

HOW TO INSTALL THE SP12 TURBO UPGRADE KIT

Tools required: one Phillips head screwdriver, one small flat blade screwdriver.

- 1) If you want to keep any sounds and sequences, back them up on cassette or disk, before starting.
- 2) Place SP12 on a cloth or other soft surface to avoid scratching the housing. Disconnect any power and audio connections.
- 3) Remove the 3 screws on the back along the top edge. Turn the SP12 over and remove the 5 screws along the bottom edge.
- 4) Now, with the SP12 situated right side up, separate the housing from the chassis by lifting the housing up and towards you enough to see the 40-pin ribbon connector along the front left edge of the circuit board.
- 5) Disconnect ribbon cable by pressing the edge connector stops outward. The connector should pop out.
- 6) Now place the housing behind the SP12, out of the way.
- 7) Looking down at the circuit board, you should see three rows of 10 IC sockets, mostly empty. All of these empty sockets (18 in total should be filled with the 28 pin turbo chips. The exact locations are: IC #

Row1	1	2	3	4	*	*	7	8
Row2	19	20	21	22	*	*	25	26
Row3	50	51	52	53	*	*	56	57

The 6 memory chips that are already installed make up the 1.2 seconds of sampling already in your machine. The other 6 chips with the labels are the stock sounds. When installing the chips, make sure the notch in the front of the chip is facing the same direction as the others.

- 8) After installing the 18 sound memory chips, you should have 3 memory chips left over. This is for additional sequence memory. These must be placed in the empty sockets (IC's 117, 118, 119) along the back edge underneath the transformer and power connector. Make sure no power is connected, as you can easily shock yourself if it is! Be careful here, as it is harder to see if you have the chips placed correctly.
- 9) Last, but certainly not least, the Programmable Logic Array (P.A.L.) labeled SP12 MAXO5 must be swapped for the one currently in the machine at IC 62.

This is a 20 pin IC located near the left edge of the board near the middle. To remove the chip either use an IC puller, or a small flat blade screwdriver, and carefully pry the chip from both sides until you can lift it out with your hands. When installing the turbo P.A.L, make sure that the dot corresponding to pin 1 is facing the same direction (towards the back) as the other IC's.

- 10) Software for the SP12 resides in the 2 EPROM's at IC locations 114 and 115 (immediately to the left of the sequence memory). They are easily identifiable by their labels, which might read: SP12 1.6A and SP12 1.6B. So, if you receive software updates such as 1.8A and 1.8B, swap 1.8A for 1.6A and 1.8B for 1.6B.
- 11) Now reconnect the front panel ribbon cable and place the housing back on the chassis without screwing down.
- 12) Connect power and audio and switch on. It should power on as normal. It is a good idea to clear memory at this point. Press setup #23. Then press #12. the display will read "Clear memory really? yes/no". Press yes.
- 13) Now press Sample and check sound length by pressing #5. The display should read 2.5 seconds. This is the longest single sample you can record. Sample a steady tone in User 1 for the full length and play back. If it sounds normal, record another 2.5 second sample in User 2 to check the other half of memory. If all is ok, power down and screw it back together. You are done! If problems occur, call E-mu Customer Service (408) 476-4424.

