



**MASTR** *Personal Series*

PROGRESS LINE

TWO-WAY RADIO

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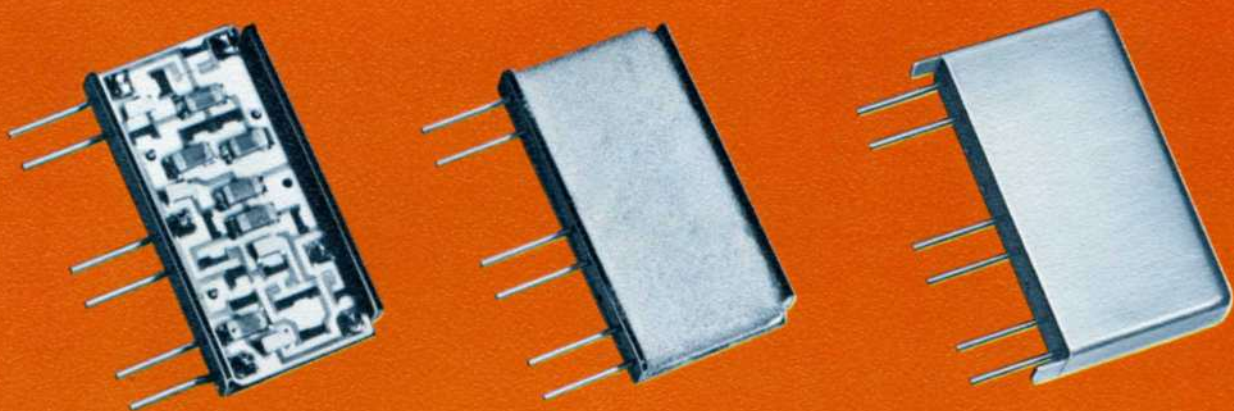
### TWO-WAY RADIO

The General Electric MASTR personal two-way radio, a truly high-quality personal unit, is the most powerful radio of its kind and size available. The high band transmitter delivers 4.5 watts of RF power. The UHF model delivers 2 watts. This kind of power delivers solid communications.

Since the unit is  $8\frac{1}{4}$ " high by  $3\frac{3}{16}$ " wide and  $1\frac{3}{4}$ " deep, this personal radio is only 49 cubic inches in volume. When you add any of the operational options such as 2, 3 or 4 frequencies, Selective Calling tone devices, Channel Guard or VOX (hands-free operation), the unit retains the same small dimensions.



## THICK-FILM INTEGRATED CIRCUITRY USED THROUGHOUT



An industry first is the generous use of integrated circuits in the receiver, transmitter and options. The use of this advanced state-of-the-art process provides long-term reliability in a minimum of space. General Electric's use of thick-film integrated circuit technique permits customizing of the circuitry. A complete circuit module can be changed in seconds—assuming it ever needs replacing. The basic unit uses twelve separate, easily-removable integrated circuit modules replacing more than 200 discrete components. With options, up to seventeen integrated circuits replace over 300 discrete components.

This pace setting personal unit receiver is the first radio to use single conversion. This greatly reduces spurious responses and eliminates the generation of "tweet" frequencies because there is no second local oscillator. By using crystal IF filters and a crystal discriminator, the kind of selectivity is achieved which is significantly important in metropolitan (or crowded radio) areas.

The handsome design and extreme ruggedness of this personal radio is achieved by packaging the unit in a high-impact, mar-resistant Lexan® housing. The texture of the surface assures a firm grip on the unit even if your hands are wet.

To add strength to the case without weight, the front plate is of satin-brushed, chrome-plated cast aluminum. The battery compartment cover is also aluminum.





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All controls except the push-to-talk switch and the high-low power switch are mounted on the top surface of the unit.



- A. Push-to-talk switch
- B. High-low power switch to extend battery life
- C. Collapsible antenna
- D. Squelch control
- E. Option/Accessory jack
- F. On-Off/Volume control
- G. Frequency selector (4 position)
- H. Speaker and Microphone



One rechargeable battery is used for all power requirements. However, six standard "C" cells will work without wiring modification or adapters. Battery life on the rechargeable nickel-cadmium battery, based on a standard EIA duty cycle of 10% transmit, 10% receive and 80% standby is 10 hours per charge on high band and 12 hours on UHF. On a 5% transmit, 5% receive and 90% standby duty cycle, battery life is over 20 hours per charge on both VHF and UHF models.

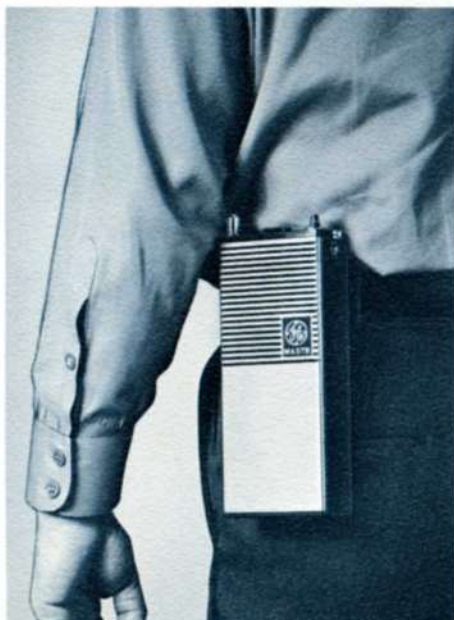
The 7½ volt General Electric-built nickel-cadmium battery has been specially designed to accept either a fast or slow charge. It is the only battery available with built-in protection. Should a charger malfunction, the battery is protected by a replaceable fuse that interrupts the charge.

# ACCESSORIES

GENERAL ELECTRIC HAS OVER TWO HUNDRED INTERNAL VARIATIONS IN THE MASTR PROGRESS LINE PERSONAL SERIES RADIO TO GIVE YOU UNPARALLELED VERSATILITY.

- Three control systems are available—internal, internal/external or voice operated circuits. And they may be equipped with transmitter audio compression.
- One to four frequencies in both transmitters and receivers.
- Channel Guard is available as an encoder/decoder or as a single or two-tone encoder.
- Either General Electric Type 90 or Type 99 tone can be used for Selective Calling.

**Other accessories**, besides the chargers already described, are remote speaker-microphones, lapel microphones, high noise headsets, miniature headsets, earpieces and lapel speakers. The standard antenna can be replaced with a solid whip antenna, a flexible wire antenna or a spring whip antenna. The unit may be carried with either a hand strap or a leather case and shoulder strap. For ease and speed in servicing, there are test fixtures and cables, IF generators, test amplifiers and probes, charger calibrators and test adapters.



**Wear it on your belt.** A belt clip is supplied with each unit and may be attached to the back of the radio if desired.



**Use the convenient hand strap.** A threaded insert on one side of the unit is designed for easy installation of the carrying strap.



**Use the leather case and shoulder strap** to free your hands for other operations. Case includes belt loop.



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## DESK CHARGERS

These General Electric chargers are the only ones on the market today that bring the battery from any discharged state to a full charge without overcharging. When the battery is inserted, an indicator light shows that the battery is charging. When the light goes out, the battery is charged to 70% of its capacity. At this point, the charger *automatically* switches to a trickle-charge mode to complete the charging cycle at a slow, safe rate. Even at the 70% capacity, the unit may be operated for 14 hours at a 5 — 5 — 90% duty cycle.



## CHARGERS

There are four types of chargers available with the MASTR personal series radios—a single-unit desk charger, a multi-unit charger, a vehicular charger and a fast charger.



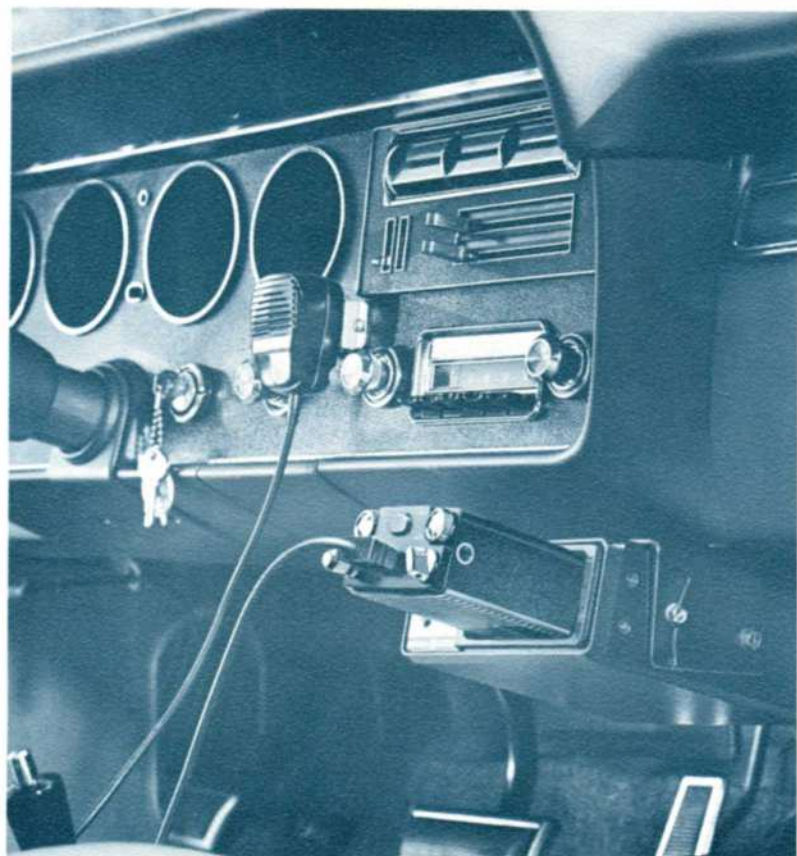
## FAST CHARGERS

Whereas the normal charge time to arrive at 100% capacity is 14 to 16 hours, the fast charger brings a completely discharged battery to a 70% charge level in 15 minutes. As with all other chargers, a full 100% capacity will be reached in about six hours after the battery reaches the 70% point through the *automatic* trickle charge feature.



## MULTI-UNIT CHARGERS

The multi-unit charger may be operated as an eight-position charger, or two slave units may be connected to a master giving a total of 24 charging positions. Each position is equipped with an indicator lamp and an *automatic* trickle switch. All multi-chargers may be either desk or wall mounted.



## VEHICULAR CHARGERS

The four types of vehicular chargers available are for  $-12$  volt,  $\pm 12/24$  volt,  $\pm 48$  volt or  $\pm 72$  volt power supplies. For these chargers, the battery must be left in the unit. The unit locks into the charger to reduce the possibility of theft and hold the unit securely in place. The same *automatic* trickle charge feature is provided in all four vehicular chargers.

Batteries can be charged either with the battery in the unit or removed from the battery compartment in all chargers except the vehicular charger. In the desk and vehicular chargers, it is possible to operate the unit while it is being charged. An external antenna is standard in the vehicular charger, but, an external antenna must be ordered for the desk charger model that includes the antenna adapter.

# SPECIFICATIONS

	High Band	UHF Band
Frequency Range:	132-174 MHz	406-420, 450-470 MHz
Power Output:	4.5 watts	2 watts
Battery Life: 10-10-80 Duty Cycle	10 hours	12 hours
Sensitivity:		
EIA 12 dB SINAD	0.25	0.40
20 dB Quieting	0.35	0.50
Selectivity:		
EIA 2-channel	- 75 dB ( $\pm 30$ kHz channel)	- 60 dB ( $\pm 25$ kHz channel)
Spurious Response:	- 70 dB	- 60 dB
Intermodulation:	- 60 dB	- 60 dB
Frequency Stability:	$\pm 0.0005\%$ from $-30^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ $\pm 0.0002\%$ from $0^{\circ}\text{C}$ to $+55^{\circ}\text{C}$	$\pm 0.0005\%$ from $-30^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ $\pm 0.0002\%$ from $0^{\circ}\text{C}$ to $+55^{\circ}\text{C}$
Audio Output Power:	500 mw	500 mw
Normal Ambient Operating Temperature:	$-30^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ or $-22^{\circ}\text{F}$ to $+140^{\circ}\text{F}$	

## *The solid-state radio backed by Expert Service*

The MASTR Progress line of two-way radios is performance proved. Yet, it is still electronic equipment and will need adjustment and service from time to time. In fact, the FCC insists on periodic frequency and transmitter deviation measurements.

To provide you with this service, General Electric has many hundreds of authorized

Service Centers located throughout all 50 states. Each Center is equipped with the latest electronic test and adjustment equipment, and staffed by skilled, factory-trained technicians licensed by the FCC.

For more information about the MASTR Personal Series, call your GE Communications Consultant listed in the Yellow Pages under "Radio Communications," or write:

# GENERAL ELECTRIC

**MOBILE RADIO DEPARTMENT**

Lynchburg, Virginia 24502 Cable GECOMPROD