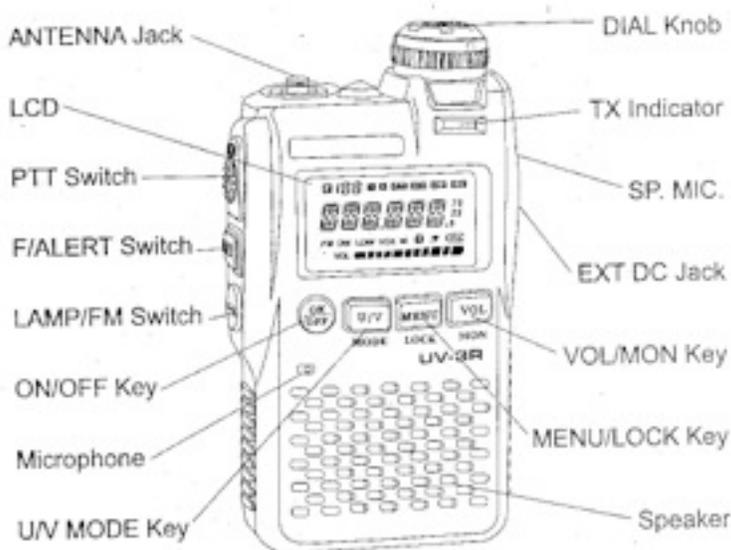


Manually Programming the BAOFENG UV-3R Transceiver

This document provides more detailed instructions concerning manual programming of your BAOFENG UV-3R VHF-UHF handheld ham radio transceiver. You can find all of this information in the little instruction booklet that accompanies this radio, but that text may not be very clear. Programming software and cables are also available for this radio from various vendors.

WARNING: Your BAOFENG UV-3R UHF-VHF transceiver may arrive preprogrammed with radio frequencies lying outside of the US Amateur Bands. Unless you hold a valid license to operate on those frequencies, do not transmit until your unit is reprogrammed for **ham band only** operation. Remember, the US authorized frequency band for 2 meter FM operation is 144.1 MHz to 148.0 MHz; and, the US authorized frequency band for 70 cm FM operation is 420 MHz to 450 MHz.

Here is a pictorial diagram which labels the functions of the controls present on the UV-3R:



1. Locate the orange ON/OFF key which is on the left below the LCD display screen. Press and hold the key down for several seconds until a voltage display (e.g. 3.8V) appears on the LCD display screen (You did charge up your battery first, didn't you? If not, stop and charge your battery for 24 hours by plugging in the wall adapter plug into the jack labeled EXT DC). To turn the radio off, press and hold ON/OFF key until the unit beeps and the LCD display disappears.
2. Before you can manually program the radio, it must be in VFO mode, rather than in memory recall mode. To enter the VFO mode, press and hold the U/V key for several seconds. The radio should beep, and any channel number appearing above the frequency display should disappear.

2 Meter Setup

3. Let's start with 2 meter programming.
 - 3.1 Press and release the U/V key to switch between UHF and VHF. Use this key to display a frequency in the 144-148 MHz VHF range.
 - 3.2 Let's start the set up by setting the 2 meter step size to 5 kHz. To make this setting, you need to enter the menu. Quickly push and release the MENU key. (If you hold it too long, it will lock the keyboard. If that happens, push and hold the MENU key until the lock icon in the lower right hand corner of the display disappears). When you reach the menu screen, the first menu item displayed will be R*CODE. This is menu item #1.
 - 3.3 You want menu item #9, so PULL UP ON THE DIAL KNOB ON THE TOP OF THE RADIO TO UNLOCK IT.
 - 3.4 Then rotate the DIAL knob until menu [9] STEP appears. Then, press and release the U/V key. This step brings up the step size selection options. Rotate the DIAL knob until the "5.00" (5KHz) step appears, then press and release the U/V key, and press, and release the MENU key. This final step returns you to the frequency display.
 - 3.5 Now, when you rotate the DIAL knob, you should see the 2 meter frequency display change in 5 kHz steps (e.g. 146.520 -> 146.525). If it does, excellent! If not, go back to step 2 and repeat steps 3.2-3.5.

Simplex Programming

4. While you are in the VFO mode, let's program a 2 meter simplex frequency, such as the US National Calling Frequency of 146.520 MHz, into one of the memory channels of the UV-3R. By "simplex" we mean that station to station reception and transmission occur on the same frequency, e.g. 146.520 MHz, without using a repeater and without any transmit offset or any CTCSS (sometimes called "PL") tones.
 - 4.1 Rotate the DIAL knob until "146.520" appears on the LCD screen.
 - 4.2 To store this frequency in memory, press and release F/ALERT (middle button on the left side) and then press and release the U/V key. A memory number in a range of 01-99 should now flash on and off just above the frequency display on the LCD screen.

4.3 Rotate the DIAL knob to select a memory location number, such as "01." Then, press and release the U/V key. The radio should emit a long beep signaling that memory location "01" has been written with the desired 146.520 MHz simplex frequency information.

4.4 To check the memory mode to confirm that this frequency has been written, press and hold the U/V key until memory mode is entered. The LCD screen should display the channel number "01" (not flashing) and the 146.520 frequency. Now, press and hold the U/V key to return to the VFO mode.

Repeater Programming

5. Now, let's program a repeater frequency. In this example, we will use the W6SON repeater as an example. This repeater, located in Sonoma County, California, has the following characteristics: a **receive** frequency of 147.315 MHz and a **transmit** frequency of 147.915 MHz with a signal having a CTCSS (PL) tone of 88.5 hertz.

5.1 Start by tuning the radio to 147.315 MHz, by rotating the DIAL knob. The W6SON repeater has a standard 2 meter 600 kHz **positive** offset (+), meaning that it expects to receive a signal from your radio which is 600 kHz above its output frequency. Other repeaters have a 600 kHz **negative** offset (-) according to the Two Meter Band Plan.

5.2 To set a 600 kHz offset into the UV-3A transceiver, press and release the MENU key, and rotate the DIAL knob until menu item [10] OFFSET is reached.

5.3 Then, press and release the U/V key, and rotate the DIAL knob until "00.600" is displayed on the LCD display. Press and release the U/V key.

5.4 The LCD should then show a return to Menu Item 10 "OFFSET." Now, rotate the DIAL knob to menu item [11] SHIFT. Rotate the DIAL knob until "+" appears to provide a positive offset of 600 kHz. (There are three choices: 0, +, -).

5.5 Then, press and release the U/V key, and the Menu returns. Now, rotate the DIAL knob until Menu item [2] appears: TX*CODE. This is where you will set the CTCSS (PL) tone into the UV-3R for this particular repeater (W6SON 88.5Hz PL). Rotate the DIAL knob until "88.5" appears. (If the display shows "0", rotate the DIAL knob clockwise to reach 88.5, since there are so many possible choices in this particular menu).

- 5.6 Once 88.5 is selected, press and release the U/V key, and press and release the MENU key.
- 5.7 To enter these settings into a memory location, press and release the F/ALERT switch, and then press and release the U/V key. The last memory location written to (e.g. "01") will flash on and off. Since you want to set a different memory channel, rotate the DIAL knob until the next memory location is displayed, (e.g. "02").
- 5.8 Then, press the U/V key again to write this new repeater information into memory location 02.
- 5.9 You can check to see that this process has completed properly by holding the U/V key down for several seconds in order to enter memory mode. Then, you can check by switching the DIAL knob between memory location 01 and memory 02. On memory 01 you should see 146.520, and on memory 02 you should see 147.315 and right over the frequency decimal point, you should also see a little square black icon with a "+" in it, indicating the positive offset setting for this particular repeater.
6. You are now armed with enough information to program other repeater and simplex frequencies and settings into the radio, by following these instructions. Enjoy your new handheld radio. Be sure to install the proper antenna (VHF or UHF) before any operation. Once your desired channel is selected, you can push the DIAL knob down, to lock it against rotation. To transmit on a particular channel, press and hold the PTT switch and talk into the front of the radio. Release the PTT switch when you are done transmitting. This returns the radio to receive mode. To program and store a frequency in the UHF ham band, select the UHF band with the U/V key and change the STEP size to 25khz with Menu item #9 discussed above. The follow the process set forth above for 2 meters.
7. ***WARNING: DO NOT PRESS AND HOLD THE F/ALERT SWITCH.*** Doing so will activate an ALARM mode. Don't use it. If you inadvertently enter this mode and the radio begins wailing, press the PTT switch, and then the F/ALERT switch to exit the alarm mode.

FM Broadcast Mode

8. To enter the FM broadcast mode, press and hold the orange LAMP/FM switch down, until a frequency within the FM broadcast band appears. This step may also turn on the flashlight function: quickly pressing and releasing this switch turns the flashlight on and off. To return to the amateur radio function, press and hold the LAMP/FM switch until the radio switches back to its prior setting in the ham band.