Bulletin 1

FM1200 SB0 VHF with Type 1 Control Board

The FM1200 control board Type 1 was first discovered long after the software for Types 2, 3 and 4 had been developed. The Type-1 control board has a number of remarkable differences with respect to the later versions, not only in the hardware used (32-pin main CPU and a PLCC socket for the trunking PROM), but also in the internal software layout (different microcontroller port lines, etc.). Because not all differences could be included in detail in the Conversion Manual, this Bulletin has been produced to deal with the Type-1 control board.

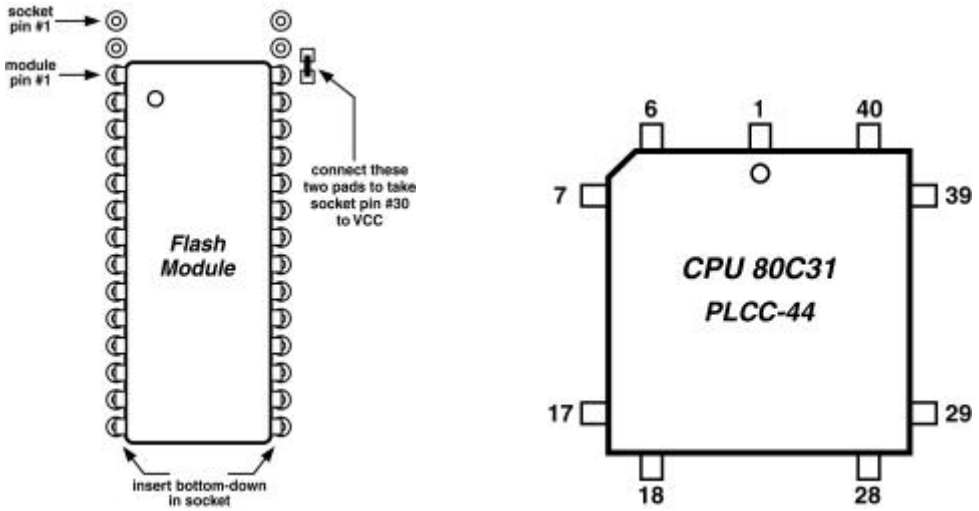
1. Before you start converting the control board it is recommended to run a quick go/no-go check on the complete kit. Connect all cables, accessories and a 13V DC power supply. An antenna or dummy load is not required as transmitting will be inhibited in any case due to the absence of a valid trunking signal. Switch on the power supply, then the radio. The display should first indicate the UNIT IDENTIFICATION NUMBER and then "NO SERVICE". Test the audio function by pressing a few random buttons on the display console. If error beeps are produced the radio is in working order and ready for conversion.

2. Optional modification. Advanced users only. The 24C16 SMD EEPROM (IC311) on the Tyoe-1 board has less storage capacity than a 24C64. This limits the length of the names that can be given to channels in the scan/memory group. Only if you think this is a problem, the existing 24C16 SMD may be replaced by a 24C16 in a DIP8 case. Because there is no IC socket, the 24C16 has to be removed from the control board by unsoldering. For orientation, note where pin 1 used to be connected. Clean the PCB area, then connect a 24C64 DIP8 EEPROM as indicated in the table. The numbers of the solder pads correspond to the pin numbers of the SMD EEPROM removed from the board. Please note that this is a 14-way position.

24C64 pin #	Solder pad #
1 (E0)	ground
2 (E1)	ground
3 (E2)	ground
4 (Vss)	ground
5 (SDA)	9
6 (SCL)	10
7 (WC\)	12
8(Vcc)	13

3. Connect a wire between pin 17 of the main CPU (IC312) and pin 14 of the tone CPU (IC548). Use the drawing below to positively identify the pin numbers on the 80C31 PLCC. Solder very carefully.

4. For additional clarity the positioning of the 28-pin moulded Flash module in the 32-pin firmware socket is illustrated below. All Flash modules have been individually tested before packaging and shipping, and do not qualify for replacement.



Position of 28-pin Firmware Module in 32-pin socket.