

Installing the 8718 Preselector Option.

I recently acquired a preselector unit and controller card for my WJ-8718-9 receiver. This came from an Ebay auction where someone was parting out a receiver and had just laid all the individual PCB's out on a bench and photographed them. The buyer then had to circle the bits that they required and send the picture back to the seller for a buy it now price.

On seeing that there was a preselector unit and decoder PCB amongst the available PCB's I thought I'd have a go at fitting the option to my receiver, so duly ordered the bits for a grand total including shipping of £27 (\$43).

When the preselector arrived it was missing any cabling (what do you expect for £27) but this was no problem as the WJ8718/PRE option manual is available on Terry O's fantastically helpful Watkins Johnson site <http://watkins-johnson.terryo.org/>

I duly made up a short SMC patch cable for the RF output, and screwed the filter assembly into place, disconnecting the antenna feed from the converter unit and instead connecting it to the input of the preselector. The output of which was then connected back to the converter using my new SMC patch cable.

Next I installed the decoder card into the centre front slot of the control cage and connected up the nine way d-type control cable from the decoder card to the preselector.

That should work I thought to myself as I switched the receiver on only to be confronted with no signals whatsoever on any band...

OK time to start fault finding, there was no promise that the unit was going to work straight out the gate I thought.

Firstly I checked the new SMC patch lead as it was the easy place to start. This was OK.

Next I checked the output of the decoder PCB only to discover that there was none. This was a little worrying as the only unavailable part of the whole preselector assembly is the ROM chip on the decoder card. I was just mulling over whether I could replace the decoder card with a suitably programmed PIC (the decoder inputs and outputs are shown in the manual so it would not be all that difficult if necessary) when I thought I'd just check if the decoder card was getting any input. This may seem fairly obvious, but I had assumed that there must be an input, it's plugged into a pre wired socket on the A6 PCB right.... WRONG !!

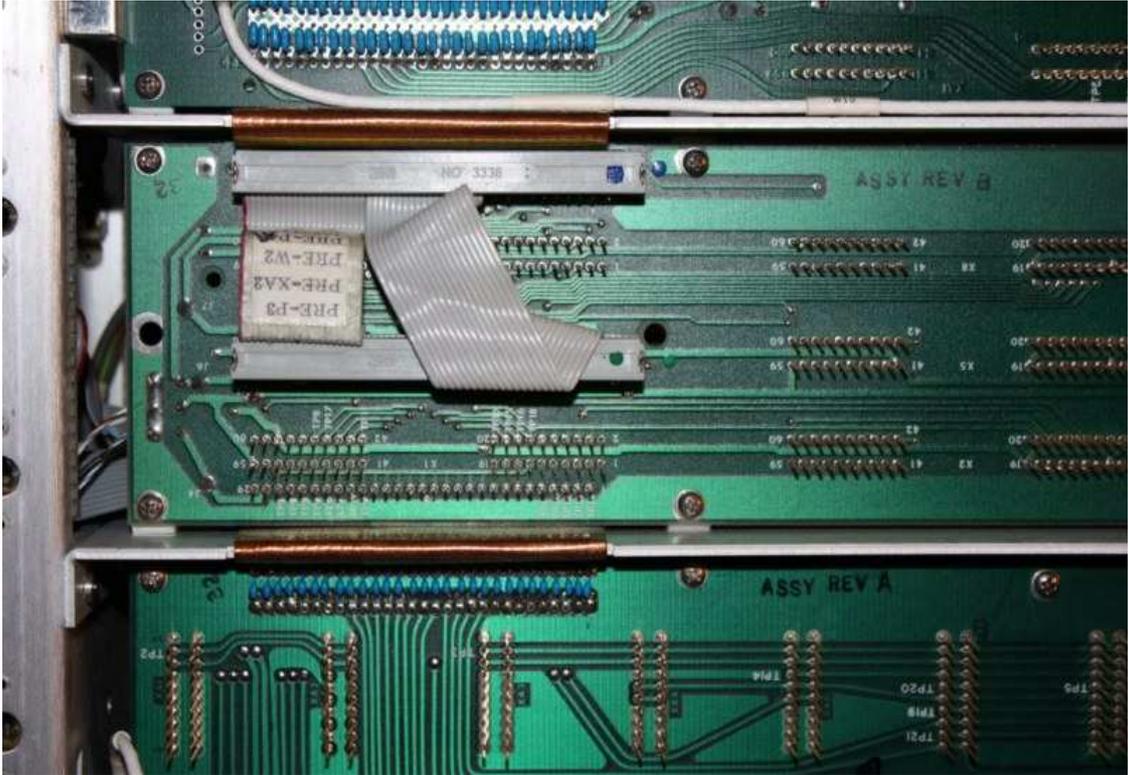
On closer examination the option socket only has the power supplies and GND connections, all the other pins are not connected to anything...

I read and reread the manual, and could find no reference to this, there is no mention of having to connect the pins on the underside to anything anywhere in it (or so I thought).

At this point I gave up and decided to appeal to the real experts of the premium Rx mailing list <http://www.premium-rx.org/>

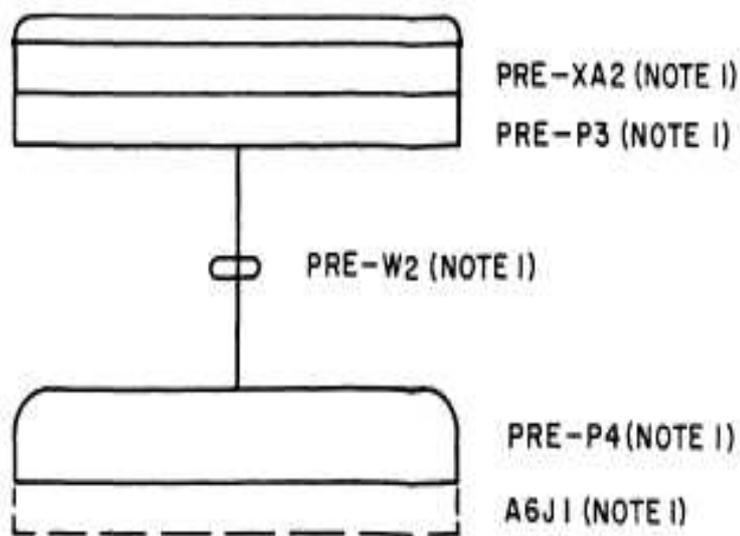
I had quite a few replies, mostly from people saying that they had just plugged their decoder cards in and they "just worked".

Then finally a breakthrough, I received the picture below from group member Les Layton;



The underside of the WJ-8718 (WJ-8716)

This picture explains it all. The option socket is connected to the address and control lines on the controller board with a ribbon cable, which is fleetingly mentioned on the final page of the WJ8718/ PRE manual, once you know it exists that is. In as much as there is a diagram of it with the nomenclature PRE-W2 next to it. This is the only mention of any such cable in the entire manual, and unless you know that it's even a cable how would you know it was missing....



At this point I set about manufacturing a cable for my receiver.

The first thing to do was to acquire some suitable connectors, luckily we had ordered some of the right type about eight years ago at work in error (the person placing the order was meant to get 96 way (three row) connectors and inadvertently ordered 64 way (two row) connectors by mistake). They are available from Farnell in the UK part number, 150255;

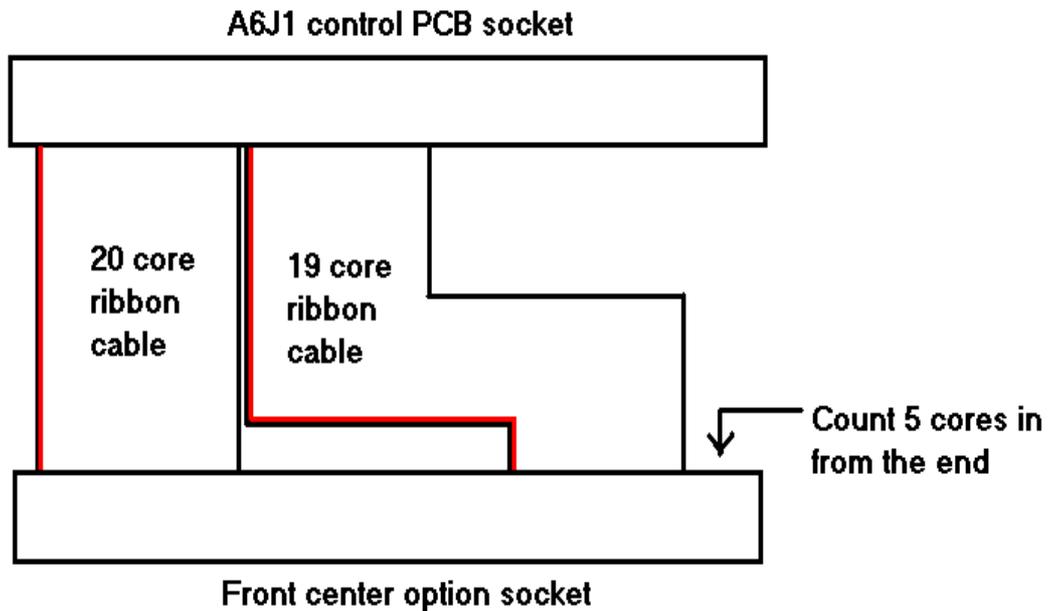
http://uk.farnell.com/harting/09-03-264-7828/socket-idc-din41612-type-c/dp/1096868?whydiditmatch=rel_3&matchedProduct=150255

Secondly I had to work out which pins connected where. This is where the second handy, but totally undocumented piece of information from the last page of the WJ8718/PRE manual comes in. Table "A", bellow shows the pin outs of the PRE-W2 cable, but no where in the manual is any reference made to this table, or what it shows.

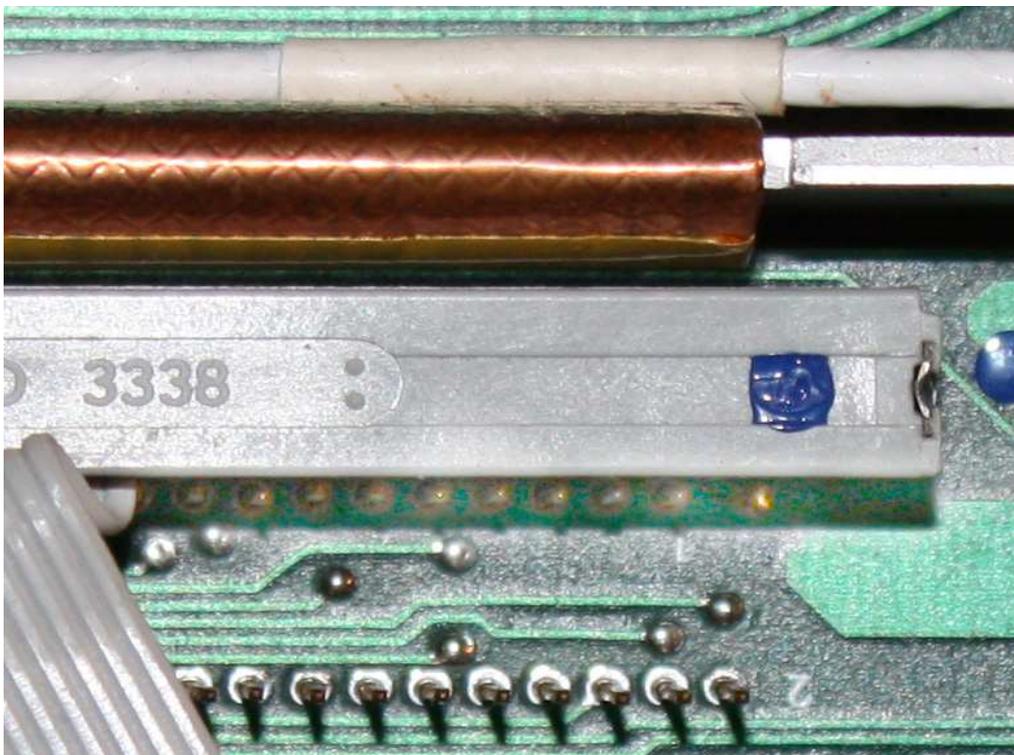
TABLE A

CONNECTOR TERMINATION			
A6J2	PRE-P4	PRE-P3	PRE-XA2
29	1A	1A	60
—	1C	1C	59
28	2A	2A	58
—	2C	2C	57
27	3A	3A	56
—	3C	3C	55
26	4A	4A	54
—	4C	4C	53
25	5A	5A	52
—	5C	5C	51
24	6A	6A	50
—	6C	6C	49
23	7A	7A	48
—	7C	7C	47
22	8A	8A	46
—	8C	8C	45
21	9A	9A	44
—	9C	9C	43
20	10A	10A	42
—	10C	10C	41
19	11A	21A	20
—	11C	21C	19
18	12A	22A	18
—	12C	22C	17
17	13A	23A	16
—	13C	23C	15
16	14A	24A	14
—	14C	24C	13
15	15A	25A	12
—	15C	25C	11
14	16A	26A	10
—	16C	26C	9
13	17A	27A	8
—	17C	27C	7
12	18A	28A	6
—	18C	28C	5
11	19A	29A	4
—	19C	29C	3
10	20A	30A	2

For convenience I have drawn up a simplified version of the cable assembly, see below;



Lastly, the one remaining thing that caught me out is that the A6J1 64 pin connector goes on the back set of pins, those nearest the copper covered ribbon, not the front set, these unused pins are hidden in the shadow caused by the camera flash in Lese's otherwise excellent photograph, see below for an enlargement with the shadow removed;



I hope this document makes fitting the PRE option a lot easier for anyone else in the future.

73's and good Dx
Dave.S.