

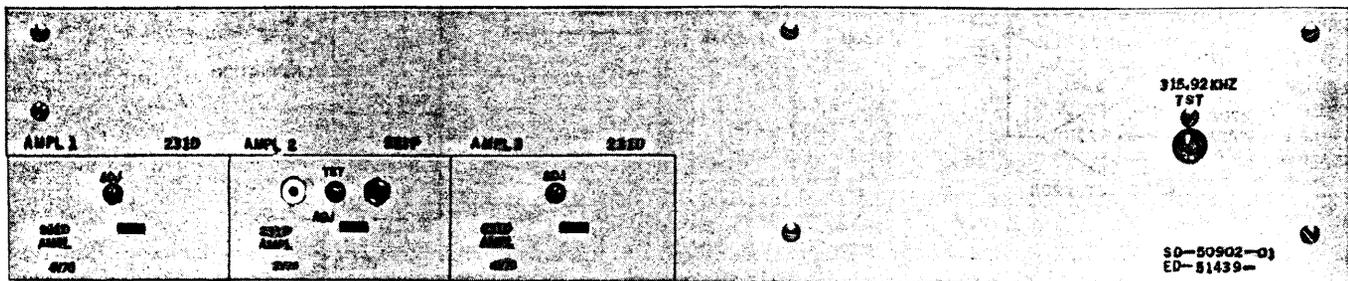
**L MULTIPLEX TERMINALS
COMMON EQUIPMENT
AUXILIARY 315.92-KHZ PILOT SUPPLY
TESTS**

An auxiliary 315.92-kHz pilot supply (Fig. 1) provides pilot signals for up to ten circuits. The pilot supply includes three adjustable amplifiers. A test jack on the front panel permits checking the pilot signal power. *Equipment Test Lists are affected.*

Figure 2 is a block diagram of the pilot supply. Each connecting circuit from the distribution bus includes an adjustable pad which permits setting pilot power to the proper value at the PIL SUP jack external to the pilot supply.

The procedures in this section are in two charts. Chart 1 is the procedure for preparing the pilot supply during initial installation or when first placed in service to furnish a pilot signal. This procedure also includes checks to be performed when trouble is encountered. Chart 2 is the procedure for adjusting the pilot power at the PIL SUP jack. This procedure must be performed each time an additional tap on the distribution bus is connected.

CHART	PAGE
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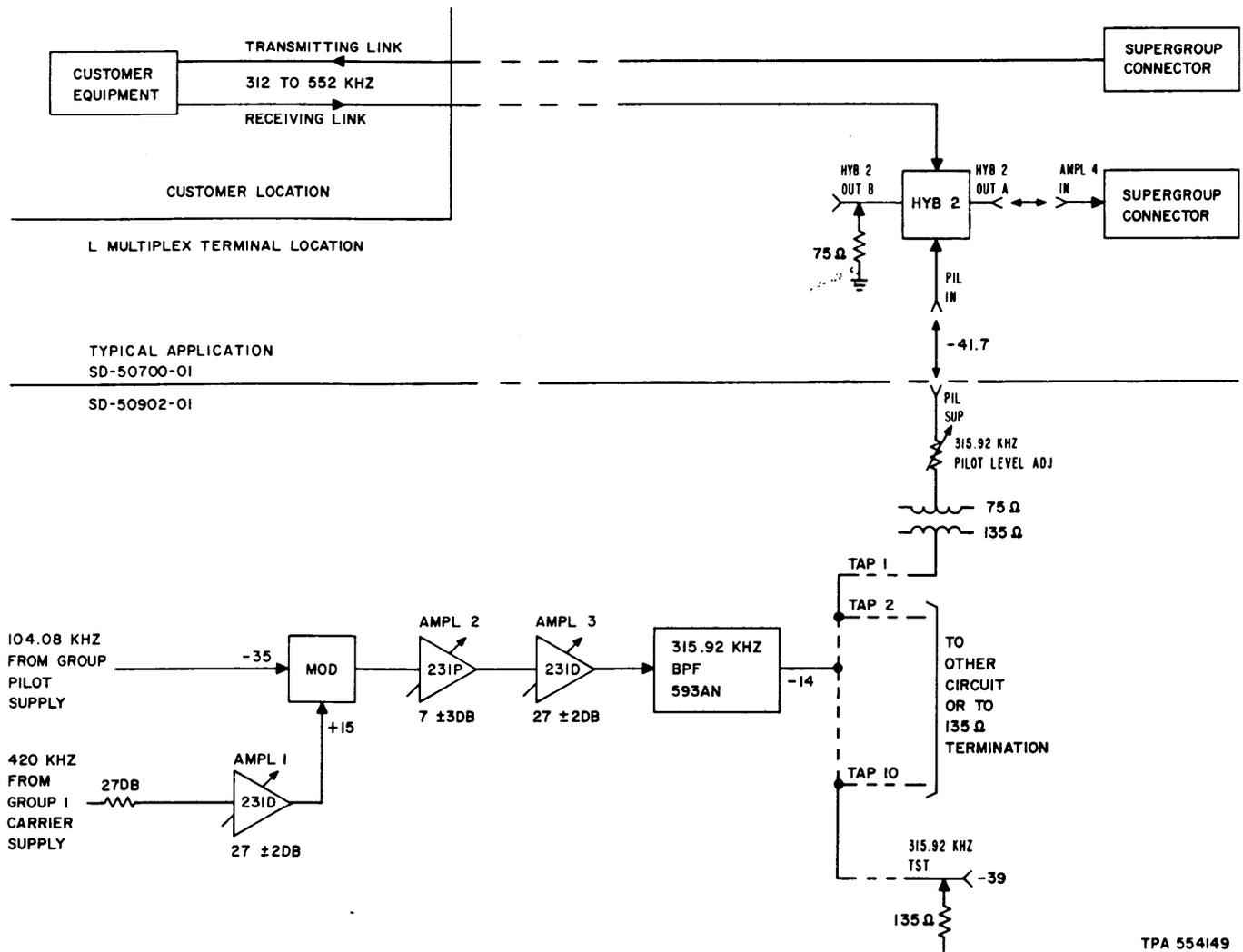
Fig. 1—Auxiliary 315.92-kHz Pilot Supply

APPARATUS

Receiving test equipment (Section 356-010-500) capable of detecting, from 75-ohm and 135-ohm circuits, signals between 100 and 420 kHz at powers between -42 and +15 dBm.

Volt-ohmmeter KS-14510

Cord for connecting signal from pins on amplifier connector to TMS, when trouble locating.



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Fig. 2—Auxiliary 315.92-kHz Pilot Supply Circuit—Block Diagram

CHART 1

PREPARING AUXILIARY 315.92-KHZ PILOT SUPPLY

STEP	PROCEDURE
	<p>Note: Check that each tap on the distribution bus is connected to a circuit or is terminated in 135 ohms.</p>
1	<p>Measure the dc power input voltage at TB2 on the right rear of the auxiliary 315.92-kHz pilot supply panel.</p> <p>Requirement: -24 ± 2 volts</p>
2	<p>Set the gain controls on amplifier 1 (231D) and amplifier 2 (231P) to midposition.</p>
3	<p>Measure the 315.92-kHz signal power at the 315.92-kHz TST jack on the front panel, using the 135-ohm input to the TMS.</p>
4	<p>Adjust the gain of amplifier 3 (231D) to obtain -39 dBm at the 315.92-kHz TST jack.</p> <p>Note: If the power can be adjusted only to within 2 dB of -39 dBm, adjust the gain of amplifier 2 (231P) to obtain -39 dBm.</p>
5	<p>Proceed to Step 15 if the power at the 315.92-kHz TST jack can be adjusted to -39 dBm. Otherwise, proceed to Step 6.</p>
6	<p>Remove amplifier 2 (231P).</p>
7	<p>Measure the 104.08-kHz power at pins 1 and 9 on the modulator-amplifier 2 connector, using the 135-ohm input to the TMS.</p> <p>Requirement: -35 dBm ± 1 dB</p>
8	<p>Measure the 420-kHz power at pins 6 and 14 on the modulator-amplifier 2 connector, using the 75-ohm input to the TMS.</p> <p>Requirement: $+15$ dBm ± 1 dB</p> <p>Note: Adjust the gain of amplifier 1 (231D) to meet the requirement.</p>
9	<p>Replace amplifier 2 (231P).</p>
10	<p>Remove amplifier 3 (231D).</p>
11	<p>Measure the 315.92-kHz power at pins 1 and 2 on the amplifier 3 connector, using the 75-ohm input to the TMS.</p> <p>Requirement: -38 dBm ± 1 dB</p>
12	<p>Replace amplifier 3 (231D).</p>

CHART 1 (Cont)	
STEP	PROCEDURE
13	<p>Measure the 315.92-kHz power at output terminals 3 and 4 on the 315.92-kHz bandpass filter 593AN, using the 75-ohm input to the TMS.</p> <p>Requirement: $-15.5 \text{ dBm} \pm 1 \text{ dB}$</p>
14	<p>Repeat Steps 3 and 4 to obtain -39 dBm at the 315.92-kHz TST jack.</p>
15	<p>Remove the test connections.</p>
CHART 2	
ADJUSTING 315.92-KHZ PILOT POWER	
STEP	PROCEDURE
	<p>Note: Unused taps on the distribution bus are terminated in 135 ohms. A tap is used by removing the termination and connecting to the user via a pilot adjust circuit. This circuit includes an adjustable pad which permits adjusting pilot power to -41.7 dBm required at the PIL IN jack located in the user's equipment.</p>
1	<p>Remove the plug between the PIL SUP and PIL IN jacks.</p>
2	<p>Measure the 315.92-kHz pilot signal power at the PIL SUP jack.</p> <p>Requirement: $-41.7 \text{ dBm} \pm 0.1 \text{ dB}$</p>
3	<p>Adjust the 315.92-kHz PILOT LEVEL ADJ control on the appropriate unit in the pilot adjust shelf to meet the requirement.</p> <p>If the requirement is met, proceed to Step 8.</p> <p>If the requirement is not met, proceed to Step 4.</p>
4	<p>Measure the 315.92-kHz pilot signal power at the 315.92-kHz TST jack on the front panel.</p> <p>Requirement: $-39 \text{ dBm} \pm 1 \text{ dB}$</p> <p>If the requirement is met, proceed to Step 5.</p> <p>If the requirement is not met, perform the procedure in Chart 1 of this section.</p>
5	<p>Check the wiring at the appropriate tap on the pilot supply distribution bus.</p>
6	<p>Continue testing in the connecting circuit from the distribution bus tap to the PIL SUP jack.</p>

CHART 2 (Cont)

STEP	PROCEDURE
7	Repeat Steps 2 and 3.
8	Remove the test connections.
9	Replace the plug between the PIL SUP and PIL IN jacks.