

3 July 2001

TECHNISONIC TFM-500 VHF-FM/UHF RADIO USE

- 1. DIRECT CHANNEL:** Direct channel entry allows the rapid loading of any simplex frequency (same frequency for receive and transmit). Duplex frequencies (separate frequencies for receive and transmit) are not possible by direct channel loading. The direct channel is automatically loaded into channel "000". The direct channel cannot be scanned. The direct channel cannot toggle between a pre-programmed channel and the direct channel.

- 2. PRE-SET MEMORY CHANNELS:** There are 200 possible main pre-set channels for both VHF-FM and UHF radios all containing receive & transmit frequencies, receive & transmit tones, and settings for bandwidth, display, and scan. Simplex or duplex frequencies are available. All standard CTCSS tones are available. Channel bandwidth can be set as 25.0 kHz (wideband @ 5 kHz modulation) or 12.5 kHz (narrowband @ 2.5 kHz modulation). There are 9 spaces for display settings containing letters, numbers or various symbols (i.e. FIRE 1). Note: All federal VHF-FM frequencies must be 12.5 kHz (narrowband) on January 1, 2005 and UHF frequencies must be 12.5 kHz (narrowband) on January 1, 2008.

- 3. TONES:** Tones are assigned by channel. All standard CTCSS tones are available along with a number of non-standard tones. Tone 64 is used as "no-tone". Digital tones (DPL) are also available. Never use a tone on a receiver frequency unless operationally required. NOTE: Do not use both CTCSS and DPL tones on the same entry for a frequency. They are not compatible.

- 4. GUARD:** The guard receiver is a separate VHF-FM receiver independent from the main VHF-FM receiver; however, they both use the main VHF-FM transmitter. Both guard receiver pre-sets (1 & 2) must be set to 168.625 MHz (Air Guard). This is the National Interagency Fire emergency channel. Set guard 1 as 25.0 kHz wideband and guard 2 as 12.5 kHz narrowband. All aircraft and most ground forces monitor Air Guard.

- 5. ADDITIONAL INFORMATION:**
 - a. VHF/UHF/GD switch. Selects transmitter to main VHF-FM (top window), UHF (second window), or VHF-FM guard (third window). Fourth window indicates selected band information.
 - b. G1/G2 switch. Selects presets for guard 1 or guard 2.
 - c. HI/LOW switch. Selects HI (10 watts – normal) or LOW (1 watt) power output.
 - d. Time-Out-Timer automatically shuts off transmissions after 90 seconds. Select by pushing FUNC/* then M.UP/4. Use M.UP/4 & M.DN/7 to toggle between off/0 seconds and on/90 seconds and push ENTER/#. To continue transmitting after 90 seconds, release & push PTT again.
 - e. Display Brightness is adjustable by pressing UP/6 (brighter) and DN/9 (dimmer).
 - f. Keypad Lockout locks out all keypad entries. To lockout keypad push FUNC/* then LOCK/3. To return keypad to normal operation hold LOCK/3 until "UNLOCK" is displayed.
 - g. Enable Scan by selecting VHF or UHF, push FUNC/*, then SCAN/5. Select which scan group (1-5) to operate on. To stop scanning push SCAN/5. Scanning will stop when a signal is received on a scanned channel and resume 5 seconds after the transmission has ended.
 - h. Enable crossband repeat by pressing FUNC/* then DN/9. Disable by pressing ENTER/#.

6. CHANGE OPERATION TO A PRE-PROGRAMMED CHANNEL:

- A. Select VHF or UHF on the VHF/UHF/GD switch.
 - B. Press M.UP/4 or M.DN/7 (radio scrolls through pre-programmed channels).
- Or*
- A. Select VHF or UHF on the VHF/UHF/GD switch.
 - B. Press RCL/0.
 - C. Press three-digit number (i.e. 023) of pre-programmed channel & press ENTER/#.

7. LOAD NEW CHANNEL – DIRECT:

- A. Select VHF or UHF on the VHF/UHF/GD switch.
- B. Press FUNC/*.
- C. VHF-FM - Type in a frequency (i.e. 168.650) & press ENTER/#.
UHF - Push “1” then type in a frequency (i.e. 411.500) & press ENTER/#.
- D. Select channel bandwidth of “25.0” or “12.5” & ENTER/#. Normally at “25.0”.

8. LOAD NEW CHANNEL – TO PRE-SET MEMORY:

- A. Select VHF or UHF on the VHF/UHF/GD switch.
- B. Press FUNC/*.
- C. Press PROG/8.
- D. Type in receive frequency (i.e. 169.200) & press ENTER/#.
- E. Type in transmit frequency (i.e. 167.500) & press ENTER/#.
- F. Select channel bandwidth of “25.0” (normal) or “12.5”.
 - a. Press M.UP/4 and M.DN/7 to select bandwidth & press ENTER/#.
- G. Change alpha/numeric “LABEL” display.
 - a. Press M.UP/4 and M.DN/7 for letters/numbers/symbols & press ENTER/#.
 - b. Continue step a. (above) until all nine spaces used.
- H. Channel “SCAN” (scan on) or “LOCKOUT” (scan off).
 - a. Press M.UP/4 and M.DN/7 to change & press ENTER/#.
 - b. Assign scan groups (1-5) if SCAN enabled.
- I. Enter 3 digit channel assignment (i.e. 012) & ENTER/#.

9. LOAD TONE:

- A. Select VHF or UHF on the VHF/UHF/GD switch.
- B. Change to the channel requiring tone loading (i.e. 009). See step 6.
- C. Press FUNC/*.
- D. Press TONE/2.
- E. Change main transmit CTCSS tone.
 - a. Press M.UP/4 and M.DN/7 for to scroll through CTCSS tones.
 - b. Press ENTER/#.

Note: Changing receive CTCSS and DPL tones disabled through Configuration Menu.