



**vertex**  
RADIO COMMUNICATIONS

# Technical Bulletin

TB #:TB9607-3

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**MODEL NUMBER :** VX-10

**Radios Affected:** Any in which Field Programming is desired

**Reason For Technical Bulletin:** Field Programming modification and procedure.

**Special Note:** Information is for Dealer use only. Do *not* forward to end users

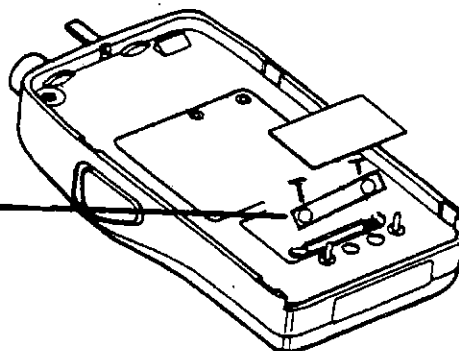
**PROCEDURE:** The Contact Plate, part no. R0152390 must first be installed to be able to access the Field Programming mode.

## I. Physical Modification.

1. Remove the battery from the radio.
2. Remove the NiCd battery advisory label from the rear of the radio chassis.
3. Remove the two keypad securing screws (do *not* remove the keypad itself).
4. Install the contact plate, tabs down, under the keypad securing screws as illustrated below.

\*Contact plate *must* be removed before delivery to end user.

Contact plate (connects two PCB points to chassis)



5. Replace the NiCd battery advisory label and re-install the battery onto the radio.

## II. Accessing the Field Programming Mode.

1. Press and hold the Lamp, PTT and Power buttons simultaneously. The radio will power-up, self test for about one second, then “\* SET \*” will appear in the display.
2. The radio is now prepared for field programming. There are three programming categories available at this point: “\* SET \*”, “\* PROG \*”, and “\* MRCH \*”. These can be selected by turning the channel selector knob.

Ref.#	Old Part No.	New Part No.	QTY	New Part Description
-none	-none	R0152390	1	Contact plate

### III. \* SET \* Category Programming. (This is the same as the SET mode).

Press the A key once to bring up the first Set mode item. To make changes to any Set mode item:

- Press the A button once to display the current setting.
- Rotate the channel selector knob to change the setting.
- Press the B button to accept the change and exit.
- Rotate the channel selector knob to the next Set mode item.

1. S01 SQL Sets the digital squelch threshold level from 0 (lowest) to 12 (highest)
2. S02 LIST Selects between the Dealer and User scan lists. Note: The User Scan List cannot be edited in early radios, except through Field Programming.
3. S03 BEEP Turns the keypad and feature beeps on and off.
4. S04 BELL Turns the signalling bell on and off.
5. S05 LITE Turns the Busy/TX and LCD lights on and off.
6. S06 LOCK Selects among the following items to be locked when the Lock function (long press of the Lamp button) is activated: P = PTT, D = Dial (channel selector knob), K = Keypad.
7. S07 TAG Turns the Channel Alpha Tag names on and off. When off, the channel number is displayed as "CHAN xxx".
8. S08 GRP Selects one of the pre-programmed channel groups for operation. Only groups that have been previously programmed by software may be selected.
9. S09 SCN Turns the scan function on and off. Duplicates function of the Scan SoftKey.
10. S10 DW Turns the dual watch function on and off. Duplicates function of the Dual Watch SoftKey.
11. S11 TXPO Selects between Hi and Low TX power if TX power level change is authorized by the programming software (Power "X" column is checked).
12. S12 TA Turns the talkaround function (TX simplex on the RX frequency) on and off.
13. S13 ENCR Turns the encrypt function (FTT-15 only) on and off.
14. S14 TEL Selects one of the 10 DTMF strings programmed under Signalling - DTMF Code to send out. Will not function in the Field Programming mode.
15. S15 TSAV Turns the transmit power save feature on or off.
16. S16 DTMF No current function. Reserved for future enhancement.

After completing all desired changes in the \* SET \* category, press the B key once again to return to the main field programming mode menu (SET / PROG / MRCH). Rotate the channel selector knob to select the “\* PROG \*” category and continue programming.

**IV. \* PROG \* Category Programming.** (These are radio-wide feature settings)

Press the A key once to bring up the first PROG category item. Make changes to any item in the same manner as described in section III.

1. P01 TKBK Turns the talkback feature on and off. This is the same talkback feature addressed in the programming software under Common - Scanning.
2. P02 RVRT Selects the scan revert channel (when PTT is pressed) as one of the following:
  - HOM Home channel
  - PRI Priority channel
  - LST Last busy channel
  - CLR Scan release (last busy channel, scan will *not* resume until manually re-started).
3. P03 ULST Edits the User Scan List. The first press of the A button shows the channel to be edited, which can be changed with the channel selector knob. The second press of the A key brings up the current status of this channel (scan or skip), which can be changed with the channel selector knob. Once the desired status is selected, press the B key once to return to the ULST channel select mode, select the next channel to edit, and repeat the process. Once all desired channels are edited, press the B key a second time to return to the P03 menu heading and select the next item to edit. This *will* edit the User Scan List in *all* radios.
4. P04 APO Selects time interval for Automatic Power Off feature. Choices are 0.5, 1.0, 8.0 (hours) or OFF.
5. P05 RSAV Selects the ratio setting (time awake : time asleep) for the Receive Battery Save feature. Choices are 1 to: 1, 2, 3, 4, 5, 7, 10 and ABS. With ABS, the microprocessor selects the most appropriate save ratio based on recent operating history.
6. P06 KEY Selects the SoftKey functions for each of the programmable keys. Repeated presses of the A key will scroll through the key selections (Sel. and A through D), rotating the channel selector knob will scroll through the available SoftKey functions (scan, dw, low etc.).
7. P07 SET Enables or disables access to the Set mode.
8. P08 ARTS Turns the ARTS beep on and off.

After completing all desired changes in the \* PROG \* category, press the B key once again to return to the main field programming mode menu (SET / PROG / MRCH). Rotate the channel selector knob to select the “\* MRCH \*” (memory channel) category and continue programming.

**V. \* MRCH \* (Memory Channel) Category Programming.**

Press the A key once to bring up channels to edit. Rotate the channel selector knob to select the first channel you wish to edit (channels are displayed by channel number only), then press the A key again to bring up the first item to edit. Changes to most items are made in the same manner as described in section III, except as noted. All of the following affect only one channel at a time.

1. M01 CINH This is the same as the channel lock in the programming software. When CINH is set to ON, the radio will not access this channel. Channels with CINH ON also cannot be further edited in the Field Programming mode. Set to OFF and continue Field Programming.
2. M02 RXHZ Edits the receive frequency in fixed steps according to the radio's pre-programmed channel step size. Turn the channel selector clockwise to increment, counterclockwise to decrement. Hold down on the channel selector knob while turning to increment or decrement in 1 MHz steps.
3. M03 TXHZ Edits the transmit frequency as described above.
4. M04 NAME Edits the Alpha Tag. Press the A key once to view the current tag and begin the edit. Turn the channel selector to scroll through the alphabet, numbers and characters for the first character position in the tag. When the desired character is showing, press the A key again to advance to the next character in the tag. The small group number digit at the right side shows the character position (1 thru 8) currently being edited. When finished with the tag edit, press the B key to save the changes and exit.
5. M05 ENC Edits the CTCSS or DCS encode (TX) tone/code. The first stage allows selection of TONE (CTCSS), DCS or OFF. The second stage (press the A key again) allows edit of the particular tone frequency or DCS code.
6. M06 DEC Edits the CTCSS or DCS decode (RX) tone/code, as above.
7. M07 RSAV Turns the receive battery saver on/off.
8. M08 TSAV Turns the transmit battery saver on/off.
9. M09 TXLO Selects the desired low power level (L3, L2 or L1) when low power operation is selected.
10. M10 BLO Selects from BCLO (Busy Carrier Lock Out), BTLO (Busy Tone Lock Out) or OFF.

Press the B key again to return to the channel select (CHAN xxx) item, where the next channel to edit can be selected. Repeat the above for all channels you wish to edit.

VI. Exiting the Field Programming Mode.

1. The Field Programming Mode may be exited at any time during programming. Confirm that all desired changes have been made.
2. Power off the radio.
3. Press and hold the PTT and Lamp buttons while powering on the radio. The radio will power on in the normal operating mode.
4. If the radio is powered off while still in the Field Programming mode and then powered back on *without* holding the PTT and Lamp buttons, it will return to the Field Programming Mode.