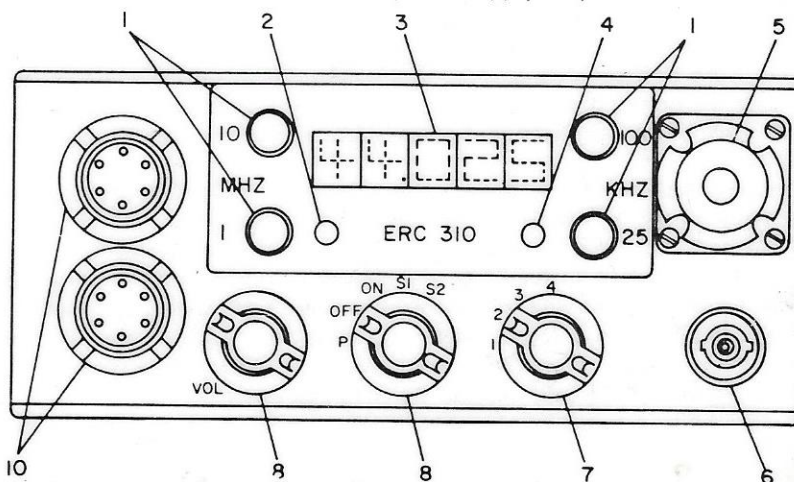


## OPERATING INSTRUCTIONS – TRANSCEIVER ERC-310

**DESCRIPTION** – The ERC-310 is a fully synthesized manpack transceiver that can be used as a personal handheld portable radio, a mobile radio, or as a base station. It provides 800 FM channels, at 25 kHz spacing, in the factory installed 20 MHz segment of the 30 to 80 MHz frequency range and is compatible with existing radios employing 25 kHz or 50 kHz channel spacing. The ERC-310 can be operated from a battery pack or can be connected directly to a vehicular or base station 10-30-volt DC power source without a power supply adapter.



### CONTROLS, INDICATORS, AND CONNECTORS.

**Frequency Selection Pushbuttons (1)** – Preset transceiver frequency of operation in 10 MHz, 1 MHz, 100 kHz, or 25 kHz steps. Depressing any of the pushbuttons illuminates the display for approximately 5 seconds.

**Display Intensity Sensor (2)** – Determines display brightness. In strong sunlight, display intensity is increased; in darkness, display intensity is decreased.

**Display (3)** – Displays frequency preset by Frequency Selection pushbuttons (1).

**Battery Condition Indicator (4)** – Operates when Display (3) is on to indicate battery condition. Lights to indicate battery state of charge is adequate to assure usable communications. When not illuminated, it indicates that battery is either in a state of discharge or near discharge.

**Whip Antenna Connector (5)** - Provides connection of Whip Antenna.

**50-Ohm BNC Connector (6)** – provides connection of Discone, Dipole, or other 50-Ohm Antenna.

**Memory Switch (7)** – Selects up to four preset frequencies.

**Function Switch (8)** – (Program Mode) allows programming up to four specific frequencies into the radio's memory prior to a mission. OFF disconnects radio from the supply voltage.

ON allows radio to operate with no squelch. S1 selects tone squelch – audio will be heard if the receiver receives a signal modulated by a 150 Hz tone; otherwise radio remains mute. S2 selects noise squelch - audio will be heard when the RF signal has 6 to 15 dB SINAD (internally pre-settable); otherwise radio remains mute.

**Volume Control (9)** – Adjusts receiver audio level.

**Audio Connectors (10)** – Provides connection to Handset, External Power Cable and Rebroadcast Cable, and other accessories.

## NORMAL PRESET MODE OF OPERATION

**Programming Frequency of Operation.** Up to four specific frequencies can be programmed into the radio's memory as follows: (1) set the Memory switch (7) to position 1; (2) set the Function switch (8) to P; (3) use the Frequency Selection pushbuttons (1) to preset the desired frequency for Memory switch position 1; (4) repeat procedure for positions 2, 3, and 4, as desired, of the Memory switch.

**Handset** — Connect the Handset to either of the two Audio connectors (10). With the raised reference mark on the Handset plug adjacent to the short side of the top panel, the three locating pegs will fit into the corresponding slots and, with a slight downward pressure and clockwise twisting, the plug will be securely fixed to the connector. To release, press the plug downward and turn counterclockwise.

**Antenna** — In normal use, a Whip Antenna is inserted into the Whip Antenna connector (5). The BNC connector (6) is used for connecting the transceiver to any other type of 50-ohm antenna. The Dipole Antenna System may be used to provide a more efficient antenna. To calculate the length and the Dipole Antenna, divide 72 by the frequency in MHz and cut a piece of wire equal to the calculated length. Cut the wire into two equal sections and connect each section to one end of an insulator (approximately 6 inches long). Connect the conductor and shield of a 50-ohm coaxial cable to the two wires connected to the insulator. Connect the other end of the coaxial cable to a BNC plug and connect this plug to the BNC connector on the transceiver. Elevate the center of the antenna to a suitable height and fix the two ends of the antenna to convenient anchor points. Where possible, the antenna should be at right angles to the direction of the transmission. NOTE: At no time should the antenna be connected to both antenna connectors simultaneously.

**DC Power** — DC power to operate the unit is normally provided by attaching the Battery Pack to the bottom of the unit. The transceiver can also be connected to a vehicular or base station 10-30-volt DC power source using the External Power Cable.

**Selecting Preset Frequencies** — Use the Memory switch (7) to select the desired preset frequency.

**Squelch Function** — Use the Function switch (8) to select squelch operation as follows: ON (no squelch), S1 (tone squelch), or S2 (noise squelch).

**Receive** — Any signal present on the frequency to which the transceiver is set will be heard in the handset. Use the Volume control (9) to adjust audio to desired level.

**Transmit** — To transmit, press the switch on the Handset and talk into the Handset. Release the switch to return to the receive condition.

**Monitoring Battery Condition** — Prior to each daily operation, use the Battery Condition Indicator (4) to check battery condition.

**REPLACING BATTERY PACK** — Replace the Battery Pack by unscrewing two studs securing the Battery Pack to the bottom of the transceiver. When replacing with a spare Battery Pack, make sure O rings are in place.

**CHARGING BATTERY PACK** — The ERC-310 NiCad Battery Pack has two banana jacks to allow connecting to a source of approximately 18 VDC for charging. The Battery Pack should be charged at a charging rate of 500 ma for 5 hours or 200 ma for 13 hours. Excessive charging periods must be avoided as high pressures can be built up on the individual cells of the Battery Pack and permanent damage could occur.