

EA7ARX
16F628 PLL CONTROL
SOFTWARE MANUAL
VERSION 2.1 8/2005
APPLIES TO HARDWARE V2.0

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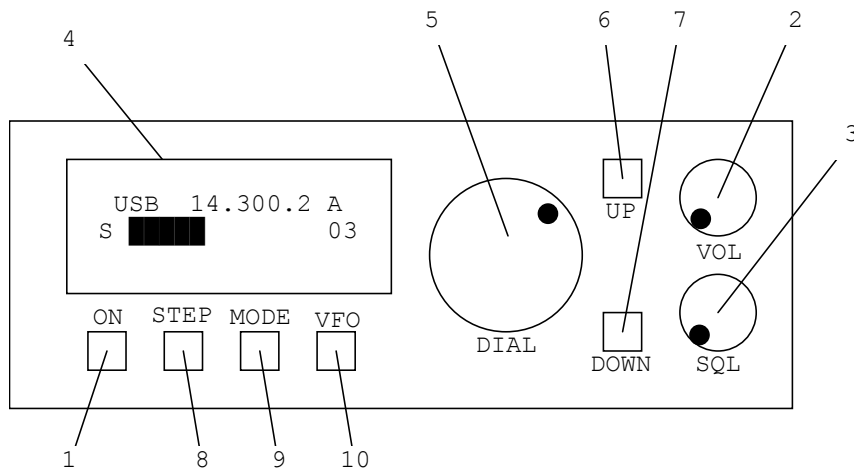
EA7ARX BITX HF Software Control
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SWITCHES AND CONTROLS FROM FRONT PANEL



1. ON/OFF. Transceiver power on/off. Press momentarily in order to put the transceiver on. Press and loose in order to turn off the transceiver.
2. VOL. Transceiver volume. The transceiver audio volume is regulated with this control.
3. SQL. Squelch control. The squelch in any mode is regulated with this control.
4. LCD Display. The Screen shows the information of operation, like the frequency, the mode, the active VFO, the channel and s-meter.
5. DIAL. Digital encoder to tune the transceiver.
6. UP. This button is used in order to change the HF band to the immediately superior. (3.5-7.0-14-21-28-50-144). In the CHANNEL mode the function is different; it is used to go a channel up.

7. DOWN. This button allows changing the band to the immediately inferior. In the CHANNEL mode, it is used to go a channel down.
8. STEP. This control allows changing the transceiver step of the main dial. It can be selected frequency jumps of 100Hz, 1KHz, 10KHz, 100KHz, 1MHz 10MHz of recurrent form upon pressing the button. Under the digit that controls the DIAL it appears a line in the LCD screen showing the step in use.
9. MODE. This button allows changing the mode of transmission/ reception of recurrent form: CW, AM, USB, LSB, FM.
10. VFO. This button allows changing the mode of operation of the VFO of the transceiver of recurrent form. The transceiver has five ways of operation:
 - a. VFO A mode. (It appear an "A" to the right of the indication of frequency). This is the main VFO of the transceiver, when you turn off the transceiver it stay in not volatile memory the information of frequency and mode of this VFO.
 - b. VFO B mode. (It appear a "B" to the right of the indication of frequency). This is the secondary VFO of the transceiver, when you turn off the transceiver it stay in not volatile memory the information of frequency and mode of this VFO. Frequency and mode are independent for this VFO.
 - c. CHANNEL mode. (it appear a "N" to the right of the indication of frequency). In this mode the content of each one of the channels is shown. In the second line of the screen to the left two digits appear that indicate the active channel at this time. The transceiver has 18 channels of memory (from 0 to 17) that store mode and frequency. When the channel is blank, it will show the 14.100 USB frequency. With the help of the dial and mode button one could place the mode and frequency wanted. The channel will remain memorized automatically.
 - d. CALL mode. (It appear a "C" to the right of the indication of frequency). This is the transceiver calling frequency. This frequency could be modifying acting on the DIAL control, the keys of band and mode. The new frequency and mode of the calling channel remains stored automatically. Frequency and mode are independent for this mode.
 - e. SPLIT mode. (It appear a "S" to the right of the indication of frequency). This is the split mode, where frequencies of transmission and reception are different. For the mode and frequency of reception it is used those of the VFO A. For the mode and frequency of transmission it is used those of the VFO B. When you go over reception to transmission it shows in the screen the frequency and correct mode in all moment. Although these frequencies could modify acting on the dial, they in no moment remain kept. In order to modify them it is necessary to act on the VFO A or the VFO B as corresponds.

FI VALUE ADJUST.

The transceiver has an option for the adjustment of the value of the FI to add. The first limitation is that the value of the FI always sums to the value shown in the screen and it is used to program the PLL.

Another important thing to keep in mind is that for each mode (USB, LSB, etc) stays a value of different sum and therefore it is necessary to program them all. A limitation in

the way of adjustment is that it permits only single jumps of 100Hz, so if the value of the FI is very different from 10MHz it will be necessary to modify the program before loading it in the microcontroller.

In order to enter the adjust mode it is necessary to press the UP button at the same time that you are power on the transceiver. We could notice that we are in the adjustment mode because in the corner left inferior of the screen appears the letter "A" instead of the habitual "S." This indicates that we have entered in the adjustment mode. At this time we could vary the indication with the dial and the mode with the MODE button.

USB 10.000.0 A
A 03

Once adjusted the value of the FI to add for a certain mode it is necessary to press the DOWN button to proceed to their storage in the not volatile memory of the microprocessor. It in this moment show a "G" in the corner left inferior in order to inform we that it have stayed the adjustment for this mode. Once does, you could pass to another mode and repeat the operation. We could repeat this adjustment for all the modes how many times we want. In order to leave in the adjustment mode we will turn off the transceiver.

We could enter in the adjustment mode how many times it is necessary in order to tune it.

VALUES RESET

The transceiver has the possibility of making a reset. It is necessary to press the DOWN button at the same time that you power up the transceiver. All the values will remain for defect. The channels previously stored will be erased.

73s

Manuel

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