MISCELLANEOUS SETTING (SET MODE OPERATION)

TIMER/CLOCK GROUP

I01: DATA&TIME ADJUST

Function: Sets the clock time.

1. Press the *left side* [**DIAL**] knob to enable adjust this item.
2. Enter the your local time by the 24-hour system. Use the [←] / [→] key to navigate to each column, then rotate the *left side* [**DIAL**] knob to select desired numbers in each column.
3. Press the *left side* [**DIAL**] knob again to save the new setting.

I02: DATA&TIME FORMAT

Function:
Available Values: DATE: yyyy/mm/dd, yyyy/dd/mm, mm/dd/yyyy, or dd/mm/yyyy
TIME: 12 hour or 24hour
Default: DATE: dd/mm/yyyy, TIME: 24hour

I03: TIME SIGNAL

Function: Enables/Disables the Timer Signal "on and "off".
Available Values: OFF or ON
Default: OFF

I04: TIME ZONE

Function: Sets thetime offset between the local time and UTC.
Available Values: UTC-13:00 ~ UTC+13:00 (0.5H/step)
Default: UTC±0:00 LONDON

MISCELLANEOUS SETTING (SET MODE OPERATION)

SIGNALING GROUP

J01: BELL RINGER

Function: Enables/Disables the Bell ringer function and select its ringer repetitions.

Available Values: OFF, 1 time, 3 times, 5 times, 8 times, or CONTINUOUS

Default: OFF

When this item is enabled, the **FTM-350R** ring a "bell" sound when you are called by a station whose thansceiver is sending a CTCSS tone, DCS code or CTCSS tone pair which matches that set into your decoder.

J02: DTMF MEMORY

Function: Programs the DTMF string for use the DTMF autodialer and FRG command of the WiRES. Available memories are nine memories.

1. Rotate the *left side* [**DIAL**] knob to select the DTMF memory register (1 - 9) into which you wish to store.
2. Press the *left side* [**DIAL**] knob briefly.
3. Rotate the *left side* [**DIAL**] knob, or press one of the microphone's keypad, to select the first digit of the DTMF string.
4. When selects the first digit of the DTMF string by the *left side* **DIAL** knob, press the [→] key to move to the next digit.
5. Repeats steps 3 and 4 to program the remaining DTMF string.
6. You may back the cursor by pressing the [←] key.
7. Press the [**CLR**] key to clear the previous stored data, if desired.
8. Press the [**ENT**] key to save the setting.

J03: DTMF MODE

Function: Enables/Disables the DTMF autodialer feature.

Available Values: OFF or ON

Default: OFF

When this item is set to "ON", you may send a

J04: PAGER CODE

Function: Sets the Pager Code for the Enhanced CTCSS Paging & Code Squelch.

Available Values:

Default:

MISCELLANEOUS SETTING (SET MODE OPERATION)

SIGNALING GROUP

J05: SQL EXPANSION

Function: Enables/Disables the split CTCSS/DCS coding.

Available Values: OFF or ON

Default: OFF

When this item is set to "ON", you chan see the following additional parameters after "PAGER" parameters while selecting the squelch type selection by pressing the [**TYPE**] key on the SQL categoly.

DCS ENC: DCS Encoder only. "**DC**" icon will appear while operating.

TONE DCS: Encodes a CTCSS tone and decodes a DCS code.

"**T-D**" icon will appear while operating.

DCS TSQL: Encodes a DCS code and decodes a CTCSS tone.

"**D-T**" icon will appear while operating.

J06: WiRES

Function: Enables/Disables the Internet Connection feature (WiRES™) and its operating mode selection.

Available Values: OFF, FRG, or SRG

Default: OFF

J07: WiRES MEMORY

Function: Selects the access number (DTMF digit) for the SRG operation of the Internet Connection feature (WiRES™).

Available Values: CODE 0 ~ CODE 9, CODE A ~ CODE D, CODE ∗, or CODE #

Default: CODE 1

MISCELLANEOUS SETTING (SET MODE OPERATION)

OPTION GROUP

K01   BLUETOOTH

Function: Sets up the optional **BU-1** *Bluetooth*® Unit.

Available Values:
1 AUDIO: MANUAL or AUTO
2 MODE: MONAURAL or STEREO
3 SAVE: OFF or ON
4 VOX: OFF, PTT, VOX HIGH, or VOX LOW

Default: 1 AUDIO: AUTO, 2 MODE: MONAURAL, 3 SAVE: ON, 4 VOX: PTT

AUDIO MANUAL:	The **FTM-350R**'s internal/external speaker function obays setting of the Set Mode item "**A03 SPEAKER**" in the "**AUDIO**" group evenif the the *Bluetooth*® Headset is correctly recognized
AUDIO AUTO:	When the *Bluetooth*® Headset is correctly recognized, the **FTM-350R**'s internal and external speakers are disabled.
MODE MONAURAL:	Outputs monaural receive audio while listening to the FM Broadcast band, if you use the **BH-2A** *Bluetooth*® Headset.
MODE STEREO:	Outputs stereo receive audio while listening to the FM Broadcast band.
	Note: When this mode is selected, the VOX function does not work even if the VOX function is selected in item 4 above, if you use the **BH-2A** *Bluetooth*® Headset. The TX/RX switching is performed by pressing the PTT switch.
SAVE OFF:	Disable the Battery Saver in the *Bluetooth*® Headset.
SAVE ON:	Activates the Battery Saver in the *Bluetooth*® Headset.
VOX OFF:	Disable the TX/RX switching circuit of the *Bluetooth*® Headset.
VOX PTT:	Activates the *Bluetooth*® Headset for use with the PTT circuit.
VOX VOX HIGH:	Activates the *Bluetooth*® Headset with the VOX feature (VOX Gain: High).
VOX VOX LOW:	Activates the *Bluetooth*® Headset with the VOX feature (VOX Gain: Low).

MISCELLANEOUS SETTING (SET MODE OPERATION)

OPTION GROUP

K02   FRP-1

Function: Sets up the optional **FPR-1** Monitor Unit.

Available Values: 1 BATT SAVE: OFF, MIN, MID, or MAX
                      2 SQL LEVEL: OFF, MIN, 2 ~ 7, or MAX

Default: 1 BATT SAVE: MIN, 2 SQL LEVEL: 2

K03   VOICE

Function: Sets up the optional **FVS-2** Voice Guide Unit.

Available Values: 1 PLAY/REC: FREE 5min or LAST 30sec
                      2 ANNOUNCE: OFF, MENUAL, or AUTO
                      3 LANGUAGE: JAPANESE or ENGLISH
                      3 VOLUME: LOW, MID, or HIGH

Default: 1 PLAY/REC: FREE 5min, 2 ANNOUNCE: AUTO, 3 VOLUME: MID

SPECIAL FUNCTION MENU

Static electricity may occasionally cause erratic or unpredictable operation of the micropro-
cessor. If this happens, resetting of the microprocessor may restore normal operation. Note
that resetting the microprocessor will erase all memories.

1. Turn the radio "off".
2. Turn the radio on while press and holding the key which is located at the left of the
   [**POWER**] switch to enter the "Special Function" mode. Do this for both radios (the
   order of switch-on does not matter).
3. Rotate the *left side* [**DIAL**] knob to one of the following items:
   1 CLONE RX: Uses this item for transceiver cloning. See page next for details.
   2 CLONE TX: Uses this item for transceiver cloning. See page next for details.
   3 L-MEMORY SORT: Sorts and renumbers the memory channels of the left side
   memory bank by frequency, from low to high. See page 10
   for details.
   4 R-MEMORY SORT: Sorts and renumbers the memory channels of the right side
   memory bank by frequency, from low to high. See page 10
   for details.
   5 SYSTEM RESET: Resets the Set Mode item settings (except "APRS/PKT"
   group) to their factory defaults.
   6 ALL RESET: Clears all memories and other settings to factory defaults.
   7 APRS RESET: Resets only the Set Mode item setting of the "APRS/PKT"
   group to their factory defaults.
   8 BAND SCOPE: Switches the Band Scope operation to the Enhanced Mode.
   See page 18 for details.
   9 B-T PAIRING: Set up the ***Bluetooth***® device. See page 18 for details.
   10 GPS DATUM: Select the GPS datum to be used.
   11 XBAND REPEATER: Activates the Cross Band Repeater operation. Make sure
   that set the 144 MHz frequency to the right band and set
   the 430MHz frequency to the right band (or vice versa)
   before beginning this procedures.
4. Once you have made your selection in step 3, press the *left side* [**DIAL**] knob and
   confirm that (**OK? [SET]**) is displayed on the LCD. Press the *left side* [**DIAL**] knob
   once more to complate the reset procedure. (To cancel the reset procedure, press the
   [**ESC**] key before pressing the *left side* [**DIAL**] knob.)

CLONING

The **FTM-350R** includes a convenient "Clone" feature, which allows the memory and configuration data from one transceiver to be transferred to another **FTM-350R**. This can be particularly useful when configuring a number of transceivers for a public service operation. Here is the procedure for Cloning one radio's data to another:

1. Turn both radios "off".
2. Connect the optional **CT-135** Clone Cable between the **DATA** jacks of the two radios.
3. Turn the radio on while press and holding the key which is located at the left of the [**POWER**] switch to enter the "Special Function" mode. Do this for both radios (the order of switch-on does not matter).
4. On the "Destination" radio, rotate the *left side* [**DIAL**] knob to select the function menu item "**1 CLONE RX**", then press the *left side* [**DIAL**] knob *twice*.
5. On the "Source" radio, rotate the *left side* [**DIAL**] knob to select the function menu item "**2 CLONE TX**", then press the *left side* [**DIAL**] knob. The data from this radio will be transferred to the other radio.
6. If there is a problem during the cloning process, "ERROR" will be displayed. Check your cable connections and battery voltage, and try again.
7. If the data transfer is successful, the "Destination" radio displays "**RECEIVED....**" then turns "off" automatically and turns "on" again.
8. Press the [**DIAL**] key of the "Source" radio, "Source" radio turns "off" automatically and turns "on" again.
9. Turn both radios "off" and disconnect the Clone Cable.

INSTALLATION

This chapter describes the installation procedure for integrating the **FTM-350R** into a typical amateur radio station. It is presumed that you possess technical knowledge and conceptual understanding consistent with your status as a licensed radio amateur. Please take some extra time to make certain that the important safety and technical requirements detailed in this chapter are followed closely.

PRELIMINARY INSPECTION

Inspect the transceiver visually immediately upon opening the packing carton. Confirm that all controls and switches work freely, and inspect the cabinet for any damage. Gently shake the transceiver to verify that no internal components have been shaken loose due to rough handling during shipping.

If any evidence of damage is discovered, document it thoroughly and contact the shipping company (or your local dealer, if the unit was purchased over-the-counter) so as to get instructions regarding the prompt resolution of the damage situation. Be certain to save the shipping carton, especially if there are any punctures or other evidence of damage incurred during shipping. If it is necessary to return the unit for service or replacement, use the original packing materials. Then put the entire package inside another packing carton to preserve the evidence of shipping damage for insurance purposes.

INSTALLATION TIPS

To ensure long life of the components, be certain to provide adequate ventilation around the cabinet of the **FTM-350R**.

Do not install the transceiver on top of another heat-generating device (such as a power supply or amplifier). Avoid heating vents and window locations that could expose the transceiver to excessive direct sunlight, especially in hot climates. The **FTM-350R** should not be used in an environment where the ambient temperature exceeds +140 °F (+60 °C).

INSTALLATION

SAFETY INFORMATION

The **FTM-350R** is an electrical apparatus, as well as a generator of High RF (Radio Frequency) energy. You should exercise all safety precautions that are appropriate for this type of device. These safety tips apply to any device installed in a well-designed amateur radio station.

⚠ Never allow unsupervised children to play in the vicinity of your transceiver or antenna installation.

⚠ Be certain to wrap any wire or cable splices thoroughly with insulating electrical tape, to prevent short circuits.

⚠ Do not route cables or wires through doorjambs or other locations where they may become frayed and shorted to ground or to each other.

⚠ Do not stand in front of a directional antenna while you are transmitting into that antenna.

⚠ Do not install a directional antenna in any location where humans or pets may walk in the main directional lobe of the antenna's radiation pattern.

⚠ In mobile installations, it is preferable to mount the antenna on top of the vehicle, if feasible, this will utilize the car body as a counterpoise and raise the radiation pattern as far away from passengers as possible.

⚠ During mobile operation when stopped (in a parking lot, for example), make it a practice to switch to Low power if there are people walking nearby.

⚠ Never wear dual-earmuff headphones while driving a vehicle.

⚠ Do not attempt to drive your vehicle while making a telephone or auto patch call while using the optional DTMF microphone. Pull over to the side of the road, whether dialing manually or using the auto-dial feature.

Warning!: High RF voltage is present in the TX RF section of the transceiver while transmitting. Do not touch the TX RF section while transmitting.

SPECIFICATIONS

General

Frequency Ranges:
	RX:	0.5-1.8 MHz (AM Radio)
		76-108 MHz (FM Radio)
		108-137 MHz (Air Band)
		137-174 MHz (144 MHz HAM Band)
		174-250 MHz (VHF TV Band)
		300-420 MHz (General 1)
		420-470 MHz (430 MHz HAM Band)
		470-800 MHz (UHF TV Band)
		800-1000 MHz (General 2: USA Cellular Blocked)
	TX:	144-146(148) MHz (Ham Band)
		222-225 MHz (USA only)
		430-440(450) MHz (Ham Band)

Channel Steps: 5, 6.25, 8.33, (9), 10, 12.5, 15, 20, 25, 50, 100, 200 kHz
(9): AM Radio Only

Frequency Stability: ±5ppm (14 °F to +140 °F [−10 °C to +60 °C])

Repeater Shift: ±600 kHz (144 MHz)
±1.6 / 5.0 / 7.6 MHz (430 MHz)

Emission Type: F1, F2, F3,

Antenna Impedance: 50 Ω

Supply Voltage: Nominal: 13.8 V DC, Negative Ground
Operating: 11.7 ~ 15.8 V, Negative Ground

Current Consumption: 0.5 A (Receive)
10 A (TX, 144 MHz 50W)
10 A (TX, 430 MHz 50W)

Operating Temperature: −4 °F to +140 °F (−20 °C to +60 °C)

Case Size (WxHxD): Panel: 6.2" x 2.6" x 1.3" (157 x 66 x 33.5 mm)
w/o knob & connectors
Rear Chassis: 5.5" x 1.8" x 5.9" (140 x 46 x150 mm)
w/o connectors

Weight (Approx.) 4.6 lbs (2.1 kg) Panel + Rear Chassis + Connection Cable

Specifications are subject to change without notice, and are guaranteed within the 144/222/430 MHz amateur bands only.

Cellular Blocked per FCC rule Part 15.121, may not receive 900 MHz Amateur band.

SPECIFICATIONS

Transmitter

RF Power Output:	50 / 20 / 5 W
Modulation Type:	Variable Reactance F1, F2, F3
Maximum Deviation:	±5 kHz
Spurious Emission:	At least 60 dB below
Microphone Impedance:	2 kΩ

Receiver

Circuit Type:	Double-Conversion Super heterodyne (FM/AM)
	Triple-Conversion Super heterodyne (WFM)
	Single-Conversion Super heterodyne (Radio)
Intermediate Frequencies:	1st: 47.25 MHz, 2nd: 450 kHz ("Left Side" Band, FM/AM)
	1st: 44.85 MHz, 2nd: 450 kHz ("Right Side" Band, FM/AM)
	1st: 45.8 MHz, 2nd: 10.7MHz, 3rd: 1MHz
	("Left Side" Band, WFM)
	1st: 44.0 MHz, 2nd: 10.7MHz, 3rd: 400 kHz
	("Right Side" Band, WFM)
	1st: 130 kHz (FM Radio)
	1st: 50 kHz (AM Radio)
Sensitivity:	5 µV TYP for 10 dB SN (0.5-1.7 MHz, AM)
	2 µV TYP for 12 dB SINAD (76-108 MHz, WFM)
	0.8 µV TYP for 10 dB SN (108-137 MHz, AM)
	0.2 µV for 12 dB SINAD (137-140 MHz, FM)
	0.2 µV for 12 dB SINAD (140-150 MHz, FM) EXP
	0.25 µV for 12 dB SINAD (150-174 MHz, FM)
	1 µV TYP for 12 dB SINAD (174-222 MHz, WFM)
	0.8 µV TYP for 10 dB SN (300-336 MHz, AM)
	0.25 µV TYP for 12 dB SINAD (336-420 MHz, FM)
	0.2 µV for 12 dB SINAD (420-470 MHz, FM) EXP
	5 µV TYP for 12 dB SINAD (470-540 MHz, WFM)
	5 µV TYP for 12 dB SINAD (540-800 MHz, WFM)
	0.4 µV TYP for 12 dB SINAD (800 -899.99 MHz, FM)
	0.8 µV TYP for 12 dB SINAD (800 -999.99 MHz, FM)
	USA Version Cellular Blocked
Squelch Sensitivity:	0.16 µV (144 / 430 MHz Band)
Selectivity (NFM, AM):	12 kHz / 30 kHz (–6 dB / –60 dB)
AF Output:	8 W @ 4 Ω for 10 % THD (@ 13.8 V) BTL EXP SP
	4 W @ 4 Ω for 10 % THD (@ 13.8 V) Normal EXP SP
AF Output Impedance:	4-16 Ω

ACCESSORIES & OPTIONS

SUPPLIED ACCESSORIES

DTMF Microphone **MH-48A6JA**
Mobile Mounting Bracket for Panel and Rear chassis
DC Power Cord W/Fuse
Speaker Cable
Spare Fuse 15 A
Operating Manual
Warranty Card

OPTIONAL ACCESSORIES

DTMF Microphone	**MH-48A6JA**
Hand Microphone	**MH-42C6J**
Control Cable (6m)	**CT-132**
Bluetooth® Headset (Monaural)	**BH-1A**
Bluetooth® Headset (Stereo)	**BH-2A**
Bluetooth® Unit	**BU-1**
Charger Sleeve for the **BH-1A**/**BH-2A**	**CAB-1**
Earphone for **BH-1A**	**FEP-4**
High-Power External Speaker	**MLS-200-M10**
AC Power Supply (25 A)	**FP-1025A**
AC Power Supply (30 A)	**FP-1030A**
GPS Extension Cable	**CT-133**
Voice Guide Unit	**FVS-2**
Monitor Unit	**FPR-1**
Internal GPS Receiver Unit	**FGPS-1**
External GPS Receiver Unit	**FGPS-2**
External GPS Adapter	**CT-136**
Clone Cable	**CT-135**
Packet Cable (DIN 8-pin ↔ Din 6-pin + Dsub 9-pin)	**CT-140**
Packet Cable (DIN 8-pin ↔ Din 6-pin)	**CT-141**
Packet Cable (DIN 8-pin ↔ Dsub 9-pin)	**CT-142**

NOTE

Note

YAESU

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