

FT-60R Quick Guide

Summary of Controls, Modes, and Programming

Compiled by

Richard Barr Hibbs, PE
(KI6AQW)

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Summary:

This **Quick Guide** was created to present the most common settings of the Yaesu FT-60R handheld dual-band transceiver in an organized way for rapid reference during field operations. My goal was to include all the features and functions for use in a public emergency such as an earthquake by both search and rescue teams and emergency services coordinators presented in a clear and straightforward way. I have intentionally limited coverage of features and functionality not likely to be used in emergency service, and welcome comments and suggestions for improving the guide.

Disclaimer:

This guide is based on the Yaesu FT-60R Operating Manual, Copyright © 2004, Vertex Standard CO., LTD., Tokyo, Japan, plus hands-on experience testing each of the settings described in this guide. As I believe that there may be small operating differences among different versions of the FT-60R, I ***strongly*** suggest that you try ***every*** setting that you believe may be useful during emergency operations with this guide in hand to be certain that your radio works exactly as does mine. Do this, hopefully with a friend having another transceiver to verify correct operation, ***before an actual emergency occurs***. No matter how much we drill and prepare for an emergency, the only thing for certain is that you will encounter a situation you did not expect, so stay calm and be prepared for the unexpected.

Richard Barr Hibbs, P.E. (KI6AQW)

San Francisco, California,

rbhibbs@pacbell.net

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KEYPAD CONTROLS

Key	Press Key	Press [F/W] +	Press & Hold
1 [SQTYP]	Frequency Entry Digit "1"	Activates CTCSS or DCS Operation	Recalls NOAA Weather Channels Bank
2 [CODE]	Frequency Entry Digit "2"	Selects CTCSS Tone or DCS Code Number	Activates the ARTS Feature
3 [TXPO]	Frequency Entry Digit "3"	Selects Transmitter Power Level	Activates Smart Search
4 [RPT]	Frequency Entry Digit "4"	Selects Frequency Shift Direction	Activates EMERGENCY
5 [BELL]	Frequency Entry Digit "5"	Selects CTCSS/DCS Bell Repetition	none
6 [LOCK]	Frequency Entry Digit "6"	Activates Key Lockout	Activates Key Lockout
7	Frequency Entry Digit "7"	Activates EPCS	none
8	Frequency Entry Digit "8"	Selects Memory Scan Skip	none
9 [DTMF]	Frequency Entry Digit "9"	Selects DTMF Mode	none
0 [SET]	Frequency Entry Digit "0"; Activates Internet Connection	Engages Set Menu	Enables Internet Access Code Selection
* [V/M]	Switches between VFO and Memories	Activates Priority Function	Starts Upward Programmed Scan
# [BAND]	Moves to Next- Highest Band in VFO Mode	Moves to Next Lowest Band in VFO Mode; Activates Memory Tune in Recall Mode	Selects Bandwidth of Programmed Scan
A [▲MHz]	Increases VFO by 1 Step or Next Channel Up	Tune VFO upward in 1Mhz Steps	Start Scanner upward
B [▼MHz]	Decreases VFO by 1 Step or Next Channel Down	Tune VFO downward in 1 MHz Steps	Start Scanner downward
C [HM/RV]	Reverses Transmit and Receive Freqs	Switches to Home Channel	none
D [F/W]	Activates Secondary Functions	Disables Secondary Functions	Activates Memory Write

RADIO FUNCTIONS**SET MODE (BY MODE ITEM NUMBER)**

Set Mode Item	Function	Available Values (Default)
1 [APO]	Setting of the Automatic Power-Off feature.	OFF / 0.5H - 12.0H
2 [AR BEP]	Selects the Beep option during ARTS operation.	INRANG / ALWAYS / OFF
3 [AR INT]	Selects the Polling Interval during ARTS operation.	25 SEC / 15 SEC
4 [ARS]	Enables/Disables the Automatic Repeater Shift function.	ARS.ON / ARS.OFF
5 [BCLO]	Enables/Disables the Busy Channel Lock-Out feature.	BCL.ON / BCL.OFF
6 [BEEP]	Enables/Disables beeper.	KEY+SC / KEY / OFF
7 [BELL]	Selects the number of CTCSS/DCS Bell ringer repetitions.	OFF / 1T / 3T / 5T / 8T / CONT
8 [BSY.LED]	Enables/Disables the BUSY LED while the squelch is open.	LED.ON / LED.OFF
9 [CLK.SFT]	Shifting of the CPU clock frequency.	SFT.OFF / SFT.ON
10 [CWID]	Enables/disables the CW identifier during ARTS operation.	TX OFF / TX ON
11 [CW WRT]	Programs and activates the CW Identifier.	---
12 [DC VLT]	Indicates the DC Supply Voltage	---
13 [DCS.COD]	Setting of the DCS code.	104 DCS codes, (023)
14 [DCS.N/R]	Enables/Disables "Inverted" DCS code decoding.	T/RX N , RX R, TX R, T/RX R
15 [DT DLY]	Setting of the DTMF Autodialer Delay Time.	50MS / 100MS / 250MS / 450MS / 750MS / 1000MS
16 [DT SPD]	Setting of the DTMF Autodialer Sending Speed.	50MS / 100MS
17 [DT WRT]	Programming of the DTMF Autodialer.	---
18 [EAI]	Enables/disables the Emergency Automatic ID (EAID) feature.	INT.1M-INT.50M / CON.1M-CON.50M / OFF
19 [EDG.BEP]	Enables/Disables the Band-edge beeper while selecting the frequency via the DIAL knob.	BEP.OFF / BEP.ON

Set Mode Item	Function	Available Values (Default)
20 [EMG S]	Selects the alarm(s) utilized when the Emergency function is engaged.	EMG.BEP / EMG.LMP / EMG.B+L / EMG.CWT / EMG.C+B / <i>EMG.C+L</i> / EMG.ALL OFF
21 [I NET]	Selects Connection to the Internet Link mode.	<i>INT.OFF</i> / INT.COD / INT.MEM
22 [INT CD]	Selects the Access Number (DTMF digit) for WIRES™ operation	CODE 0 - CODE 9, <i>(CODE 1)</i>
23 [INT MR]	Selects the memory register for an Access Number (DTMF code) for non-WIRES™	d1 - d9, <i>(d1)</i>
24 [LAMP]	Selects the LCD/Keypad Lamp mode.	<i>KEY</i> / 5SEC / TOGGLE
25 [LOCK]	Selects the Control Locking lockout combination.	LK KEY / LK DIAL / <i>LK K+D</i> / LK PTT / LK P+K / LK P+D / LK ALL
26 [M/T-CL]	Selects the MONI key (just below the PTT switch) function.	<i>MONI</i> / T-CALL
27 [NAME]	Toggles the display indication between frequency and the channel's Alpha/Numeric Tag.	<i>FREQ</i> / ALPHA
28 [NM WRT]	Stores Alpha/Numeric Tags for the Memory channels.	---
29 [PAGER]	Enables/disables the Enhanced CTCSS Paging & Code Squelch function.	<i>OFF</i> / ON
30 [PAG.ABK]	Enables/disables the Answer Back function of the Enhanced CTCSS Paging & Code Squelch.	<i>ABK.OFF</i> / ABK.ON
31 [PAG.CDR]	Setting the Receiver Pager Code for the Enhanced CTCSS Paging & Code Squelch.	<i>(05_47)</i>
32 [PAG.CDT]	Setting the Transmitting Pager Code for the Enhanced CTCSS Paging & Code Squelch.	<i>(05_47)</i>
33 [PSWD]	Enables/disables the Password feature.	<i>PWD.OFF</i> / PWD ON
34 [PSWD W]	Stores the password.	---

Set Mode Item	Function	Available Values (Default)
35 [RESUME]	Selects the Scan Resume mode.	BUSY / HOLD / TIME
36 [REV/HM]	Selects the function of the [HM/RV] key.	<REV> / <HOME>
37 [RF SQL]	Adjusts the RF Squelch threshold level.	S-1 / S-2 / S-3 / S-4 / S-5 / S-6 / S-8 / S-FULL / OFF
38 [RPT.MOD]	Sets the Repeater Shift Direction. (Default depends on radio version.)	RPT.OFF / RPT.- / RPT. +
39 [PRI.RVT]	Enables/disables the Priority Revert feature.	RVT.OFF / RVT.ON
40 [RX MOD]	Selects the receiving mode.	AUTO / FM / AM
41 [RXSAVE]	Selects the Receive-mode Battery Saver interval (“sleep” ratio).	200 MS / 300 MS / 500 MS / 1 S / 2 S / OFF
42 [S SRCH]	Selects the Smart Search Sweep mode.	SINGLE / CONT
43 [SCN MD]	Selects Memory Scan or the channel-selection mode.	ONLY / MEM
44 [SCN.LMP]	Enables/Disables the Scan lamp while paused.	ON / OFF
45 [SHIFT]	Sets the size of the repeaters shift. (Default depends on radio version.)	0.00-99.95 MHz
46 [SKIP]	Selects the Memory Scan “Skip” channel-selection mode.	OFF / SKIP / ONLY
47 [SPLIT]	Enables/Disables split CTCSS/DCS coding.	SPL.OFF / SPL.ON
48 [SQL.TYP]	Selects the Tone Encoder and/or Decoder mode.	OFF / TONE / TSQL / REV TN / DCS
49 [STEP]	Setting of the synthesizer steps.	5 / 10 / 12.5 / 15 / 20 / 25 / 50 / 100 kHz, or AUTO
50 [TN FRQ]	Setting of the CTCSS Tone Frequency.	50 CTCSS tones (100 Hz)
51 [TOT]	Setting of the Time-Out Transmitter timer.	1MIN - 30MIN of OFF
52 [TX.LED]	Enables/Disables the TX LED while the radio is transmitting.	LED ON / LED.OFF
53 [TXSAVE]	Enables/Disables the Transmitter Battery Saver.	SAV.OFF / SAV.ON
54 [VFO.BND]	Enables or disables the VFO band edge limiting for the current band.	BAND / ALL

Set Mode Item	Function	Available Values (Default)
55 [WID.NAR]	Select Wide (± 5 kHz) or Narrow (± 2.5 kHz) TX Deviation.	WIDE / NARROW
56 [WX ALT]	Enables/Disables the Weather Alert Scan feature.	ALT.OFF / ALT. ON

SET MODE (BY FUNCTION)

CATEGORY/Function	Set Mode Item Number	Available Values (Default)
REPEATER SETTINGS		
Enables/Disables the Automatic Repeater Shift function.	4 [ARS]	ARS.ON / ARS.OFF
Sets the Repeater Shift Direction. (Default depends on radio version.)	38 [RPT.MOD]	RPT.OFF / RPT.- / RPT.+
Sets the magnitude of the repeater Shift. (Default depends on radio version.)	45 [SHIFT]	0.00 - 99.95 MHz
CTCSS SETTINGS		
Selects the number of CTCSS/DCS Bell ringer repetitions.	7 [BELL]	OFF / 1T / 3T / 5T / 8T / CONT
Selects the DCS code.	13 [DCS.COD]	104 standard DCS codes (023)
Enables/Disables "Inverted" DCS code decoding.	14 [DCS.N/R]	T/RX N , RX R, TX R, T/RX R
Sets the DTMF Autodialer Delay Time.	15 [DT DLY]	50MS / 100MS / 250MS / 450MS / 750MS / 1000MS
Sets the DTMF Autodialer Sending Speed.	16 [DT SPD]	50MS / 100MS
Programs the DTMF Autodialer.	17 [DT WRT]	---
Enables/Disables split CTCSS/DCS coding.	47 [SPLIT]	SPL.OFF / SPL. ON
Selects the Tone Encoder and/or Decoder mode.	48 [SQL.TYP]	OFF / TONE / TSQL / REV TN / DCS
Selects the CTCSS Tone Frequency.	50 [TN FRQ]	50 standard CTCSS tones (100 Hz)
ARTS SETTINGS		
Selects the Beep option during ARTS operation.	2 [AR BEP]	INRANG / ALWAYS / OFF

CATEGORY/Function	Set Mode Item Number	Available Values (Default)
Selects the Polling Interval during ARTS operation.	3 [AR INT]	<i>25 SEC</i> / 15 SEC
Enables/disables the CW identifier during ARTS operation.	10 [CWID]	<i>TX OFF</i> / TX ON
Programs and activates the CW Identifier (used during ARTS operation).	11 [CW WRT]	---
MEMORY SETTINGS		
Toggles the display between “frequency” and the channel’s “Alpha/Numeric Tag.”	27 [NAME]	<i>FREQ</i> / ALPHA
Stores Alpha/Numeric “Tags” for the Memory channels.	29 [NM WRT]	---
SCAN SETTINGS		
Selects the Scan Resume mode.	35 [RESUME]	<i>BUSY</i> / HOLD / TIME
Enables/disables the Priority Revert feature.	39 [PRI.RVT]	<i>RVT.OFF</i> / RVT.ON
Selects the Memory Scan channel-selection mode.	43 [SCN MD]	<i>ONLY</i> / MEM
Enables/Disables the Scan lamp while paused.	44 [SCN.LMP]	<i>ON</i> / OFF
Selects the Memory Scan “Skip” channel-selection mode.	46 [SKIP]	<i>OFF</i> / SKIP / ONLY
Enables/Disables the Weather Alert Scan feature.	56 [WX ALT]	<i>ALT.OFF</i> / ALT. ON
POWER SAVER SETTINGS		
Selects the Receive-mode Battery Saver interval (“sleep” ratio).	41 [RXSAVE]	<i>200 MS</i> / 300 MS / 500 MS / 1 S / 2 S / OFF
Enables/Disables the Transmitter Battery Saver.	53 [TXSAVE]	<i>SAV.OFF</i> / SAV ON
SWITCH/KNOB SETTINGS		
Enables/Disables the beeper.	6 [BEEP]	<i>KEY + SC</i> / KEY / OFF
Selects the LCD/Keypad Lamp mode.	24[LAMP]	<i>KEY</i> / 5 SEC / TOGGLE
Selects the Control Locking lockout combination.	25 [LOCK]	LK KEY / LKDIAL / <i>LK K+D</i> / LK PTT / LK P+K / LK ALL

RADIO OPERATION

DEFINITIONS

Frequency navigation keys: the [BAND], [▲MHz], and [▼MHz] keys plus the DIAL knob.

MONI: Monitor.

PTT: Push To Talk.

VFO: Variable Frequency Operation.

SWITCHING BETWEEN VFO AND MEMORY MODES

- PRESS the [V/M] key.

DETERMINING RECEIVE FREQUENCY WHEN IN ALPHA CHANNEL MODE

- PRESS the [BAND] key. (PRESS again to revert to alphanumeric channel name.)

LOCKING THE RADIO

1. **To lock the radio**
PRESS [F/W] then 6[LOCK]
2. **To unlock the radio**
PRESS [F/W] then 6[LOCK]

CHANGING THE TRANSMITTER POWER LEVEL

1. PRESS the [F/W] key, then the 3[TXPO] key. The LCD shows the current power output level.
2. ROTATE the DIAL knob to select the desired power output level. Available selections are “HIGH” (5 W), “MID” (2 W), and “LOW” (0.5 W).
3. PRESS the PTT switch to save the new setting and return to normal operation.

MEMORY OPERATIONS

1. **Managing Channel Memory.**
 - a. **Entering a Channel in Memory.**
 - i. PRESS the [V/M] key as needed to enter VFO mode.
 - ii. Use the *frequency navigation keys* or direct entry to select the operating frequency. Be *sure* to set repeater offset and CTCSS tone if appropriate.
 - iii. PRESS and HOLD the [F/W] key for one second.
 - iv. Within five seconds, ROTATE the DIAL knob or PRESS the [BAND] key to select the desired memory channel.
 - v. PRESS the [F/W] key again to store the frequency.

- b. **Deleting a Channel from Memory.**
 - i. PRESS the [V/M] key as needed to enter Memory mode.
 - ii. PRESS and HOLD the [F/W] key for one second.
 - iii. ROTATE the **DIAL** knob to select the memory channel.
 - iv. PRESS the [FM/RV] key to delete the frequency.
- c. **Creating an Alphanumeric Name for a Memory Entry.**
 - i. Recall the memory channel you wish to name.
 - ii. PRESS the [F/W] key, then PRESS the **0[SET]** key to enter Set mode.
 - iii. ROTATE the **DIAL** knob to Item 28: NM WRT.
 - iv. PRESS the [F/W] key to *display* any previous name.
 - v. If you wish to *delete* any previous name, PRESS the [F/W] key again.
 - vi. ROTATE the **DIAL** knob to select the first character of the desired name.
 - vii. Press the [F/W] key to move to the next character.
 - viii. Repeat steps *vi* and *vii* as necessary – names are limited to 6 characters each (sufficient for a call sign or mnemonic label.)

2. Memory Banks

Memory banks simplify organizing memory channels for scanning.

- a. **Assigning memory channels to a memory bank.**
 - i. Recall the memory channel to be assigned to a memory bank.
 - ii. PRESS and HOLD the [BAND] key for one second, then ROTATE the DIAL knob to select the desired memory bank.
 - iii. PRESS and HOLD the [F/W] key for one second to copy the memory channel into the memory bank.
- b. **Recalling a memory bank.**
 - i. PRESS the [V/M] key as needed to enter Memory mode.
 - ii. PRESS and HOLD the [BAND] key for one second, then ROTATE the DIAL knob to select the desired memory bank.
 - iii. PRESS the [V/M] key to select the memory bank for use.

SCANNING

The full capabilities of the FT-60R are described in ten pages of the Operating Manual. Here I describe only two of the possibilities.

1. Memory Scanning.

a. Enabling Memory Scanning.

To scan ALL of the frequencies entered into the radio's channel memory:

- i. PRESS the [V/M] key as necessary to enter Memory mode.

- ii. PRESS and HOLD either the [**▲MHz**] or [**▼MHz**] key for one second to initiate scanning.
 - b. **Disabling Memory Scanning.**
 - PRESS the **PTT** switch.
2. **Memory Bank Scanning.**

To scan **ONLY** the channels stored in a specific memory bank:

 - a. **Enabling Memory Bank Scanning.**
 - i. PRESS the [**V/M**] key as necessary to enter Memory mode.
 - ii. PRESS and HOLD the [**BANK**] key for one second, then ROTATE the DIAL knob to select the desired memory bank.
 - iii. PRESS the [**F/W**] key to select the bank for scanning.
 - iv. Repeat steps **ii** and **iii** to include any other desired memory banks in the scan list.
 - v. PRESS and HOLD the [**V/M**] key for one second to start scanning the selected memory banks.
 - b. **Disabling Memory Bank Scanning.**
 - PRESS the **PTT** switch.

PROGRAMMING THE CW IDENTIFIER

This feature has several uses for identifying your radio in an emergency.

1. PRESS the [**F/W**] key, then PRESS the **0[SET]** key to enter set mode.
2. ROTATE the DIAL knob to select Item 11: CW WRT.
3. PRESS the [**F/W**] key momentarily to display any prior call sign.
4. PRESS the [**F/W**] key AGAIN to clear any previous call sign.
5. ROTATE the **DIAL** knob to select the first character of your call sign, then PRESS the [**F/W**] key momentarily to save the first character and move on to the next.
6. Repeat Step 5 as needed to enter your entire call sign. If you make an error, press the [**▼MHz**] key to move back to the prior character.
7. If your call sign is 5 characters or less, PRESS and HOLD the [**F/W**] key for one second to store the call sign.
8. PRESS the **PTT** switch to save the call sign and exit to normal mode.
9. PRESS the [**F/W**] key, then PRESS the **0[SET]** key to enter set mode.
10. ROTATE the **DIAL** knob to select Item 10: CWID, then PRESS the [**F/W**] key to enable setting this item.
11. ROTATE the DIAL knob to set item to “TX ON.”
12. PRESS the PTT switch to save the setting and exit to normal mode.

EMERGENCY OPERATIONS

(This section is intentionally blank for future text concerning radio settings for search and rescue operations.)

Here in San Francisco, the Fire Department has organized Neighborhood Emergency Response Teams trained in light urban search and rescue. We never have enough radio operators for each member of the search and rescue teams to have individual radios, so the radio operators NEVER go into a structure, but remain outside so as to be able to communicate with Incident Command if the searchers get into trouble. As a result, I've no experience using the FT-60R's EAI and other Emergency Features and Functions, and solicit suggestions and procedures from the readers.

WEATHER CHANNELS

US Versions of the FT-60R have a separate bank of NOAA weather information stations.

1. **Selecting the weather channels bank.**
 - a. PRESS and HOLD the **1[SQ TYP]** key for one second to recall the weather broadcast memory bank.
 - b. ROTATE the **DIAL** knob to select a channel. (PRESS the **PTT** switch to scan the bank for additional stations.)
2. **De-selecting the weather channels bank.**
 - PRESS and HOLD the **1[SQ TYP]** key for one second.

RESETTING THE RADIO

Hopefully you will never need to do this, but if your radio is acting erratically the microprocessor memory may have been corrupted. To reset the radio:

1. Turn the radio off.
2. PRESS and HOLD the **MONI** switch while turning the radio on.
3. ROTATE the **DIAL** knob to select:
 - F1 SETRST: Resets the Set Mode values to factory defaults.
 - F2 MEMRST: Clears all Memories.
 - F3 MB RST: Clears all Memory Bank assignments.
 - F4 ALLRST: Clears all Memories and all other settings to factory defaults.
4. PRESS the [F/W] key momentarily.

OPERATING PROCEDURES

1. Use of plain language is strongly recommended for emergency communications. Avoid "Q" signs, "10" codes, and other jargon.

2. Before transmitting on a channel, listen first so as not to interrupt operators already using the channel. If no traffic is heard, you may ask “Is this frequency in use?” said twice, followed by your call sign.
3. Local procedures normally determine which operator assumes the duty of Net Control during an emergency. Whether using a simplex channel or a repeater, if Net Control is active, address ALL transmissions to Net Control and wait for acknowledgement.
4. During an emergency locally-assigned tactical call signs (*e.g.*, “Incident Command 1” or “First Aid 3”) are used to begin a transmission: your FCC call sign ends the transmission.
5. Be respectful of traffic priorities: **IMMEDIATELY** stop transmitting if someone with a higher-priority message wishes to transmit. While the protocol varies somewhat by location, the message priorities from highest to lowest are:
 - EMERGENCY or CRITICAL – announced by saying either “EMERGENCY” or “BREAK” **TWICE** for messages that cannot wait. Examples are any message concerning life safety or extreme danger to people.
 - PRIORITY or URGENT – announced by saying “PRIORITY” or “BREAK” **ONCE** for important messages that require prompt attention. An example might be a water line break.
 - Normal traffic – is not announced by a priority code word. All normal message traffic should defer to higher-priority traffic.
6. Keep transmission short and to the point. Break longer messages by saying “DROP” then releasing the PTT switch. Wait 3-5 seconds, then resume unless a higher-priority message request is transmitted during the interval.
7. Speak slowly and distinctly, and be aware of background noise. If you are not understood, “spell” important words (such as location) using the phonetic “alphabet” given here:

Alpha	Juliet	Romeo
Bravo	Kilo	Sierra
Charlie	Lima	Tango
Delta	Mike	Uniform
Echo	November	Victor
Foxtrot	Oscar	Whiskey
Golf	Papa	X-ray
Hotel	Quebec	Yankee
India		Zulu

