

32 CHANNEL MEMORY EXPANSION FOR SX-200

- PARTS:
1. EXP-32 Printed circuit board
  2. R1 22K  $\frac{1}{2}$ w
  3. R2 22K  $\frac{1}{2}$ w
  4. R3 22K  $\frac{1}{2}$ w
  5. C1 1uF 16V ELECTROLYTIC CAPACITOR
  6. C2 1uF 16V ELECTROLYTIC CAPACITOR
  7. Ic1 Mc 14161B
  8. Ic2 Mc 14027B
  9. Ic3 uPD 5101
  10. S1 Switch 3 posn. (On-Off-On)
  11. 2 x Solder Lugs
  12. 9 x Coloured Wires

MODIFICATION PROCEDURE

1. Remove top and bottom covers from SX-200, then remove front panel key board.
2. Locate Ic 112 (uPD 5101) and isolate pins 18 & 19 from ground by cutting foil. Note: Pins 18 & 19 must remain short circuit, do not cut the foil between these pins. See part location diagrams. (FIG 4)
3. Remove D113, R181 & R182.
4. Bend pins on Ic3 (uPD 5101) backwards, so that it can be mounted upside down. See Fig 1.

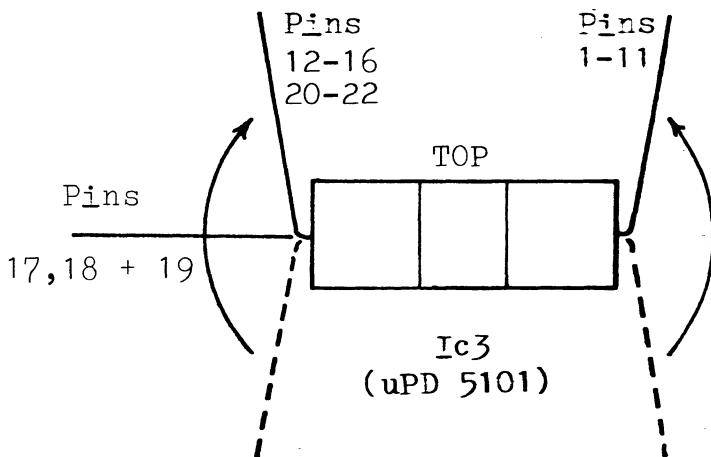


FIG 1A

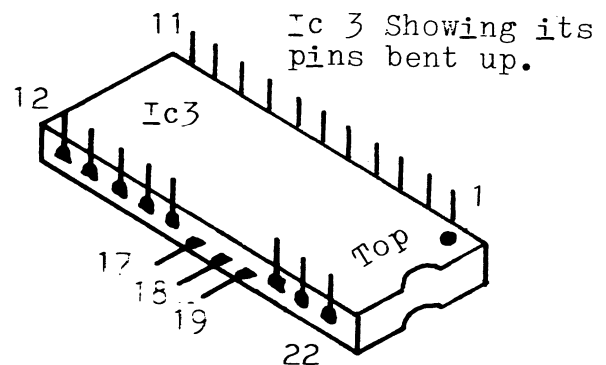


FIG 1B

Mount Ic3 on underside of the main Printed Circuit Board, by soldering all pins except 17,18 & 19.\* To their corresponding pins of Ic 112. i.e. Pin 1 to Pin 1, Pin 2 to Pin 2 etc.  
 \*Pins 17,18 & 19 are not to be soldered to the main Printed Circuit Board, instead, short circuit Pins 18 & 19. These pins will later be wired to the EXP-32 Board.

5. Remove the battery cover from the rear of the set, and drill a  $\frac{1}{4}$  inch hole in the top right hand side of the cover, as close as possible to the edge. See fig 2A.

SX-200 Battery Cover

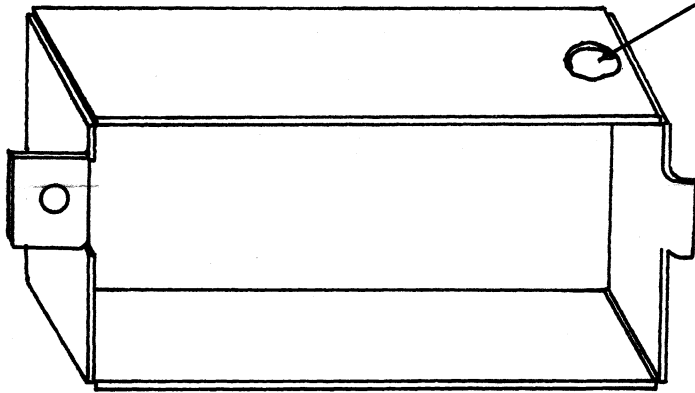


FIG 2A

Drill  $\frac{1}{4}$ " HOLE

Rear view of switch S1.

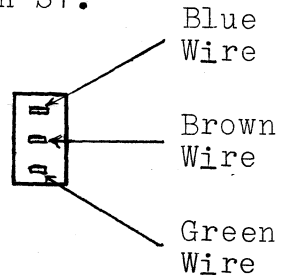


FIG 2B

4. cont..

Mount S1 in the battery cover then solder the blue, green & brown wires supplied to the switch terminals as per fig 2B. Pass the wires through the rectangular hole on the rear of the set where the battery cover is mounted, then install the battery cover.

5. Mount R1, R2, R3, C1, C2, Ic1, & Ic2 on the EXP-32 circuit board, ensuring that polarities and configurations are correct. Solder the colour coded wires to the board as per fig 3.

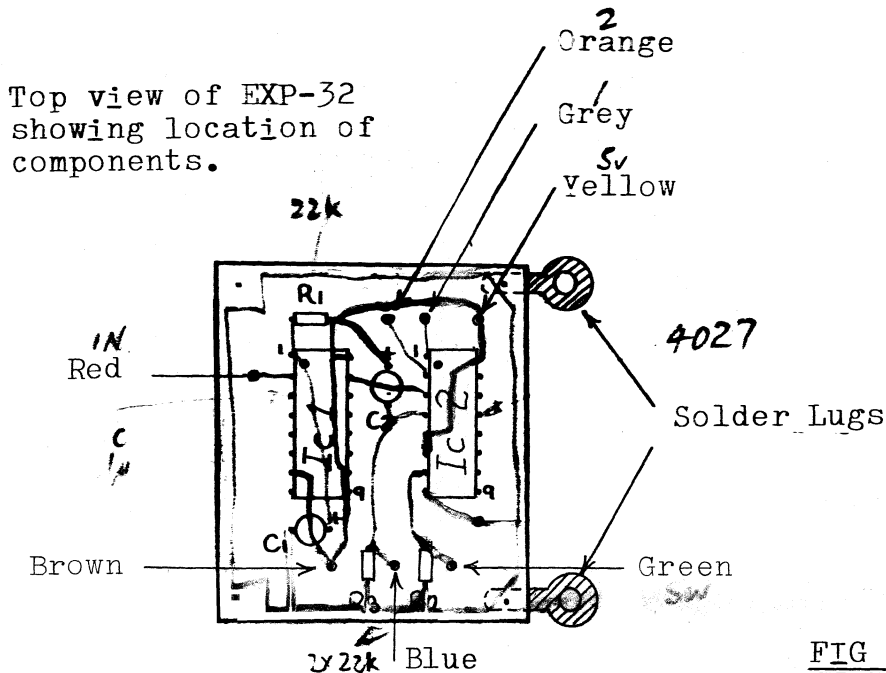


FIG 3

6. The EXP-32 can now be mounted inside the SX-200. Solder the solder lugs to the EXP-32, ensuring that they make electrical contact with the ground fringe on the CCT Board. See fig 3.

Bend the lugs so that the XP-32 board can be mounted horizontally on the left hand side of the SX-200 chassis. (The component side of the board should be faced downwards.)

## 7. FINAL TERMINATION

Solder the red wire to Ic 115 pin 13 (uPD 553). Solder the yellow wire to Pin 22 of Ic 112. (See parts location diagrams fig. 4.)

Solder one black jumper wire from pin 17 Ic 112 to pins 18 & 19 of Ic 3 and solder the other jumper wire from pins 18 & 19 Ic 112 to pin 17 of Ic3.

Solder the grey wire to pin 17 of Ic3. Solder the orange wire to pins 18 & 19 of Ic3.

## 9. OPERATION

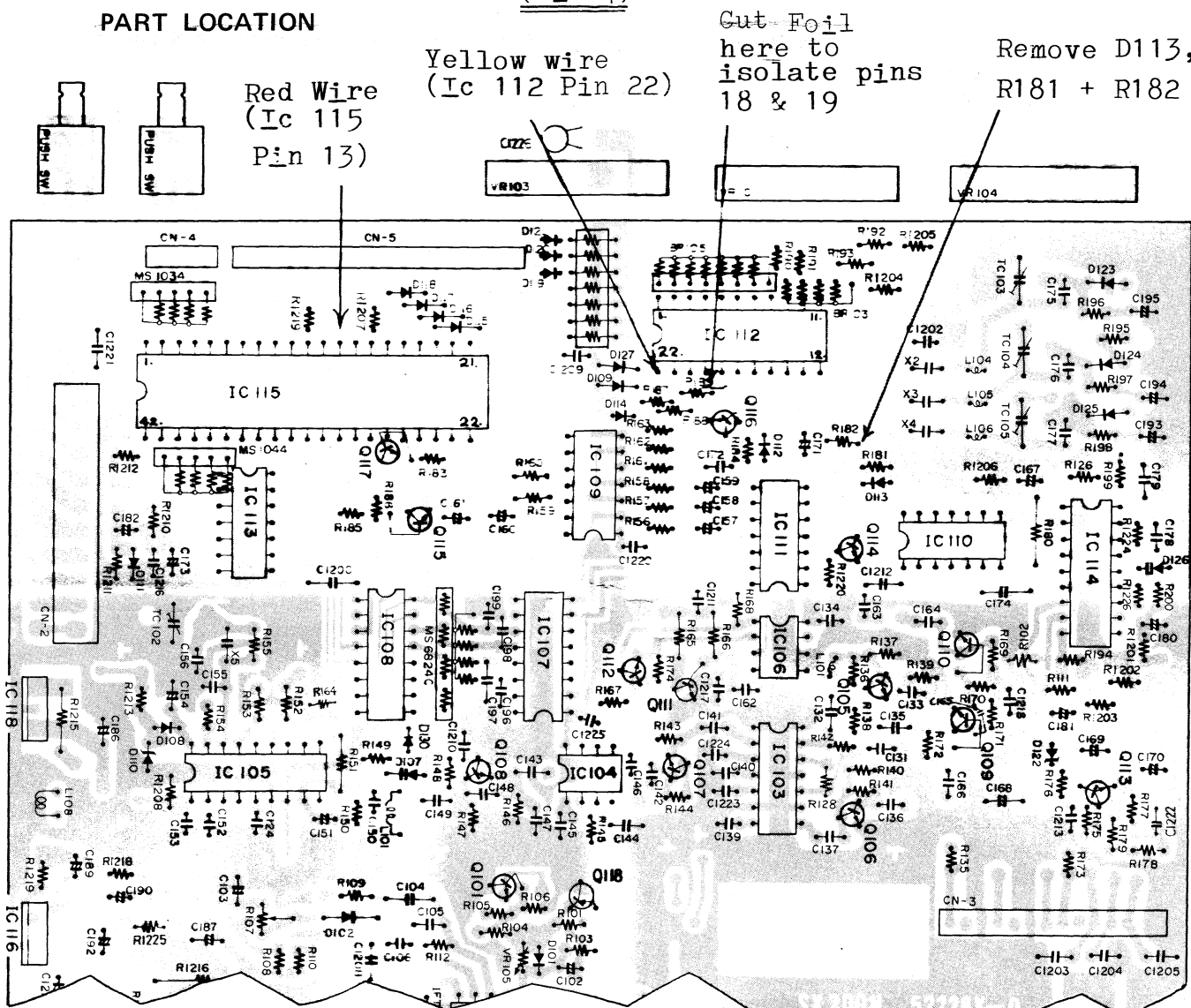
The set has now two individual 16 channel memories, with the switch pushed towards the rear, the first 16 channels can be loaded, with Scan A and B functions as normal.

With the switch pushed towards the front, the second 16 channels can be loaded, with Scan A and B functions as normal also.

When the switch is in the centre (off) position, and Scan A mode is selected, the unit will scan all 32 memory channels.

(FIG 4)

### PART LOCATION



PLL P.C. BOARD, WIRING SIDE