TELEPHOTOGRAPHY
INITIAL AND PERIODIC MAINTENANCE TESTS
CENTRAL OFFICE EQUIPMENT

CONTENTS PAGE

1. GENERAL

1.01 This section outlines the initial and periodic tests which should be performed on the central office equipment assigned to telephoto or facsimile service.

1.02 This section is reissued to include information about the 950-type attenuation and envelope delay equalizers. Since this is a general reissue, arrows ordinarily used to denote changes have been omitted.

1.03 The information outlined in Section 314-728-500 is applicable to this section.

1.04 The order in which the tests are presented does not imply a sequence of operation. Each individual office should schedule these tests in the sequence which is most suitable to its particular situation with the following considerations: (1) service must not be interrupted or impaired and (2) meeting the commitments of the overall circuit tests schedule of the Control Office, or General Control Office, as the case may be.

2. TESTING EQUIPMENT

2.01 The testing equipment required for the tests outlined in this section is as follows:

(a) Various testing equipment as required by any of the reference sections

(b) 600-ohm oscillator such as in the 21A test set

(c) 600-ohm Transmission Measuring Set (TMS) such as in the 21A test set

(d) 3-type Noise Measuring Set (NMS)

(e) 9—600-ohm terminating plugs

(f) KS-14510 Meter or equivalent voltmeter of at least 7500-ohm resistance

(g) Jack Multiple—Eight jacks or more.

3. INITIAL AND PERIODIC TESTS AND ASSOCIATED REQUIREMENTS

3.01 Certain of the following tests require that the interval, procedure, or requirements included in other sections of the standard instructions be used. Refer to Table A for the number of such reference instructions.

A. Repeaters and Associated Equipment

All Types of Repeaters

3.02 ***Split Operation.*** Repeaters, regardless of type, assigned to telephoto services should be modified for split operation except V4 repeaters (3.10). The procedure for making this modification is contained in subsequent paragraphs concerning the various types of repeaters.

3.03 The gain of any repeater, regardless of type, should be measured and adjusted during initial test and on a periodic test interval. Generally, for 4002 service, a 2200-Hz signal is used and for special conditioned service, 1000 Hz is used.

Initial Test: Measure and adjust the gain as specified by the value on the circuit layout record (CLR). Gain should not exceed specified value by more than 0.3 dB (see 3.04). This test should be preceded by any filament or tube tests and adjustments required by the standard instructions for the various types of repeaters.

Periodic Tests: Gain should be measured on a quarterly basis. The gain should be readjusted if it differs by more than 0.3 dB from specified gain.

3.04 In some cases, due to the loss deviations of other equipment such as equalizers, bridges, etc., it may be necessary to alter the gain of a repeater in order to meet circuit objectives. Any such change in the gain should never differ more than 1.0 dB from the gain specified on the CLR. If this limit cannot be met as the result of cumulative deviations in other equipment and no actual trouble exists, a temporary gain adjustment may be made and the matter should be referred through lines of organization for further consideration. In those cases where it is necessary to alter the gain 1.0 dB or less, the CLR and other records should be so marked locally to reflect the changed gain for future references. For the purpose of the periodic test, any such altered gain would be considered as the specified gain.

TABLE A

SUMMARY OF INITIAL AND PERIODIC TESTS
CENTRAL OFFICE EQUIPMENT

ITEM	REFERENCE STANDARD INSTRUCTIONS	REFERENCE PARAGRAPHS THIS SECTION	INITIAL TEST	PERIODIC TEST INTERVAL
Repeaters — All Types:				
Mod. split opr	—	3.02	X	—
Gain Adjustment	—	3.03	X	3M
— 44 Type				
All tests	332-101-300	3.05	X, Y	V
Prevent HF Sing	332-101-100	3.06	X, Y	—
Mod. split opr	332-101-100	3.07		—
Gain-frequency	332-101-300	3.08	X, Y	—
— V Type				
V-1 all tests	332-102-300	3.09	Y	Z
Mod. split opr	332-102-300	3.10	Y	—
V-3 all tests	332-103-300	3.09	Y	Z
Mod. split opr	—	3.10	X	—
V-4 all tests	332-104-100	3.09	—	—
— Regulating Networks				
Assoc. with 44 Rptr	332-101-300	3.11 & 3.12	Y	6M
V Rptr	332-103-501	3.11 & 3.23	Y	6M
— TONLOC				
All tests	314-715-101	3.13 & 3.14	Y	Z
71A1 Level Comps.				
— Send & Rcv. Units	314-715-505	3.15 & 3.16	Y	Z
Tone Operated Control Circuit	314-715-104	3.17	Y	Z
Echo Suppressors				
— 1A	332-001-011			
All tests	332-414-200	3.21	Y	Z
— 4A				
Delay Equalizers				
— All tests	314-820-100	3.22	X, Y	—
Attenuation Equalizers				
— All tests	314-820-105	3.27	X	—
Amplitude and Delay Equalizing Equipment J99347 VF (950-Type Equalizers)	314-820-206 856-200-100 (Program)	3.29	Y	—

TABLE A (Cont)

ITEM	REFERENCE STANDARD INSTRUCTIONS	REFERENCE PARAGRAPHS THIS SECTION	INITIAL TEST	PERIODIC TEST INTERVAL
4-Wire Bridges				
— 1000-Hz loss	—	3.30	X	—
600-ohm Imp. Check	—	3.30	X	6M
Assoc. LK and MJ	—	3.31	X	—
Talk-Back Arrangements				
— Standard Arrgt.	—	3.32	X	—
Other Arrgts.	—	3.32	X	—
Signaling Equipment				
— All tests	—	3.35	X	—
Miscellaneous Equipment				
— Level adjusting key and pot. mon. jack	—	3.36	X	—
Protective Arrangements				
— All arrangements	660-200-301LL	3.36	X, Y	V

Notes:

X = Initial tests and requirements per this section.

Y = Initial tests and requirements per the referred to standard instructions.

M = Periodic test interval of once each month.

6M = Periodic test interval of once every six months.

V = Periodic test and requirements as outlined in this section.

Z = Periodic test and requirements per the referred to standard instruction.

— = No reference standard instruction available or no periodic test required.

44-Type Repeaters

3.05 The initial and periodic tests as outlined in the standard instructions for 44-type repeaters (see Table A) should be performed with the following changes and additions:

(1) Requirements

Filament Activity	— Tandem Test	— Gain change not to exceed 0.6 dB
	— 101F Tube	— Gain change not to exceed 0.4 dB
	— 102F Tube	— Gain change not to exceed 0.2 dB

(2) Procedure

The filament activity test for 44-type repeaters modified for negative feed-back operation

should be performed by inserting the tubes into an unmodified 44-type repeater. The procedure as outlined in the standard instructions should be followed and the requirements of Part 1 of this paragraph should be met. If an unmodified 44-type repeater is not available the tubes may be checked in a KS-15560 electron tube test set.

3.06 A 44-type repeater which is not modified for negative feed-back operation should be arranged to prevent high-frequency singing in accordance with standard instruction (see Table A). 44-type repeaters which are modified for negative feed-back operation should be operated on either Step 11 or 12 of the input transformers T2 and T4 and should use M wiring option (low gain) unless otherwise specified to prevent high-frequency singing. Step 11 or 12 of the input transformers and M wiring option restricts the gain to a range of approximately 25 dB to 38 dB; therefore, the use of external pads may be necessary to permit adjustment to the desired gain.

3.07 44-type repeaters should be modified for split operation in accordance with the standard instructions (see Table A).

3.08 The gain-frequency characteristic of all 44-type repeaters should be adjusted to meet the requirements of the standard instructions (see Table A) for the type equalization code specified on the CLR. If no equalization code is specified and the repeater is not associated with a cable unit, equalization should be adjusted to meet the requirements of the code EON (flat).

V-Type Repeaters

3.09 The initial and periodic tests as outlined in the standard instructions for V1, V3 and V4 repeaters (see Table A) should be performed.

Note: The gain potentiometer of a V3 amplifier is often very critical and may cause gain changes. Care should be exercised when testing a V3 amplifier to prevent any such gain changes. Lateral pressure (push or pull) should never be exerted on potentiometers when adjusting.

3.10 V1 repeaters should be modified for split operation in accordance with standard instructions (see Table A). V3 repeaters should be modified as follows: Disconnect, tape, and tag leads from terminals 5 and 6 of the ODD and EVEN amplifier sockets. V4 repeaters do not require modification for split operation.

Regulating Networks

3.11 The initial tests on regulating networks should be performed as outlined in the standard instructions (see Table A).

3.12 Periodically, at 6-month intervals, all types of regulators associated with repeaters which are assigned to telephoto services should be tested, using the procedure and requirements of the standard instructions.

TONLOC Equipment

3.13 The initial and periodic tests as outlined in the standard instructions for TONLOC equipment (see Table A) should be performed.

3.14 All TONLOC equipment associated with repeaters which have telephoto service assignments should be adjusted for 9 $\pm$3 seconds release time as outlined in the standard instructions. (see Table A).

B. 71A1 Level Compensators Send and Receive Units

3.15 The initial and periodic tests as outlined in the standard instructions for the send and receive units (see Table A) should be performed. These tests require coordination between the two offices involved.

3.16 The facility(s) composing the section to be compensated should be lined-up and tested as outlined in the 71A1 Level Compensator standard instructions (see Table A). The proper options for the equalizer should be included in the sending and receiving units in accordance with the type of facility(s) in a compensated section.

C. Tone Operated Control Circuit (TOCC) Equipment

3.17 The initial and periodic tests as outlined in standard instructions for the unit should be performed (see Table A).

3.18 As a word of caution, the TOCC should be tuned to the specific customer picture carrier.

3.19 The high and low level sensitivity adjustments should be set to −20 dBm and −40 dBm referred to 0 TLP.

D. Echo Suppressors

3.20 Echo suppressors are not required on telephoto service for picture transmission. In rare cases they may be used to improve voice transmission.

3.21 The initial and periodic tests as outlined in the standard intructions (See Table A), together with the requirements of the CLR, should be performed.

E. Delay Equalizers

3.22 The following test for delay equalizers apply to 26-type (M-D), 200-type, 384-type and 385-type equalizers. Tests for 950-type equalizer are discussed in 3.29.

3.23 The initial test for delay equalizers is as follows:

STEP	PROCEDURE
1	Measure the 1000-Hz and 2000-Hz loss of the delay equalizer assembly. A 600-ohm oscillator and a TMS should be used for these measurements. ***Requirements:*** If the delay equalizer assembly consists of two or more equalizer units, the actual measured loss should not differ more than ±0.25 dB from the sum of the nominal loss of the individual units (see Note). The nominal loss for individual units is listed in the 200-type delay equalizer standard instruction (see Table A). Measurements of individual units should not differ more than ±0.1 dB from the nominal loss figures. ***Note:*** The sum of the nominal loss of the individual units should be the same loss as indicated on the CLR.

3.24 Periodic tests are not required on the delay equalizers.

3.25 Delay measurements are not required for the delay equalizers. If it should be desired to measure the delay of a unit or assembly, the 25-type gain and delay set or equivalent should be used.

F. Attenuation Equalizers

3.26 The initial test and adjustments for attenuation equalizers assigned to local channels are furnished in the standard instructions for the lineup of local channels and termination equipment.

3.27 Representative loss-frequency curves for the various types of equalizers are given in their standard instructions (see Table A).

3.28 Periodic tests are not required on the attenuation equalizer.

G. J99347 VF Amplitude and Delay Equalizing Equipment (950 Type)

3.29 When a J-board equalizer unit (950-type equalizer) is used in either a J-board bay position or in a 4A echo suppressor logic position, external test equipment consisting of a J68914TA test extender and a 21A TMS is required to obtain the proper setting of the J-board GAIN ADJ control.

Caution: Special testing instructions are required with the use of the J68914TA test extender. These instructions are given in Section 314-820-206 entitled J99347 VF Amplitude and Delay Equalizing Equipment—Installation Tests and Adjustments.

H. 4-Wire Bridges

3.30 The initial and periodic tests for 4-way or 6-way 4-wire bridges and 1-way 10-outlet bridges should be performed as follows:

1000-Hz Loss—4-Way and 6-Way Bridges: For initial test only, measure the 1000-Hz loss of 4- or 6-way 4-wire bridges as illustrated in Fig. 1. All legs not having test equipment connected should be terminated with 600-ohm plugs. Connect any 600-ohm oscillator (21A) to the receive leg of one side of the bridge. Send 1000 Hz at 0 dBm on this leg and measure level on transmit side. All transmit legs should be measured, using a 3-type noise set on the transmit leg of the same side that the oscillator is connected to and a 600-ohm TMS on all other transmit legs. A 3-type noise set is necessary to measure the large loss. Then the oscillator and 3-type noise set should be moved to another side and all transmit legs should be measured again. This procedure should be continued until measurements have been made with the oscillator and 3-type noise set connected to every side. The requirements are given in Table B. If these requirements are not met, the bridge circuit should be investigated for trouble.

1000-Hz Loss—1-way 10-Outlet Bridges: For initial test only, measure the 1000-Hz loss from the input to each of the outlets using a 600-ohm oscillator, and a 600-ohm TMS. All outlets not having test equipment connected should be terminated with 600-ohm terminating plugs. The requirements are given in Table B. If the requirements are not met, the bridge circuit should be investigated for trouble.

600-Ohm Impedance Check of Bridge Connections: For initial test and 6-month intervals thereafter, each connection to any type bridge should be checked for 600-ohm impedance. With the circuit out of service and all equipment normal, each connection to a receive or transmit leg of any type bridge should be tested as indicated in Fig. 2 and the following procedure (see Note).

STEP	PROCEDURE
1	Connect a 600-ohm oscillator adjusted for 1000-Hz to the jack multiple.
2	Connect a 600-ohm TMS to the jack multiple.
3	Adjust the level of the 1000-Hz test tone to the same level as that of the bridge connection to be tested. This level is indicated on the CLR. Do not use a higher level as overloading may occur.
4	Patch the circuit to which the bridge leg is normally connected to the jack multiple. This is commonly designated line. ***Note:*** If a switching arrangement and/or level adjusting key is connected in the circuit the connection should be checked with the switching arrangement and/or level adjusting key operated and nonoperated. ***Requirement:*** The level indicated by the TMS in Step 4 should be reduced 3.5 $\pm$0.5 dB as compared to the level indicated in Step 3. If this requirement is not met. an investigation should be made to determine the cause. Certain equipment has a designed impedance which will not meet this requirement when wired adjacent to a bridge. If such equipment is the cause of not meeting the requirement, steps should be taken to have equipment replaced or relocated in the circuit. Defective 600-ohm resistors wired to spare legs of bridges will cause the requiremet not to be met.

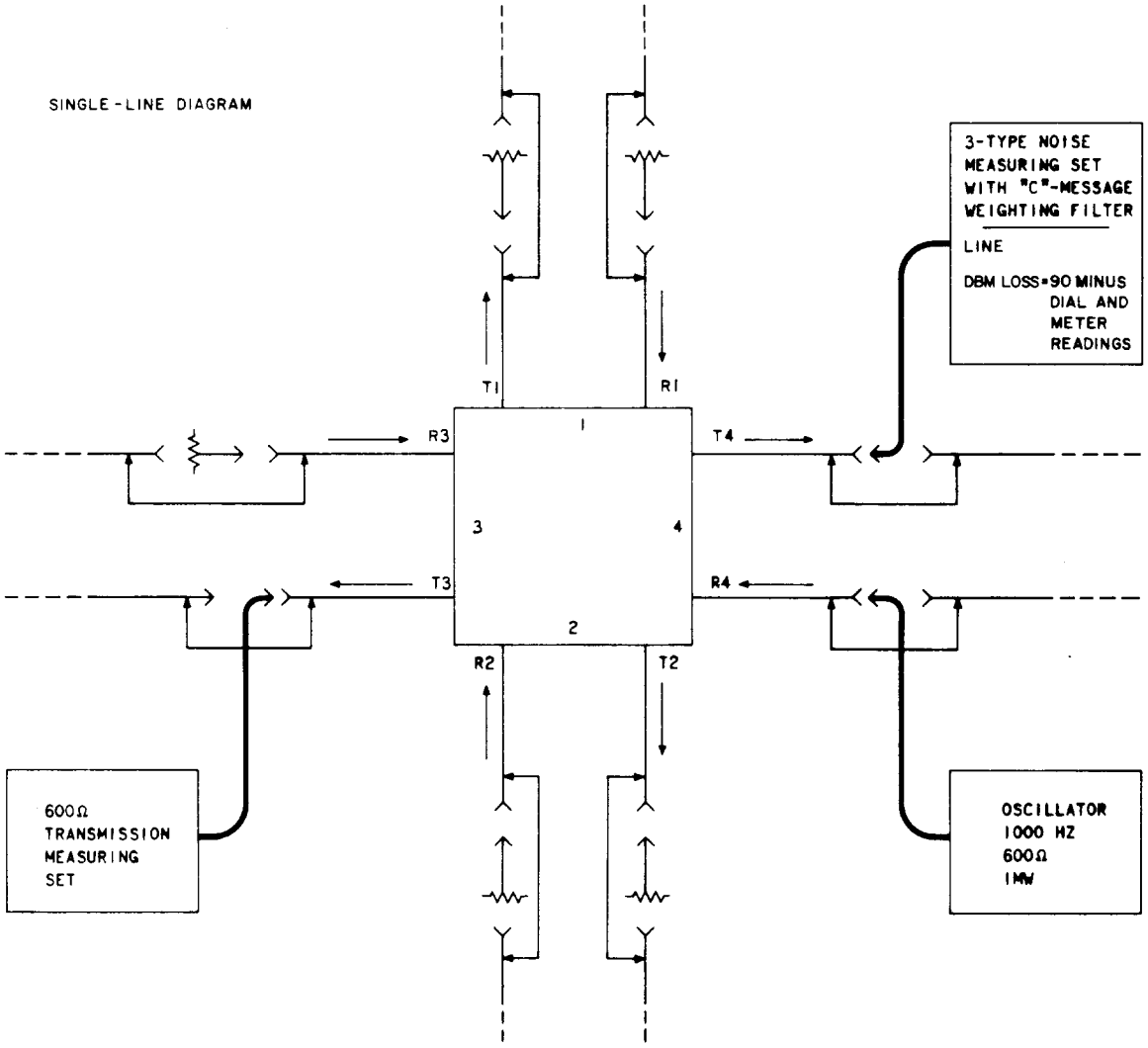

Fig. 1—Test Set Connections for Measuring 4-Wire Bridge Losses

TABLE B

1000-Hz LOSS OF 4-WIRE BRIDGES IN DB

	4-WIRE 4-WAY BRIDGE	4-WIRE 6-WAY BRDIGE	1-WAY 10-OUTLET
Any R to same T (input to output of same side)	75 or more	80 or more	
Any R to any other T (input of one side to the output of any other side)	15 ± 0.5	19.6 ± 8.5	13.5 ± 0.5

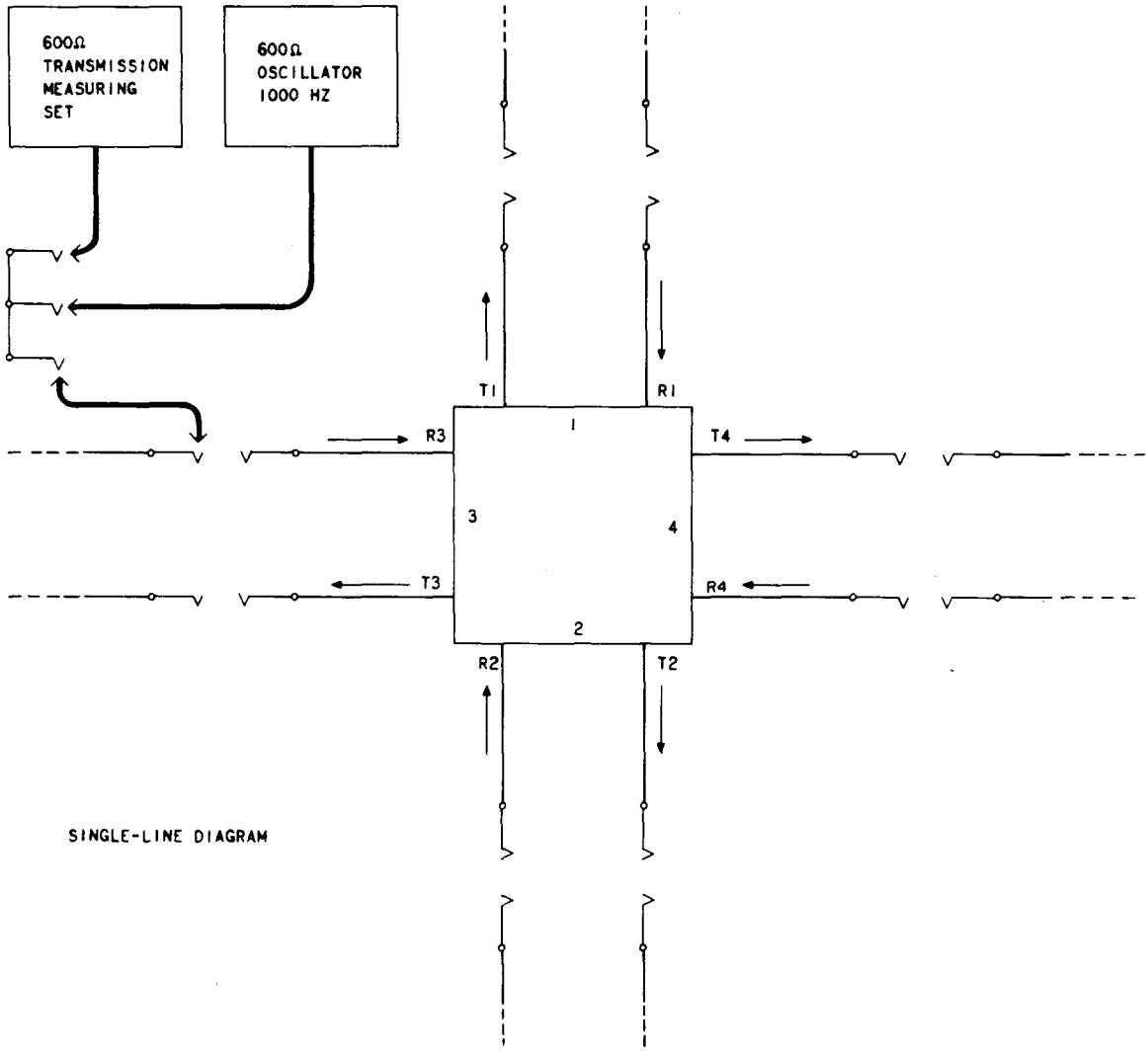

Fig. 2—Test Set Connections for Measuring 600-Ohm Impedance of Bridge Connections

3.31 Certain types of bridges have level adjusting keys and monitoring jacks as integral features. For initial test, sufficient checks should be made to ensure the proper operation of the level adjusting keys and monitoring jacks in addition to the tests outlined in this paragraph.

I. Talk-Back Arrangements

3.32 For initial test only, the 1000-Hz loss of the standard telephoto talk-back arrangement should be measured. The measurements should be made with a 600-ohm oscillator, and a 600-ohm TMS. Fig. 3 illustrates a standard talk-back arrangement which uses two resistor circuits and an amplifier. Table C outlines the points to "send

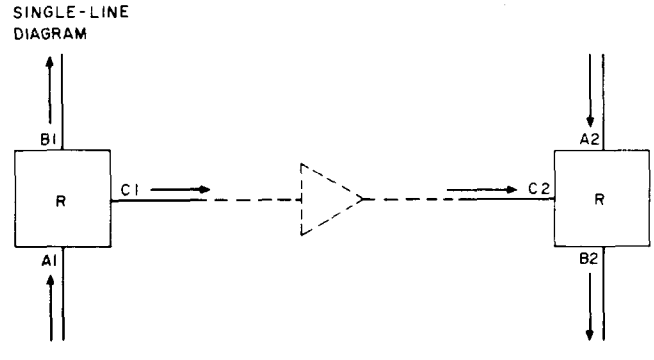

Fig. 3—Standard Telephoto Talk-Back Arrangement Test Points

from," "measure at" and the requirements. This test should be made with all connecting equipment normal except where TMS and oscillator are connected.

3.33 In addition to the arrangement described in this paragraph, other acceptable talk-back arrangements for telephoto transmission may be used if the resultant impedance is 600-ohms on all sides and also if transmission is sufficiently retarded in the direction A2 to B1 as indicated in Fig. 3. The 1000-Hz loss of such an arrangement should be measured on initial test only with a 600-ohm oscillator and 600-ohm TMS. The measured loss should be in accordance with the particular type arrangement used and should meet the requirements of the CLR.

3.34 The amplifier used in any talk-back arrangements should be maintained and adjusted in accordance with Part 3 (A) of this section.

TABLE C

1000-Hz LOSS OF STANDARD TELEPHOTO TALK-BACK ARRANGEMENT AS ILLUSTRATED IN FIG. 3

SEND FROM	MEASURE AT–	REQUIRED LOSS IN DB
A1	B1	3.6 ± 0.5
A1	C1	9.4 ± 0.5
C2	B2	9.4 ± 0.5
A2	B2	3.6 ± 0.5

J. Signaling Equipment

3.35 For initial test only, all signaling equipment should be checked for proper operation. The application of the proper input signal should result in the signaling equipment converting it to the proper output signal. Two-way signaling equipment, where used, should be checked in both directions. The 20-Hz signaling units should be adjusted for proper voltage output. The 1000-Hz signaling units, when employed as an output unit, should be adjusted for proper output level in accordance with the level of the circuit where the unit is connected. Standard drawings cover the output adjustments. The 1000-Hz ring, when measured with a standard TMS, should be approximately 7 dB below the circuit level. Selective signaling equipment, when used, should be checked for proper operation in accordance with standard instructions.

K. Miscellaneous Equipment

Level Adjusting Key and Potentiometer Monitoring Jacks

3.36 For initial test only, level adjusting keys and potentiometer monitoring jacks should be checked for proper operation. The level adjusting keys should cause reductions in level to the amount each key is designated, ie, 1 dB and 2 dB when operated individually and 3 dB when both are operated. The 1000-Hz loss of the potentiometer monitoring jack should be 0.3 dB.

L. Protective Arrangements

3.37 Protective arrangements should be initiated immediately after the completion of initial tests and should be checked periodically. In addition to the arrangements outlined in the standard instructions, the following arrangements are recommended:

(a) Insert type 1 plugs into all repeater monitoring jacks and designate "NO MONITOR."

(b) Stencil "+4" on the jack field of any A type channel bank demodulator which has been changed from +7 dB to a +4 dB channel because of 71A1 level compensator assignment.

4. SUMMARY OF TESTS

4.01 Table A summarizes the initial and periodic tests.

5. RECORDS AND REPORTS

5.01 Fig. 5A is a suggested form for recording the results of the tests. Fig. 5B, 5C, 5D, and 5E illustrate some typical usage of the suggested form based on the arrangement of Fig. 4.

5.02 Many variations are possible in central office arrangements. It is the responsibility of each office to determine the tests involved and enter these on the form. The requirements should precede each group of equipment to be tested. Table A should be of assistance in determining the test to enter on the form.

5.03 A record of the test results should be maintained, whether the suggested form is used or not, for the purpose of future references, analysis, etc.

5.04 Every office should maintain a local schematic sketch of the office arrangement of each telephoto circuit. Fig. 4 illustrates a typical local sketch. The purposes of such a sketch are as follows:

(a) To provide a sketch which is always up to date since CLRs may be incorrect due to exceptions and pending orders

(b) To provide a sketch which indicates office assignments, office locations, frame locations, and test points

(c) To provide a sketch which indicates actual levels throughout the circuit. This gives a reference for any future test.

5.05 All exceptions in circuit order work should be reported to the control office and to any administrative offices concerned.

5.06 All irregularities disclosed as a result of any test should be recorded and reported to the control office, general control office, and any administrative offices concerned.

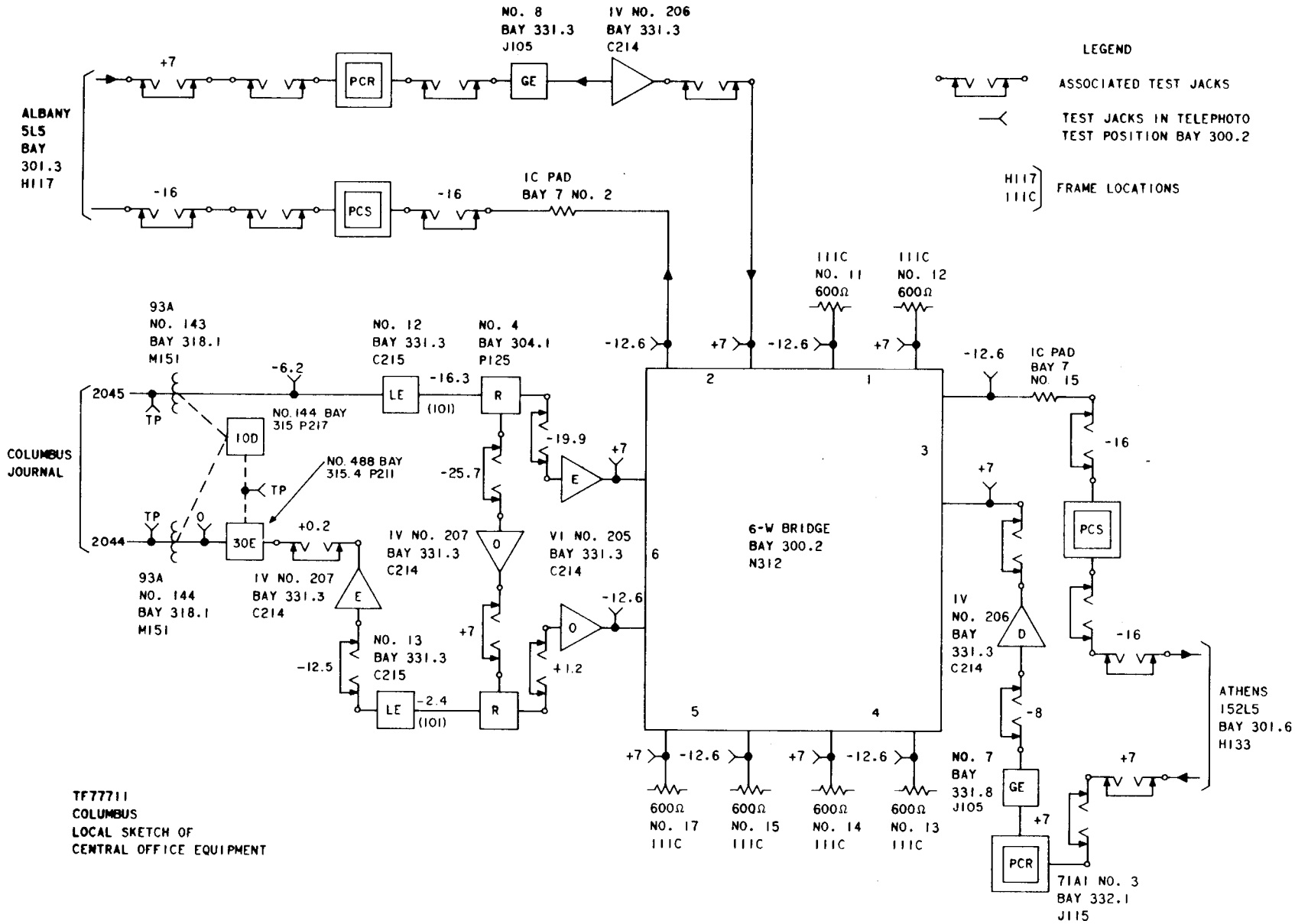

Fig. 4—Typical Local Sketch of an Office Arrangement of a Telephoto Circuit

FORM P

RECORD OF INITIAL AND
PERIODIC TESTS – CENTRAL OFFICE
EQUIPMENT – TELEPHOTO CIRCUITS

TESTS APPLICABLE TO _____ (OFFICE) ON CIRCUIT _____ (NUMBER) FOR _____ (INITIAL OR PERIOD) SCHEDULE PER 314-728-501

ITEM	TEST REQUIREMENTS AND RESULTS									

Fig. 5A—Suggested Form for Recording Test Results

FORM P

SHEET 1 OF 2 SHEETS

RECORD OF INITIAL AND PERIODIC TESTS – CENTRAL OFFICE EQUIPMENT – TELEPHOTO CIRCUITS

TESTS APPLICABLE TO COLUMBUS (OFFICE) ON CIRCUIT TF77711 (NUMBER) FOR C.O. 711711 INITIAL (INITIAL OR PERIOD) SCHEDULE PER 314-728-501

ITEM	TEST REQUIREMENTS AND RESULTS									
V1	CATH ACT	1000~ GAIN	SPLIT OPER							
REQD	15%	SPECIFIED GAIN	YES							
#205-0	25/12	16.8	✓	Replaced tube						
-E	10	23.9	✓							
#206-0	8	19.6	✓							
-F	6	19.6	✓							
#207-0	9	32.7	✓							
-E	8	12.7	✓							
71A1	OPT EQLRS	REC STEP 5	REC STEP 16	REC STEP 18	REC STEP 19	3145 R.L.	2000~-3145 DIF	NEW 310A	APP LINE STEP 1	APP LINE STEP 7
REQD	S-26AA R-209A	-12±0.3	+1.5±2.0	0.4±0.1	+5=— -5=—	45+	2-	YES	-29±0.3	+4
#3	✓	-12.1	+1.0	0.3	+5=.9 -5=.2	48	1.2	✓	-29	+4
#4	✓	-12.0	+1.9	0.4	+5=1.0 -5=.3	50	.8	✓	-29	+4
T.B. ARGT	A1-B1	A1-C1	C2-B2	A2-B2						
REQD	3.6±0.5	9.4±0.5	9.4±0.5	3.6±0.5						
#4	3.6	9.4	9.4	3.6						
ATT EQLR	PADS – FINAL – ADJ			2000~	1000/1200	1400/1600	1800/2200	2400/2600	2800/3000	
REQD	—	—	—	0	0±.8 / 0±.6	0±.4 / 0±.2	0±.1 / 0±.1	0±.2 / 0±.4	0±.6 / 0±.9	
GE #7	A=17.5	A1/A2=1.0	B1/B2=4.0	0	+.2 / +.1	0 / 0	0 / 0	0 / 0	+.1 / +.2	71A1 PATCHEDOFF
GE #8	A=15.0	A1/A2=2.0	B1/B2=4.0	0	+.4 / +.2	+.1 / 0	0 / 0	0 / +.1	+.2 / +.4	✓
GE #7	SAME AS ABOVE			0	+.4 / +.2	+.1 / 0	0 / +.1	+.1 / +.2		71A1 ON
GE #8	SAME AS ABOVE			0	+.5 / +.3	+.2 / +.1	+.1 / 0	0 / +.1		71A1 ON

Fig. 5B—Typical Usage of Suggested Form

FORM P

SHEET 2 OF 2 SHEETS

RECORD OF INITIAL AND PERIODIC TESTS – CENTRAL OFFICE EQUIPMENT – TELEPHOTO CIRCUITS

TESTS APPLICABLE TO COLUMBUS (OFFICE) ON CIRCUIT TF77711 (NUMBER) C.O. 711711 FOR INITIAL (INITIAL OR PERIOD) SCHEDULE PER 314-728-501

ITEM	TEST REQUIREMENTS AND RESULTS									
6-W BDG	←	—	1000~	LOSS	—	→	IMP CHECK	L.K. & MON CKT		
LEGS ↓→	1R	2R	3R	4R	5R	6R	↓	↓		
1 T	85	19.6	19.5	19.6	19.7	19.6	3.7	—		
R	—	—	—	—	—	—	3.4	OK		
2 T	19.6	86	19.6	19.6	19.6	19.6	3.5	—		
R	—	—	—	—	—	—	3.6	OK		
3 T	19.6	19.6	84	19.6	19.6	19.5	3.8	—		
R	—	—	—	—	—	—	3.6	OK		
4 T	19.7	19.6	19.6	85	19.6	19.5	3.4	—		
R	—	—	—	—	—	—	3.2	OK		
5 T	19.6	19.6	19.6	19.5	84	19.6	3.5	—		
R	—	—	—	—	—	—	3.8	OK		
6 T	19.6	19.6	19.5	19.6	19.7	86	3.6	OK		
R	—	—	—	—	—	—	3.5	OK		
RINGERS	1000 TO 20	20~ VOLT								
REQD	YES	105								
30E #144 10D #488	OK	105								
PROT ARGT	CXRS	PCS PCR	EQLRS	AMPS	BDG	RINGERS	T.B ARGT	COILS	TP'S	600~ TERMS
SIG PLUGS	✓	✓	—	✓	✓	✓	—	—	—	—
LABELS	✓	✓	✓	✓	—	✓	—	—	—	—
DESIG	✓	✓	—	✓	✓	✓	—	—	—	—
FRAME	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DATE	12-10-57	all	OK							
TESTER	CLO									

Fig. 5C—Typical Usage of Suggested Form

FORM P

SHEET 1 OF 2 SHEETS

RECORD OF INITIAL AND PERIODIC TESTS – CENTRAL OFFICE EQUIPMENT – TELEPHOTO CIRCUITS

TESTS APPLICABLE TO COLUMBUS (OFFICE) ON CIRCUIT TF77711 (NUMBER) FOR 1968 (INITIAL OR PERIOD) SCHEDULE PER 314-728-501

ITEM	TEST REQUIREMENTS AND RESULTS									
V-1	205-O	205-E	206-O	206-E	207-O	207-E	TESTER			
1000~ GAIN REQD	16.8	23.9	19.6	19.6	32.7	12.7	INITIAL			
JAN-1ST SUN	16.7	23.9	19.5	19.6	32.7	12.7	G.L.O.			
FEB- "	16.7	23.9	19.6	19.6	23.9 / 32.7	12.7	G.L.O.	207-O READJ	GAIN JST &	OFF OK
MARCH- "										
APRIL- "										
MAY- "										
JUNE- "								CATH ACT	TEST	FIRST
JULY- "										
AUG- "										
SEPT- "										
OCT- "										
NOV- "										
DEC- "										
CATH ACT	15%					15%				
JUNE-1ST SUN										
71A1 #3	REC STEP 5	REC STEP 16	REC STEP 18	REC STEP 19	3145~ R.L.	2000~-3145~ DIF	APP LINE STEP 1	APP LINE STEP 7	TESTER	
REQD	12±0.3	+1.5±2.0	0.4±0.1	+5= — -5= —	45+	2-	-29±0.3	+4	INITIAL	
FEB-2ND SUN	12.0	+1.2	0.4	+5=0.9 -5=0.2	49	1.1	29.0	+4	G.L.O.	
APRIL- "										
JUNE- "										
AUG- "										
OCT- "										
DEC- "										
71A1 #4	(DUPLICATE	OF #3	ABOVE)							

Fig. 5D—Typical Usage of Suggested Form

FORM P

SHEET 2
OF 2 SHEETS

RECORD OF INITIAL AND
PERIODIC TESTS – CENTRAL OFFICE
EQUIPMENT – TELEPHOTO CIRCUITS

TESTS APPLICABLE TO COLUMBUS (OFFICE) ON CIRCUIT TF77711 (NUMBER) FOR 1968 (INITIAL OR PERIOD) SCHEDULE PER 314-728-501

ITEM	TEST REQUIREMENTS AND RESULTS															
6-W BDG	T 1 R		T 2 R		T 3 R		T 4 R		T 5 R		T 6 R		TESTER			
REQD	3.5 ±0.5											3.5 ±0.5	INITIAL			
JAN-3RD SUN	3.7	3.4	3.5	3.6	3.8	3.6	3.4	3.2	3.5	0/3.6	3.6	3.5	G.L.O.	600Ω TERM. OFF LEG 5R-REPLACED / OK—		
FEB – "	3.7	3.5	3.5	3.6	3.7	3.6	3.4	3.2	3.5	3.6	3.6	3.5	G.L.O.			
MAR – "																
APRIL – "																
MAY – "																
JUNE – "																
JULY – "																
AUG. – "																
SEPT – "																
OCT – "																
NOV – "																
DEC – "																

PROT ARGT	CXRS	PCS PCR	EQLRS	AMPS	BDG	RINGERS	T.B. ARGT	COILS	TP'S	600Ω TERM.
JUNE-4TH SUN										
SIG PLUGS			—				—	—	—	—
LABELS					—		—	—	—	—
DESIG			—				—	—	—	—
FRAME										
CHECKED BY										

Fig. 5E—Typical Usage of Suggested Form