

# Quick Start Guide to the Yaesu FT-65 Radio

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This document explains to new owners of the Yaesu FT-65 radio its basic operations: how to program and save repeater frequency pairs to radio channels and how to scan the channels you programmed. See the official manuals for insight into using other features of the FT-65 hand-talkie (HT), as well as various web resources (including YouTube.com), and the popular, product-specific, NiftyAccessories.com guides available from amateur radio retailers.

- *Yaesu FT-65R/FT-65E Quick Manual*
- *Yaesu FT-65R/FT-65E Operating Manual*
- *Yaesu FT-65R/FT-65E Advance Manual*

Your radio is not ready to use right out of the box. Before you can communicate, you must program at one or more repeater frequencies in your area. With at least a Technician license, you can legally use the two HAM frequencies available on this radio.

While you can use an appropriate cable (the Yaesu SCU-35) and programming software available from Yaesu on their website to enter repeater frequencies in quantity, many experienced operators recommend learning to use the manual procedures such as those shown here – it will help you gain familiarity with your new radio and someday you may need to program the radio while on the move.

## Repeater basics

A repeater is a radio device typically installed at an elevated location that retransmits (repeats) everything it hears on an input frequency to a different output frequency. To ensure that the repeater only repeats transmissions intended for it, many have an associated squelch tone that radios can be set to transmit whenever you transmit voice. When we talk about “programming a repeater into our radio,” it means setting its receiving frequency, an offset frequency for transmitting, and a squelch tone if one is required. We also like to add an identifying label (tag) if the radio supports it, and the FT-65r does..

## Getting familiar with the FT-65 radio

You need to be familiar with a few buttons before we proceed.

**F key** is the third button down on the left side of the radio as you look at the front of the radio. It has two horizontal bars and invokes the Set functions of the radio.

**\*V/M key** is in the lower-left corner of the keypad. Pressing this key either enters \* for certain functions, or switches between:

- **VFO mode** tuning with the variable frequency oscillator to program a frequency. You can type in a frequency only in the VFO mode.

- **Memory mode** to scan the programmed frequencies. We are most interested in Memory mode presently.

**#BAND key.** Press this key in VFO mode to switch between the FM band and the two supported HAM bands.

**Up and Down arrow keys** in the upper-right corner of the keypad. Press either to increment or to decrement various settings. Use one of them to select values when programming a repeater, or to start or stop scanning programmed channels in Memory mode. When pressed in VFO mode, the radio scans the current band by incrementally changing the frequency. To stop scanning, press either arrow key. We call these keys **Up** and **Down** in this document.

**P1, P2, P3, P4 keys** do not concern us now. They allow quick access to menu items in the radio. Most settings for this radio are in various menus. The *Operating Manual* lists of all menu items toward the back.

**Numeric keys (0–9).** Use these keys to enter values, such as frequencies, when programming the radio. We call these keys: **[0]**, **[1]**, **[2]**, **[3]**, **[4]**, **[5]**, **[6]**, **[7]**, **[8]** and **[9]** here.

**Push to talk (PTT) key** Hold down this key to transmit. Briefly press it as indicated in the programming procedures.

## Program a repeater

To find a list of local repeaters you can either visit a site such as [repeaterbook.com](http://repeaterbook.com) or do a Google search for:

Dallas TX (or other location) 2m OR 70cm repeaters

For this example, let’s program a local repeater – this is how most online resources will list a repeater:

**K5RWK                    147.120            +            110.9**

This breaks down to:

**K5RWK** is the call sign of the repeater and is typically what I label the repeater memory, but you can use any descriptive text, such as city name, that fits (within 8 characters). In the following procedures, the call sign is the identifying tag.

**147.120** is the *output (transmitting) frequency* of the repeater. Your radio receives this frequency. When you transmit, the repeater listens (receives) to a predetermined offset from this frequency, either 0.600 MHz up (+) or down (–) for 2 meters, based on the next item in the description.

**Plus (+)** means that the repeater listens for your transmission on a frequency higher than the repeater’s output frequency. A minus (–) means that the listening frequency for the repeater is lower than the repeater output frequency.

Band	Frequency range	Offset frequency
2 meter	144–148 MHz	0.600 MHz
70 centimeter	430–450 MHz	5 MHz

**110.9** is a CTCSS tone frequency (in Hertz) that alerts the repeater to retransmit (repeat) anything it hears on its input frequency with the specified sub-audible tone. This limits the repeater to retransmitting only transmissions intended to be repeated. Any transmission on the repeater input frequency without the specified sub-audible CTCSS Tone is ignored and not repeated.

Now let's program our first repeater. For this example let's use the K5RWK repeater, which may be described as follows on web pages, club web sites, repeater books, and so on.

**K5RWK 147.120 + 110.0** Sometimes comments identify a city or description.

### To program a repeater

1. Turn on the radio and repeatedly press the **\*V/M** button until you reach VFO mode, as indicated by the *lack* of a three-digit number on the screen.

A three-digit number is the current memory channel. Since we want VFO mode, we do not want to display a memory channel.

2. You may need to press the **#BAND** key to change to the desired band.
  - 144–148 MHz transmits in the 2 meter band
  - 430–450 MHz transmits in 70 cm band (has the most repeaters because of wide bandwidth)
  - WFM indicates the FM band (65–108 MHz; receive commercial radio on 88–108 MHz). Enter [0] for the first number if the desired frequency is less than 100.
  - To set alerts for the NOAA All-Hazards/weather (WX) channels, see the *Yaesu FT-65R/FT-65E Advance Manual*.
3. Type in the repeater output frequency, in this case 147.120, but do not enter the decimal. Just type: **[1] [4] [7] [1] [2] [0]**, and confirm that it appears on the screen.

To make a correction, retype the frequency.

When you finish entering the frequency, the offset is automatically set to + 0.600 MHz, as this is the convention in the United States. This is because by default the ARS (Automatic Repeater Shift) function, menu option #24, defined on P. 26 of the Operating Manual is set to "on". When a frequency is programmed into radio the appropriate repeater offset for the band is activated.

Once you have completed entry of the repeater output frequency the radio beeps once and confirms that it selected an offset by showing a plus (+) in the upper-left corner of the screen.

4. Set the squelch type by pressing the **F** key, and then press the **Up** or **Down** key to get to menu option #29.

"29 SQL TYPE" appears on the screen.

5. Press the **F** key to change to the current value for menu option #29, SQ TYPE. Press **Up** or **Down** to select T-TONE, for "Transmit Tone", meaning the radio will transmit the selected tone.
6. Press the **F** key to save this setting in "#29 SQ TYPE".

7. To select the CTCSS tone that should be transmitted, while in the screen displaying menu options, press the **Up** or **Down** key to get to menu option #08.  
 "08 CTCSS" appears on the screen.
8. Press the **F key** to change to the current value for menu item #08, CTCSS – press **Up** or **Down** key to select the desired CTCSS tone to change, in this case select the line that reads "TX:100.0Hz", for the Transmit (TX) Tone.
9. Press the **F key** to adjust to TX tone, the selected line will start to flash, then press the **Up** or **Down** key to select 110.9Hz.
10. Press and briefly hold the **F key** to set the TX Tone, then press and hold the **F key** to save the CTCSS settings, and then finally press and hold the **F key** to exit the menu system.

If everything went right, you see the 147.120 frequency on the screen, a plus (+) in the upper-left corner to indicate the proper offset, and a box in the upper-right corner that reads [TTN], which confirms that a tone will be transmitted when you transmit.

## Save a repeater to memory

Having set the selected frequency, offset, and tone, let's write this repeater to memory.

### To save a repeater to memory

1. Press and hold **\*V/M** until the display changes – you'll see an "M" in inverse video, and 8 spaces indicated to hold the memory label or "tag"..  
 The radio suggests a channel to store the currently programmed frequency.
2. Either accept the suggestion by doing nothing, or press the **Up** or **Down** key to select a different channel to save this repeater to. Let's save it in memory channel 001, as shown in the upper-left corner of the screen. IF there was anything in memory channel 001, we will over-write it.
3. Using the numeric key pad **[2]** -> **[9]** enter letters or numbers for a label ("tag") for the channel by pressing the corresponding keypad key with the desired numbers or letters.

*The options cycle through the digit on the key, the upper-case letters on the key, and then the lower-case letters, and then back around.*

When the desired letter or number appears, press the **F key** to advance to the next character. Repeat as desired.

4. Press and hold the **\*V/M** button to write the repeater information to the selected channel with the tag you entered.

The screen flashes MEM-IN briefly to confirm that the programmed channel has been saved to the selected memory channel, in our example 001. Once the channel is saved, you remain in VFO mode, pressing **\*V/M** will put you in memory mode, and you can review your programmed channels by pressing the **Up** or **Down** keys.

*Note: You will need to be in memory mode to access programmed channels, as a reminder memory mode is enabled when the display includes a small channel number in the upper left region of the display.*

## Scan the programmed channels

After you program multiple channels, you can scan through them to select one to use. The FT-65r, by default, uses a Resume mode when scanning (see menu option #25, Resume, described on p. 35 of the FT-65r Operating Manual), which means it will stay on an active channel until one second after the transmission ends (waiting for a response to the previous transmission) before it resumes scanning.

### To scan the programmed channels

1. Press the **\*V/M** key repeatedly until you are in Memory mode, as indicated by a three-digit channel number in the upper-left corner of the screen.
2. Start scanning by pressing **Up** or **Down**, and hold it until scanning begins.

The Up arrow starts at the current channel and progresses up through all the programmed channels, resetting to channel 001, and then continuing the scan.

3. To manually stop scanning, tap either the **PTT**, **Up**, or **Down** key.

## Delete a programmed channel

If you make a mistake or simply want to remove an individual channel you've previously programmed into the FT-65r, you can either simply reprogram the channel, but selecting the channel you wish to replace instead of the next available (empty) channel the radio suggests or you can use the following steps to delete the channel from memory.

1. Take note of the channel number you want to delete.
2. Press and hold the **F** key to enter the menu screen, then use the **Up** or **Down** key to select menu option #18, MEM DEL
3. Press the **F** key to delete a memory (channel), the display will change and show a listing of the programmed channels, their channel number and memory "tag".
4. Use the **Up** or **Down** key to select the channel number you wish to delete, press the **F** key to delete the selected channel. You can continue to use the **Up** or **Down** key to select other channels to delete.
5. Once you've deleted all the channels you wanted to, press and hold the **F** key to exit the menu screen.