

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
	<p style="text-align: center;">Net Loss and Equalization Adjustment, 75-Ω Outputs</p> <ol style="list-style-type: none"> 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

This document is either
AT&T - Proprietary, or WESTERN
ELECTRIC - Proprietary

Pursuant to Judge Greene's Order of August 5, 1983,
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	Send 250 kc reference frequency on the transmitting test circuit and measure on the monitor connecting circuit. Requirement: -1.0 ± 1.0 dbv, or -0.3 ± 1.0 dbv with the Field Option "A". 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> .																				
10	Send 3 mc and read the meter. 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.																				
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	Measure and record the results at the following frequencies: <table> <tr> <th>FREQUENCY (kc)</th><th>PERMISSIBLE DEVIATION FROM REFERENCE FREQUENCY (\pm db)</th></tr> <tr> <td>100</td><td>.05</td></tr> <tr> <td>250</td><td>Reference frequency</td></tr> <tr> <td>500</td><td>.05</td></tr> <tr> <td>1000</td><td>.05</td></tr> <tr> <td>2000</td><td>.07</td></tr> <tr> <td>3000</td><td>.05</td></tr> <tr> <td>3579</td><td>.07</td></tr> <tr> <td>4500</td><td>.10</td></tr> <tr> <td>6000</td><td>.15</td></tr> </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
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																				
13	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. Requirement: The measurements should not differ from those recorded in Step (12) by more than 0.01 dbv.																				
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
	<p style="text-align: center;">Net Loss and Equalization Adjustment, 124-Ω Outputs</p> <ol style="list-style-type: none"> 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 Send 3 mc and read the meter. <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.

STEP	PROCEDURE																				
12	<p>Measure and record the results at the following frequencies:</p> <table> <thead> <tr> <th data-bbox="646 386 802 407">FREQUENCY (kc)</th><th data-bbox="1094 333 1325 401">PERMISSIBLE DEVIATION FROM REFERENCE FREQUENCY (\pm db)</th></tr> </thead> <tbody> <tr> <td data-bbox="704 422 753 443">100</td><td data-bbox="1192 415 1232 436">.05</td></tr> <tr> <td data-bbox="704 453 753 474">250</td><td data-bbox="1073 447 1349 468">Reference frequency</td></tr> <tr> <td data-bbox="704 485 753 506">500</td><td data-bbox="1192 478 1232 499">.05</td></tr> <tr> <td data-bbox="695 516 763 537">1000</td><td data-bbox="1192 510 1232 531">.05</td></tr> <tr> <td data-bbox="695 548 763 569">2000</td><td data-bbox="1192 541 1232 562">.07</td></tr> <tr> <td data-bbox="695 579 763 600">3000</td><td data-bbox="1192 573 1232 594">.05</td></tr> <tr> <td data-bbox="695 611 763 632">3579</td><td data-bbox="1192 604 1232 625">.07</td></tr> <tr> <td data-bbox="695 642 763 663">4500</td><td data-bbox="1192 636 1232 657">.08</td></tr> <tr> <td data-bbox="695 674 763 695">6000</td><td data-bbox="1192 667 1232 688">.10</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	.08	6000	.10
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	.08																				
6000	.10																				
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	<p>Restore the plug-ended cable to the picture monitor and operate the J44107M monitor switching control key to normal.</p>																				
15	<p>Repeat Steps 5 through 14, inclusive, for other monitor positions to be tested.</p>																				
16	<p>Readjust the 13A attenuator in the transmitting test circuit to 5.0 db loss.</p>																				
	<p style="text-align: center;">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>																				