

INSTRUCTIONS FOR MULTIPOINT CIRCULAR CHART RECORDER FEATURE ADDITIONS

I INITIAL STEPS

1. Turn off power to the instrument.
2. Examine the parts furnished in the kit to plan where each part will be fitted, using Figures 1, 2 and 3 and item no.'s, e.g. (#1).

II INSTALLING OPTIONS BASEPLATE

1. Open the door to the recorder to show the platen. On the right hand side of the platen there is a single slotted countersunk screw. Loosen this captive screw by turning it counterclockwise. Lift up the platen and secure open with a suitable retention device.
2. Locate the power supply module situated in the bottom right hand corner of the case. Obtain the Options baseplate (#8) and four 43 mm hexagonal spacers (#7) from the kit. Locate the four screw locations identified as (#9) on the top part of Figure 1. Using the options baseplate and figure 1, locate the positions for inserting the four 43 mm hexagonal spacers. Screw the spacers in position and tighten carefully with a socket wrench.
3. Obtain four screws (#2) and washers (#1) from the kit. Position the Options Baseplate on top of the four hexagonal spaces with the flanges pointing towards the back of the case. Secure the Options Baseplate to the hexagonal spacers using the four screws (#2) and washers (#1). Carefully tighten with a socket wrench.

III INSTALLING OPTION BOARDS

There is no required order for options boards. Their order should be decided by the ease of wiring to them. A relay board with several sets of wires will probably be best as board #1. Wire board #1 connections before any other boards are mounted. Be careful to keep ac power wires away from low level dc connections to the channel inputs.

If installing only option board 2 and/or 3 go to the second part of step 3 (*) and skip steps 4 & 5.

1. Open the lower power supply connector (see connector detail), and insert one end of the long (24 mm) ribbon and press the connector closed.
2. Thread the long ribbon through the slot in the power supply mounting plate, and fold at right angles upward (see diagram dotted lines). Fold so that the ribbon side with the silver connection edges is AGAINST THE PLATE. The left side of folded ribbon should be approx. $\frac{3}{4}$ inch from left edge of the plate. Place the insulation sheet (#6) OVER the ribbon with the four holes toward the BOTTOM of the insulation sheet.
3. Mount the **first board** with two screws (#2) & washers (#1) in the bottom threaded inserts on the plate over the recorder power supply, using the bottom hole on each side of the board. (*) If there is to be a **second board**, finish the **first board** with two short (15mm) spacers (#3) in the second set of threaded inserts. If there is no **second board** use two more screws (#2) & washers (#1) to finish the **first board**.
4. Loop the long ribbon down to the **first board** and insert into the **top** connector. If there is to be a **second board**, insert one end of a short ribbon into the second connection on the **first board** (just below the top connector with the long ribbon), see diagram detail.
5. Wire to the **first board** connections. If there is no **second board**, go to step 13.
6. If there is to be a **second board**, mount two medium (21mm) spacers (#4) into the third set of threaded inserts. Then mount the **second board** using the bottom two holes and two screws (#2) & washers (#1) into the short (15mm) spacers (#3) (from step 3). Loop the short ribbon from the **first board** down to the **second board** and insert into the TOP connector.
7. If there is to be no **third board**, finish the mounting with two more screws (#2) & washers (#1) and wire to the **second board** connections, then go to step 13.
8. If there is to be a **third board**, finish the second board with two short spacers (#3) into the **second board** medium (21mm) spacers (#4) (from step 6) and insert one end of a short ribbon into the connector just below

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the connection with the short ribbon from the **second board**.

9. Wire to board #2 connections. If there is no **third board**, go to step 13.
10. If there is to be a **third board**, mount two long (38mm) spacers (#5) into the fourth set of threaded inserts. Then mount the **third board** using the bottom holes and two screws (#2) & washers (#1) into the **second board** short (15mm) spacers (#3) (from step 8). Finish the **third board** with two screws (#2) & washers (#1) into the long (38mm) spacers (#5).
11. Loop the short ribbon from the **second board** down to the **third board** and insert into the **top** connector and wire to the **third board**.
12. After installing all the options required, locate two medium (21mm) spacers (#10) and install as shown on Figure 1. Locate the RED insulator and affix in position on top of the # 10 spacers with two screws (#2) and washers (#1).
13. Re-power the recorder and if there is a message "press ENTER to use new options", press ENTER and allow the recorder to complete initialization.

REMINDER - Relays have to be configured to respond to Jobs (usually alarm Jobs) and retransmitted outputs have to be configured to have internal values as their sources. Consult the operator and/or options manual for configuration of new features

IV INSTALLING TRANSMITTER POWER SUPPLIES

1. Follow the INITIAL STEPS from Section I.
2. One or two Transmitter Power Supplies can be installed as shown in Figure 2.
3. Place the insulation sheet (#14) over the back plate posts for the board to be mounted.
4. Place a spacer (#15) on each of the four posts.
5. Using the four screws (#12) and internal tooth washers (#13), mount the transmitter power supply board on the posts with the power transformer on the **right end**.
6. If there are **no** option boards present, go to Step 8. If there are option boards present, the option board mounting plate must be moved to the side to reach the recorder power supply terminal board for connection of the blue and brown power leads from the transmitter power supply boards.
7. To move the option boards and plate aside, loosen the four Plate Mounting Screws identified in Figure 1 and move the plate to the left. The bottom two plate mounting screws can be accessed **through holes in the first option board**. If three option boards are present, the upper right screw is also accessed through a hole in that board. **When moving the plate aside be careful not to disconnect or damage the ribbon cable to the recorder power supply.**
8. The blue and brown power leads from the transmitter power supplies go on the lower two terminals of the recorder power supply terminal board. The blue wire goes on the bottom terminal (which already has a blue wire attached), and the brown wire goes on the center terminal (with the already attached brown wire). Loosen these two screws with an offset Phillips screwdriver, insert the spade lugs **from the back side** and tighten the terminal screws.

If the recorder power supply must be dismantled in order to reach it's terminal board screws, be **very** careful with the ribbon cables to the option board assembly and to the microprocessor main board.

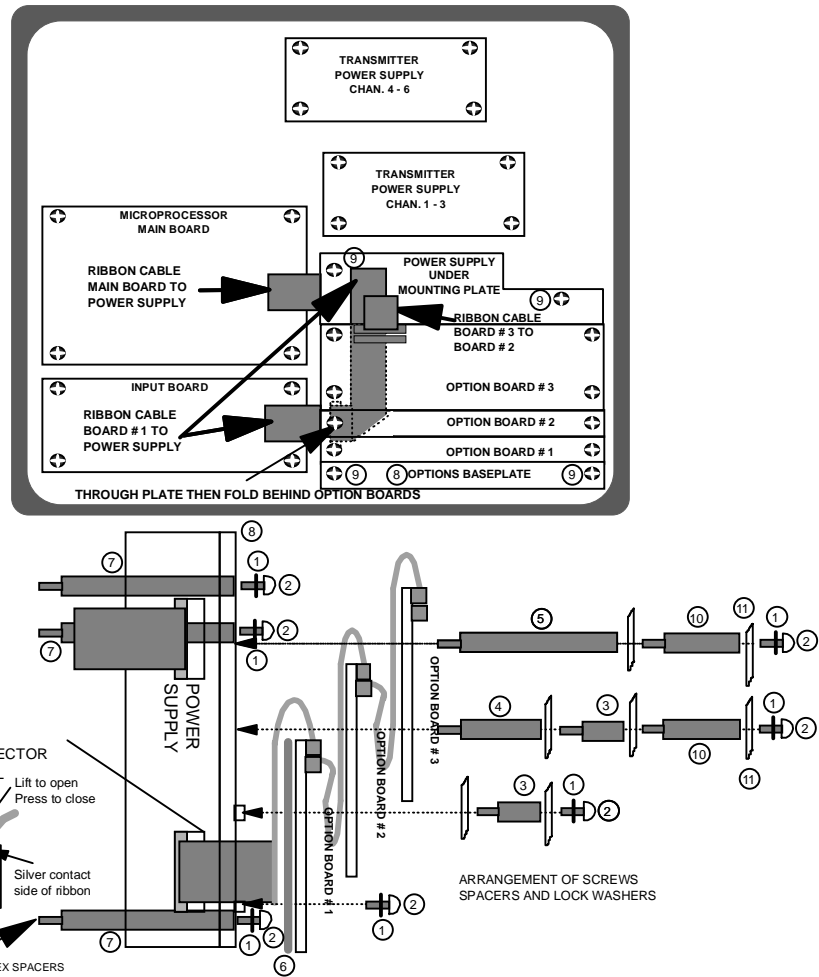
9. If the option plate was moved aside in Step 7, re-install it now.
10. Install the Shunt Resistor Assembly on the desired input channel terminal board and connect to one of the transmitter power supply 2-pin connections - see Figure 3.

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11. A 2-wire transmitter connected as shown in Figure 3 will now receive 24Vdc power from the recorder. If it is ever required to connect a self-powered transmitter, disconnect the 2-pin connection from the transmitter power supply board. The shunt board will then function as a simple 250 Ohm shunt resistor.

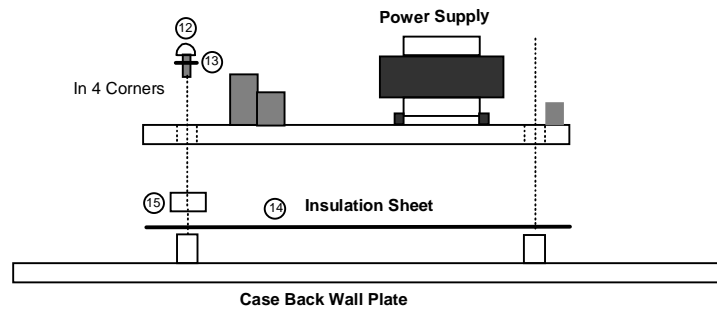
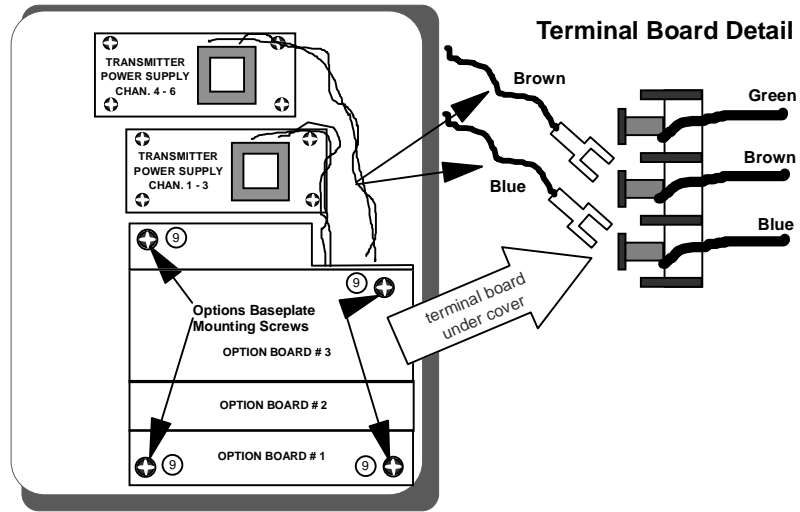
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FIGURE 1, LOCATION OF BOARDS AND RIBBON CABLES



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FIGURE 2, MOUNTING AND WIRING OF TRANSMITTER POWER SUPPLIES



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FIGURE 3, CONNECTION TO CHANNEL INPUTS

