

TELEVISION SYSTEMS
J44107 TELEVISION OPERATING CENTERS
J44107AA MONITORING POSITIONS
TESTS AND ALIGNMENT

The J44107AA monitoring positions at a television operating center are each equipped with a video monitor, a waveform oscilloscope, and a video monitor connecting circuit which can connect these test equipments through the video switch with working video services. Operation of the J44107M monitor switching control is the same as that described in Section 318-435-501.

This issue replaces Issue 2 dated July 1956. It is reissued to include the latest changes and standard arrangements. Marginal arrows indicate the changes made.

This section describes the net loss and equalization adjustments of the monitor connecting circuit. It also describes a procedure for checking the gain-frequency characteristics of the oscilloscope.

APPARATUS:

- 1 — 70B Power Meter
- 1 — P2AT Cord — 6 foot
- 1 — P2AW Cord — 6 foot
- 1 — P3AH Cord — 6 foot, modified to have 477B jacks on one end

STEP	PROCEDURE
	Net Loss and Equalization Adjustment, 75-Ω Outputs
1	Arrange the transmitting test equipment and patches at one of the test positions for equalization adjustments and loss-frequency measurements per Section 318-435-502.
2	Check the equalization of the transmitting test circuit of that test position, as described in Section 318-435-509.
3	Substitute a 6-foot P2AW cord for the 372A strap plug between the 38A TRK and G jacks on the 1AP panel in the test position transmitting bay.
4	Set the 13A attenuator in the transmitting test circuit on zero db step, or 3 db step if Field Option "A" has been applied to the splitting amplifier.
5	Operate the J44107M monitor switching control to connect the transmitting test circuit to the monitoring position through the video switch per instructions in Section 318-435-501.
6	Refer to Section 318-401-503 and perform the filament activity test and interstage line-up and gain adjustment for the J44107E 1x3 splitting amplifier. Adjust the gain to -3.7 db, or, if Field Option "A" has been applied, to 0 dbv.

NOTICE

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beginning on January 1, 1984, AT&T will cease to use
"Bell" and the Bell symbol, with the exceptions as set
forth in that Order. Pursuant thereto, any reference to
"BELL" and/or the BELL symbol in this document is here-
by deleted and "expunged".

STEP	PROCEDURE																				
7	Calibrate a 70B Power Meter for 75Ω unbalanced measurements at a reference level of 1V p-p.																				
8	Remove the plug-ended cable from the input of the KS-15512 Oscilloscope in the monitoring position and connect it to the 70B Power Meter, using a P2AT — 6-foot cord. The other legs of the 1x3 splitting amplifier in the monitor position should be normally terminated.																				
9	<p>Send 250 kc reference frequency on the transmitting test circuit and measure on the monitor connecting circuit.</p> <p>Requirement: -1.0 ± 1.0 dbv, or -0.3 ± 1.0 dbv with the Field Option "A".</p> <p>Note: If this requirement is met, the gain control of the J44107E (1x3) amplifier in the monitor position should be adjusted until -1.0 dbv or -0.3 dbv, as required, is read on the power meter. With the amplifier previously set to its nominal gain, the adjustment required in this step should be <i>minor</i>.</p>																				
10	<p>Send 3 mc and read the meter.</p> <p>Note: If the reading is within the safe operating range of the meter (+3 to -10) with the protection pads out, the power meter connection should be made directly to the 75Ω 1 MW IN jack for greater accuracy.</p>																				
11	Adjust the 322A equalizer in the monitor position until the difference between the reference and test frequency levels is zero dbv but not more than ± 0.05 dbv.																				
12	<p>Measure and record the results at the following frequencies:</p> <table data-bbox="649 1144 1356 1522"> <thead> <tr> <th data-bbox="649 1186 812 1218">FREQUENCY (kc)</th> <th data-bbox="1104 1144 1356 1218">PERMISSIBLE DEVIATION FROM REFERENCE FREQUENCY (\pm db)</th> </tr> </thead> <tbody> <tr> <td data-bbox="714 1228 747 1260">100</td> <td data-bbox="1193 1228 1242 1260">.05</td> </tr> <tr> <td data-bbox="714 1270 747 1302">250</td> <td data-bbox="1079 1270 1356 1302">Reference frequency</td> </tr> <tr> <td data-bbox="714 1312 747 1344">500</td> <td data-bbox="1193 1312 1242 1344">.05</td> </tr> <tr> <td data-bbox="698 1354 763 1386">1000</td> <td data-bbox="1193 1354 1242 1386">.05</td> </tr> <tr> <td data-bbox="698 1396 763 1428">2000</td> <td data-bbox="1193 1396 1242 1428">.07</td> </tr> <tr> <td data-bbox="698 1438 763 1470">3000</td> <td data-bbox="1193 1438 1242 1470">.05</td> </tr> <tr> <td data-bbox="698 1480 763 1512">3579</td> <td data-bbox="1193 1480 1242 1512">.07</td> </tr> <tr> <td data-bbox="698 1522 763 1554">4500</td> <td data-bbox="1193 1522 1242 1554">.10</td> </tr> <tr> <td data-bbox="698 1564 763 1596">6000</td> <td data-bbox="1193 1564 1242 1596">.15</td> </tr> </tbody> </table>	FREQUENCY (kc)	PERMISSIBLE DEVIATION FROM REFERENCE FREQUENCY (\pm db)	100	.05	250	Reference frequency	500	.05	1000	.05	2000	.07	3000	.05	3579	.07	4500	.10	6000	.15
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13	<p>Repeat Step (12) with the power meter connected in place of the picture monitor. The other legs of the 1x3 amplifier in the monitor position should be normally terminated.</p> <p>Requirement: The measurements should not differ from those recorded in Step (12) by more than 0.01 dbv.</p>																				
14	Restore the plug-ended cable to the picture monitor and operate the J44107M monitor switching control key to normal.																				
15	Repeat Steps 5 through 14, inclusive, for other monitor positions to be tested.																				
16	Readjust the 13A attenuator in the transmitting test circuit to 5.0 db loss.																				

STEP	PROCEDURE
Net Loss and Equalization Adjustment, 124-Ω Outputs	
1	Arrange the transmitting test equipment and patches at one of the test positions for equalization adjustments and loss-frequency measurements per Section 318-435-502.
2	Check the equalization of the transmitting test circuit of that test position, as described in Section 318-435-509.
3	Substitute a 6-foot P2AW cord for the 372A strap plug between the 38A TRK and G jacks on the 1AP panel in the test position transmitting bay.
4	Set the 13A attenuator in the transmitting test circuit on zero db step.
5	Operate the J44107M monitor switching control to connect the transmitting test circuit to the monitoring position through the video switch per instructions in Section 318-435-501.
6	Refer to Section 318-401-503 and perform the filament activity test and interstage line-up and gain adjustment for the J44107E 1x3 splitting amplifier with balanced input and unbalanced output. Adjust the gain to 0.0 dbv.
7	Calibrate a 70B Power Meter for 124Ω balanced measurements at a reference level of 1V p-p.
8	Remove the plug-ended cable from the input of the KS-15512 Oscilloscope in the monitoring position and connect it to the 70B Power Meter, using a 6-foot P3AH cord, modified to have 477B jacks on one end. The other legs of the 1x3 splitting amplifier in the monitor position should be normally terminated.
9	Send 250 kc reference frequency on the transmitting test circuit and measure on the monitor connecting circuit.
	<p>Requirement: -1.0 ± 1.0 dbv</p> <p>Note: If this requirement is met, the gain control of the J44107E (1x3) amplifier in the monitor position should be adjusted until -1.0 dbv is read on the power meter. With the amplifier previously set to its nominal gain, the adjustment required in this step should be <i>minor</i>.</p>
10	<p>Send 3 mc and read the meter.</p> <p>Note: If the reading is within the safe operating range of the meter (+3 to -10) with the protection pads out, the power meter connection should be made directly to the 75Ω 1 MW IN jack for greater accuracy.</p>
11	Adjust the 334A equalizer in the monitor position until the difference between the reference and test frequency levels is zero dbv but not more than ± 0.05 dbv.

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<p>Gain-Frequency Check of Waveform Oscilloscope</p>																					
1	<p>With the monitor connecting circuit equalized as described above, connect the transmitting test circuit and the monitor connecting circuit through the video switch.</p>																				
2	<p>Arrange the 61C Signal Generator, the 1AP Comparing Set and the 70B Power Meter for loss-frequency measurements, as described in Section 318-435-502.</p>																				
3	<p>Sending from the 61C Signal Generator at the transmitting test position, check the gain-frequency characteristic of the KS-15512, L5 Oscilloscope in accordance with the limits expressed in Section 103-745-502.</p>																				