

## Special Programming for the Alinco DJ-X2 wideband communications receiver

For some time, I've been enjoying an Alinco DJ-X2E multimode scanning receiver. Besides being about the size of a pack of Marlboro shorts, but only half the thickness (including the built in Ni-MH battery), this little radio will cover everything from 0.5 MHz to 1 GHz (999.995 MHz). It's got AM/NBFM/WBFM, 700 memory channels, scan banks, VFO mode, and also has AM, FM, and TV audio channels stored in a separate factory preset memory.

In case you care, the Alinco DJ-X2E is the Export version of the Japanese DJ-X2. The USA version is the DX-J2T, which is cellblocked. I happened to buy mine in the UK.

Unfortunately, the USA's AM and FM stations, as well as the TV stations, are not only on slightly different frequencies from the European channels, but the channel spacings are 'foreign' as well. This means that AM stations are 9KHz apart instead of 10, FM stations are 100KHz apart instead of 200, and TV stations are 7MHz apart instead of 6. So much for being able to listen to Paul Harvey and Jerry Springer. The keypad's a bit hard to negotiate as well. It's versatile but not numeric.

There's an answer to these issues, however. Alinco has posted a program on their DJ-X2 website at <http://www.alinco.com/Products/DJ-X2/> and if you have the EWR-4C magic programming cable, you can fill the radio however you wish, within limits. Unfortunately, the program will save allowable data for only one of the three variants of the radio, but not a mixture of parameters. I found this a little inconvenient, since I could not save the USA settings for FM, and Export settings for certain other frequencies.

The program saves the data in plain text not unlike a windows .INI file. This is important because the menus in the program have a few greyed out areas, depending on which version of the -X2 you have. Editing the GUI's .AX2 output files allow you to circumvent this and gain some extra versatility. There's more to the radio's programmability than might be evident looking at the GUI.

I'll focus on the factory-programmed channel banks. Once you see this, it'll be easy to figure out the rest. What follows here corresponds to the "Preset Memory, Modify" dialog box of the GUI.

Here's the relevant part of the default DJ-X2E file:

```
[Preset Memory]
PresetBnkLnk0=1
PresetBnkLnk1=1
PresetBnkLnk2=1
PresetBnkLnk3=1
PresetBnkLnk4=1
PresetBnkLnk5=0
PresetBnkLnk6=0
PresetBnkLnk7=0
PreMem1=53.75,2,15,3,1,"TV Channels 1 to 3"
PreMem2=180.75,2,15,8,1,"TV Channels 4 to 11"
PreMem3=476.75,2,16,49,1,"TV Channels 12 to 60"
PreMem4=.531,0,3,122,0,"AM Broadcast Band"
PreMem5=76.1,2,11,139,0,"FM Broadcast Band"
PreMem6=0,0,0,0,0,""
PreMem7=0,0,0,0,0,""
PreMem8=0,0,0,0,0,""
```

In the PresetBnkLnk0=1 lines, if PresetBnkLnk#=1, the radio will continue from one preset bank to the next automatically.

The next section is the important part:

Let's look at the structure:

Preset block and starting frequency	mode	spacing	# of channels	Display mode	Comment
PreMem1=53.75	2	15	3	1	"TV Channels 1 to 3"
PreMem2=180.75	2	15	8	1	"TV Channels 4 to 11"
PreMem3=476.75	2	16	49	1	"TV Channels 12 to 60"
PreMem4=.531	0	3	122	0	"AM Broadcast Band"
PreMem5=76.1	2	11	139	0	"FM Broadcast Band"

For the USA, this would be:

PreMem1=59.75	2	14	5	1	"TV Channels 2 to 6"
PreMem2=179.75	2	14	7	1	"TV Channels 7 to 13"
PreMem3=475.75	2	14	56	1	"TV Channels 14 to 69"
PreMem4=.53	0	4	125	0	"AM Broadcast Band"
PreMem5=88	2	11	200	0	"FM Broadcast Band"

The PreMem# is merely the numerical order of the block. The =##.### is the lowest frequency in the block.

The mode is defined as 0=AM, 1=FM narrow, and 2=FM wide. Narrow would be used for communications work such as police, fire, ham radio, etc.

Spacing is a selection where the number = the frequency of each channels step in the program. The selections are not numbered, but are designated in tabular form from left to right, by 0=5KHz, 1=6.25KHz ... 17=10MHz.

# of channels is simply how many channels to step through, at the given spacing. For instance, the default AM band has 122 channels, spaced 9KHz apart, beginning at 0.531MHz. (3 is the position for 9KHz.) The GUI limits this to 255. If you put in more, it will correct it to "1" for the load to the radio.

The display mode tells the radio whether to show each channel as a numerical figure, or as a frequency display. Good for TV channels, and when you don't want others to know what actual frequency you are listening to. Channel display always starts with "1", so you might want to enter the mythical channel 1 audio frequency, 53.75, so that the numbering scheme will be correct for the USA.

It's easy to get confused between using the GUI and editing the data. It's best to enter as much as you can in the GUI, then exit, and massage the file, then use the GUI to select the file and load the radio (don't edit the hand-modified file in the GUI or save it, or it will 'reset' your hacking-work).

This may all seem confusing, but just play with the files a bit and you will get it very quickly. You can't damage the radio.

A word about spacing. In the DJ-X2E, 200KHz spacing is not 'allowed'. In the USA, FM radio stations are 200 KHz apart. To overcome this, set spacing to 100KHz, and jump twice for each step. When I set spacing=12, for 200 KHz, I got an Easter Egg, 100Hz spacing. Of what value this may be I can't say, and I can only wonder what the greyed-out selections do in the USA model, the DJ-X2T.

Regards,

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