

## J99343RA-1, L4, 2-4 WIRE TERMINAL REPEATER DATA SHEET METALLIC FACILITY TERMINAL

The J99343RA-1, L4, 2-4 Wire Terminal Repeater provides gain and equalization between 2-wire 900- or 600-ohm terminal equipment (A-side) and 4-wire loaded, nonloaded, or combinations of loaded and nonloaded cable facilities (B-side). The unit consists of a 2-transformer hybrid with midpoint capacitors, a compromise balancing network, a network build-out capacitance (NBOC) section, two hybrid integrated repeater units and 4-wire line transformers. For a detailed description of this unit, see Section 332-912-131, CD-1C359-01, and SD-1C359-01 (CPS 13). Prescription settings for the 309B amplifier-equalizer are contained in Section 332-912-232. The manual set-up procedure is covered in Section 332-912-231. A block diagram is shown in Fig. 1 and switch designations are shown in Fig. 2.

**EQUALIZER ADJUST:** Thirteen rocker switches (designated HT [1, 2, 4, 8], BW [1, 2, 4, 8], and SLOPE [NL, 1, 2, 4, 8]) adjust the equalization. A separate equalizer is provided for each direction of transmission. The sum of these switches determines the equalization. The NL switch acts as a range selector and, when operated, provides a steeper degree of equalization. See Section 332-912-232 for prescription settings of the HT, BW, and SLOPE switches.

**GAIN ADJUST:** These switches control the gain of the repeater. These switches are labeled .1, .2, .4, .8, 1, 2, 4, 8, +10, and -20. The gain is adjustable from -20 to +23.5 dB in 0.1 dB increments.

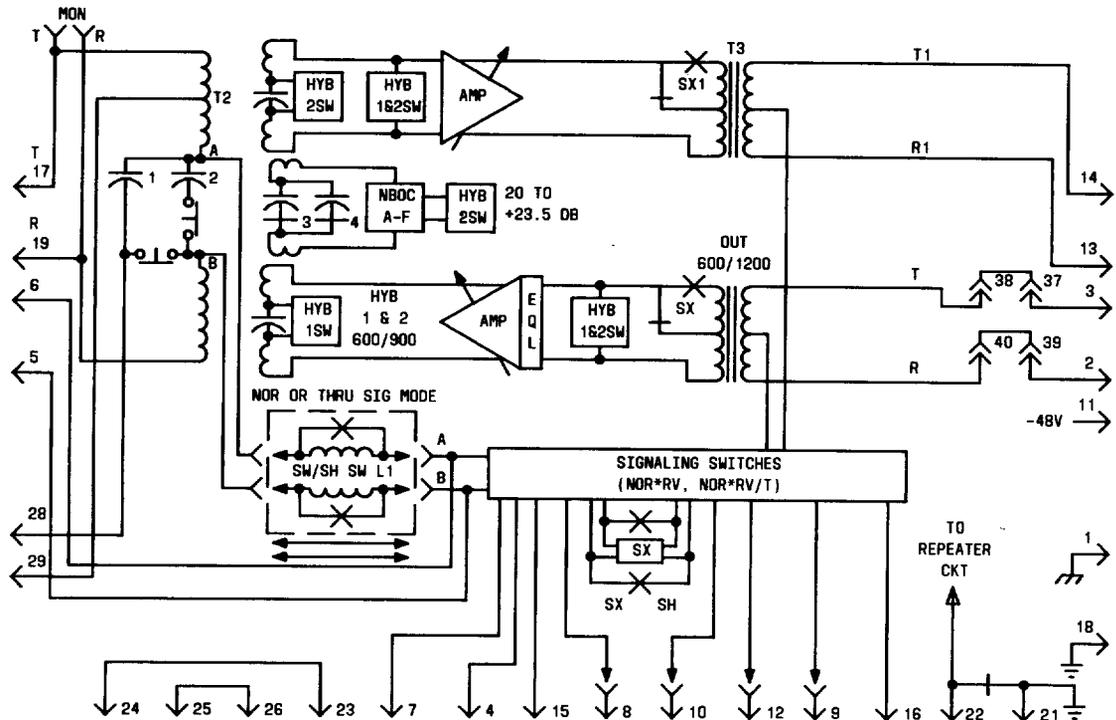


Fig. 1 — J99343RA-1, L4 Block Diagram

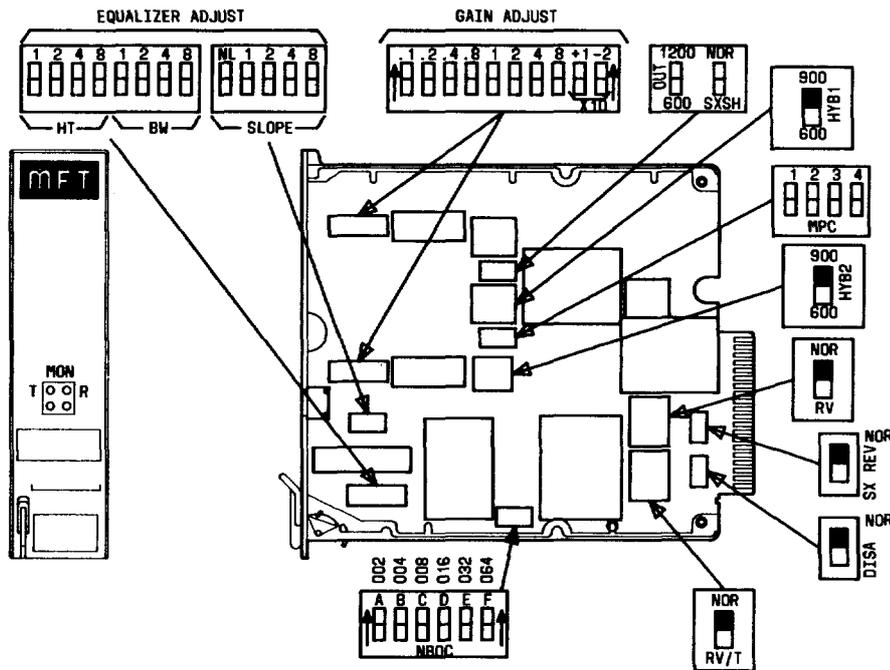


Fig. 2—J99343RA-1, L4 Component Layout

**1200/600:** This switch selects a 600- or 1200-ohm impedance on the facility (B-side). The 600 setting is normally used for nonloaded cable and the 1200 setting, for loaded cable.

**NOR/SX REV:** This switch reverses the SX and SX1 lead connections of the output transformers on the B-side when the switch is operated to the SX REV position.

**HYB1 and HYB2:** These switches are used to select a 600- or 900-ohm input impedance for the 2-wire (A) side of the repeater. These switches also select the proper resistance (600 or 900 ohms) for the COMP NET. The two switches are to be operated together as if they were one switch.

**MPC:** The midpoint capacitor switches are labeled 1, 2, 3, and 4. Switches 1 and 2 provide capacitance on the line side of the hybrid. Switches 3 and 4 provide capacitance on the network side of the hybrid to provide hybrid balance.

**NOR/RV and NOR-RV/T:** These switches are used to control the signaling mode of either NORMAL, REVERSED, or THROUGH. Table A gives the required switch positions to achieve a prescribed mode.

**NOR/SX SH:** This switch shorts the simplex (SX) inductor when it is not required. The inductor is shorted when the switch is set in the SX SH position.

**NOR/DISA:** When this switch is set to the NOR position, the repeater can be tested independently of the signaling section. When the switch is set to the DISA position, the unit operates normal.

**NBOC:** These screw switches are used to balance the office cabling capacitance on the 2-wire (A) side of the repeater. The NBOC adjustment consists of a selector block with six switches labeled A through F which control selection of 0 to 0.126  $\mu$ F in 0.002  $\mu$ F increments. Capacitance is added by tightening the screws.

TABLE A		
SIGNALING MODE	RV SWITCH	RV/T SWITCH
NORMAL	NOR	NOR
REVERSED	RV	RV/T
THROUGH	NOR	RV/T