

L3 CARRIER

PEARL

LINE ADJUSTMENTS

The purpose of this test is to adjust the PEARL (Performance Evaluation of Amplifiers at Remote Locations) circuit at each L3 amplifier for optimum tone balance (null).

This section is reissued to include an 11B attenuator between the PEARL test set and the AMP OUT jack. Arrows are used to indicate changes. Equipment Test Lists are affected.

Performance evaluation of amplifiers at remote locations is accomplished from a main station by applying a discrete tone from a 62-type oscillator to each L3 amplifier installed in unattended repeater stations (Fig. 1). The oscillator tone level is adjusted for -20 dBm at the output of the amplifier under test, and the tone is then applied to the input and the output of the amplifier. Phase and loss networks inserted in the amplifier tone input circuit are adjusted to obtain optimum tone balance (approximately -85 dBm null) at the output. Adjustment of the PEARL circuit for a particular amplifier should be performed (a) upon initial installation of a PEARL circuit, (b) following replacement of an amplifier or its regulator, and (c) upon completion of the pilot and power survey at a repeater. Equipment may remain in service during adjustment.

APPARATUS:

KS-19895 L3 PEARL Test Set

11B Attenuator

STEP

PROCEDURE

- 1 Calibrate the PEARL test set (instructions in test set cover)

Caution: Before proceeding to Step 2 and to prevent a service failure, the input and output probes of the PEARL circuit to be balanced must be correctly inserted in the AMP IN and AMP OUT jacks of the associated amplifier (Fig. 1).

- 2 At the amplifier under test, remove the 372A plug from the AMP OUT—LINE IN jacks; connect an 11B attenuator between the PEARL test set and the AMP OUT jack (Fig. 1).

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

STEP	PROCEDURE
3	At the PEARL test set, set the controls as follows: FUNCTION to MEASURE 4 MC GENERATOR to OFF FREQUENCY, KC to frequency for amplifier under test (stamped on associated 62-type oscillator) LINE LEVEL, DBM to -20.
4	On the PEARL identification tone and balancing unit, set the CAL-BAL switch to CAL.
5	On the 62-type oscillator, adjust the LEVEL ADJ control (Fig. 1). ♦Requirement: -20 dBm on the PEARL test set.♦
6	Set the CAL-BAL switch to BAL.
7	On the balancing circuit, alternately adjust the LOSS and PHASE controls for the best possible null on the PEARL test set meter. Reduce the LINE LEVEL, DBM switch setting as null is achieved; note the meter indication. Note: Several slight adjustments of the LOSS and PHASE controls may be necessary since there is some interaction. It is most important that the PHASE control be left at its null value. Requirement: A null of approximately ♦-85 dBm♦ should be normal. Any value below -70 dBm is satisfactory (as the null approaches -85 dBm, it becomes very sensitive).
8	Slowly adjust the LOSS control in a clockwise direction for a ♦-51.0 dBm ±1.0 dB♦ meter reading. Recheck for best possible null with the PHASE control. Requirement: Loss control set for a ♦-51.0 dBm ±1.0 dB♦ reading at a time when the PHASE control is set to a null point.
9	♦Remove the 11B attenuator and replace the 372A plug.♦

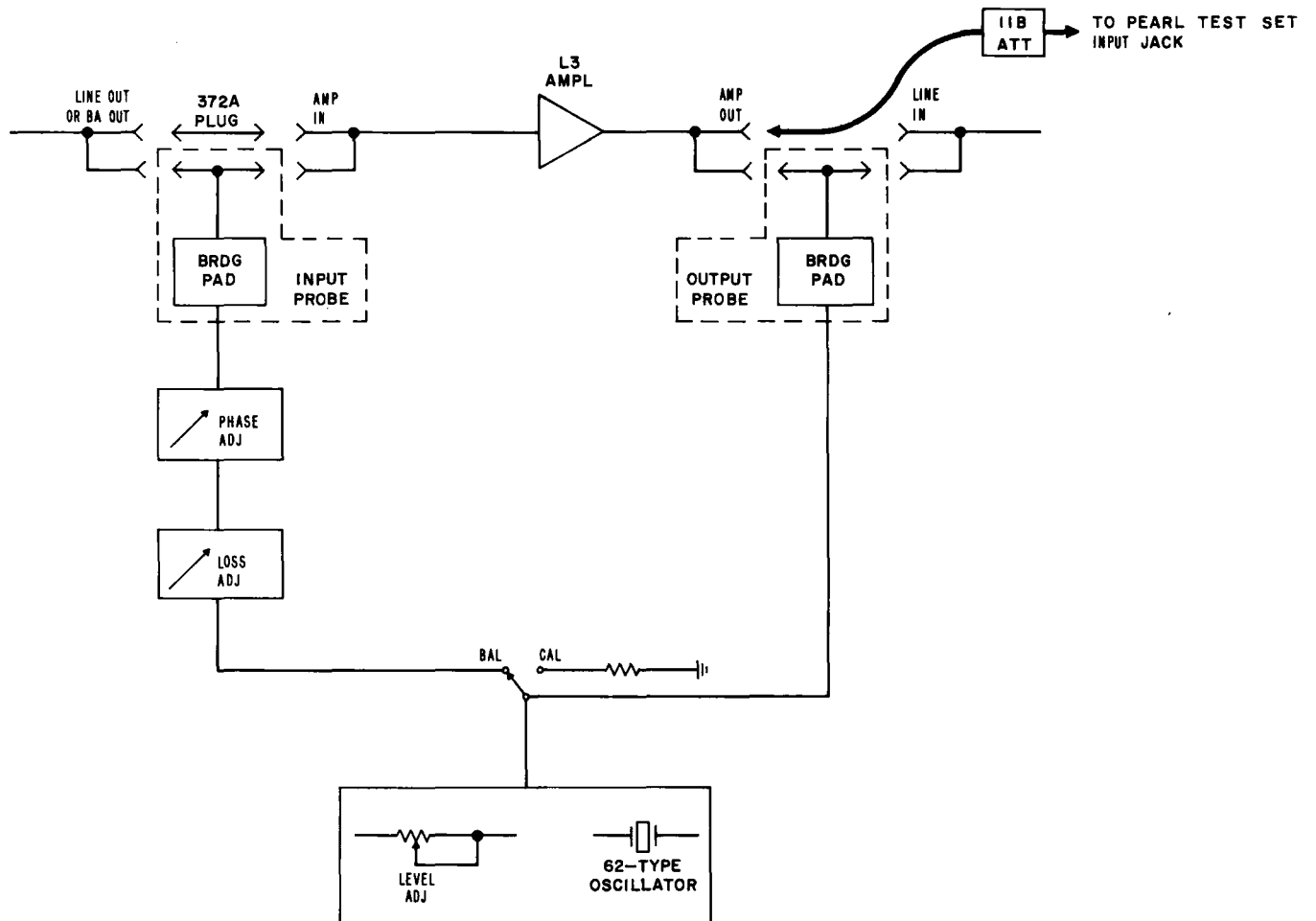


Fig. 1—PEARL Balance Adjustment