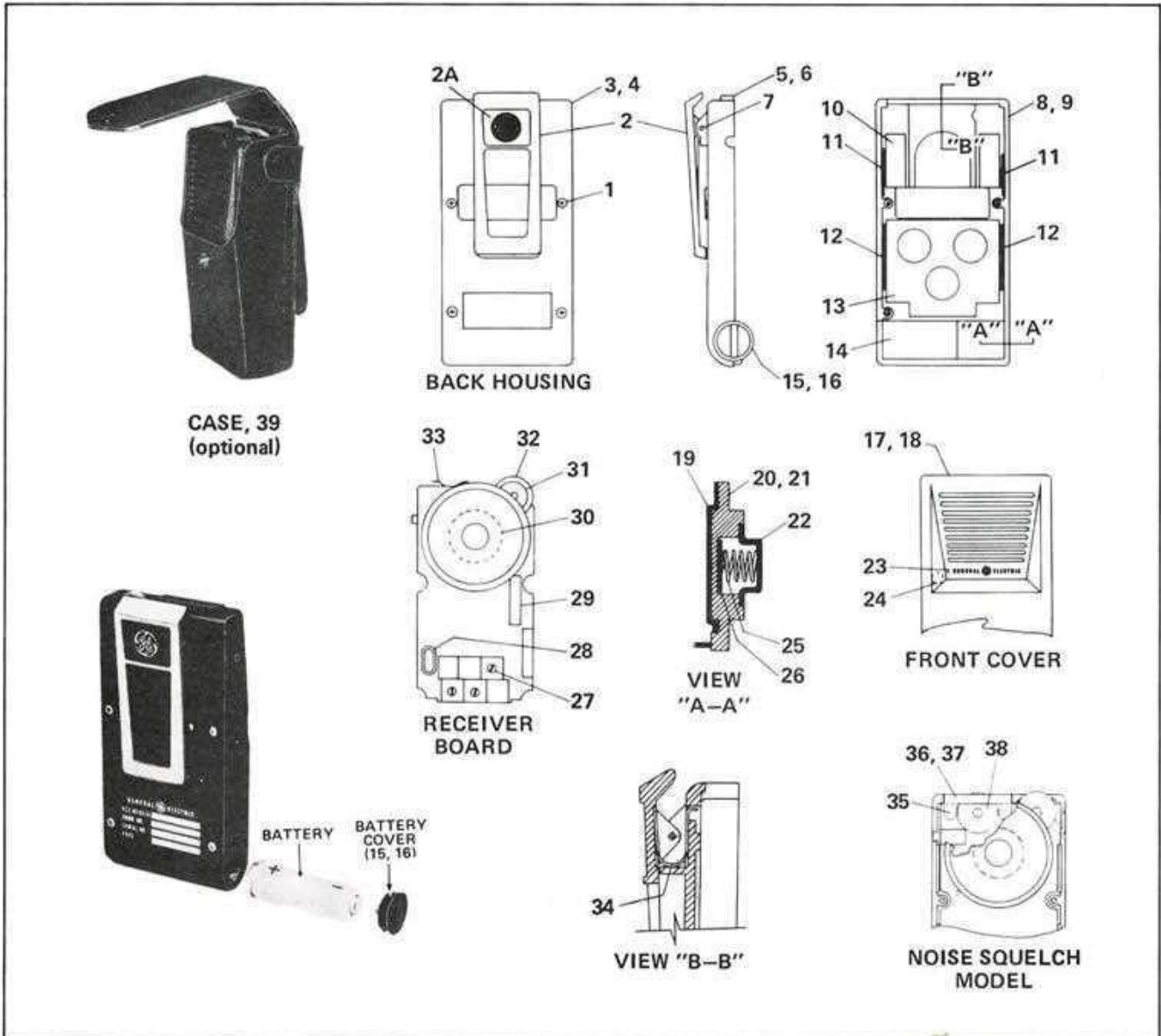
ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	SW/2MZ-2111	Front Case	33	SW/4MZ-1971-3	Cushion (Poron)
2	SW/4MZ-1760-3	Push Button (1)	34	SW/4MN-1770	Name Plate
3	SW/4MZ-1761-3	Push Button (2)	35	SW/4MN-2132	Switch Name Plate
4	SW/4MZ-2128	Switch Parts (1)	36	SW/4MN-1771	Call Seal
5	SW/4MZ-2129	Switch Parts (2)	37	SW/4MN-1741	Switch Name Plate
6	SW/4MZ-2114	Switch Plate	38	SW/4MN-1883	Number Seal
7	SW/4MZ-1277	Speaker Net	39	SW/4MN-2088	Dealer Label
8	SW/4MZ-0489-57	Cushion	40	SW/4MN-2130	Factory Mutual Label
9	SW/4MB-7098-1	Charge Contact	41		Not Available
10	SW/4MB-7098-2	Charge Contact	42	SW/4MN-2356-2	Trade Mark Label
11	SW/3MZ-2113	Battery Cover	101	SW/M1.7x5	Cylinder Screw
12	SW/4MK-2779E	Rear Cover Asm	J52	SW/FS-412	Reed Socket
13	SW/4MH-0634	Anti Removable Screw			
14	SW/4MB-6644	Antenna Contact Metal			
15	SW/3MZ-1894	Clip			
16	SW/4MZ-1258	Non, Sliding Pad			
17	SW/4MB-6643	Antenna Plate			
18	SW/4MB-5960	Spring			
19	SW/4MH-0829	Clip Pin			
20	SW/3MZ-2047	Battery Case			
21	SW/4MB-4287	Contact			
22	SW/4MB-7070	Contact Point			
23	SW/4MZ-2085	Cushion			
24	SW/4MZ-2190	Partition Plate			
25	SW/4MB-7073	Battery Contact			
26	SW/4MZ-1936	Insulator			
27	SW/4MH-0841	Antenna Contact Point			
28	SW/4MB-5783	Tuner Case Asm			
29	SW/4MZ-1333	Supporter			
30	SW/4MZ-2201	Insulator			
31	SW/4MZ-1971-1	Cushion (Poron)			
32	SW/4MZ-1971-2	Cushion (Poron)			

EXPLODED VIEW



PAGING RECEIVER,
UHF, TONE & VOICE

ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	SW/2MZ-1892	Front Case	33	SW/4MZ-2074	Jack Cover
2	SW/4MZ-1760-2	Push Button (1)	34	SW/4MZ-2085	Cushion
3	SW/4MZ-1761-2	Push Button (2)	35	SW/4MZ-1971-3	Cushion (Poron)
4	SW/4MZ-1277	Speaker Net	36	SW/4MZ-2088	Dealer Label
5	SW/4MZ-0489-57	Cushion	37	SW/4MZ-1258	Non, Sliding Parts
6	SW/3NB-4288	Contact	38	SW/4MN-2130	Factory Mutual Label
7	SW/3MZ-1895	Battery Cover	39	SW/4MN-2356-1	Trade Mark Label
8	SW/2MZ-1893	Rear Cover	J52	SW/M1.7x5	Cylinder Screw
9	SW/MH-0634	Anti Removable Screw		SW/FS-412	Reed Socket
10	SW/4MB-6644	Antenna Contact Metal			
11	SW/3MZ-1894	Clip			
12	SW/4MB-6643	Antenna Plate			
13	SW/4MB-5960	Spring			
14	SW/4MH-0829	Clip Pin			
15	SW/3MZ-2047	Battery Case			
16	SW/4MB-4287	Contact			
17	SW/4MB-7070	Contact Point			
18	SW/4MH-0841	Antenna Contact Point			
19	SW/4MZ-1936	Insulator			
20	SW/4MZ-1280	Slide Plate			
21	SW/4MB-7073	Battery Contact			
22	SW/4MB-5783	Tuner Case Asm			
23	SW/4MZ-1333	Supporter			
24	SW/4MZ-1308	Insulator			
25	SW/4MZ-1275	Partition Plate			
26	SW/4MZ-1971-1	Cushion (Poron)			
27	SW/4MZ-1971-2	Cushion (Poron)			
28	SW/4MN-1770	Name Plate			
29	SW/4MN-1741	Switch Name Plate			
30	SW/4MN-1771	Call Seal			
31		Not Available			
32	SW/4MN-1883	Number Seal			



**EXECUTIVE PAGER (AHO SERIES)
REPLACEMENT PARTS**

ITEM NO.	ORDERING NO.	DESCRIPTION
1	19A134352P1	Machine screw: No. 2-56 X 1/8
2	19B227431G1	Clip (w/nameplate)
2A	NP280188	Nameplate
3	19B227572G1	Housing (Black)
4	19B227572G2	Housing (White)
5	19C327174P1	Reset Button (Black — S2)
6	19C327174P2	Reset Button (White — S2)
7	19A134351P1	Pin, grooved
8	19A12756P1	Window (Located over Sel-Call number)
9	19A127640P1	Label (Sel-Call Number)
10	19B227477P4	Pad
11	19B227477P1	Pad
12	19B227477P2	Pad
13	19B227420P1	Pad
14	19C327255G1	Contact, electrical
15	19B227474G1	Battery door (Black)
16	19B227474G2	Battery door (White)
17	19C327265G1	Cover (Black)
18	19C327265G2	Cover (White)
19	19C327254G1	Contact, electrical
20	19C327205P1	Contact support (Black)

ITEM NO.	ORDERING NO.	DESCRIPTION
1	19A134352P1	Machine screw: No. 2-56 X 1/8
21	19C327205P2	Contact support (White)
22	19B227426P1	Charging contact
23	NP280187	Nameplate (GE monogram)
24	19A116719P1	Threaded insert
25	19A127850P1	Spring
26	19C327209P2	Battery contact
27	19A116477P1	Machine screw: No. 5-32
28	19B227477P3	Pad
29	19A129811P2	Insulator
30	19C327169P1	Not Available
31	19A136665P1	Insulator
32	19C327198P1	Knob (volume control)
33	19C327266G1	Contact, electrical (S2)
34	19B227412P1	Spring, clip
35	N136P503C	Screw
36	19C327258P1	Block (Black)
37	19C327258P2	Block (White)
38	19C327259P1	Knob (squelch)
39	19C327536P1	Case (optional)
40	19A116387P1	Battery, Mercury (12 PK)
41	19A116252P1	Battery, NiCd

**VHF
UHF
800 MHz**



COMBINATION NOMENCLATURE

PRODUCT CODE	FREQUENCY RANGE	CONTROLLER	SELECTIVITY	STABILITY	POWER SOURCE
PD	G 130-160 MHz	A STANDARD	S STANDARD	2 2.5 PPM	M 1200 MAH
	B 150-174 MHz	B 4 BUT. SCAN	N 12.5 KHZ	5 5 PPM	N 800 MAH
	P 403-423 MHz	C SYSTEM			P 1700 MAH
	R 410-430 MHz	P PST STD			X NO BATTERY
	S 420-440 MHz	S PST SCAN			
	T 440-460 MHz	T PST SYSTEM			
	U 450-470 MHz				
	V 470-488 MHz				
	W 480-500 MHz				
	X 494-512 MHz				
	Z 806-870 MHz				

OPTIONAL PORTABLE ANTENNAS

ORDERING NUMBER	DESCRIPTION
PDNC09▲	ANTENNA, 136-151 MHz, Helical
PDNC10▲	ANTENNA, 150-162 MHz, Helical
PDNC11▲	ANTENNA, 162-174 MHz, Helical
PDNC04▲	ANTENNA, 150-174 MHz, Helical, Wideband
PDNC12▲	ANTENNA, 406-460 MHz, Helical
PDNC13▲	ANTENNA, 440-492 MHz, Helical
PDNC14▲	ANTENNA, 470-492 MHz, Helical
PDNC08▲	ANTENNA, 806-870 MHz, Flexible

AUDIO ACCESSORIES

ORDERING NUMBER	DESCRIPTION
PDAB10▲	HEADSET/MICROPHONE, for High Noise environment. Comes with noise cancelling microphone, noise attenuating ear cups and interface cable with PTT switch. For use in application where ambient noise levels are as high as 120 decibels.
PDAC10▲	EARPIECE KIT, Includes cable and connector /jack for use on radio's UDC connector.
PDAE10▲	Speaker Microphone, w/coiled cord, High-Low Audio Switch, earpiece jack and spring clip back.
PDAE11▲	Speaker Microphone, w/coiled cord, High-Low Audio Switch, earpiece jack and spring clip back. Includes GE★STAR Lanyard
PDAE12▲	SPEAKER/MICROPHONE/ANTENNA Jack, with straight cord, High-Low Audio Switch, earpiece jack, and spring clip back. Order antenna separately by frequency.
PDAC12▲	GE★STAR Lanyard ONLY. Connects to UDC.

CARRYING ACCESSORIES

ORDERING NUMBER	DESCRIPTION
PDHC15▲	BELT CLIP, Mounts on radio's back cover.
PDHC16▲	SWIVEL MOUNT PLATE, Mounts on radio's back cover. Includes Belt Loop with Swivel Socket.
P9HC20▲	SWIVEL BELT LOOP, Spare, for use with PDHC16 or any carry case with swivel mounting plate.

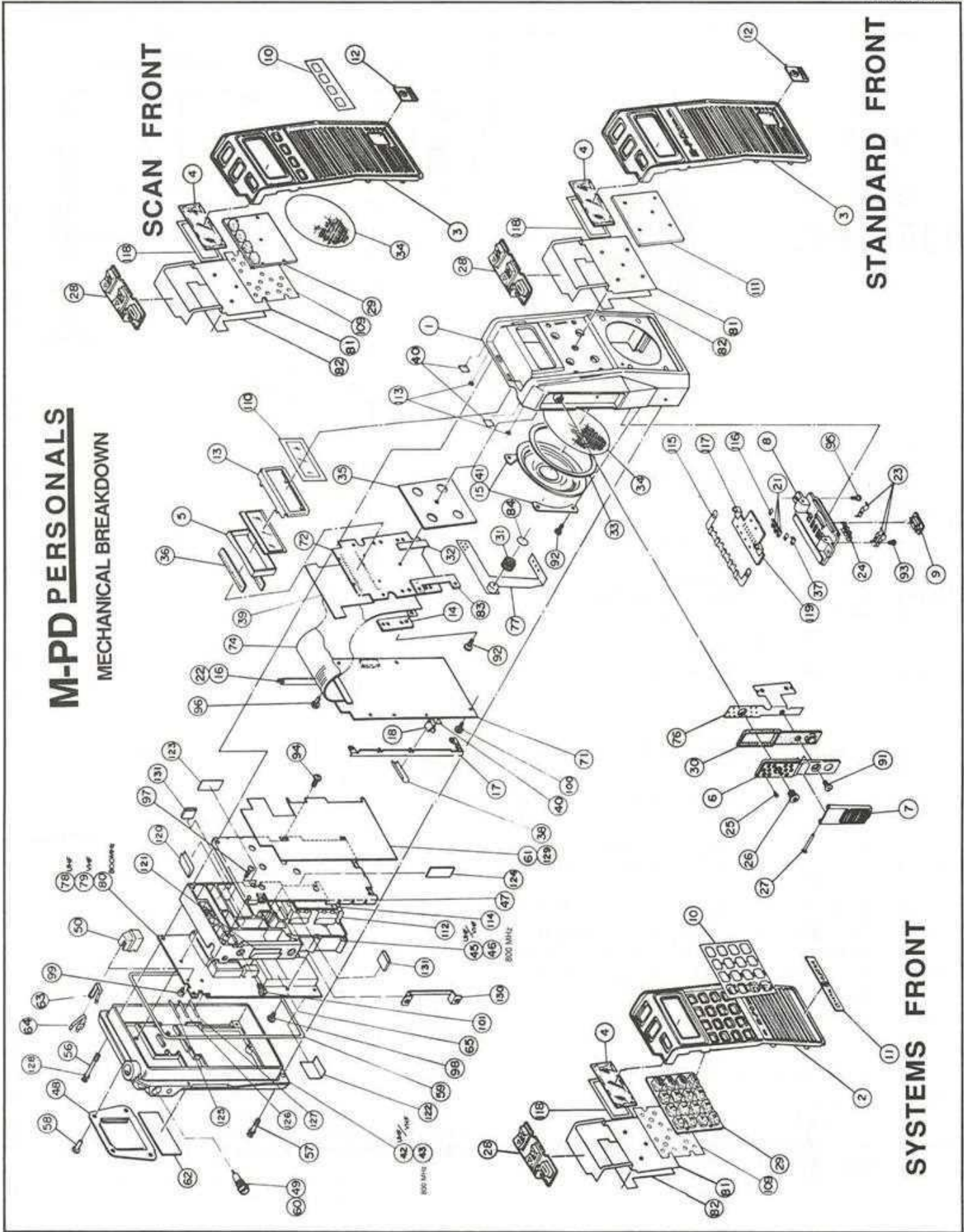
CARRYING ACCESSORIES

ORDERING NUMBER	DESCRIPTION
PDHC11▲	Case/Belt Loop for radio with standard capacity battery
PDHC12▲	Case/Belt Loop for radio with high capacity battery
PDHC13▲	Case/Swivel Mounting/Belt Loop for radio with standard capacity battery
PDHC14▲	Case/Swivel Mounting/Belt Loop for radio with high capacity battery
PDHC18▲	Leather Shoulder Strap, Lightweight and adjustable (includes plate for mounting on radio. Can be used on radio only or with radio in PDHC11 or PDHC12 Cases.

RECHARGEABLE NI-Cd BATTERY PACKS

ORDERING NUMBER	DESCRIPTION
PDPA10	STANDARD Capacity Battery Pack w/ On/Off Switch
PDPA11	High-Capacity Battery Pack w/ On/Off Switch
PDPA13	Extra-High-Capacity Battery Pack w/ On/Off Switch
PDPA14▲	STANDARD Capacity Battery Pack w/ On/Off Switch
PDPA15▲	High-Capacity Battery Pack w/ On/Off Switch
PDPA16▲	Extra-High-Capacity Battery Pack w/ On/Off Switch

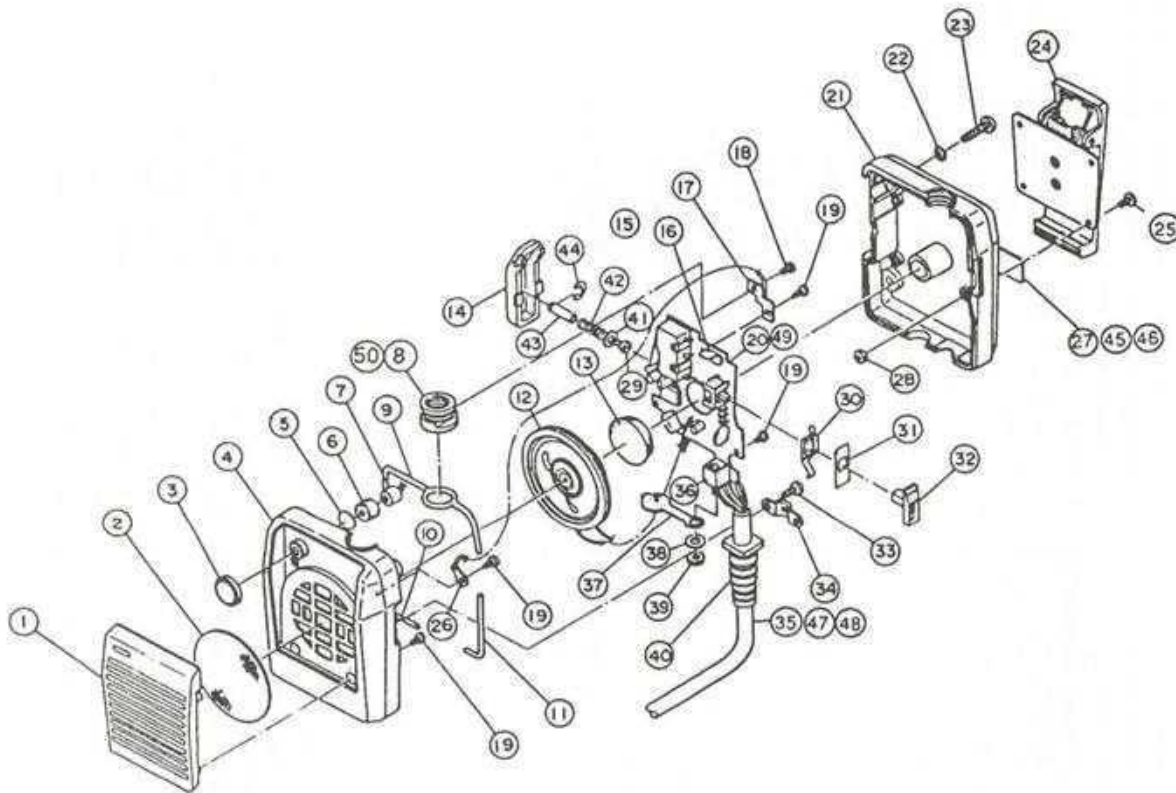
▲ Indicates this option is approved for use with Intrinsicly Safe M-PD radios



REF	Ordering Number	Description	REF	Ordering Number	Description	REF	Ordering Number	Description
1	K19/A1WL07558	Front Cover	41	K19/A4WL08708	SPKR Mounting Rubber	95	K19/A4WL08828P3	Pan Hd Taping Scr, M2X10
2	K19/A1WL07568	Front Escutcheon (Sys)	42	K19/A1WL07561	Rear Cover (VHF)	96	K19/A4WL08827P4	Pan Hd Screw, M2X6, W/SW
3	K19/A1WL07569	Front Escutcheon (STD)	42	K19/A1WL07559	Rear Cover UHF (SCAN)	97	K19/A4WL08827P6	Pan Hd Screw, M2X15, W/SW
3	K19/A2WL08853	Front Escutcheon (SCAN)	43	K19/A1WL07560	Rear Cover (800 MHz)	98	K19/A4WL08827P7	Pan Hd Screw, M2X4
4	K19/A3WL07574	Window	45	K19/A1WL07570P2	Casting (UH/VHF) SCAN/SYS	99	K19/A4WL08828P1	Pan Hd Tapping Scr, M2X4
5	K19/A3WL07601	Light Diffuser	45	K19/A1WL07571	Casting (UH/VHF) STD	100	K19/A4WL08827P5	Pan Hd Screw, M2X8, W/SW
6	K19/A3WL07576	UDC PTT Plate	46	K19/A1WL07570P1	Casting (800 MHz) SCAN/SYS	101	K19/A4WL08827P8	Pan Hd Screw, M2.6X6, W/SW
7	K19/A3WL07575	PPT Lever	46	K19/A1WL07572	Casting (800 MHz) STD	109	K19/A4WL07909	Front Sheet (SCAN, SYST)
8	K19/A3WL07573	Base Plate	47	K19/A2WL07512	Tx/Rx Shield Cover	110	K19/A4WL08437	Window Sheet
9	K19/A3WL07577	Fuse Cover	48	K19/A3WL07509	Receptacle Plate	111	K19/A4WL08438	Rubber Plate (STD)
10	K19/A4WL07451	Key Pad Nameplate (SYS)	49	K19/A4WL08826	RF Connector	112	K19/A4WL07595	Shield Cover
10	K19/A4WL08855	Key Pad Nameplate (SCAN)	50	K19/A3WL07654	Antenna Switch Housing	113	K19/A4WL08730	Mylor Washer
11	K19/A4WL07661	Name Plate(GE)	55	K19/A4WL07499P2	Captive Screws	114	K19/A4WL08494	VCO Rubber
12	K19/A4WL07721	Front Escutcheon (Sys)	57	K19/A4WL07499P1	Captive Screws	115	K19/A4WL08628	Base Shield Spring
13	K19/A3WL07614	LCD Frame	58	K19/A4WL07694	Rivets	116	K19/A4WL08629	Contact Lug C
14	K19/A4WL07892	Plates (Syst)	59	K19/A4WL08383	Housing Gasket	117	K19/A4WL08630	Base Contact
14	K19/A4WL07881	Plates (STD)	60	K19/A4WL07880	RF Connector Gasket	118	K19/A4WL08673	Window Gasket
15	K19/A4WL07607	Speaker Mounting Brackets	61	K19/A3WL07513	Insulator	119	K19/A4WL08672	Base PW Bd
16	K19/A3WL07295	B+ Strap	62	K19/A4WL08694	Label	120	K19/A4WL08829	RF Spring A
17	K19/A3WL07296	Ground Strap	62	K19/A4WL07883	Label (STD)	121	K19/A4WL08830	RF Spring B
18	K19/A4WL07514	Battery Holder	63	K19/A4WL07655	Antenna Switch Spring B	122	K19/A4WL08832	RF Shield Plate (800MHz)
21	K19/A4WL07610	Contact Lugs	64	K19/A4WL07656	Antenna Switch Spring A	123	K19/A4WL08495P1	Connector Spacer A
22	K19/A4WL08244	B+ Strap Sheet	65	K19/A4WL07727	Shield Plate	124	K19/A4WL08495P2	Connector Spacer B
23	K19/A4WL07611	Battery Connector Springs	71	K19/A3WL07897	Controller PW Board (SYS)	125	K19/A4WL08831P1	RF PWB Contact A
24	K19/A4WL07608	SPKR/Mute Contacts	71	K19/A3WL07898	Controller PW Board (STD)	126	K19/A4WL08831P2	RF PWB Contact B
25	K19/A4WL07604	UDC Contacts	72	K19/A3WL07895	LCD PW Board	127	K19/A4WL08831P3	RF PWB Contact C
26	K19/A4WL07605	UDC Nut	73	K19/A3WL08505	Signal PW Board	128	K19/A4WL08802	Nylon Washer
27	K19/A4WL07434	Pivot Pin	74	K19/A3WL08833	LCD-Controller Flex Circuit	129	K19/A4WL08698	Tracking Data Label
28	K19/A3WL07579	Top Switch Pad	75	K19/A3WL08837	Top Flex (Sys) Circuit	130	K19/A4WL07663	Power Pack Bracket
29	K19/A3WL07578	16 Key Pad (SYS)	76	K19/A3WL08834	UDC/PTT Flex Circuit	131	K19/A4ZL05484	Crystal Protection Tube
29	K19/A3WL08854	4 Key PAD (SCAN)	77	K19/A3WL08835	SPKR/MIC Flex Circuit	132	K19/A4WL08802	Nylon Washer
30	K19/A3WL07580	PTT Switch Pad	78	K19/A3WL08693	Tx/Rx PW Bd (UHF)	133	K19/A4WL09710	Not Available
31	K19/A4WL07594	Mic Gasket	79	K19/A3WL08695	Tx/Rx PW Bd (VHF)	134	K19/A4WL09709	Not Available
32	K19/A4WL07882	Elastic Rubber	80	K19/A3WL08696	Tx/Rx PW Bd (800 MHz)	136	K19/A4WL08848	RF Connector Washer
33	K19/A4WL07910	SPKR Gasket	81	K19/A3WL08836	Top Flex	137	K19/A4WL09711	LCD P/B Washer
34	K19/A4WL07435	SPKR Dust Screen	82	K19/A4WL08088	Adhesion Sheet	138	K19/A4WL09712	LCD P/B Spacer
35	K19/A4WL07606	Insulator (LCD Board)	83	K19/A4WL08409	Rubber Sheet	139	K19/A4WL09042	CAP
36	K19/A4WL07665	Zebra Contacts	84	K19/A4WL08385	MIC Film	141	K19/A4WL09422	COIL Spring
37	K19/A4WL08007	Contact Lug B	91	K19/A4WL08827P1	Flush Head Screw, M2.6X3	142	K19/A4WL09662	PTT Spacer
38	K19/A4WL07863	LI Battery Cover	92	K19/A4WL08828P2	Pan Hd Tapping Scr M2X6			
39	K19/A4WL08445	LCD Sheet	93	K19/A4WL08827P2	Pan Hd Screw, M1.7X4			
40	K19/A4WL07664	Insulator Sheet	94	K19/A4WL08827P3	Pan Hd Screw, M2X4, W/SW			

Speaker/Microphones

[Product Code PD]



R	19B801508P1 SPEAKER/MICROPHONE									
E	19B801508P4 SPEAKER/MICROPHONE/LANYARD									
F	19B801508P6 SPKR/MIKE w/ANTENNA									
#	19B801508P7 SPKR/MIKE w/ANT & LANYARD									
					Part Number	Description				
1	X	X	X	X	K19/12-33124-01	FRONT GRILL				
2	X	X	X	X	K19/12-43629-21	CLOTH				
3	X	X	X	X	K19/12-48979-01	MIC PACKING ASSY				
4	X	X	X	X	K19/12-20991-02	FRONT CASE				
5	X	X	X	X	K19/12-43629-20	CLOTH				
6	X	X	X	X	K19/12-48852-01	MIC PACKING				
7	X	X	X	X	K19/11-49004-01	MIC CARTRIDGE				
8		X	X	X	K19/22-40035-01	ANT CONNECTOR				
9	X	X	X	X	K19/12-48840-01	PACKING A				
10	X	X	X	X	K19/12-48857-02	PACKING B				
11	X	X	X	X	K19/12-48857-01	PACKING C				
12	X	X	X	X	K19/35-41563-01	SPEAKER				
13	X	X	X	X	K19/60-40202-18	CUSHION				
14	X	X	X	X	K19/12-33125-01	PTT KNOB				
15	X	X	X	X	K19/50-42439-01	SWITCH SUPPORT				
16	X	X	X	X	K19/12-48942-01	CONTACT				
17		X	X	X	K19/22-40029-01	ANT HOLDER				
18		X	X	X	K19/80-62003-01	CPS				
19		X	X	X	K19/97-40088-03	P TITE SCREW				
20		X	X	X	K19/50-30801-01	PC BOARD				
21	X	X	X	X	K19/12-20992-02	REAR CASE				
22	X	X	X	X	K19/12-48988-01	PACKING				
23	X	X	X	X	K19/97-40124-01	TP SCREW M3X14				
24	X	X	X	X	K19/12-33144-01	CLIP ASSY				
25	X	X	X	X	K19/97-40006-08	BIND SCREW M2.6x5				

R	19B801508P1 SPEAKER/MICROPHONE									
E	19B801508P4 SPEAKER/MICROPHONE/LANYARD									
F	19B801508P6 SPKR/MIKE w/ANTENNA									
#	19B801508P7 SPKR/MIKE w/ANT & LANYARD									
					Part Number	Description				
26	X	X	X	X	K19/85-05020-11	2 LUG WASHER				
27		X	X	X	K19/12-38119-03	NAMEPLATE				
28	X	X	X	X	K19/82-32600-11	M2.6 NUT				
29	X	X	X	X	K19/97-40123-01	SCREW M2X4				
30	X	X	X	X	K19/12-48869-01	SLIDE SPRING				
31	X	X	X	X	K19/12-48870-01	SHIELD SHEET				
32	X	X	X	X	K19/12-48839-01	SWITCH KNOB				
33	X	X	X	X	K19/97-40088-12	P TITE SCREW				
34	X	X	X	X	K19/12-48850-01	CORD RETAINER				
35		X	X	X	K19/22-83012-01	CORD ASSY				
36	X	X	X	X	K19/50-41044-01	M2.5 JACK				
37	X	X	X	X	K19/12-48858-01	PACKING C				
38	X	X	X	X		PART OF #36				
39	X	X	X	X		PART OF #36				
40	X	X	X	X	K19/12-48849-01	BUSHING				
41	X	X	X	X	K19/83-30300-03	3 WASHER				
42	X	X	X	X	K19/12-48859-01	SPRING				
43	X	X	X	X	K19/12-48860-01	SWITCH BAR				
44	X	X	X	X	K19/97-40001-05	E-RING				
45	X				K19/12-38119-01	NAMEPLATE				
46	X				K19/12-38119-02	NAMEPLATE				
47	X				K19/12-48907-02	CORD ASSY				
48	X				K19/12-48907-01	CORD ASSY				
49	X	X	X	X	K19/50-30721-01	PC BOARD ASSY				
50	X	X	X	X	K19/12-48845-01	HOLE PLUG				



PRODUCT CODE	TYPE	FREQ BAND	FREQ SPLIT	RF PWR OUTPUT
PL	S SYNTH.	L 30-50 MHz	O NONE	4 WATTS
		H 150-174 MHz	I 30-36 MHz	5 WATTS
		U 450-470 MHz	2 36-42 MHz	6 WATTS
			3 42-50 MHz	

ORDERING NUMBER

DESCRIPTION

CARRYING CASES

The following Leather Carrying Case Options do not include a shoulder strap, hand strap or other carrying accessory.

- PLHC11 Case/Belt Loop for radio w/800 mAh battery.
- PLHC12 Case/Belt Loop for radio w/1200 mAh battery.
- PLHC13 Case/Swivel Mtg./Belt Loop for radio w/800 mAh battery.
- PLHC14 Case/Swivel Mtg./Belt Loop for radio w/1200 mAh battery.

CARRYING ACCESSORIES

- PLHC15 BELT CLIP Mounts on radios' back cover.
- PLHC16 SWIVEL MOUNT PLATE, mounts on radios' back cover. Includes Belt Loop with "swivel socket."

ORDERING NUMBER

DESCRIPTION

CONTROL OPTION PANELS

- PLSS01 Type 99 Option Kit.
- PLDT01 DTMF Option Kit.
- PLMK01 Type 99/DTMF Option Kit.

ANTENNAS

- PLNC12 2" STUB ANTENNA (450-470 MHz).

AUDIO ACCESSORIES

- PLAE11 SPEAKER/MICROPHONE, Coiled Cord and Velcro Mount (Mating Velcro pad is provided).
- PLAE12 SPEAKER/MICROPHONE, Coiled Cord and Spring Clip.
- PLAC19 EARPIECE with cable and right angle plug.
- PLAD10 LAPEL SPEAKER with Spring Clip, Cable and Plug.

BATTERY

- PLPA10 BATTERY, rechargeable 800 mAh.
- PLPA11 BATTERY, rechargeable 1200 mAh.

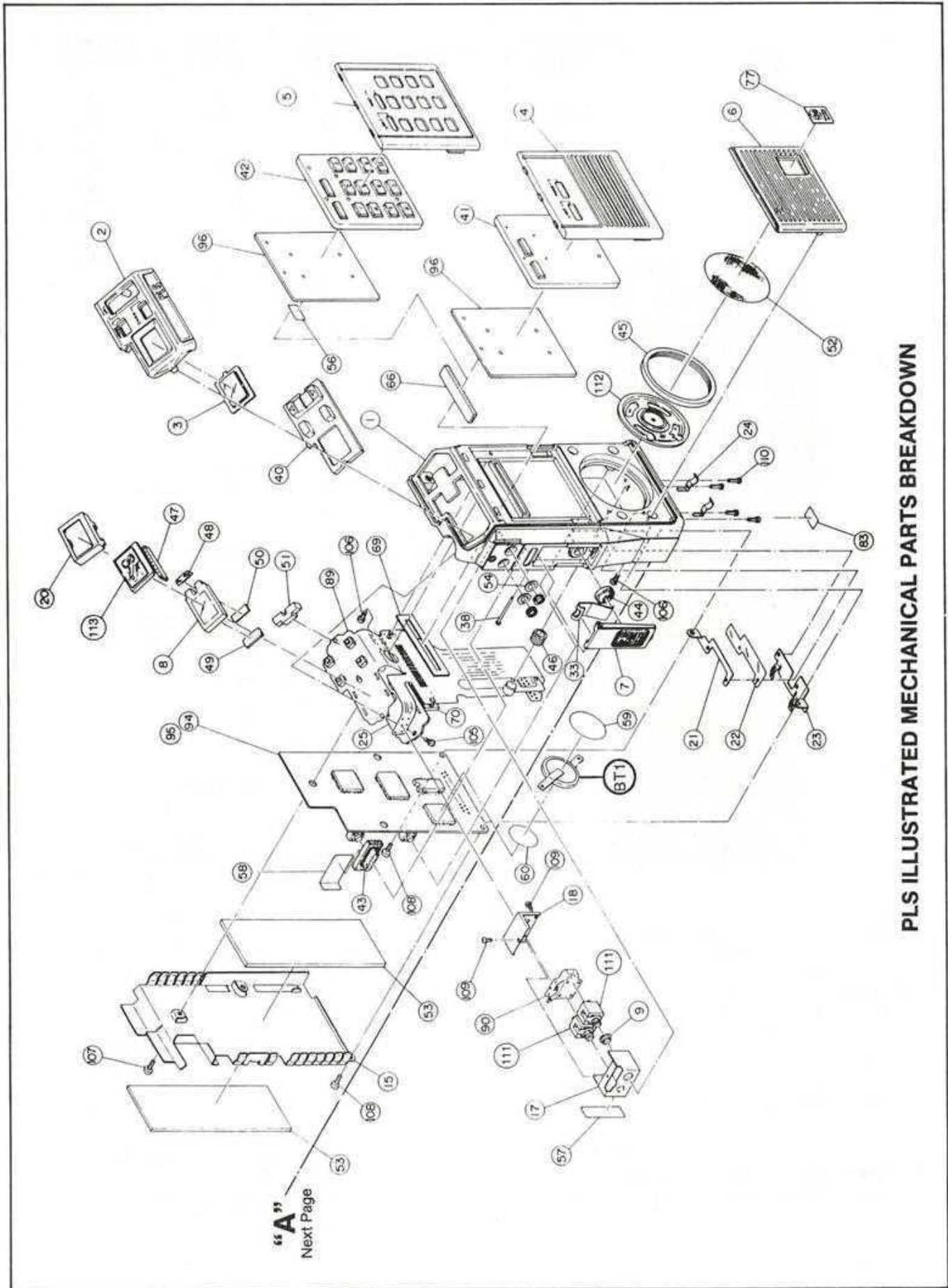
SINGLE BATTERY CHARGERS

Single-Battery Desk Chargers will charge 800 mAh or 1200 mAh, standard PLS rechargeable batteries, separately or attached to radio.

- H2A1L2A DESK CHARGER, 121 VAC ±10%, 50/60 Hz, 16 Hr.
- H2A1J1A DESK CHARGER, 121 VAC ±10%, 60 Hz, 1 Hr.
- H2A1M2A DESK CHARGER, 240 VAC ±10%, 50/60 Hz, 16 Hr. (AC cable is not terminated).
- H2A1N1A DESK CHARGER, 240 VAC ±10%, 50 Hz, 1 Hr. (AC cable is not terminated).

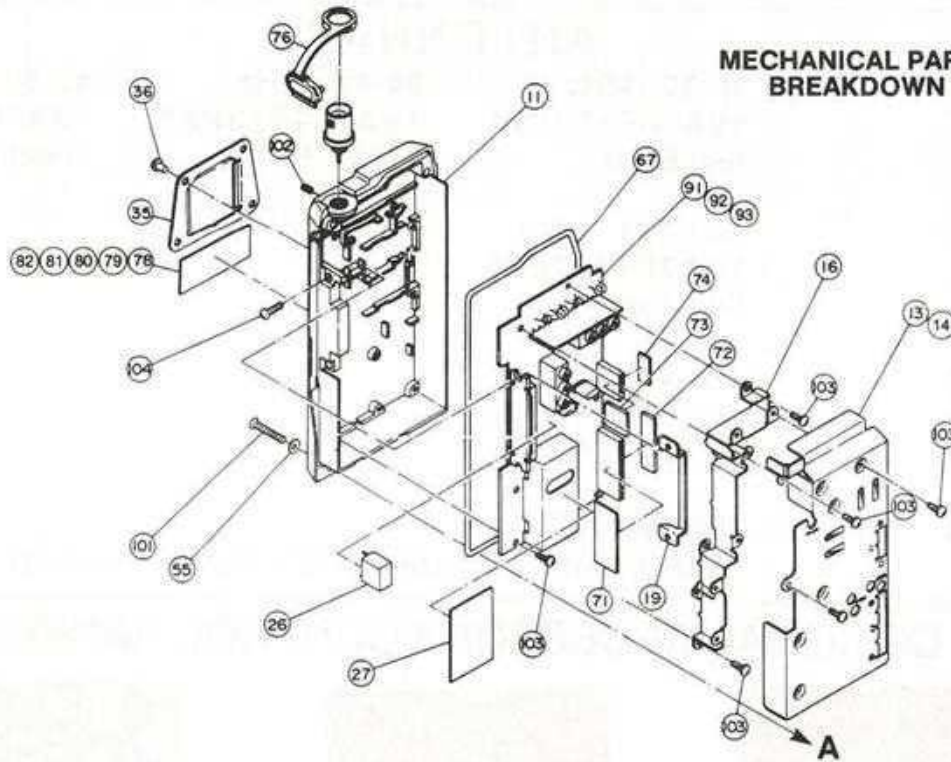
MULTI-BATTERY CHARGERS

- H2A2L2A MULTI-CHARGER, 121 VAC ±10%, 50/60 Hz, 16 Hr. Desk or Wall Mount.
- H2A2J1A MULTI-CHARGER, 121 VAC ±10%, 60 Hz, 1 Hr. Desk or Wall Mount.
- H2A2M2A MULTI-CHARGER, 240 VAC ±10%, 50/60 Hz, 16 Hr. Desk or Wall Mount. (AC cable is not terminated).
- H2A2N1A MULTI-CHARGER, 240 VAC ±10%, 50 Hz, 1 Hr. Desk or Wall Mount. (AC cable is not terminated).



PLS ILLUSTRATED MECHANICAL PARTS BREAKDOWN

"A"
Next Page



SYMBOL NUMBER	APPLICATION				PARTS ORDERING NUMBER	DESCRIPTION	SYMBOL NUMBER	APPLICATION				PARTS ORDERING NUMBER	DESCRIPTION
	L	H	H	U				O	H	H	U		
1	X	X	X		K19/A1WL08209	Frame	55	X	X	X	K19/A4WL08928	Washer	
2	X	X	X		K19/A2WL08165	Top Cover	56	X	X	X	K19/A4WL09189	Tape for Crystal	
3	X	X	X		K19/A4WL08170	LCD Crystal	57	X	X	X	K19/A4WL09190	Tape A	
4	X	X	X		K19/A2WL08167	Non-Keypad Insert Panel	58	X	X	X	K19/A4WL09191	Tape B	
5	X	X	X		K19/A2WL08166	Numeric Keypad Insert Panel	59	X	X	X	K19/A4WL09192	Insulator for Battery	
6	X	X	X		K19/A2WL08168	Speaker Escutcheon	60	X	X	X	K19/A4WL09193	Battery Tape	
7	X	X	X		K19/A2WL08169	PTT Lever	66	X	X	X	K19/A4WL08154	Inter Connector L	
8	X	X	X		K19/A3WL08142	Lighting Bar	67	X	X	X	K19/A4WL09303	Housing Gasket	
9	X	X	X		K19/A4WL08406	Spacer	69	X	X	X	K19/A4WL08563	Spacer	
11	X	X	X		K19/A1WL08177	Cabinet Back	70	X	X	X	K19/A4WL08595	Plate	
13	X	X	X		K19/A3WL09555	RF Shield for UHF	71	X	X	X	K19/A4WL09185	CN Spacer A	
14	X	X	X		K19/A3WL08627	RF Shield for VHF	72	X	X	X	K19/A4WL09186	CN Spacer B	
15	X	X	X		K19/A3WL08626	Logic Shield	73	X	X	X	K19/A4WL09187	CN Spacer C	
16	X	X	X		K19/A3WL09549	Shield Plate	74	X	X	X	K19/A4WL09188	CN Spacer D	
17	X	X	X		K19/A4WL08404	Jack Shield	76	X	X	X	K19/A4WL09349	Jack Cover	
18	X	X	X		K19/A4WL08405	Jack Shield Cover	77	X	X	X	K19/A4WL07721	STD Name Plate (GE)	
19	X	X	X		K19/A4WL08715	Power Pack Bracket	78	X	X	X	K19/A4WL08415	FCC Label (U04)	
20	X	X	X		K19/A4WL08141	LCD Frame	79	X	X	X	K19/A4WL08414	FCC Label (H05)	
21	X	X	X		K19/A3WL08215	Positive Strap	80	X	X	X	K19/A4WL08411	FCC Label (L16)	
22	X	X	X		K19/A4WL08561	Insulator Sheet	81	X	X	X	K19/A4WL08412	FCC Label (L26)	
23	X	X	X		K19/A3WL08214	Negative Strap	82	X	X	X	K19/A4WL08413	FCC Label (L36)	
24	X	X	X		K19/A4WL08213	Battery Connector Sprin	83	X	X	X		Serial # NOT Available	
25	X	X	X		K19/A3WL08596	Protector	89	X	X	X	K19/A2WL08896	Flexible PWB	
26	X	X	X		K19/A4WL09039	DEM Case	90	X	X	X	K19/A4WL08900	Jack Flexible PWB	
27	X	X	X		K19/A4WL09132	Plate for VCO Shield	92	X	X	X	K19/A3WL08519	PLS VHF-H PWB	
33	X	X	X		K19/A4WL09379	Spring	93	X	X	X	K19/A3WL08907	PLS VHF-L PWB	
35	X	X	X		K19/A3WL07509	Receptacle Plate	94	X	X	X	K19/A3WL08741	Logic PWB - 2 Layer	
36	X	X	X		K19/A4WL07694	Rivet	95	X	X	X	K19/A3WL08749	Logic PWB - 4 Layer	
38	X	X	X		K19/A4WL08175	Pivot Plate	96	X	X	X	K19/A3WL08191	Option PWB	
40	X	X	X		K19/A3WL08171	Top Key Pad	101	X	X	X	K19/A4WL08543	Screw	
41	X	X	X		K19/A2WL08130	Key Pad B (Non-Numeric)	102	X	X	X	K19/3NAC026033	Screw	
42	X	X	X		K19/A2WL08129	Key Pad A (Numeric)	103	X	X	X	K19/3NAX001116	Screw	
43	X	X	X		K19/A3WL08172	Monitor Control Key	104	X	X	X	K19/3NAA009056	Screw	
44	X	X	X		K19/A4WL08173	PTT Pad	105	X	X	X	K19/3NAD049034	Screw	
45	X	X	X		K19/A4WL08153	Speaker Gasket	106	X	X	X	K19/3NAD049042	Screw	
46	X	X	X		K19/A4WL07594P1	MIC Gasket	107	X	X	X	K19/3NAD049026	Screw	
47	X	X	X		K19/A4WL08144	Inter Connector	108	X	X	X	K19/3NAA005056	Screw	
48	X	X	X		K19/A4WL08149	Himelon	109	X	X	X	K19/3NAA502134	Screw	
49	X	X	X		K19/A4WL08146	LCD Sponge A	110	X	X	X	K19/3NAA502142	Screw	
50	X	X	X		K19/A4WL08147	LCD Sponge B	111	X	X	X	K19/2PFA001128	Jack	
51	X	X	X		K19/A4WL08888	Top Sponge	112	X	X	X	K19/2SDA011012	Speaker	
52	X	X	X		K19/A4WL08155	Speaker Dust Screen							
53	X	X	X		K19/A4WL09161	Sponge for Logic Shield	113	X	X	X	K19/2DCA005111	LCD Display	
54	X	X	X		K19/A4WL08205	Washer	BT1	X	X	X	K19/5BPA002052	Battery, Lithium	

ANTENNAS

LOW BAND	30-36 MHz 19A704723P21 Red Band	36-42 MHz 19A704723P22 Yellow Band	42-50 MHz 19A704723P23 Green Band
HIGH BAND (VHF)	150-174 MHz 19A704723P24 Blue Band		
UHF BAND (STANDARD)	450-470 MHz 19A704723P24 White Band		
UHF BAND (STUBBY)	450-470 MHz 19B800763P13 (Same as MPI Stubby Antenna)		

OPTIONAL ACCESSORY CONTROL PANELS



PLDT01
DTMF
OPTION PANEL



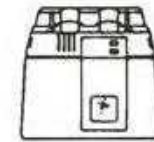
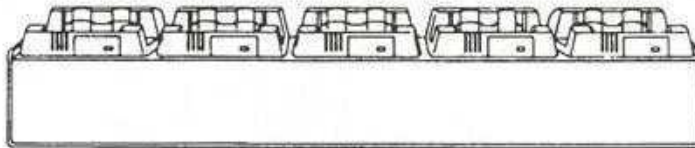
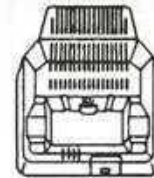
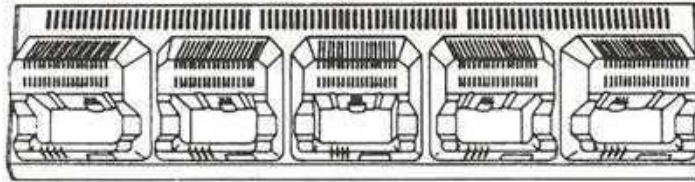
PLSS01
TYPE 99
OPTION PANEL



PLMK01
DTMF + TYPE 99
OPTION PANEL

SERVICING ACCESSORIES

U.R.P.	PROGRAMMING SOFTWARE	TQ2361
	PROGRAMMING INTERFACE CABLE	TQ2368
	Dummy Battery	K19/A4WX01543
	Logic Board Extender Cable	K19/A4WX01544
	UDC Connector Parts Kit	19A703687G1
VHS Video Training Packages for PLS Series Portable Radios		
SPK047	Product Overview, programming, Systems Control and Microcomputer	
SPK048	Synthesizer and RF	



MULTI-CHARGER
 H2A2L2A 121 VAC 16 HR
 H2A2J1A 121 VAC 1 HR
 H2A2M2A 240 VAC 16 HR
 H2A2N1A 240 VAC 1 HR

DESK CHARGER
 H2A1L2A 121 VAC 16 HR
 H2A1J1A 121 VAC 1 HR
 H2A1M2A 240 VAC 16 HR
 H2A1N1A 240 VAC 1 HR

CHARGER TYPE	EQUIPMENT NO.	ORDERING NO.
SINGLE UNIT DESK CHARGERS		
16 HOUR, 121 VAC	H2A1L2A	19B801506P1
16 HOUR, 240 VAC	H2A1M2A	19B801506P3
1 HOUR, 121 VAC	H2A1J1A	19B801506P2
1 HOUR, 240 VAC	H2A1N1A	19B801506P4
MULTI - UNIT RACK CHARGERS		
16 HOUR, 121 VAC	H2A2L2A	19B801506P5
16 HOUR, 240 VAC	H2A2M2A	19B801506P7
1 HOUR, 121 VAC	H2A2J1A	19B801506P6
1 HOUR, 240 VAC	H2A2N1A	19B801506P8

All Units Rated at 50/60 Hz

MPD™/TPX™/PLS™ BATTERIES

(All use the same batteries)

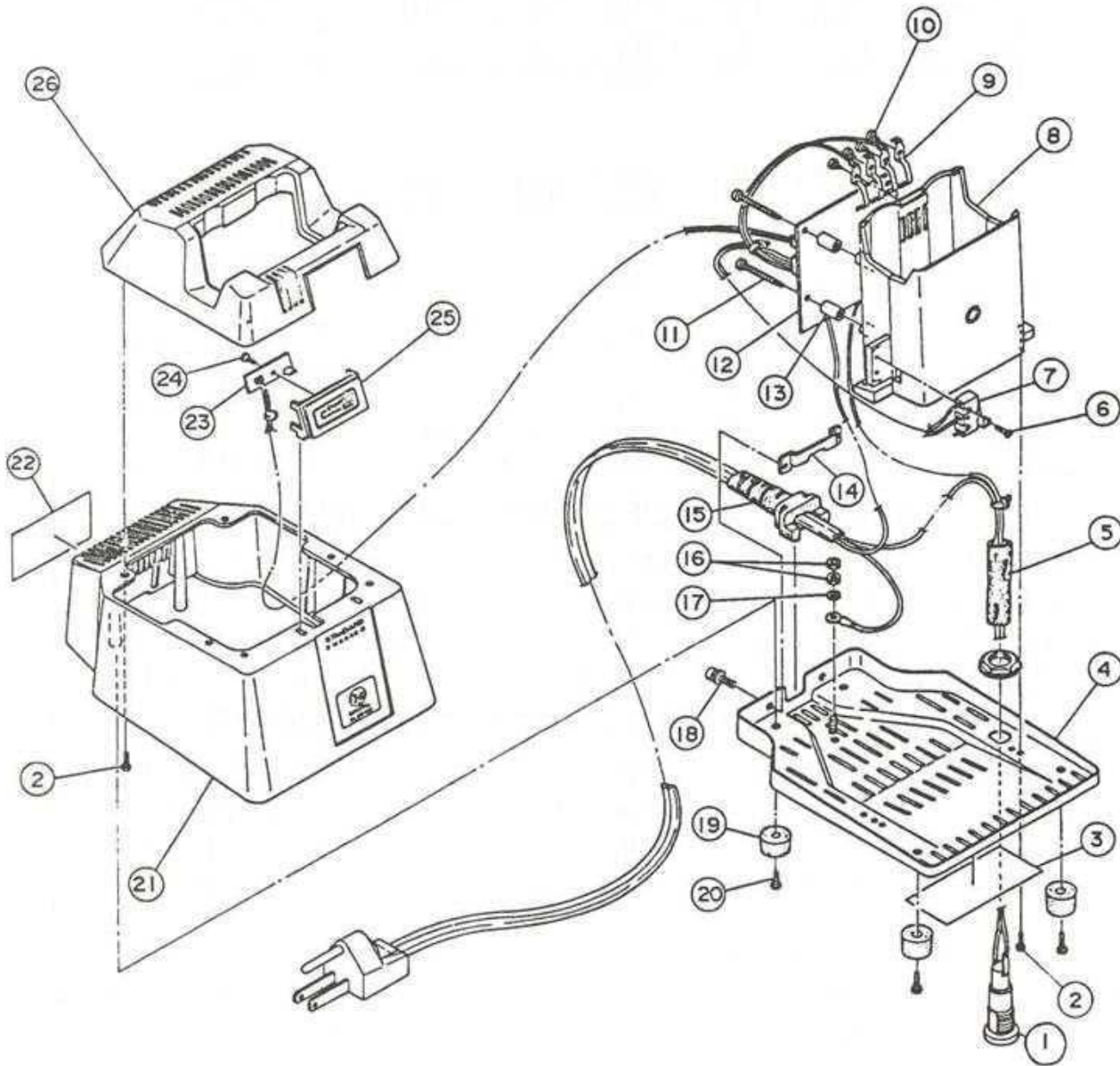
STANDARD BATTERIES

Option #	Ordering Number	Description
PDPA10	19A704850P3	800 mA _H Battery
PDPA11	19A704860P3	1200 mA _H Battery
PDPA13	19A704860P7	1700 mA _H Battery
PLPA10	19A704850P3	800 mA _H Battery
PLPA11	19A704860P3	1200 mA _H Battery
PLPA13	19A704860P7	1700 mA _H Battery
TPPA10	19A704850P3	800 mA _H Battery
TPPA11	19A704860P3	1200 mA _H Battery
TPPA13	19A704860P7	1700 mA _H Battery

INTRINSICALLY SAFE BATTERIES

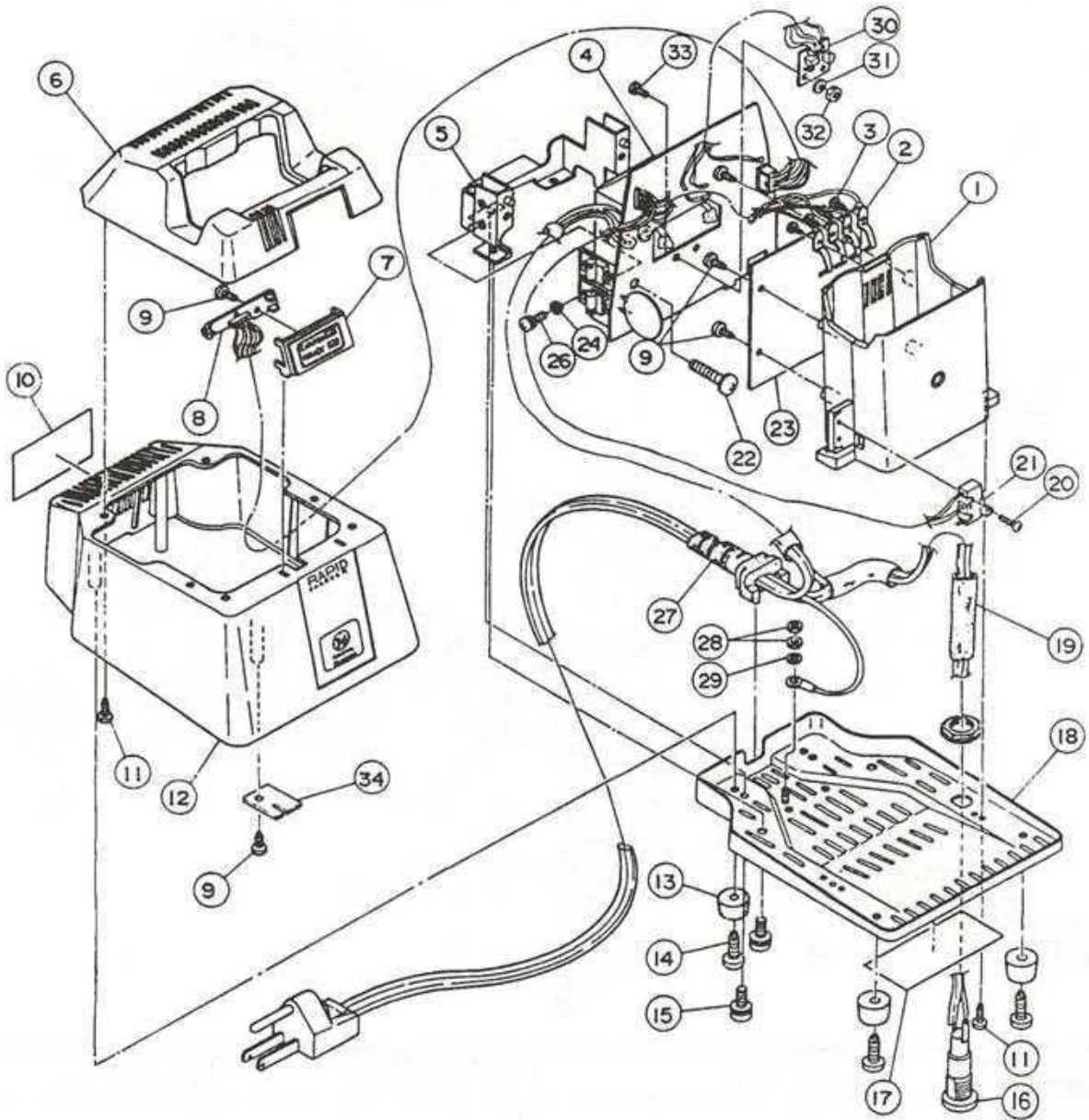
Option #	Ordering Number	Description
PDPA14	19A704850P4	800 mA _H I/S Battery
PDPA15	19A704860P4	1200 mA _H I/S Battery
PDPA16	19A704860P6	1700 mA _H I/S Battery
PLPA14	19A704850P4	800 mA _H I/S Battery
PLPA15	19A704860P4	1200 mA _H I/S Battery
PLPA16	19A704860P6	1700 mA _H I/S Battery
TPPA14	19A704850P4	800 mA _H I/S Battery
TPPA15	19A704860P4	1200 mA _H I/S Battery
TPPA16	19A704860P6	1700 mA _H I/S Battery

19B801506P1 16 HOUR DESK CHARGER H2A1L2A



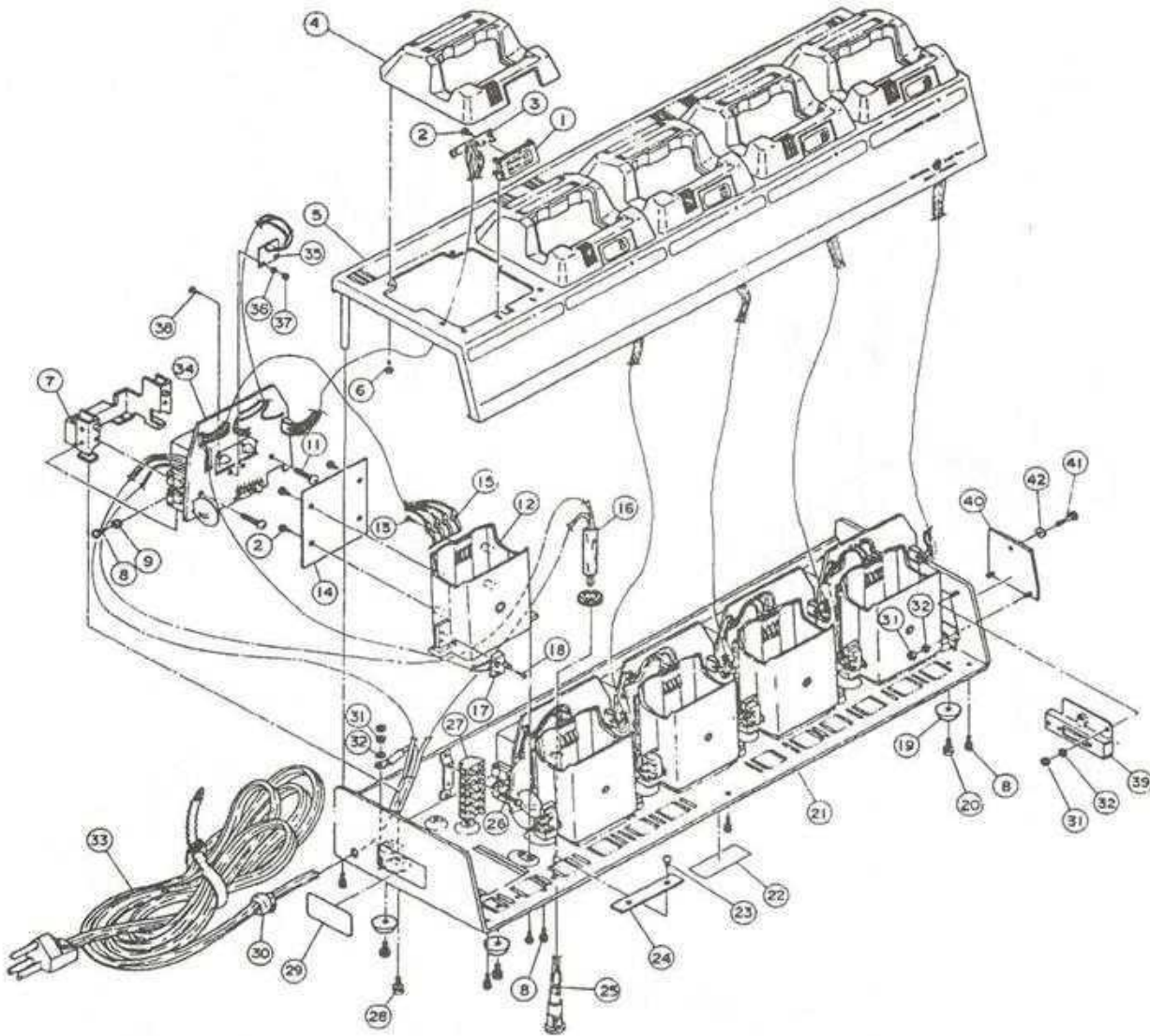
ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	K19/2DYD014039	Fuse Socket	14	K19/A4WL08297	Bracket
2		Self Tapping Screw M3X8S	15	K19/2whj001143	AC Cable
3	K19/A4WL08996	Rating Label	16		Hex Nut, M3 S
4	K19/A4WL08810	Cabinet Bottom	17		Lockwasher
5	K19/2ZAC003155	Tube	18		CPS, W/SW W M3 6S
6		Self-Tapping Scr, M2x10S	19	K19/a4wl08420	Rubber feet
7	K19/2KKA001668	Micro Switch	20		Self-Tapping Scr, M4x12S
8	K19/A2WL07813	Lower Sleeve	21	K19/A1WL08050	Upper Cabinet
9	K19/A3WL07862	Contact	22	K19/A4WL09060	Caution Label
10		Self-Tapping Scr, M2x4S	23	K19/A4WL08334	Std Display PB
11		Self-Tapping Scr, M3x16S	24		Self-Tapping Screw, M3x6S
12	K19/A3WL08355	Std Desk PB	25	K19/A3WL07822/2	LED Panel
13	K19/A4WL08765	Collar	26	K19/A1WL07812	Top Sleeve

19B801506P2 RAPID DESK CHARGER H2A1J1A



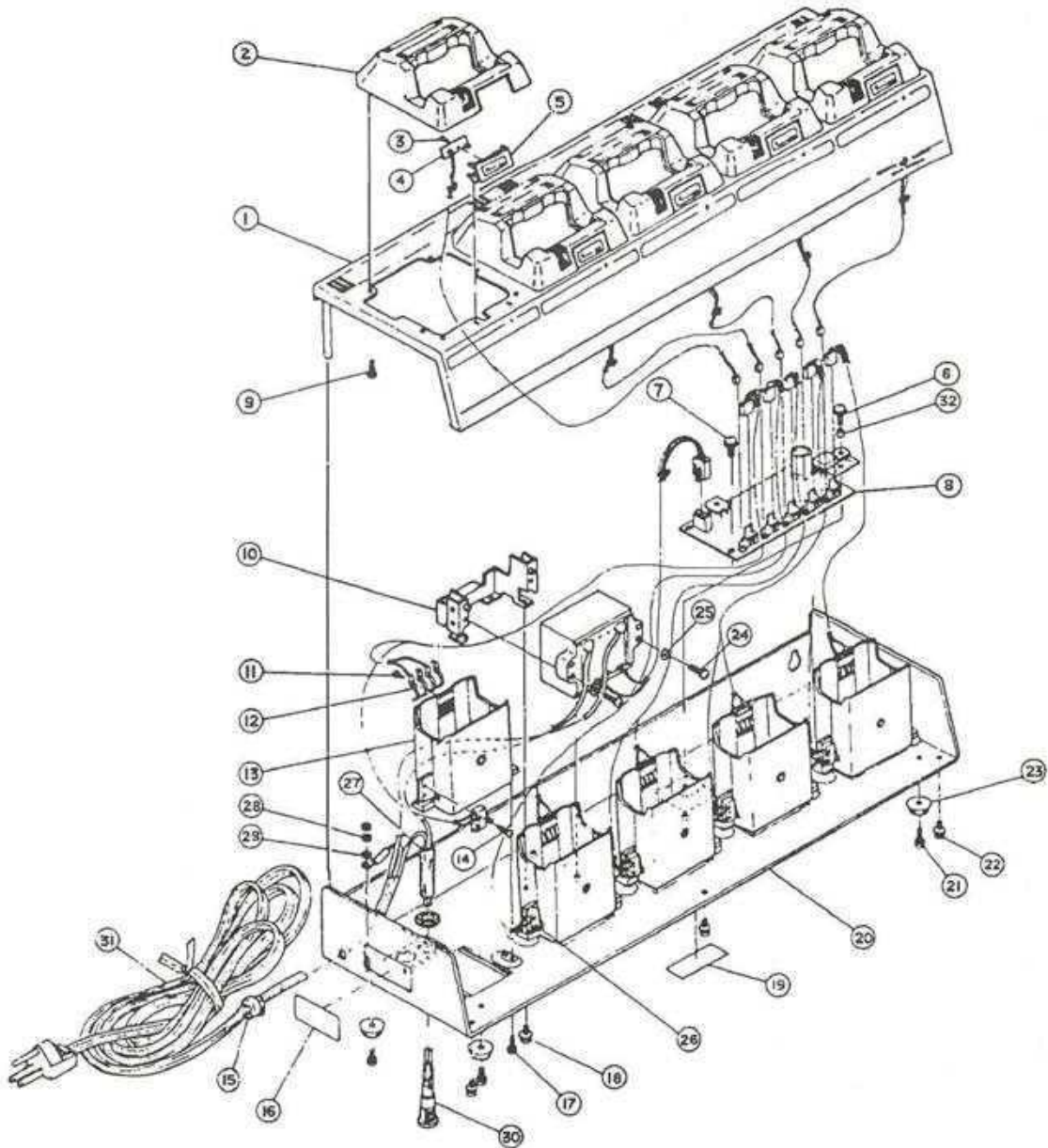
ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	K19/2WL07813	Lower Sleeve	18	K19/A2WL08080/1	Cabinet Bottom
2	K19/A3WL07862/2	Contact	19	(Use Local Supply)	Heat Shrink Tubing
3		Tapping Screw, M2x4 S	20		Tapping Screw, M2x10 (S)
4	K19/A2Z02894	RAPID PWB	21	K19/2KKA001676	Micro Switch
5	K19/A3WL08082	Transformer BRacket	22		CPS, W/SW, M4X20 S
6	K19/A1WL07812	Top Sleeve	23	K19/A4WL08298	Reflector
7	K19/A3WL07822/1	LED Panel	24	K19/2QYY002094	Insulating Bushing
8	K19/A4Z02794	Rapid Display Board	25		not used
9		Tapping Screw, M3x6 S	26		CPS, W/SW, W(S), M3X8 S
10	K19/A4WL08701	Caution Label	27	K19/2WHJ003065	AC Cable
11		Tapping Screw, M3x8 S	28		Nut, M3
12	K19/A1WL08050	Upper Cabinet	29		Washer, M3,.
13	K19/A4WL08420	Rubber Feet	30	K19/A4Z02999	Rapid Sub PWB
14		Tapping SCrew, M4x12 S	31		Nut, M2, S
15		CPS, W/SW, W(S),M4x8, S	32		Washer,
16	K19/2DDB010084	FUSE	33		CPS, M2X6 S
17	K19/A4WL08950	Rating Label	34	K19/A4Z02960	Thermo PWB

19B801506P6 RAPID MULTICHARGER H2A2J1A



ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	K19/A3WL07822	LED PANEL	22	K19/A4WL08951	Rating Label
2		Self-tapping Screws M3x6	23		CPS, W/SW, M3x6 S
3	K19/A4Z02794	Rapid Display Board	24	K19/A4Z02970	Multi Therm PWB
4	K19/A1WL07812	Top Sleeve	25	K19/2DDB010084	FUSE
5	K19/A2WL08521	Cover	26		CPS, W/SW, W(S), M3X16S
6		Self-tapping Screws M3x8S	27	K19/2PGE017037	Terminal
7	K19/A3WL08082	T Bracket	28		CPS, W/SW, W(S) M4X8
8		CPS, W/SW, W(S)	29	K19/A4WL08701	Caution Label
9	K19/2QYY002094	Insulating Bushing	30	K19/SR-5W-1	Bushing
10	K19/2QYY013034	Insulating Sheet	31		Nut, M3
11		CPS, W/SW, M4x20 S	32		Washer, Steel
12	K19/2WL07813	Lower Sleeve	33	K19/2WHJ001150	AC Cable
13		Self Tapping Screw, M2x4	34	K19/A2Z02894	Rapid PWB
14	K19/A4WL08298	Reflector	35	K19/A4Z02999	Rapid Sub PWB
15	K19/A3WL07862	Contact	36		Washer
16	K19/2ZAC003155	Heat Shrink Tube	37		M2 Nut
17	K19/2KKA001676	Micro Switch	38		CPS, M2x6 S
18		Self Tapping Screw	39	K19/A4WL08530	CN Bracket
19	K19/A4WL09805	Rubber Feet	40	K19/A4WL08526	CN COVER
20		CPS, W/SW, M4x8 S	41	K19/A4WL08534	Captive Screw
21	K19/A2WL08521	Chassis Base	42		Washer, M3

19B801506P5 16 HOUR MULTICHARGER H2A2L/M2A



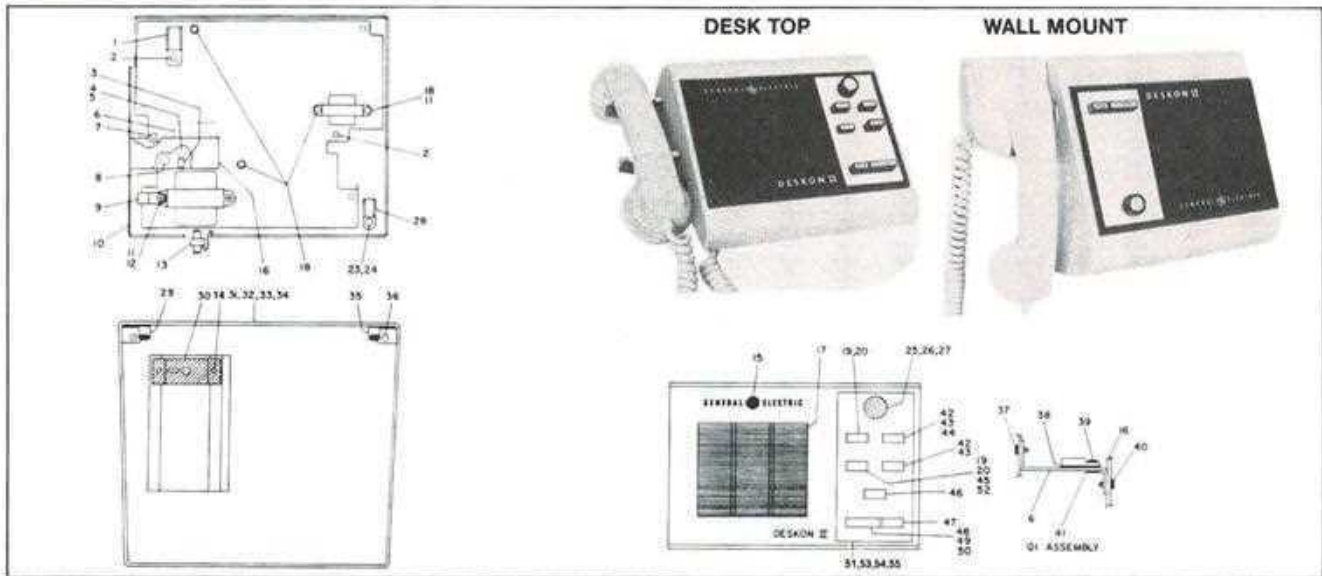
ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1	K19/A2WL08521	Cover	17		Self-tapping Screws M2.6x10S
2	K19/A1WL07812	Top Sleeve	18		CPS, W/SW, W M3 X 8S
3		Self-tapping Screws M2x6S	19	K19/A4WL09070	Rating Label
4	K19/A3WL08442	Standard Display PWB	20	K19/A2WL08522	Chassis
5	K19/A3WL08722/2	LED Panel	21		CPS, W/SW, W M4 X 10S
6		CPS, W/SW, W M3 X 10S	22		CPS, W/SW, W M3 X 6
7		CPS, W/SW, W M3 X 6S	23	K19/A4WL09051	Rubber Feet
8	K19/A3WL08540	Standard Multi PWB	24		CPS, W/SW, W M34X 20S
9		Self-tapping Screws M3x8S	25		Lock Washer
10	K19/A3WL08082	T Bracket	26	K19/2KKA001668	Microswitch SS-5GL2D
11		Self-tapping Screws M2x4S	27	K19/2ZAC003155	Tube
12	K19/A3WL07862	Contact	28		Hexnut M3 S
13	K19/A2WL07813	Lower Sleeve	29		Lockwasher
14		Self-tapping Screws M2x10S	30	K19/2DYD014039	Fuse Socket 345611
15	K19/SR-5W-1	Bushing	31	K19/A4WX01665	AC Cable
16	K19/A4WL09060	Caution Label	32	K19/A4WL09133	Tube



COMBINATION NOMENCLATURE

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7
Product	Unit	Package	Freq. Control	Option	Color	Option
5 Remote Control	1 DC	1 Desk Spkr/Mic	A 1T-1R	1 Standard	B Beige	1 Standard
	2 Tone	2 Wall Spkr/Mic	B 2T-1R				2 CG Monitor See Note
		3 Desk Handset Spkr/Mic	C 2T-2R	3 GE-MARC V		
		4 Wall Handset Spkr/Mic	D 1T-2R			
		5 Desk Desk/Mic	R 1T-2R PSLM			
			S 2T-2R PSLM			

* Not to be used in parallel operations.



ITEM NO.	ORDERING NUMBER	DESCRIPTION	ITEM NO.	ORDERING NUMBER	DESCRIPTION
1*	19A701863P9	Clip, loop	44	19B216127G17	Button. (Includes SUPV nameplate NP257705E).
2	N80P13004C6	Machine screw: No. 6-32 x 1/4.	45	19B216127G18	Button (Includes MON nameplate NP257705F).
3	19B209260P2	Solderless terminal: sim to AMP 41733.	46	19B216127G24	Button. (Includes BATT nameplate NP257705N).
4	7141225P3	Hex nut: No. 6-32.	47	19B216127G19	Button. (Includes INTCM nameplate NP257705G).
5	N404P13C6	Lockwasher, internal tooth; No. 6.	48	19B216127G21	Button, desk mount. (Includes TRANSMIT nameplate NP257705J).
6	19B226394G1	Heat sink (Q1).	49	19B216127G23	Button, wall mount. (Includes TRANSMIT nameplate NP257705J).
7	4036306P23	Fiber washer.	50	19B216127G22	Button, bland. (Includes blank nameplate NP257705K).
8	19B200785P14	Terminal, stud.	51*	NP257706	Nameplate, 2 holes
9*	19A201863P27	Clip, retainer	52	19B216127G25	Button. (Includes CLEAR nameplate NP257705S).
10	19C320211G1	Base.	53*	NP257707	Nameplate, 5 holes
11*	N80P13007C6	Machine screw: No. 6-32 x 7/16	54*	NP257708	Nameplate, 7 holes
12	4035306P37	Fiber washer (Quantity 2-under T1101 at each mounting hole).	55*	NP270721	Nameplate, 6 holes
13*	7142878G2	Clip, loop, strain relief	43-47	19D423501P1	Knob, push-on
14	N136AP905C6	Screw	52		Button
15	19B205216P2	Jewel.			
16	19B219606P1	Cover.			
17	19A122390P4	Grille cloth.			
18	4035306P20	Fiber washer.			
19	19B216127G15	Button. (Includes R-F1 nameplate NP257705C).			
20	19B216127G13	Button. (Includes T-F1 nameplate NP257705A).			
21	19C330623G1	Plate (Brown) Desk Mount			
	19C330623G2	Plate (Brown) Wall Mount			
22*	19C330623G3	Plate (Gray) Desk Mount			
	19C330623G4	Plate (Gray) Wall Mount			
23	7141225P2	Hex nut: No. 4-40.			
24	N404P11C6	Lockwasher, internal tooth: No. 4.			
25	19A115679P2	Know, push on. (R1101).			
26	7115130P9	Lockwasher, internal tooth: sim to Shakeproof 1220-2. (R1101).			
27	7165075P2	Hex nut, brass: thd. size No. 3/8-32. (Secures R1101).			
28*	19A7010863P7	Clip, loop	19C320219G1		DESKON II CASE ASSEMBLY
29	19B216115P2	Support.			DESKON II CASE ASSEMBLY
30	19B216116P1	Support.	19C320219G2		- DESK/WALL MOUNT OR DESK/WALL MOUNT HANDSET, BEIGE
31	19C311795G1	Cover, beige. (Desk/Wall mount speaker or handset).			- DESK/WALL MOUNT OR DESK/WALL MOUNT HANDSET, GRAY
32	19C311795G2	Cover, gray. (Desk/Wall mount speaker or handset).	19C320219G3		- DESK MOUNT HANDSET, BEIGE
33	19C311795G3	Cover, beige. (Desk mount handset).	19C320219G4		- DESK MOUNT HANDSET, GRAY
34	19C311795G4	Cover, gray. (Desk mount handset).			
35	19B216115P1	Support.			
36*	N136P1306C13	Tap screw: No. 6-20 x 3/8.			
37*	N80P9003C6	Machine screw: No. 4-40 x 3/16.			
38*	19A116023P1	Insulator, plate, (Q1).			
39*	N80P9006C6	Machine screw: No. 4-40 x 3/8.			
40	19B201074P304	Tap screw, Phillips POZIDRIV: No. 6-32 x 1/4.			
41	19A115222P3	Insulator, shield (Q1).			
42	19B216127G14	Button. (Includes T-F2 nameplate NP257705B).			
43	19B216127G16	Button. (Includes R-F2 nameplate NP257705D).			

PARTS LIST
DESKON II CASE ASSEMBLY
19C320219G1-G4
AND
DRESS PLATE ASSEMBLY
19C311799G5-G8

DESCRIPTION
DESKON II CASE ASSEMBLY
- DESK/WALL MOUNT OR DESK/WALL MOUNT HANDSET, BEIGE
- DESK/WALL MOUNT OR DESK/WALL MOUNT HANDSET, GRAY
- DESK MOUNT HANDSET, BEIGE
- DESK MOUNT HANDSET, GRAY

DRESS PLATE ASSEMBLY
- DESK MOUNT, BROWN
- DESK MOUNT, GRAY
- WALL MOUNT, BROWN
- WALL MOUNT, GRAY

SERVICE AIDS PRICE LIST

This Price List supersedes the SERVICE AIDS portions of ECX805F and ECX806F, both dated June 1, 1988, and is effective as of September 1, 1988. The TEST EQUIPMENT listings in the June 1, 1988, editions of ECX805F and ECX806F remain in effect.

All prices listed here are NET PRICE, and not subject to discount.

See complete Terms and Conditions listed in the ECX805F & ECX806F Price Lists dated June 1, 1988

ORDER NUMBER	DESCRIPTION	NET PRICE	ORDER NUMBER	DESCRIPTION	NET PRICE
SPK022	AUDTRNG DECIBEL	\$25.00	ST0119	HT311D Tip	\$5.40
SPK023	AUDTRNG IMTSSIG	\$25.00	ST0120	HT313D Tip	\$5.90
SPK024	AUDTRNG INTRMOD	\$25.00	ST0121	HT553D Tip	\$5.80
SPK025	AUDTRNG T99 ENC	\$25.00	ST0122	HT418D Tip	\$5.80
SPK026	VIDTRNG GMV CCC	\$65.00	ST0123	HT451D Tip	\$6.00
SPK027	VIDTRNG GMV SYN	\$65.00	ST0124	HT513D Tip	\$6.00
SPK028	VIDTRNG GMV SYS	\$65.00	ST0125	HT699D Tip	\$6.00
SPK029	AUDTRNG GMV TON	\$25.00	ST0126	892A Holder	\$22.70
SPK030	AUDTRNG GMV LOG	\$25.00	ST0127	REP. SPONGE	\$1.40
SPK031	VIDTNG PHNXS/SX	\$65.00	ST0128	M75K Iron Kit	\$40.30
SPK032	VIDTNG PHNXP3/4	\$65.00	ST0129	HT616X Tip	\$1.30
SPK033	VIDTNG MPI PERS	\$65.00	ST0130	HT617X Tip	\$1.30
SPK034	VIDTNG GESTAR	\$65.00	ST0131	HT618X Tip	\$1.30
SPK035	VIDTNG VOICEGD	\$65.00	ST0132	HT619X	\$1.30
SPK036	VIDTNG TMX 1/2	\$65.00	ST0133	HT620X Tip	\$1.50
SPK037	VIDTNG TMX 3/4	\$65.00	ST0134	HT621X Tip	\$1.30
SPK038	VIDTNG CMX8630	\$65.00	ST0135	HT622X Tip.	\$1.30
SPK039	VIDTNG RANGR12	\$65.00	ST0136	D550-3 Gun	\$36.20
SPK040	VIDTNG RANGR34	\$65.00	ST0137	Tips for ST0136	\$3.00
SPK041	VIDTNG TMX82/85	\$65.00	ST0144	PTR7 Solder Tip	\$4.30
SPK042	VIDTNG CARFONE	\$65.00	ST0145	HE60 Element	\$12.80
SPK043	VIDTNG M-PD 1/2	\$65.00	ST0147	SX-214A System	\$370.00
SPK044	VIDTNG MPD 3/4	\$65.00	ST0149	BA-60 Nut	\$4.70
SPK045	VIDTNG MLS 1/2	\$65.00	ST0151	TC201Z Pencil	\$64.50
SPK046	VIDTNG MLS 3/4	\$65.00	ST0153	Pace "MICRO"	\$432.00
SPK047	VIDTNG PLS 1/2	\$65.00	ST0154	Pace SX-301	\$667.00
SPK048	VIDTNG PLS 3/4	\$65.00	ST0155	Pace PRC-151	\$1,210.00
SPK049	VIDTNG TPX 1/2	\$65.00	ST0156	THERMOTRAC 1002	\$131.30
SPK050	VIDTNG TPX 3/4	\$65.00	ST0157	ThrmTrcl002/230	\$131.30
SPK051	VIDTNG MCS P1/2	\$65.00	ST0158	J202X SolderTip	\$3.20
SPK052	VIDTNG MCS P3/4	\$65.00	ST0159	J203X SolderTip	\$3.50
SPK053	VIDTNG MVS P1/2	\$65.00	ST0160	J204X SolderTip	\$3.50
SPK054	VIDTNG MVS P3/4	\$65.00	ST0161	J903X SolderTip	\$3.20
ST0101	Heat Sink	\$6.10	ST0162	J915X SolderTip	\$4.40
ST0102	Desolder Tool	\$25.70	ST0163	J918X SolderTip	\$4.40
ST0103	Desolder Tips	\$3.30	ST0164	EC1000 TC Iron	\$142.50
ST0104	Model 901	\$462.50	ST0165	EC2000 TC Iron	\$232.00
ST0106	PTA7	\$4.30	ST0166	WELLER EC2002A	\$149.00
ST0107	PTB7	\$4.30	ST0167	WELLER EC1002A	\$99.00
ST0108	PTC7 Tip	\$4.30	ST0168	Weller EC1201A	\$54.00
ST0109	PTD7 Tip	\$4.30	ST0169	ETA SOLDERTIP	\$4.00
ST0110	PTK7 Tip	\$4.30	ST0170	ETK SOLDERTIP	\$4.00
ST0111	PTL7	\$4.30	ST0171	ETC SOLDERTIP	\$4.00
ST0112	22A Solder Iron	\$29.50	ST0172	ETL SOLDERTIP	\$4.00
ST0113	23A Solder Iron	\$31.60	ST0201	99SM TOOLSET	\$97.20
ST0114	HT294D Tip	\$5.20	ST0202	M60 MiniDrivers	\$9.00
ST0115	HT207D Tip	\$5.30	ST0301	Nutdriver set	\$39.60
ST0116	HT474D Tip	\$5.40	ST0302	3/16 Nutdriver	\$4.30
ST0117	HT281D Tip	\$5.20	ST0303	7/32 Nutdriver	\$4.30
ST0118	HT548D Tip	\$5.40	ST0304	1/4 Nutdriver	\$4.30

ORDER NUMBER	DESCRIPTION	NET PRICE	ORDER NUMBER	DESCRIPTION	NET PRICE
ST2801	Tap Tool	\$9.60	ST3548	CONV PLUG	\$16.90
ST2802	Tap Tool Blade	\$6.30	ST3549	310/DBL Ban Plug	\$18.60
ST2803	6'DIAM MEASTAPE	\$20.20	ST3550	BNC/DB BAN PLG	\$15.50
ST2901	Elect. KNIFE	\$11.50	ST3551	BANT/DBBAN PLG	\$45.00
ST2902	10"DUCKBILSNIPS	\$11.00	ST3552	66PUNCH BLCK	\$5.00
ST2903	ALUM.KNIFE HNDL	\$2.80	ST3553	BNC FMF TEE CON	\$14.80
ST2904	5-Pk BLADES	\$1.90	ST3554	BNC-F/TNC-M ADP	\$15.10
ST2905	5-PK DEEPBLADES	\$1.90	ST3555	TNC/BNC PATCHCB	\$21.20
ST2906	5-PK CURVD BLDS	\$2.10	ST3556	TYPE N PTCH CBL	\$19.50
ST3302	T&T HANDBOOKS	\$2.50	ST3558	MLS EXTENDR CBL	\$50.00
ST3303	RANGECALCULATOR	\$2.00	ST3560	SMD TESTTWEEZERS	\$25.00
ST3304	ECP804SLIDERULE	\$3.00	ST3701	6"FORCEPTS	\$17.00
ST3305	PAD ECP774	\$1.00	ST3702	6"CRVD FORCEPTS	\$17.50
ST3501	ADAPTER	\$7.00	ST3703	TUBE PULLER	\$4.60
ST3502	PL259 PUSH-ON	\$1.90	ST3705	TUBE PULLER	\$8.00
ST3503	DBLBANANAPLUG	\$2.60	ST3706	LAMP EXTRACTOR	\$9.10
ST3504	REDBANANAPLUG	\$.90	ST3708	4.25"Tweezers	\$8.30
ST3505	BKBANANAPLUG	\$.90	ST3709	CONTACT EXTRCR	\$3.10
ST3506	ADAPTER GLC95	\$2.80	ST3710	EXTR TOOL KIT	\$2.00
ST3507	POMONA 1296	\$10.80	ST3711	PUNCH BLOCK TL	\$65.00
ST3508	POMONA 2957	\$9.80	ST3712	Extractor Tool	\$18.00
ST3509	POMONA 1699-0	\$15.10	ST3801	SWB VANINTERIOR	\$940.00
ST3510	UG-914/U	\$4.80	ST3802	LWB VANINTERIOR	\$1,150.00
ST3511	BNC TEE ADPTR	\$5.50	ST3809	VAN WORK STOOL	\$24.00
ST3512	UG273 ADAPTER	\$2.00	ST3810	DRAWER DIVIDERS	\$8.00
ST3513	UG201A ADAPTER	\$9.80	ST3811	DRAWER DIVIDERS	\$10.00
ST3514	UG29 ADAPTER	\$9.60	ST3812	RH PARTITION	\$60.00
ST3515	UG57B ADAPTER	\$10.50	ST3813	BOOKCASE,SHORT	\$29.00
ST3516	DIP CLIP	\$8.30	ST3814	54"VAN SHELF	\$43.00
ST3517	TESTLD HOLDER	\$8.30	ST3815	WORKBENCH	\$273.50
ST3518	UG419A ADAPTER	\$8.60	ST3816	BENCH DRAWER	\$41.30
ST3519	M358 ADAPTER	\$5.50	ST3817	STEEL CHAIR	\$71.50
ST3520	M359 ADAPTER	\$3.00	ST3818	SERVICE CART	\$149.40
ST3521	PL258 ADAPTER	\$2.00	ST3819	BENCHTOP CABNET	\$200.00
ST3522	UG83B ADAPTER	\$10.20	ST3820	PORTABLE TABLE	\$38.00
ST3523	UG349A ADAPTER	\$11.40	ST3821	SCOPE CART	\$39.00
ST3524	UG146 ADAPTER	\$9.50	ST3822	OUTLET STRIP	\$33.10
ST3525	PHONO TEE ADPTR	\$4.60	ST3823	15'OUTLETSTRIP	\$37.00
ST3527	UG27B ADAPTER	\$8.00	ST3824	9' 9OUTLETSTRIP	\$36.50
ST3528	UG28A ADAPTER	\$12.00	ST3825	15'OUTLETSTRIP	\$33.30
ST3529	UG255 ADAPTER	\$4.30	ST3828	25'EXTENSION CD	\$7.70
ST3530	BNC T ADAPTER	\$13.40	ST3829	50'extension cd	\$12.10
ST3531	UG107 ADAPTER	\$18.00	ST3830	UTILITYLIGHT	\$7.30
ST3532	UG306 ADAPTER	\$11.00	ST3831	VAN CABINET	\$70.00
ST3533	BNC-BP ADAPTER	\$6.30	ST3832	4DRAWER CABINET	\$115.00
ST3534	RED BAN. JACK	\$2.80	ST3833	3DRWR CABINET	\$80.00
ST3535	BK BAN. JACK	\$2.80	ST3834	36" SRVC CART	\$175.00
ST3538	RD EZ HOOK LEAD	\$3.60	ST3835	WP6 WORK STAND	\$131.20
ST3539	BK EZ HOOK LEAD	\$3.60	ST3836	VAN SCREEN DOOR	\$60.00
ST3540	PMIITX EXT CBLS	\$7.00	ST3837	4DRWR CABINET	\$100.00
ST3541	PJ-946 CORD	\$22.50	ST3838	2DRWR CABINET	\$65.00
ST3542	BANTAM/BNC CORD	\$22.50	ST3839	VANWORKBENCH	\$132.00
ST3543	DL BANTAM CORD	\$19.50	ST3840	WHL COVER BIN	\$70.00
ST3544	2FT BANTAM CORD	\$16.00	ST3842	SHELF BIN	\$58.00
ST3545	310/BANT ADPLUG	\$18.20	ST3843	LEFT PARTITION	\$55.00
ST3546	PATCH CABLE	\$12.00	ST3844	SP TIRE BRCKET	\$15.00
ST3547	ALL/310 CONV CBL	\$36.00			

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	1.2	MPI Personals and Executive II / BEACON MONITOR Pagers
	1.3	DELTA (Crystal) Mobiles, PHOENIX (Crystal) Mobiles & Stations & CENTURY II Mobiles
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This Catalog is a good place to file your Service Parts Price Lists for reference.
Appropriate versions as of May 30, 1988 are :

	ECX-356-8	Service Parts Price List, January 1, 1988 Addendum # 1, dated March 30, 1988
For Domestic use:	ECX-805F	Price List Supplement for Test Equipment, Service Aids and Shop Supplies, dated June 1, 1988
For International use:	ECX-806F	Price List Supplement for Test Equipment, Service Aids and Shop Supplies, dated June 1, 1988

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General

Using the PRODUCT LINE SERVICING ACCESSORIES lists:

The intent of the Product Line pages in this section is to list those items whose attributes are unique to that Product Line, or, at least, **not** in general or widespread use in all Radio Repair Service Facilities. The Product Line pages are not intended as an all-inclusive, everything that is needed, service facility outfitting list for that product.

To save your time in reading and to minimize repetition, we made several assumptions, during the preparation of this material, about the repair facilities that will utilize these Product Line Servicing Accessories lists.

First, we assume that the service facility is outfitted with those Test Equipment and Hand Tool items usually found in a well-equipped Two-way FM Radio Repair operation. We will not list them in the Product Line pages. The generic product section of this booklet is a display of many of the hand tool items that we feel are useful in the repair of our products and which we offer for sale to you.

Second, since all shops are not yet equipped with temperature-controlled soldering stations, we recommend that the ST0165, Weller EC2001A, or an equivalent temperature-controlled soldering station should be considered included, (but not actually printed), as a part of each Product Line Servicing Accessories listing. A complete description of this and other soldering stations will be found in the generic soldering equipment listings on pages 51.33 thru 51.36 of this catalog section.

Radio Programming Systems

GE Mobile Communications currently offers synthesized radio products utilizing two different methods of programming customer operating / radio personality parameters into the units. Again, in the interest of saving space and avoiding much repetition, we include here a general description of both, but on the Product Line Servicing Accessories pages we will list only the ordering numbers and short product titles.

The TQ2310, Universal Radio Programmer, is based on a Panasonic computer and uses different interconnection cables and software for the various products that use this system. On all appropriate Product Line Servicing Accessories pages, we will list those items that are required or applicable to that product.

The new products introduced in 1988 and later will make use of an IBM®-PC compatible, Programming Serial Interface Adapter, TQ3310, and product-specific cables and programming software. On all appropriate Product Line Servicing Accessories pages, we will list the programming product Ordering Numbers and titles, but will not reiterate or expand on them in the Product Line accessory explanations.

PRODUCT LINE SERVICING ACCESSORIES

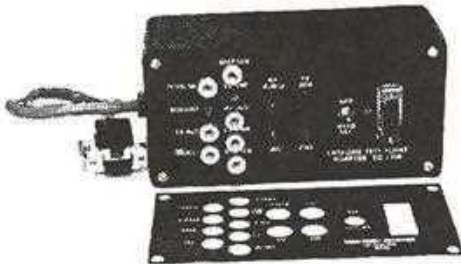
for
CARFONE™ Mobile Units



RECOMMENDED LIST OF ITEMS

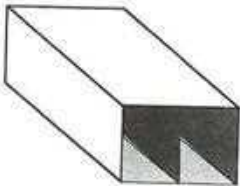
ORDERING NO.	DESCRIPTION
TQ2356	Test Point Adapter Box
19A702104P1	Service Jumper
19C851493P1	Service Extension Cable
ST2514	Tuning Tool
19A704826P1	Tuning Tool
ST0618	TORX®T15-H Screwdriver
ST0720	TORX® Screwdriver Set
ST2304	Torque Wrench Set

DESCRIPTION OF SERVICING ACCESSORIES



TQ2356 Test Point Adapter Box furnishes access to Transmitter and Receiver Audio Inputs and Outputs for testing without having to open the radio unit

ST2304 is an adjustable Torque Wrench Kit, utilizing 1/4" square drive Sockets, for tightening nuts on stud-mounted transistors to the proper torque. It includes sockets for #8 and # 10 Nuts.



19A702104P1 Service Jumper is used to short J6 on the Logic Board to set up self-test using the standard handset.

19C851493P1 Service Extension Cable allows working on and testing the Audio board while the radio is operating.



19A704826P1 Tuning Tool is useful in adjusting the variable capacitors and resistors on the Audio and RF boards.



ST2514 Tuning Tool is required for adjustments of Receiver Coils



PRODUCT LINE SERVICING ACCESSORIES
for
CMX™ Mobile Units



RECOMMENDED LIST OF ITEMS

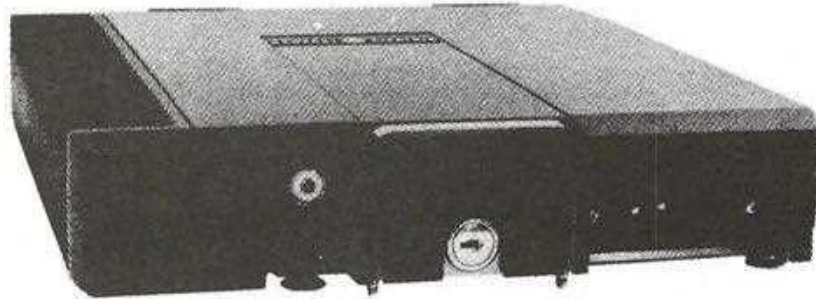
ORDERING NO.	DESCRIPTION
TQ2348	Radio Programming Software
TQ2347	Radio Programming Cable
TQ2310	Universal Radio Programmer
SPK038	Video Training Package

DESCRIPTION OF SERVICING ACCESSORIES

Standardized descriptions apply to the items listed above.

PRODUCT LINE SERVICING ACCESSORIES

DELTA™ S-SX Mobile Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
TQ2317	Radio Programming Software
TQ2358	Radio Programming Cable
TQ2310	Universal Radio Programmer
4EX3A11	Metering Test Set
19C850590G1	Metering Cable (Delta)
ST2510	Tuning Tool
ST2518	Tuning Tool

DESCRIPTION OF SERVICING ACCESSORIES



The **TM1C** ordering number includes both the 4EX3A11 Metering Test Set and the 19C850590G1 Delta Metering Cable, both of which may be ordered separately.

ST2304 is an adjustable Torque Wrench Kit, utilizing 1/4" square drive Sockets, for tightening nuts on stud-mounted transistors to the proper torque. It includes sockets for #8 and # 10 Nuts.



ST2304

PRODUCT LINE SERVICING ACCESSORIES

MCS™ ^{for} Mobile Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
TQ3317	Radio PC Programming Software
TQ3314	Radio PC Programming Cable
TQ3310	PC Programming Interface Adapter
TQ2356	Test Point Adapter Box
19A704875P1	Extension Cable
SPK051 & SPK052	Video Training Packages

DESCRIPTION OF SERVICING ACCESSORIES



TQ2356 Test Point Adapter Box furnishes access to Transmitter and Receiver Audio Inputs and Outputs for testing without having to open the radio unit

19A704875P1 This Extension Cable allows easier testing of the Audio Board while removed from the radio.



PRODUCT LINE SERVICING ACCESSORIES

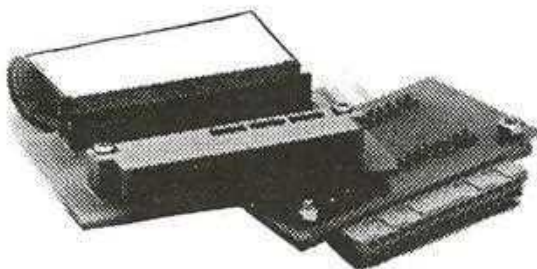
for
MLS™ Mobile Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
TQ2349	Radio Programming Software
TQ2347	Radio Programming Cable
TQ2310	Universal Radio Programmer
SPK045/SPK046	Video Training Packages
ST3558	Extension Cable

DESCRIPTION OF SERVICING ACCESSORIES



ST3558 Extension Cable allows the unit to be operated with the Systems Control #2 board slightly removed from its normal operating location for testing.

PRODUCT LINE SERVICING ACCESSORIES

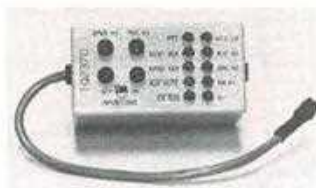
for
MVS™ Mobile Units

RECOMMENDED LIST OF ITEMS



ORDERING NO.	DESCRIPTION
TQ2370	Test Point Adapter Box
19A704875P1	Extension Cable
19A705235P2	Extension Cable
19B801348P4	Service Extension Cable
ST2304	Torque Wrench Kit
ST3712	Contact Extractor Tool
SPK053 & SPK054	Video Training Packages
TQ3310	PC Programming Adapter
TQ3318	PC Programming Software
TQ3315	PC Programming Cable

DESCRIPTION OF SERVICING ACCESSORIES



TQ2370 Test Point Adapter Box furnishes access to Transmitter and Receiver Audio Inputs and Outputs for testing without having to open the radio unit

ST2304 is an adjustable Torque Wrench Kit, utilizing 1/4" square drive Sockets, for tightening nuts on stud-mounted transistors to the proper torque. It includes sockets for #8 and # 10 Nuts.



ST2304



19C851493P1 Service Extension Cable allows working on and testing the Audio board while the radio is operating.



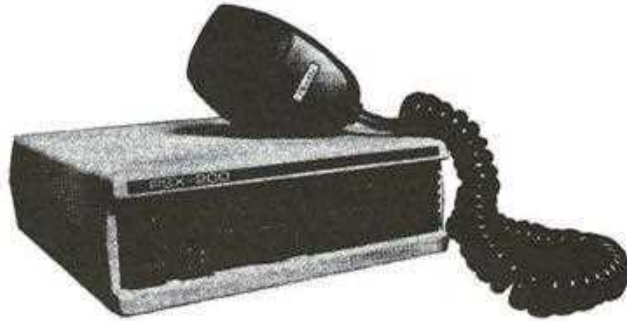
19A704826P1 Tuning Tool is useful in adjusting the variable capacitors and resistors on the Audio and RF boards.



ST3712 Contact Extractor Tool is required for changing wire/contacts for options in the System Connector

PRODUCT LINE SERVICING ACCESSORIES

PHOENIX™ S-SX ^{for} Mobile Units



RECOMMENDED LIST OF ITEMS

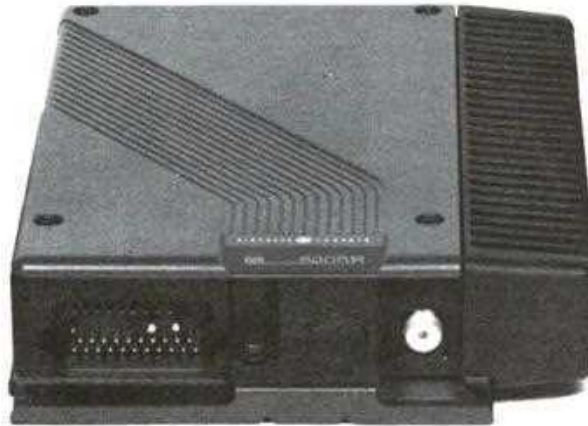
ORDERING NO.	DESCRIPTION
TQ2314	Radio Programming Software
TQ2347	Radio Programming Cable
TQ2310	Universal Radio Programmer
SPK031 & SPK032	Video Training Packages
ST2513	Tuning Tool
ST2518	Tuning Tool

DESCRIPTION OF SERVICING ACCESSORIES

Standardized Accessory descriptions apply.

PRODUCT LINE SERVICING ACCESSORIES

RANGR™ ^{for} Mobile Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
TQ2357	Radio Programming Software
TQ2358	Radio Programming Cable
TQ2310	Universal Radio Programmer
SPK039/SPK040	Video Training Packages
B19/MPTC00003	Tuning Tool

DESCRIPTION OF SERVICING ACCESSORIES



B19/MPTC00003

Tuning Tool is used for various receiver tuning adjustments.

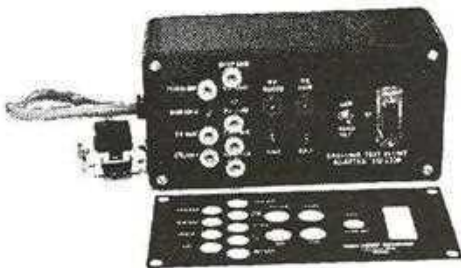
PRODUCT LINE SERVICING ACCESSORIES
 for
TMX™ 8210-8310-8510 Mobile Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
TQ2350	Radio Programming Software
TQ2351	Radio Programming Cable
TQ2310	Universal Radio Programmer
SPK041	Video Training Packages
TQ2356	Test Point Adapter Box
19A704950P1	Handset

DESCRIPTION OF SERVICING ACCESSORIES



TQ2356 Test Point Adapter Box furnishes access to Transmitter and Receiver Audio Inputs and Outputs for testing without having to open the radio unit. The basic adapter unit is the same as used for the CARFONE unit, except that the TMX application uses an TP overlay.

19A704950P1 Handset is used as a Testset to place the radio into the test mode, and to send test commands to the radio.



PRODUCT LINE SERVICING ACCESSORIES

for
TMX™ 8415-8615-8630 Mobile Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
TQ2346	Radio Programming Software
TQ2347	Radio Programming Cable
TQ2310	Universal Radio Programmer
SPK036 & SPK037	Video Training Packages

DESCRIPTION OF SERVICING ACCESSORIES

Standardized descriptions apply to the items listed above.

PRODUCT LINE SERVICING ACCESSORIES

for
m-PD™ PERSONAL RADIO



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
ST2521	TUNING TOOL
ST3559	RF ANT ADAPTER
K19/A4WX01566	RF CONNECTOR
K19/A4WX01604	DISCHARGE ANALYZER
K19/A4WX01605	CHECKER-1
K19/A4WX01509	TEST FIXTURE
K19/A4WX01543	DUMMY BATTERY
K19/A4WX01542	UDC/RF TEST CABLE
K19/A4WX01544	RF/LOGIC EXTENDER CABLE
K19/A4WX01504	UDC CONNECTOR KIT
ST0165	Temp Controlled Solder Station
TQ2310	Universal Radio Programmer
TQ2318	RS-232 Interface Module
TQ2325	RS-232 Module Software
TQ2326	RS-232 Interface Cable
TQ2360	Radio Programming Software
TQ2362	Programming Interface & Cable

DESCRIPTION OF SERVICING ACCESSORIES



ST2521 is a TUNING TOOL for all alignment adjustments required in the MPD Portables.

ST3559 RF ANTENNA ADAPTER furnishes a BNC-Female connection to the Antenna Jack on top of MPD portables for power or sensitivity measurements, or for connection to an external Antenna.



K19/A4WX01566 RF CONNECTOR allows connection to the MPD radio RF Input/Output when the unit is open for testing.

PRODUCT LINE SERVICING ACCESSORIES

m-PD^{for}™ PERSONAL RADIO

DESCRIPTION OF SERVICING ACCESSORIES

K19/A4WX01604 DISCHARGE ANALYZER
is used by servicing personnel to measure the capacity of
MPD Rechargeable NiCd Batteries.



K19/A4WX01605 CHECKER-1
is a device used in troubleshooting MPD
Rapid Chargers.

K19/A4WX01509 TEST FIXTURE allows servicing
MPD units when the unit needs to be opened for service.
Receiver and Transmitter Test Points are terminated in Test
Jacks and certain function switches are provided.



K19/A4WX01543 DUMMY BATTERY allows the
Service Personnel to measure RF power output and
Receiver measurements while the radio is connected to a
Bench Power Supply, rather than to a battery.

K19/A4WX01542 UDC/RF TEST CABLE is terminated
in a BNC-Female, connected to the radio antenna connection on the
radio UDC Jack. This test cable allows Transmitter or Receiver
measurements made to the UDC. It also allows connection for use
with external antennas.



**K19/A4WX01544 RF/LOGIC EXTENDER
CABLE** allows the operation and testing of radios with the
unit open and the logic board separated from the RF
Assembly.

K19/A4WX01504 UDC CONNECTOR KIT can
connect to RF, TX, RX, or PTT connections on the UDC.
Could be used to terminate speaker/mike /antenna cable.



PRODUCT LINE SERVICING ACCESSORIES

for
MPI™ Portable Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
4EX12A12	Test Box
19B234242G1	T.B. Adapter Cable (B-Case)
19B234242G2	T.B. Adapter Cable (C-Case)
19D900773G1	Dummy Battery, 7.5V
19D900773G2	Dummy Battery, 10V
19B801406P57	Test Cable (Qty 2)
19A144745G1	Test Cable
19B800968G1	Test Probe
19A702672P1	Test Lead
19A702672P2	Test Lead
SPK033	Video Training Package
ST2519	Alignment Tool
ST2520	Alignment Tool
ST2521	Alignment Tool
ST2311	Spanner Wrench
ST2312	Spanner Wrench
	or
ST2313	Spanner Kit Includes ST2311&12

DESCRIPTION OF SERVICING ACCESSORIES



4EX12A12 Test Adapter Box furnishes access to Transmitter and Receiver Audio Inputs and Outputs for testing without having to open the radio unit. Use requires either 19B234242G1 (Earlier B-Case units) or 19B234242G2 (Later model C-Case units) Test Box Adapter Cables.

19D900773G1 (7.5V)/ 19D900773G2 (10 V)

DUMMY BATTERIES allow test of MPI units without draining the charge from the unit's storage battery. The Dummy Battery is connected to a regulated power source using the 19A702672 Test Leads.



19A702672P1, -P2 Test Leads: Used to connect the appropriate Dummy Battery to a regulated power supply.

PRODUCT LINE SERVICING ACCESSORIES

MPI™ ^{for} Portable Units

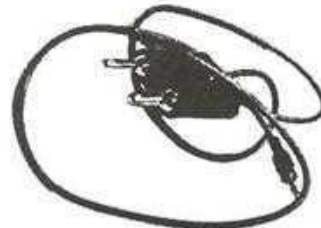
DESCRIPTION OF SERVICING ACCESSORIES

19B800968G1 Test Cable is used as an RF Detector Probe in analyzing the MPI portables.



19B801406P57 Test Cable (A QUANTITY OF TWO IS REQUIRED) are used as gold contact extension cables to allow the operation of an MPI with the front cover separated from the rest of the radio. Older, tin-plated contact models used the Test Cable 19B800747P3 (qty = 2) for the same purpose.

19A144745G1 Test Cable is used as an audio input/output medium in analyzing the MPI portables.



ST2311 Spanner Wrench for slotted MPI Volume Control Nut.



ST2312 Spanner Wrench for slotted MPI Audio Jack Nut.

ST2313 Spanner Wrench kit includes both the **ST2311** and **ST2312** in one order number.

PRODUCT LINE SERVICING ACCESSORIES

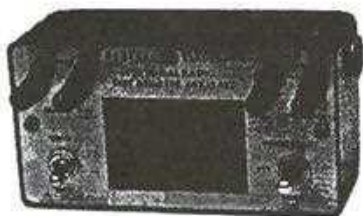
MPR™ & MPX™ Portable Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
4EX12A12	Test Box
19C330221G2	T.B. Adapter Cable
19C232472G1	RF Antenna Adapter
4EX16A10	Test Amplifier
19C311370G1	Test Probe
19C328969G1	Dummy Battery, STANDARD
19C328969G2	Dummy Battery, INTRINSICALLY SAFE
19A702672P1	Test Lead
19A702672P2	Test Lead
ST2517	Alignment Tool
ST2307	Spanner Wrench
ST2308	Spanner Wrench
	or
ST2309	Spanner Kit Includes ST2308&09
ST0720	TORX Driver Kit
19B233330G2	Ejector Tool (MPR)

DESCRIPTION OF SERVICING ACCESSORIES



4EX12A12 Test Adapter Box furnishes access to Transmitter and Receiver Audio Inputs and Outputs for testing without having to open the radio unit. Use requires 19C330221G2 Test Box Adapter Cable.

19B232472G1 RF ANTENNA ADAPTER furnishes a BNC-Female connection to the Antenna Jack on the side of MPR and MPX portables for power or sensitivity measurements, or for connection to an external Antenna.



4EX16A10 Test Amplifier and Probe 19C311370G1 are used for stage gain measurements in the MPR & MPX Portables. These items are used in conjunction with a standard DC voltmeter to serve the function of RF Voltmeter.

PRODUCT LINE SERVICING ACCESSORIES

MPR™ & MPX™^{for} Portable Units

DESCRIPTION OF SERVICING ACCESSORIES

19C328969G1 (Standard) 19C328969G2 (I/S)

DUMMY BATTERIES allow test of MPR or MPX radio units without draining the charge from the unit's storage battery. The Dummy Battery is connected to a regulated power source using the 19A702672 Test Leads



19A702672P1, -P2 Test Leads: Used to connect the appropriate Dummy Battery to a regulated power supply.

ST2307 Spanner Wrench for slotted MPR/MPX/MPS Volume Control Nut. **ST2308** Spanner Wrench for slotted MPR/MPX/MPS UDC Audio Jack Nut.

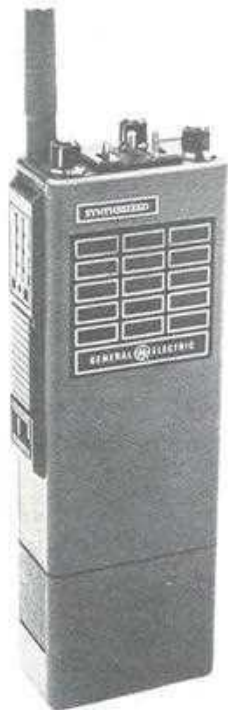
ST2309 Spanner Wrench kit includes both the **ST2307** and **ST2308** in one ordering number.



19B234436G1 EJECTOR TOOL is useful in pushing the plug-in module pins out of the systems board on MPR units.

PRODUCT LINE SERVICING ACCESSORIES

for
MPS™ Portables Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
4EX12A12	Test Box
19C330221G2	T.B. Adapter Cable
19C328969G1	Dummy Battery, STANDARD
19C328969G2	Dummy Battery, INTRINSICALLY SAFE
19A144745G1	Test Cable
19B800968G1	Test Probe
19A702672P1	Test Lead
19A702672P2	Test Lead
ST2519	Alignment Tool
ST2520	Alignment Tool
ST2521	Alignment Tool
ST2307	Spanner Wrench
ST2308	Spanner Wrench
	or
ST2309	Spanner Kit Includes ST2308&09
ST0720	TORX Driver Kit
19B233330G2	Ejector Tool

DESCRIPTION OF SERVICING ACCESSORIES



4EX12A12 Test Adapter Box furnishes access to Transmitter and Receiver Audio Inputs and Outputs for testing without having to open the radio unit. Use requires 19C330221G2 Test Box Adapter Cable.

19B232472G1 RF ANTENNA ADAPTER furnishes a BNC-Female connection to the Antenna Jack on the side of MPS portables for power or sensitivity measurements, or for connection to an external Antenna.



4EX16A10 Test Amplifier and Probe 19C311370G1 are used for stage gain measurements in the MPS Portables. These items are used in conjunction with a standard DC voltmeter to serve the function of RF Voltmeter.

PRODUCT LINE SERVICING ACCESSORIES

MPS™ ^{for} Portable Units

DESCRIPTION OF SERVICING ACCESSORIES

19A702672P1, -P2 Test Leads: Used to connect the appropriate Dummy Battery to a regulated power supply.



19C328969G1 (St'd) 19C328969G2 (I/S)

DUMMY BATTERIES allow test of MPR or MPX radio units without draining the charge from the unit's storage battery. The Dummy Battery is connected to a regulated power source using the 19A702672 Test Leads

ST2307 Spanner Wrench for slotted MPR/MPX/MPS Volume Control Nut. **ST2308** Spanner Wrench for slotted MPR/MPX/MPS UDC Audio Jack Nut. **ST2309** Spanner Wrench kit includes both the **ST2307** and **ST2308** in one ordering number.



19B234436G1 EJECTOR TOOL is useful in pushing the plug-in module pins out of the systems board on MPR units.

PRODUCT LINE SERVICING ACCESSORIES

PLS™ ^{for} Portable Units

RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
ST2521	TUNING TOOL
K19/A4WX01566	RF CONNECTOR
K19/A4WX01604	DISCHARGE ANALYZER
K19/A4WX01605	CHECKER-1
K19/A4WX01509	TEST FIXTURE
K19/A4WX01543	DUMMY BATTERY
K19/A4WX01544	RF/LOGIC EXTENDER CABLE
ST0165	Temp Controlled Solder Station
TQ2310	Universal Radio Programmer
TQ2361	Radio Programming Software
TQ2368	Programming Interface & Cable
SPK047+SPK048	Video Traing Packages

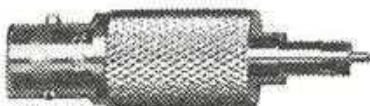


DESCRIPTION OF SERVICING ACCESSORIES



ST2521 is a TUNING TOOL for all alignment adjustments required in the PLS Portables.

K19/A4WX01544 RF/LOGIC EXTENDER CABLE allows the operation and testing of radios with the unit open and the logic board separated from the RF Assembly.



K19/A4WX01566 RF CONNECTOR allows connection to the PLS radio RF Input/Output when the unit is open for testing.

PRODUCT LINE SERVICING ACCESSORIES

for
PLS™ Portable Units

DESCRIPTION OF SERVICING ACCESSORIES

K19/A4WX01604 DISCHARGE ANALYZER
is used by servicing personnel to measure the capacity
of TPX Rechargeable NiCd Batteries.



K19/A4WX01605 CHECKER-1
is a device used in troubleshooting TPX
Rapid Chargers.

K19/A4WX01509 TEST FIXTURE allows servicing PLS
units when the unit needs to be opened for service. Receiver and
Transmitter Test Points are terminated in Test Jacks and certain
function switches are provided.



K19/A4WX01543 DUMMY BATTERY allows the
Service Personnel to measure RF power output and
Receiver measurements while the radio is connected to a
Bench Power Supply, rather than to a battery.

PRODUCT LINE SERVICING ACCESSORIES

TPX™ ^{for} Portable Units

RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
ST2521	TUNING TOOL
ST3559	RF ANT ADAPTER
K19/A4WX01566	RF CONNECTOR
K19/A4WX01604	DISCHARGE ANALYZER
K19/A4WX01605	CHECKER-1
K19/A4WX01509	TEST FIXTURE
K19/A4WX01543	DUMMY BATTERY
K19/A4WX01542	UDC/RF TEST CABLE
K19/A4WX01544	RF/LOGIC EXTENDER CABLE
K19/A4WX01504	UDC CONNECTOR KIT
K19/A4WX01541	UDC TEST CABLE
ST0165	Temp Controlled Solder Station
TQ2310	Universal Radio Programmer
TQ2364	Radio Programming Software
TQ2367	Programming Interface & Cable
SPK049+SPK050	Video Training Packages

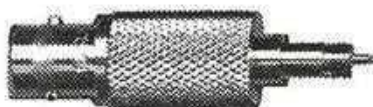
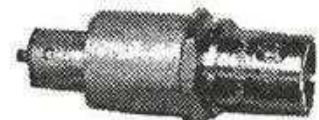


DESCRIPTION OF SERVICING ACCESSORIES



ST2521 is a TUNING TOOL for all alignment adjustments required in the TPX Portables.

ST3559 RF ANTENNA ADAPTER furnishes a BNC-Female connection to the Antenna Jack on top of TPX portables for power or sensitivity measurements, or for connection to an external Antenna.



K19/A4WX01566 RF CONNECTOR allows connection to the TPX radio RF Input/Output when the unit is open for testing.

PRODUCT LINE SERVICING ACCESSORIES

TPX™ ^{for} Portable Units

DESCRIPTION OF SERVICING ACCESSORIES

K19/A4WX01604 DISCHARGE ANALYZER is used by servicing personnel to measure the capacity of TPX Rechargeable NiCd Batteries.



K19/A4WX01605 CHECKER-1 is a device used in troubleshooting TPX Rapid Chargers.

K19/A4WX01509 TEST FIXTURE allows servicing TPX units when the unit needs to be opened for service. Receiver and Transmitter Test Points are terminated in Test Jacks and certain function switches are provided.



K19/A4WX01543 DUMMY BATTERY allows the Service Personnel to measure RF power output and Receiver measurements while the radio is connected to a Bench Power Supply, rather than to a battery.

K19/A4WX01542 UDC/RF TEST CABLE is terminated in a BNC-Female, connected to the radio antenna connection on the radio UDC Jack. This test cable allows Transmitter or Receiver measurements made to the UDC. It also allows connection for use with external antennas.



K19/A4WX01544 RF/LOGIC EXTENDER CABLE allows the operation and testing of radios with the unit open and the logic board separated from the RF Assembly.

K19/A4WX01504 UDC CONNECTOR KIT can connect to RF, TX, RX, or PTT connections on the UDC. Could be used to terminate speaker/mike /antenna cable.



PRODUCT LINE SERVICING ACCESSORIES

MASTR™ II ^{for} Station Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
ST2304	Torque Wrench Kit
ST2508	Tuning Tool
ST2509	Tuning Tool
ST2512	Tuning Tool

DESCRIPTION OF SERVICING ACCESSORIES



ST2304

ST2304 is an adjustable Torque Wrench Kit, utilizing 1/4" square drive Sockets, for tightening nuts on stud-mounted transistors to the proper torque. It includes sockets for #8 and # 10 Nuts.

PRODUCT LINE SERVICING ACCESSORIES

DELTA™ ^{for} Station Units



RECOMMENDED LIST OF ITEMS

ORDERING NO.	DESCRIPTION
TQ2317	Radio Programming Software
TQ2358	Radio Programming Cable
TQ2310	Universal Radio Programmer
4EX3A11	Metering Test Set
19C850590G1	Metering Test Cable (Delta)
ST2304	Torque Wrench Kit
ST2510	Tuning Tool
ST2518	Tuning Tool

DESCRIPTION OF SERVICING ACCESSORIES

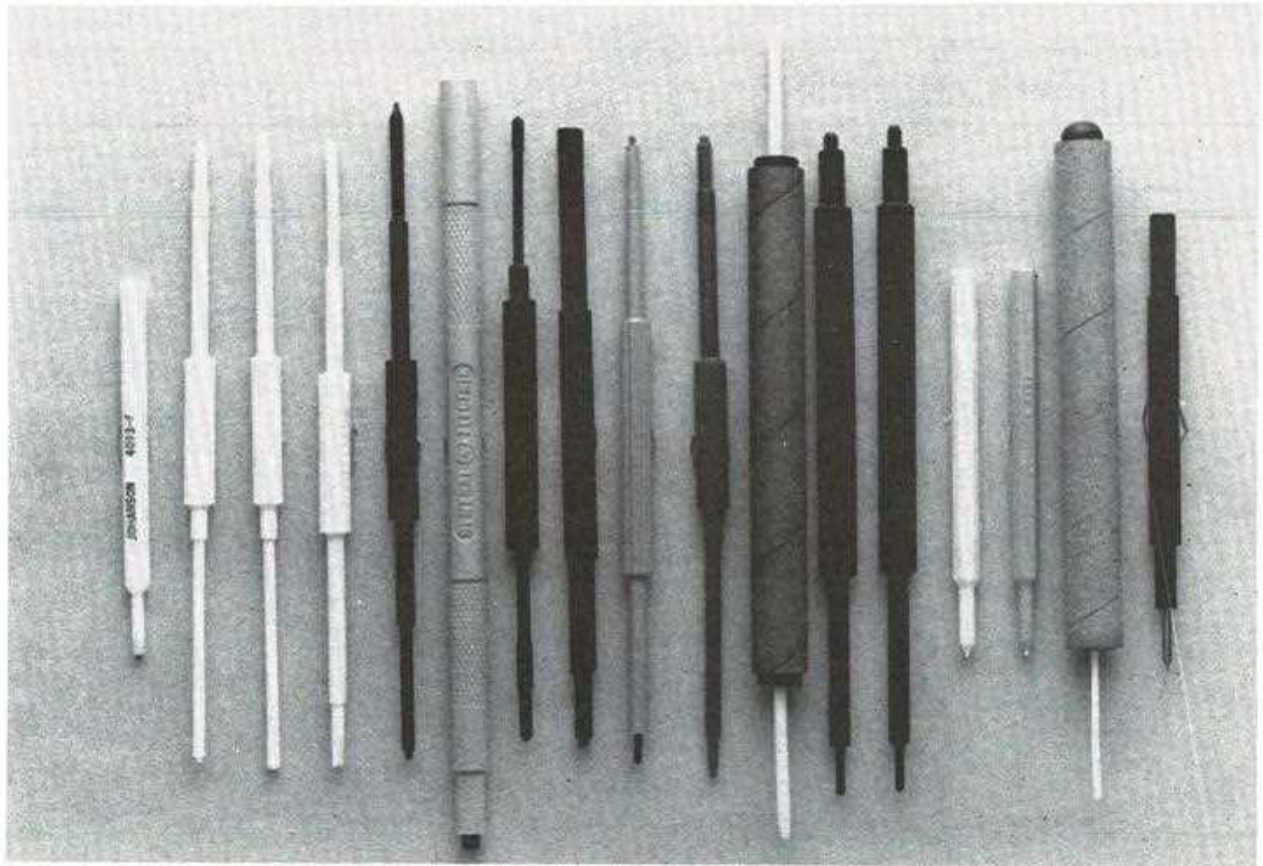


The **TM1C** ordering number includes both the 4EX3A11 Metering Test Set and the 19C850590G1 Delta Metering Cable, both of which may be ordered separately.

ST2304 is an adjustable Torque Wrench Kit, utilizing 1/4" square drive Sockets, for tightening nuts on stud-mounted transistors to the proper torque. It includes sockets for #8 and # 10 Nuts.



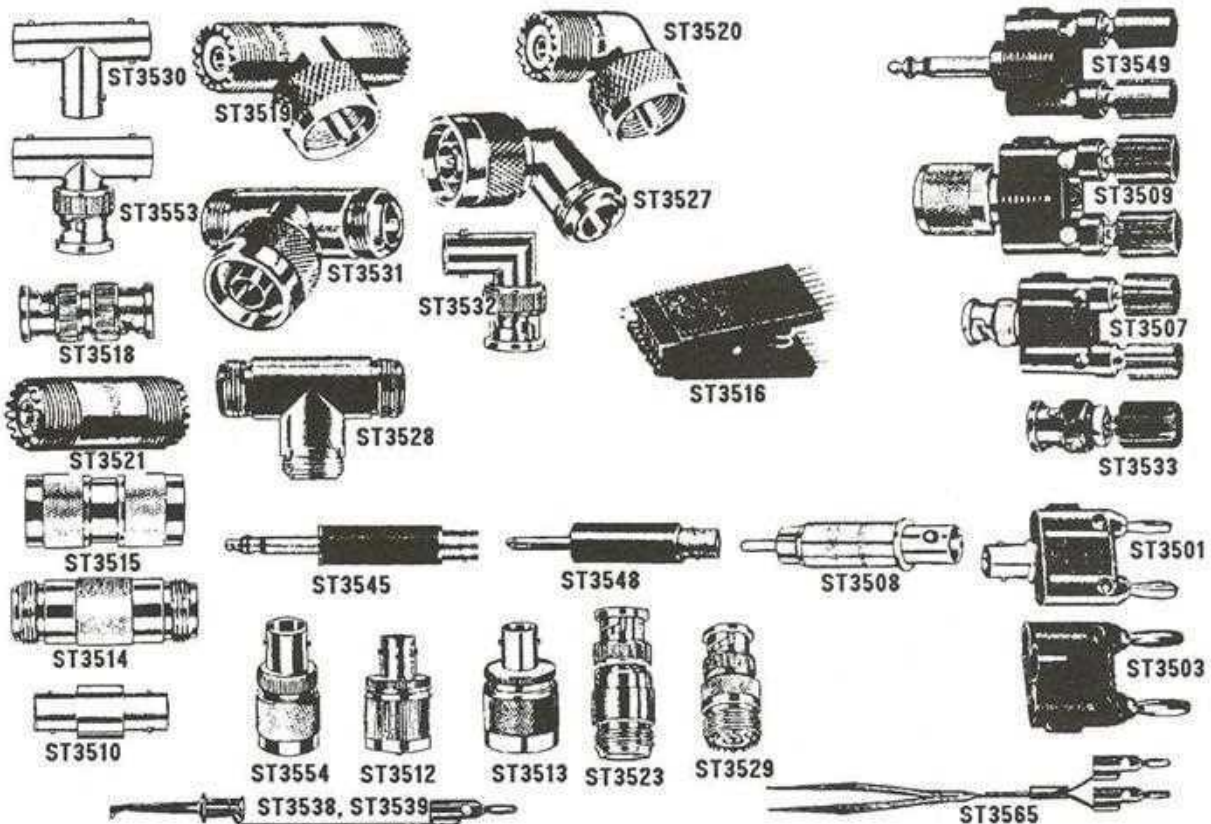
ST2304



ST2501 02 03 05 06 07 08 09 10 11 13 14 18 19 20 21

TUNING , ALLIGNMENT, AND ADJUSTMENT TOOLS

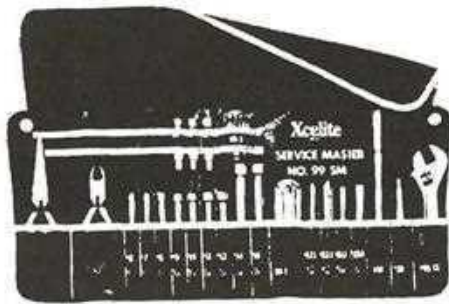
- | | |
|--|---|
| <p>ST2501 Alignment tool, .029" sq metal tip</p> <p>ST2502 Alignment Tool, White Plastic, For Voice Commander, Voice Director, Message Mate, etc. One end hex, other flat blade. 5"Long</p> <p>ST2503 Alignment Tool, White Plastic, One Long Hex, One Short Hex, for top and bottom slugs inearly transistorized GE Radios</p> <p>ST2504 Alignment Tool, White Plastic, One end hex , other end .15"wide flat blade. MASTR Exec & PM-I.</p> <p>ST2505 Alignment Tool, White Plastic, Flat Blade and Forked Blade.For PR Personals.</p> <p>ST2506 Alignment Tool, Black Plastic, Flat Blade and Tapered FlatBlade for AHO/PE Receivers.</p> <p>ST2507 Alignment Tool, gray plastic. "Standard" tool with metal insert blades both ends.</p> <p>ST2508 Alignment Tool, Black Plastic, Hex Both ends. For MII, EII, and Custom MVP.</p> <p>ST2509 Alignment Tool, Black Plastic, Two Metal Insert Blades for MII, EII, C-MVP.</p> <p>ST2510 Alignment Tool, Gray Plastic, Metal Hex and Metal Flat Blade for PE's.</p> | <p>ST2511 Alignment Tool, White Plastic. For early Transistorized receivers</p> <p>ST2512 Alignment Tool, Plastic, for tuning VCO's in Synthesized Radios.</p> <p>ST2513 Alignment Tool, Ceramic Tips. Fibre Handle with tapered and flat blades. Similar to 19A702903P1.</p> <p>ST2514 Alignment Tool for slugs with 1.57mm square hole.(Replaced by ST2518)</p> <p>ST2518 Alignment Tool for Tuning Slugs with 1.5mm square holes. For DELTA applications.</p> <p>ST2519 Alignment Tool for Adjustable Capacitors Requiring 0.737mm Square Adjustment Tool.</p> <p>ST2520 Alignment Tool for Adjustable Capacitors requiring 0.635mm Square Adjustment Tool.</p> <p>ST2521 ALLIGNMENT TOOL FOR MPI OSCILLATOR COILS. Same as 19A702903P2</p> <p>ST2522 GC 8608 Allignment Tool for S950 Control Unit adjustment.</p> <p>ST2523 Adjusting tool for Cellular/Classic II Handset Intensity setting Potentiometer</p> |
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AUDIO & RF CONNECTORS, ADAPTERS AND TEST CABLES

- ST3501 Adapter, BNC Female to Double Banana Plug.
- ST3502 Connector, Sim to PL259, with unthreaded outer shell, Push On.
- ST3503 Double Banana Plug, Black
- ST3504 Red Banana Tip Plug
- ST3505 Black Banana Tip Plug
- ST3506 Adapter, UHF Female to Phono Male
- ST3507 Adapter, Binding Post to BNC Male
- ST3508 Adapter, BNC Female to Phono Male
- ST3509 Adapter, Binding Post to UHF Male
- ST3510 Adapter, BNC Female to BNC Female, sim to UG-914/U
- ST3511 Adapter BNC "TEE", sim to UG-274A/U
- ST3512 Adapter, UHF Male to BNC Female, sim to UG-273/U
- ST3513 Adapter, BNC Female to Type N Male, sim to UG-201A/u
- ST3514 Adapter, Type N Female Barrel, sim to UG-29/U
- ST3515 Adapter, Type N, Double Male, sim to UG-57B/U
- ST3516 IC Test Clip, for 14/16 Pin DIP IC'S
- ST3517 Test Lead Holder, for cable diams up to .21", mounts to vertical surface
- ST3518 Adapter, BNC double male, in-line, sim to UG-491A/U
- ST3519 Adapter, UHF "TEE", sim to M-358
- ST3520 Adapter, UHF Right Angle, sim to M-359
- ST3521 Adapter, UHF Female Barrel, sim to PL-258
- ST3522 Adapter, UHF Male to Type N Female, sim to UG-83B/U
- ST3526 Adapter, Phono Barrel, female to female.
- ST3527 Adapter, Type N Right Angle, sim to UG-27B/U.
- ST3528 Adapter, Type N all Female, sim to UG-28A/U
- ST3529 Adapter, BNC Male to UHF Female, sim to UG255/U.
- ST3530 Adapter, BNC "TEE", all female
- ST3531 Adapter, Type N "TEE", 2 Female, 1 Male, sim to UG-107B/U.
- ST3532 Adapter, BNC Right Angle, sim to UG-306A/U
- ST3533 Adapter, Binding Post to BNC Plug.
- ST3534 Banana Jack, In-line, Red
- ST3535 Banana Jack, In-line, Black
- ST3538 Red Test Lead with EZ Hook, Banana Plug.
- ST3539 Black Test Lead with E-Z Hook and Black Banana Plug.
- ST3540 RF Extension cable for servicing Porta-Mobile II transmitters with PA extended from System Board. Includes 1 Pair Cables.
- ST3541 Conversion Cord, 310/Bantam 6 foot long. ADC PJ-946.
- ST3542 5' Conversion Cord. Bantam to BNC.
- ST3543 6' Dual Bantam Patch Cord.
- ST3544 Dual Bantam Patch Cord. Two foot long.
- ST3545 Adapter Plug, 310/Bantam
- ST3546 Coaxial Patch Cable. BNC/BNC, 5 foot.
- ST3547 Alligator/310 Conversion Cord. 7 ft.
- ST3548 Conversion Plug, Bantam/ BNC(F)
- ST3549 Adapter Plug, Double Banana to 310 Connector.
- ST3550 BNC/Double Banana Plug, 5' conversion cord.
- ST3551 Five Foot Conversion cord. Bantam to Double Banana Plug.
- ST3553 BNC Tee -connector. F-M-F. Sim to Pomona 3285.
- ST3554 Connector Adapter, BNC Female to TNC Male.
- ST3555 Patch Cable, 5' long, TNC-BNC connectors
- ST3556 Patch Cable, 5' long, Type N Mall conns
- ST3558 Extender Cable for use with MLS Servicing.
- ST3565 Pomona Test Tweezer to single stacking banana plugs. For SMD Component Measurements

(Not all items had pictures available)



ST0201



ST0324



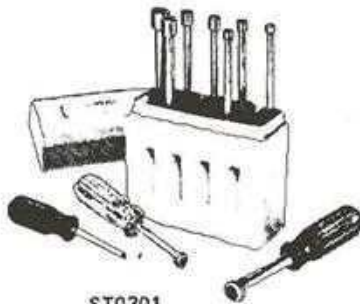
ST0501-ST0508



ST0506



ST0601, ST0602
ST0603, ST0604



ST0301



ST0312



ST0202

SERVICE MASTER TOOL KIT

ST0201 99SM XCELITE® SERVICE MASTER TOOL SET. 23 pieces wrapped in a tool roll.

JEWELER'S SCREWDRIVER KIT

ST0202 M60 Xcelite Mini Driver Kit 5 jeweler's type slotted and one #00 Phillips point with color coded handles.

NUT DRIVERS

- ST0301 Set of ten HS Nutdrivers w/ plastic standup case. Includes HS6, 7, 8, 9, 10, 11, 12, 14, 16, 18.
- ST0302 3/16" Nutdriver, HS-6
- ST0303 7/32" Nutdriver, HS-7
- ST0304 1/4" Nutdriver, HS-8
- ST0305 9/32" Nutdriver, HS-9.
- ST0306 5/16" Nutdriver, HS-10
- ST0307 11/32" Nutdriver, HS-11.
- ST0308 3/8" Nutdriver, HS-12.
- ST0309 7/16" Nutdriver HS-14.
- ST0310 1/2" Nutdriver HS-16.
- ST0311 9/16" Nutdriver, HS-18.

MIDGET NUT-DRIVERS

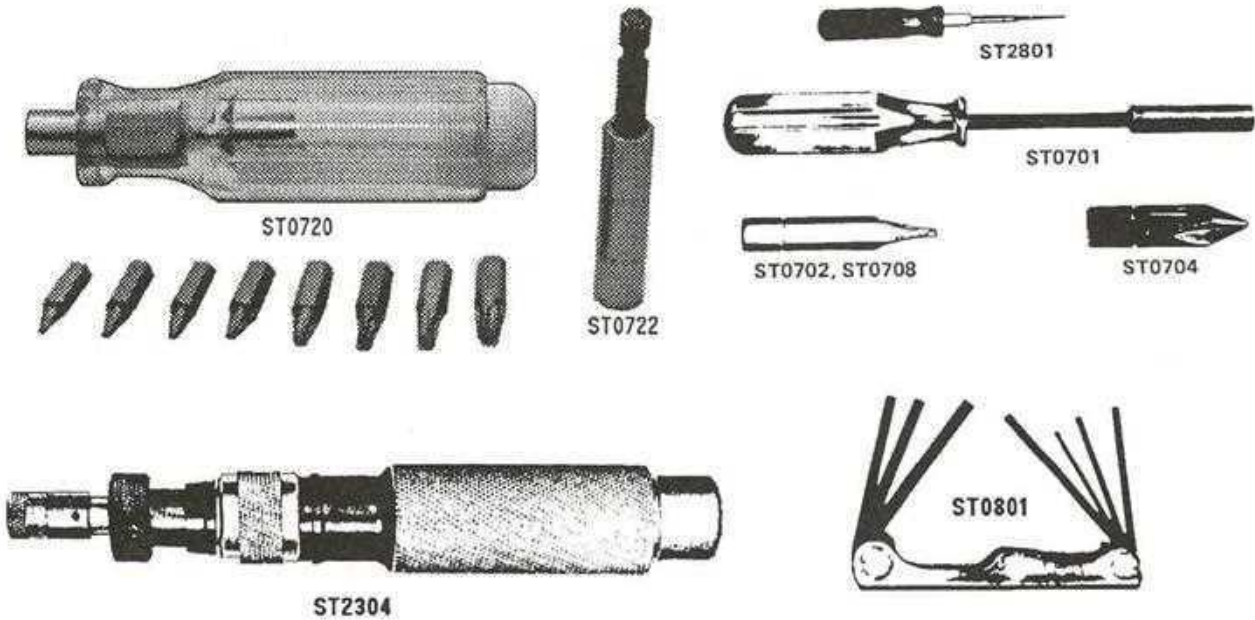
- ST0312 Set of ten Midget Nutdrivers. With torque amplifier handle and stand-up plastic case.
- ST0313 3/32" Midget Nutdriver.
- ST0314 Midget 1/8" Nutdriver, P-4.
- ST0315 5/32" Midget Nutdriver.
- ST0316 3/16" Midget Nutdriver.
- ST0317 7/32" Midget Nutdriver.
- ST0318 1/4" Midget Nutdriver.
- ST0319 9/32" Midget Nutdriver
- ST0320 5/16" Midget Nutdriver.
- ST0321 11/32" Midget Nutdriver.
- ST0322 3/8" Midget Nutdriver
- ST0327 3mm Midget Nutdriver
- ST0323 Torque Amplifier Handle. Use with midget Nutdrivers.
- ST0324 Long Handle 1/4" Nutdriver.
- ST0325 7mm Nutdriver.
- ST0326 5 mm Nutdriver.

SLOTTED SCREWDRIVERS

- ST0501 Slotted Screwdriver, Rnd shank, 3/16" x 4" Blade.
- ST0502 Slotted Screwdriver, Rnd shank, 3/16" x 6" Blade.
- ST0503 Slotted Screwdriver, Rnd shank, 3/16" x 8" Blade.
- ST0504 Slotted Screwdriver, Rnd shank, 1/4" x 4" Blade.
- ST0505 Slotted Screwdriver, Rnd shank, 1/4" x 6" Blade.
- ST0506 Slotted Screwdriver, Square shank, 1/4" x 1".
- ST0507 Slotted Screwdriver, Round shank, 1/8" x 3" Blade.
- ST0508 Slotted Screwdriver, Round shank, 1/8" x 10" Blade.

SCREWDRIVERS FOR PHILLIPS, POZI-DRIV®, and TORX® Head Screws

- ST0601 #1 Phillips Screwdriver. Shank 3/16" x 3".
- ST0602 #2 Phillips Screwdriver. 1/4" x 4" shank.
- ST0603 #1 POZI-DRIV Screwdriver. 3/16" x 3" Blade
- ST0604 #2 POZI-DRIVScrewdriver 1/4" x 3" Blade.
- ST0605 #3 Phillips Screwdriver. 5/16" x 6" blade.
- ST0606 Torx T15 Screwdriver. Blade length 6-5/8" overall.
- ST0607 Torx T30 Screwdriver. Blade length 4-1/2"
- ST0608 Torx T10 Screwdriver. Blade length 3" . 6-5/8" overall.
- ST0609 Torx T20 Screwdriver. Blade length 3" 6-5/8" overall.
- ST0610 Torx T25 Screwdriver. Blade length 3" 6-5/8" overall.
- ST0611 Torx T27 Screwdriver. Blade length 4.5", 8-5/8" overall
- ST0612 Set of TORX Screwdrivers. Contains one ST0606, ST0607, ST0608, ST0609, ST0610 and ST0611.
- ST0613 Phillips #0 Point Screwdriver. 2" long blade, 1/8" Diam. shaft. Plastic handle 7/8" diameter by 2-5/8" long.
- ST0614 Screwdriver Handle TORX T7 Driver.
- ST0615 Screwdriver Handle TORX T8 Driver.
- ST0616 Screwdriver Handle TORX T6 Driver
- ST0617 TORX T-10-H Screwdriver.



MAGNETIC-TIP 1/4"HEX DRIVER/BITS

- ST0701 Magnetic Tip Screwdriver Handle, less points. 1/4" by 3-1/2" long blade. 1/4" hex drive.
- ST0702 3/16" Flat Blade Tip for ST0701. 3/16" x 2-3/4" long.
- ST0703 1/4" Flat Blade Tip for ST0701. 1/4" x 1" long tip.
- ST0704 #3 Phillips Tip for ST0701. 1/4" drive. 1" long.
- ST0705 #2 Pozidriv Mag Tip for ST0701. 2" long.
- ST0706 #1 Pozidriv Magnetic tip for ST0701. 2" Long.
- ST0707 Torx T7 Bit for 1/4"Hex Drive Magnetic Tip Screwdriver.
- ST0708 Torx T6 Bit for 1/4" Hex Drive Mag Tip Screwdriver.
- ST0709 5mm 1/4" Hex Drive Magnetic Screwdriver Bit.
- ST0710 Torx T15 Bit for 1/4" Hex Magnetic Tip Screwdriver
- ST0711 Torx T30 Bit for 1/4" Hex Magnetic tip screwdriver.
- ST0712 Torx T10 Bit for 1/4" Hex Mag Tip Screwdriver.
- ST0713 Torx T20 Bit for 1/4" Hex Magnetic Tip Screwdriver
- ST0714 Torx T25 Bit for 1/4" Hex Mag Tip Screwdriver.
- ST0715 Torx T27 Bit for 1/4" Hex Magetic Tip Screwdriver
- ST0716 Torx T8 Bit for 1/4" Hex Magnetic Tip Screwdriver.
- ST0717 Set of 9 TORX bits.Includes 1ea of ST0707, ST0708, ST0710, ST0711, ST0712, ST0713, ST0714,ST0715, ST0716 TORX 1/4"Hex Drive Bits
- ST0720 TORX Bit/Screwdriver handle set. Includes Hollow Handle, T10, T15, T20, T25, T27 & T30 Bits plus. ST0708 (T6), ST0707 (T7) and ST0716 (T8) bits.
- ST0721 TORX T-15-H Bit for 1/4" Hex Mag Tip Screwdriver.
- ST0722 2" long shaft extender for ST0720 Handle, to allow reaching deeper screw locations.

TAPPING TOOL

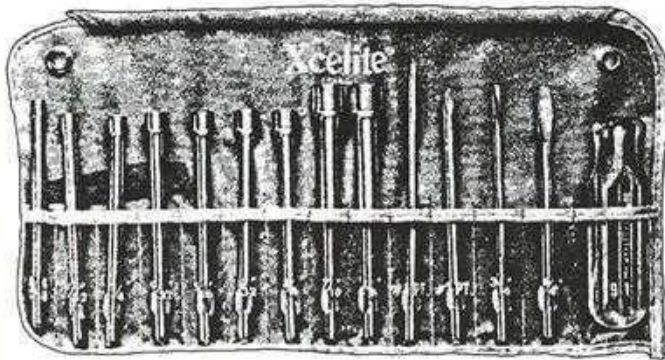
- ST2801 Multiple Tap Tool. Cleans and cuts thread sizes 6/32, 8/32, and 10/32. Replaceable blade.
- ST2802 Replacement Blades for ST2801. Multiple Tap 6/32, 8/32, and 10/32.
- ST2803 Steel Measuring Tape, for measuring Diameters. One side in consecutive 1/16"s. Other side diam. in 1/100"s.

HEX WRENCHES

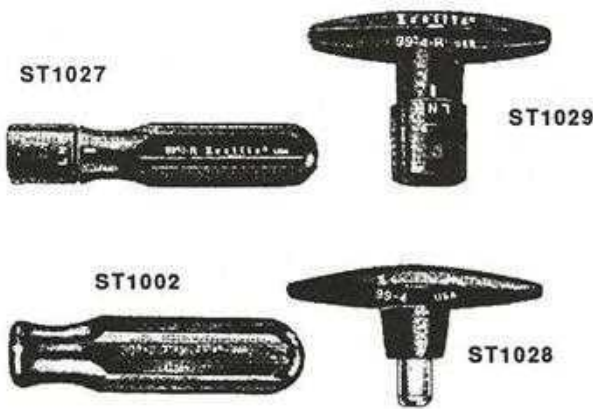
- ST0801 Hex Wrench Set, fold-up. 7 blades, 3" handle. Sizes: 1/20, 1/16, 5/64, 3/32, 7/64, 1/8.
- ST0803 TORX T-7 Key Wrench.
- ST0804 .035" ALLEN Wrench for use with set screw on BNC Antenna Jack on PLS Portables


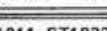






TORQUE WRENCH ITEMS

- ST2304 Torque Wrench Driver Kit. Includes square drive adapter and 11/32 & 3/8 sockets.
- ST2305 Square Drive Adapter. Part of ST2304 Torque Wrench Kit.
- ST2306 Special Nut Driver, 1/4" Hex drive. Used with ST2304 for torquing PMLi Transmitter.
- ST2001 11/32" square drive socket. Part of ST2304.
- ST2002 3/8" Square 1/4" Drive Socket. Part of ST2304
- ST2003 Holt Head Socket for Square 1/4" Drive. Fits 8-32 HOLT-HEAD Screws.
- ST2004 Holt Head Socket for square 1/4" drive. Fits 10-32 Holt Head screws.
- ST2005 3/16" Square 1/4" Drive Socket.



ST1001, ST1016



- NUTDRIVERS**
 - Stubby  ●
 - Regular  ●
 - ST1003-ST1011, ST1022-ST1026
- SLOTTED SCREWDRIVERS**
 -  ●
 - ST1012, ST1013, ST1041
- PHILLIPS SCREWDRIVERS**
 -  ⊕
 - ST1017, ST1014, ST1015
- POZIDRIV® SCREWDRIVERS**
 -  ⊕
 - ST1018, ST1019, ST1020
- EXTENSIONS**
 -  ●
 - ST1030, ST1031
- ALLEN HEX SOCKET TYPE**
 -  ○
 - ST1032 - ST1040
- BRISTOL 6-FLUTE**
 -  ⊗
 - ST1042

INTERCHANGEABLE TOOL SYSTEM

Several style handles may be used with many different blades. System avoids the cost of duplicating many handles.

ST1016 Tool Roll Only For Interchangeable tool system.

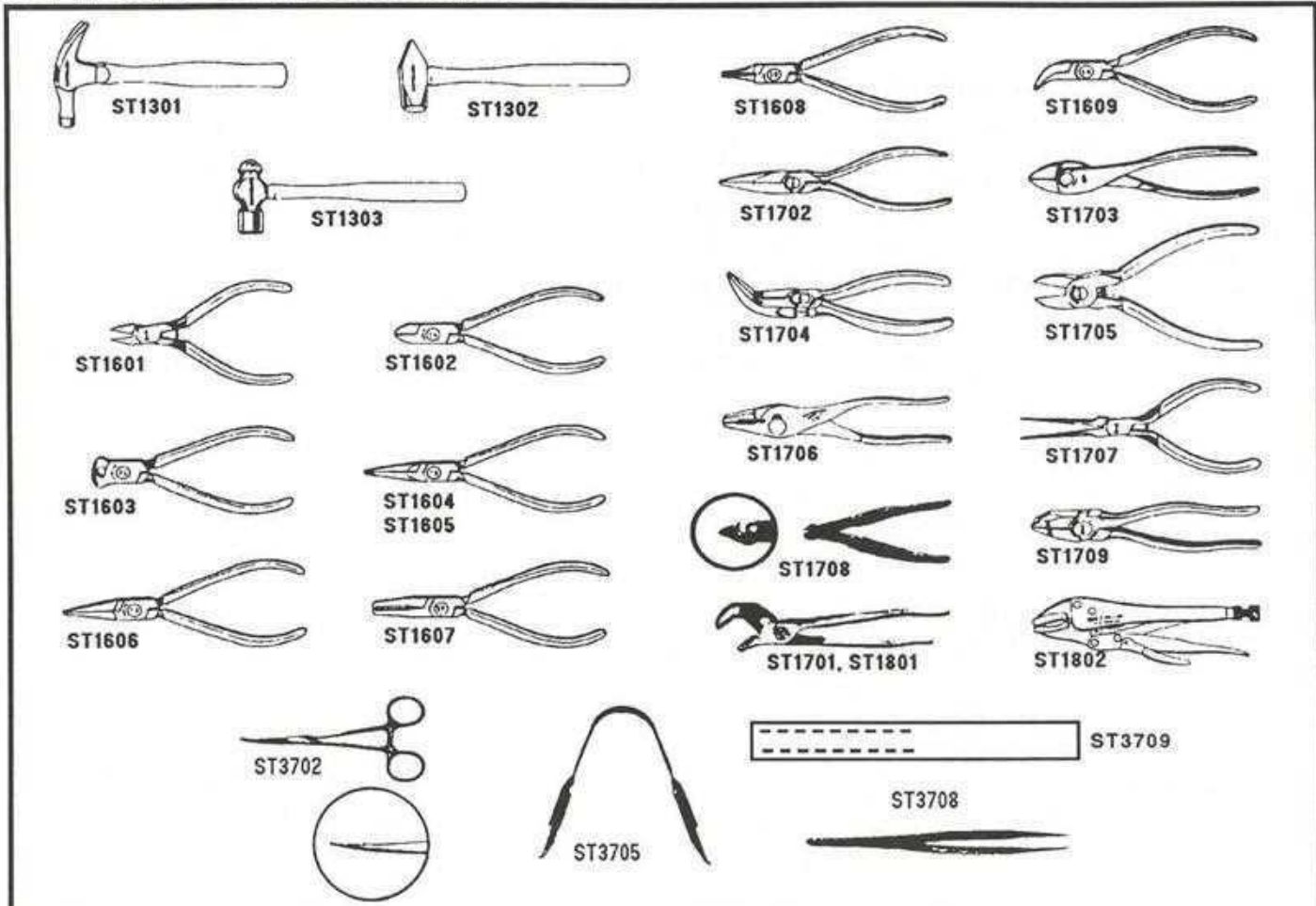
ST1001 Tool Roll with 14 tools. Sim to Xcellite 99PR.

- ST1002 Interchangeable Tool Handle, Standard, 1-1/16 x 4-1/8.
- ST1003 3/16" Nutdriver Blade 99-6.
- ST1004 7/32 Nutdriver Blade 99-7
- ST1005 1/4 Nutdriver Blade, 99-8. 3-5/8 long shaft.
- ST1006 9/32 Nutdriver Blade 99-9. 3-5/8" long shaft.
- ST1007 5/16 Nutdriver Blade 99-10. 3-5/8" Shaft.
- ST1008 11/32 Nutdriver Blade 99-11. 3-5/8" Shaft.
- ST1009 3/8 Nutdriver Blade 99-12. 3-5/8" Shaft
- ST1010 7/16 Nutdriver Blade 99-14 4" Shaft
- ST1011 1/2 Nutdriver Blade, 99-16 4" Shaft.
- ST1012 3/16 Slotted Screwdriver Blade 99-811, 3-7/8" Shaft.
- ST1013 1/4 Flat Screwdriver Blade, 99-250. 3-7/8 Shaft.
- ST1014 #1 Phillips Screwdriver Blade 99-821. 3-7/8" Shaft.
- ST1015 #2 Phillips Screwdriver blade. 99-822. 3-7/8" Shaft.
- ST1017 #0 Phillips Screwdriver Blade. 3-7/8" Shaft. 99-820.
- ST1018 #1 Pozidriv Screwdriver blade 99-831. 3-7/8" Shaft.
- ST1019 #2 Pozidriv Screwdriver Blade. 99-832. 3-7/8" shaft.
- ST1020 #3 Pozidriv Screwdriver Blade 99-833. 3-7/8" shaft.
- ST1021 Stubby Handle, 1-1/16 diam., 2" long. For 99 series tips.

- ST1022 Stubby 1/4" Nutdriver. 1-3/8" Long.
- ST1023 Stubby 5/16 Nutdriver. 1-3/8" long shaft.
- ST1024 Stubby 3/8" Nutdriver. 1-3/8" short Shaft.
- ST1025 1/4" Nutdriver, magnetic tip. 3-5/8" long shaft.
- ST1026 5/16" Nutdriver, magnetic tip. 3-5/8" long shaft.
- ST1027 Handle, Regular, Ratcheting, 1-1/4x 4-1/2, ITS
- ST1028 Interchangeable Tool System, T-Handle. 3-1/2x1-5/8"
- ST1029 Ratcheting T-Handle for Interchangeable tool system. 3-1/2x 2-5/8"
- ST1030 4 inch Extension for Interchangeable tool system.
- ST1031 7 inch Extension for interchangeable tool system.
- ST1032 .05" Allen Hex Driver for ITS, 4" Shaft
- ST1033 1/16 Allen Hex Blade for ITS, 4" Shaft.
- ST1034 5/64" Allen Hex Blade, for ITS. 4" shaft
- ST1035 3/32" Allen Hex Blade for ITS. 4" shaft
- ST1036 7/64" Allen Hex Blade for ITS. 4" shaft.
- ST1037 1/8" Allen Hex Blade for ITS, 4" shaft
- ST1038 9/64" Allen Hex Blade for ITS, 4" shaft
- ST1039 5/32" Allen Hex Blade for ITS, 4" shaft
- ST1040 3/16" Allen Hex Blade for ITS, 4" shaft.
- ST1041 1/8" slotted hd screwdriver blade for ITS, 3-7/8" long.
- ST1042 .096" BRISTOL Driver Blade for ITS. For #8 screw
- ST1043 1/20" Allen Driver Blade for angle drive.
- ST1044 7mm Hex Nutdriver Blade.
- ST1045 5mm Allen Hex Blade

TOOL HOLSTER

ST0902 Tool Holster



PLIERS / CUTTERS

- ST1601 4-1/4" FlushCutting, sharp nose diagonal pliers. Coiled Spring, Cushion grips.
- ST1602 4-1/4" Diagonal cutter, coiled spring, cushion grips.
- ST1603 4" end cutting nippers. Plastic grips.
- ST1604 4-3/4" NeedleNose, no cutters. Plain nose. Coiled Spring Dipped plastic grips ST1605 4.75" needle nose, with side cutter. coiled spring, dipped plastic grips.ps.
- ST1607 4.5" Round Nose Pliers. Dipped plastic grips.
- ST1608 4.75" Transvers end cutter. Dipped plastic grips.
- ST1609 4.5" Curved Needle Nose Pliers. Dipped Plastic grips.
- ST1701 6.5" Tongue & Groove Pliers. Dipped Plastic grips. Capacity 7/8".
- ST1702 6" Long Nose Pliers. Point 3/32" round. Dipped plastic grips, without side cutter.
- ST1703 7" Diagonal Cutting Lapjoint Pliers. Dipped Plastic grips. Polished Steel finish.
- ST1705 6"Diagonal cutting pliers. Coiled spring opens jaws. Polished steel finish. Dipped plastic grips.
- ST1706 6" Slip-joint Pliers. Heavy duty with cutter. Polished steel finish. Dipped plastic grips
- ST1707 5-3/4" Extra Long Needle Nose Pliers. Plastic cushion grip. Coiled Spring.
- ST1708 5"Flush cutting Pliers. With wire clip to hold cut-off wires.
- ST1709 7" Linesman Bevel Nose Pliers. Dipped Plastic Grips.
- ST1801 10" Tongue & Groove Pliers. Capacity 2". Dipped Plastic grips.
- ST1802 10" Locking Pliers. Curved Jaws, 1-7/8" Max capacity. Plastic cushion-coated release lever.

TWEEZERS, FORCEPS, EXTRACTORS

- ST3701 6" forceps, straight nose serrated jaws, 3 position lock.
- ST3702 6" forceps, curved nose, 3 position lock, SS.
- ST3703 Tube Puller, Plastic tips and Grip. Straight model.
- ST3705 Tube Puller for Ceramic PA Amplifier Tubes such as 4CX250 or 4CX300.
- ST3706 Lamp Extractor sim to Microswitch 15PA7
- ST3708 Tweezer, 4-1/4" Long, Narrow, stainless Steel.
- ST3709 Cylindrical Contact Extractor Sim to Molex HT1010-1 or 11-030015
- ST3710 Extractor Kit. 3 extractors to repair MASTR II Power/Control Cables.
- ST3712 Extractor tool for MCS/MVS option connector contacts.

HAMMERS

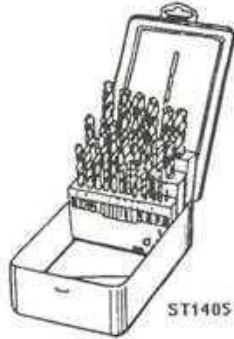
- ST1301 8 oz. Electrician's Hammer. Polished finish, with hickory handle.
- ST1302 2-1/2 LB Single face Heavy duty Hammer. Size #2.
- ST1303 12 Oz Ball Peen Hammer. Size # 2/0

PUBLICATIONS/BOOKS

- ST3302 Test & Troubleshooting Handbook. Covers Standard Tests, Test Equipment Requirements, and Procedures.
- ST3303 Range and Signal Strength Calculator. Pocket-size slide rule.
- ST3304 Selective Calling Tone Frequency Calculator. For Type 99 and Motorola's "Quick-Call II" tones.
- ST3305 Telephone Line Evaluation sheets includes graph for plotting frequency response. Pad of 25 sheets.



ST2301, ST2302, ST2303



ST1405



ST1410

ST1408

ST1409



ST2312



ST2311

ST1401



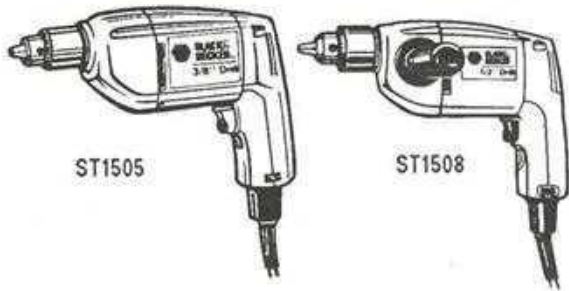
ST1412

ADJUSTABLE WRENCHES & SPANNER WRENCHES

- ST2301 6" Adjustable Wrench. Dipped Plastic cushion grip handle. Capacity 3/4".
- ST2302 8" Adjustable Wrench. Dipped Plastic Cushion Grip handle. Capacity 15/16" jaws.
- ST2303 10" Adjustable Wrench. Dipped Plastic cushion grip handle. Capacity of jaws 1-1/8".
- ST2307 Spanner Wrench, with center guide pin, for PE/PY UDC Jack Nut. Replaces SPK530. Also MPR.
- ST2308 Spanner Wrench, for PE/PY Volume Control Nuts. Also for MPR/MPX Volume Control slotted nuts.
- ST2309 Spanner Wrench Kit. Contains one each ST2307 and ST2308. For MPR/MPX Volume and Audio Slotted Nuts.
- ST2310 9/64 ALLEN BIT for Torque Wrench ST2304 for use on PMII Cover.
- ST2311 Spanner Wrench, for MPI Vol.Control Nut. (7mm-0.75 Thrd).
- ST2312 Spanner Wrench for MPI Remote Audio/PTT Jacks Retainer Nuts.
- ST2313 MPI Spanner Wrench Kit. Incl Spanner For Vol Control Nut (ST2311) and Remote Audio/PTT Jacks Nut (ST2312).

DRILL BITS AND HOLE CUTTERS

- ST1401 ANTENNA HOLE SAW SET. For mounting mobile antennas, with 3/4" diameter mounting holes.
- ST1402 1-5/16" diameter hole saw blade for ST1412. Pack of two replacement blades.
- ST1403 3/4" Diameter replacement saw blade for ST1401 Hole Saw set. Pack of two Blades.
- ST1404 3/16" Replacement pilot drill for ST1401 Hole Saw Set. Special non-walking point.
- ST1405 Drill index with drills from 1/16 to 3/8 by 64ths. High speed steel. Plastic Case.
- ST1406 Drill Index with Drill, 1/16 to 1/2 by 1/64ths. High Speed Steel, MetalCase. Jobber length.
- ST1407 1/8" Drill, High Speed Steel. 1-7/8" long, for #8 self-tapping screws.
- ST1408 7/64" Drill Bit. High Speed Steel. 1-3/16 long for #6 self-tapping screws.
- ST1409 9/64" Drill Bit. High Speed Steel. 1-15/16" long for #10 Self-tapping Screws.
- ST1410 3/16" Drill Bit. High Speed Steel. 2-3/16" long for 1/4" or #14 Self-tapping screws.
- ST1411 9/32" Drill Bit. High Speed Steel. 2-11/16" long for Low Band Antenna and 1/4" bolts.
- ST1412 Antenna Hole Saw set for mounting mobile antennas with 1-5/16" diameter mounting hole.
- ST1420 High Speed Drill Bit, #51.



ST1505

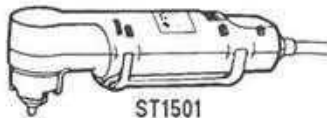
ST1508



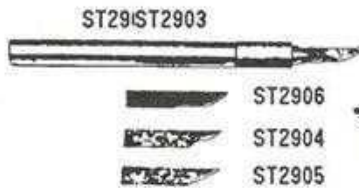
ST1504

Professional

ST1507



ST1501

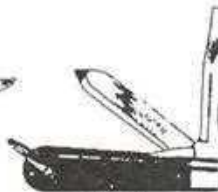


ST2903

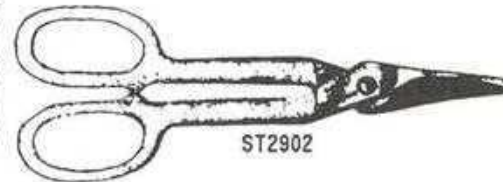
ST2906

ST2904

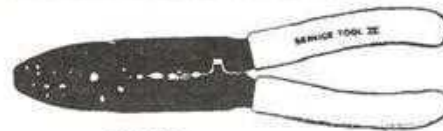
ST2905



ST2901



ST2902



ST2602



ST2603



ST2605



ST2609,

ELECTRIC HAND TOOLS

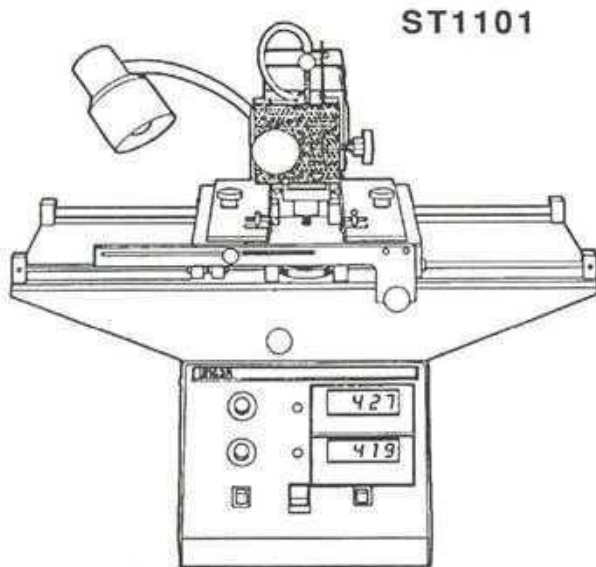
- ST1501 Electric Drill, Heavy Duty right angle drive. 1/4" Chuck capacity. AC/DC, 120V, 2 amps. OSHA compliance. 3 wire Cord.
- ST1504 3/8" Cordless Drill. 750 RP. Reversible, with removable battery and 1 Hour fast charger. 117VAC/60Hz.
- ST1505 3/8" Drill, Variable speed, reversible, 120VAC only. OSHA compliance. Light duty, Consumer Grade.
- ST1507 Variable Speed Jigsaw. 120VAC only. 1/3HP. 0-3200 SPM. 3.25# Double Insulated, tilting shoe. Capacity 1" Hdwd, 2" sftwd.
- ST1508 1/2" Drill. 120VAC only, 3 amps, Double insulated. with detachable 6' cord. Reversible with infinite speed lock.

KNIVES & BLADES

- ST2901 Electricians Knife. 2-1/2" knife blade. 3" Scrdvr blade w/position blade lock. 3-3/4" closed length.
- ST2902 10" Duckbill Metal Cutting Snips. Heavy Vinyl Cushion Grips. 2-1/2" Cutting Blades.
- ST2903 Industrial Knife, 7/16" diam aluminum handle, w/screw chuck blade holder.
- ST2904 5-Pack Blades, Shallow Angle, for ST2903 Industrial Knife Handle.
- ST2905 5-Pack Blades, Deep Angle, for ST2903 Industrial Knife Handle.
- ST2906 5-Pack Blades, Curved, for ST2903 Industrial Knife Handle.

WIRING TOOLS

- ST2601 SUPERCHAMP Hand Operated Terminal Crimping Tool
- ST2602 SERVICE TOOL II Hand Crimping Tool.
- ST2603 Automatic Wire Stripper for PVC/soft insulations up to #12AWG. Replaceable Jaws.
- ST2604 Replacement Jaws for ST2603
- ST2605 Wire Stripping Tool, #10-22AWG, Built-in tension spring and safety lock.
- ST2606 Wire stripping Tool, solid and stranded wires, #8-22 AWG. Works in confined space. Slots on end of Handle.
- ST2607 WIRE THREADER, for adding wire under cable lacing, cable clamps, etc. 3.75"lg, plastic coated grip.
- ST2608 TERMINAL KIT, ten assortments of Terminals, in case with ST2601 Crimping Tool, In metal box. Refills =SS3401-3410
- ST2609 Coax Cable Stripper. Prepares cable for installation of PL259 on RG8 or RG213 cable w/ foam or solid dielectric.
- ST2610 Coax Cable Stripper. Prepares cable for installation of PL259/UG175 Adapter on RG58 /U cable w/solid/foam dielectric
- ST2611 Replacement Blades for ST2609 or ST2610. 2 Per pack.
- ST2612 Wire Wrap Tool. Hand operated. Used on IMTS and Dial Page Terminals.
- ST2613 Wire Unwrap Tool. Hand operated. For IMTS and Dial- Page Terminals.
- ST2616 Hand-operated Crimping Tool for use with SS3430 (CPN-450) connectors.
- ST2617 Hand-operated Crimping Tool for use with SS3431(TNC-450) connectors.

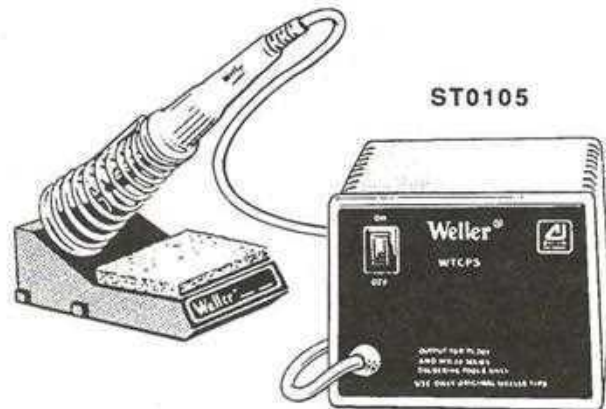


ST1101 Ungar® Model 4700 Surface Mount Component Repair Station. Requires Separate Heat Focus Heads listed below for use.

® Trademark of UNGAR Division of Eldon Industries, Inc.

The Heat Focus Heads are not shown separately.

- ST1102 UNGAR 4751 Heat Focus Head for ST1101 Surface Mount Repair Station. For SO8, .200" long, .250" lead-spacing components
- ST1103 UNGAR 4754 Heat Focus Head for ST1101 Surface Mount Repair Station. For .550" long, .715" lead-spacing components
- ST1104 Ungar 4755 Heat Focus Head for ST1101 Surface Mount Repair Station. For SO14, .407" long, .250" lead-spacing components
- ST1105 Ungar 4758 Heat Focus Head for ST1101 Surface Mount Repair Station. For SO25, .645" long, .470" lead-spacing components
- ST1106 UNGAR 4768 Heat Focus Head for ST1101 Surface Mount Repair Station. For SO28, .350" long, .470" lead-spacing components.
- ST1107 Ungar 4743 Heat Focus Head for ST1101 Surface Mount Repair Station. For .695" square components.

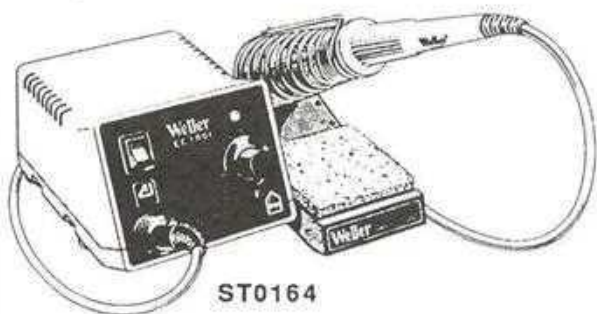


- ST0105 Weller® WTCPS Soldering Station, Temp controlled, interchangeable tips. Furnished with PTA7, 1/16" tip, 700° F. 115VAC operation.
- ST0152 Weller WTCPSD 220V Soldering Station. Similar to ST0105, Except for 220 VAC operation.
- ST0150 Weller WTCPZ Soldering Station. Zero voltage switching. Temp controlled tips. 700° F Includes PTA7 tip.
- ST0151 Replacement Soldering pencil TC201Z, with PTA7 Tip. For ST0150. ST0105 can be changed to zero- voltage switching using ST0151.
- ST0145 Heating Element HE60 for ST0105 Station Iron.
- ST0149 Barrel Nut Assembly BA-60 for ST0105 Soldering Station
- ST0106 PTA7 Soldering Tip. 1/16" x 5/8", 700° F.
- ST0107 PTB7 Soldering Iron Tip, 700° F, with 3/32" x 5/8" screwdriver tip
- ST0108 PTC7 Soldering Iron Tip. 700° F, with 1/8" x 5/8" screwdriver tip.
- ST0109 PTD7 Soldering Iron Tip. 700° F, with 3/16"x3/4" screwdriver tip.
- ST0110 PTK7 Soldering Iron Tip, 700° F, with 3/64" x 1" screwdriver tip.
- ST0111 PTL7 Soldering Iron Tip. 5/64" x 1", Long Screwdriver Tip.
- ST0144 Replacement Tip for ST0105. 1/16" Narrow screwdriver Tip. PTR7



ST0106 ST0107 ST0108 ST0109 ST0110 ST0111 ST0144

Weller® Trademark of The Cooper Group



ST0164



ST0137

ST0136

ST0164 Temperature Controlled Soldering Station. Weller Model EC1001. Adjustable temp. from 350F to 850F. Includes Iron and Tip, for 120 VAC.

ST0165 Temp Controlled Soldering Station. Weller Model EC2001. Adjustable Temp Control from 350F-850F. Has LED Temperature Display. Includes Iron and Tip, for 120VAC.

ST0166 Temp Controlled Soldering Powr Unit. Weller Model EC2002A. Adjustable. Temp Control from 350-850°F. Has LED Temp Display. Use With ST0168 For 230 VAC.

ST0167 Temp Controlled Soldering Powr Unit. Weller Model EC1002A. Adjustable Temp Control from 350-850°F. For 230 VAC. Use with ST0168 Pencil.

ST0168 Soldering Pencil for EC1000/ EC2000 Series Power Units. Required for ST0166/ST0167 Power Units.

ST0136 Soldering Gun, Heavy Duty. 240/325 Watt Dual Range. 120VAC, 60Hz ONLY. 3-Wire cord.

ST0137 Replacement Tips for ST0136, 2 per card.

ST0169 ETA Soldering Iron Tip for EC1000/2000 Stations. 1/16" Screwdriver Tip.

ST0170 ETK Soldering Iron Tip for EC1000/2000 Soldering Station. 3/64" Long Screwdriver Tip.

ST0171 ETC Soldering Iron Tip for EC1000/2000 Soldering Station 1/8" Screwdriver Tip

ST0172 ETL Soldering Iron Tip for EC1000/2000 Soldering Stations 5/64" Long Screwdriver Tip

ST0169
ST0171



ST0170
ST0172



ST0102 Desoldering Tool. Hand operated. Edsyn Deluxe Soldapullit®

ST0103 Replacement Teflon Desoldering tips for ST0102.

® Trademark EDSYN Inc.



ST0104 REMOV-iC™ DIP desoldering and extraction tool. 115VAC, 60 Hz. Heats and pulls 14/16 pin DIP IC's from PWBs.™ Trademark of Solder Removal Company.



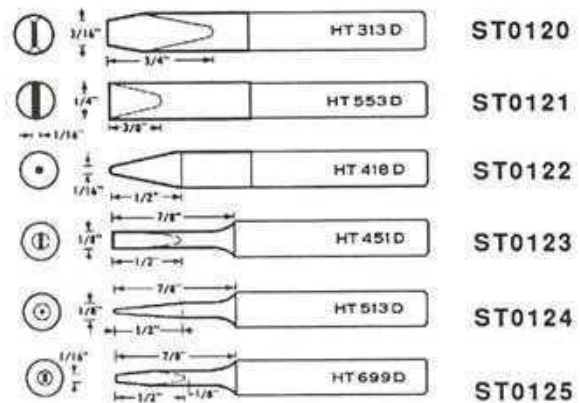
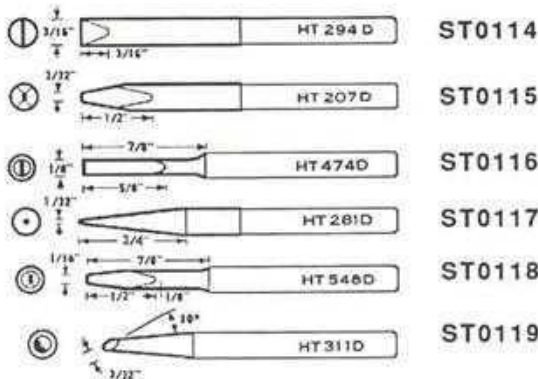
ST0126
(Iron NOT Included)



- ST0112 25 Watt Soldering Iron, 115VAC Pencil Style Cool Handle. 3-wire cord. Supplied with 3/32" tapered chisel tip. HEXACON 22A.
Uses Tips ST0114, 115, 116, 117, 118, 119.
- ST0113 40 Watt Soldering Iron, 115VAC Pencil Style, with 3-wire cord. Supplied with 3/16" tapered chisel tip. HEXACON 23A.
Uses Tips ST0120, 121, 122, 123, 124, 125.

ST0126 Holder/stand for solder iron. With sponge, non-skid base. For use with ST0112 or ST0113.

ST0127 Replacement Sponge for ST0126 and ST0128



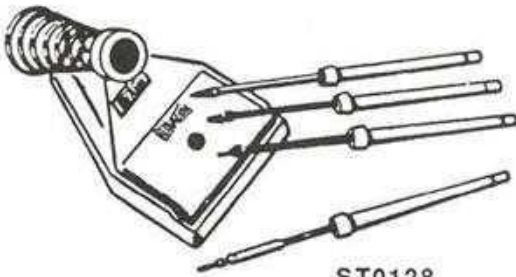
- ST0114 HT294D Soldering Iron Tip. 3/16" Chisel tip.
- ST0115 HT207D Soldering Iron Tip, 3/32" wide chisel tip.
- ST0116 HT474D Soldering Iron Tip, 1/8" sml diameter tip.
- ST0117 HT281D Soldering Iron Tip, 1/32" Point, 3/4" long.
- ST0118 HT548D Soldering Iron Tip, 1/16" Wide, 7/8" long, reduced diameter tip.
- ST0119 HT311D Soldering Iron Tip. 3/32" oblique face tip.

- ST0120 HT313D Soldering Iron Tip. 3/16" semi-chisel tip.
- ST0121 HT553D Soldering Iron Tip. 1/4" Chisel point tip.
- ST0122 HT418D Soldering Iron Tip. 1/16" conical point.
- ST0123 HT451D Soldering Iron Tip. 1/8" chisel point turned down to 1/8" diam.
- ST0124 HT513D Soldering Iron Tip, Conical turned to 1/8" diam.
- ST0125 HT699D Soldering Iron Tip. 1/16" semi-chisel turned to 1/8" diam.

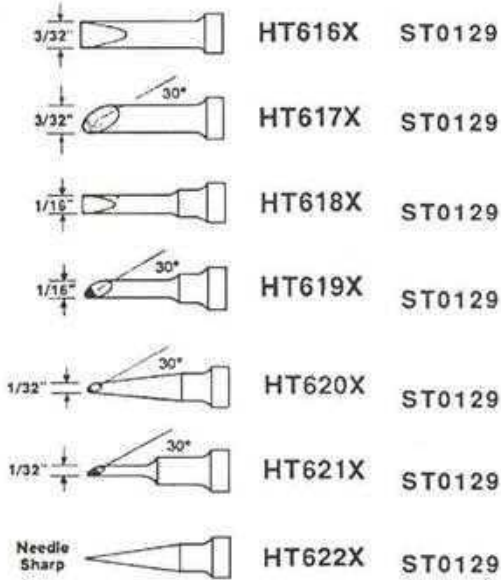
A full line offering of Soldering Supplies - Solder, Wicking, etc., will be found in the

**SERVICE PARTS - Parts and Accessories Catalog
"SHOP SUPPLIES" Section**

Scheduled for publication later in 1988.



ST0128



ST0128 Soldering Iron Kit, Miniature with stand, sponge and seven tips. 750°F operation. 3-wire cord.

ST0127 Replacement Sponge for ST0126 and ST0128.

ST0129 HT616X Soldering Iron Tip. For use with ST0128. 3/32" chisel point.

ST0130 HT617X Soldering Iron Tip. For use with ST0128. 3/32" Oblique tip.

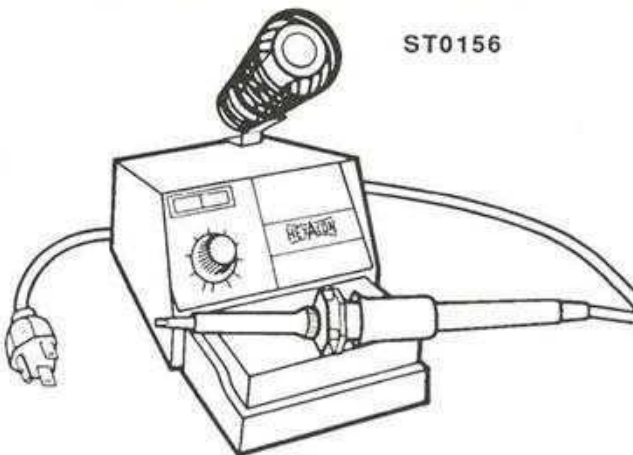
ST0131 HT618X Soldering Iron Tip. For use with ST0128. 1/16" chisel point.

ST0132 HT619X Soldering Iron Tip. For use with ST0128 1/16" oblique tip.

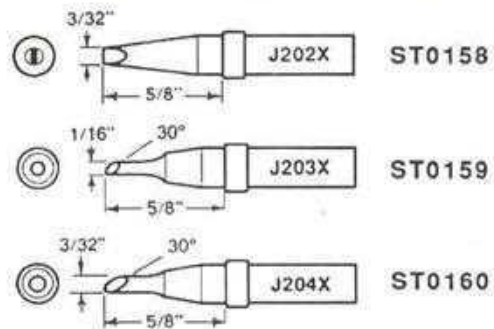
ST0133 HT620X Soldering Iron Tip. For use with ST0128. 1/32" oblique tip.

ST0134 HT621X Soldering Iron Tip. For use with ST0128. 1/32" oblique turned down tip.

ST0135 HT622X Soldering Iron Tip. For use with ST0128. Needle Point.



ST0156



ST0156 Therm-O-Trac® 1002 Controlled Heat Soldering Station. For 115VAC.

ST0157 Therm-O-Trac® 1002 Controlled Heat Soldering Station for 230 VAC.

ST0161 XTRADUR TIPS for ST0156/ST0157 J903X Conical Tip. (Not Shown)

ST0158 XTRADUR Tips for ST0156/ST0157 3/32 Semi-Chisel point. J202X

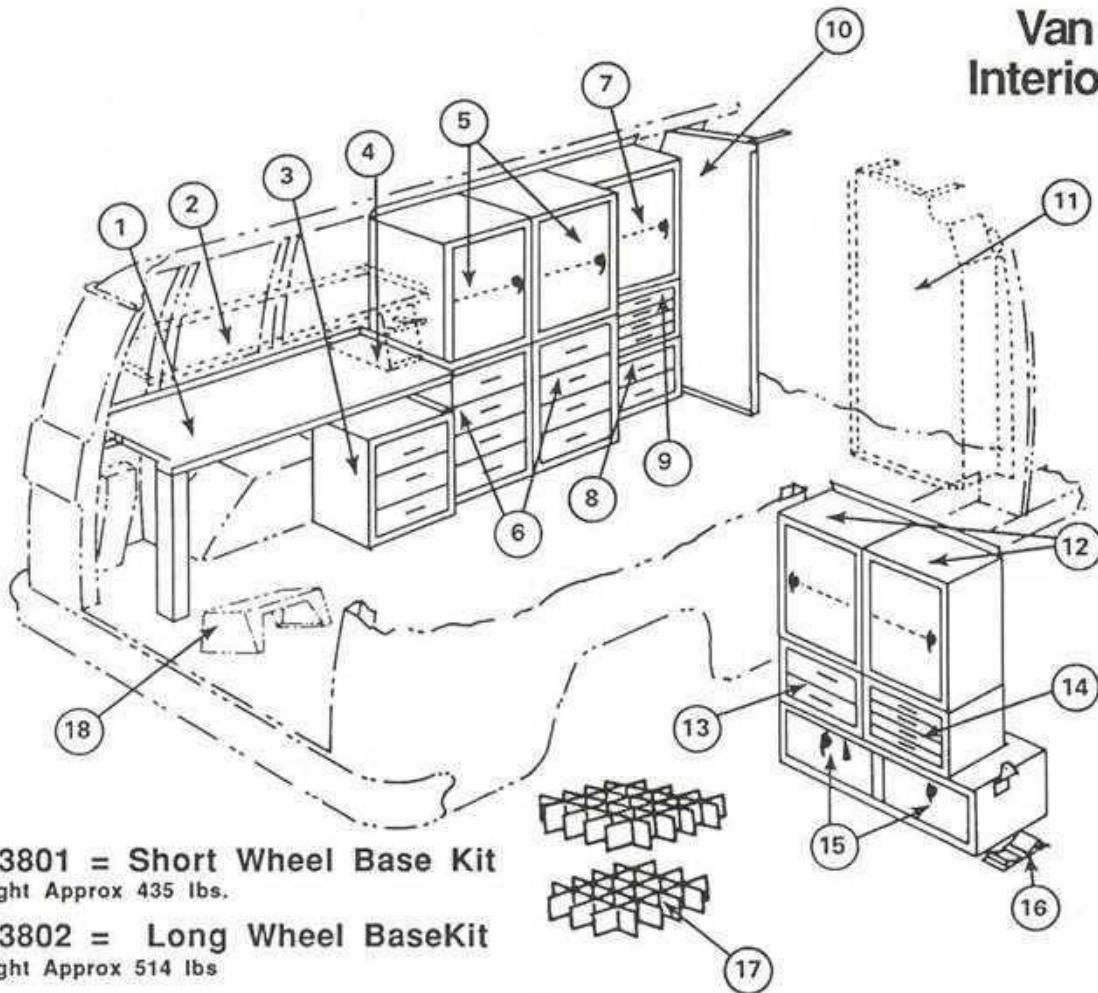
ST0159 XTRADUR TIPS for ST0156/ST0157 1/16 bevel point. J203X.

ST0160 XTRADUR TIPS FOR ST1056/ST0157 3/32 Bevel Point. J204X

ST0162 XTRADUR TIPS for ST0156/ST0157 J915X Turned-down semi-chisel Point. (Not Shown)

ST0163 XTRADUR TIPS FOR ST0156/ST0157 J918X 1/32" Chisel Point. (Not Shown)

Van Interiors



ST3801 = Short Wheel Base Kit
Weight Approx 435 lbs.

ST3802 = Long Wheel Base Kit
Weight Approx 514 lbs

Ref #	Separate Order #	ST3802 Includes Quantity	ST32801 Includes Quantity	Description
1	ST3839	1	1	WORK BENCH USED IN VANS. Includes mounting support and leg
2	ST3814	*	*	SHELF 54x10.125x1.5 For Van Interior
3	ST3833	1	1	CABINET, Steel, for Vans, 3 drawer, medium size.18"HX18"WX12"DEEP.
4	ST3813	*	*	BOOKCASE, 6.25x12x14H
5	ST3831	2	2	CABINET, Steel, used in Van Interiors. 24" Hi, 18" W, 18" dD with one adjustable shelf.
6	ST3832	2	2	Steel CABINET for Van Inter's 4 Drawer Unit,24Hx18Wx18"deep.
7,12	ST3842	3	2	BIN with Shelf. 18" wide x 24" high x 12" deep.
8,13	ST3838	2	1	Steel CABINET with 2 Med drawers. Overall size 12Hx18Wx12 d. Use ST3810 Dividers.
9,14	ST3837	2	1	STEEL CABINET for Vans. Four shallow, compartmented plastic drawers provided. Overall size 12x18x12" deep.
10	ST3843	1	1	Left PARTITION.
11	ST3812	*	*	Right Hand PARTITION for Van
NS	ST3836	*	*	CENTER DOOR, SCREEN TOP, w/Handle , for Van Interior. Use with ST3812 and left hand partition which is part of basic package.
15	ST3840	1	1	Twin door STORAGE compartment to cover wheel well and furnish mounting surface for cabinets above. 60% volume usable for soft items. 42" wide x 12.5" high x 15" deep.
16		1	1	Tire CHOCK
17	ST3810	*	*	Drawer Divider Set, for medium two & Three drawer units.
17	ST3811	*	*	Drawer Divider Set, for medium 4 drawer unit
18	ST3809	*	*	Work Stool. 12"highx 10" wide x 20" Long.
NS	ST3817	*	*	Steel Chair w/Backrest. Seat adjusts 22-29".
NS	ST3844	*	*	Spare Tire Bracket for Van Interiors

Notes: Short Wheel Base Interior does not include items 7,8,9.
* Items marked with "*" are optional, and must be ordered separately

Important: The basic package can not be used in Vans having full body glass (Windows all around) or rear cargo area air conditioning.

SERVICE TRAINING PACKAGES

Audio and Video Service Training Packages as available for selected product lines or subjects. Each package contains the appropriate cassette and five sets of training material for use by those studying the course material. Replenishments for the printed material are available from Marketing Communications when more than five people make use of the package contents. When more than one SPK is listed for a particular product, you must order both packages to completely cover the subject.

Net Price for all Audio Training Packages is \$25.00, each.

Net Price for all Video Training Packages is \$65.00, each.

The Video Cassettes are available ONLY IN VHS Format.

All Service Training Packages can be Ordered from Service Parts individually,
Or, as part of a regular Service Parts order.

ORDER NUMBER	DESCRIPTION
SPK022	Audio : "The Decibel"
SPK023	Audio : IMTS Signalling
SPK024	Audio : Intermodulation Interference
SPK025	Audio : Type 99 Series 101/102 Encoder
SPK026	Video : GE-MARC V Trunking; "CCC" Hardware
SPK027	Video: (GE-MARC V):TestSet &Diagnostics; Synthesizer
SPK028	Video: (GE-MARC V): GE-MARC V Systems
SPK029	Audio: (GE-MARC V): Tones and Tone Management
SPK030	Audio: (GE-MARC V): Microcomputer and Logic
SPK031	Video: PHOENIX-S/SX; Overview and Synthesizer.
SPK032	Video: PHOENIX-S/SX; Microcomputer; Programming
SPK033	Video: MASTR MPI Personal Radio.
SPK034	Video: GE☆Star Cellular Mobile Check-out and Installation.
SPK035	Video: Voice Guard - VG9600 for Mobiles
SPK036	Video: TMX8415, TMX8615, TMX8630 Product Overview and Programming
SPK037	Video: TMX8415/8615/8630 Series μComputer, Synthesizer and RF.
SPK038	Video: CMX8630; Overview, Programming & Logic; Synthesizer & RF
SPK039	Video: RANGR, Overview, Programming and μComputer
SPK040	Video: RANGR; Synthesizer & RF
SPK041	Video: TMX8210/8510. Overview, Programming, Logic, Synthesizer &RF.
SPK042	Video: CARFONE Overview & Programming, Checkout Procedures
SPK043	Video: M-PD Portable Overview and Programming.
SPK044	Video: M-PD Portable Controller, Synthesizer, and RF.
SPK045	Video: MLS Mobile Overview,Programming & System Control
SPK046	Video: MLS Mobile. Synthesizer & RF
SPK047	Video: PLS Portable Overview, Programmmg, System & Controller.
SPK048	Video: PLS Portable Synthesizer and RF.
SPK049	Video: TPX Trunked Portable Overview , Programming, and Controller.
SPK050	Video: TPX Trunked Portable Synthesizer and RF.
SPK051	Video: MCS Overview , Power Dist, μProcessor, Control & PC Programming
SPK052	Video: MCS Synthesizer, RF, Audio, CG/DCG and Optional TX PA.
SPK053	Video: MVS Mobile Overview , Power Distribution, Audio & CG/DCG.
SPK054	Video: MVS Mobile μProcessor, Synthesizer, RF and Programming

TECHNICAL TRAINING



GENERAL ELECTRIC COMPANY • MOBILE COMMUNICATIONS DIVISION
WORLD HEADQUARTERS • LYNCHBURG, VIRGINIA 24502 U.S.A.

GENERAL  **ELECTRIC**[®]
U.S.A.

* Trademark of General Electric Company U.S.A.
Printed in U.S.A.

IN-SHOP TRAINING PACKAGES (as of 11/15/85)

SPK021 Audio \$ 25, net EJ18A Digital Decoder	SPK031 Video \$ 65, net PHOENIX-S & PHOENIX-SX: 1. Product Overview 2. Frequency Synthesizer
SPK022 Audio \$ 25, net The Decibel	SPK032 Video \$ 65, net PHOENIX-S and PHOENIX-SX: 3. Microcomputer 4. Programming
SPK023 Audio \$ 25, net IMTS Signalling	SPK033 Video \$ 65, net MASTR MPI PERSONAL RADIO: Part 1 and Part 2
SPK024 Audio \$25, net Intermod Interference	SPK034 Video \$ 65, net GE-STAR CELLULAR CHECKOUT AND INSTALLATION
SPK025 Audio \$ 25, net Type 99 (101, 102) Encoder	SPK035 Video \$65, net VOICE GUARD
SPK026 Video \$ 65, net GE-MARC V: 1. Trunking Concepts 2. "CCC" Hardware	
SPK027 Video \$ 65, net GE-MARC V: 1. Testset & Diagnostics 2. Synthesizer	
SPK028 Video \$ 65, net GE-MARC V: 1. Systems, Part 1 2. Systems, Part 2	
SPK029 Audio \$ 25, net GE-MARC V: Tones & Tone Management	
SPK030 Audio \$ 25, net GE-MARC V: Microcomputer and Logic	

AUDIO In-Shop Training Packages include a standard audio mini-cassette and 5 sets of printed material. Packages SPK021, SPK022, SPK023, SPK024 AND SPK025 also include 5 copies of an examination to be taken and submitted to GE after the completion of study. We will issue a "Certificate of Achievement" if a satisfactory grade is earned on the examination.

VIDEO In-Shop Training Packages are supplied only in the VHS Video Cassette format. Video packages also include 5 copies of printed material needed for study of the information presented.

SERVICE TRAINING PACKAGES

Audio and Video Service Training Packages as available for selected product lines or subjects. Each package contains the appropriate cassette and five sets of training material for use by those studying the course material. Replenishments for the printed material are available from Marketing Communications when more than five people make use of the package contents. When more than one SPK is listed for a particular product, you must order both packages to completely cover the subject.

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The Video Cassettes are available ONLY IN VHS Format.

All Service Training Packages can be Ordered from Service Parts individually,
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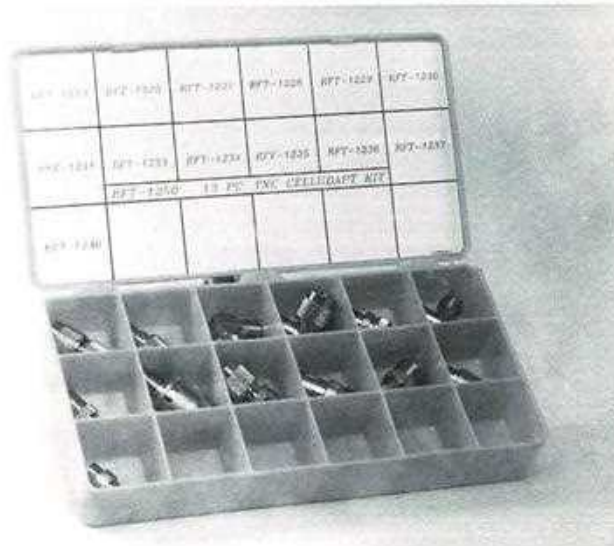
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SPK035	Video: Voice Guard - VG9600 for Mobiles
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SPK052	Video: MCS Synthesizer, RF, Audio, CG/DCG and Optional TX PA.
SPK053	Video: MVS Mobile Overview , Power Distribution, Audio & CG/DCG.
SPK054	Video: MVS Mobile Microprocessor, Synthesizer, RF and Programming

SPK051/SPK052 Will Be Available in June, 1988



New from Service Parts

The TNC Adapter Kit!



FEATURES

This handy kit comes with 13 of the most asked for TNC adapters. You can quickly connect TNC male or female to UHF, N, BNC, RCA phono plug or TNC!

All connectors are made from nickel plated machined brass, with silver plated contact and Teflon dielectric. These connectors are constructed with high quality materials for durability and come in a rugged plastic carrying case.

Ordering Information

Ordering Number	Product Description	Net Price
SPK8915	TNC Adapter Kit	\$45.00



**CALL SERVICE PARTS TO ORDER
1-800-368-3277**

Turn over to see
another new product
from Service Parts!!!



New from Service Parts

The UNIDAPT Kit!



FEATURES

The Unidapt kit allows a technician to mix and match any two male or female coaxial fittings. The technician can build the specific connector that he will need for a job -- male to male, male to female, or female to female. Each Unidapt fitting has a common connector end, and a universal adapter end. You simply choose the two common connector ends you need, and screw them together with the universal adapter! All Unidapt sections are made of silver plated machined brass with a gold plated phosphor bronze center pin anchored in a Teflon dielectric. All thirty pieces are stored in a padded, zippered carrying case.

The kit consists of the following quantities of connector types: 6 universal adapters, 2 UHF male, 2 N Male, 2 BNC Male, 4 TNC Male, 4 TNC Female, 2 SMA Male, 2 UHN Female, 2 N Female, 2 BNC Female and 2 SMA Male.

Ordering Information

Ordering Number	Product Description	Net Price
SPK8914	Unidapt Kit	\$99.00



**CALL SERVICE PARTS TO ORDER
1-800-368-3277**

Turn over to see
another new product
from Service Parts!!!

ERICSSON



1990 FIVE STAR SERVICE CENTER PROGRAM

Service center excellence is recognized by the exclusive Five Star Service Center Program. The selection criteria to become a Five Star Service Center is rigorous.

Qualification Criteria

Purchase Requirements

A Five Star Service Center purchases at least \$25,000 in parts per year from Service Parts. Excellent service depends on the quality parts supplied by EGE.

Service Facility Review

A score of at least 2.5 is required on the extensive Service Facility Review conducted regularly by the SDM.

Training

Five Star Service Centers must keep current on the latest products and technology. Five Star Service Centers send technicians to attend training courses on new products given by the EGE Technical Training Staff.

Customer Service Excellence

Five Star Service Centers excel in providing outstanding Customer Service. They have service centers that:

- Use good, up-to-date signage
- Give excellent turnaround
- Service the complete EGE line or Specialize (Depot)

Being a Five Star Service Center Has Its Privileges.

Qualification entitles you to enjoy benefits reserved exclusively for Five Star Service Centers.

Growth Bonuses

Bonuses are paid each year based on sales growth over the previous year. You can earn credit towards the purchase of service parts. In 1989, EGE awarded over \$100,000 in credits to Five Star Service Centers.

Identification

You will receive items such as a distinctive plaque, lead crystal award, wall clock and vehicle decals. Your customers will want to know they are dealing with the very best and we want you to spread the word.

Training Tapes

Normally a \$65.00 value, training tapes will be forwarded free of charge on new products when they become available.

Contests

The two Five Star Service Centers with the greatest percentage growth in service parts at the end of August, 1990, will win trips for two to Hawaii. See Adventures in Paradise brochure for more information on the actual trip.

Service Parts

Let's Grow Together in 1990!!

Page	Subject Matter	Revision
53.i	Table of Contents	July 89
53.ii	Standard Performance Tests	July 89
53.1	Introduction	July 89
53.2	Communications Systems Monitors, IFR	July 89
53.3	Communications Systems Monitors, Marconi	July 89
53.4	Communications Systems Monitors, Helper Instruments & CT Systems	July 89
53.5	Spectrum Analyzer, ADVANTEST®	July 89
53.6	Universal Counters, RACAL-DANA	July 89
53.7	SINAD Meters, Helper Instruments	July 89
53.8	Tone Squelch Test Sets, Helper Instruments	July 89
53.9	Digital Squelch Test Sets, Helper Instruments & Ferritronics, Ltd.	July 89
53.10	Oscilloscope, B+K Precision	July 89
53.11	Transmission Line Test Sets, Triplett & Helper Instruments	July 89
53.12	Multimeters, Triplett	July 89
53.13	Multimeters, Triplett	July 89
53.14	Multimeters, B+K Precision®	July 89
53.15	RF Power Measurement, Wattmeters: Bird Electronic	July 89
53.16	RF Power Measurement, Wattmeters; Bird Electronic	July 89
53.17	RF Power Measurement, RF Sampler & Relative FS Meter; Bird Electronic	July 89
53.18	RF Power Measurement, Load Resistors; Bird Electronic	July 89
53.19	RF Power Meas., Attenuators & Load Resistors; Bird Electronic, DECIBEL	July 89
53.20	RF Power Measurement, Connectors & Adapters; Bird Electronic	July 89
53.21	RF MilliVolt Meters; Helper Instruments, Ballantine Labs	July 89
53.22	(Blank)	
53.23	Power Supplies; Lapp Co., Inc.	July 89
53.24	Power Supplies; Helper Instruments, Lapp Co., Inc.	July 89
53.25	Reserved for later expansion	
53.26	"	
53.27	Product Programming	July 89
53.28	PC Product Programming Application Guide	July 89
53.29	TQ2310 URP Application Guide	July 89
53.30	TQ2310 Application Guide (Cont'd)	July 89
53.31	GE Manual Programmer & GE★STAR Test Adapter	July 89
53.32	GE GE-MARC™V Test Sets	July 89
53.33	GE Test Meters	July 89
53.34	GE IF & Noise Generators	July 89
53.35	GE Data Test Sets	July 89
53.36	GE Test Point Adapters	July 89
53.37	GE Test Adapters	July 89
53.38	GE RF Test Adapters	July 89
53.39	GE Portable Dummy Batteries	July 89
53.40	GE Portable Power Systems Testers	July 89

MASTR® as used throughout this publication is a trademark of General Electric Company, USA.

Standard Performance Tests

Performance of two-way radio systems is measured by procedure established in the standards published by the Electronic Industries Association (EIA). The EIA Standards have been adopted by most major manufacturers of two-way radio equipment in the United States; they are endorsed by most major two-way user organizations.

A number of standards apply to two-way radio systems. Transmitters, Receivers, Systems, Personal Products, and Coded Squelch systems are just some of the subjects covered by EIA Standards and appropriate for your consideration.

The standards themselves are available for purchase. They are cataloged in "Index of EIA & JEDC Standards and Engineering Publications." You may obtain a copy of this price list, at no charge, by writing to:

Electronic Industries Association
Engineering Department
2001 Eye Street
Washington, DC 20006

Literally hundreds of standard tests are described in the EIA Standard Tests. Many of them are of interest only to equipment designers and engineers. Many of the tests having the most impact on two-way radio systems have been incorporated into the booklet "Test and Troubleshooting Handbook" published by General Electric.

This booklet is written around standard tests for two-way radio equipment. These tests may be performed on any unit, big or little. They apply to station, mobile, or personal/portable equipment. They yield results in numbers - Watts, microvolts, KiloHertz or per cent, etc. They employ methods extracted from the EIA standards discussed above. It tells you how to run them, and how to interpret the results. It includes helpful information on the test equipment which is used. The tests allow you to compare your results with the normal characteristics covered in published specifications for the units you are using. If the tests meet those specifications, it is OK. It doesn't need fixing! If a unit, having failed to meet its specifications, is repaired or adjusted until it does, the job is finished. When a unit does not meet its specifications, the standard tests in the "Test and Troubleshooting Handbook" will provide you with a series of clues which will allow focus of efforts in the directions which are most productive.

The "Test and Troubleshooting Handbook" is available from Service Parts as ST3302 for the English language version and from Marketing Communications as ECR-2515 for the Spanish edition.

This catalog includes a cross-section of Vendor Test Equipment available in the market to perform functional testing of Two-Way FM Mobile Radio Equipment. In many instances we offer equipment from more than one manufacturer to permit the servicing agency to choose the equipment with which to measure specific performance characteristics of its equipment. We also include Centralized-metering Test Sets, Test Adapters, Exercisers, IF Generators and similar items of test equipment either manufactured or designed by GE Mobile Communications.

This selection of test equipment allows you to make useful and reliable measurements whether you are measuring the performance of or servicing equipment. From compact personal equipment to the most complex trunked units or base stations, selections from this assortment of offerings should provide you with a high level of service capability.

We make no specific recommendations regarding the "best" piece of equipment to perform a particular function. All of the items not carrying the GE label but offered for sale by Service Parts and included in this catalog have been available in the open market. Their acceptance there is recognition that each will serve a useful purpose and render reasonable value received for your investment. The number of features offered and differences in levels of performance are reflected in the price differentials.

Specifications

All specifications of the Test Equipment included in this booklet are subject to change without notice. The descriptions and specifications contained herein concerning operational characteristics of equipment manufactured by others were adapted from the Manufacturer's own specification sheets. Where there is a conflict between this booklet and the manufacturer's data, the manufacturer's specification sheets of course take precedence.

Warranty

All Test equipment reference in this booklet not of GE's design or manufacture carries the standard warranty, if any, of the manufacturer.

The items of GE's design or manufacture shown on pages 53.31 thru 53.40 carry the standard GE SERVICE PARTS warranty.

SERVICE PARTS

TEST EQUIPMENT

TQ2071



IFR, Inc. Model 1500
Communications Service Monitor

- μ Processor Controlled, Digitally Synthesized Service Monitor
- Includes Oscilloscope, Tracking Generator and Spectrum Analyzer
- TCXO Time Base stability 0.5 ppm std
- Operating temperature range 0° to 50° C
- 106-266VAC, 50 to 400 Hz, 85 Watts in.
- 11-16 VDC input, 6 Amps typical
- 12.5"Wx9"Hx19.5"D, 46 lbs.

Ordering Number	Product Description
TQ2071	IFR FM/AM 1500 Comms Svc Monitor
TQ2080	IFR FM/AM1500 w/ Cellular Option 8
TQ2082	IFR Opt 09 & Opt 10 for TQ2080 IFR1500
TQ2084	IFR Opt 04 20dB Gen Amp for TQ2071/2080
TQ2083	IFR Opt 03 Internal Rechargeable Battery
TQ2085	IFR Opt 05 Maintenance/Extender Bd Kit



IFR, Inc. Model 1200
Communications Service Monitor

- μ Processor Controlled, Digitally Synthesized Service Monitor
- Includes Oscilloscope and Spectrum Analyzer
- TCXO Time Base stability 0.2ppm std
- Covers 250 kHz to 1 GHz
- Operating temperature range 0° to 50° C
- 115/230VAC, 50 to 400 Hz, 60 Watts in.
- 11-16 VDC input, 3.5 Amps typical
- 13.1"Wx7.3"Hx17.5"D, 32 lbs.



TQ2087

Ordering Number	Product Description
TQ2087	IFR FM/AM-1200A Comms Svc Monitor
TQ2088	IFR FM/AM-1200S, w/ Spectrum Analyzer
TQ2089	IFR FM/AM1200S, w Opt 02, 0.05 PPM
TQ2201	IFR FM/AM1200S, w Opt 10, DVM/DTMF

Ordering Number	Product Description
TQ2202	IFR FM/AM1200S, w Opt 12 Tracking Generator
TQ2203	IFR FM/AM1200S, w Opt 10 and Opt 12
TQ2091	IFR Option 05 30 dB Signal Generator Amplifier
TQ2086	IFR Option 06 Service Microphone



TQ2049



IFR, Inc. Model FM/AM-500A
"Micro-Monitor" Comms Svc Monitor

- TCXO 0.2 ppm Timebase Opt 01 Included
- FM & AM Sig Gen 250 kHz to 999.999 MHz
- Receiver/Monitor 100 kHz to 999.999 MHz
- Internal Avg & Peak Wattmeter to 150 W
- SINAD Meter •10 to 9999.9 Hz Audio Gen.
- Operating Temperature Range 0° to 50° C
- 115/230 VAC, 50-400 Hz Input Power, 30W
- 11.5"Wx4.9"Hx14.3"D; 16 lbs
- Flexible antenna included

Ordering Number	Product Description
TQ2049	IFR FM/AM-500A "Micro-Monitor"
TQ2091	IFR Option 05 30 dB Signal Gen Amp
TQ2086	IFR Option 06 Service Microphone
TQ2094	IFR Option 08 Soft Carry Case for TQ2049

Marconi
Instruments

2955

Radio Communications Test-Set



- μ Processor Controlled, Digitally Synthesized Service Monitor w/storage scope
- Comprehensive testing of FM/AM/ \emptyset M units
- 1.5 to 1000 MHz operation
- 37 non-volatile storage of complete setups
- SINAD meter and 1 KHz Distortion Meter
- Menu driven CRT w/store & recall std use
- Operating temperature range 0 to 50° C
- 105/120V or 210/240 V, 45 to 440Hz
- 11-32 VDC
- 13.6"W x 7.1"H x 18.9"D; 33lbs

TQ2092

Ordering Number	Product Description
TQ2092	Marconi Instruments 2955 Radio Communications Test Set

Marconi
Instruments

2957 Cellular

Radio Communications Test-Set

- Includes all 2955 functions
- Full function testing of Cellular Radios
- Consists of the Marconi Instruments 2955 plus the Cellular Radio adapter
- System Simulation for mobile testing
- GO/NO GO Test Sequences for automatic exercise and test of cellular phones
- 13.6"W x 8.8"H x 21.5"D; 44lbs



TQ2093

Ordering Number	Product Description
TQ2093	Marconi Instruments 2957 Radio Communications Test Set w/ Cellular Adapter

SERVICE PARTS

TEST EQUIPMENT

CT SYSTEMS, INC, Model 3000S

Communications Service Monitor with
Spectrum Analyzer



- Synthesized Service Monitor
- Spectrum Analyzer w/ 110dB dynamic range and center frequency marker
- Versatile Oscilloscope with 3" display
- 455 kHz to 999.9999 MHz carrier frequency
- Audio Voltmeter and SINAD meter
- RF Wattmeter w / 10W and 100W scales
- Operating temperature range 0° to 50° C
- User serviceable at board level
- 115/220VAC, 50/60Hz
- 16.25"W x 7.19"H x 16"D; 25 lbs

TQ2068

Ordering Number	Product Description
TQ2068	CT Systems, Inc. Model 3000S Communications Service Monitor



Helper Instruments SM 1000
Communications Service Monitor

- μ Processor Controlled, Digitally Synthesized Service Monitor
- 100kHz to 1000MHz
- Built in SINADDER™
- TCXO Time Base stability 0.5 ppm std
- Operating temperature range 10° to 40° C
- 110/120V or 220/240 V, 50/60Hz
- 13.6 VDC, -gnd or •Internal Battery, Incl'd
- 13.5"W x 6.8"H x 11.5"D; 16 lbs
- Soft Carry Case & Antenna included



TQ2204

Ordering Number	Product Description
TQ2204	Helper Instruments SM 1000 Communications Service Monitor

ADVANTEST® Model 4131B
Spectrum Analyzer



- Synthesized Spectrum Analyzer w/ 70 dB dynamic range
- Versatile Oscilloscope with 3" display
- 10 kHz to 3.5 GHz carrier frequency
- Center Freq Display Accuracy ± 100 KHz
- Operating temperature range 0° to 50° C
- 90/132; 198/250 VAC, 50/60Hz: 120 VA
- 300 W x 177 H x 460 D mm; 22 lbs
- Optional Tracking Generator recommended 424W x 88H x 440D mm; 22 lbs approx

TQ2128

Ordering Number	Product Description
TQ2128	ADVANTEST® Model 4131B Spectrum Analyzer

ADVANTEST® Model 4154
Tracking Generator

- Tracking Generator for use with TQ2128 Spectrum Analyzer
- Required for Sweep Alignment of Duplexers
- 100 kHz to 3.5 GHz carrier frequency
- Output Level 0dBm 50 -59dBm, switchable in 1dB steps
- Operating temperature range 0° to 40° C
- 90/132; 198/250 VAC, 50/60Hz: 60 VA
- 424W x 88H x 440D mm; 22 lbs approx



Ordering Number	Product Description
TQ2129	ADVANTEST® Model 4154 Tracking Generator

TQ2129



TQ0428

RACAL-DANA Model 1992

Universal Counter

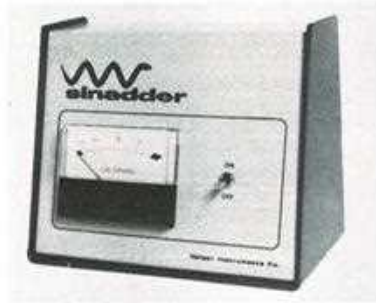
- Direct Frequency measurement to 1.3 GHz
- 9-Digit resolution in 1 second
- Functions included are frequency, period, time interval, ratio, totalize, phase, amplitude measurement, math capability
- Sensitivity (sine) <10mv rms, 40 MHz to 1 GHz
<75mv rms to 1.3 GHz
- Dynamic range: Sensitivity to 5V rms
- Operating temperature range 0° to 50° C
- 90-127/193-253VAC, 45 to 450 Hz, 35VA
- 8.35"W x 3.97"Hx13.03"D, 15 lbs.
- * One or the other of the Time Base Options is required for practical use. TQ0429 and TQ0430 are available only as factory installed options.

Ordering Number	Product Description
TQ0428	RACAL-DANA Model 1992 Universal Counter
TQ0430	RACAL-DANA: Option 04A Ovenized Oscillator time base
TQ0429	RACAL-DANA: Option 04T TCXO Oscillator time base



**Helper Instruments:
sinadder 1™**

- The Original SINAD Meter
- "Handsfree" measurements of Receiver Sensitivity (after connections are made)
- High Impedance input doesn't load unit being measured



Ordering Number	Product Description
TQ2114	Helper Instruments sinadder 1™

TQ2114



TQ2112



**Helper Instruments:
sinadder 3™**

- SINAD Meter and AC Voltmeter
- "Handsfree" measurements of Receiver Sensitivity (after connections are made)
- High Impedance input doesn't load unit being measured
- AC VoltMeter: 9 ranges, 10mV to 100 V
- 1000 Hz output, adjustable level. (Non-isolated)

Ordering Number	Product Description
TQ2112	Helper Instruments sinadder 3™



**Helper Instruments:
sinadder Linear 5™**

- "Handsfree" measurements of Receiver Sensitivity (after connections are made)
- High Impedance input doesn't load unit being measured
- SINAD measurement per EIA RS204C
- AC VoltMeter: 9 ranges, 10mV to 100 V
- 1 kHz, 0-1.5 V, Xfmr isolated output
- 110/220VAC, 50/60 Hz, strap selectable
- CML-1, same as TQ2119, w/ "C" Message wt filter
- PML-1, same as TQ2119, w/ Psophometric filter



TQ2119

Ordering Number	Product Description
TQ2119	Helper Inst. sinadder Linear 5™
TQ2131	Helper Inst. sinadder CML-1
TQ2132	Helper Inst. sinadder PML-1



Helper Instruments toner III™
CTCSS Tone Counter and Generator

- Same features as TQ0707, plus these:
- Low distortion tone generator, 50 to 5000 Hz
- Output level up to 1 Volt RMS @600Ω
- Built-in NiCd Battery
- 6dB switch on Tone output for quick test of decoder input sensitivity margins
- Continuous tuning of Generator Frequency
- 3.5"Hx8.75"Wx6.875"D; 4 lbs



TQ0708

Ordering Number	Product Description
TQ0708	Helper Instruments Model T-203 tonerIII™



Helper Instruments toner II™
Tone CTCSS Counter

- Four Digit LCD Readout in Hz
- Measures 50 to 9,999 Hz in 3 ranges
- Input z is 100,000Ω in parallel with cable capacitance
- Input Voltage range 5 millivolts to 10 Volts RMS with AGC
- Input Power 110/220VAC, 50/60 Hz, as set by Transformer Taps; 13.5 VDC,-gnd.
- 2.875"Hx8.75"Wx6.875"D; 2.6 lbs



TQ0707

Ordering Number	Product Description
TQ0707	Helper Instruments Model T-202 toner II™



FERRITRONICS LIMITED
TU-100 Coded Squelch Test Set



- Four Digit LED Readout
- Reads/displays digital Tone Squelch Codes known as Channel Guard, Digital Channel Guard, DPL etc.
- Input Z is 100,000Ω in parallel with cable capacitance
- Output Level 0 to 1.6 volts, rms
- Decoder Sensitivity 10mv to 2 volts, rms
- Operating Temperature 0° to 50°C
- LED indicates turn off code
- Input Power 117VAC, 50/60 Hz
- Internal NiCd battery included
- 3.5"Hx8.5"Wx9.5"L; 3.75 lbs

TQ2601

Ordering Number	Product Description
TQ2601	FERRITRONICS LIMITED Model TU-100 Coded Squelch Test Unit



Helper Instruments **dsr 100™**
Digital Squelch Reader

- Three Digit LCD Readout
- Reads/displays digital Tone Squelch Codes known as Digital Channel Guard, DPL etc.
- Input z is 100,000Ω in parallel with cable capacitance
- Input Voltage range 20 mv to 4 Volts p-p
- LED indicates turn off code
- Input Power 110/220VAC, 50/60 Hz, as set by Transformer Taps; 13.5 VDC, -gnd.
- 2.125"Hx8.75"Wx6.125"D; 2.7 lbs



Ordering Number	Product Description
TQ0709	Helper Instruments Model dsr 100™

TQ0709



Model 2120

Dual Trace 20 MHz Oscilloscope

- Dual or Single Trace Operation; Alternate, Chopped, or Additive
- 1mV/div sensitivity
- 20 MHz response at -3dB
- Bright Sharp Rectangular CRT
- Calibrated 18 step timebase
- 115/230 VAC, $\pm 10\%$, 50/60Hz, 35 W approx
- 12.6"W x 5.1"H x 14.2"D; 15 lbs
- Compact, low profile unit, with carry handle
- Supplied with 2 Probes, AC Power Cord, Schematic Diagram and spare fuse.



TQ1605

Ordering Number	Product Description
TQ1605	B+K PRECISION Model 2120 Dual Trace Oscilloscope



**TRIPLETT CORPORATION:
Model 5 TRANSMISSION TEST SET**

- 0.5", 3-1/2 digit LCD Display
- 0-20 Volts DC, 0.01v resolution
- 0-200 Volts DC, 0.1v resolution
- 0-20 Volts AC, 0.01v resolution
- 0-200 Volts AC, 0.1v resolution
- Ohms Scales: 0-200Ω, 0-2kΩ, 0-2MΩ
- 17 Tone generator, with adjustable output
- Bridged or terminated input @ 600 or 900Ω
- Use for measuring telephone line loss, line noise and loop resistance.
- Standard Frequencies plus 1950 Hz & 2175 Hz

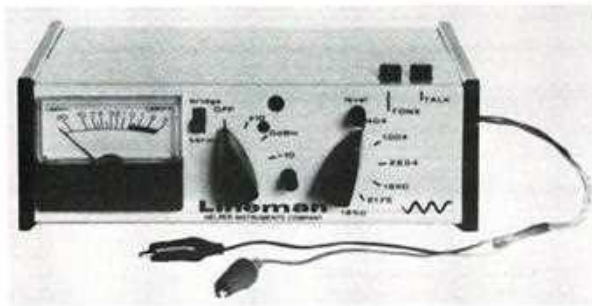


Ordering Number	Product Description
TQ2511	Triplett Model 5 Transmission Test Set

TQ2511



**Helper Instruments Model LM106
Transmission Line Test Set**



- Measure Line Levels
- Measure Tone Remote Levels
- Listen to the line
- Communicate with the dispatcher
- Line Impedance: Bridging or 600Ω, switch
- Send Tones: 404, 1004, 2804 for Telco
- Send Tones: 1850, 2175, 1950 for remotes
- Meters Send and Receive Levels from -30dBm to +12 dBm in 3 scales
- Power: 6 "C" cells, included

TQ2123

Ordering Number	Product Description
TQ2133	Helper Instruments Model LM106 Transmission Line Test Set



TRIPLETT CORPORATION: Model 630-PL

- Laboratory Accuracy
- Taut-band Movement
- Mirrored Scale
- 28 Ranges -
- 6 DC Volt Ranges - 0.25 to 1000 VDC
- 5 AC Volt Ranges - 3 to 1000 VAC
- 5 DC Current Ranges - 0.1mA to 10A
- 4 AC Output V Ranges -1.5 to 250 VAC
- 4 Ohm Ranges - 1K Ω to 100 M Ω , fs
- 4 dB Ranges: -20dBm to +49 dBm, 1mW

Ordering Number	Product Description
TQ2501	Triplett Model 630-PL Multimeter
TQ2506	Triplett Model 639-N Carry Case



TQ2501



TRIPLETT CORPORATION: Model 60

- Rugged, Safety Designed
- Taut-band Movement
- Mirrored Scale
- 28 Ranges -
- 8 DC Volt Ranges - 0.3 to 1000 VDC
- 6 AC Volt Ranges - 3 to 1000 VAC
- 4 DC Current Ranges - 100 μ A to 1A
- 10 AC Output V Ranges -1.5 to 1000 VAC
- 5 Ohm Ranges - 1K Ω to 10 M Ω , fs
- 8 dB Ranges: -20dBm to +52 dBm, 1mW

TQ2502



Ordering Number	Product Description
TQ2502	Triplett Model 60 Multimeter
TQ2509	Triplett Model 639-A Carry Case



TRIPLETT CORPORATION: Model 60-NA

- Mirrored Scale
- Laboratory Accuracy
- Taut-band Movement
- 58 Ranges -
- 14 DC Volt Ranges - 0.15 to 1000 VDC
- 10 AC Volt Ranges - 1.5 to 1000 VAC
- 10 DC Current Ranges - 0.05mA to 1A
- 10 AC Output V Ranges -1.5 to 1000 VAC
- 6 Ohm Ranges - 1K Ω to 100 M Ω , fs
- 8 dB Ranges: -26dBm to +52 dBm, 1mW

Ordering Number	Product Description
TQ2503	Triplett Model 60-NA Multimeter
TQ2509	Triplett Model 639-A Carry Case



TQ2503



**TRIPLETT CORPORATION:
Model 2200, 3.5 digit Multimeter**

- 3-1/2 digit LCD Display
- 5 VDC ranges, 200mV to 1000V
- 2 AC Volt ranges, 200mVAC/750VAC
- 5 DC Current ranges, 200 μ A to 2A
- 5 Ohms Scales: 0-200 Ω to 0-2M Ω
- Transistor β FE measurement
- Uses standard 9V "transistor" battery
- Weight: 125g without battery
- Size: L=126mm, W=70mm, H=24mm



TQ2526

Ordering Number	Product Description
TQ2526	Triplett Model 2200 Multimeter



TRIPLETT CORPORATION: Model 310-C

- 18 Ranges -
- 5 DC Volt Ranges - 3 to 600 VDC
- 5 AC Volt Ranges - 3 to 1000 VAC
- 4 DC Current Ranges - 0.6 to 600 mA
- 4 Ohm Ranges - 20K Ω to 20 M Ω , fs
- Single Range Selector Switch
- Hand-sized V-O-M.
- High impact case.



TQ2505

Ordering Number	Product Description
TQ2505	Triplett Model 310-C Multimeter



TQ2506



TQ2509

NOTE: Meters shown in cases are NOT INCLUDED!



TQ2526



Model 388-HD Test Bench™

- 3-1/2 digit .67" LCD Display
- 5 VDC ranges, 200mV to 750V
- 5 VAC ranges, 200mVAC to 750VAC
- 6 AC & DC Current ranges, 200 μ A to 20A
- 7 Ohms Scales: 0-200 Ω to 0-2000M Ω
- Transistor hFE measurement to 1000
- Frequency Counter 20 Hz to 200 kHz
- 5 Capacitance ranges 2nF to 20 μ F
- Logic Test • Audible Continuity Checker
- Uses standard 9V "transistor" battery
- Weight: 370g including battery
- Size: 3.6"W x 7.5" H x 1.4" D
- Includes Pr Test Leads, spare fuse, battery

Ordering Number	Product Description
TQ2525	B+K Model 388-HD Test Bench™



Model 2905 DMM

- 3-1/2 digit LCD Display
- 5 VDC ranges, 200mV to 1000V
- 5 VAC ranges, 200mVAC to 750VAC
- 3 AC & 4 DC Current ranges, 200 μ A to 20A
- 6 Ohms Scales: 0-200 Ω to 0-20M Ω
- Transistor hFE measurement
- 5 Capacitance ranges 2nF to 20 μ F
- Audible Continuity Checker
- Uses standard 9V "transistor" battery
- Weight: 13 oz.
- Size: 3.5"W x 7.5" H x 1.375" D
- Includes Pr Test Leads, battery



TQ2523

Ordering Number	Product Description
TQ2523	B+K Model 2905 Digital MultiMeter

BIRD Model 43
Electronic Corporation **THRULINE® WATTMETER**

- Directional measurement of RF Power
- Frequency Range .45 to 2300 MHz
- Power Range 100mW to 10kW using Plug-in, Interchangeable Elements
- Accuracy $\pm 5\%$ of full scale
- Insertion VSWR 1.05 max to 1000 MHz using Type N QC connectors
- Shock-mounted 3" 30 μ A meter movement
- Flexible connections using QC type connectors: Type N female supplied. Others such as Type N Male, UHF, BNC or TNC are available for separate order
- Size: Nominal 6.875"x5.125"x3.625"
- Weight: 3 lbs

TQ1402



Ordering Number	Product Description
TQ1402	Bird Model 43 Wattmeter. Type N QC connectors supplied.
TQ2801	Bird 4274-025 RF Sampler Element
TQ1403	CC-1 Carry case for #43 & 9 elements
TQ1404	EC-1 Carry Case for 12 elements
TQ1413	4300-061 Case For 43 And Accessories
TQ9801	8-000 Replacement Meter Movement & cable for Model 43.



TQ1403



TQ1404

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Interchangeable Wattmeter Elements

Power Level	Frequency Ranges in MHz					
	25-50 A	50-125 B	100-250 C	200-500 D	400-1000 E	2-30 F
5 Watt	TQ2811	TQ2821	TQ2831	TQ2841	TQ2851	-
10 Watt	TQ2812	TQ2822	TQ2832	TQ2842	TQ2852	-
25 Watt	TQ2813	TQ2823	TQ2833	TQ2843	TQ2853	-
50 Watt	TQ2814	TQ2824	TQ2834	TQ2844	TQ2854	TQ2864
100 Watt	TQ2815	TQ2825	TQ2835	TQ2845	TQ2855	TQ2865
250 Watt	TQ2816	TQ2826	TQ2836	TQ2846	TQ2856	TQ2866
500 Watt	TQ2817	TQ2827	TQ2837	TQ2847	TQ2857	TQ2867
1000 Watt	TQ2818	TQ2828	TQ2838	TQ2848	TQ2858	TQ2868

Ordering Number	Product Description
TQ????	Bird Wattmeter Elements. Order using the appropriate TQ# from the chart for the Power and Frequency range needed.

SERVICE PARTS

TEST EQUIPMENT



Ordering Number	Product Description
TQ1424	Bird 4381 RF Power Analyst®, 117VAC
TQ1425	Bird 4381 RF Power Analyst®, 230VAC



**Electronic Corporation Model 4381 THRULINE®
RF POWER ANALYST® Wattmeter**

- Directional measurement of RF Power
- Frequency Range .45 to 2300 MHz
- Power Range 100mW to 10kW using Plug-in, Interchangeable Elements. Two required for Forward and Reverse Measurements.
- Accuracy $\pm 5\%$ of full scale on 3-1/2 Digit LED
- Insertion VSWR 1.05 max to 1000 MHZ using Type N QC connectors
- Portable use with rechargeable battery & charger included; Battery Life 8 hours
- QC type connectors Type N female supplied.
- Size: 8.91"x6.22"x3.66"; Weight: 4 lbs



Electronic Corporation

**Model 4431 THRULINE®
Wattmeter with Sniffer Tap**

- Variable Sniffer -15dB to -70dB from RF
- Pick-off output is to BNC Jack
- Uses same plug-in elements as Model 43
- Frequency Range 25 - 1000 MHz
- Scales: 25/50/100, depending on Element
- Accuracy $\pm 5\%$ of full scale
- Insertion VSWR 1.07 max to 1000 MHZ using Type N "QC" connectors supplied
- Size: Nominal 6.875"x5.125"x3.625"
- Weight: 3.5 lbs

TQ1412



Ordering Number	Product Description
TQ1412	Bird 4431 THRULINE® Wattmeter



Electronic Corporation

**Model 4304A THRULINE®
Multi-Range Wattmeter**

- Directional measurement of RF Power
- Frequency Range 25 to 1000 MHz
- Power Range 1 W to 500 W
- Accuracy $\pm 7\%$ of full scale
- Insertion loss 0.1 dB max 25 - 512 MHz, 0.15 dB 512- 1000 MHZ
- Type UHF Female SQC (Small QC) supplied
- Size: 6.88"x5.13"x3.63"; Weight: 3 lbs

TQ1426



Ordering Number	Product Description
TQ1426	Bird 4304A Multi-Range Wattmeter

SERVICE PARTS

TEST EQUIPMENT

BIRD

Electronic Corporation

Model 6154

TERMALINE® Wattmeter

- Absorption Type Wattmeter
- Frequency Range 25 - 1000 MHz
- Power Range 150 Watts
- Power Scales: 5/15/50/150
- Accuracy $\pm 5\%$ of full scale 25-512 MHz;
 $\pm 10\%$ of full scale 512-1000MHz
- Insertion VSWR 1.05 max to 1000 MHz using Type N QC connectors
- QC type connector Type N female supplied.
- Size: 3.94"x6.38"x12.16"; Weight: 8 lbs

TQ1411



Ordering Number	Product Description
TQ1411	Bird 6154 TERMALINE® Wattmeter

BIRD

Electronic Corporation

Model 4041

Relative Field Strength Meter

- Frequency Range 1 - 1000 MHz
- Dynamic Range 30dB minimum
- Battery Powered (9V Transistor) ; 200 hours
- Weight: 10 oz.

TQ1434



Ordering Number	Product Description
TQ1434	Bird 4041 Relative Field Strength Meter

TQ0201



BIRD

Electronic Corporation

Model 4275 -00 &

Model 4275-100

Variable RF Signal Sampler

- Provides stand alone RF coupling probe for spectrum analysis or other RF signal observation techniques
- Sampling attenuation is adjustable and lockable once adjusted.
- Frequency Range 25 - 1000 MHz
- Power Range 1000 Watts
- Insertion loss 0.1 dB max to 1000 MHz
- TQ0201 Requires 2 QC conns of your choice
- TQ0216 Installs on TERMALINE® unit
- Size: 3.94"x6.38"x12.16"; Weight: 8 lbs

Ordering Number	Product Description
TQ0201	Bird 4275-00 RF Signal Sampler. Requires two QC Connectors. See Chart.
TQ0216	Bird 4275-100 RF Signal Sample for installation on Wattmeter

SERVICE PARTS

TEST EQUIPMENT



TQ1006



TQ1007



TQ1003

BIRD Model 8135,, 8141, 8401
Electronic Corporation **TERMALINE®** Load Resistors

- Dissipate Transmitter power in a "Dummy" load, rather than radiating in space
- Refined mineral oil coolant
- Frequency Range DC to 2500 MHz
- QC type connector Type N female.

TQ#	TQ1006	TQ1007	TQ1003
Model	8135	8141	8401
Power	150W	250W	600W
Height	6.35	8.5	8.5
Width	9.56	5.94	5.94
Depth	9.5	9.56	16.83
Weight	6 lbs	10 lbs	20 lbs

Ordering Number	Product Description
TQ1003	Bird 8401 600W Load Resistor
TQ1006	Bird 8135 150W Load Resistor
TQ1007	Bird 8141 250W Load Resistor

BIRD Model 8085,, 8164
Electronic Corporation **TERMALINE®** Load Resistors

- Dissipate Transmitter power in a "Dummy" load, rather than radiating in space
- Dry, Convection Air Cooled

TQ#	TQ1008	TQ1004
Model	8085	8164
Power	50 W	100 W
Frequency	0-3.5 GHz	0- 2.4 GHz
Connector	N (M)	N (F)
Height	1.75	2.75
Width	1.75	2.75
Depth	5.14	7
Weight	15 Oz	48 Oz

Ordering Number	Product Description
TQ1004	Bird 8164 100W Dry Load Resistor
TQ1008	Bird 8085 50W Dry Load Resistor



TQ1004



TQ1008

SERVICE PARTS

TEST EQUIPMENT



TQ0213



**Model 8322 Series
THRULINE® Attenuators**

- Frequency Range DC to 500 MHz
- Power Rating 200 Watts, Refined Mineral Oil
- Uses QC Connectors. Type N (F) supplied
- Attenuation: 30 dB
- Weight: 19 lbs. •Size: 17.5 "x 8.5"x5.93"

Ordering Number	Product Description
TQ0213	Bird 8322-030 30dB Attenuator, 200 W



**Model 8343 Series
THRULINE® Attenuators**

- Frequency Range DC to 1000 MHz
- Power Rating 100 Watts, Dry Type
- Uses QC Connectors. Type N (F) supplied
- Attenuation: See Chart for units offered.
- Weight: 44oz. •Size: 7.72 "x 2.75"x2.75"



TQ0202

Ordering Number	Product Description
TQ0202	Bird 8343-030 3dB Attenuator, 100 W
TQ0203	Bird 8343-060 6dB Attenuator, 100 W
TQ0204	Bird 8343-100 10dB Attenuator, 100 W
TQ0205	Bird 8343-200 20dB Attenuator, 100 W



**DECIBEL Load Resistors
Models DB-4301 and DB-8922**

- DB-8922 used for terminating Receivers into 50Ω for environmental effects analysis
- DB-4301 used for terminating circulator ports or low power transmitter testing.



TQ1005



TQ1009

Ordering Number	Product Description
TQ1005	dB Products DB4305 25W Load Resistor
TQ1009	dB Products DB8922 0.5W Load Resistor

SERVICE PARTS

TEST EQUIPMENT



Electronic Corporation Inter-Series Adapter Kit

- Versatile, precision, customizing coaxial connector kit
- Contains one each Male and Female connector for Type UHF, Type BNC, and Type TNC, and two each Type N M & F.
- Match these with one of the five common connectors supplied
- This kit is intended to fill a temporary need while a long-term solution is obtained.



TQ1436

Ordering Number	Product Description
TQ1436	Bird Interseries RF Adapter Kit

Ordering Number	Product Description
TQ1405	Bird QC Connector, BNC Female
TQ1406	Bird QC Connector, BNC Male
TQ1407	Bird QC Connector, Type N Male
TQ1408	Bird QC Connector, Type N Female
TQ1409	Bird QC Connector, Type UHF Male
TQ1410	Bird QC Connector, Type UHF Female
TQ1438	Bird QC Connector, TNC Female
TQ1439	Bird QC Connector, TNC Male
TQ1437	Bird SQC Connector, TNC Female



Electronic Corporation QC-Series Connectors

- QUICK-CHANGE connector allow use of our "favorite" connector on Bird RF Test Instruments
- QC connectors are field installable by removing four screws, changing the connector and then replacing the four screws
- SQC are smaller versions of the Quick Change series

Type UHF

Type N



Type BNC

Type TNC

SERVICE PARTS

TEST EQUIPMENT



Helper Instruments RF-801
rf millivoltmeter™



- 1mv to 3 volts, full scale.
- Measures to 100V with 50dB adapter
- Useful range 300 μ v to 100V
- Accuracy 1.5dB to 1GHz, indicates to 3GHz
- 117/240 V, 50/60Hz, tap selectable
- 13.6 VDC, -gnd
- 8.5"W x 3"H x 6.875"D; 4.2 lbs
- Supplied with 5' cable & Probe, BNC 50 Ω Adapter, 50dB adapter, 12 Volt plug, probe nose extension

TQ0416

Ordering Number	Product Description
TQ1416	Helper Instruments RF-801 RF Millivoltmeter with accessories



Ballantine Laboratories, Inc.
Model 3440A RF Millivoltmeter

- 100 μ V to 300V measurement range
- Covers 10 kHz to 1.2 GHz in 8 ranges
- Useful as indicator to 2 GHz
- Voltage Range: 100 μ V to 30mV true RMS
- Operating temperature range 0° to 50° C
- 90/130, 198/260 VAC, 48 to 420 Hz, 20VA
- 5.8"Hx8.67"Wx12"D; 11.5 lbs.
- Probe, Probe Adapter, BNC 50 Ω Adapter furnished



TQ0431

Ordering Number	Product Description
TQ1431	Ballantine Labs Model 3440A RF Millivoltmeter, with Probe and BNC 50 Ω Adapter



**Lapp Co, Inc, Model CR40A
Regulated Power Supply**

- 0-20VDC: 30A Continuous Duty, 50A Intermittent duty
- 0-40VDC: 20A Continuous Duty, 1000 Watts Intermittent Duty
- 14.5VDC Output Limiting on/off Switch provides means for avoiding overvoltage
- RFI resistant
- Easy to read Edge Meters for Amp & Volt
- 115/230 VAC, 50/60 Hz Input Power
- Unit:13"H x 8"W x 13"D; Control Panel:3"x7"x3"
- Weight 49 lbs.



TQ1903

Ordering Number	Product Description
TQ1903	LAPP Co. Model CR40A Power Supply
TQ1906	Remote mounting kit for TQ1903 Control



**Lapp Co, Inc, Model 73
Power Supply**

- Power Input 115VAC 50/60 Hz
- Outputs: 0-18VDC, 0-36VDC, 0-135VAC
- Output Current: 0-18V: 30A Continuous
40A Intermittent
- Output Current:0-36V: 20A Continuous
30A Intermittent
- Output current : 0-135VAC: 7.5 Amps
- Choke Input Filtered (No active electronics)
- 3" meters for both Volts and Amps
- 13"Hx8"Wx13"D; 60 lbs



TQ1904

Ordering Number	Product Description
TQ1904	LAPP Co. Model 73 Power Supply



Helper Instruments Model PS-250
Regulated Power Supply

- 0-19VDC, 3 Amp maximum output
- Choice of Output Limiting or Output Tripping at adjustable limit
- Audible and visual trip alarms
- 3-1/2 digital Output Volt Meter
- Edge Ammeter w/ .03A, .3A, 3.0A scales
- Output Isolated from Ground
- 115/230VAC, 50/60Hz power input
- 3.5"H x 8.75"W x 6.92"D, 6.5 lbs



TQ1907

Ordering Number	Product Description
TQ1907	Helper Instruments PS-250 Regulated Power Supply

TQ1908



Lapp Co, Inc, Model PR20
Regulated Power Supply

- Useful for Servicing Portable Radios
- 0 to 20 Volts at 0 to 5 Amperes
- Adjustable Current Limiting
- Voltage Limiting Switch : 9V/14.5V/off
- 3.5" Volt Meter with 2/10/20 VDC ranges
- 3.5" Amp Meter with .1/.5/1/5 A ranges
- RFI resistant
- 115/230 VAC, 50/60 Hz Input Power
- Unit:4.75"W x 11"H x 11"D; 14 Lbs

Ordering Number	Product Description
TQ1908	LAPP Co. Model PR20 Regulated Power Supply

Product Programming

Beginning in 1983 all of our synthesized radio products have been field programmable to set their operating characteristics. The first products, Phoenix-S and Phoenix-SX plus the Delta-S and Delta-SX, were programmed by both the Universal Radio Programmer, TQ2310, as well as by the hand-held, manual, 4EX22A10 Programmer.

The TQ2310 Universal Radio Programmer is based on a Panasonic "hand-held" computer and peripherals. Included in the TQ2310 is a printer for generating permanent records of information programmed in specific units, printed list of software revisions contained in the "Program Storage Module" and the results of the self-test routine. The computer, I/O module, the printer, AC Adapter, and interfaces are all installed in a removable-top suitcase, hence the reference to the "Suitcase Programmer". The TQ2310 contains rechargeable NiCd batteries for both the computer and printer, enabling its use in the field and away from AC mains.

In addition to programming radios, the TQ2310 can be used to read the information stored in a radio and generate a print of that information. Other radios or control units can then be programmed using those same settings. Similarly, the information to be stored in a group of units can be established once, stored in the computer and then down-loaded into a number of units. For some products a socket adapter allows the pre-programming of EEPROMs plugged in the adapter for later insertion into the radio units. Listings of the Product Programming Software and the interface cables required are contained in the application guide printed on Pages 53.29 and 53.30.

The manually operated 4EX22A10 programmer allows field programming of the early Delta and Phoenix products. This unit is in a small plastic housing and uses the power from the radio to change the information in the radio's EEPROM. The 4EX22A10 was designed for simple changes to be made in the field or for maintaining a small quantity of units with simple requirements. Look-up tables are consulted for address location and byte information. That information is then set on rotary switches and stored in the radio EEPROM. More recent products have been too complex for this style of programming and use of the manual unit has been not incorporated into later designs.

More recent products have been made programmable by use of IBM® compatible computers, both desktop and laptop. Computers useable are the IBM® PC/AT/XT or other compatible units using MS-DOS, version 3.1 or higher. Use of an associated printer is recommended for maintaining records of information stored in radio units. A printer is also useful in reading the programming in a complex unit for duplication in other units.

The PC Programming Software is available in both 5-1/4" and 3-1/2" diskette versions. The information on the diskettes is not copy-protected. We do not require a user to purchase additional software for each computer, but transfer of the programming to other entities is prohibited. Moreover, updates and corrections will not be distributed to those not on record as owners of specific software.

The TQ3310 Programming Interface Module is the go-between the computer and whatever specific product interface is required. An Application Guide for PC Programming is printed on Page 53.28, overleaf.

GE Mobile Communications

RADIO PROGRAMMING USING IBM®-COMPATIBLE PC's



<i>PRODUCT ITEM</i>	<i>SERVICE PARTS ORDERING NUMBERS</i>	
PC Programming Adapter	TQ3310	
THIS ITEM IS REQUIRED FOR ALL PC PROGRAMMING APPLICATIONS		
The TQ3310 Includes the:	<ul style="list-style-type: none"> • PC Programming Adapter Box • Power Supply for use with some portables 	
	5-1/4" Disk Version	3-1/2" Disk Version
MCS MOBILE		
Radio Programming Software	TQ3317	TQ4317
Radio Programming Cable	TQ3314	TQ3314
MVS MOBILE		
Radio Programming Software	TQ3318	TQ4318
Radio Programming Cable	TQ3315	TQ3315
DTMX9312 900 MHz MOBILE		
Radio Programming Software	TQ3325	TQ4325
Radio Programming Cable	TQ3314	TQ3314
TMX8712 GE-MARC V MOBILE		
Radio Programming Software	TQ3326	TQ4326
Radio Programming Cable	TQ3314	TQ3314
MPD Portable		
Radio Programming Software	TQ3312	TQ4312
Radio Programming Cable	TQ3311	TQ3311
MPD Voice Guard		
Radio Programming Software	TQ3319	TQ4319
Radio Programming Cable	TQ3311	TQ3311
PCS Portables		
Radio Programming Software	TQ3328	TQ4328
Radio Programming Cable	TQ3336	TQ3336
S825 Control Units		
Radio Programming Software	TQ3337	TQ4337
Radio Programming Cable	TQ3338	TQ3338

All orders should be for the diskette type desired. Any automatic updates made will include only the one size recorded as having been shipped. All requests for 3-1/2" disks for software packages already shipped with only the 5-1/4" diskettes should include the make and model number of the equipment needing the 3-1/2" disk.



TQ2310 UNIVERSAL RADIO PROGRAMMER

APPLICATION GUIDE

The word "Set" included in the Programming Software description means that there are two proms. Space for both must be allocated in the Program Storage Module to hold that programming software.

Please read the important notes at the bottom of the list on the next page!

PRODUCT ITEM	SERVICE PARTS ORDERING NUMBER
BI-POLAR PROM BLOWING SET-UP	(When Referenced Below, ORDER ALL FOUR (4) of these items.
Bi-Polar Prom Burner	TQ2324 (Includes TQ2328 Hex Edit ROM)
RS-232 Interface Module	TQ2318*
RS-232 Interface Prom	TQ2325*
RS-232 Interface Cable	TQ2326*
HEX EDIT ROM (If not ordered as part of TQ2324, for use with your Bi-polar PROM Blower)	TQ2328
	These three * items are referred to below as the "RS-232" Set-Up.
PHOENIX S/SX MOBILE	
Radio Programming Software	TQ2314
Radio Programming Cable	TQ2347
MLS MOBILE	
Radio Programming Software	TQ2349
Radio Programming Cable	TQ2347
RANGR MOBILE	
Radio Programming Cable	TQ2358
Radio Programming Software	TQ2357
DELTA S/SX MOBILE	
Radio Programming Cable	TQ2358
Radio Program Software	TQ2317
DELTA STATION	
Radio Programming Cable	TQ2358 (Same cable for Delta Mobile)
Radio Program Software	TQ2317 (Same as Delta Mobile)
S950 & S990 CONTROL UNITS	
Control Unit Programming Cable	TQ2322
Control Unit Program Software (Set)	TQ2329
GE-STAR CELLULAR MOBILE	
Radio Programming Software	TQ2327
Bi-Polar Prom Burner	(See <u>Prom Blowing Set-up</u> above)
Cellular Interface Box	TQ2334
Cellular Mobile/Interface Cable	TQ2335

TQ2310 Application Guide (Continued)

CMX CONVENTIONAL MOBILE

Radio Programming Software	TQ2348
Radio Programming Cable	TQ2347

GE-MARC V MOBILE

Radio Programming Software	TQ2336
Bi-Polar Prom Blowing Setup	(See Prom Blowing Set-upAbove)

GE-MARC V CLASSIC II MOBILE

Radio Programming Software	TQ2339
Bi-Polar Prom Blowing Setup	TQ2347

GE-MARC V.E MOBILE

Radio Programming Software	TQ2340
Bi-Polar Prom Blowing Setup	(See Prom Blowing Set-upAbove)

GE-MARC V TMX8415, TMX8615, TMX8630 MOBILE

Radio Programming Software	TQ2346
Radio Programming Cable	TQ2347

GE-MARC V TMX8210, TMX8310, TMX8510 MOBILES

Radio Programming Software	TQ2350
Radio Programming Cable	TQ2351

GE-MARC V PERSONAL

Radio Programming Software	TQ2337
Radio Programming Cable	TQ2316

TPX TRUNKED PORTABLE

Radio Programming Software (Set)	TQ2364
Radio Programming Cable, Interface	TQ2367

MPD PERSONAL

Radio Programming Software (Set)	TQ2360
Radio Programming Interface	TQ2362
RS232 Set-up	See RS232 Set-up on front page

PLS PERSONAL

Radio Programming Software	TQ2361
Radio Programming Interface, Cable	TQ2368

MPS PERSONAL

Radio Programming Cable	TQ2331
Radio Program Software	TQ2332
Spare Set of Programming Cable Pins	TQ2354

TYPE 99 CODE PLUGS

Code Plug Programming Software	TQ2345
Code Plug Programming Adapter	TQ2341

VOICE GUARD

DES Programming Software	TQ2344
VGE Programming Software	TQ2365
Product Programming Interface Cable	TQ2322

GE-4000 PERSONAL

Product Program Software	TQ2342
BI-Polar Prom Blowing Set-up	(See Prom Blowing Set-upAbove)

SPARE ACCESSORIES:

(One of each is incorporated with the Basic URP TQ2310 as a part of the unit. It is necessary to order these only as spares-type items, or replacements, but are not needed to complete a basic Programmer Set-up.)

Program Storage Module	TQ2319 (May be required to hold additional software proms)
DATA I/O Module	TQ2320
Carrying Case	TQ2321
E2Prom Dual Socket Adapter	TQ2330
5-Pack of Printer Paper	SS3010
12V DC Adapter	TQ2352
Spare Rechargeable Batt.Pack (HHC)	TQ2353
Spare Printer Battery Pack	TQ2363 (Contains two batteries)

-NOTES-

Consult the appropriate Service Parts: Test Equipment, Service Aids and Shop Supplies Price Lists for pricing.

IMPORTANT! WHENEVER YOU ORDER ADDITIONAL SOFTWARE to be used with a Universal Radio Programmer you already have, PLEASE INCLUDE THE SERIAL NUMBER OF THE URP ON YOUR ORDER. This Serial Number is on the outside partition to the right of the computer, and can be seen from the right of the unit ready for use. Including this serial number with your order will assist us in keeping our records of software owners up-to-date, so that revised software or information concerning operation may be sent to all appropriate users. The name of the individual, and the mailing address of that person, to whom any software updates should be sent, should also be included.

**4EX22A10 Manual
EEProm Programmer**

- For manual programming operating characteristics of Phoenix -S/SX and Delta-S/SX mobile radio units only.
- Useful for making simple programming changes in the field or on the bench
- Not recommended for making major realignment of radio operating characteristics
- Operation involves looking up address, function, bit code and setting rotary switches for each byte of programming required
- Test Set dimensions: 78 x 125 x 21 mm (open)
- Cable length 585mm
- Powered by radio being programmed



Ordering Number	Product Description
4EX22A10	MIN-EE Manual Radio Programmer



**4EX21K10 GE★STAR
Test Adapter**

- For testing Digital Encoders and Decoders used in a GE★STAR Digital Communications system.
- Supplied ONLY in KIT form to minimize costs to the user.
- Easy-to-follow assembly instructions, directions and diagrams in the Benton Harbor style.
- Connections provided for use with oscilloscope to monitor decoder outputs
- Switches provide initiation of standard and emergency message transmissions and PTT activation

Ordering Number	Product Description
4EX21K10	GE★STAR Test Adapter

**TL5B GE-MARC™V
Microprocessor Control Set**



- Used for servicing GE-MARC™ Centura, Corona and Classic Trunked Mobile Radios. The Control Set permits the application of logic signals to the radio microprocessor to switch the processor to a special software mode for alignment and test
- The control Set responds to "hand-shake" pulse from the radio to advance the tone and frequency displays
- All solid-state
- Operates from 13 VDC from the radio under test

Ordering
Number
TL5B

Product
Description
μprocessor Control Set

**TL59
GE-MARC™V MASTR
Test Set**

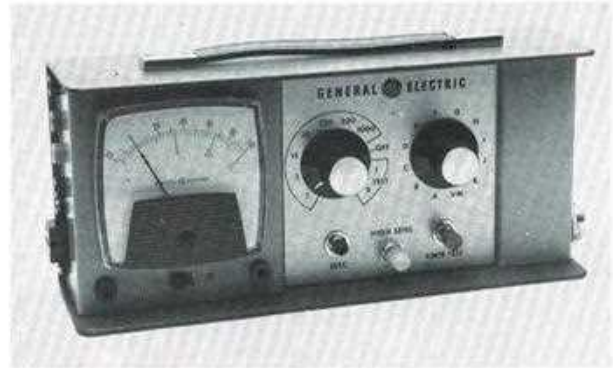
- Used with GE-MARC™V MASTR Mobile and Control Station radio units
- The control unit substitutes for the logic board to apply outputs to the Tone and System boards
- Substitution as Logic Board serves as indirect check of proper operation of the Logic Board
- For crystal controlled radios, serves as channel selector
- Operating voltage supplied by radio under test



Ordering Number TL59	Product Description GE-MARC™V Test Set for MASTR mobiles / control stations
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4EX3A11 Metering Test Set

- For Centralized Metering of MASTR Professional, MASTR Executive, MASTR Royal Professional, MASTR Royal Executive, Porta-Mobile I, MASTR II, or MASTR Executive II series radio units, when used with the appropriate metering cable.
- One meter used for all routine alignment checks and DC voltage measurements.
- Range switch and jacks for external test leads allow use as 20,000 Ω /volt DC Volt Meter up to 1000 VDC.
- Microphone jacks can be used to dynamically test units with user-furnished microphone or handset.
- Tip Jacks allow insertion of Transmitter Audio and measurement of Receiver Audio Output.
- Transmitter Keying switch and High-sensitivity switch for Transmitter PA Current measurements are provided.
- -5 to +3 V Meter scale facilitates Discriminator readings
- Meter Polarity Reversing Switch
- 3-1/2" Panel Meter
- Test Set dimensions: 5.1" x 12.8" x 3.4"
- Weight: 4.5 lbs, excluding cables
- Operable over ambient temperature of 0°C to 50°C.



Ordering Number	Product Description
TM16	Meter Test Set w/ MASTR II Cable
TM1C	Meter Test Set w/ DELTA Cable
19C850590G1	Cable Only, for DELTA units
19D402466G1	Cable Only, for MASTR Prof units
19D416576G1	Cable Only, for DELTA units
4EX3A11	Metering Test Set ONLY (Requires at least one cable above for use.)
19C303625G1	Protective Metal Carrying Case. Holds 4EX3A11 and cables which must be ordered separately.



4EX8K12

**Test Meter Kits
4EX8K11 & 4EX8K12
(Assembly Required)**

- Simplified Test Sets for use with only one centralized metering plug scheme per unit. Modification from one to another product is not recommended
- 2-3/4" panel meter; -10 μ a, +50 μ a movement.
- Simplified, step-by-step assembly instruction book provided uses techniques similar to Benton Harbor products. One to two hours assembly effort required.
- Range Selector switch selects 1V or 3V Test Range.
- High-sensitivity Switch used for Transmitter PA current measurements
- Appropriate Microphone Jack allows voice transmissions and monitoring of receiver audio with user-furnished Handset
- Meter Polarity Reversing Switch
- Size: 3.75" x 6.5" x 2.875" HWD
- Weight 1.5 lbs.
- Operable over ambient temperature of 0°C to 50°C.

Ordering Number	Product Description
4EX8K12	Test Set Kit for MASTR II/Exec II series
4EX8K11	Test Set Kit for MASTR Prof. / Exec series

Note: Both of these items require assembly before use.



**Low IF Generator Test Set
4EX7A10**

- Align receiver IF
- Troubleshoot IF Circuits by signal injection
- Measure stage gain
- All solid-state
- Measure Discriminator centering
- Mode switch allows switching between 290/455kHz sets of crystal frequencies
- Crystals must be ordered separately
- Operates from one 7v mercury battery. Order separately
- Dimensions 3"H x 5.5" W x 2.5" D. Approx. 2 lbs.

Ordering Number	Product Description
4EX7A10	Low IF Generator Test Set
19B205457G2	Injection Cable
19B200360G3	Crystal, 285 kHz
19B200360G4	Crystal, 290 kHz
19B200360G5	Crystal, 295 kHz
19B200360G10	Crystal, 455 kHz
SS2001	Battery- 1 Required

**High IF Generator Test Set
4EX9A10**

- Align receiver IF
- Troubleshoot IF Circuits by signal injection
- Measure stage gain
- Measure Discriminator centering
- 4 position Frequency Switch allows switching between crystals installed (Up to 4 at a time)
- Crystals must be pordered separately
- Operates from one 7v mercury battery. Order separately.
- Dimensions 3"H x 5.5" W x 2.5" D. Approx. 2 lbs.



Ordering Number	Product Description
4EX9A10	Low IF Generator Test Set
19B205457G2	Injection Cable
19B206802G2	Specify frequencies required
SS2001	Battery- 1 Required



**Pulse Generator Test Set
4EX4A10**

- Generates output pulses similar in rep rate, duration and rise time to vehicular electrical noises.
- Output applied in parallel to receiver RF signal to test degradation of receiver sensitivity
- All solid-state
- Easy to operate
- Operates from one 7v mercury battery. Order separately
- Dimensions 3"H x 5.5" W x 2.5" D. Approx. 2 lbs.

Ordering Number	Product Description
TE21	Pulse Generator; includes the following, which may also be ordered separately
4EX4A10	Pulse Generator Test Set
19B205457G1	Injection Cable
SS2001	Battery- 1 Required

**Eye Pattern Adapter
TQ0610**

- For use with 9600 Baud Modem
- Assists in determining likely problem location
- Demodulates data signal for oscilloscope display
- BNC Panel Jacks for H & V connections to 'scope
- Instruction book included



Ordering Number	Product Description
TQ0610	Eye Pattern Adapter

**Digital Test Generator
TQ0611**



- Pseudo-random data source for various modulation and test procedures
- 8 output Baud rates between 150 and 9600 Baud
- Useful for 16+Plus, Trunked and Voice Guard systems
- Includes GMSK filtered output for Voice Guard test applications

Ordering Number	Product Description
TQ0611	Digital Test Generator

**Carfone Interface Adapter
TQ2355**

- RS-232 to TTL Level Converter for data transfer in and out of Carfone radios
- Use with a Terminal for full Bell Test Mode of Carfone
- Permits full testing of Carfone
- Allows measurement of Transmitter and Receiver Audio characteristics



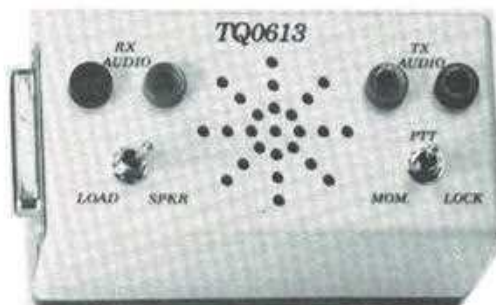
Ordering Number	Product Description
TQ2355	Carfone Interface Adapter

SERVICE PARTS

TEST EQUIPMENT

**PCS Test Adapter
TQ0613 & TQ3336**

- Allows measurement of Transmitter and Receiver Audio characteristics
- Includes resistive load for receiver output
- Easy to operate
- Simplifies servicing.



Ordering Number	Product Description
TQ0613	Test Adapter for PCS Portable
TQ3336	Adapter Cable (Also used with PC Programming Adapter)

**Test Point Adapter
TQ2356
Carfone, TMX8200/8500**



- Allows measurement of Transmitter and Receiver Audio characteristics
- Includes resistive load for receiver output
- Test Point Pin Jacks for function observation
- Easy to operate
- Simplifies servicing
- INCLUDES OVERLAY FOR TMX Series

Ordering Number	Product Description
TQ2356	Carfone, TMX Test Point Adapter

**Test Point Adapter
TQ2370
MVS**

- Allows measurement of Transmitter and Receiver Audio characteristics
- Includes switchable resistive load for receiver output
- Test Point Pin Jacks for function observation
- Easy to operate
- Simplifies servicing



Ordering Number	Product Description
TQ2370	MVS Test Point Adapter

PE/PY(k) Test Adapter 4EX12A10

- Allows measurement of Transmitter and Receiver Audio characteristics
- Includes resistive load for receiver output
- PTT Switch for keying transmitter
- Cable termination for insertion in PE, MPE and Remote/Local version MVP Portables (PY-K, has PTT Relay) Audio Accessory Jacks
- Easy to operate
- Simplifies servicing
- Dimensions, excluding cable, 3"H x 5.5" W x 2.5" D. Approx. 2 lbs.



Ordering Number	Product Description
4EX12A10	Test Adapter for PE and PY(k) Portables
<i>This unit available as long as supplies last.</i>	

Universal Test Adapter 4EX12A12



Ordering Number	Product Description
4EX12A12	Universal Test Adapter - requires cable
19C317262G20	Cable for PE, MPE, MVP (PY-K)
19B232242G1	Cable for MPI series portables.
19C330221G2	Cable for MPR, MPX, MPS series portables

- Allows measurement of Transmitter and Receiver Audio characteristics
- Includes resistive load for receiver output
- PTT Switch for keying transmitter
- Cable terminations for servicing various portable series available separately. Cables are available for: PE and Remote/Local MVP (k) series MPI Series portables MPR/MPX/MPS series portables
- Easy to operate
- Simplifies servicing
- Dimensions, excluding cable, 3"H x 5.5" W x 2.5" D. Approx. 2 lbs.



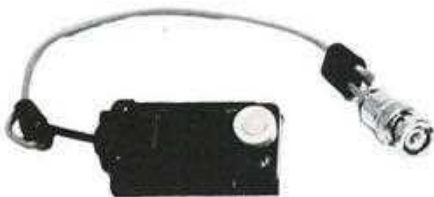
ST3559
Top Mount, MPD/TPX



K19/A4WX01566
Side Mount, MPD
(Unit Open)



19C317633G1
Side Mount, PE



19B232472G1
Side Mount,
MPR/MPX/MPS

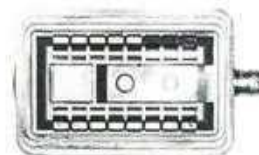
**RF Test Adapters for
Portable Radios**

- Provides for measurement of Transmitter RF Output and Receiver RF sensitivity.
- Allows connection to external antenna for operation in vehicles

Ordering Number	Product Description
19C317633G1	PE/MPE/PY with Antenna Relays
19C321535G1	PE/MPE/PY , mounts on top of unit
19B232472G1	MPR, MPX, MPS portables
19B227389G3	Porta-Mobile II portables
K19/A4WX01566	MPD Series portables, for use with unit open for testing
ST3559	MPD/TPX Series portables, for use with radio in normal configuration



19C321535G1
Top Mount, PE, PY



19B227389G3
End Mount
Porta-Mobile II

**Portable Battery Eliminators
(Dummy Battery)**

- Provides functional power connection to operating portable radios from external power sources.
- Allows test of radio performance simulating various battery stage of charge conditions.
- Universal jacks provide connections to power source



19C328969G1

Ordering Number	Product Description
19D900773G1	MPI 2 Watt version
19D900773G2	MPI 4 Watt version
19C321913G1	PE 700mAh Adapter
19C328969G1	MPR/MPX, etc., standard units
19C328969G2	MPR/MPX, etc., Intrinsically Safe units
K19/A4WX01543	MPD/TPX/PLS Series portables



19D900773G1



19D900773G2



K19/A4WX01543

SERVICE PARTS

TEST EQUIPMENT



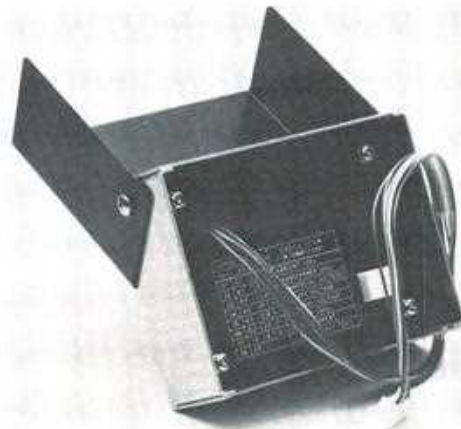
**Charger Calibrator
4EX20A11**

- Provides functional test for three-hour PE and one and three-hour MPR/MPX Personal series chargers.
- Requires one or more optional adapters listed below which are inserted in the charging sleeve of the charger under evaluation.
- Used to simulate battery pack temperature conditions
- Allows measurement of available charging current and charging voltage delivered by the charger under test.
- Operating current range 25 to 2000 milliAmps (Adjustable)

Ordering Number	Product Description
4EX20A11	CHARGER CALIBRATOR. Requires one or more Adapters listed below
19C321919G1	PE 500mAh Adapter
19C321919G2	PE 700 mAh Intrinsically Safe Adapter
19C321913G1	PE 700mAh Adapter
19C328968G1	MPR/MPX, etc., Adapter (All capacities)

**CHECKER-1
TQ0607
(K19/A4WX01605)**

- Provides functional test for troubleshooting MPD, TPX & PLS Rapid Chargers



Ordering Number	Product Description
TQ0607	CHECKER-1 for MPD, TPX, PLS Rapid Chargers

**Battery Discharge Analyzer
TQ0606
(K19/A4WX01604)**

- Provides functional test for evaluating the charge capacity of MPD, TPX or PLS batteries.
- Displays the % capacity deliverable by a battery.
- Monitors Charge/Discharge mode of the 19B801506P5 or 19B801506P8 Rapid Chargers



Ordering Number	Product Description
TQ0606	Battery Discharge Analyzer for MPD, TPX or PLS batteries.



INTRODUCING
THE
PCS TEST ADAPTER
SPECIFICALLY DESIGNED AND ENGINEERED FOR
SERVICING PCS PORTABLE RADIOS



FEATURES

Allows measurement of Transmitter and Receiver Audio characteristics

Includes resistive load for receiver output

Easy to operate

Simplifies servicing

A must for all service shops servicing the PCS portable

Ordering Information

Ordering Number
TQ0613
TQ3336

Product Description
Test Adapter for PCS Portable
Adapter Cable (Also used with
PC Programming adapter)



CALL SERVICE PARTS TO ORDER

1-800-368-3277

ERICSSON



Super Sale on TQ3310! PC Programming Adapter

For a limited time only, save \$60.00 on the TQ3310. Regularly \$200.00, orders your today for only \$140.00. But, that's not all!

When you purchase the TQ3310 at its special sale price, you can have your choice of Programming Software and Cable for 1/2 price!

Take advantage of tremendous savings on both the TQ3310 and have your choice of software and cables for 1/2 price!

To get this special pricing, you must buy one complete set: TQ3310, software and cables.

Hurry now and order! Supplies are limited to stock!



<i>PRODUCT ITEM</i>	<i>SERVICE PARTS ORDERING NUMBER</i>	
PC Programming Adapter THIS ITEM IS REQUIRED FOR ALL PC PROGRAMMING APPLICATIONS The TQ3310 Includes the: • Adapter Box to PC Interface Cable	TQ3310 • PC Programming Adapter Box • Power Supply for use with some portables	
	5-1/4" Disk Version	3-1/2" Disk Version
MCS MOBILE		
Radio Programming Software	TQ3317	TQ4317
Radio Programming Cable	TQ3314	TQ3314
MVS MOBILE		
Radio Programming Software	TQ3318	TQ4318
Radio Programming Cable	TQ3315	TQ3315
GE-NET TMX 900 MHz MOBILE		
Radio Programming Software	TQ3325	TQ4325
Radio Programming Cable	TQ3314	TQ3314
TMX8712 GE-MARC V MOBILE		
Radio Programming Software	TQ3326	TQ4326
Radio Programming Cable	TQ3314	TQ3314
M-PA Portable		
Radio Programming Software	TQ3339	TQ4339
Radio Programming Cable	TQ3311	TQ3311
MPD Portable		
Radio Programming Software	TQ3312	TQ4312
Radio Programming Cable	TQ3311	TQ3311
MPD Voice Guard		
Radio Programming Software	TQ3319	TQ4319
Radio Programming Cable	TQ3311	TQ3311
PCS Portables		
Radio Programming Software	TQ3328	TQ4328
Radio Programming Cable	TQ3336	TQ3336
S825 Control Units		
Radio Programming Software	TQ3337	TQ4337
Radio Programming Cable	TQ3338	TQ3338
TMX 8825 Trunked Mobile		
Radio Programming Software	TQ3344	TQ3344
Radio Programming Cable	TQ3315	TQ3315

All orders should be for the diskette type desired. Any automatic updates made will include only the one size recorded as having been shipped. All requests for 3-1/2" disks for software packages already shipped with only the 5-1/4" diskettes should include the make and model number of the equipment needing the 3-1/2" disk.

Sale from March 19, 1990 through April 20, 1990.



**TQ2310
UNIVERSAL RADIO
PROGRAMMER**

ON SALE

*Now is the time to pick
up a spare TQ2310!*

PHOENIX S/SX MOBILE	
Radio Programming Software	TQ2314
Radio Programming Cable	TQ2347
MLS MOBILE	
Radio Programming Software	TQ2349
Radio Programming Cable	TQ2347
RANGR MOBILE	
Radio Programming Cable	TQ2358
Radio Programming Software	TQ2357
DELTA S/SX MOBILE	
Radio Programming Cable	TQ2358
Radio Program Software	TQ2317
DELTA STATION	
Radio Programming Cable	TQ2358
Radio Program Software	TQ2317
S950 & S990 CONTROL UNITS	
Control Unit Programming Cable	TQ2322
Control Unit Program Software (Set)	TQ2329
GE-STAR CELLULAR MOBILE	
Radio Programming Software	TQ2327
Cellular Mobile/Interface Cable	TQ2335
CMX CONVENTIONAL MOBILE	
Radio Programming Software	TQ2348
Radio Programming Cable	TQ2347
GE-MARC V MOBILE	
Radio Programming Software	TQ2336
GE-MARC V CLASSIC II MOBILE	
Radio Programming Software	TQ2339
Bi-Polar Prom Blowing Setup	TQ2347
GE-MARC V.E MOBILE	
Radio Programming Software	TQ2340
GE-MARC V TMX8415, TMX8615, TMX8630 MOBILE	
Radio Programming Software	TQ2346
Radio Programming Cable	TQ2347
GE-MARC V TMX8210, TMX8310, TMX8510 MOBILES	
Radio Programming Software	TQ2350
Radio Programming Cable	TQ2351
GE-MARC V PERSONAL	
Radio Programming Software	TQ2337
Radio Programming Cable	TQ2316
TPX TRUNKED PORTABLE	
Radio Programming Software (Set)	TQ2364
Radio Programming Cable, Interface	TQ2367
MPD PERSONAL	
Radio Programming Software (Set)	TQ2360
Radio Programming Interface	TQ2362

PLS PERSONAL	
Radio Programming Software	TQ2361
Radio Programming Interface, Cable	TQ2368
MPS PERSONAL	
Radio Programming Cable	TQ2331
Radio Program Software	TQ2332
Spare Set of Programming Cable Pins	TQ2354
TYPE 99 CODE PLUGS	
Code Plug Programming Software	TQ2345
Code Plug Programming Adapter	TQ2341
VOICE GUARD	
DES Programming Software	TQ2344
VGE Programming Software	TQ2365
Product Programming Interface Cable	TQ2322
GE-4000 PERSONAL	
Product Program Software	TQ2342

Regular Price \$2495

Sale Price \$1995

Save \$500 on a TQ2310

and

**GET THE SOFTWARE AND CABLE
FREE!**

**That's right! For \$1995 you'll get a
TQ2310 and your choice of
programming software and cable
absolutely FREE!**

Availability is limited to stock!

Service Parts 800/368-3277

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Dimension Charts, Line Loss Charts for Popular Cables	Back Cover



FUSEHOLDERS

MASTR® 12V FUSEHOLDER

This rugged fuseholder has over 22 years of proven use in the industry. Fuse is held in place by the front cover. The circuit is interrupted when cover is removed. Accommodates NON cartridge fuse. Rated at 30 amps.

	Order No.	GE No.
Individually	SS3701	19B216021G4
Package of 25	SS3701-25	

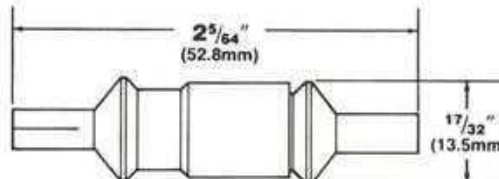


HFB IN-LINE FUSEHOLDER

For 1/4" x 7/8", 1", and 1 1/4" Fuses.

Economical, versatile nylon fuseholder for normal environments. Body has crimp through terminals to accept #12 to #18 wire. High visibility yellow body snaps together to form a strong positive union. Rated at 30 amps, 32 volts.

	Order No.	GE No.
Individually	SS3711	19A149451P2
Package of 100	SS3711-100	

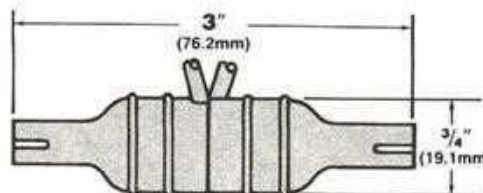


HFB WATERPROOF IN-LINE FUSEHOLDER

For 1/4" x 1 1/4" Fuses.

Versatile fuseholder withstands water, salt spray, ultraviolet light and ozone environments. One piece molded thermo-plastic rubber unit with connecting loop for parallel or perpendicular mounting on a wire bundle. Withstands rigorous shock and vibration per MIL STD 810C. Accepts #12 to #18 wire leads. High visibility body with raised letters. Rated at 30 amps, 32 volts.

	Order No.	GE No.
Individually	SS3721	19A149450P1
Package of 20	SS3721-20	





FUSE (continued)

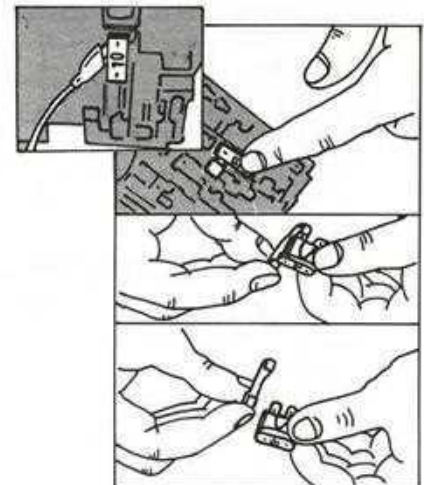
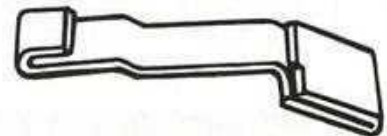
AGC FUSETAPS

This fusetap is one of the latest developments, perfect for round fuses for businesses that work with automotive circuits and need a device to obtain power from AGC type fuseblocks. This simple device, easily installed, provides a strong mechanical connection that is protected from accidental shorting. Put it on the hot side of the fuse and use an external fuse holder and fuse to protect the new circuit. When installed on the cold side of the fuse, the circuit is protected by the original fuse. Available in packages of 100. Order No. SS3731-100



ATO FUSETAP

Use this fusetap to add a circuit to the new flat automotive fuseblock. Pick the circuit or fuse to be used and slip the fusetap over one leg of the fuse and insert the fuse and fusetap into the fuseblock. To protect your new circuit put the fusetap on the hot side of the fuse and use an external fuse and fuseholder. By putting the fusetap on the cold side (protected side) of the fuse, the fuse will protect the new circuit. When installed, a quarter inch tab will protrude above the fuseblock. Place onto this tab a fully insulated female push-on terminal (not supplied). After installation is completed, bend the fusetap flat to the fuseblock to save on space. Available in packages of 100. Order No. SS3730-100



TYPE NON FUSES

Simple, single element type. Safe for 50,000 amp, short-circuits. UL Listed; 250 volts or less. Sold in packages of 10.

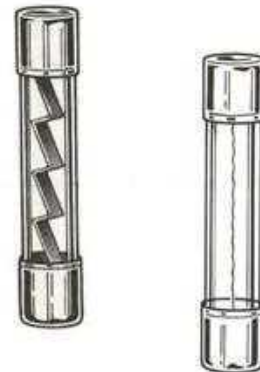
Order No.	GE No.	Similar To	Amp Rating
SS3603-10	1R11P3	NON 10	10
SS3604-10	1R11P4	NON 15	15
SS3605-10	1R11P5	NON 20	20
SS3606-10	1R11P6	NON 25	25
SS3607-10	1R11P7	NON 30	30
SS3608-10	1R11P8	NON 35	35



TYPE AGC/MTH NON-TIME-DELAY FUSES

Formerly called 3AG. Test specifications—carry 110%, blow at 135% within 1 hr. UL listed at 250 volts or less. Size: 1/4" x 1 1/4". Sold in packages of 5.

Order No.	GE No.	Similar To	Amp Rating
SS3611-5	1R16P1	AGC 1/2	1/2
SS3612-5	1R16P2	AGC 3/4	3/4
SS3613-5	1R16P3	AGC 1	1
SS3614-5	1R16P4	AGC 1 1/2	1 1/2
SS3615-5	1R16P5	AGC 2	2
SS3616-5	1R16P6	AGC 3	3
SS3617-5	1R16P7	MTH 4	4
SS3618-5	1R16P8	MTH 5	5
SS3619-5	1R16P9	MTH 6	6
SS3622-5	1R16P12	AGC 1/8	1/8
SS3623-5	1R16P13	AGC 1/4	1/4
SS3624-5	1R16P14	AGC 3/8	3/8



TYPE AGC QUICK BLOW -32V.

Sold in packages of 5. Size: 1/4" x 1 1/4".

Order No.	GE No.	Similar To	Amp Rating
SS3644-5	7102673P4	AGC 7.5	7.5
SS3643-5	7102673P3	AGC 10	10
SS3642-5	7102673P2	AGC 20	20



TYPE ABC CERAMIC BODY

Can take 10,000 amps at 125V without rupturing. Carry 110%, open at 135% of rating within 1 hr. Size: 1/4" x 1 1/4". Sold in multiples of 5.

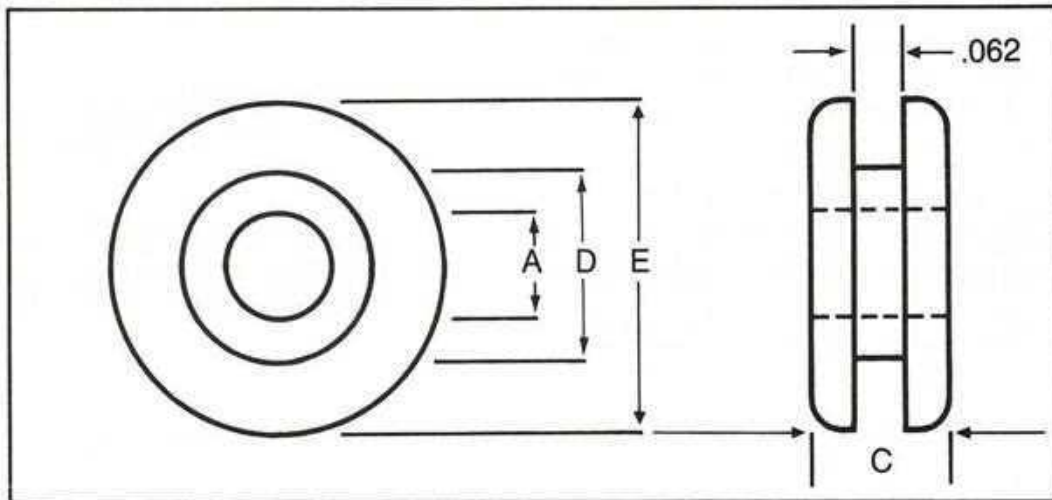
Order No.	GE No.	Similar To	Amp Rating
SS3640-5	7484390P4	ABC 8	8
SS3641-5	7484390P3	ABC 15	15



GROMMETS

All our high quality grommets are made of neoprene. These grommets are soft and pliable. They install easily in holes and provide excellent protection for wires and cable. We offer 6 sizes to allow you to get the best grommet for your application. If you can't find the grommet that you need in the chart below—give us a call. Chances are we have it or can quickly get it for you. Sold in packages of 10.

Order No.	GE No.	A	D	E	C
SS3914-10	5490407P2	.187	.312	.437	.187
SS3915-10	5490407P4	.250	.437	.625	.187
SS3916-10	5490407P6	.312	.562	.812	.312
SS3917-10	5490407P8	.375	.625	.875	.312
SS3918-10	5490407P11	.500	.812	1.062	.312
SS3919-10	5490407P17	.750	1.062	1.375	.375



HOLE PLUGS



RUBBER PLUGS

For covering holes following antenna removal. May be inserted from exterior of vehicle body.

Order No.	Diameter		Hole Size	
	Inch	mm	Inch	mm
K-34	3/4	95.2	15/16	33.3
K-35	1 1/2	38.1	3/4	19.1
K-37	1 1/4	31.8	3/8	9.5
K-39	1 1/2	38.1	7/8	22.2

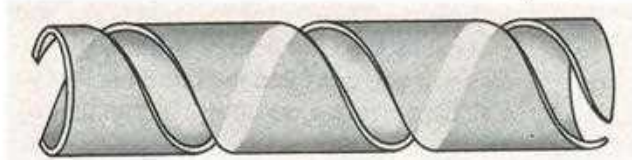


LOOM



SPIRAL CUT

Spiral cut polyethylene tubing for use in holding bundles of wire together. It has an elastic memory and may be used many times. Use 1/4" O.D. to wrap diameters up to 3/8"—use 1/2" for diameters from 3/8" to 1". Color natural.



Order No.	Size	Packaging
SS4010	1/4" O.D.	100' Spool
SS4011	1/2" O.D.	100' Spool

SPLIT LOOM

Provides excellent protection for wires. Made of black polyethylene and slit for easy insertion of wires. Temperature range of -30° to +200°F (-34° to +93°C).



Order No.	Size	Packaging
SS4012	3/8"	100' Spool
SS4013	1/2"	100' Spool
SS4016	5/8"	100' Spool

EXPANDABLE MONOFILAMENT SLEEVING

A braided Polyethylene Terephthalate (PET) monofilament sleeving that is light, flexible and expands to three times its original ID when the length is contracted, allowing easy installation. UL recognized-rated 125°C (257°F) and will withstand short term temperature extremes up to 230°C (446°F). Ideal for wires routed near catalytic converters.

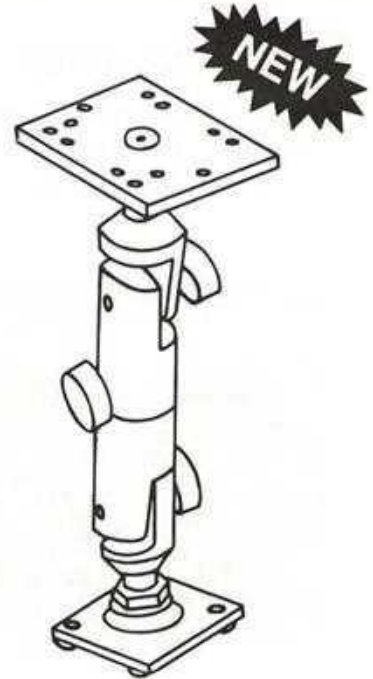


Order No.	Nom.	Diameter Range	Length
SS4015	1/4"	1/8" to 3/8"	1000
SS4014	1/2"	1/4" to 3/4"	500

MOUNTS

**TILT/SWIVEL CONTROL HEAD MOUNT
WITH THUMBSCREWS**

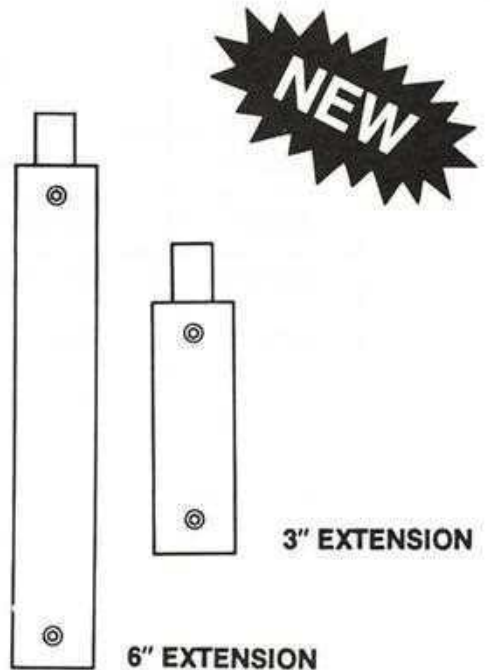
This high quality tilt/swivel mount for cellular control heads features thumbscrew adjustments for easy repositioning to suit different user preferences. Precision machined aluminum with pre-drilled hole patterns to fit all makes of cellular phones. Includes new overall length of 7", new base plate, with built-in standoffs for carpet mounting. Order No. SS3910



TILT/SWIVEL/EXTENTION POSTS

If you need more height, use our optional extension posts.

Order No.	Height
SS3911	3"
SS3912	6"





PAINT

TOUCH-UP SPRAY PAINT

Give your re-installations something extra. Your customers will appreciate the scratches and marks that you clean up with our line of high quality spray enamels.







Order No.	Color	Products Used On
SS2208	Black	Heat sinks on TMX, RANGR,GE-MARC, CLASSIC II
SS2210	Beige	MASTR II Front cap
SS2211	Moonstone Brown	MASTR II, MVP Custom
SS2212	Warm Charcoal Gray	DELTA, EXEC II
SS2226	Super Dark Gray	Carfones, Vehicular Chargers
SS2228	Cool Dark Gray	MCS, DELTA, TMX 8210, TMX 8215, VG Mobiles, old TMX series, M-PD, TPX, PLS new FMD series, MLS.

Be prepared and pick up one of our touch-up six-packs—
one of each of the above colors. Order No. SS2230

RF CONNECTORS

Sold in packages of 10.

Order No.	Type	Description	Length	Finish	Cable	Hand Tool*	
SS3427-10	225395-1 AMP SPECIAL INDUSTRIES	BNC Series Dual Crimp Plug	1.218"	Nickel Plated	RG58,58A, 58B, 58C	ST2618	
SS3428-10	226279-3 AMP SPECIAL INDUSTRIES	UHF Series Dual Crimp Plug	1.50"	Nickel Plated	RG59	ST2619	
SS3430-10	CPN-450 CAMBRIDGE	50 OHM "N" Series Connector Plug	1.65"	Nickel Plated	Proflex	ST2616	
SS3431-10	CPMC-TNC-450 CAMBRIDGE	TNC Series 3 piece Mil-crimp Plug	1.00" (without ferrule)	Nickel Plated	Proflex	ST2617	

*See page 18 for Crimping Tools.

SCREWS

HEX WASHER SLOTTED SCREWS

High quality thread-forming screws, bulk packaged in boxes of 1,000. Check our low pricing.



Order No.	GE No.	Description
SS2601	N710P1612B17	#10 x 3/4" Steel Zinc Black
SS2602	N710P1616B17	#10 x 1" Steel Zinc Black
SS2603	N710P1624B17	#10 x 1 1/2" Steel Zinc Black
SS2604	N710P1612B	#10 x 3/4" Steel Zinc Plated
SS2605	N710P1616B	#10 x 1" Steel Zinc Plated
SS2606	N710P1624B	#10 x 1 1/2" Steel Zinc Plated



SEALANTS/CLEANERS



GE SILICONES

One package silicone rubber adhesive keeps water where it belongs. Packaged in collapsible 2.8 oz. aluminum tubes. Cures to tough resilient rubber at room temperature. Withstands temperatures of 400 to 500°F. Remains flexible at -75°F. Resists moisture, aging, ozone weathering.

Order No.	GE. No.	Type	Description
SS2201	19A701648P2	RTV102	White
SS2202	19A701648P8	RTV108	Clear
SS2203	19A115153P3	RTV103	Black
SS2217	19A116808P2	RTV162	White Non-corrosive

PRECISE ELECTRONIC SOLVENT CLEANER

Clean up noisy switches, potentiometers, relays and moving parts. Will not harm LEXAN®. Also may be used to chill components during trouble-shooting. Current does not have to be turned off during application.

- Non-flammable
- Non-explosive
- 32,000 volt dielectric
- Non-conductive
- Leaves no residue
- Odorless-Stainless
- 20 seconds dry time
- Does not contain carbon tetrachloride

Economical 20 oz. can.

Order No. SS2231



OPHTHALENE



This wax product was developed for use on airplane windshields. Helps restore finish on control heads and handsets—give your customers something extra during re-installations. Also good for video terminal screens. 1 lb. 2 oz. container.

Order No. SS2232



**WON'T HARM
LEXAN®**

VINYL INSULATED RING TERMINALS

Illustrated Actual Size. Made by AMP Incorporated.
Economically packaged in boxes of 100.



Stud Size	8	.030 stock	10
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**22-16
WIRE
RANGE**



SS3410-100



SS3409-100

Stud Size	10	.030 stock	1/4"	5/16"
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**16-14
WIRE
RANGE**



SS3440-100



SS3426-100



SS3441-100

Stud Size	10	.040 stock	1/4"	3/8"
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**12-10
WIRE
RANGE**



SS3442-100



SS3443-100



SS3425-100

Stud Size	10	.050 stock	1/4"	3/8"	1/2"
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**8 GA.
WIRE.**



SS3422-100



SS3423-100



SS3424-100



SS3448-100



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TERMINALS continued

VINYL INSULATED TERMINALS




Economically packaged in boxes of 100.
Made by AMP Incorporated.





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Stud Size	6	8
22-16 WIRE RANGE		
	SS3412-100	SS3413-100

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Stud Size	6	8	10
16-14 WIRE RANGE			
	SS3444-100	SS3414-100	SS3445-100



Stud Size	8	10
12-10 WIRE RANGE		
	SS3446-100	SS3415-100

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WIRE RANGE .030 STOCK			.250 PUSH-ON TERMINAL
	SS3401-100	SS3419-100	

TERMINAL AND CONNECTOR KIT

- Handy Kit contains a wide variety of terminals.
- Packaged in sturdy metal case.
- Also contains tie wraps and tie mounts.

Order No. SS3411



TERMINALS continued

WHISCO BATTERY TAP™

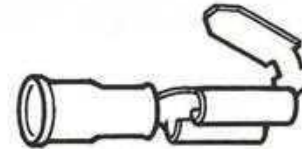
The Whisco Battery Tap™ provides a quick, convenient connection to battery cables. Battery connections are now easy and cost effective. No special tools are needed for installation. Accepts accessory wire to #8. No wire to strip. Removes connection from corrosive atmosphere of the battery. Max. current: 50 amps continuous. Sold in packages of 5 Battery Taps™ with allen wrench and installation sheet. Order No. SS3460-5. Also available in packages of 25 Battery Taps™. Order No. SS3460-25.

™ Trademark of Whisco Component Engineering, Inc.



QUICK SPLICE

Two piece quick splice makes insulated tap-in parallel or pig-tail splices in seconds without cutting, stripping, taping or soldering. Insert wires into case and press metal grip down with pliers, then close case cover. Sold in packages of 50. Order No. SS3420-50



Wire Range	22-16	16-14	12-10
Stock	.030	.030	.040

BUTT CONNECTORS

Package of 50



SS3406-100



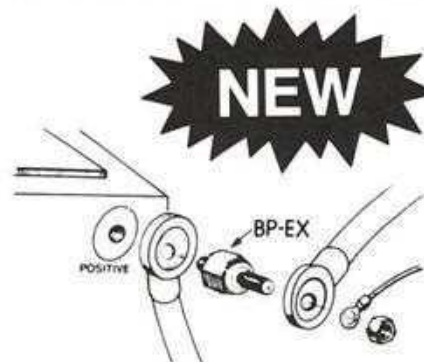
SS3417-100



SS3418-100

BATTERY POST EXTENDER

Replaces positive battery terminal on side mount batteries, so accessory leads can be installed or removed easily. Made of corrosion resistant brass, it installs quickly. Works with Delco batteries. Sold individually (Order No. SS3450) or in packages of 25 (Order No. SS3450-25).



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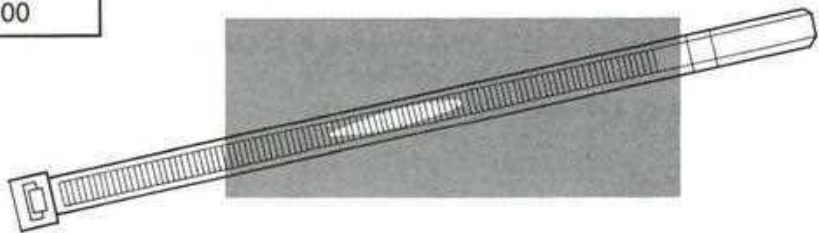
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TIE WRAPS

Our nylon tie wraps are tough, resilient, light weight and resistant to aging and most chemicals. Sold in two sizes. Package of 1,000. Natural Color.

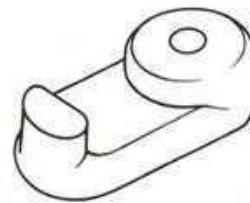
Size	Order No.
4 1/8"	SS4001-1000
8"	SS4002-1000



TIE MOUNTS



These nylon tie mounts provide a convenient place to anchor tie wraps. Keeps wires where they belong. Sold in packages of 100. Order No. SS4003-100



TOOLS

Weller® Pyropen® lets you take the heat wherever you go.



The advanced versatility of the Pyropen is ideal for service jobs in out of the way places. No batteries or electricity needed. Lightweight and easy to carry around.

Powered by butane gas these professional tools will operate for up to 3 hours on one filling. And it's ready to solder in just 30 seconds.

The three models cover a wide range of applications and a variety of tips and accessories is available.

These top quality tools are built to the high standards of all Weller soldering equipment, so when you have to take the heat make sure it's a Weller Pyropen.



**Weller®
SELF-IGNITING
CORDLESS
PYROPEN***

- Push button ignition.
- Dual function, can be used as soldering iron or hot air torch.
- Instant heat available anywhere at controlled temperatures.
- Easy to fill with butane gas.
- Versatile tool for operation away from the workshop for repairs or hobbies.

Order No. ST0176

*Registered trademark of Cooper Industries, Inc.



**Weller®
Cordless
Pyropen*
Temperature
controlled soldering—
anywhere**

- Lightweight/completely portable—Runs on LP gas for 3 hours of operation
- Ready to solder in 30 seconds
- Temperature control 392° F-932° F/ 200°C-500°C
- Packaged in a metal carrying case complete with 3.3mm soldering tip plus a 5.7mm hot air tip, torch ejector, spanner, tool support clip, cleaning sponge and operation manual.

Order No. ST0175

Pyropen® Jr.

DESCRIPTION

Butane gas operated mini soldering, brazing and hot air tool with adjustable temperature controlled by varying gas flow. Lightweight aluminum body will not melt. Complete with 0.5mm tapered needle soldering tip, aluminum protective cap with pocket clip, and operation manual.



Order No. ST0177



TOOLS continued



step up to

Makita CORDLESS DRIVER-DRILL KIT
Power Tools

- 2 Speed
- Variable Speed
- Reversible
- Model 6093DW

This versatile driver-drill has 6 torque settings for driving in a variety of material. Drills up to 350, 5/16" holes in medium hard wood from a single one hour charge. Electric brake for fast stopping of chuck. This kit includes a tool case, 9.6V charger and battery.
Order No. ST1521



Capacity	
Steel	..... 3/8"
Wood	..... 11/16"
Wood screw	..... #12x2 1/8"
No load speed	
High	..... 0-1,100 RPM
Low	..... 0-400 RPM
Battery	..... 9.6VDC
Net weight	..... 3.8 lbs. (without charger)

Replacement batteries available. Order No. ST1525

step up to

Makita 3/8" CORDLESS ANGLE DRILL KIT
Power Tools

- Reversible
- Model DA3000DW

High torque performance (700 RPM) for both drilling and driving applications. Drills up to 200, 3/8" holes in medium hard wood from a single one hour charge. Slimline design for use in those hard-to-get-at places such as corners, car dashboards or in and around machinery. Plus, it's reversible for removing screws. This kit includes a 7.2V one hour fast charge removable battery, automatic cut-off charger and handy carrying case.
Order No. ST1522



Capacity	
Steel	..... 3/8"
Wood	..... 13/16"
Wood screw	..... #9x3/4"
No load speed	..... 700 RPM
Battery	..... 7.2VDC
Overall length	..... 11 3/8"
Net weight	..... 2.6 lbs.

Replacement batteries available.
Order No. ST1524

PARA BELT™

One of the most common problems shared by all drill users is the temporary storage and retrieval of drill bits. PARA BELT™ holds these accessories and more right on your drill.
Order No. ST1520



™Trademark of H-Tech Products Corp.

TOOLS continued

HIGH SPEED DRILL INDEXES

17 Piece

- Packaged in unbreakable plastic case
- Sizes range from 1/16" to 3/8"
- Made in U.S.A. by Henry L. Hanson, Inc.
- Jobber length
- One year warranty

Order No. ST1405



29 Piece

- Jobber length
- Precision ground points, flutes, body clearance and drill diameter
- Reusable storage case converts into self-standing drill bit holder
- Bit sizes are embossed in case for easy identification
- Sizes range from 1/16" to 1/2"
- High spiral-angle flutes for free cutting and better chip removal.
- Made in U.S.A. by Black & Decker.



INDIVIDUAL DRILL BITS

High speed drill bits

Order No.	Size	Application
ST1407	1/8"	#8 Self-tapping Screws
ST1408	7/64"	#6 Self-tapping Screws
ST1409	9/64"	#10 Self-tapping Screws
ST1410	3/16"	1/4" Self-tapping Screws
ST1411	9/32"	LB Antenna 1/4" Bolts





TOOLS continued

AMP SUPER-CHAMP® IV

- All-purpose electrical repair tool
- Crimps insulated terminals 22-10 AWG
- Cuts bolts
- Cuts and strips wire cleanly
- In-nose cutter facilitates work in tight locations.
- Extra long handles provide better leverage

Order No. ST2601



AMP SERVICE TOOL II

- Deluxe, all-purpose hand tool
- Crimps open and closed barrel terminals
- Crimps closed end splices 22-10 AWG
- Bolt cutting capability
- Extra long handles provide better leverage
- Cushioned handles for ease and comfort of operation

Order No. ST2602



CPN-450 CRIMPER

- For use on CPN-450 connectors (SS3430-10)
- Model CTR-CPN-450

Order No. ST2616



TNC-450 CRIMPER

- For use on TNC-450 connectors (SS3431-10)
- Model CTR-CPMC-TNC-450

Order No. ST2617



AUTOMATIC WIRE STRIPPER

- For soft wire insulation
- Will strip up to #12 AWG
- Replacement jaws available (ST2604)

Order No. ST2603



TOOLS continued

BNC CRIMPER

- Heavy duty crimp tool with ratchet handle.
- Crimping BNC dual crimp plugs and jacks.
- For use with RG-55, 55A, 55B, 58, 58B and 223 coaxial cable.

Order No. ST2618



UHF CRIMPER

- Crimp UHF dual crimp plugs and jacks.
- For use with RG-58 and RG-59 coaxial cable.
- Includes a strip length diagram to assure proper connector application.

Order No. ST2619



RUBBERMAID® SERVICE CART

Keep all your installation hardware at your fingertips with this 16" x 30" heavy duty service cart. It is made of seamless Duramold® construction and is light and easy to maneuver. Available in gray only. 400 lb. maximum capacity.

Order No. ST3861



TOOLS continued

WIRE STRIPPING TOOL

- For 10-22 AWG
- Solid or stranded wire
- Positioning "teeth" keep the job one handed
- Case-hardened steel jaws
- Bending device in tool head forms and shapes wire to match wiring applications

Order No. ST2605



JACO QUICK STRIPPER

- Three fixed wire stripping jaws
- Economical

Order No. ST2606



COAX CABLE STRIPPER

- Prepares cable for installation of PL-259 connector
- For use on RG-8 or RG-213 cable
- Made by Cablematic
- Replacement blades available (ST2611) -2 blades per package

Order No. ST2609



COAX CABLE STRIPPER

- Made by Cablematic
- For use on RG-58 cable
- Prepares cable for installation of PL-259 with UG-175/U
- Replacement blades available (ST2611)-2 blades per package

Order No. ST2610

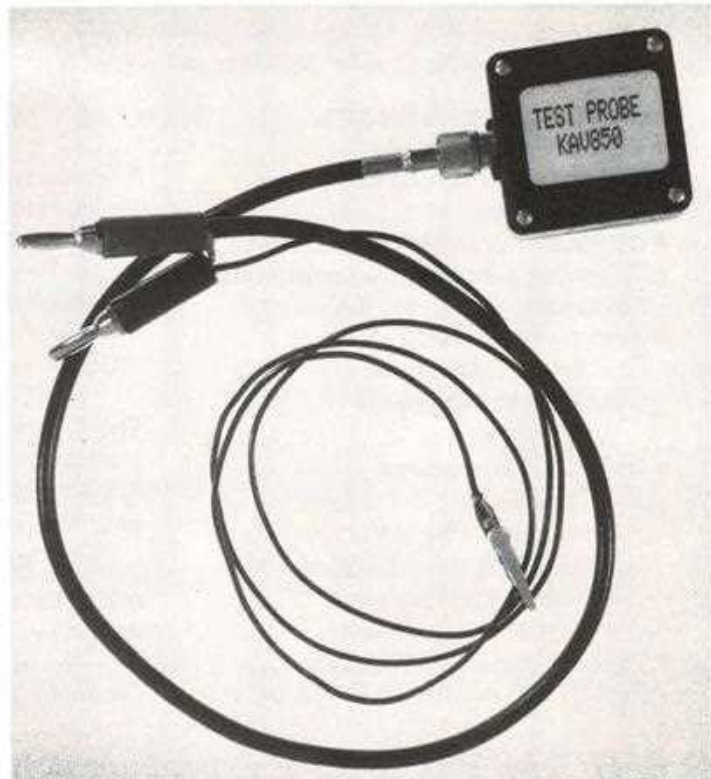


ANTENNA INSTALLATION ACCESSORY

Glass tester for 800 MHz "On-Glass"® antennas


NEW

This novel capacitance probe allows you to pre-evaluate auto window glass for properties which could impair the performance of "On-Glass"® antennas. Designed through correlation with actual RF loss measurements, this unique probe is equally useful for all cellular telephone, trunked and dispatch radio applications. Can be used with any inexpensive hand held digital capacitance meter capable of 1 pF measurement with 0.1 pF resolution (such as TQ2523).



- **Pre-evaluate**—installer can determine if window material will allow satisfactory antenna performance—even pinpoints best location.
- **Troubleshoot**—allows quick isolation of problem areas in existing untested installations.
- **Easy to use**—requires just seconds of valuable installation time.
- **Timesaving**—up-front analysis allows first-time success by suggesting alternative antenna type if glass tests negative.

Order No. TQ0612

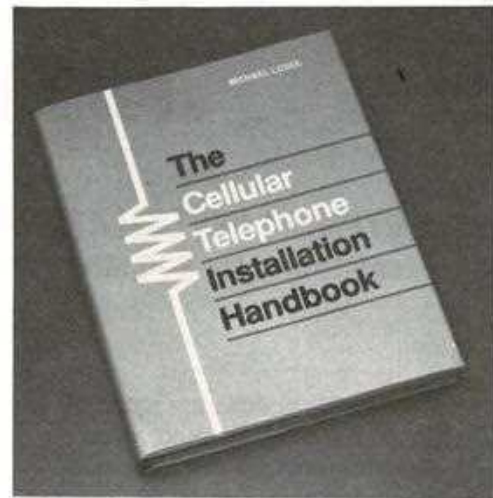
"On-Glass"® is a registered trademark of Antenna Specialists Company

TRAINING

THE CELLULAR TELEPHONE INSTALLATION HANDBOOK

is a step-by-step guide that teaches the latest and most effective installation, troubleshooting and repair techniques. Antenna theory, selection, placement and installation are explained, along with complete sections about cellular system theory; test equipment and tools; telephone selection, placement and installation; marine and rural (fixed) installations; plus procedures for dealing with customers from check-in thru check-out and follow-up.

Author, Michael Losee, has supervised more than 10,000 cellular installations and holds a B.S. in Electrical and Computer Engineering. Mr. Losee is currently the Technology Editor for Cellular Business magazine.



Individual Chapters Include:

- Cellular System Theory
- Testing and Analyzing Equipment
- Required Tools
- Computer Hardware and Software
- Telephone Selection, Placement and Features
- Antenna Selection
 - a. Types of Antennas
 - b. Theory of Operation
 - c. Applications
- Installation Procedures:
 - a. Pre-checking the vehicle
 - b. Planning the Installation
 - c. Beginning the Installation
 - d. Testing the Installation
 - e. Customer Check-Out
- Marine Installation Procedures
- Rural (fixed) Installation Procedures
- Troubleshooting and Repairing Installations
 - a. Identifying Problems
 - b. Correcting Problems
 - c. Troubleshooting Quick List
- Glossary of Terms
- Directory of Manufacturers and Equipment Providers

The Cellular Telephone Installation Handbook is produced in a high quality, fully illustrated, hardcover edition. It will quickly become your one-stop reference for error-free installations.

... "This book is a must for the cellular agent, dealer, carrier and installer ..." NACA (National Association of Cellular Agents)

Order No. ST3306

CELLULAR VIDEO TAPE: (Checkout & Installation)

This 56 minute video tape covers everything you need to know to install a Cellular Radio—"from box to car." The concepts stressed in the video tape are applicable to other mobile radio installations. Comes complete with 5 workbooks. Additional workbooks available (ECP917).

Order No. SPK034



28 GAUGE HOOK-UP WIRE

Sold in convenient 10 foot lengths. Wire has a teflon jacket.

Order No.	GE No.	Color
SS3801	19A116181P1	Black
SS3802	19A116181P2	Brown
SS3803	19A116181P3	Red
SS3804	19A116181P4	Orange
SS3805	19A116181P5	Yellow
SS3806	19A116181P6	Green
SS3807	19A116181P7	Blue
SS3808	19A116181P8	Violet
SS3809	19A116181P9	Grey
SS3810	19A116181P10	White
SS3811	19A116181P11	White/Black
SS3812	19A116181P12	White/Brown
SS3813	19A116181P13	White/Red
SS3814	19A116181P14	White/Orange
SS3815	19A116181P15	White/Yellow
SS3816	19A116181P16	White/Green
SS3817	19A116181P17	White/Blue
SS3818	19A116181P18	White/Violet
SS3819	19A116181P19	White/Grey

Also available as a kit containing all 19 of the above. A total of 190 feet of wire.
Order No. SS3820

SPEAKER WIRE—22-2 GAUGE

Sold in 40 ft. reels. Belden 8442 wire, tinned copper, PVC insulated, twisted pair, PVC jacket. Color code: Black, Red.
Order No. SS3820-40



TYPE GPT PRIMARY WIRE

Can operate in a range from -40°F to +176°F. Conforms to SAEJ1128 type GPT. Resists alcohol, acids and straight hydrocarbons. Provides excellent weather, chemical, pinch and abrasion resistance. Sold in 100 ft. reels.

Order No.	Color	AWG
SS3832-100	Red	14
SS3839-100	White	
SS3836-100	Blue	
SS3835-100	Green	
SS3830-100	Black	
SS3822-100	Red	8
SS3821-100	Black	

COAXIAL CABLE

Packaged in 500 foot spools. Quality cable manufactured by Belden Electronic Wire and Cable.

Order No.	Description	Trade No.	Nom. Imp.	Shield Coverage
SS3851-500	RG58A/U Type	8219	50Ω	96%
SS3854-500	RG-58/U Type	8240	53.5Ω	95%

LET US KNOW IF YOU'RE INTERESTED IN OTHER TYPES OF CABLE OR PACKAGING ARRANGEMENTS—WE WANT TO BE YOUR TOTAL AFTER-MARKET SUPPLIER.

NOTES