



# OPERATOR'S MANUAL

**Model 526  
2m/6m DSP  
Transceiver**

Preliminary Draft

## SPECIFICATIONS

### GENERAL

MODES: CW, FM, LSB, USB  
FREQUENCY RANGE: 50-54 and 144-148 MHz transceive, 136-174 MHz receive.  
DISPLAY: 7 segment LED's for main and secondary DUAL VFO's with SPLIT mode  
OFFSET TUNING: +/- 10 kHz receive  
FM REPEATER OFFSETS:  
    standard for 6m and 2m. Programmable for odd splits.  
CTCSS: built-in, encode only.  
MEMORIES: 100  
ANTENNA: 50 ohms unbalanced, separate SO-239 output connectors for 6m and 2m  
POWER REQUIRED: 1A receive, 6A transmit @ 12-14 VDC  
CONSTRUCTION:  
    4 epoxy glass PC boards  
    molded front panel  
    aluminum chassis  
    texture painted steel top and bottom.  
DIMENSIONS: HWD 2.75" x 8.5" x 8.75" (7 x 21.6 x 22.2 cm)

### TRANSMITTER

RF OUTPUT: 1-20 watts, ALC stabilized  
MICROPHONE INPUT:  
    200 to 50k ohms  
    4 pin front panel connector  
    accepts microphones with 5 mv (-67 dB) output  
    Polarized voltage provided at mic jack for electrets  
T/R SWITCHING: PTT on SSB, QSK on CW.  
METERING: forward power  
SSB GENERATION: DSP generated

### RECEIVER

SENSITIVITY: .20 uv typical for 10 dB S+N/N @ 2.4 kHz bandwidth, SSB mode.  
SELECTIVITY: 30 filters built-in; 200-1000 Hz in 50 Hz steps, 1000-2800 Hz in 100 Hz steps.  
NOISE FIGURE: 7 dB  
S-METER: Calibrated to 50 uv at S-9  
I-F FREQUENCIES: 1st I-F 45 MHz, 2nd I-F 450 kHz, 3rd I-F 14.5 kHz

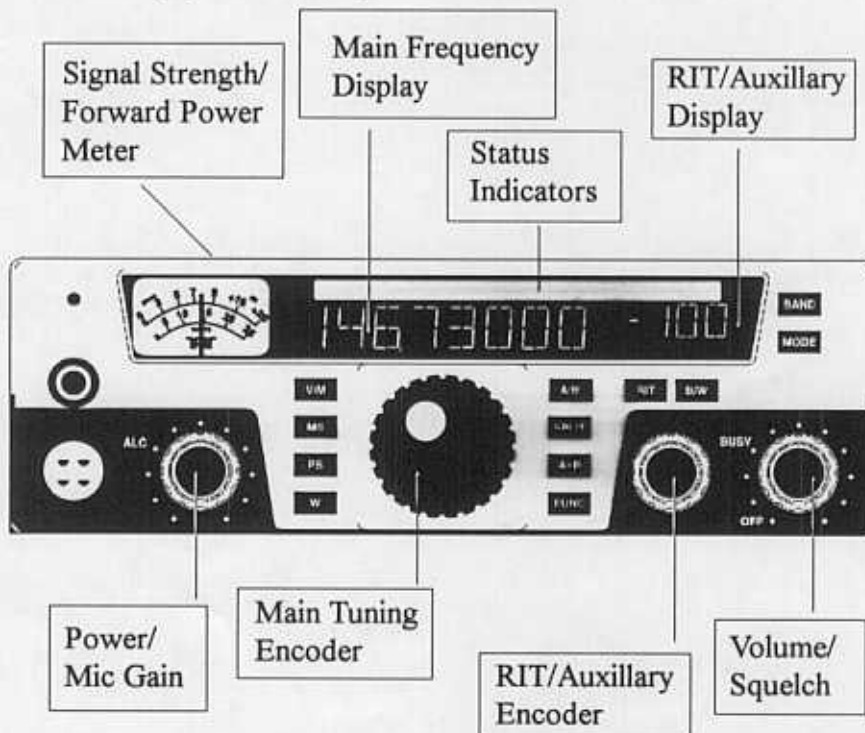
Ten-Tec Model 526 FCC ID: DJ7-526  
This device complies with Part 15 of the FCC Rules.  
Operation is subject to the following two conditions:  
(1) this device may not cause harmful interference,  
and (2) this device must accept any interference



The Ten-Tec model 526 is an All-Mode 2 meter and 6 meter transceiver with IF-DSP technology. The digitized IF is processed by a programmable DSP. All user interface and signal processing functions are performed in firmware. DSP processing allows the model 526 to provide All-Mode operation, multiple IF bandwidths and Tx/Rx timing in a compact package. In addition, the model 526 provides a low-level signal interface for connection to UHF or microwave transverters.

Conventional VHF FM functions are provided for normal or odd repeater splits, channel memories and CTCSS encode and Memory-Scan with channel-lockout. Separate Antenna connectors for 6 and 2 meters makes band hopping quick and simple. Separate Tx control signals are provided for each band for easy connection to external amplifiers.

For SSB/CW enthusiasts the model 526 dual VFOs which can be operated in Split mode, RIT control and silky-smooth QSK. Band-Scan when used with the All-Mode squelch makes finding band activity quick and easy.



## OPERATIONAL CONTROLS

### MODE

Pressing the MODE button cycles through modes. Pressing FUNC MODE cycles in reverse order. MODE is global, changing BANDS does not affect MODE.

### A/B

Pressing A/B swaps between VFO-A and VFO-B. VFOs have separate frequency and mode.

### A=B

Pressing A/B copies the contents of VFO-A into VFO-B.

### SPLIT

Pressing SPLIT selects split operation. Rx on VFO-A and Tx on VFO-B. SPLIT works cross-band/cross-mode.

### BAND

Pressing BAND toggles between 2 meters and 6 meters.

### BW

In CW/USB/LSB, toggles filter bandwidth selection display on/off. In FM, toggles sub tone selection display on/off and toggles subaudible tone on/off. In CW, FUNC BW toggles sidetone frequency selection display on/off. In CW, FUNC V/M enters "set sidetone level" mode.

### RIT

In CW/USB/LSB, toggles RIT frequency display on/off. Hold RIT for 1 sec to clear RIT display to zero. In FM, returns display to "SHIFT" selection. SHIFT is +/- 500KHZ and 1MHz on 6 meters and +/-600KHz on 2.

### TUNING RATE

FUNC SPLIT toggles between fast and slow tuning rates. Display will briefly display FAS or SLO accordingly.



## **MEM**

V/M toggles between VFO and MEM mode, and stops a scan.

Offset encoder scrolls (tunes) through memories.

Empty memories are muted and appear as "—.—.—."

W sends a memory to the current VFO and returns to VFO mode.

FUNC SKIP toggles "-" lock character for current memory.

FUNC W erases memory. Held-W on powerup erases all memories.

W in mem mode sends memory to VFO.

W in VFO mode puts radio in "WRITING" mode. Scroll through memories then press W a second time to write to the selected memory. Press V/M if you wish to abort the memory write.

## **SCAN**

MS key is either MEM scan or FREQ scan depending on VFO/MEM mode

In MEM mode, MS starts a memory scan; in VFO mode, frequency scan.

Squelch must be closed for radio to scan; open squelch stops scan until squelch closes again. Offset encoder knob changes scan direction. In frequency scan, FAST/SLOW rate setting and mode affect scan speed.

## **NB**

Controls display of Noise Blanker setting. A Setting of zero turns the Noise Blanker OFF.

## **LOCK**

Locks the main tuning encoder. Prevents inadvertant tuning.

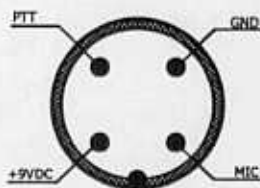
## **ATTENUATOR**

FUNC PS toggle the Attenuator on/off. (There is no indicator for the state of the attenuator.)

## FRONT PANEL CONNECTIONS

### Microphone

The Ten-Tec standard 4-pin MIC jack accomodates a low impedance microphone and provides a polarizing voltage of +9 VDC to power an electret microphone. Any Ten-Tec microphone, using our 4-pin connector, works without change. Please refer to the following figure then adapting other microphones for use with the Model 526.



### Phones

This is a standard jack used for connecting 8-ohm stereo or mono headphones. However, because dropping resistors reduce the output to headphone level, this jack cannot provide sufficient audio to drive an external speaker.

## REAR PANEL CONNECTIONS

### 13.8 VDC Supply

The Model 526 requires a regulated 13.8 volt supply capable of providing a current of 7.5 amps.

### 2 Meter Antenna/6 Meter Antenna

Connection should be made to appropriate antennas using standard PL-259 connectors.

### Fuse

A Mini Blade 7.5 amp fuse. Replacements are available at most automotive parts suppliers.

### KEY/PTT (Input)

A CW Keyer or external PTT signal may be connected to the Model 526. The transmitter is activated by a low (ground) signal on this input.

### Audio In/Audio Out

The audio In/Out connections are provided to allow the Model 526 to be attached to external devices such as Modems or TNC's

### XVTR Out

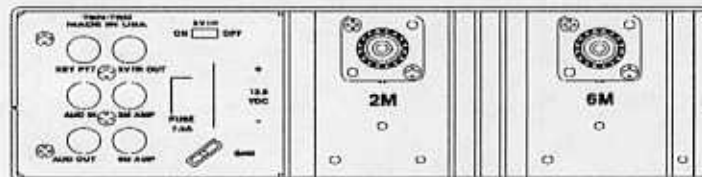
Low level RF output at the tuned frequency. Can be used to connect the Model 526 to transverters requiring low-level RF drive.

### 2M Amp

Amplifier Key signal for use with external 2M amplifier.

### 6M Amp

Amplifier Key signal for use with external 6M amplifier.



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