Western Electric Company
INCORPORATED

1. DESCRIPTION - The AM-142 consists of an AM-1011 Amplifier, an LU-1046 Monitor Speaker and a monitor volume control in a wall mounted, hinged cover, metal cabinet 14-1/2"H x 18"W x 11-1/2"D. Weight 65lbs.

1.1 The AM-1011 is an AC operated chassis type, two stage plus phase inverter, negative feedback, push-pull output power amplifier. An adjustable warping circuit is provided in the feedback loop to vary the high and low frequency response as may be required. A single stage transformer coupled monitor amplifier is also included on the same chassis.

1.2 The LU-1046 is an 8" dia. x 4" D cone type PM Speaker. Voice coil impedance 4 ohms. Weight 3 lbs.

2. CHARACTERISTICS (AM-1011)

Gain	.48 DB (Monitor Ampl. 20 DB)
Impedance	.Input (source) 5000 ohms (Monitor Ampl. 50 ohms) Output (load) Refer to Section 3.2. Transformer taps 12 & 24 ohms. (Monitor Ampl. 4 ohms).
Power Output	10 Watts, 32.2 DB; 40 DBM (Monitor Ampl. 2.5 Watts, 26.2 DB; 34 DBM)
Frequency Response	Refer to SC-43
Noise Level.	-35 DB; -27.2 DBM Note: To reduce monitor hum connect a CD-UP9BJ39-40/40 mf - 450V Condenser (both sections in parallel) in parallel with C-13.
Vacuum Tubes	2 - 6SJ7, 2 - 6L6, 1 - 5Z3, 1 - 6F6
Power Supply Required . .	105-125 V AC, 50-60 cycles, 115 Watts
Power Supply Furnished . .	Heater and plate supply for AM-141 Vol. Contr. Ampl.
Dimensions	7-1/2"H x 17"W x 10"D
Weight	.35 lbs.

3. INSTALLATION INSTRUCTIONS

3.1 Power Transformer Connections.

Average Line Voltage	Connect to T2 Tap
120 - 130	125 V (Connection as shipped)
110 - 120	115 V
100 - 110	105 V

3.2 Output Transformer Connections - For optimum power output with a nominal 12 ohm speaker load, the "output" and "feedback" wires should be connected to the "24 ohm" output transformer terminal. Amplifier output impedance on this tap is approximately 1.25 ohms.
Note: Output Transformer has terminals marked "24 ohms" and "12 ohms". Simplex Equipment Instructions advise that the "24 ohm" terminal is the 12 ohm load terminal and the "12 ohm" terminal is the 6 ohm load terminal.

3.3 Warping circuit adjustment - Adjust response curve, as required, in accordance with instructions on Dwg. SC-43.

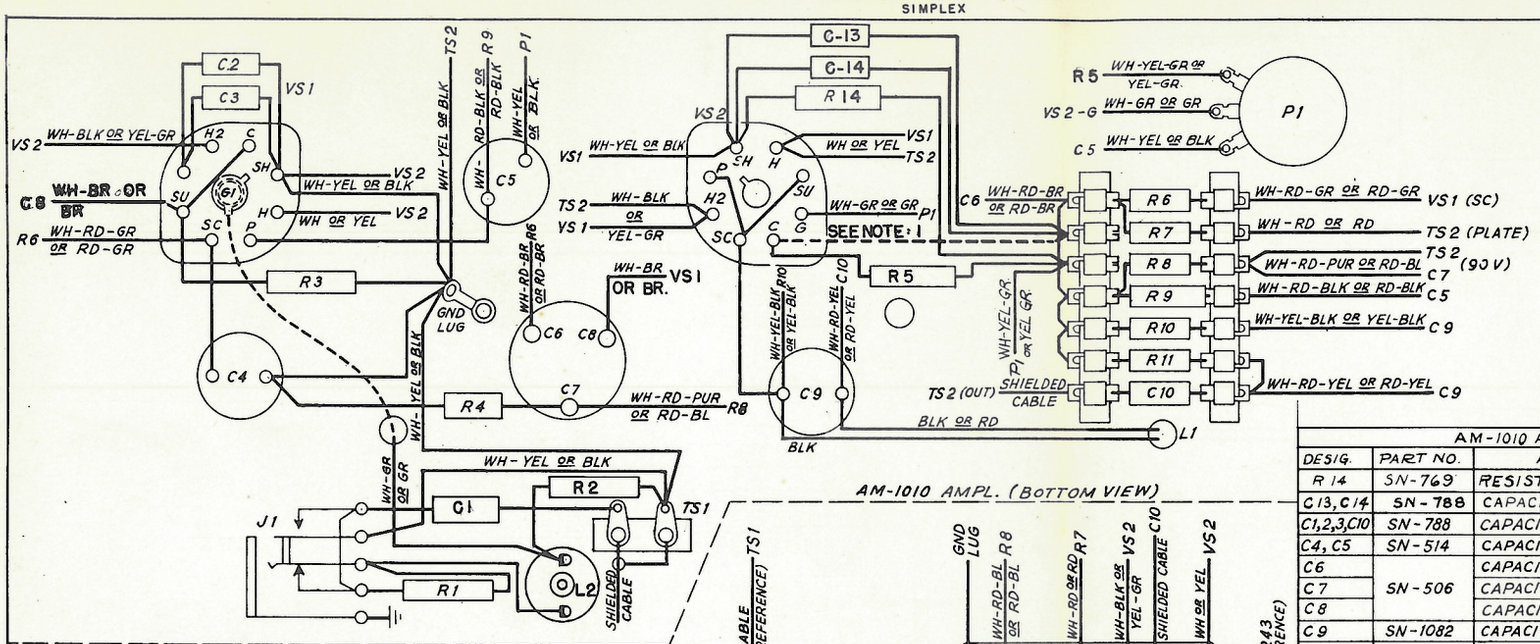
ASSOCIATED DRAWINGS

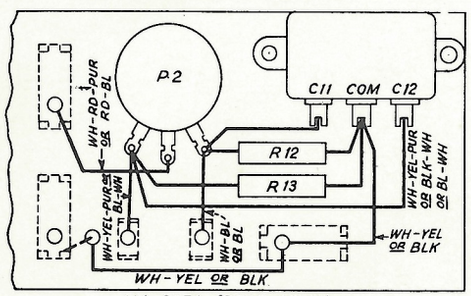
WD-159 Schematic and Wiring Diagram
SC-43 Freq. Response Characteristics

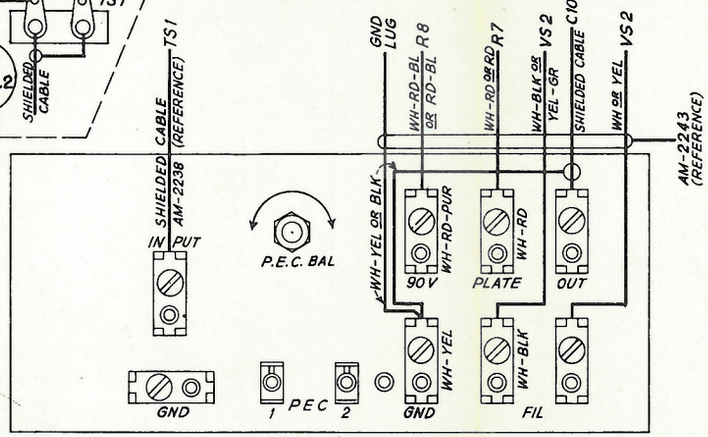
Issued by
Engineering Department
Printed in U. S. A.

June 19, 1948
Issue #2

REDRAW FROM WD-158 SIMPLEX. TO SHOW MOD. FOR NOISE REDUCTION.	APP'D.
155.1 9-30-49	W.W.S.



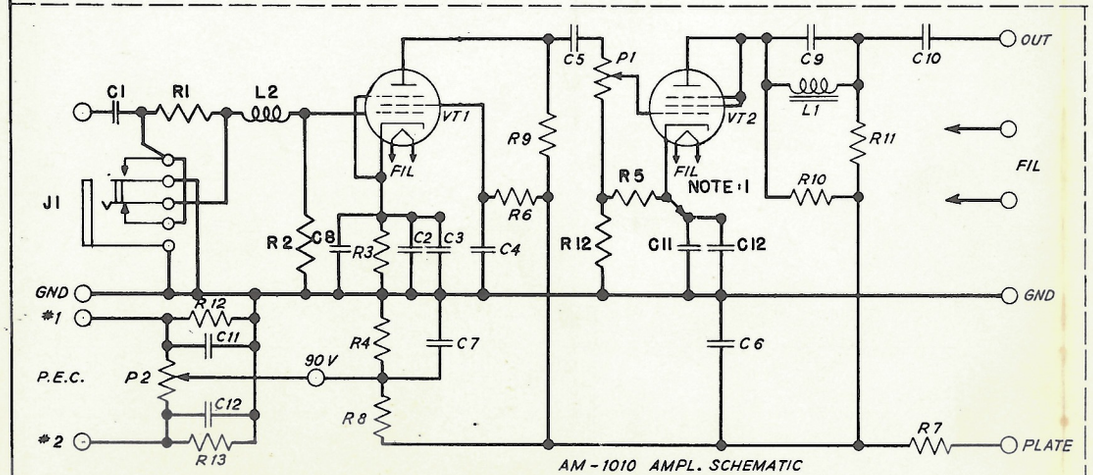




AM-1010 AMPLIFIER		
DESIG.	PART NO.	APPARATUS
R 14	SN-769	RESISTOR, 3000 Ω 1 WATT. W.W.
C13, C14	SN-788	CAPACITOR, .01 MF, 500 V.
C1,2,3,C10	SN-788	CAPACITOR, .01 MF, 500 V
C4, C5	SN-514	CAPACITOR, .05 MF, 400 V
C6	SN-506	CAPACITOR, 8 MF, 250 V
C7		CAPACITOR, 8 MF, 150 V
C8		CAPACITOR, 10 MF, 50 V
C9	SN-1082	CAPACITOR, .25 MF, 200 V
R1, 2, R9	SN-539	RESISTOR, 510,000 Ω, 1 WATT
R3	SN-1129	RESISTOR, 4700 Ω, 1 WATT, WIRE WOUND
R4	SN-1071	RESISTOR, 100,000 Ω, 1/2 WATT
R5	SN-1130	RESISTOR, 2000 Ω, 1 WATT, WIRE WOUND
R6	SN-537	RESISTOR, 2.2 MEG, 1/2 WATT
R7	SN-540	RESISTOR, 24,000 Ω, 1/2 WATT
R8	SN-688	RESISTOR, 51,000 Ω, 1/2 WATT
R10, 11	SN-612	RESISTOR, 10,000 Ω, 1/2 WATT
L1	SN-1045	REACTOR, 7 HENRIES
L2	SN-1500	REACTOR
P1	SN-1074	POTENTIOMETER, 500,000 Ω, 1/2 WATT
TS1	SN-611	TERMINAL STRIP
VS1, 2	SN-561	SOCKET, OCTAL
VT1 *	SN-792	VACUUM TUBE (TYPE *1620)
VT2 *	SN-1066	VACUUM TUBE (TYPE 6SJ7)
J1	SN-1077	JACK
AM-2074 TERMINAL STRIP (TS 2)		
C11	SN-1086	.1 MF, 200 V
C12		.1 MF, 200 V
R12, 13	SN-539	RESISTOR, 510,000 Ω, 1 WATT
P2	SN-1085	POTENTIOMETER, 200,000 Ω, 1/2 WATT

*INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY.

NOTE 1: HIGH FREQUENCY EQUALIZATION



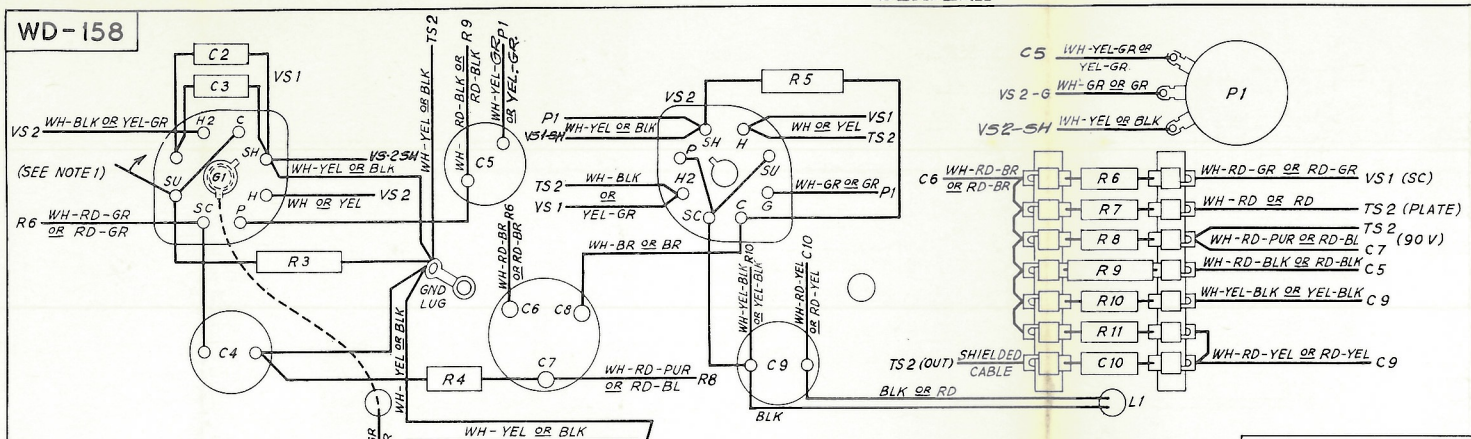
AM-141 VOL. CONT. AMPLIFIER
MODIFIED FOR NOISE REDUCTION
WIRING DIAGRAM & SCHEMATIC

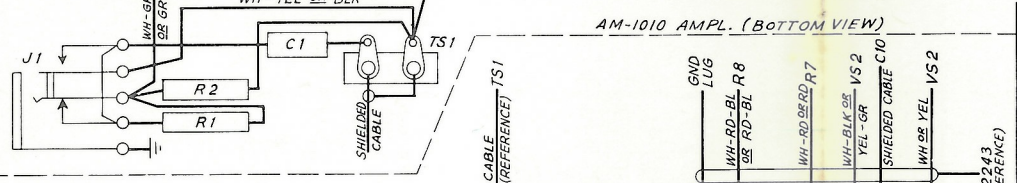
DRAWN BY Jacobsen DATE 9-30-49
APP'D. W.W.S. DATE 9-30-49

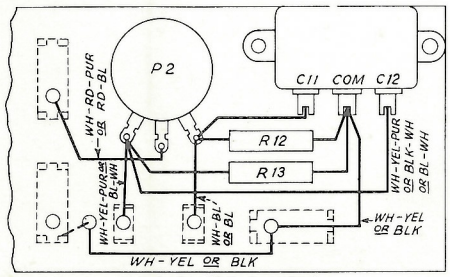
ALTEC SERVICE CORPORATION N.Y.C.

AR-2170

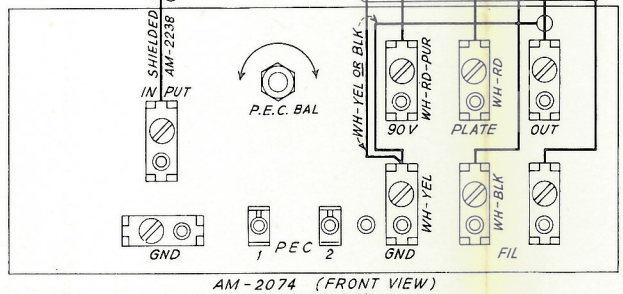
WD-158







AM-2074 (REAR VIEW)
(REFERENCE)



AM-2074 (FRONT VIEW)
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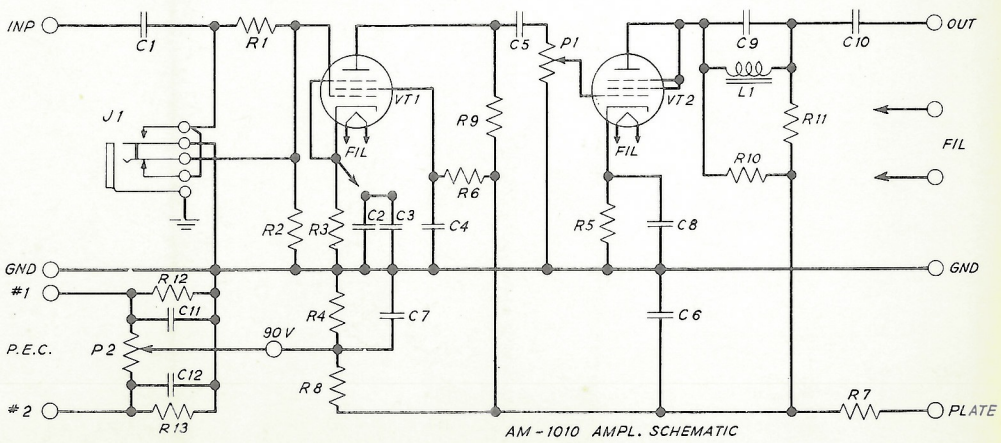


AM-1010 AMPL. SCHEMATIC

AM-1010 AMPLIFIER		
DESIG.	PART NO.	APPARATUS
C1,2,3,C10	SN-788	CAPACITOR, .01 MF, 500 V
C4, C5	SN-514	CAPACITOR, .05 MF, 400 V
C6	SN-506	CAPACITOR, 8 MF, 250 V
C7		CAPACITOR, 8 MF, 150 V
C8		CAPACITOR, 10 MF, 50 V
C9	SN-1082	CAPACITOR, .25 MF, 200 V
R1,2, R9	SN-539	RESISTOR, 510,000 Ω, 1 WATT
R3	SN-1129	RESISTOR, 4700 Ω, 1 WATT, WIRE WOUND
R4	SN-1071	RESISTOR, 100,000 Ω, 1/2 WATT
R5	SN-1130	RESISTOR, 2000 Ω, 1WATT, WIRE WOUND
R6	SN-537	RESISTOR, 2.2 MEG, 1/2 WATT
R7	SN-540	RESISTOR, 24,000 Ω, 1/2 WATT
R8	SN-688	RESISTOR, 51,000 Ω, 1/2 WATT
R10,11	SN-612	RESISTOR, 10,000 Ω, 1/2 WATT
L1	SN-1045	REACTOR, 7 HENRIES
J1	SN-1077	JACK
P1	SN-1074	POTENTIOMETER, 500,000 Ω, 1/2 WATT
TS1	SN-611	TERMINAL STRIP
VS1,2	SN-561	SOCKET, OCTAL
VT1 *	SN-792	VACUUM TUBE (TYPE #1620)
VT2 *	SN-1066	VACUUM TUBE (TYPE 6SJ7)

AM-2074 TERMINAL STRIP (TS2)		
C11	SN-1086	.1MF, 200 V
C12		.1MF, 200 V
R12,13	SN-539	RESISTOR, 510,000 Ω, 1 WATT
P2	SN-1085	POTENTIOMETER, 200,000 Ω, 1/2 WATT

*INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY.

NOTE 1: HIGH FREQUENCY EQUALIZATION

REDRAWN WITH EXTENSIVE CHANGES

ISSUE: 4

R-3 WAS 5100 Ω

ISSUE: 5

WIRE FROM "P-1" TO VS2-5, WAS WH-YEL OR BLK WIRE FROM P-1 TO C-5 WAS WH-YEL-GR OR YEL-GR, AS PER DEV. PERMIT NO. 15

ISSUE: 6

WH-YEL OR BLK WIRE SHOWN ON C-5 WAS "WH-YEL-GR OR YEL-GR." ADDED "WH-YEL-GR OR YEL-GR" TO P-1 WIRE ON VS-2

ISSUE: 7

C5 WIRE SHOWN ON P1 WAS VS2-5 & VS2-SH WIRE ON P1 WAS C5. ADDED WH-YEL-GR OR YEL-GR TO P-1 WAS REMOVED FROM WIRE ON P1 ON C5 WH-YEL-GR OR YEL-GR WIRE WAS WH-YEL OR BLK.

ISSUE: 8

AM-141 VOL. CONT. AMPLIFIER
WIRING DIAGRAM & SCHEMATIC

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

DR. CH'K. APP'D.

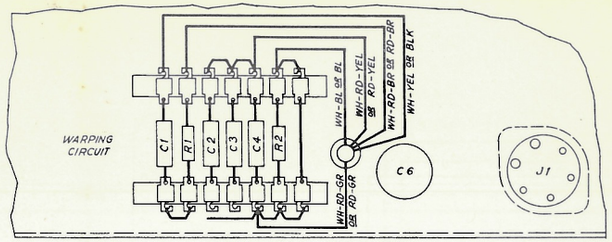
WD-158

WD-159

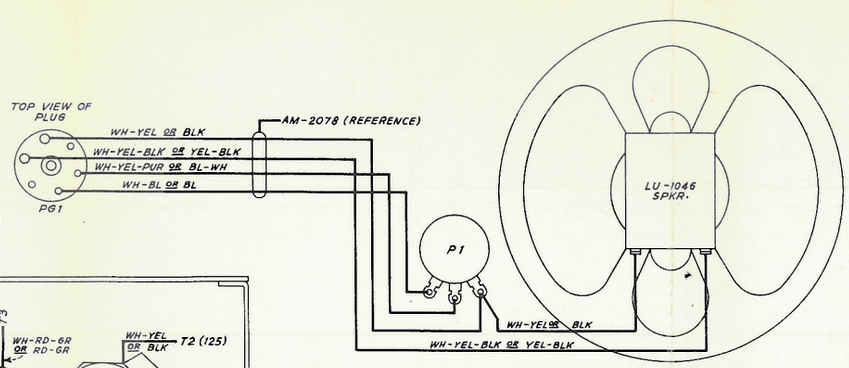
REDRAWN FROM ISSUE: 4 WITH EXTENSIVE CHANGES

ISSUE: 5 6-11-48

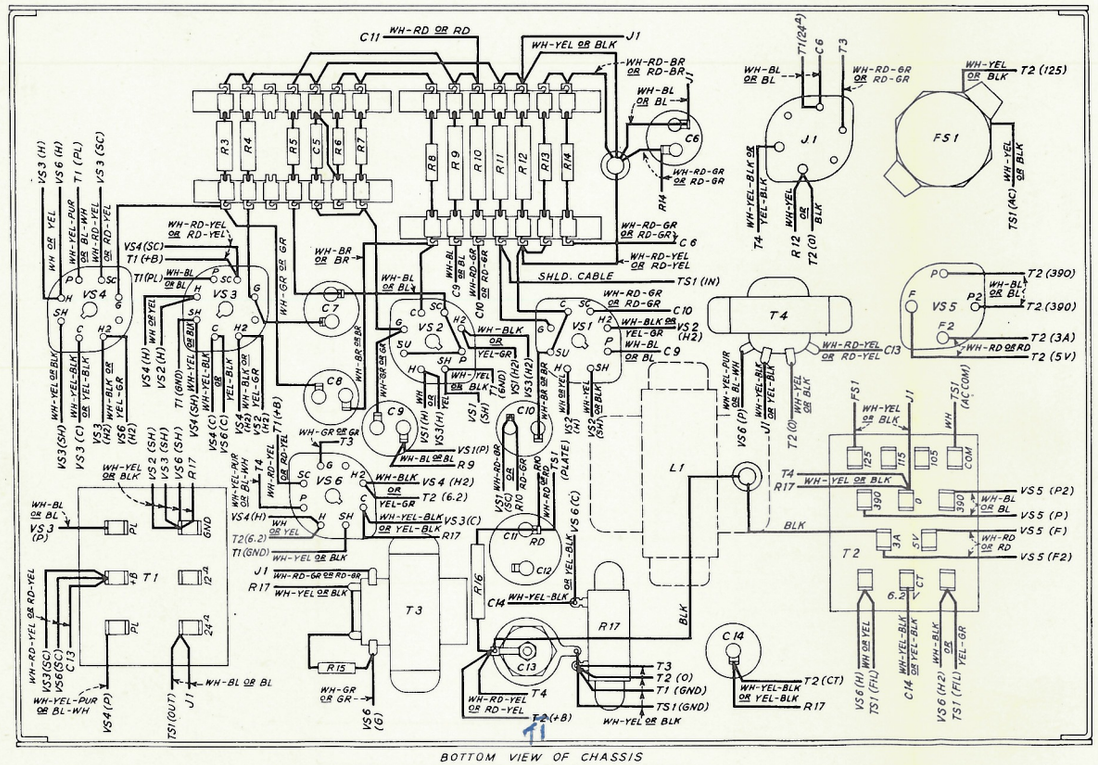
NOTES:
1. AMPLIFIERS FROM SERIAL #171 UP, RESISTOR R7 IS SN-539 (500,000Ω) INSTEAD OF SN-526 (30,000Ω)
2. AMPLIFIERS FROM SERIAL #264 UP ARE WIRED AS SHOWN. BELOW SERIAL #264, AC COLOR CODE WAS REVERSED. COLOR OF WIRING TO FUSE AND TRANSFORMER CHANGED TO AGREE.



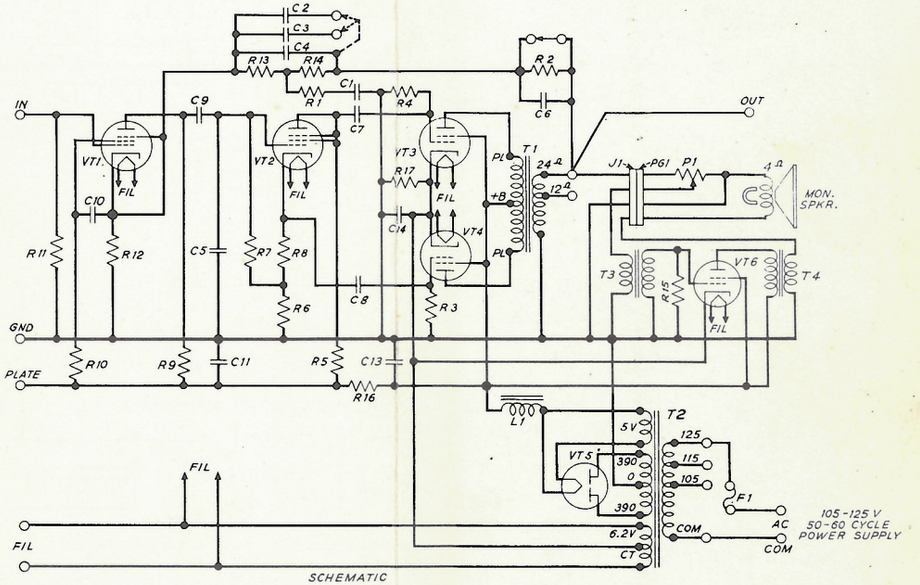
PARTIAL VIEW - TOP CHASSIS



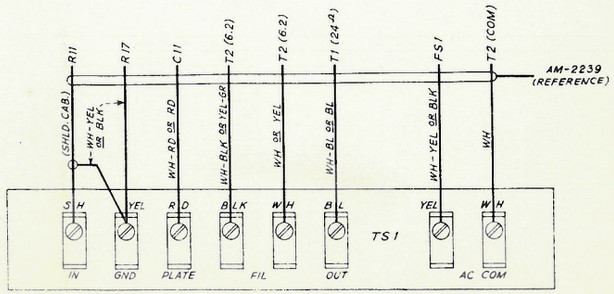
REAR VIEW OF CABINET DOOR



BOTTOM VIEW OF CHASSIS



SCHEMATIC



DESIG.	PART NO.	APPARATUS
C1	SN-515	CAPACITOR, .005 MF, 500 V
C2	SN-582	CAPACITOR, .001 MF, 500 V
C3	SN-581	CAPACITOR, .00075 MF, 500 V
C4	SN-512	CAPACITOR, .0005 MF, 500 V
C5	SN-516	CAPACITOR, .0003 MF, 500 V
C6,7,8,9,10	SN-514	CAPACITOR, .05 MF, 400 V
C11, C12	SN-507	CAPACITOR, C11- .25, C12- .25
C13	SN-1553	CAPACITOR, 12 MF, 600 V
C14	SN-502	CAPACITOR, 25 MF, 50 V
R1	SN-772	RESISTOR, 510Ω, 1/2 WATT
R2	SN-1071	RESISTOR, 100,000Ω, 1/2 WATT
R3,R4,R9	SN-580	RESISTOR, 270,000Ω, 1 WATT
R5	SN-526	RESISTOR, 30,000Ω, 1/2 WATT
R6, R15	SN-540	RESISTOR, 24,000Ω, 1/2 WATT
R8	SN-531	RESISTOR, 5,000Ω, 1/2 WATT
R10	SN-517	RESISTOR, 2 MEG. 1 WATT

DESIG.	PART NO.	APPARATUS
R7, R11	SN-539	RESISTOR, 510,000Ω, 1 WATT
R12	SN-1130	RESISTOR, 2,000Ω, 1 WATT, WIRE WOUND
R13, R14	SN-528	RESISTOR, 7,500Ω, 1/2 WATT
R16	SN-1111	RESISTOR, 15,000Ω, 2 WATT
R17	SN-535	RESISTOR, 240Ω, 7.5 WATT, WIRE WOUND
TS1	AM-2072	TERMINAL STRIP ASSEMBLY
J1	SN-564	SOCKET, 6 PRONG
P1	SN-1120	POTENTIOMETER, 2,000Ω, 1/2 WATT
PG1	SN-560	PLUG, 6 PRONG
T1	SN-575	OUTPUT TRANSFORMER
T2	SN-1076	POWER TRANSFORMER
T3	SN-1107	INPUT TRANSFORMER
T4	SN-1106	OUTPUT TRANSFORMER
L1	SN-1073	REACTOR
VS1,2,3,4,6	SN-561	SOCKET, OCTAL
VS5	SN-562	SOCKET, 4 PRONG

DESIG.	PART NO.	APPARATUS
FS1	SN-554	FUSE RECEPTACLE
* VT1-VT2	SN-1066	VACUUM TUBE TYPE 6SJ7
* VT3-VT4	SN-1109	VACUUM TUBE TYPE 6L6
* VT5	SN-708	VACUUM TUBE TYPE 5Z3
* VT6	SN-1075	VACUUM TUBE TYPE 6F6
F1	SN-549	FUSETRON (2 AMP.)

*INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY.

AM-142
AMPLIFIER EQUIPMENT
WIRING DIAGRAM & SCHEMATIC

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

DR. CH'K. APP'D.

WD-159

1. DESCRIPTION

The AM-145 Unit is usually a wall mounted cabinet 11-3/4" high x 9-1/2" wide x 4-1/2" deep weighing 10 lbs. Sometimes it is mounted in a convenient location near the sound mechanism on a pipe support fastened to the floor. It contains an AM-1007 Preamplifier.

A. Characteristics of AM-1007 Amplifier

Type - Chassis type, 2 stage inverse feed-back with interstage resistance coupling. Provision is made for field mounting of a W.E. 127-C or 132-C output transformer for coupling to fader.

Gain - 39 db. maximum

Input Impedance - 250,000 ohms

Output Impedance - 500 ohms

Gain Control - In grid circuit of first tube - adjustable with screw driver.

Vacuum Tubes - 2 - 6C5 (furnished separately).

Power Supply - Plate voltage of 90 or 120V DC and filament voltage of 10V AC or 12V DC from external source.

P.E.C. Supply - Voltage divider furnishes voltage for sound mechanism P.E.C.

Equalization - Warping circuit in the inverse feed-back circuit.

Accessories - Terminal strip with plate and filament "ON-OFF" switch and an external cable form.

Associated Drawing - WD-160 Schematic and Wiring Diagram
SC-46 Frequency Response Chart.

2. INSTALLATION

A. On the Front Wall. Normally an AM-145 should be mounted below each observation post in such a location that the supplied length of SH-2100 Coaxial Cable (72") can be installed in the regular manner.

B. On a Pipe Support. Where the front wall space is inadequate to install the cabinet in the regular manner it may be mounted on a pipe support away from the wall, as shown in Fig.1, the pipe support threading into a flange (3/4" pipe thread) provided in the bottom of the cabinet.

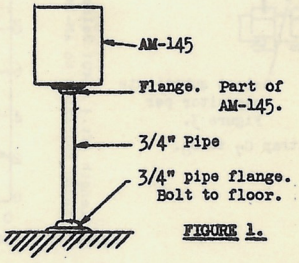


FIGURE 1.

C. External Connections. Terminal strip connections should be made per drawing WD-161 associated with the installation instructions.

D. Gain Control. The amplifier is shipped with the potentiometer P_1 set for a gain of 30 db. A reference mark on the amplifier chassis indicates this setting, which has been established for transmission runs. The potentiometer in each amplifier should be adjusted so that outputs are equal, and adequate volume level is obtained in the auditorium with normal setting of the fader, using a standard recording such as the Academy Test Reel. Variations in prints, size of audience, etc., should be compensated for by adjustment of the fader.

E. Warping Circuit Adjustments. The warping circuit is set for the L_{23}, H_{23} curve (See drawing SC-46). High and low end adjustments are provided as a means of obtaining the optimum overall system frequency response characteristic for the specific auditorium. Changes in the warping circuit should be made only after careful listening tests and checking of the operation of the other system components. In checking lens tube adjustment in SH-1000 or SH-1001 Sound Mechanism, the procedure described in Equipment Bulletin "SH-1000 Sound Mechanism" will be facilitated and the accuracy of adjustment increased by temporarily setting the high end warping circuit for the H_{20} curve since this setting raises the high end and reduces the masking effect of background noise.

3. OPERATION

For normal operation switches S_1 and S_2 should be set in "ON" position. These switches are provided to isolate the amplifier for service and test.

4. MAINTENANCE

A. Vacuum Tubes. The tubes should be tested monthly by substituting a new tube. Tube prongs should make good contact and should be clean and bright. Careful bending of the socket contacts may be resorted to and the prongs burnished with crocus cloth if necessary.

B. Capacitors. Check all clamping rings and nuts periodically, and tighten if necessary.

5. CONCEALED CONDUIT INSTALLATIONS

When the conduits from the AM-145 to the sound mechanism are concealed, or when coaxial cable lengths greater than 6' are required in exposed conduit layouts, Belden #8401 Microphone Cable should be substituted for the SH-2100 Coaxial Cable supplied, a compensating capacitor (obtain locally as required) substituted for C_8 in the high end warping circuit in the AM-145, and C_8 strapped to C_7, see Fig.2 below.

Since the value of the capacitor substituted for C_8 depends upon the amount of cable used, the length used for each projector should be carefully measured and the value of the capacitor determined from the Fig. 3 below. Standard mica capacitor(s) should be used.

This substitution is necessary, due to the difference in capacity of the two cables, in order to obtain the frequency response characteristic shown on drawing SC-46. This method of compensation applies to all high end curves, except H_{20} which may be considered a special condition.

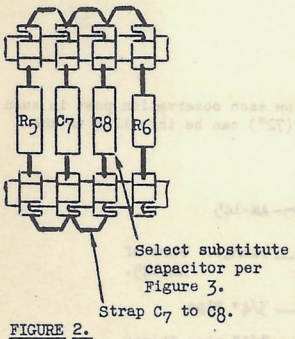


FIGURE 2.

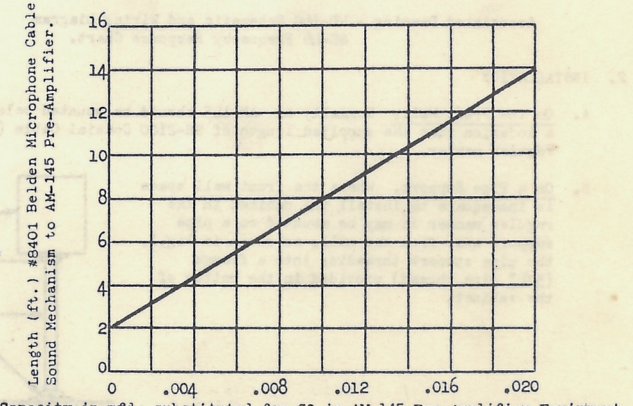
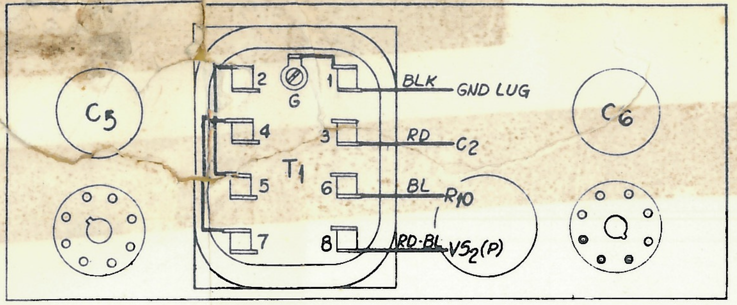


FIG. 3

WD-160



TOP VIEW OF CHASSIS

NOTES:
1. T1 IS A W.E. # 127-C OR 132-C OUTPUT TRANSFORMER, OBTAINED FROM REPLACED AMPLIFIERS AND INSTALLED IN THE FIELD.
2. REFER TO DRAWING SC-46 FOR WARPING CIRCUIT ADJUSTMENTS.

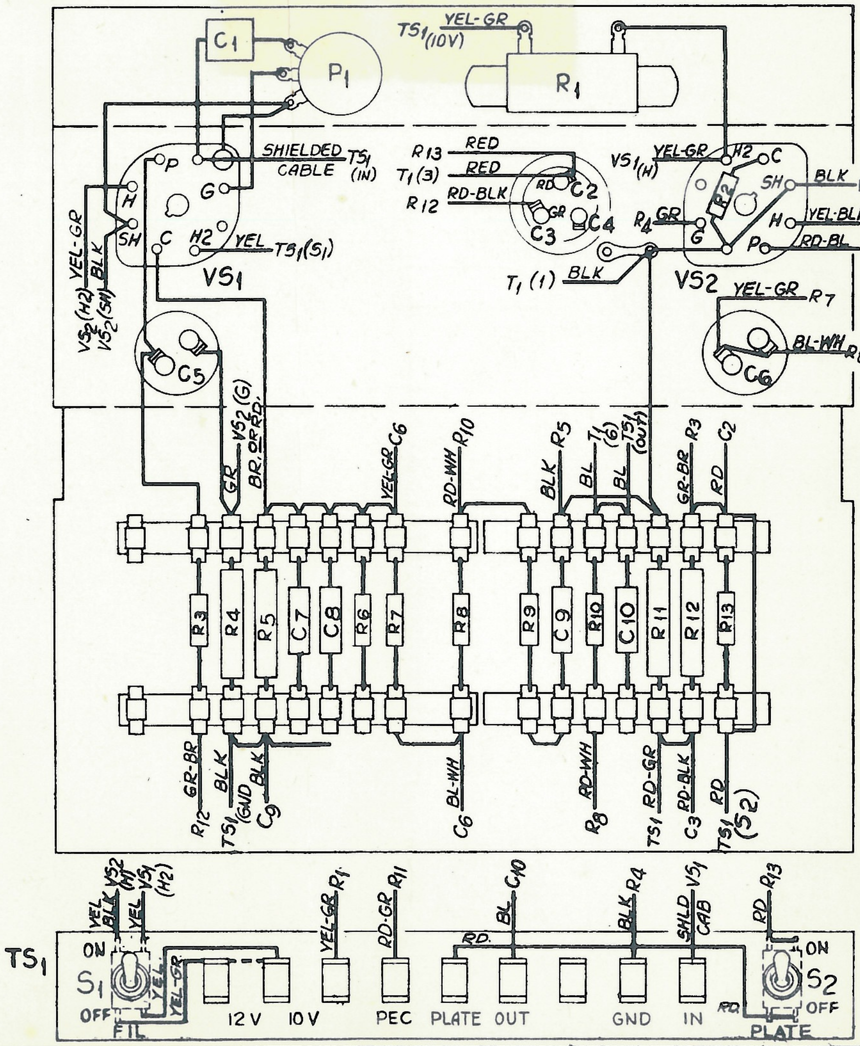
DESIG	PART No.	APPARATUS
C1, C10	SN-515	CAPACITOR - .005 MF - 500 V
C2, C3, C4	" 506	" : C2 8/250, C3 8/150, C4 10/50
C5	" 514	CAPACITOR - .05 MF - 400 V
C6	" 511	" - .1 " - 200 V
C7, C8	" 788	" .01 " - 500 V
C9	" 1181	" .0025" - "
R1	SN-1180	RESISTOR - 6 Ω - 5.5 WATT WIRE W.
R2	" 772	" 510 Ω - 1/2 "
R3	" 1071	" 100,000 Ω - 1/2 "
R4, R11	" 580	" 270,000 Ω - 1 "
R5	" 1130	" 2,000 Ω - 1 " WIRE W.
R6	" 612	" 10,000 Ω - 1/2 "
R7	" 540	" 24,000 Ω - 1/2 "
R8, R10, R13	" 530	" 6,200 Ω - 1/2 "
R9	" 531	" 5,000 Ω - 1/2 "
R12	" 689	" 15,000 Ω - 1 "
P1	SN-1186	POTENTIOMETER - 500,000 Ω
T1	SEE NOTE	TRANSFORMER
VS1, VS2	SN-561	OCTAL SOCKET
S1, S2	" 608	SWITCH - D.P.S.T. (PART OF AM-2080 TERM. ST.)
TS1	AM-2080	TERMINAL STRIP ASSEMBLY
* VT1, VT2	SN-1179	VACUUM TUBE - TYPE 6C5

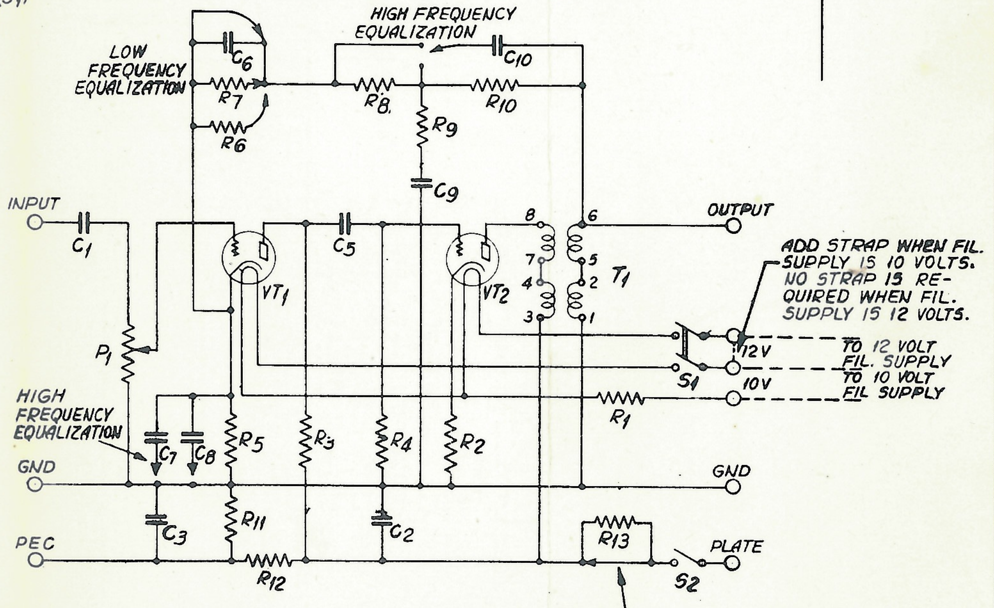
* INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY.

ISSUE: 1 6-23-39
SN-1130 WAS SN-534. SN-1180 WAS 5.0 WATTS

ISSUE: 2 12-20-39
ADDED "GR RD" TO WIRE FROM R5 TO "C" OF VS1, ADDED YEL & YEL-GR TO WIRES OF S1 TO 12V & 10V TERM'S, ADDED "RD" TO JUMPER WIRE FROM S2 TO PLATE TERM, CHGD VALUES OF RESISTORS IN SCHEDULE AS FOLLOWS - SN-772 WAS 500 Ω, SN-780 WAS 250,000 Ω, SN-540 WAS 25,000 Ω, SN-530 WAS 6,000 Ω

ISSUE 3 4-20-[illegible]



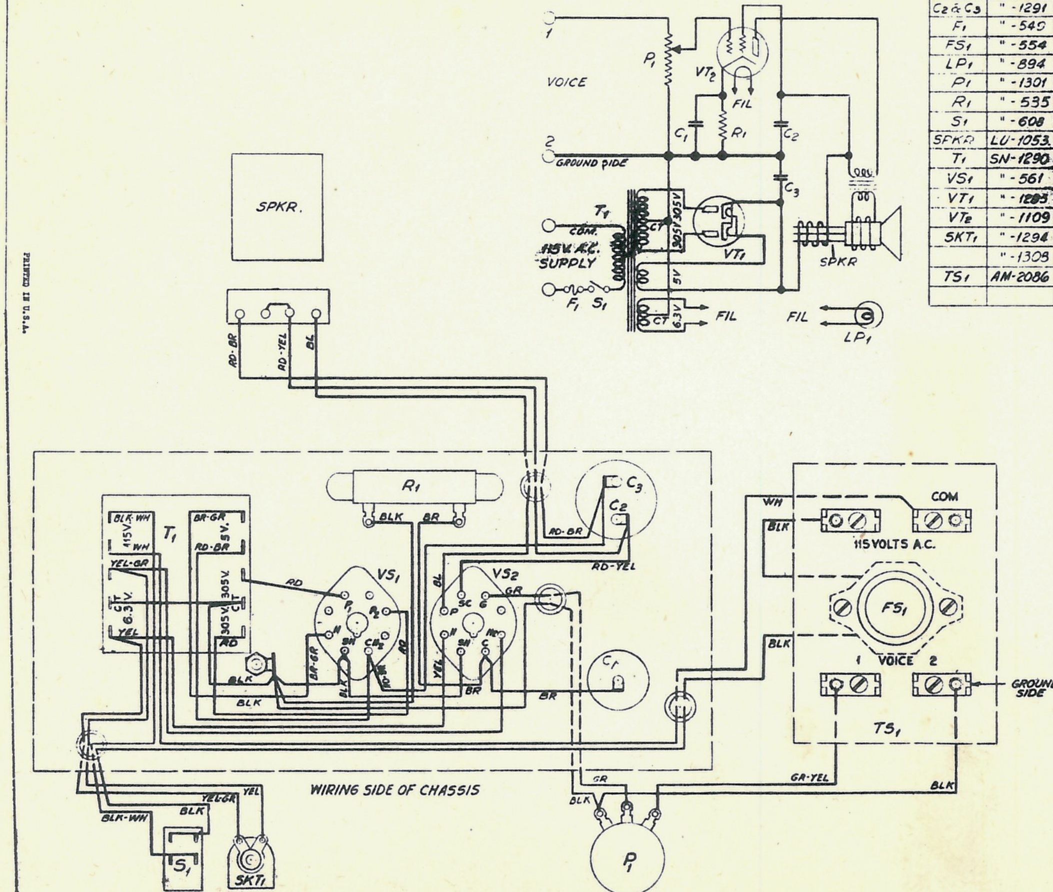


R13 SHOULD REMAIN STRAPPED OUT WHEN PLATE SUPPLY IS 90 VOLTS. REMOVE STRAP WHEN PLATE SUPPLY IS 120 VOLTS.

AM-145
PRE AMPLIFIER EQUIPMENT
WIRING DIAGRAM & SCHEMATIC
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK
DR E.G.M. CHK C.F.A. / M.B. APPD [illegible]
WD-160

WD-164

AM-147 AMPLIFIER-MONITOR SPEAKER			ISSUE:-1
DESIG	PART NO	APPARATUS	
C_1	SN-502	CAPACITOR 25MF 50V	
C_2 & C_3	" -1291	" 8-8MF 400V	
F_1	" -549	FUSETRON 2 AMP	
FS_1	" -554	FUSE RECEPTACLE	
LP_1	" -894	LAMP (3VOLT .2 AMP)	
P_1	" -1301	POTENTIOMETER 500,000Ω	
R_1	" -535	RESISTOR 250Ω 10 WATT W.W.	
S_1	" -608	SWITCH D.P.S.T	
SPKR	LU-1053	MONITOR UNIT	
T_1	SN-1290	POWER TRANSFORMER	
VS_1	" -561	OCTAL SOCKET	
VT_1	" -1283	VACUUM TUBE TYPE 5Z4	
VT_2	" -1109	" " " 6L6	
SKT_1	" -1294	PILOT LAMP SOCKET	
	" -1308	CABLE FORM	
TS_1	AM-2086	TERMINAL STRIP	



ASSOCIATED ITEMS
AM-147
AMPLIFIER-MONITOR SPEAKER
WIRING DIAGRAM & SCHEM.
INTERNATIONAL PROJECTOR CORPORATION
STREET NEW YORK
WD-164

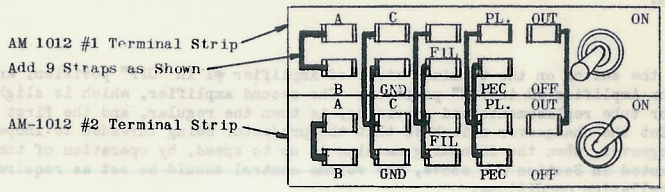
1. DESCRIPTION

The AM-148 Unit is a wall mounted cabinet 12-1/2" high x 9" wide x 6-1/2" deep, weighing 13 lbs. It contains two AM-1012 Volume Control Amplifiers. The cabinet is mounted for exposed conduit installations, and may be partially recessed in the wall when conduit is concealed.

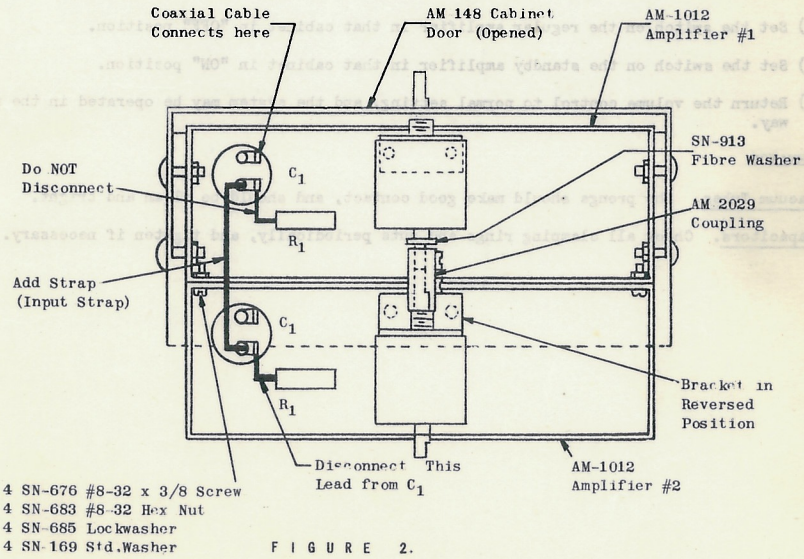
A. Characteristics of AM-1012 Amplifier

Type	-	Chassis type, two stage resistance coupled inverse feedback.
Gain	-	46 db.
Input Impedance	-	250,000 ohms.
Output Impedance	-	10,000 ohms.
Gain Control	-	Potentiometer 20 steps - 2 db each.
P.E.C. Control	-	R_3 adjustable resistor with range of 6 db in cathode of first tube for equalization of P.E.C. output.
Vacuum Tubes	-	One 1620 in first stage and one 6J7 in second stage.
Power Supply	-	Plate and filament supply obtained from power amplifier and voltage divider in AM-1012 provides P.E.C. polarizing potential.
Accessories	-	Terminal strip on external cable providing for external connections, and also "ON", "OFF", switch for cutting out amplifier.
Associated Dwg.	-	WD-167 Schematic & Wiring Diagram

B. Changeover is made between machines by means of either AM-149 or AM-165 Switching Cabinets.



F I G U R E 1.



F I G U R E 2.

2. INSTALLATION OF AM-148

Each AM-148 should be mounted as shown on conduit layouts. Since a fixed length of SH-2100 Coaxial Cable is shipped with the system for coupling between the PEC output and AM-1012 input when the conduit is exposed, it is essential that the volume control amplifier be so located that the coaxial cable can be properly installed and connected. When the conduit is concealed, Belden #8401 Microphone Cable should be used instead of SH-2100.

A. External Connections. The connections to the terminal strips should be made per the system wiring diagram. All wires connected to terminals in the cabinet should run below the terminal strips and not above, to avoid possible interference between these wires and the AM-1012 chassis when the cabinet is closed.

The microphone cable, connected to the output terminal, should be securely fastened, by means of cord through tie cord holes in the terminal strip, in such a manner that there is no strain on the conductor.

Terminals on the two AM-1012 should be strapped together per Figure 1. The inputs should be strapped by connecting a wire between the lower terminals of C_1 in each amplifier (see Figure 2). In the second AM-1012 only disconnect R_1 from C_1 per Figure 2.

B. Equalization of PEC Outputs. Resistor R_3 in each AM-1012 should be adjusted so that the output of all volume control amplifiers is the same, with the same setting of the main volume control. This resistor should be adjusted after all adjustments have been made in the sound mechanism, and when carefully made will accurately equalize outputs.

C. Volume Control. In establishing normal operating level initially for a specific auditorium, set the volume control on step 9, run a standard recording, such as the Academy Test Reel, and adjust the gain control in the power amplifier as required to obtain adequate volume level in the auditorium.

3. OPERATION

A. Normal. Set the switch on the terminal strip of Amplifier #1 in "OFF" position, and the similar switch on Amplifier #2 in "ON" position. The second amplifier, which is slightly more accessible for tube replacements and servicing, is then the regular, and the first the standby amplifier. Set the changeover switch so that the projector being threaded is inoperative and make the changeover, when the in-coming machine is up to speed, by operation of the changeover switch. As noted in Section 2-C above, the volume control should be set as required by the specific installation conditions.

B. Emergency. If the regular amplifier becomes inoperative in either cabinet:

(1) Set the volume control in that cabinet on step 1. This is important to prevent disturbances in the sound circuit when the switches are operated as described below.

(2) Set the switch on the regular amplifier in that cabinet in "OFF" position.

(3) Set the switch on the standby amplifier in that cabinet in "ON" position.

(4) Return the volume control to normal setting, and the system may be operated in the regular way.

4. MAINTENANCE

A. Vacuum Tubes. The prongs should make good contact, and should be clean and bright.

B. Capacitors. Check all clamping rings and nuts periodically, and tighten if necessary.

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1. DESCRIPTION.

The AM-170 consists of an AM-1015 NS-Amplifier, an AM-2157 Switch and an AM-2158 NS-\NN Switching Attachment in a wall mounting metal cabinet 12½" high x 9" wide x 6½" deep, total weight 12 lbs. The cabinet is surface mounted for exposed conduit installations and may be partially recessed in the wall when the conduit is concealed.

A. The AM-1015 NS-Amplifier is a two-stage, resistance coupled, inverse feedback amplifier using one #1620 and one 6J7 tube, which are furnished separately. The #1620 is a low noise level tube and should be installed in the first stage. The maximum gain is 46 db., input impedance 250,000 ohms, output impedance 10,000 ohms. It contains a main system volume control, consisting of a potentiometer having twenty 2 db steps, which regulates the volume by varying the signal voltage applied to the grid of the second tube.
An adjustable resistor (R_3), range 6 db., is provided in the cathode circuit of the first tube of the amplifier for adjustment of the gain of the amplifier. Plate and filament supply are obtained from the power amplifier. A terminal strip on an external cable form is provided for external connections.

B. The AM-2157 Switch is a two-position selector switch which provides for the isolation of the AM-1015 Amplifier in case it becomes inoperative, thereby rendering it available for immediate servicing.

C. The AM-2158 NS-ANN Switching Attachment consists of a three-position selector switch and knob, two single circuit jacks and four resistors on a suitably engraved plate. A terminal strip on an extension cable form is provided for external connections. The AM-2158 selects any one of three inputs; film in middle position, microphone in left position (500,000 ohms) and turntable in right position (500 ohms).

2. INSTALLATION.

The AM-170 should be located in a convenient position in the projection room, preferably adjacent to the turntable when one is used. Connections to the terminal strips should be made according to the system wiring diagram.

3. OPERATION.

A. AM-2158 NS-ANN Switching Attachment.

1. Film Reproduction. Set the selector switch in "FILM" position, system operation is normal and the special inputs are disconnected.

2. Microphone or Turntable Reproduction. Set the selector switch in left or right position respectively and adjust the volume control for proper auditorium level. If plug connections are used, be sure the plug is in the jack. With the switch in either left or right position, both sound mechanisms and their associated volume control amplifiers are inoperative.

B. AM-2157 Switch.

1. Normal. Set the selector switch in "ON" position.

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2. Emergency. Set the selector switch in "OFF" position if the AM-2015 Amplifier becomes inoperative. Since input, output, plate and filament are disconnected, the amplifier is completely isolated an may be serviced without interfering with the operation of the sound system.

4. MAINTENANCE.

A. Vacuum Tubes. The prongs should make good contact and should be clean and bright. Careful bending of the socket contacts may be resorted to and the prongs burnished with crocus cloth, if necessary, to provide good contact.

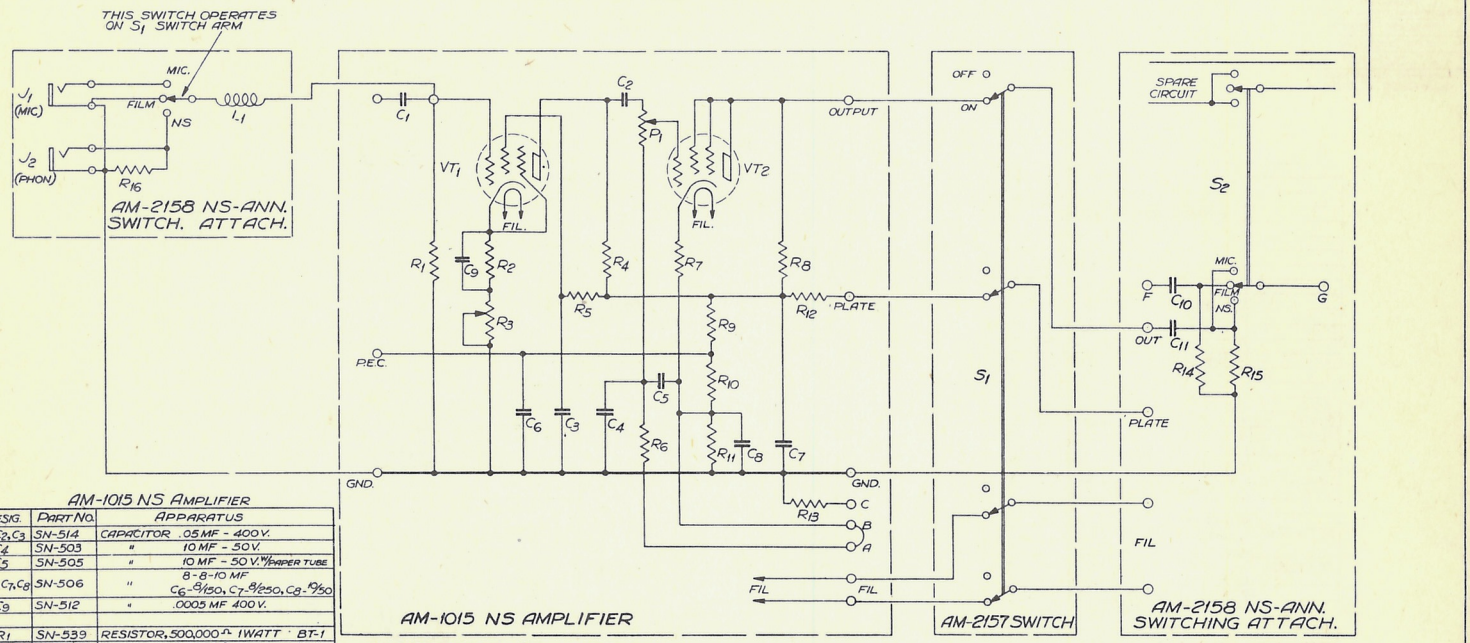
B. Capacitors. Check all clamping rings and nuts periodically and tighten if necessary.

5. ASSOCIATED DRAWINGS. WD-210 Schematic.
WD-211 Wiring Diagram.

WD-210

ALTEC SERVICE CORPORATION

ISSUE:-1 9-10-41



AM-1015 NS Amplifier

Desig.	Part No.	Apparatus
C1, C2, C3	SN-514	CAPACITOR .05 MF - 400 V.
C4	SN-503	" 10 MF - 50 V.
C5	SN-505	" 10 MF - 50 V. W/PAPER TUBE
C6, C7, C8	SN-506	" 8-8-10 MF C6-8/450, C7-8/250, C8-8/50
C9	SN-512	" .0005 MF 400 V.
R1	SN-539	RESISTOR, 500,000 Ω 1 WATT BT-1
R2	SN-1129	" 5,000 Ω 1 " WW
R3	SN-532	" 5,000 Ω 10 " AB-A
R4	SN-538	" 200,000 Ω 1 " BT-1
R5	SN-537	" 2 MEG. 1/2 " BT-1/2
R6, R7	SN-530	" 6,000 Ω 1/2 " " "
R8	SN-1496	" 12,500 Ω 1 " BT-1
R9	SN-522	" 70,000 Ω 1 " BT-1
R10	SN-523	" 55,000 Ω 1 " " "
R11	SN-689	" 15,000 Ω 1 " " "
R12	SN-527	" 25,000 Ω 1 " " "
R13	SN-688	" 50,000 Ω 1/2 " BT-1/2
P1	SN-541	POTENTIOMETER 500,000 Ω
* VT1	SN-792	VACUUM TUBE, * 1620
* VT2	SN-707	" " 6J7

*INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY

AM-2158 NS-Ann. Switching Attachment

C10, C11	SN-788	CAPACITOR .01 MF
J1, J2	SN-610	JACK
L1	SN-1500	REACTOR, 16 MH
R14, R15	SN-537	RESISTOR, 2 MEG. 1/2 WATT BT-1/2
R16	SN-1030	" 500 Ω 1 WATT BT-1
S2	SN-1497	SWITCH

AM-2157 Parts List

S1	SN-1498	SWITCH

WD-211 WIRING DIAGRAM ASSOCIATED DRAWING

AM-170 NS AMPLIFIER ASSEMBLY SCHEMATIC

INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK

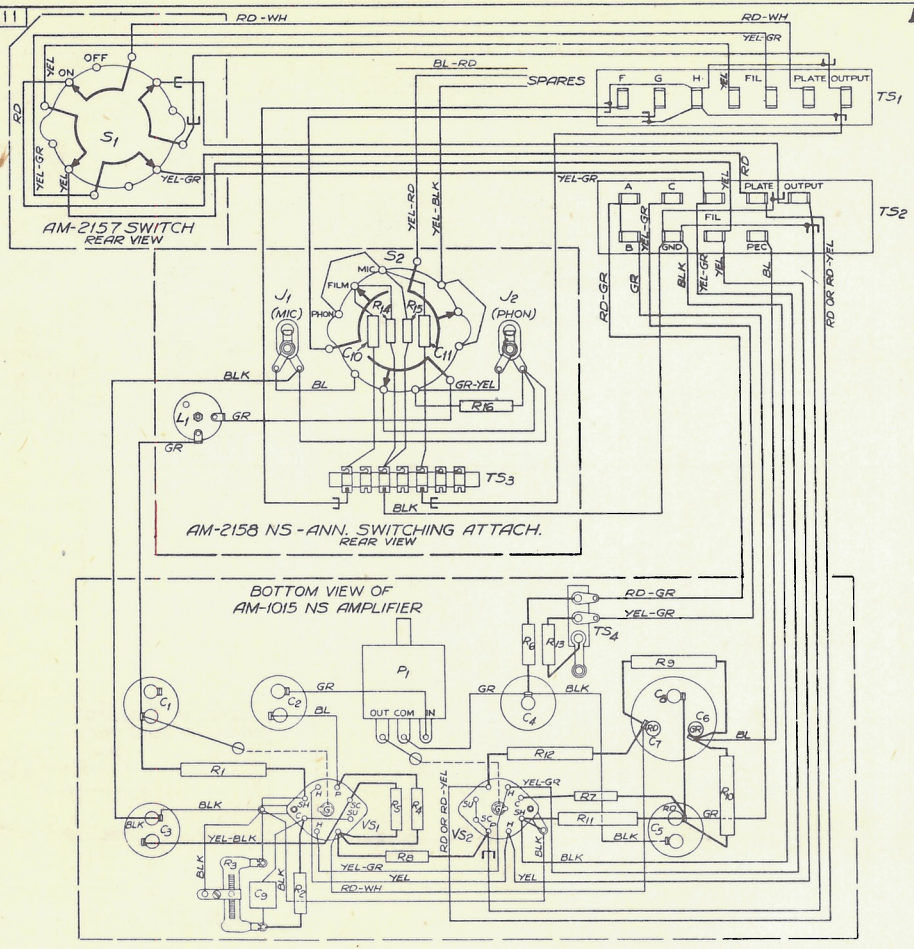
DR. CS CHK. CB APPD. CJ

WD-210

WD-211

ALTEC SERVICE CORPORATION

ISSUE-1 9-24-47



AM-2157 Switch

DESIG.	PART NO.	APPARATUS
S1	SN-1498	SWITCH

AM-2158 NS-Ann. Switching Attachment

C10, C11	SN-788	CAPACITOR, .01 MF
J1, J2	SN-610	JACK
L1	SN-1500	REACTOR, 16 MH
R14, R15	SN-537	RESISTOR, 2 MEG. 1/2 WATT BT-1/2
R16	SN-1030	" 500Ω 1WATT BT-1
S2	SN-1497	SWITCH

AM-1015 NS Amplifier

C1, C2, C3	SN-514	CAPACITOR, .05 MF - 400 V.
C4	SN-503	" 10 MF - 50 V.
C5	SN-505	" 10 MF - 50 V. "PAPER TUBE
C6, C7, C8	SN-506	" 8-8-10 MF C6-$^{8}/_{450}$, C7-$^{8}/_{250}$, C8-$^{10}/_{50}$
C9	SN-512	" .0005 MF 400 V.
R1	SN-539	RESISTOR, 500,000Ω 1WATT BT-1
R2	SN-1129	" 5,000Ω 1 " WW
R3	SN-532	" 5,000Ω 10 " AB-A
R4	SN-538	" 200,000Ω 1 " BT-1
R5	SN-537	" 2 MEG. 1/2 " BT-1/2
R6, R7	SN-530	" 6,000Ω 1/2 " BT-1/2
R8	SN-1496	" 12,500Ω 1 " BT-1
R9	SN-522	" 70,000Ω 1 " " "
R10	SN-523	" 55,000Ω 1 " " "
R11	SN-689	" 15,000Ω 1 " " "
R12	SN-527	" 25,000Ω 1 " " "
R13	SN-688	" 50,000Ω 1/2 " BT-1/2
P1	SN-541	POTENTIOMETER 500,000Ω
VS1, VS2	SN-561	SOCKET
TS1	AM-2162	TERMINAL STRIP
TS2	AM-2163	" "
TS3	SN-571	" "
TS4	SN-611	" "

WD-210 - SCHEMATIC
ASSOCIATED DRAWING

AM-170
NS AMPLIFIER
WIRING DIAGRAM

INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK

DR. BS CHK. GB
APP'D

WD-211

1. DESCRIPTION

The AM-101 Unit is a wall mounted cabinet 12-1/2" high x 9" wide x 6-1/2" deep, weighing 9 lbs. It normally contains one AM-1000 Volume Control Amplifier, a sound and exciter lamp changeover switch and a pilot lamp. (See Addendum #1 for AM-101 equipped with two AM-1000 Amplifiers.) The cabinet is surface mounted for exposed conduit installation, and may be partially recessed in the wall when conduit is concealed.

A. Characteristics - AM-1000 type Amplifier.
Type - Chassis type - two stage, resistance coupled, inverse feedback.
Gain - Maximum 46 db.
Input Impedance - 250,000 ohms (where dual AM-1000 Amps. installed, impedance is 150,000 ohms).
Output Impedance - 10,000 ohms.
Gain Control - Potentiometer - 20 steps, 2 db each.
P.E.C. Control - R_3 adjustable resistor with range of 6 db, in cathode of first tube for equalization of P. E. C. output.
Vacuum Tubes - One 1620 in first stage and one 6J7 in second stage.
Power Supply - Plate and filament supply obtained from AM-1001 Amplifier and voltage divider in AM-1000 provides P. E. C. polarizing potential.
Accessories - AM-2019 Terminal Strip on external cable, which provides for external connections and also includes "On", "Off" switch for cutting out amplifier.
Associated Dwgs. - WD-100 Schematic
WD-108 Wiring
WD-109 and AR-1125 Changeover Switch Schematic

B. Changeover is made at either machine by operating the changeover switch on the front of either cabinet, sound and exciter lamp being transferred at the same time. An electronic type of sound changeover incorporating a three-way circuit is employed. In the "ON" amplifier the second tube has normal bias, whereas in the "OFF" amplifier the bias of this tube is increased beyond cut-off and the amplifier is inoperative. There is no switching in the sound circuit, and the changeover is instantaneous and noiseless. The exciter lamp changeover provides for preheating of the standby lamp on AC. The pilot lamp indicates the machine in use.

2. INSTALLATION

The AM-101 Amplifier Unit should be mounted as shown in system conduit layouts. Since a fixed length of SH-2100 Coaxial Cable is shipped with the system for coupling between the PEC output and AM-101 input, this amplifier should be so located that the coaxial cable can be properly installed and connected. The connections to the terminal strips should be made per the system wiring diagram.

NOTE: All wires connected to terminals in the cabinet should run below the terminal strips AND NOT ABOVE, to avoid possible interference between these wires and the AM-1000 chassis.

The microphone cable, connected to the output terminal, should be securely fastened, by means of cord through tie cord holes in the terminal strip, in such a manner that there is no strain on the conductor.

A. Equalization of PEC Outputs. The resistor R_3 should be adjusted so that the output of all volume control amplifiers is the same, with the same setting of the main volume control. This resistor should be adjusted after all adjustments have been made in the sound mechanism, and when carefully made will accurately equalize outputs.

B. Volume Control. In establishing normal operating level initially for a specific auditorium, set the volume control on step 9, run a standard recording, such as the Academy Test Reel, and adjust the gain control in the power amplifier as required to obtain adequate volume level in the auditorium.

3. OPERATION

Set the switch on the terminal strip of the amplifier in "ON" position and the changeover switch so that the projector being threaded is inoperative (pilot lamp is out). Changeover is then made, when the in-coming machine is up to speed, by operating the changeover switch on either cabinet.

4. MAINTENANCE

A. Vacuum Tubes. The prongs should make good contact and should be clean and bright.

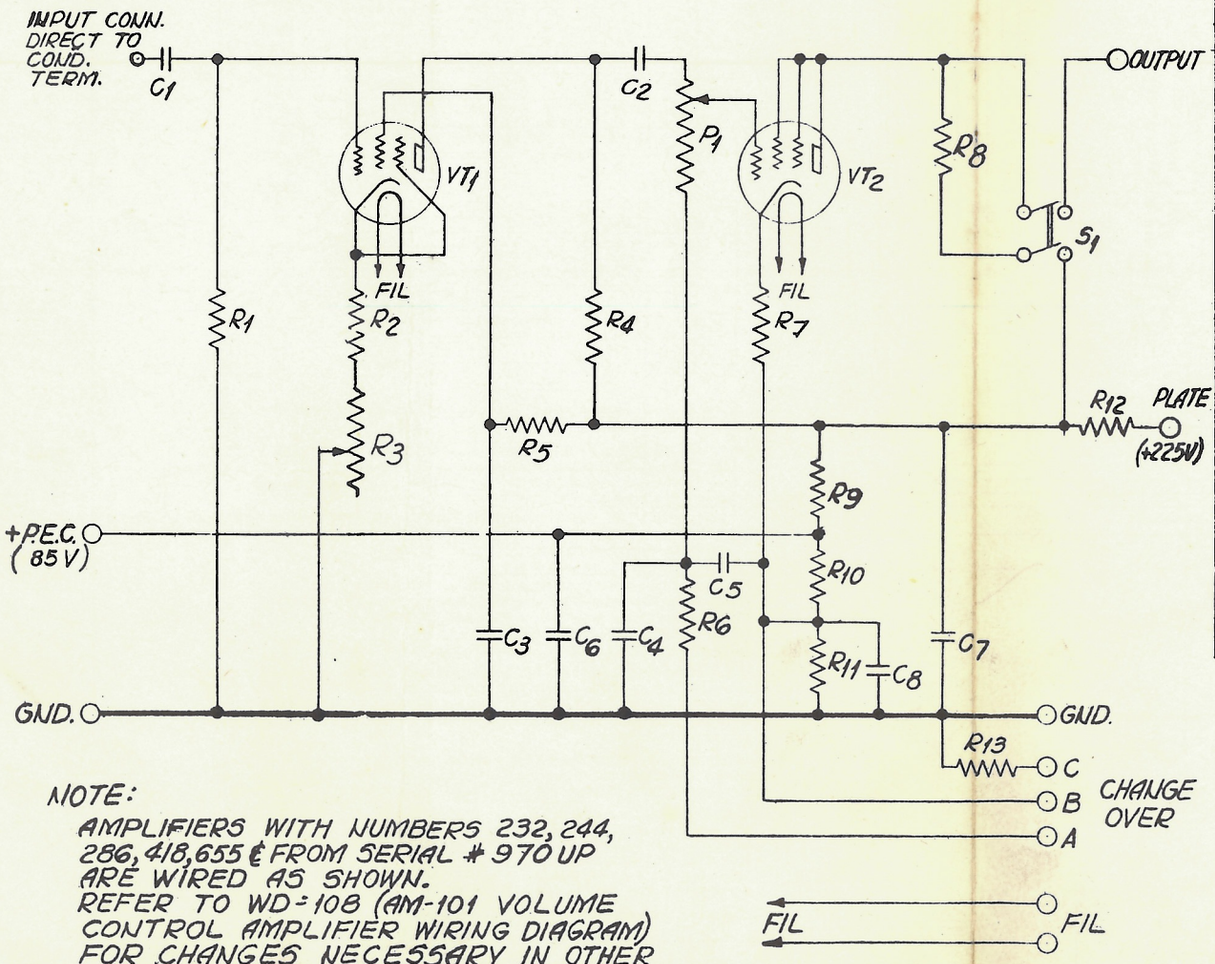
B. Capacitors. Check all clamping rings and nuts periodically, and tighten if necessary.

C. Pilot Lamp. If the pilot lamp does not light check the fuse mounted on the terminal strip mounting bracket, as removal of the exciter lamp while the power unit is in operation may cause the fuse to blow. Otherwise the pilot lamp should be replaced by removing the socket from the inside of the cabinet. A flickering pilot lamp indicates a defective tungar bulb in the exciter lamp power unit.

ALTEC SERVICE CORPORATION
SIMPLEX

AM-1000 AMPLIFIER

WD-100



NOTE:
AMPLIFIERS WITH NUMBERS 232, 244, 286, 418, 655 & FROM SERIAL # 970 UP ARE WIRED AS SHOWN.
REFER TO WD-108 (AM-101 VOLUME CONTROL AMPLIFIER WIRING DIAGRAM) FOR CHANGES NECESSARY IN OTHER AMPLIFIERS, WHEN IMPROVED OPERATION IS DESIRED.

DESIG.	PART No.	APPARATUS
C1, C2, C3	SN-514	.05 MF-400 V CAP. AEROVOX TYPE 2EM
C4	"503	10 MF-50 V " " " EM
C5	"505	10 MF- " " " " 2EM WITH PAPER TUBE
C6, C7 C8	"506	8-8-10 MF AEROVOX 7 TYPE 3E 8/150 · 5/250 10/50
R1	"539	510,000Ω-1 WATT RES. I.R.C. TYPE BT-1
R2	"1129	4700Ω- 1 WATT " " " WW
R3	1887	5,000Ω WIREWOUND POT.
R4	"538	220,000Ω-1 WATT RES. I.R.C. TYPE BT-1
R5	"517	2 MEG - " " " " BT-1
R6, R7	"530	6,200Ω - " " " " "
R8	"540	24,000Ω - " " " " "
R9	"522	68,000Ω-1 WATT " " " BT-1
R10	"523	56,000Ω- " " " " "
R11	"689	15,000Ω- " " " " "
R12	"527	25,000Ω " " " " "
R13	"688	51,000Ω-½ WATT " " " BT-½
P1	"1889	500,000Ω 20-2 DB STEPS POT.
VT1	"792	6J7 METAL VT (6J7-B31 OR #1620)
VT2	"707	6J7 METAL VACUUM TUBE
S1	"608	D.P.S.T. SWITCH

ISSUE:-1 3-24-38
S1 WAS BETWEEN R12 & "PLATE" TERM. R4 & R5 WERE TO OTHER SIDE OF SWITCH. NOTE ADDED. R9 & R10 WERE 75,000Ω & 45,000Ω RESPECT.

DR EGM | APP'D CFA
ISSUE: 2 10-28-38
R9 & R10 WERE SHOWN AS SN-521 & 579 RESPECT.

DR. E.G.M. | APP'D CFA
ISSUE: 3 12-2-38
SN-1129 WAS SN-531 SN-538 WAS BT-1/2

DR | APP'D CFA
ISSUE: 4 6-5-40
R3 WAS "SN-532 5000Ω 10 WATT RES I.R.C. TYPE AB-A," P1 - SN-1889 WAS SN-541, SN-517 WAS SN-537

EJS
ISSUE: 5 9-16-48
SN-539 WAS 500,000 Ω
SN-1129 WAS 5,000 Ω
SN-538 WAS 200,000 Ω
SN-530 WAS 6,000 Ω
SN-540 WAS 25,000 Ω
SN-522 WAS 70,000 Ω
SN-523 WAS 55,000 Ω
SN-527 WAS 25,000 Ω
SN-688 WAS 50,000 Ω
ARM OF R-3 WAS CONNECTED TO R-2 & REMARKED CONNECTION FROM R-3 TO GROUND

ISSUE: 6 - 7-20-49

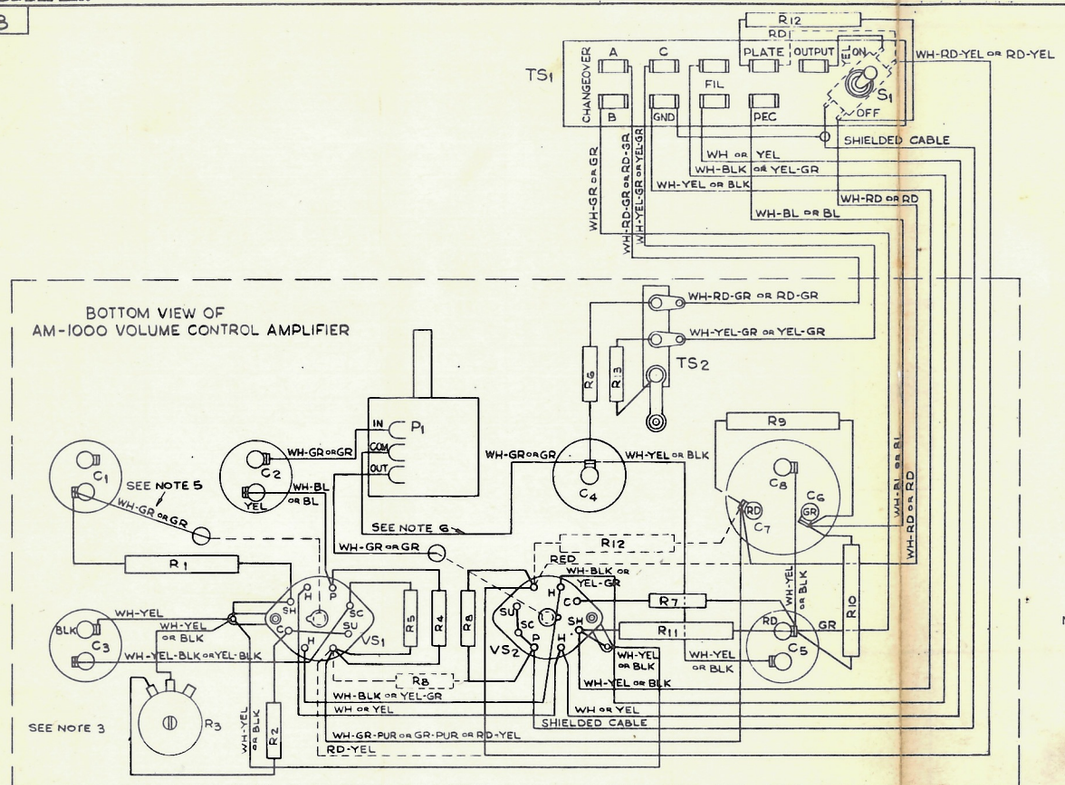
ASSOCIATED ITEMS
AM-1000 AMPLIFIER
VOLUME CONTROL
SCHEMATIC

INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK

DR. EGM CHK'D APP'D | WD-100

ALTEC SERVICE CORPORATION
SIMPLEX

WD-108



AM-1000 VOLUME CONTROL AMPLIFIER

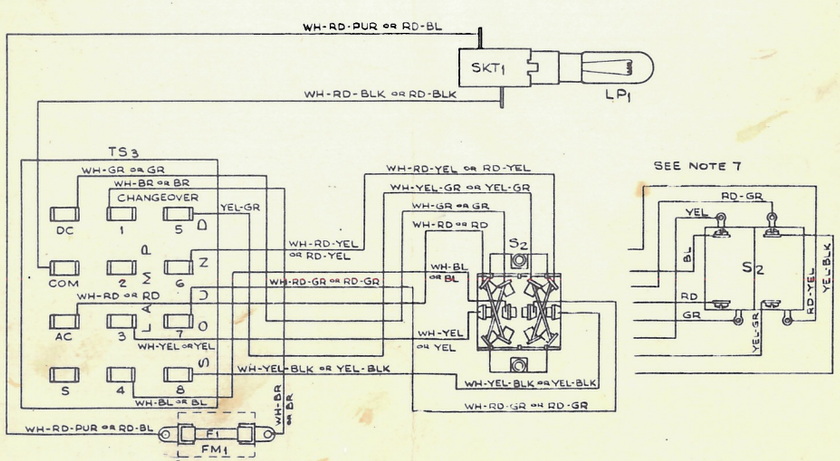
DESIG.	PART NO	APPARATUS
$C_1 C_2 C_3$	SN-514	.05 MF-400 V CAPACITOR
C_4	" 503	10 MF- 50 V "
C_5	" 505	10 MF- " " WITH PAPER TUBE
C_6, C_7, C_8	" 506	8-8-10 MF CAPACITOR C_6 8 MFD, C_7 8 MFD, C_8 10 MFD
R_1	" 539	500,000Ω 1 WATT RES. I.R.C. TYPE BT-1
R_2	"1129	5,000Ω-1 WATT " " " W-W
R_3	"1887	5,000Ω WIRE WOUND " POT
R_4	" 538	200,000Ω 1 WATT RES. I.R.C. TYPE BT-1
R_5	" 517	2 MEG.- " " " " "
R_6, R_7	" 530	6,000Ω " " " " "
R_8	" 540	25,000Ω " " " " "
R_9	" 522	70,000Ω " " " " "
R_{10}	" 523	55,000Ω " " " " "
R_{11}	" 689	15,000Ω " " " " "
R_{12}	" 527	25,000Ω " " " " "
R_{13}	" 688	50,000Ω-½ WATT " " " BT-½
P_1	"1889	500,000Ω 19-2 DB STEPS POT
TS_1	AM-2019	TERMINAL STRIP
TS_2	SN-611	TERMINAL STRIP
S_1	" 608	D.P.S.T. SWITCH (PART OF AM-2019 TERM STR)
VS_1, VS_2	" 561	SOCKET

AM-2034 CABINET

	S_2	AM-2245	SWITCH
	TS_3	AM-2018	TERMINAL STRIP
	F_1	SN-881	FUSE-(½ AMP)
	FM_1	" 737	FUSE MOUNTING
	SKT1	" 563	LAMP SOCKET
*	LP_1	" 894	LAMP (9 VOLT-.2 AMP.)

* INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY

AM-2034 CABINET



NOTES:—

1- AMPLIFIERS WITH NUMBERS 232, 244, 286, 418, 655 & FROM 970 UP ARE WIRED AS SHOWN.

2- WHEN AMPLIFIERS BELOW SERIAL NO. 541 ARE INSTALLED AS DUAL VOLUME CONTROL AMPLIFIERS, THE WIRING OF EACH SHOULD BE CHANGED, REMOVALS INDICATED BY DOTTED (- - -) LINES, AS FOLLOWS:-

A. SERIAL # 317 TO # 540
(1) DISCONNECT R_8 & RD-YEL WIRE (TO TS_1) FROM VS_1 & RECONNECT TO VS_2.
(2) RUN NEW GR-PUR WIRE FROM C_7 (RD. TERM) TO VS_1 (TERM. FROM WHICH R_8 WAS DISCONNECTED).

B. SERIAL NUMBERS BELOW # 317
(1) REMOVE R_{12} & RECONNECT ON TS_1 AS SHOWN.
(2) REMOVE RED WIRE FROM VS_2 & RECONNECT TO C_7 (RD. TERM.).
(3) DISCONNECT R_8 FROM VS_1 & RECONNECT TO VS_2.
(4) RUN NEW RD-YEL WIRE FROM VS_2 TO S_1.
(5) ON TS_1 REMOVE RED STRAP BETWEEN "PLATE" & S_1.

THE NEW RD-YEL WIRE MAY BE RUN INSIDE THE COTTON SLEEVING COVERING THE CABLE FORM OR ON THE OUTSIDE. TO RUN INSIDE, REMOVE THE WHIPPING AT EACH END, ADD THE WIRE & REWHIP. IF THE WIRE IS RUN OUTSIDE, IT SHOULD BE TIED AT INTERVALS & SO LOCATED THAT IT WILL NOT CHAFE.

3- ADJUST POTENTIOMETER R_3 (RANGE 6 DB) SO THAT OUTPUT OF EACH VOLUME CONTROL AMPLIFIER IS THE SAME WITH THE SAME SETTING OF THE VOLUME CONTROL (P_1). TO INCREASE THE GAIN, TURN CLOCKWISE.

4- VACUUM TUBES REQUIRED.
VS_1 - SN-792 VACUUM TUBE (6J7, B-31 STOCK).
SPECIALLY SELECTED TUBE DISTINGUISHED BY AN "X" ON THE BOTTOM OF THE TUBE.
VS_2 - SN-707 VACUUM TUBE (STANDARD 6J7).
SOME TUBES MAY BE MARKED WITH AN "M" ON THE BOTTOM.

5- MADE UP AS SUB-ASS'BLY AM-2231 (6½" LONG).

6- MADE UP AS SUB-ASS'BLY AM-2232 (8½" LONG).

7- WIRING DIAGRAM OF AM-2065 (REPLACED BY AM-2245).

ISSUE
REDRAWN WITHOUT CHANGE
ISSUE 12 1-11-50

SCALE

AM-101
VOL. CONTROL AMPLIFIER
WIRING DIAGRAM
INTERNATIONAL PROJECTOR CORPORATION
85 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY
DR SAJR CH'K APP'D

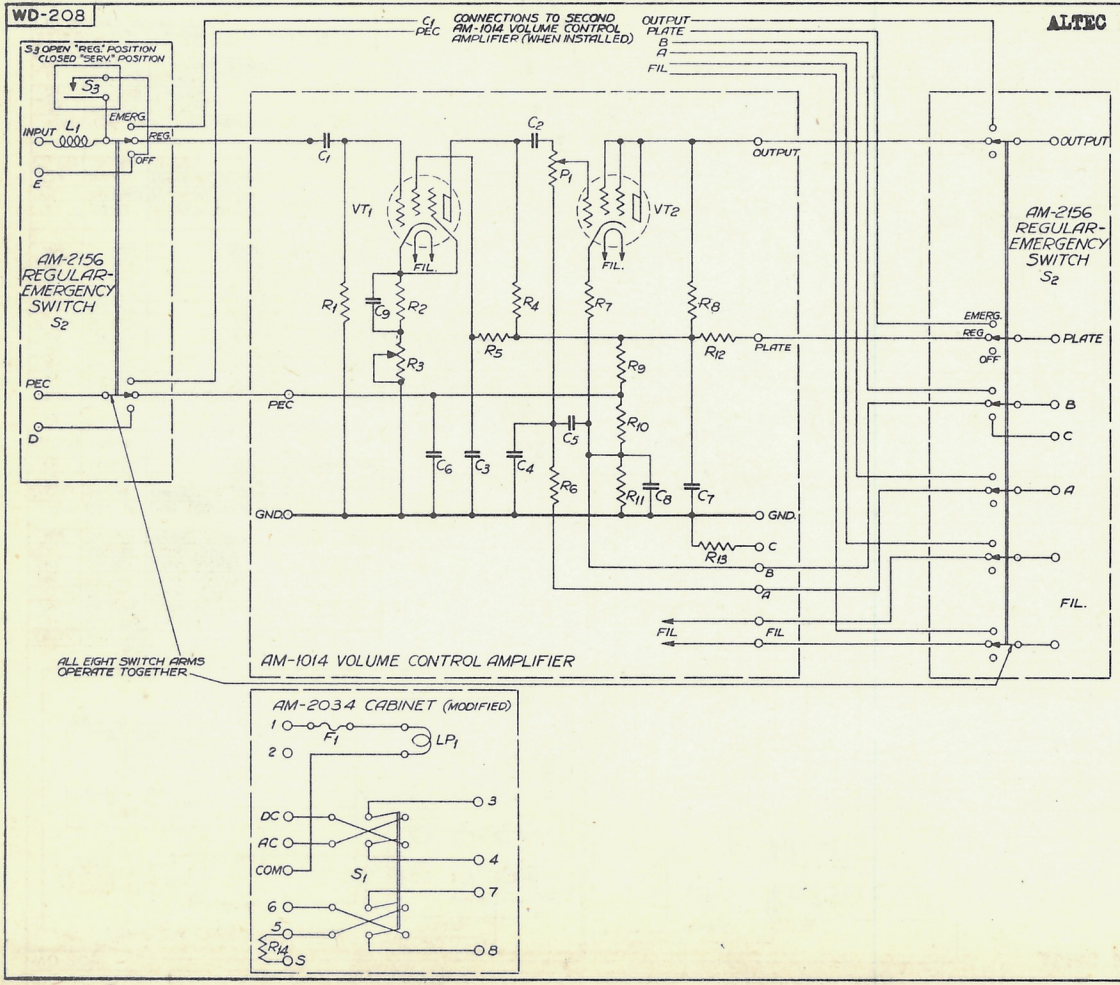
PRODUCT CLASS

WD-108

WD-208

ALTEC SERVICE CORPORATION

ISSUE-1 9-8-47



AM-2156 Regular-Emergency Switch

DESIG.	PART NO.	APPARATUS
S_2	SN-1501	SWITCH
S_3	SN-1389	SWITCH
L_1	SN-1500	REACTOR, 16 MH

AM-1014 Volume Control Amplifier

C_1, C_2, C_3	SN-514	CAPACITOR .05 MF - 400 V.
C_4	SN-503	" 10 MF - 50 V.
C_5	SN-505	" 10 MF - 50 V. PAPER TUBE
C_6, C_7, C_8	SN-506	" 8-8-10 MF C_6-8/150, C_7-8/250, C_8-10/50
C_9	SN-512	" .0005 MF 400 V.
R_1	SN-539	RESISTOR, 500,000 Ω 1 WATT BT-1
R_2	SN-1129	" 5,000 Ω 1 " WW
R_3	SN-532	" 5,000 Ω 10 " AB-A
R_4	SN-538	" 200,000 Ω 1 " BT-1
R_5	SN-537	" 2 MEG. 1/2 " BT-1/2
R_6, R_7	SN-530	" 6,000 Ω 1/2 " " "
R_8, R_{12}	SN-527	" 25,000 Ω 1 " BT-1
R_9	SN-522	" 70,000 Ω 1 " " "
R_{10}	SN-523	" 55,000 Ω 1 " " "
R_{11}	SN-689	" 15,000 Ω 1 " " "
R_{13}	SN-688	" 50,000 Ω 1/2 " BT 1/2
P_1	SN-541	POTENTIOMETER 500,000 Ω
*VT1	SN-792	VACUUM TUBE, *1620
*VT2	SN-707	" " 6J7

AM-2034 Cabinet

S_1	AM-2065	SWITCH
F_1	SN-881	FUSE 1/2 AMP.
*LP_1	SN-894	LAMP (9 VOLT - .2 AMP.
R_{14}	SN-520	RESISTOR, 50,000 Ω 1 WATT BT-1

*INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY

WD-209 - WIRING DIAGRAM ASSOCIATED DRAWING

AM-169 & AM-169-X
VOLUME CONTROL AMPLIFIER
SCHEMATIC

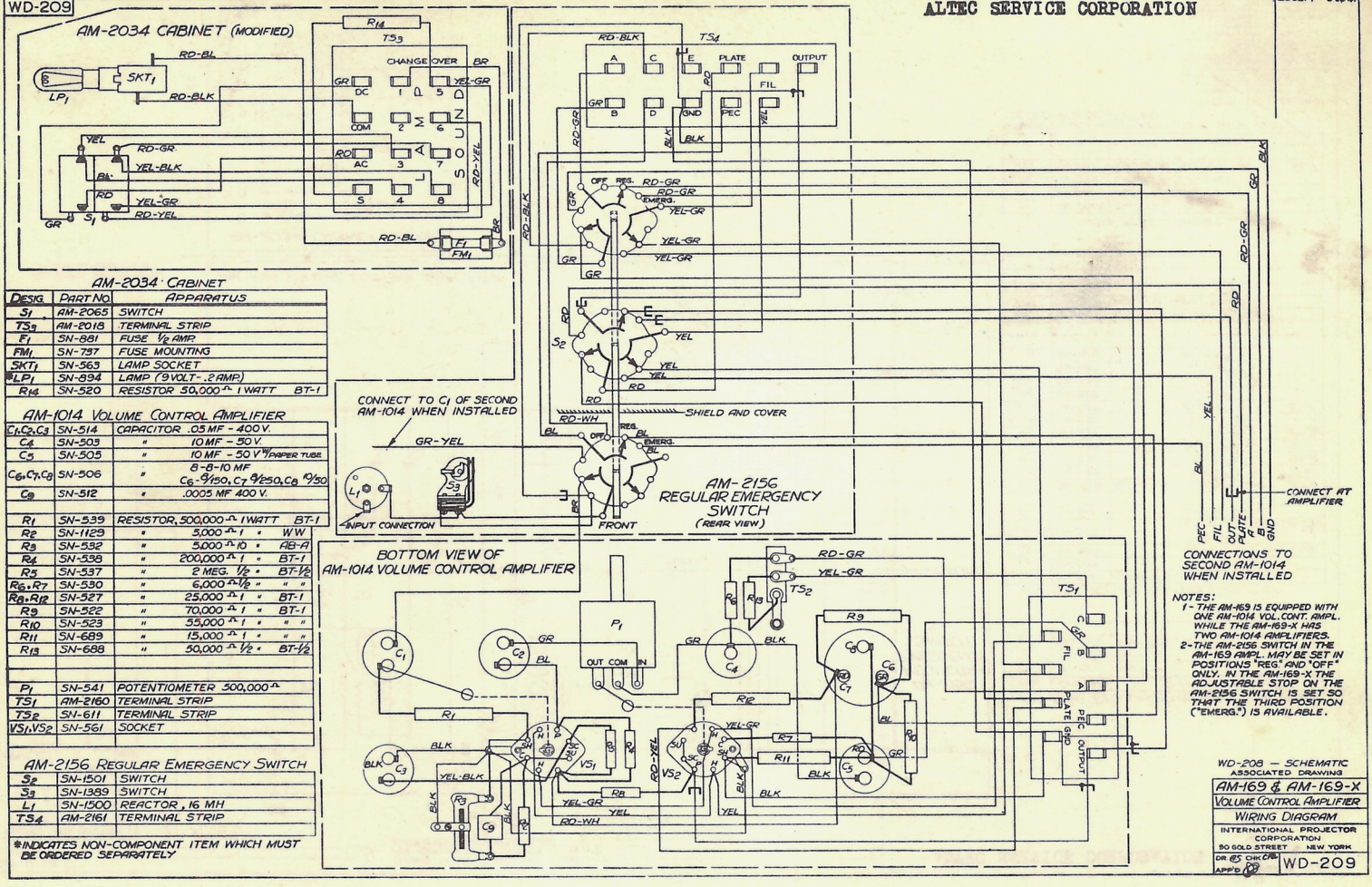
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK

DR. CHK. APP'D. WD-208

WD-209

ALTEC SERVICE CORPORATION

ISSUE-1 8-25-41



AM-2034 CABINET

DESIG.	PART NO.	APPARATUS
S_1	AM-2065	SWITCH
TS_3	AM-2018	TERMINAL STRIP
F_1	SN-881	FUSE 1/2 AMP.
FM_1	SN-797	FUSE MOUNTING
SKT_1	SN-563	LAMP SOCKET
*LP_1	SN-894	LAMP (9 VOLT-.2 AMP.)
R_{14}	SN-520	RESISTOR 50,000Ω 1 WATT BT-1

AM-1014 VOLUME CONTROL AMPLIFIER

C_1, C_2, C_3	SN-514	CAPACITOR .05 MF - 400 V.
C_4	SN-503	" 10 MF - 50 V.
C_5	SN-505	" 10 MF - 50 V PAPER TUBE
C_6, C_7, C_8	SN-506	" 8-8-10 MF C_6-8/150, C_7 8/250, C_8 10/50
C_9	SN-512	" .0005 MF 400 V.
R_1	SN-539	RESISTOR, 500,000Ω 1 WATT BT-1
R_2	SN-1129	" 5,000Ω 1 " WW
R_3	SN-532	" 5,000Ω 10 " AB-A
R_4	SN-538	" 200,000Ω 1 " BT-1
R_5	SN-537	" 2 MEG. 1/2 " BT-1/2
R_6, R_7	SN-530	" 6,000Ω 1/2 " " "
R_8, R_{12}	SN-527	" 25,000Ω 1 " BT-1
R_9	SN-522	" 70,000Ω 1 " BT-1
R_{10}	SN-523	" 55,000Ω 1 " " "
R_{11}	SN-689	" 15,000Ω 1 " " "
R_{13}	SN-688	" 50,000Ω 1/2 " BT-1/2
P_1	SN-541	POTENTIOMETER 500,000Ω
TS_1	AM-2160	TERMINAL STRIP
TS_2	SN-611	TERMINAL STRIP
VS_1, VS_2	SN-561	SOCKET

AM-2156 REGULAR EMERGENCY SWITCH

S_2	SN-1501	SWITCH
S_3	SN-1389	SWITCH
L_1	SN-1500	REACTOR, 16 MH
TS_4	AM-2161	TERMINAL STRIP

*INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY

NOTES:
1 - THE AM-169 IS EQUIPPED WITH ONE AM-1014 VOL. CONT. AMPL. WHILE THE AM-169-X HAS TWO AM-1014 AMPLIFIERS.
2 - THE AM-2156 SWITCH IN THE AM-169 AMPL. MAY BE SET IN POSITIONS "REG." AND "OFF" ONLY. IN THE AM-169-X THE ADJUSTABLE STOP ON THE AM-2156 SWITCH IS SET SO THAT THE THIRD POSITION ("EMERG.") IS AVAILABLE.

WD-208 — SCHEMATIC ASSOCIATED DRAWING

AM-169 & AM-169-X
VOLUME CONTROL AMPLIFIER
WIRING DIAGRAM

INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK

DR. ES CHK. APP'D.

WD-209

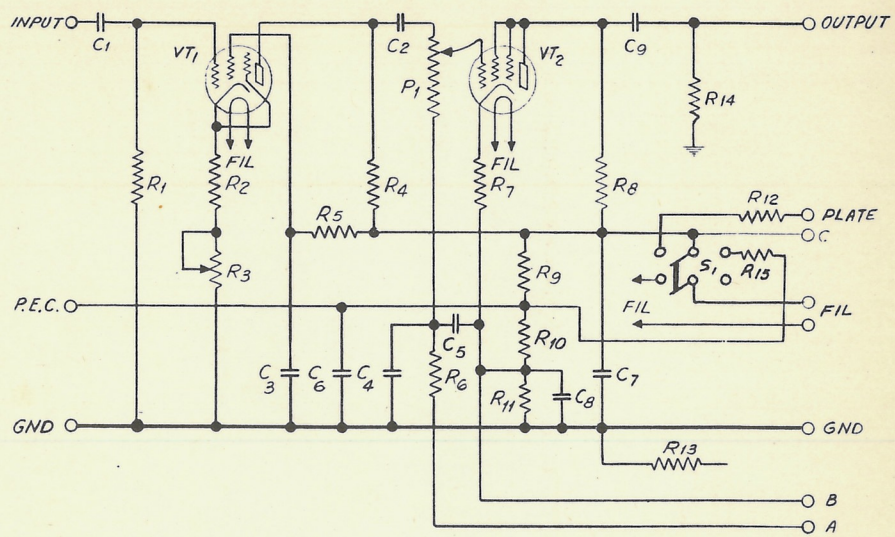
ALTEC SERVICE CORPORATION
SIMPLEX

AM-1012 AMPLIFIER

WD-167

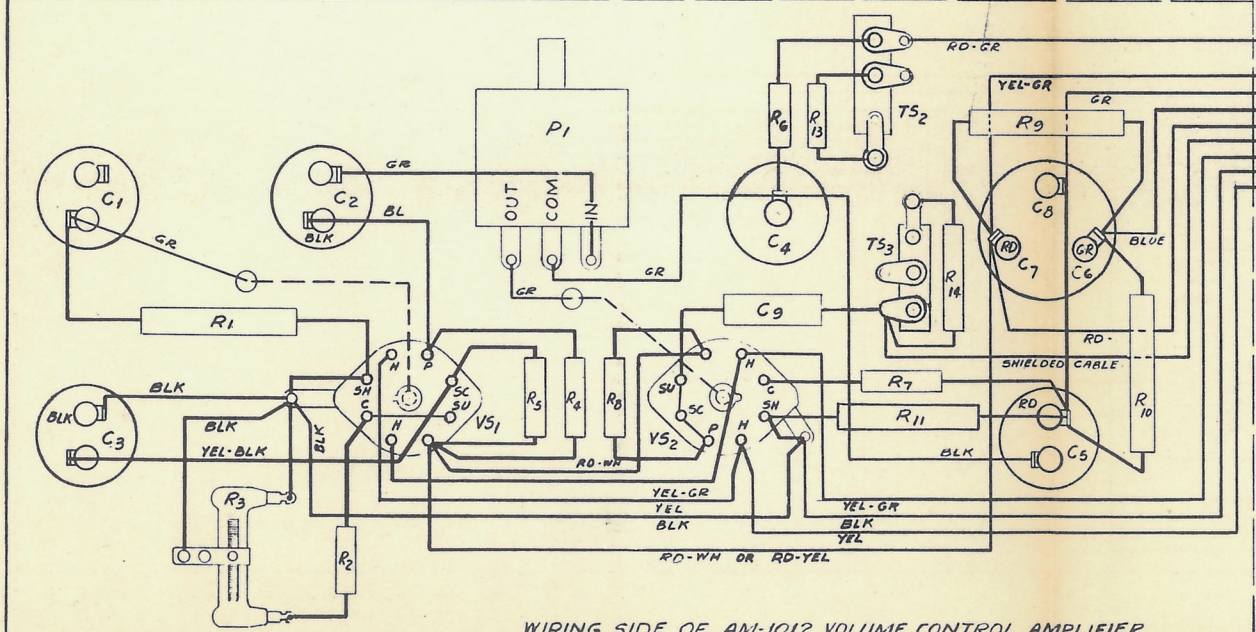
ISSUE: 1 6-13-40

DESIG	PART #	APPARATUS
$C_1 C_2 C_3$	SN-514	CAPACITOR .05 MF 400V.
C_4	" 503	" 10 MF. 50V.
C_5	" 505	" 10 MF 50V - PAPER TUBE
$C_6 C_7 C_8$	" 506	" C_6 8/150 C_7 8/250 C_8 10/50
C_9	" 1351	" .05 MF. 400V. - PAPER
R_1	" 539	RESISTOR 500,000Ω 1W I.R.C. TYPE BT-1
R_2	" 1129	" 5,000Ω 1W " " WW
R_3	" 532	" 5,000Ω 10W " " AB-A
R_4	" 538	" 200,000Ω 1W " " BT-1
$R_5 R_{14}$	" 537	" 2 MEG ½W " " BT-½
$R_6 R_7$	" 530	" 6,000Ω ½W " " BT-½
R_8	" 612	" 10,000Ω ½W " " BT-½
R_9	" 522	" 70,000Ω 1W " " BT-1
R_{10}	" 523	" 55,000Ω 1W " " BT-1
R_{11}	" 689	" 15,000Ω 1W " " BT-1
R_{12}	" 527	" 25,000Ω 1W " " BT-1
R_{13}	" 688	" 50,000Ω ½W " " BT-½
R_{15}	" 521	" 75,000Ω 1W " " BT-1
P_1	" 541	POTENTIOMETER 500,000Ω 19-2DB STEPS
TS_1	AM-2117	TERMINAL STRIP
$TS_2 TS_3$	SN 611	" "
S_1	" 968	SWITCH D.P.D.T. (PART OF AM-2117)
$VS_1 VS_2$	" 561	SOCKET



SCHEMATIC

AM-2092



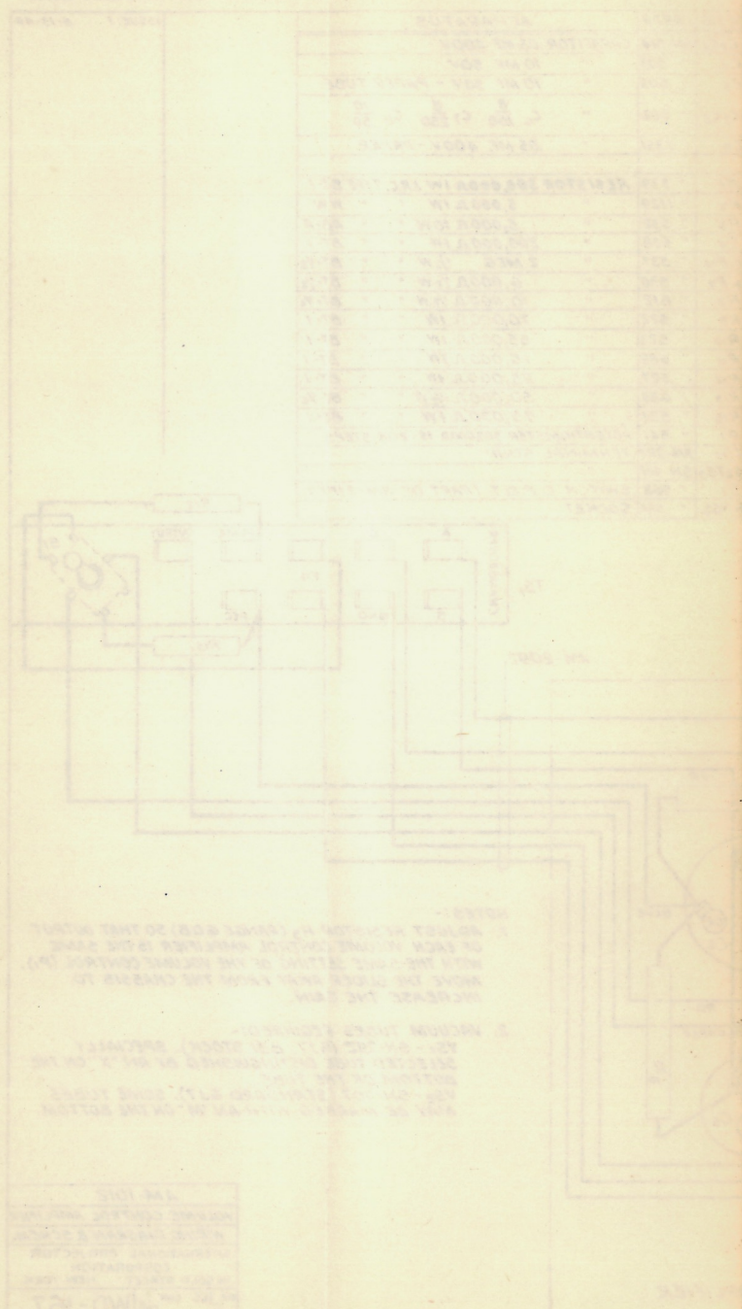
WIRING SIDE OF AM-1012 VOLUME CONTROL AMPLIFIER

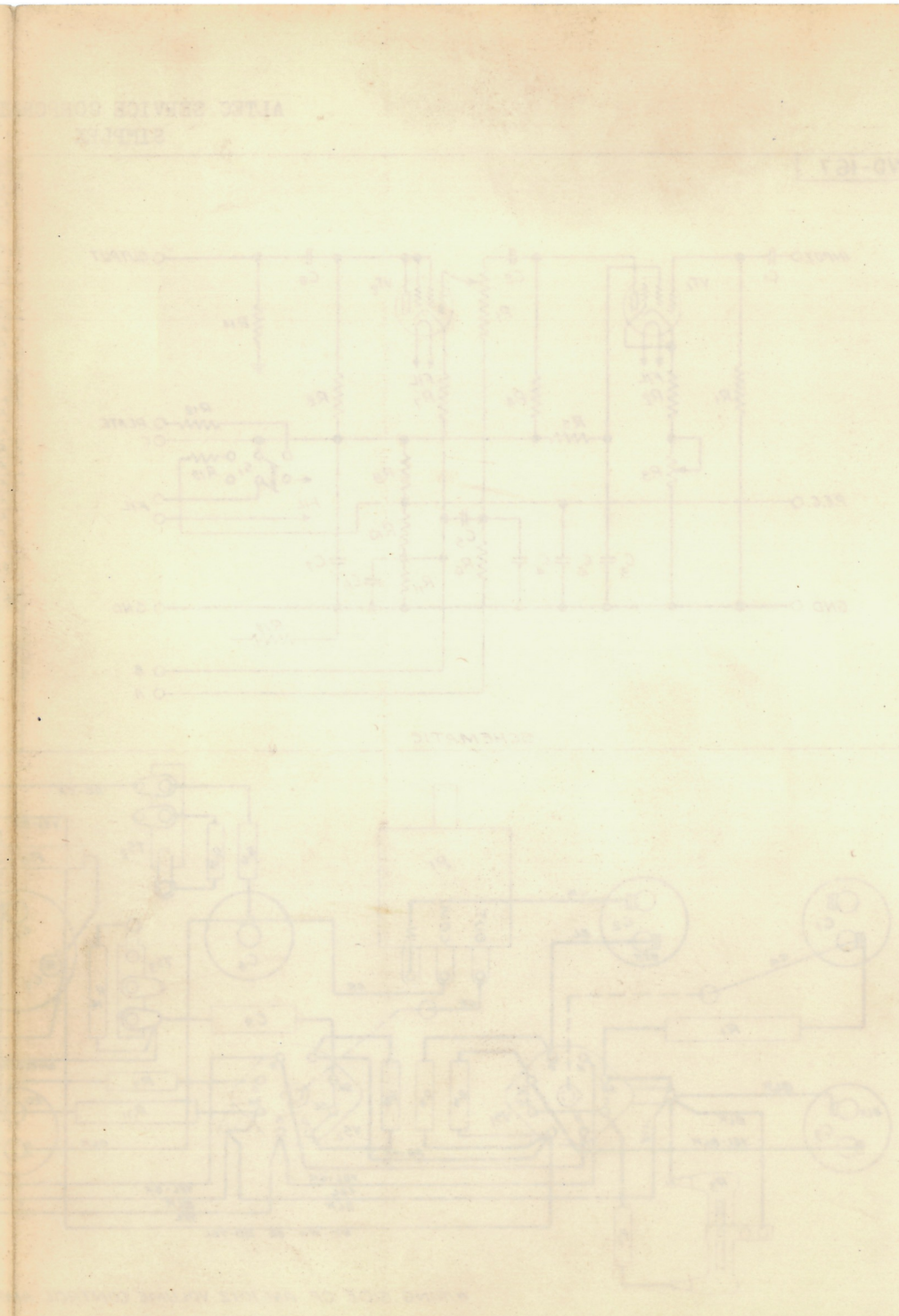
NOTES:-

1. ADJUST RESISTOR R_3 (RANGE 6DB) SO THAT OUTPUT OF EACH VOLUME CONTROL AMPLIFIER IS THE SAME WITH THE SAME SETTING OF THE VOLUME CONTROL (P_1). MOVE THE SLIDER AWAY FROM THE CHASSIS TO INCREASE THE GAIN.

2. VACUUM TUBES REQUIRED:-
   VS_1 - SN-792 (6J7-B31 STOCK). SPECIALLY SELECTED TUBE DISTINGUISHED BY AN "X" ON THE BOTTOM OF THE TUBE.
   VS_2 - SN-707 (STANDARD 6J7). SOME TUBES MAY BE MARKED WITH AN "M" ON THE BOTTOM.

AM-1012
VOLUME CONTROL AMPLIFIER
WIRING DIAGRAM & SCHEM.
INTERNATIONAL PROJECTOR CORPORATION 90 GOLD STREET NEW YORK
DR JLS CHK APPD 2/43 WD-167





1. DESCRIPTION - The AM-1001 is an AC operated chassis type, two stage plus phase inverter, negative feedback, push-pull output power amplifier designed for use in moving picture sound systems. It mounts in the AM-2023 cabinet and is furnished with two terminal strips on extension cable forms for external connections. An adjustable warping circuit is provided in the feedback loop to vary the high and low frequency response as may be required.

2. CHARACTERISTICS -

Gain	60 DB max.
Volume Control	Continuously adjustable (12 DB) - screwdriver adjustment.
Impedance	Input (source) 10,000 ohms Output (load) Refer to Section 3.2 (Transformer taps 12 and 24 ohms)
Power Output	15 Watts, 34 DB; 41.8 DBM.
Frequency Response	Refer to Section 3.8 and Dwg. SC-21.
Noise Level	-35 DB; -27.2 DBM
Vacuum Tubes	2 - 6J7, 2 - 6L6G, 1 - 5Z3
Power Supply Required	105-125V AC, 50-60 cycle, 115 Watts.
Power Supply Furnished	Heater and plate supply for AM-1000 Volume Control Amplifier and AM-1003 Monitor Amplifier.
Dimensions	7-1/2"H x 17"W x 10"D.
Weight	30 lbs.

3. INSTALLATION INSTRUCTIONS

3.1 Power Transformer Connection.

Average Line Voltage	Connect to T_2 Tap
120 - 130	125 V (Connection as shipped)
110 - 120	115 V
100 - 110	105 V

3.2 Output Transformer Connections - **All Systems** - For optimum power output with a nominal 12 ohm speaker load the "output" wire should connect to the "24 ohm" transformer terminal and the "feedback" wire to the "12 ohm" termonal.
Note: Use TJ-403-A Matching Auto-Transformer with 60 watt system when supplied with Voice of the Theatre Speaker System connected as follows, WH - common, BR - amplifier output, RD - network input.

3.3 Resistor R_3 (2000 ohms) - When only one amplifier operates at a time, this resistor should be strapped out (as shipped). When two amplifiers normally operate in parallel, the strap (Jumper from R_3 to R_8) should be removed in each amplifier to maintain a constant impedance.

3.4 Resistor R_2 (2000 ohms) - When four amplifiers normally operate in parallel, this resistor should be replaced by an SN-1013 Resistor (8000 ohms) to maintain constant impedance. No wiring changes are necessary.

3.5 Strap Between Terminals "RVC 3" and "RVC 4" - When only one amplifier operates at a time, this strap should be connected. When two or more amplifiers operate in parallel, disconnect this strap as the amplifier selector switch, supplied in such cases, makes the necessary connections to these terminals.

3.6 Gain Control - The gain control of each amplifier in the system should have the same setting, and be adjusted to obtain adequate volume level in the specific auditorium in accordance with Equipment Bulletin "AM-101 Volume Control Amplifier". Counter-clockwise rotation increases the volume. The setting should be as low as possible and never in the extreme counter-clockwise position.

3.7 Vacuum Tubes.- The grid leads of the 6J7 Vacuum Tubes, VT_1 and VT_2 , should be wrapped around the tubes in such a manner that the grid caps do not point toward the 6L6 Tubes, VT_3 and VT_4 .

3.8 Warping Circuit Adjustments - The following tabulation shows typical system response for L-2 H-2 strapping (as shipped) and variations that may be obtained, from L-2, H-2, through the use of alternate warping circuit connections.

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Engineering Department
Printed in U. S. A.

June 18, 1948
Issue #2

3.8 Warping Circuit Adjustments (Cont'd.)

SIMPLEX SYSTEM RESPONSE - L-2, H-2 STRAPPING,
With 20' EW 633 Plastic Microphone Cable (Federal), or 15' Belden 8401 Cable between front wall and system amplifier*
24 Ohm Tap: 12 Ohm Resistive Load; 12 Ohm F.B.

Cycles	40	70	130	300	500		2K	3K	5K	7K	8K	
Response	3.9	3.2	1.8	0.8	0.5		-1.2	-2.5	-6.2	-12.1	-15.9	As Shipped

AVAILABLE DEVIATIONS FROM L-2 - H-2 (Refer to Dwg. SC-21 for Strapping)

LOW						HIGH					
a	4.7	4.7	3.1	1.1	0.3	j	0.8	1.8	4.3	8.0	9.8
L-1	3.8	2.8	1.3	0.4	0.2	k	0.1	0.2	1.1	3.3	5.0
L-2	0	0	0	0	0	H-1	0.9	2.0	4.0	4.1	3.8
b	0.7	-0.2	-0.5	0	0	l	-0.3	-0.9	-2.2	-2.8	-2.6
b-1 (C1 only)	-2.8	-2.1	-1.2	-0.2	0	m	-0.2	-0.6	-1.4	-1.2	-0.6
c	-3.2	-1.7	-0.9	0	0	n	1.0	2.0	2.9	1.3	0.6
d	1.5	2.3	1.6	0.6	0.3	o	0.9	1.6	0.6	-2.1	-2.9
e	0.6	1.1	0.7	0.4	0.2	p	0.7	0.7	-2.0	-5.3	-6.1
f	0.3	2.3	2.5	1.5	0.5	q	0.5	0.2	-3.0	-6.3	-7.0
g	-7.8	-3.0	-0.1	0.9	0.4	H-2	0	0	0	0	0
L-3	-5.7	-3.1	-1.6	-0.1	0	H-2a (C16 only)	0.2	0.2	0.9	1.7	2.4
h	-7.9	-5.3	-3.0	-0.5	-0.2	H-2b (C16 & C18)	0	0	-0.4	-0.8	-1.0
L-4	-9.2	-5.0	-2.3	-0.3	-0.1	H-3	0	-0.3	-1.3	-2.5	-2.8
i	-13.9	-8.7	-4.4	-0.8	-0.3	r	0	-0.9	-3.1	-5.1	-5.7
						H-4	0	-1.4	-4.1	-6.4	-7
* For additional 10' EW633 or 8' Belden 8401 add							-0.1	-0.2	-0.4	-0.6	-0.7

Note: Add deviation values algebraically to L-2 - H-2 to obtain system response for various warping connections. Any LOW end curve may be used with any HIGH end curve. With some combinations there may be interaction (not exceeding 1 DB) between LOW and HIGH curves.

4. OPERATION AND MAINTENANCE

4.1 Dual or Emergency Amplifiers - When two or more amplifiers normally operate in parallel, or emergency amplifier equipment is installed, a selector switch is supplied to disconnect the output, external heater and plate circuits and warping circuit of the inoperative amplifier(s) and connect similar circuits of the operative amplifier(s). Only one warping circuit is used at a time. The input is not disconnected.

4.2 Frequency Response and Power Output Measurements - Recommended test load under all conditions is 12 ohms. Dummy load resistor in network should be connected for this value.

4.3 Plate Meter - Slight movement of the pointer of the plate current meter may be observed before overload. It may occur as much as 8 db before full load and is not an indication of distortion in the output stage but merely of variation in signal strength.

4.4 Vacuum Tube Testing (Plate Meter)

(1) General conditions -

		Meter Readings				
To Test	VT - SW. Pos.	GR 1 & 2	RD 1	RD 2	GR 3 & 4	RD 3 or 4
VT-1 & VT-2	1-2	Good	VT-1 Bad	VT-2 Bad	-	-
VT-3 & VT-4	3-4	-	-	-	Good	Bad See Note

Note: Remove one tube at a time and replace tube giving deflection below "RD 3 or 4".

(2) Border line cases - VT-1 & VT-2 -

		Meter Reading	
		RD	RD
To Test	Remove	1	2
VT-1	VT-2	Bad	Good
VT-2	VT-1	Good	Bad

Caution: To avoid disturbances in system, remove tube with grid cap attached. Replace grid cap before reinstalling tube.

(3) Replace 5Z3 Rectifier Tube if reading is below both "GR 1 & 2"and "GR 3 & 4" in the above tests.

ASSOCIATED DRAWINGS

WD-101 SCHEMATIC
WD-113 WIRING DIAGRAM
SC-21 FREQUENCY RESPONSE CHARACTERISTICS

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Printed in U. S. A.
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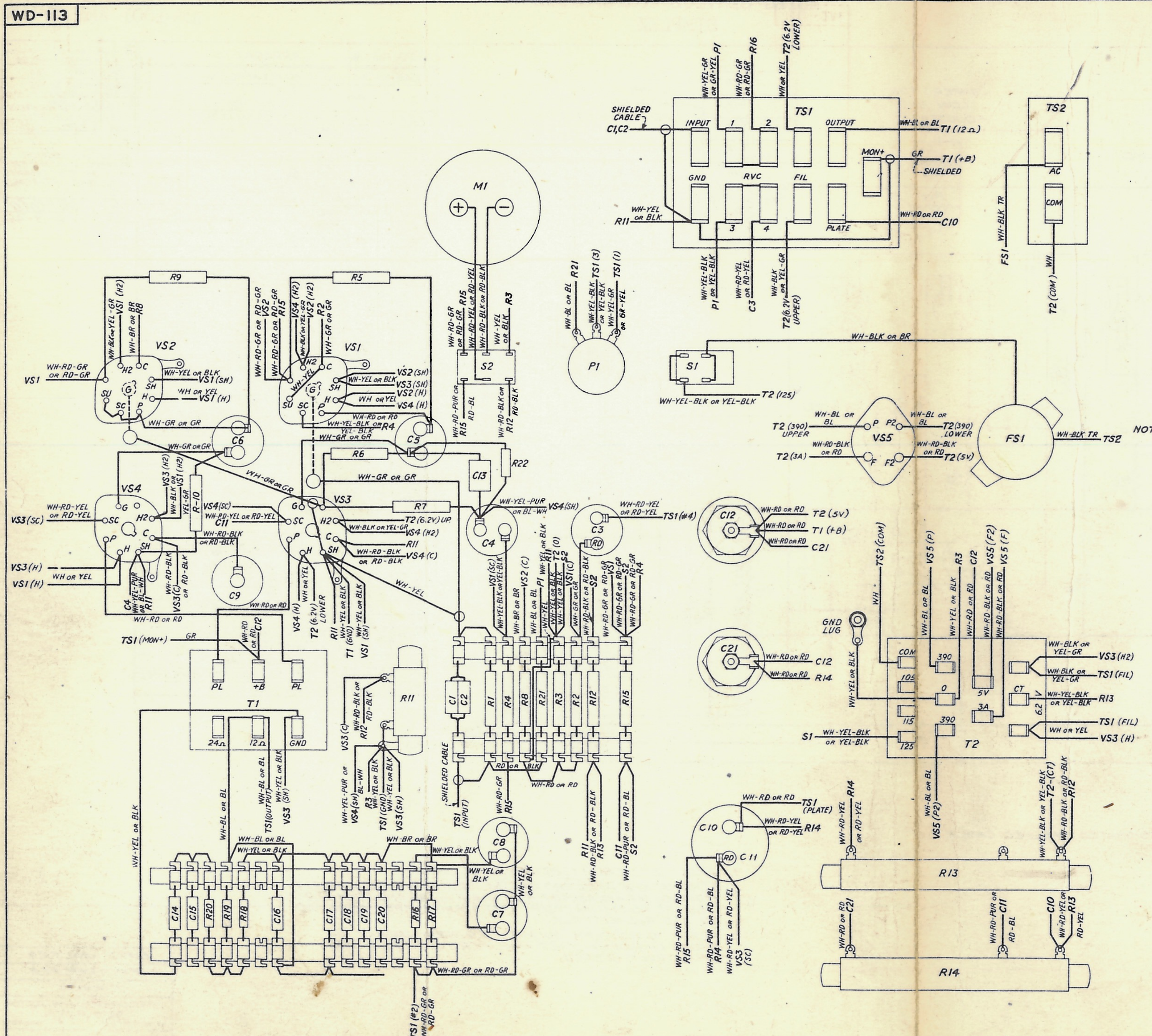
Issue #2

ALTEC SERVICE CORPORATION
SIMPLEX



DESIG	PART NO.	APPARATUS
C1, 2, 14, 15	SN-515	CAPACITOR .005 MF-500V
C3	" 504	" (WITH PAPER TUBE) 25 MF-25V
C4, 5, 6	" 514	" .05 MF-400V
C7	" 511	" .1 MF-200V
C8	" 510	" .2 MF-200V
C9	" 502	" 25 MF-50V
C10, C11	" 507	" 4/250-20/350
C12, C21	" 508	" 4 MF-600V
C13	" 516	" .0003 MF-500V
C16, C18	" 581	" .00075 MF "
C17, C20	" 512	" .0005 MF "
C19	" 582	" .001 MF "
R1, R5, R6	" 539	RESISTOR 510,000Ω-1 WATT
R2, R3	" 1130	" (WIRE WOUND) 2000Ω-1 WATT
R4	" 517	" 2 MEG-1 WATT
R7	" 521	" 75,000Ω-1 WATT
R8	" 533	" 2,700Ω "
R9	" 520	" 50,000Ω "
R10	" 580	" 270,000Ω "
R11	" 535	" 240Ω-10 WATT
R12	" 971	" 43,000Ω-1 WATT
R13, R14	" 529	" 7,500Ω-17 WATT (TAPPED AT 1,500Ω)
R15	" 536	" (WIRE WOUND) 46Ω-1 WATT (5 WATT OPTIONAL)
R16	" 604	" 75,000Ω-1/2 WATT
R17	" 526	" 30,000Ω "
R18, R19	" 528	" 7,500Ω "
R20	" 772	" 510Ω "
R21	" 613	" 330Ω "
R22	" 539	" 510,000Ω-1 WATT
P1	" 583	POTENTIOMETER, 1720Ω-2 WATT (I.R.C. TYPE CPS) (WITH TAPER "A")
S1	" 608	SWITCH, D.P.S.T.
S2	" 988	" D.P.D.T.
T1	" 575	TRANSFORMER, OUTPUT
T2	" 576	" , POWER
TS1	AM-2017	TERMINAL STRIP ASSEMBLY
TS2	AM-2015	" " "
VS1, 2, 3, 4	SN-1774	SOCKET, OCTAL
VS5	" 562	" , 4 PRONG
M1	" 556	MILLIAMMETER, WESTON D.C. (MODEL-301)
FS1	" 554	FUSE RECEPTACLE

REDRAWN FROM ISSUE: 6 WITH THE FOLLOWING CHANGES- IN SCHEDULE-SN-539 WAS 500,000Ω, SN-533 WAS 2500Ω, SN-580 WAS 250,000Ω, SN-535 WAS 250Ω, SN-971 WAS 43,500Ω, SN-772 WAS 500Ω, SN-613 WAS 280Ω, SN-539 WAS 500,000Ω, 1/2 WATT, ADDED "5 WATT OPTIONAL" TO SN-536, ADDED "WH" BASE TO ALL WIRES, WH WAS BLK FOR VS2-VS1, H2, WH BLK WAS WH FOR VS2 VS1H, ADDED WH-YEL TO JUMPER R-8-R-3, RED JUMPER WAS YEL FOR R1-R21, CHANGED COLOR CODE OF WIRES TO AGREE WITH ISSUE: 6

ISSUE: 7 1-5-48

NOTES:

1 — IN AMPLIFIERS NOT LISTED IN NOTES 2 AND 3, IMPROVED OPERATION WILL BE OBTAINED BY THE WIRING CHANGES GIVEN BELOW.

A- REMOVALS
(1) AT VS1, VS2, VS3 AND VS4 DISCONNECT GROUND LUG FROM "SH" TERM
(2) YELLOW WIRE FROM C4 TO R3
(3) YELLOW STRAP FROM R1 TO R8 (LOWER TERMINALS)
(4) YELLOW STRAP FROM R8 TO R21
(5) YELLOW WIRE FROM R13 TO T2 (0)

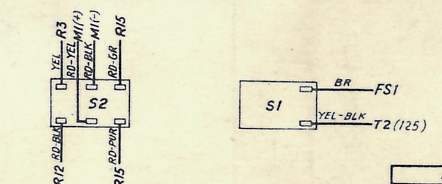
B- RECONNECTIONS
(1) AT T1 TRANSFER BLUE WIRE FROM 24Ω TAP TO 12Ω TAP
(2) AT R13 TRANSFER YEL-BLK WIRE FROM CENTER TAP TO END TAP AT RIGHT
(3) AT C10 TRANSFER RD-YEL WIRE [VS3 (SC)] TO C11
(4) AT C11 TRANSFER RED WIRE TO C10
(5) REPLACE R15 (55Ω) AND R12 (30,000Ω) BY 46Ω AND 43,500Ω 1 WATT RESISTORS RESPECTIVELY
(6) AT VS4 (SH) TRANSFER YELLOW WIRE TO VS3 (SH). OTHER END CONNECTS TO T1 (GND)
(7) AT VS4 (SH) TRANSFER YELLOW WIRE TO R3 (UPPER TERM.) OTHER END CONNECTS TO R11
(8) AT C4 TRANSFER YELLOW TO R3 (UPPER TERM.) OTHER END CONNECTS TO S2
(9) AT C21 TRANSFER GREEN WIRE TO T1 (+B). OTHER END CONNECTS TO TS1 (MON+) *
(10) REROUTE RED WIRE FROM C12 TO T1 (+B). REMOVE FROM CABLE FORM AND REROUTE AND RUN IN FRONT OF WARPING CIRCUIT CLOSE TO FRONT CORNER OF CHASSIS
(11) AT R12 TRANSFER RED STRAP TO R8 (LOWER TERM.)

C- ADDITIONS
(1) CONNECT SHIELD OF INPUT CABLE TO R1 (LOWER TERM.)
(2) R1 TO R21 (LOWER TERM.) YELLOW STRAP
(3) VS4 (SH) TO C4 - YEL-PUR)
(4) VS4 (SH) TO R1 (LOWER TERM.) - YEL-PUR
(5) VS3 (SH) TO R11 (GND LUG) - YELLOW
(6) VS3 (SH) TO VS1 (SH) - YELLOW
(7) VS1 (SH) TO VS2 (SH) - YELLOW
(8) T2 (0) TO GND LUG ON T2 - YELLOW
(9) R22 - CONNECT ACROSS C13
(10) R12 TO R13 - RD-BLK WIRE

* GREEN WIRE, FROM TS1 (MON+) TO T1 (+B), IS SHIELDED IN AMPLIFIERS SHIPPED SINCE JUNE 29TH 1938. THIS SHIELDED WIRE, IF NECESSARY IN EARLIER AMPLIFIERS TO IMPROVE OPERATION, IS RUN OUTSIDE THE EXTERNAL CABLE FORM, PROTECTED SUITABLY AGAINST ABRASION

2 — AMPLIFIERS FROM 1289 UP ARE WIRED AS SHOWN

3 — AMPLIFIERS 151, 152, 162, 207, 210, 221, 227, 230, 238, 347, 418, 431, 432, 433, 434, 436, 491 AND 509-1288 ARE WIRED AS SHOWN EXCEPT THAT S1 AND S2 ARE SN-566 AND SN-565 RESPECTIVELY AND WIRED AS SHOWN BELOW:



4 — ALL FILAMENT WIRES MUST BE TWISTED.

AM-1001
POWER AMPLIFIER
WIRING DIAGRAM

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

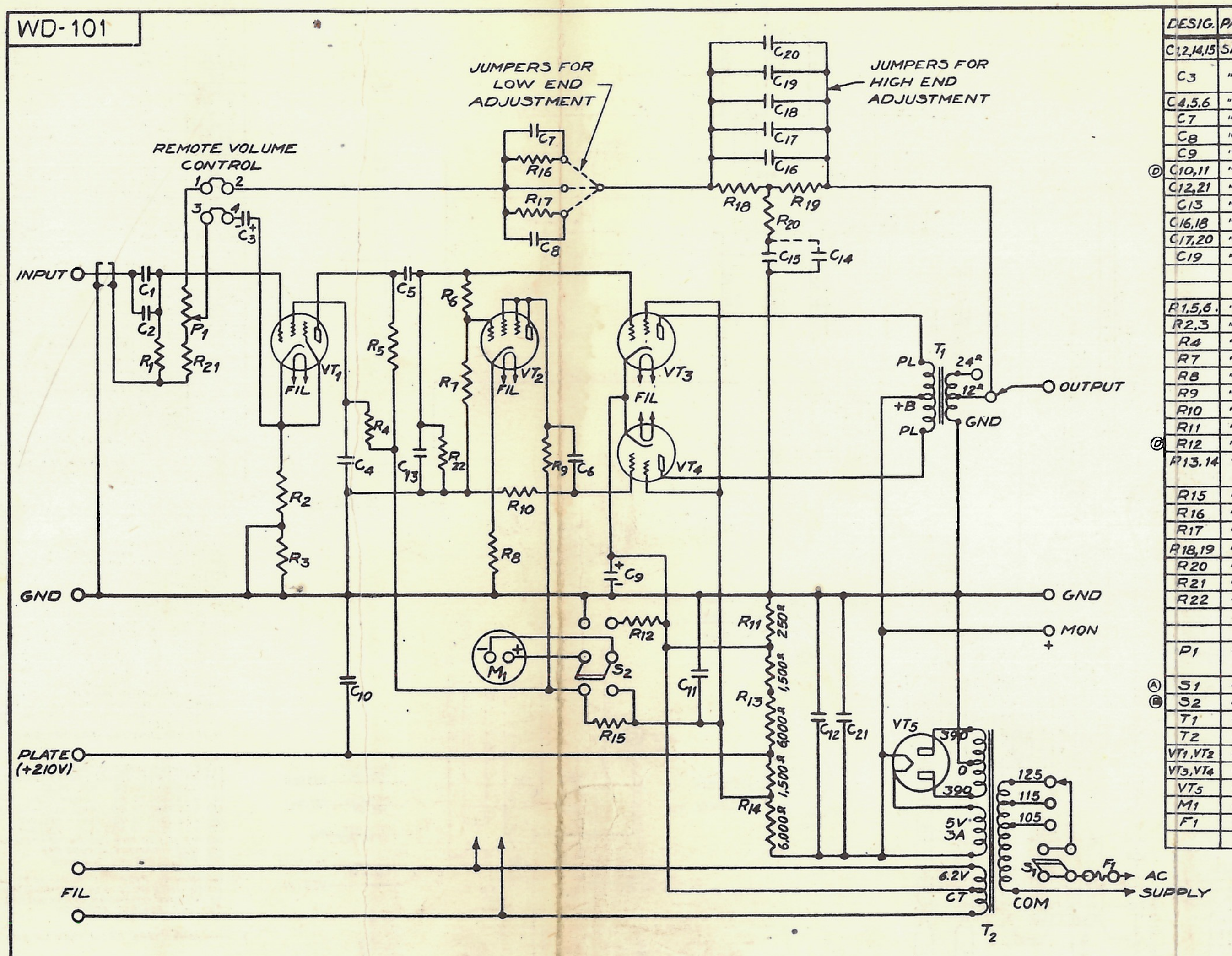
DR. CH'K APP'D.

WD-113

ALTEC SERVICE CORPORATION
SIMPLEX

AM-1001 AMPLIFIER

WD-101



LEGEND:-
DESIGNATES SHIELDED CABLE

DESIG.	PART No.	APPARATUS
C1,2,14,15	SN-515	.005MF-500V CAPACITOR
C3	" 504	25MF - 25V " (WITH PAPER TUBE)
C4,5,6	" 514	.05MF-400V CAPACITOR
C7	" 511	.1MF-200V "
C8	" 510	.2MF- " "
C9	" 502	25MF-50V "
Ⓓ C10,11	" 507	4/250 · 20/350 "
C12,21	" 508	4MF-600V "
C13	" 516	.0003MF-500V "
C16,18	" 581	.00075MF " "
C17,20	" 512	.0005MF " "
C19	" 582	.001 MF " "
R1,5,6	" 539	500,000Ω 1 WATT RESISTOR
R2,3	" 1130	2,000Ω " " (WIRE WOUND)
R4	" 517	2 MEG " "
R7	" 521	75,000Ω " "
R8	" 533	2,500Ω " "
R9	" 520	50,000Ω " "
R10	" 580	250,000Ω " "
R11	" 535	250Ω 10 WATT "
Ⓓ R12	" 971	43,500Ω 1 WATT "
R13,14	" 529	7,500Ω 17 WATT " TAPPED AT 1,500Ω
R15	" 536	46Ω 1 WATT RESISTOR (WIRE WOUND)
R16	" 604	75,000Ω 1/2 WATT "
R17	" 526	30,000Ω " "
R18,19	" 528	7,500Ω " "
R20	" 772	500Ω " "
R21	" 613	280Ω " "
R22	" 539	500,000Ω " "
P1	" 583	1720Ω 2 WATT POT. I.R.C. TYPE CPS WITH TAPER "A"
Ⓐ S1	" 608	D.P.S.T. SWITCH
Ⓑ S2	" 988	D.P.D.T. "
T1	" 575	OUTPUT TRANSFORMER
T2	" 576	POWER "
VT1,VT2	" 707	6J7 METAL VACUUM TUBE
VT3,VT4	" 706	6L6G VACUUM TUBE
VT5	" 708	5Z3 VACUUM TUBE
M1	" 556	WESTON D.C. MILLIAMETER MODEL-301
F1	" 549	#702 FUSETRON (2-AMP)

ISSUE
REDRAWN FROM ISSUE #4 WITH THE FOLLOWING CHANGES
Ⓐ SN-608 WAS SN-566
Ⓑ SN-988 WAS SN-565
Ⓒ NOTE 1 REVISED NOTES 2 & 3 ADDED
Ⓓ SUPPLIERS OF CAPACITORS & RESISTORS REMOVED
AH | CFA
ISSUE #5 10-22-41
ADDED CONNECTION SYMBOL "•" AT INTERSECTION OF O TERMINAL OF T2, GND OF T1 & CHASSIS GROUND.
ISSUE: 6 4-15-46

1. AMPLIFIERS FROM 1289 UP ARE AS SHOWN.
2. Ⓒ SCHEMATIC OF AMPLIERS No's 151, 152, 162, 207, 210, 221, 227 230, 238, 347, 418, 431, 432, 433, 434, 436, 491, AND FROM 509 TO 1288 ARE AS SHOWN EXCEPT THAT S_1 AND S_2 ARE SN-566 AND SN-565 RESPECTIVELY.
3. REFER TO WD-113 (AM-1001 AMPLIFIER, WIRING DIAGRAM) FOR WIRING CHANGES IN OTHER AMPLIFIERS WHEN IMPROVED OPERATION IS DESIRED.

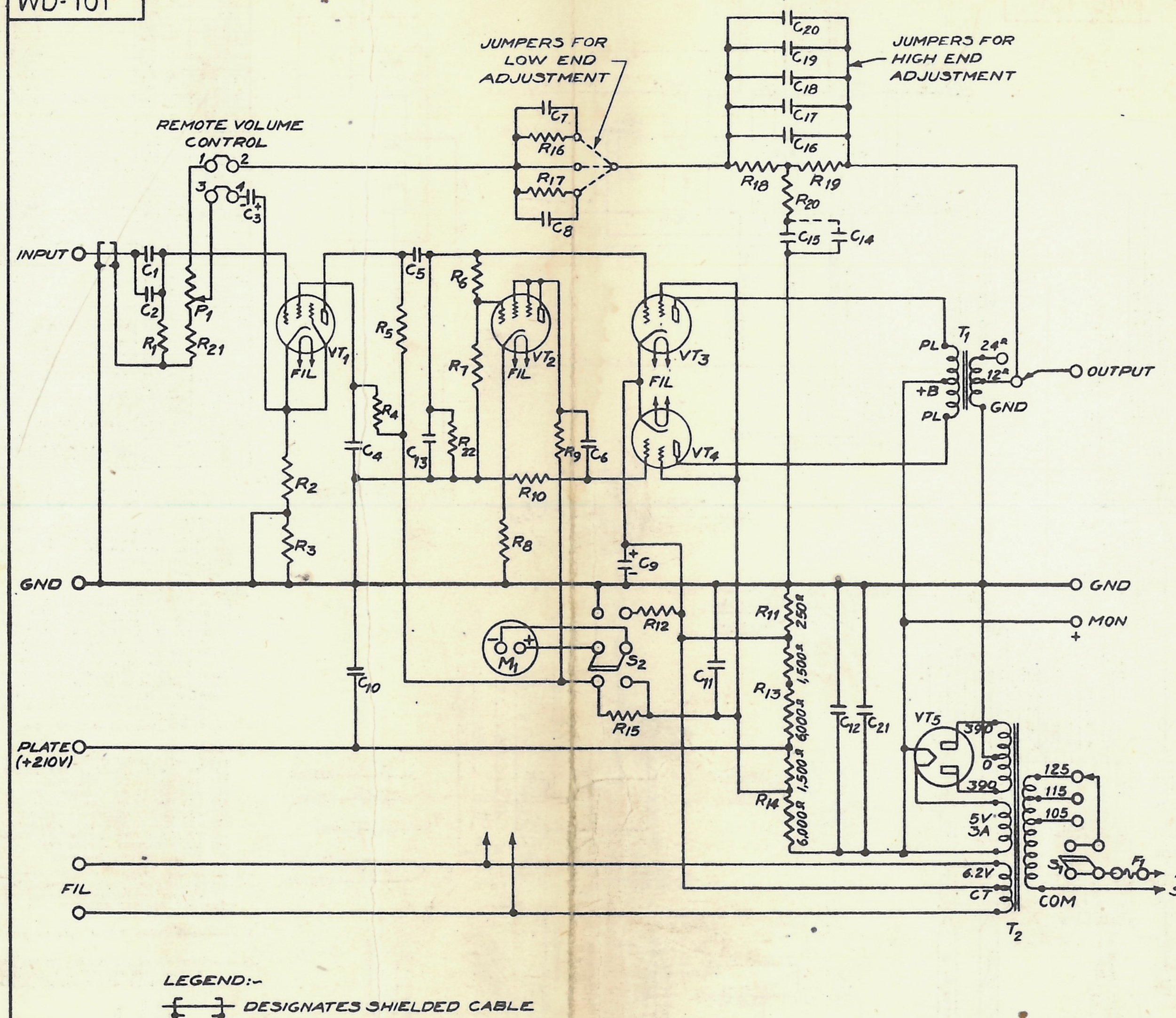
UNLESS OTHERWISE SPECIFIED
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

AM-1001 AMPLIFIER
POWER AMPLIFIER
SCHEMATIC
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK
SCALE
DR. AH
APPD
WD-101

ALTEC SERVICE CORPORATION
SIMPLEX

AM-1001 AMPLIFIER

WD-101



DESIG.	PART No.	APPARATUS
C1,2,14,15	SN-515	.005MF-500V CAPACITOR
C3	" 504	25MF - 25V " (WITH PAPER TUBE)
C4,5.6	" 514	.05MF-400V CAPACITOR
C7	" 511	.1MF-200V "
C8	" 510	.2MF- " "
C9	" 502	25MF- 50V "
Ⓓ C10,11	" 507	$\frac{4}{250}$ - $\frac{20}{380}$ "
C12,21	" 508	4 MF-600V "
C13	" 516	.0003MF-500V "
C16,18	" 581	.00075MF- " "
C17,20	" 512	.0005MF " "
C19	" 582	.001 MF " "
R1,5,6.	" 539	500,000Ω 1 WATT RESISTOR
R2,3	" 1130	2,000Ω " " (WIRE WOUND)
R4	" 517	2 MEG " "
R7	" 521	75,000Ω " "
R8	" 533	2,500Ω " "
R9	" 520	50,000Ω " "
R10	" 580	250,000Ω " "
R11	" 535	250Ω 10 WATT "
Ⓓ R12	" 971	43,500Ω 1 WATT "
R13,14	" 529	7,500Ω 17 WATT " TAPPED AT 1,500Ω
R15	" 536	46Ω 1 WATT RESISTOR (WIRE WOUND)
R16	" 604	75,000Ω 1/2 WATT "
R17	" 526	30,000Ω " "
R18,19	" 528	7,500Ω " "
R20	" 772	500Ω " "
R21	" 613	280Ω " "
R22	" 539	500,000Ω " "
P1	" 583	1720Ω 2 WATT POT. I.R.C. TYPE CPS WITH TAPER "A"
Ⓐ S1	" 608	D.P.S.T. SWITCH
Ⓑ S2	" 988	D.P.D.T. "
T1	" 575	OUTPUT TRANSFORMER
T2	" 576	POWER "
VT1,VT2	" 707	6J7 METAL VACUUM TUBE
VT3,VT4	" 706	6L6G VACUUM TUBE
VT5	" 708	5Z3 VACUUM TUBE
M1	" 556	WESTON D.C. MILLIAMETER MODEL-301
F1	" 549	#702 FUSETRON (2-AMP)

ISSUE
REDRAWN FROM ISSUE #4 WITH THE FOLLOWING CHANGES
Ⓐ SN-608 WAS SN-566
Ⓑ SN-988 WAS SN-565
Ⓒ NOTE 1 REVISED NOTES 2&3 ADDED
Ⓓ SUPPLIERS OF CAPACITORS & RESISTORS REMOVED
AN | CFa | [illegible]
ISSUE #5 10-22-41
ADDED CONNECTION SYMBOL "•" AT INTERSECTION OF 0 TERMINAL OF T2, GND OF T1 & CHASSIS GROUND.
WO/N | [illegible] | [illegible]
ISSUE: 6 4-15-46

1. AMPLIFIERS FROM 1289 UP ARE AS SHOWN.
2. Ⓒ SCHEMATIC OF AMPLIFIERS Nos 151, 152, 162, 207, 210, 221, 227, 230, 238, 347, 418, 431, 432, 433, 434, 436, 491, AND FROM 509 TO 1288 ARE AS SHOWN EXCEPT THAT S1 AND S2 ARE SN-566 AND SN-565 RESPECTIVELY.
3. REFER TO WD-113 (AM-1001 AMPLIFIER, WIRING DIAGRAM) FOR WIRING CHANGES IN OTHER AMPLIFIERS WHEN IMPROVED OPERATION IS DESIRED.

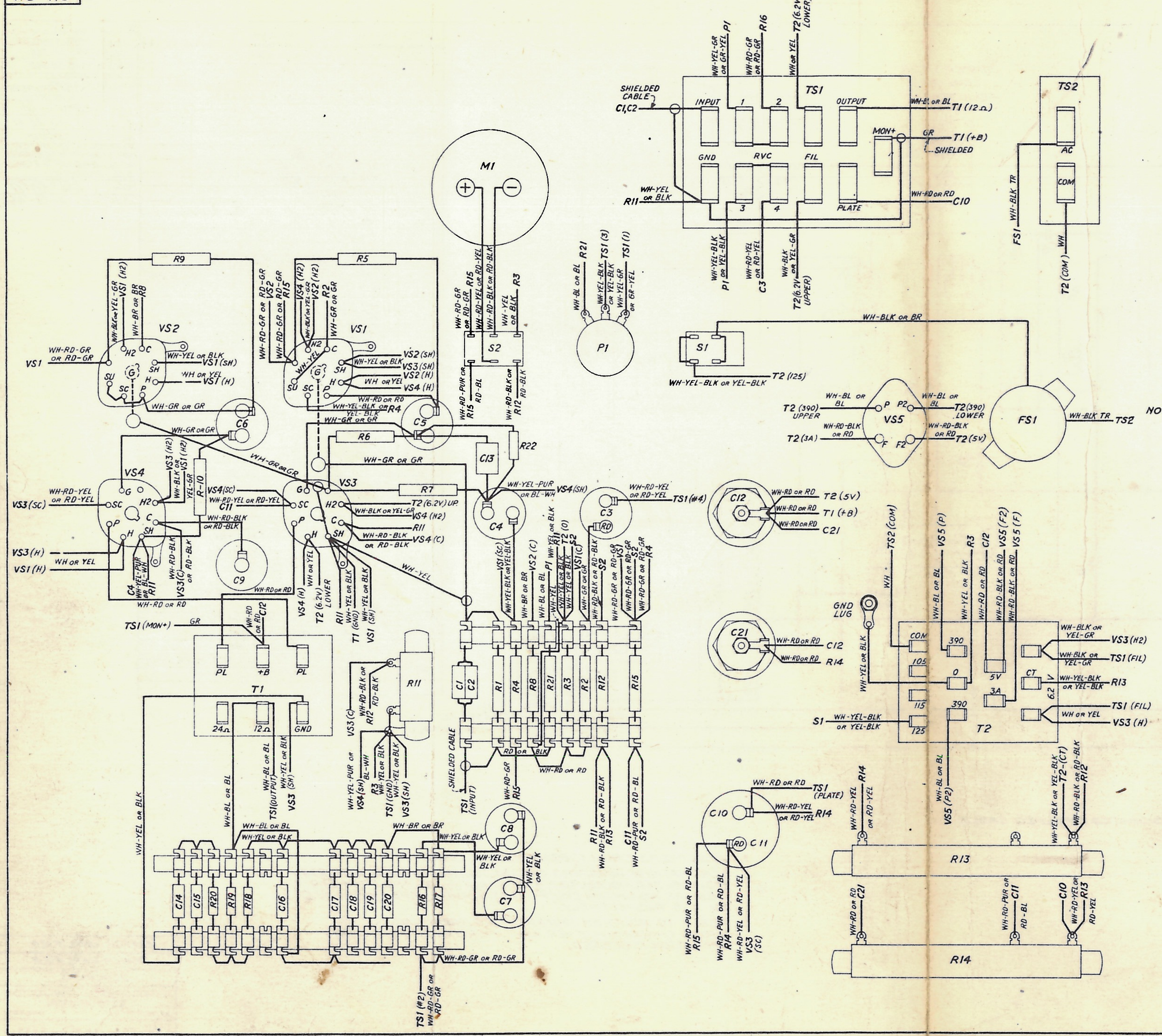
UNLESS OTHERWISE SPECIFIED
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

AM-1001 AMPLIFIER
POWER AMPLIFIER
SCHEMATIC
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK
DR. AN CHK. APP'D
SCALE
WD-101

Printed in U.S.A.

ALTEC SERVICE CORPORATION
SIMPLEX

WD-113



DESIG	PART NO.	APPARATUS
C1, 2, 14, 15	SN-515	CAPACITOR .005 MF-500V
C3	" 504	" (WITH PAPER TUBE) 25 MF-25V
C4, 5, 6	" 514	" .05 MF-400V
C7	" 511	" .1 MF-200V
C8	" 510	" .2 MF-200V
C9	" 502	" 25 MF-50V
C10, C11	" 507	" 4/250-20/350
C12, C21	" 508	" 4 MF-600V
C13	" 516	" .0003 MF-500V
C16, C18	" 581	" .00075 MF "
C17, C20	" 512	" .0005 MF "
C19	" 582	" .001 MF "
R1, R5, R6	" 539	RESISTOR 510,000Ω - 1 WATT
R2, R3	" 1130	" (WIRE WOUND) 2000Ω - 1 WATT
R4	" 517	" 2 MEG - 1 WATT
R7	" 521	" 75,000Ω - 1 WATT
R8	" 533	" 2,700Ω "
R9	" 520	" 50,000Ω "
R10	" 580	" 270,000Ω "
R11	" 535	" 240Ω - 10 WATT
R12	" 971	" 43,000Ω - 1 WATT
R13, R14	" 529	" 7,500Ω-17 WATT (TAPPED AT 1,500Ω)
R15	" 536	" (WIRE WOUND) 46Ω - 1 WATT (5 WATT OPTIONAL)
R16	" 604	" 75,000Ω - 1/2 WATT
R17	" 526	" 30,000Ω "
R18, R19	" 528	" 7,500Ω "
R20	" 772	" 510Ω "
R21	" 613	" 330Ω "
R22	" 539	" 510,000Ω - 1 WATT
P1	" 583	POTENTIOMETER, 1720Ω - 2 WATT (I.R.C. TYPE CPS) (WITH TAPER "A")
S1	" 608	SWITCH, D.P.S.T.
S2	" 988	" D.P.D.T.
T1	" 575	TRANSFORMER, OUTPUT
T2	" 576	" , POWER
TS1	AM-2017	TERMINAL STRIP ASSEMBLY
TS2	AM-2015	" " "
VS1, 2, 3, 4	SN-1774	SOCKET, OCTAL
VS5	" 562	" , 4 PRONG
M1	" 556	MILLIAMMETER, WESTON D.C. (MODEL-301)
FS1	" 554	FUSE RECEPTACLE

REDRAWN FROM ISSUE: 6 WITH THE FOLLOWING CHANGES- IN SCHEDULE -SN-539 WAS 500,000 Ω, SN-533 WAS 2500 Ω, SN-580 WAS 250,000 Ω, SN-535 WAS 250 Ω, SN-971 WAS 43,500 Ω, SN-772 WAS 500 Ω, SN-613 WAS 280 Ω, SN-539 WAS 500,000 Ω, 1/2 WATT, ADDED "5 WATT OPTIONAL" TO SN-536, ADDED "WH" BASE TO ALL WIRES, WH WAS BLK FOR VS2-VS1, H2, WH BLK WAS WH FOR VS2 VS1H, ADDED WH-YEL TO JUMPER R-8-R-3, RED JUMPER WAS YEL FOR R1-R21, CHANGED COLOR CODE OF WIRES TO AGREE WITH ISSUE: 6

ISSUE: 7 1-5-48

NOTES:

1 — IN AMPLIFIERS NOT LISTED IN NOTES 2 AND 3, IMPROVED OPERATION WILL BE OBTAINED BY THE WIRING CHANGES GIVEN BELOW.

A- REMOVALS
(1) AT VS1, VS2, VS3 AND VS4 DISCONNECT GROUND LUG FROM "SH" TERM
(2) YELLOW WIRE FROM C4 TO R3
(3) YELLOW STRAP FROM R1 TO R8 (LOWER TERMINALS)
(4) YELLOW STRAP FROM R8 TO R21
(5) YELLOW WIRE FROM R13 TO T2 (0)

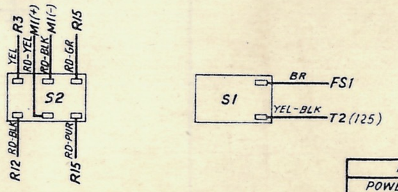
B- RECONNECTIONS
(1) AT T1 TRANSFER BLUE WIRE FROM 24Ω TAP TO 12Ω TAP
(2) AT R13 TRANSFER YEL-BLK WIRE FROM CENTER TAP TO END TAP AT RIGHT
(3) AT C10 TRANSFER RD-YEL WIRE [VS3 (SC)] TO C11
(4) AT C11 TRANSFER RED WIRE TO C10
(5) REPLACE R15 (55Ω) AND R12 (30,000Ω) BY 46Ω AND 43,500Ω 1 WATT RESISTORS RESPECTIVELY
(6) AT VS4 (SH) TRANSFER YELLOW WIRE TO VS3 (SH). OTHER END CONNECTS TO T1 (GND)
(7) AT VS4 (SH) TRANSFER YELLOW WIRE TO R3 (UPPER TERM.) OTHER END CONNECTS TO R11
(8) AT C4 TRANSFER YELLOW TO R3 (UPPER TERM.) OTHER END CONNECTS TO S2
(9) AT C21 TRANSFER GREEN WIRE TO T1 (+B). OTHER END CONNECTS TO TS1 (MON+) ✱
(10) REROUTE RED WIRE FROM C12 TO T1 (+B). REMOVE FROM CABLE FORM AND REROUTE AND RUN IN FRONT OF WARPING CIRCUIT CLOSE TO FRONT CORNER OF CHASSIS
(11) AT R12 TRANSFER RED STRAP TO R8 (LOWER TERM.)

C- ADDITIONS
(1) CONNECT SHIELD OF INPUT CABLE TO R1 (LOWER TERM.)
(2) R1 TO R21 (LOWER TERM.) YELLOW STRAP
(3) VS4 (SH) TO C4 - YEL-PUR)
(4) VS4 (SH) TO R1 (LOWER TERM.) - YEL-PUR
(5) VS3 (SH) TO R11 (GND LUG) - YELLOW
(6) VS3 (SH) TO VS1 (SH) - YELLOW
(7) VS1 (SH) TO VS2 (SH) - YELLOW
(8) T2 (0) TO GND LUG ON T2 - YELLOW
(9) R22 - CONNECT ACROSS C13
(10) R12 TO R13 - RD-BLK WIRE

✱ GREEN WIRE, FROM TS1 (MON+) TO T1 (+B), IS SHIELDED IN AMPLIFIERS SHIPPED SINCE JUNE 29TH 1938. THIS SHIELDED WIRE, IF NECESSARY IN EARLIER AMPLIFIERS TO IMPROVE OPERATION, IS RUN OUTSIDE THE EXTERNAL CABLE FORM, PROTECTED SUITABLY AGAINST ABRASION

2 — AMPLIFIERS FROM 1289 UP ARE WIRED AS SHOWN

3 — AMPLIFIERS 151, 152, 162, 207, 210, 221, 227, 230, 238, 347, 418, 431, 432, 433, 434, 436, 491 AND 509-1288 ARE WIRED AS SHOWN EXCEPT THAT S1 AND S2 ARE SN-566 AND SN-565 RESPECTIVELY AND WIRED AS SHOWN BELOW:



4 — ALL FILAMENT WIRES MUST BE TWISTED.

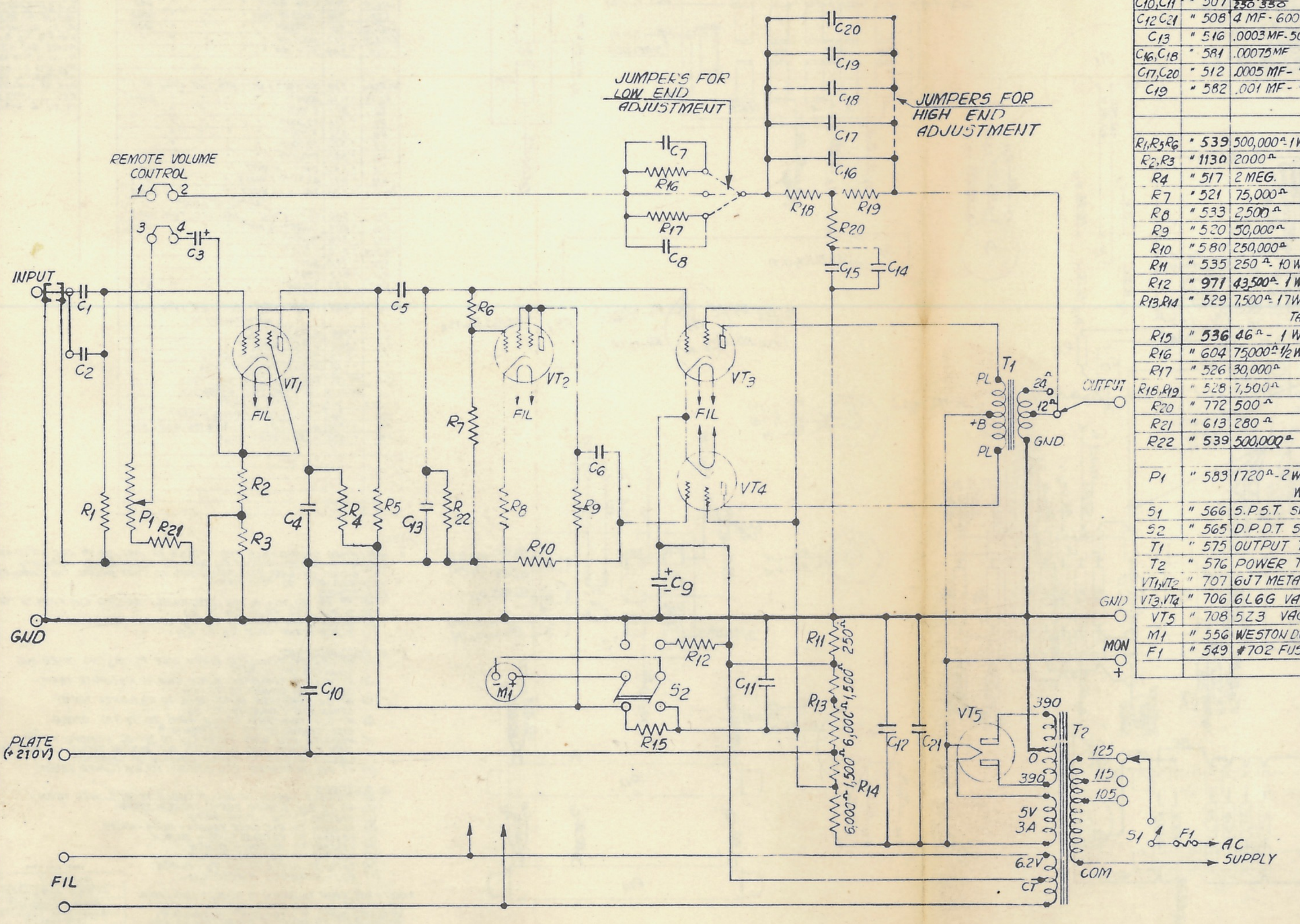
AM-1001
POWER AMPLIFIER
WIRING DIAGRAM
INTERNATIONAL PROJECTOR CORPORATION 55 LA FRANCE AVENUE BLOOMFIELD NEW JERSEY
DR. CH'K APP'D.
WD-113

Simplex
AM-1001 AMPLIFIER

ALTEC SERVICE CORPORATION

WD-101

NOTE:-
1 - SCHEMATIC OF AMPLIFIERS # 151, 152, 162, 207, 210, 221, 227, 230, 238, 347, 418, 431, 432, 433, 434, 436, 491, AND FROM 509 UP.
REFER TO WD-113 (AM-1001 AMPLIFIER, WIRING DIAGRAM) FOR WIRING CHANGES NECESSARY IN OTHER AMPLIFIERS, WHEN IMPROVED OPERATION IS DESIRED



LEGEND:- DESIGNATES SHIELDED CABLE

DESIG	PART No.	APPARATUS
C1,2,14,15	SN-515	.005MF-500V CAP. AEROVOX TYPE 1467
C3	" 504	25MF-25V " " " 2EM (WITH PAPER TUBE)
C4,5,6	" 514	.05MF-400V CAP. AEROVOX TYPE 2EM
C7	" 511	.1 MF-200V " " " "
C8	" 510	.2MF- " " " " "
C9	" 502	25MF-50V " " " EM
C10,C11	" 507	4/250 20/350 " " " EE
C12 C21	" 508	4 MF-600V " " " 610
C13	" 516	.0003 MF-500V " " " 1468
C16,C18	" 581	.00075 MF " " " 1467
C17,C20	" 512	.0005 MF- " " " " "
C19	" 582	.001 MF- " " " " "
R1,R5,R6	" 539	500,000Ω-1 WATT RES. I.R.C TYPE BT-1
R2,R3	" 1130	2000Ω " " " " BW-1
R4	" 517	2 MEG. " " " " "
R7	" 521	75,000Ω " " " " "
R8	" 533	2,500Ω " " " " "
R9	" 520	50,000Ω " " " " "
R10	" 580	250,000Ω " " " " "
R11	" 535	250Ω-10 WATT " " " MW2
R12	" 971	43,500Ω-1 WATT " " " BT-1
R13,R14	" 529	7,500Ω-17 WATT " " " MW-5 TAPPED AT 1,500Ω
R15	" 536	46Ω-1 WATT RES I.R.C. TYPE BW-1
R16	" 604	75,000Ω-½ WATT " " " BT-½
R17	" 526	30,000Ω " " " " "
R18,R19	" 528	7,500Ω " " " " "
R20	" 772	500Ω " " " " "
R21	" 613	280Ω " " " " "
R22	" 539	500,000Ω " " " " BT-1
P1	" 583	1720Ω-2 WATT POT. I.R.C. TYPE CP5 WITH TAPER "A"
S1	" 566	S.P.S.T. SWITCH
S2	" 565	D.P.D.T. SWITCH
T1	" 575	OUTPUT TRANSFORMER
T2	" 576	POWER TRANSFORMER
VT1,VT2	" 707	6J7 METAL VACUUM TUBE
VT3,VT4	" 706	6L6G VACUUM TUBE
VT5	" 708	5Z3 VACUUM TUBE
M1	" 556	WESTON DC MILLIAMETER MODEL-301
F1	" 549	#702 FUSETRON (2-AMP.)

ISSUE: 1 3-24-38
SHIELD ADDED TO INPUT. R_{22} ADDED. RES. & CAP. CONNECTED TO SHIELD WERE CONN. TO GND. R_{12} & R_{15} WERE 30,000Ω & 55Ω ½ WATT RES. RESPECT. NOTE: 1 ADDED MON+ TERM WAS NOT SHOWN
DR. E.G.M. APP'D [initials]

ISSUE: 2 10-28-38
C5 WAS SN-513, .01 MF COND. C_4, C_{13}, R_{22}, R_7, & R_{10} WERE SHOWN CONNECTED TO SHIELD.
DR E.G.M. APP'D CFA

ISSUE: 3 12-2-38
R_1, R_5, R_6 WERE SN-518. R_2, R_3 WERE SN-534. R_{11} WAS TYPE MW-1½. R_{22} WAS SN-864
DR. APP'D CFA

ISSUE: 4 3-7-40

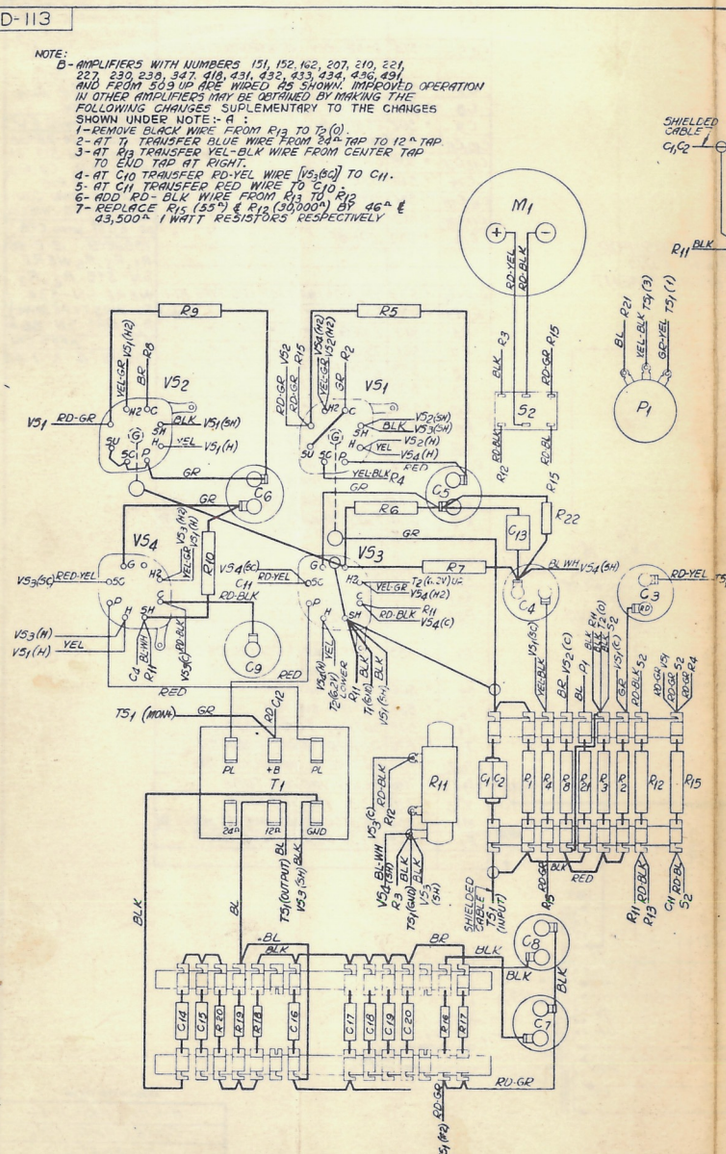
ASSOCIATED ITEMS
AM-1001 AMPLIFIER
POWER AMPLIFIER
SCHEMATIC
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK
DR. E.G.M. CHK. APP'D [signature]
WD-101

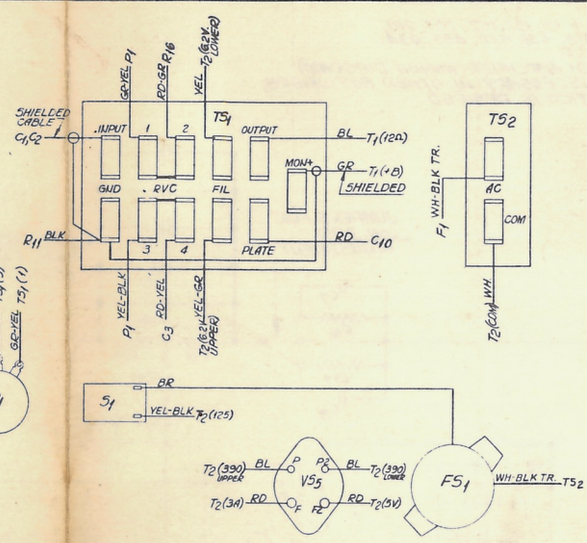
40.03

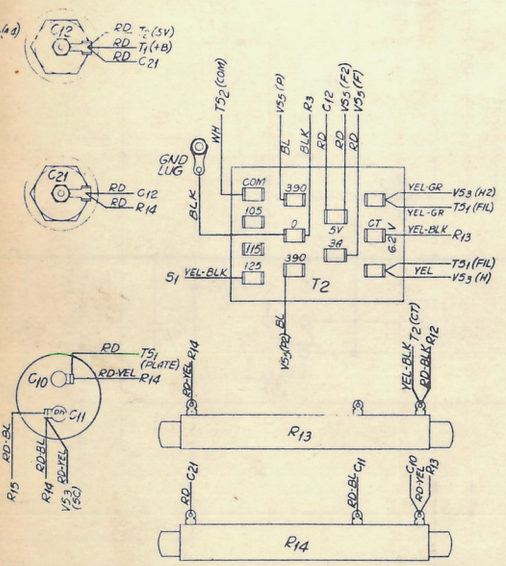
Simplex
AM-1001 AMPLIFIER

WD-113

NOTE:
B- AMPLIFIERS WITH NUMBERS 151, 152, 162, 207, 210, 221, 227, 230, 238, 247, 418, 431, 432, 433, 434, 436, 491, AND FROM 509 UP ARE WIRED AS SHOWN. IMPROVED OPERATION IN OTHER AMPLIFIERS MAY BE OBTAINED BY MAKING THE FOLLOWING CHANGES SUPLEMENTARY TO THE CHANGES SHOWN UNDER NOTE:- A :
1- REMOVE BLACK WIRE FROM R13 TO T2(0).
2- AT T1 TRANSFER BLUE WIRE FROM 24Δ TAP TO 12Δ TAP.
3- AT R13 TRANSFER YEL-BLK WIRE FROM CENTER TAP TO END TAP AT RIGHT.
4- AT C10 TRANSFER RD-YEL WIRE [V5(6G)] TO C11.
5- AT C11 TRANSFER RED WIRE TO C10.
6- ADD RD- BLK WIRE FROM R13 TO R12
7- REPLACE R15 (55Δ) & R12 (30,000Δ) BY 46Δ & 43,500Δ 1 WATT RESISTORS RESPECTIVELY







DESIG.	PART No.	APPARATUS
C1,2,4,5	SU-515	.005MF-500V CAP. AEROVOX TYPE 1467
C3	" 504	25 MF- 25V " " " 2 EM (WITH PAPER TUBE)
C4,5,6	" 514	.05 MF-400V CAP. AEROVOX TYPE 2 EM
C7	" 511	.1 MF.-200V " " " "
C8	" 510	.2 MF- " " " " "
C9	" 502	25 MF.- 30V " " " EM
C10,C11	" 507	4/250-20/350 " " " EE
C12,C21	" 508	8 MF- 600 V " " " 610
C13	" 516	.0003 MF-300V " " " 1468
C16,C18	" 501	.00075 MF " " " " 1467
C17,C20	" 512	.0005 MF " " " " "
C19	" 582	.001 MF " " " " "
R1,R3,R6	" 539	500,000Δ 1 WATT RES. I.R.C. TYPE BT-1
R2,R3	" 1130	2000Δ " " " " BW-1
R4	" 517	2 MEG " " " " "
R7	" 521	75,000Δ " " " " "
R8	" 533	2,500Δ " " " " "
R9	" 520	50,000Δ " " " " "
R10	" 580	250,000Δ " " " " "
R11	" 535	250Δ 10 WATT " " " MW-2
R12	" 971	43,500Δ 1 WATT " " " BT-1
R13,R14	" 529	7,500Δ 17 WATT " " " MW-5 TAPPED AT 1,500Δ
R15	" 536	46Δ - 1 WATT RES. I.R.C. TYPE BW-1
R16	" 604	75,000Δ 1/2 WATT " " " BT-1/2
R17	" 526	30,000Δ " " " " "
R18,R19	" 528	7,500Δ " " " " "
R20	" 772	300Δ " " " " "
R21	" 613	280Δ " " " " "
R22	" 539	500,000Δ " " " " BT-1
P1	" 583	1720Δ- 2 WATT POT. I.R.C. TYPE 3P5 WITH TAPER "A"
S1	" 566	S.P.S.T. SWITCH
S2	" 565	D.P.D.T. SWITCH
T1	" 575	OUTPUT TRANSFORMER
T2	" 576	POWER TRANSFORMER
TS1	AM-2017	TERMINAL STRIP ASSEMBLY
TS2	AM-2015	TERMINAL STRIP ASSEMBLY
V51,2,3,4	SU-561	6BV OCTAL SOCKET
V55	" -562	STANDARD 4 PRONG SOCKET
M1	" -556	WESTON D.C. MILLIAMETER MODE.-301
FS1	" 552	FUSE RECEPTACLE

ISSUE:1 6-29-38
NOTE:- B ADDED AND WIRING CHANGED TO AGREE
DR E.G.M. APPD C.F.A.
ISSUE:2 10-19-38
C5 WAS SU-513,.01 MF COND. BL-WH WIRE AT R11 WAS SHOWN CONNECTED TO R1.
DR E.G.M. APPD C.F.A.
ISSUE:3 12-2-38
R1, R5, R6 WERE SW-518. R2, R3 WERE SW-534. R11 W-S TYPE MW1½ R22 W-S SW-864 AT TS2 & FS1 WH-BLK TR. WAS YEL.
DR. APPD C.F.A.
ISSUE:4 3-7-40

NOTE:-
A- AMPLIFIERS SHIPPED SINCE THE MIDDLE OF MAY 1938* ARE WIRED AS SHOWN. IMPROVED OPERATION MAY BE OBTAINED BY CHANGING THE WIRING OF EARLIER AMPLIFIERS TO THAT SHOWN. THE CHANGES REQUIRED ARE AS FOLLOWS:-

1- REMOVALS
(A) AT TS1, V52, V53 & V54 DISCONNECT GROUND LUG FROM SW TERM.
(B) BLACK WIRE FROM C4 TO R3
(C) BLACK STRAP FROM R1 TO R8 (LOWER TERMINALS)
(D) BLACK STRAP FROM R8 TO R21

2- RECONNECTIONS
(A) AT TS1 (SH) TRANSFER BLACK WIRE TO V53 (SH). OTHER END CONNECTS TO T1 (GND).
(B) AT V54 (SH) TRANSFER BLACK WIRE TO R3 (UPPER TERM). OTHER END CONNECTS TO R11.
(C) AT C4 TRANSFER BLACK WIRE TO R3 (UPPER TERM). OTHER END CONNECTS TO S2.
(D) AT C21 TRANSFER GREEN WIRE TO T1 (+B). OTHER END CONNECTS TO TS1 (MON+). *
(E) REROUTE RED WIRE FROM C12 TO T1 (+B). REMOVE FROM CABLE FORM AND REROUTE AND RUN IN FRONT OF WARPING CIRCUIT CLOSE TO FRONT CORNER OF CHASSIS.
(F) AT R12 TRANSFER RED STRAP TO R8 (LOWER TERM).

3- ADDITIONS
(A) CONNECT SHIELD OF INPUT CABLE TO R1 (LOWER TERM).
(B) R1 TO R21 (LOWER TERM.) BLACK STRAP.
(C) V54 (SH) TO C4 - BLUE-WHITE.
(D) V54 (SH) TO R1 (LOWER TERM.) - BLUE-WHITE.
(E) V53 (SH) TO KM (GND LUG) - BLACK.
(F) V53 (SH) TO V51 (SH) - BLACK.
(G) V51 (SH) TO V52 (SH) - BLACK.
(H) T2 (0) TO GND LUG ON T2 - BLACK.
(I) R22 - CONNECT ACROSS C13.

* GREEN WIRE, FROM TS1 (MON+) TO T1 (+B), IS SHIELDED IN AMPLIFIERS SHIPPED SINCE JUNE 29 TH. TWO SHIELDED WIRE, IF NECESSARY IN EARLIER AMPLIFIERS TO IMPROVE OPERATION, IS RUN OUTSIDE THE EXTERNAL CABLE FORM, PROTECTED SUITABLY AGAINST ABRASION.

ASSOCIATED ITEMS
AM-1001
POWER AMPLIFIER
WIRING DIAGRAM
INTERNATIONAL PROJECTOR CORPORATION
30 GOLD STREET NEW YORK
DR E.G.M. APPD C.F.A. APPD F.D.
WD-113

1. CHARACTERISTICS - COMPONENTS - DRAWINGS.

Type - Chassis Type. Single stage push pull.
Gain - 16 db
Output - 6 watts
Input Impedance - 50 ohms
Output Impedance- 50 ohms
Vacuum Tubes - One ~~6J7~~ 6N7
Power Supply - Heater & Plate supply obtained from AM-1001 Amp.
Dimensions - $4\frac{1}{2}$"H x 3"W x 7"D
Weight - $4\frac{1}{2}$ lbs
Schematic & Wiring - WD-141

2. DESCRIPTION.

The AM-1003 is used as a bridging amplifier across the input of the loudspeaker network to provide added power for the monitor loudspeaker. Since it draws practically no power, the full output of the amplifiers is available for the stage speakers. It may also be used to drive auxiliary speakers and hearing aid attachments.

3. INSTALLATION.

As a monitor amplifier, the AM-1003 should be plugged into the socket on the chassis of the loudspeaker network and the two screws furnished, threaded into the tapped holes in the chassis and tightened.

NOTE:- External wires should be connected to the "Fil" and "Plate" terminals of the network per the system wiring diagram. These three wires are the heater and plate supply for the AM-1003. Refer to Equipment Bulletin LU-1018 Monitor Unit for connections to monitor loud speaker.

4. OPERATION.

Set the monitor amplifier switch on the network chassis in "ON" position, turn on the AM-1001 amplifier and the monitor amplifier is ready for operation. Adjust the monitor speaker volume control on the network panel as required.

5. EMERGENCY.

If the amplifier becomes inoperative, set the monitor amplifier switch in "OFF" position. The amplifier is disconnected and the monitor loudspeaker connected across the network input through the monitor volume control. Volume is therefore controlled in the same way as when the amplifier is used.

1. CHARACTERISTICS - COMPONENTS - DRAWINGS.

Type - Chassis Type. Single stage push pull.
Gain - 16 db
Output - 6 watts
Input Impedance - 50 ohms
Output Impedance- 50 ohms
Vacuum Tubes - One ~~6S7~~ 6N7
Power Supply - Heater & Plate supply obtained from AM-1001 Amp.
Dimensions - 4½"H x 3"W x 7"D
Weight - 4½ lbs
Schematic & Wiring - WD-141

2. DESCRIPTION.

The AM-1003 is used as a bridging amplifier across the input of the loudspeaker network to provide added power for the monitor loudspeaker. Since it draws practically no power, the full output of the amplifiers is available for the stage speakers. It may also be used to drive auxiliary speakers and hearing aid attachments.

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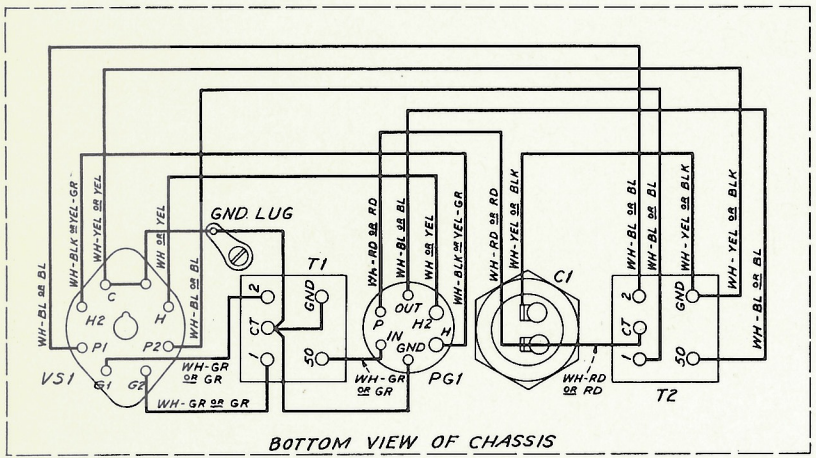
WD-141

REDRAWN FROM ISSUE 2 WITH EXTENSIVE CHANGES

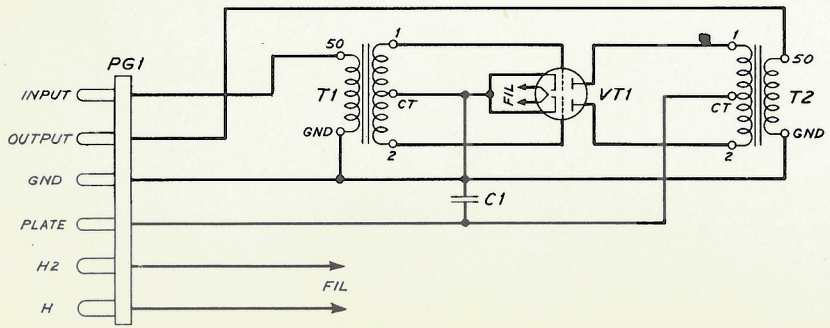
ISSUE : 3



BOTTOM VIEW OF CHASSIS

DESIG.	PART NO.	APPARATUS
C1	SN-780	CAPACITOR, 1 MF - 600 V
T1	" 577	INPUT TRANSFORMER
T2	" 578	OUTPUT TRANSFORMER
VS1	" 561	SOCKET
PG1	" 560	PLUG, 6-PRONG
* VT1	" 796	6N7 VACUUM TUBE

* INDICATES NON-COMPONENT ITEM WHICH MUST BE ORDERED SEPARATELY



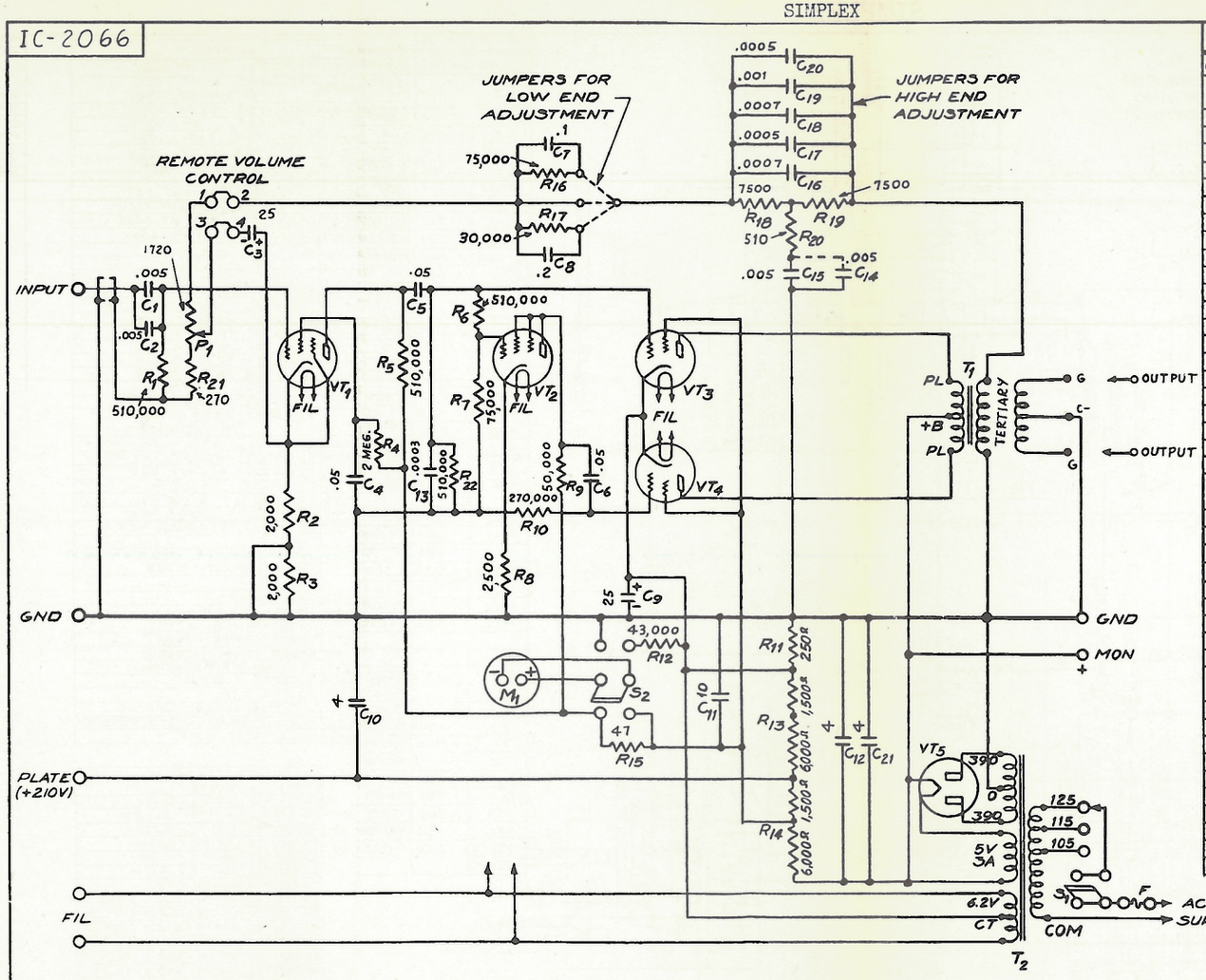
AM-1003
MONITOR AMPLIFIER
WIRING DIAGRAM & SCHEMATIC
INTERNATIONAL PROJECTOR CORPORATION 55 LA FRANCE AVENUE BLOOMFIELD NEW JERSEY
DR. CH'K. APP'D.
WD-141

ALTEC SERVICE CORPORATION

SIMPLEX AM-1003 AMPLIFIER 40.03

Printed in U.S.A.

IC-2066



DESIG.	PART No.	APPARATUS
C1,2,14,15	SN-515	.005MF-500V CAPACITOR
C3	" 504	25MF-25V " (WITH PAPER TUBE)
C4,5,6	" 514	.05MF-400V CAPACITOR
C7	" 511	.1MF-200V "
C8	" 510	.2MF- " "
C9	" 502	25MF-50V "
C10,11	" 507	10/250 · 20/350 "
C12,21	" 508	4MF-600V "
C13	" 516	.0003MF-500V "
C16,18	" 581	.00075MF- " "
C17,20	" 512	.0005MF " "
C19	" 582	.001 MF " "
R1,5,6	" 539	510,000Ω 1 WATT RESISTOR
R2,3	" 1130	2,000Ω " " (WIRE WOUND)
R4	" 517	2 MEG " "
R7	" 521	75,000Ω " "
R8	" 533	2,500Ω " "
R9	" 520	50,000Ω " "
R10	" 580	270,000Ω " "
R11	" 535	250Ω 10 WATT "
R12	" 971	43,000Ω 1 WATT "
R13,14	" 529	7,500Ω 17 WATT " TAPPED AT 1,500Ω
R15	" 536	47Ω 1 WATT RESISTOR (WIRE WOUND)
R16	" 604	75,000Ω 1/2 WATT "
R17	" 526	30,000Ω " "
R18,19	" 528	7,500Ω " "
R20	" 772	510Ω " "
R21	" 613	270Ω " "
R22	" 539	510,000Ω " "
P1	" 583	1720Ω 2 WATT POT. I.R.C. TYPE CPS WITH TAPER "A"
S1	" 608	D.P.S.T. SWITCH.
S2	" 988	D.P.D.T. "
T1	" 1804	OUTPUT TRANSFORMER
T2	" 576	POWER "
VT1,VT2	" 707	6J7 METAL VACUUM TUBE
VT3,VT4	" 706	6L6G VACUUM TUBE
VT5	" 708	5Z3 VACUUM TUBE
M1	" 556	WESTON D.C. MILLIAMETER MODEL-301
F1	" 549	# 702 FUSETRON (2-AMP)

ISSUE: 1 3-29-46

REMOVED NOTES "AMPLIFIERS FROM 1289 UP ARE AS SHOWN, AND SCHEMATIC OF AMPLIFIERS Nos. 151, 152, 162, 207, 210, 221, 227, 230, 238, 347, 418, 431, 432, 433, 434, 436, 491, AND FROM 509 TO 1288 ARE AS SHOWN EXCEPT THAT S_1 AND S_2 ARE SN-566 AND SN-565 RESPECTIVELY."
REMOVED NOTE "REFER TO WD-1022 (AM-1020 AMPLIFIER, WIRING DIAGRAM) FOR WIRING CHANGE IN OTHER AMPLIFIERS WHEN IMPROVED OPERATION IS DESIRED."

DRAWN
1550E:2 3-21-47

1. RESISTANCE SHOWN IN OHMS UNLESS OTHERWISE SPECIFIED.
2. CAPACITY SHOWN IN MICROFARADS.

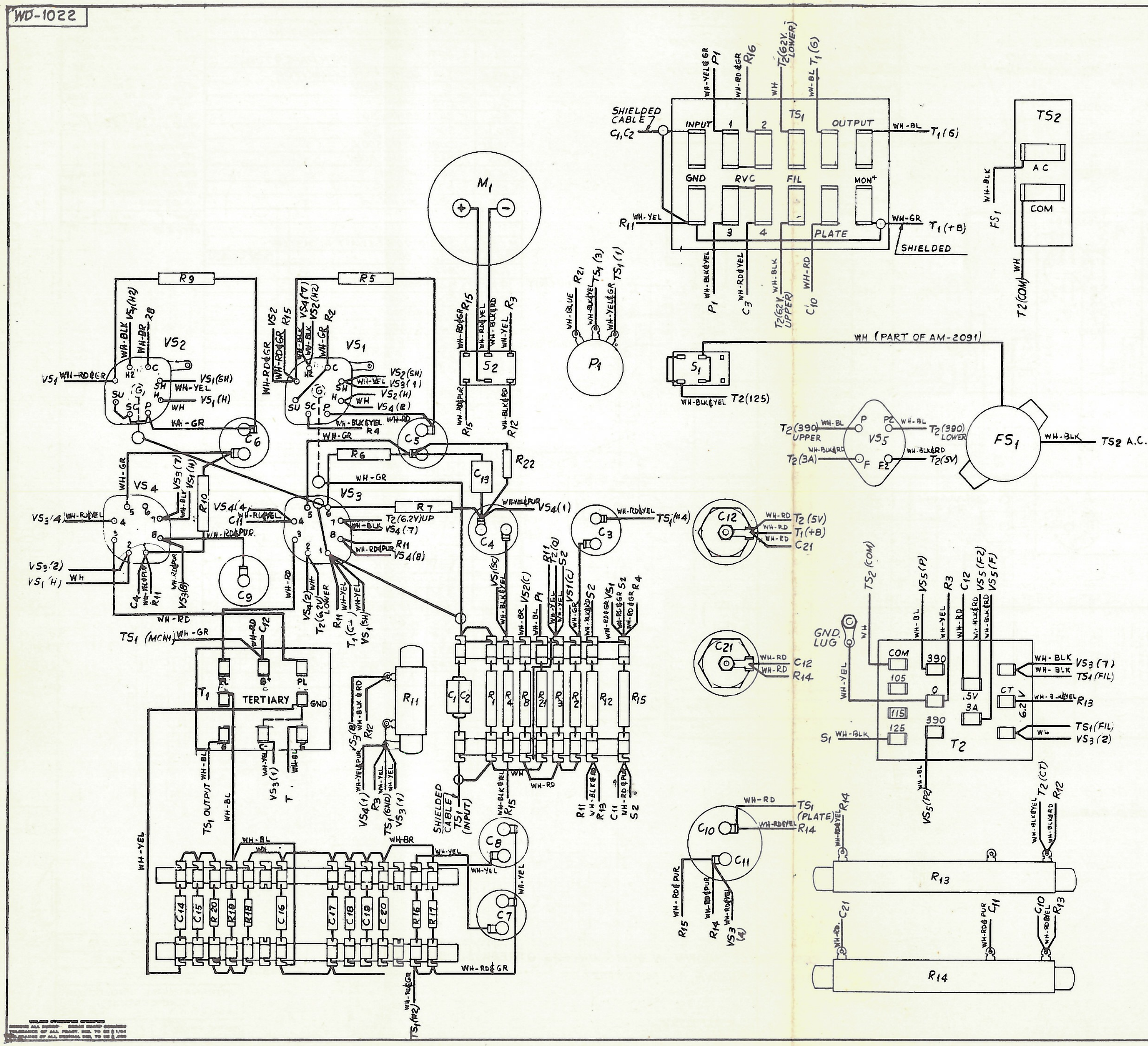
UNLESS OTHERWISE SPECIFIED
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

SCALE

AM-1020 AMPLIFIER
POWER AMPLIFIER
SCHEMATIC
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK
DR NLF CHK
APPD
IC-2066

ALTEC SERVICE CORPORATION
SIMPLEX

WD-1022



DESIG	PART#	APPARATUS
C1,2,14,15	SN-515	CAPACITOR, .005 MF 500V.
C 3	SN-504	CAPACITOR, 25 MF 25V. (WITH PAPER TUBE)
C4,5,6	SN-514	CAPACITOR, .05 MF 400V.
C-7	SN-511	CAPACITOR, .1 MF 200V.
C-8	SN-510	CAPACITOR, .2 MF 200V.
C-9	SN-502	CAPACITOR, 25 MF 50V.
C-10,11	SN-507	CAPACITOR, 4/250 - 20/350
C-12,21	SN-508	CAPACITOR, 4 MF 600V.
C-13	SN-516	CAPACITOR, .0003 MF 500V.
C-16,18	SN-581	CAPACITOR, .00075 MF 500V.
C-17,C-20	SN-512	CAPACITOR, .0005 MF 500V.
C-19	SN-582	CAPACITOR .001 MF 500V.
R1,5,6	SN-539	RESISTOR, 510,000 Ω 1W.
R-2,3	SN-1130	RESISTOR, 2,000 Ω 1W. W.W.
R-4	SN-517	RESISTOR, 2 MEG. 1W.
R-7	SN-521	RESISTOR, 75,000 Ω 1W.
R-8	SN-533	RESISTOR, 2,700 Ω 1W.
R-9	SN-520	RESISTOR, 50,000 Ω 1W.
R-10	SN-580	RESISTOR, 230,000 Ω 1W.
R-11	SN-535	RESISTOR, 250 Ω 10W.
R-12	SN-971	RESISTOR, 43,000 Ω 1W.
R-13,14	SN-529	RESISTOR, 7,500 Ω 17W. TAPPED 1,500 Ω
R-15	SN-536	RESISTOR, 47 Ω 1W. W.W.
R-16	SN-604	RESISTOR, 75,000 Ω 1/2 W.
R-17	SN-526	RESISTOR, 30,000 Ω 1/2 W.
R-18,19	SN-528	RESISTOR, 7,500 Ω 1/2 W.
R-20	SN-772	RESISTOR, 510 Ω 1/2 W.
R-21	SN-619	RESISTOR, 270 Ω 1/2 W.
R-22	SN-539	RESISTOR, 500,000 Ω 1/2 W.
P 1	SN-583	POTENTIOMETER, 1720 Ω, 2W. IRC. TYPE CPS WITH TAPER
S 1	SN-608	SWITCH, D.P.S.T.
S 2	SN-988	SWITCH, D.P.D.T.
T 1	SN-1804	TRANSFORMER, OUTPUT
T 2	SN-576	TRANSFORMER, POWER
TS 1	AM-2223	CABLE FORM ASSEMBLY
TS 2	AM-2091	TERMINAL STRIP ASSEMBLY
VS 1,2	SN-1774	SOCKET, OCTAL
VS 3,4	SN-1774	SOCKET, OCTAL
VS 5	SN-562	SOCKET; STANDARD 4 PRONG
M 1	SN-556	MILLIAMETER, D.C., WESTON, MODEL 301
FS 1	SN-554	RECEPTACLE, FUSE

PART #	SIZE	COLOR
EW-783	#16	WHITE
EW-784	#16	WHITE - BLACK
EW-785	#16	WHITE - YELLOW
EW-788	#20	WHITE - BLACK
EW-790	#20	WHITE - BROWN
EW-791	#20	WHITE - BLUE
EW-792	#20	WHITE - GREEN
EW-793	#20	WHITE - RED
EW-794	#20	WHITE - BLACK & RED
EW-795	#20	WHITE - BLACK & YELLOW
EW-796	#20	WHITE - BLACK & GREEN
EW-797	#20	WHITE - YELLOW & GREEN
EW-798	#20	WHITE - RED & GREEN
EW-799	#20	WHITE - RED & YELLOW
EW-807	#20	WHITE - RED & PURPLE
EW-815	#20	WHITE - YELLOW & PURPLE

AM-2223 WAS AM-2017 IN APPARATUS LIST.
ISSUE: 2 6-3-46
SN-1774 WAS SN-561 REMOVED "EBY" FROM TITLE
ISSUE: 3 5-9-47

WIRING DIAGRAM
AM-1020
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK
WD-1022

1. CHARACTERISTICS

Type	- Chassis Type, two stage, Resistance Coupled.
Gain	- 40 db.
Input Impedance	- Two separate Input Stages - (as shipped 250,000 ohms each - one for high level and one for low level input).
Output Impedance	- 12,500 ohms.
Gain Control	- Potentiometer 20 steps - 2 db each.
Vacuum Tubes	- Two or three - 1620 Tubes
Power Supply	- Filter Plate and Filament Supply obtained from AM-1001 Amplifier.
Dimensions	- 7-1/2" high x 17" long x 10" deep.
Weight	- 15 lbs.
Accessories	- Terminal strip on cable form is provided for external connections.
Associated Drawing	- WD-166 Schematic.

2. USE

This amplifier is used as a booster amplifier for N.S. or Announcing. Where high level pickup is used, only one stage of amplification is employed. Where low level pickup is used, two stages of amplification are employed. If a low impedance, low level pickup is connected to N.S. (L) and additional gain is required, VT_1 may be added and the input impedance changed to obtain a match as described on associated drawing WD-166.

To increase the gain approximately 10 db, add a 10 mf condenser across R_2. If this is done then HF losses occasioned by the use of concealed cable instead of coaxial cable and/or N.S. switch should be corrected by condensers across C_7.

3. INSTALLATION

The AM-1009 should be installed in the AM-2023 Cabinet in the location shown on the system conduit layout drawing. Connections should be made to the terminal strip per the system wiring diagram.

4. OPERATION

Set the amplifier plate and filament switch in "ON" position, and the AM-1009 is ready for operation when the power amplifier is turned on. The volume control should be adjusted as required to obtain adequate volume with the auxiliary input in use.

5. MAINTENANCE

A. Vacuum Tubes. Tubes should be tested monthly by substituting a new tube. Tube prongs should make good contact, and should be clean and bright. Careful bending of the socket contacts may be resorted to and the prongs burnished with crocus cloth, if necessary, to provide good contact.

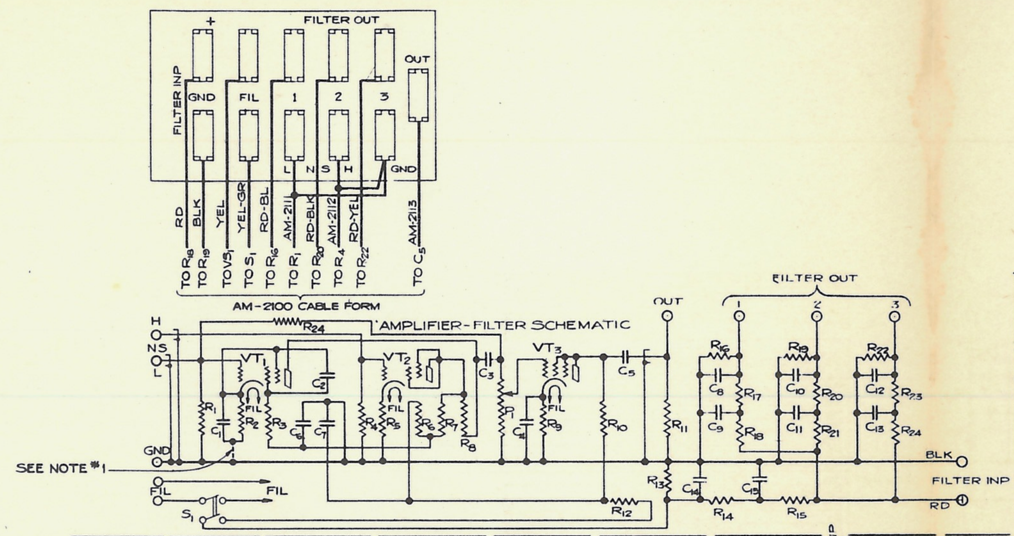
ALTEC SERVICE CORPORATION

SIMPLEX

AM-1009 Amp. Filter

WD-166

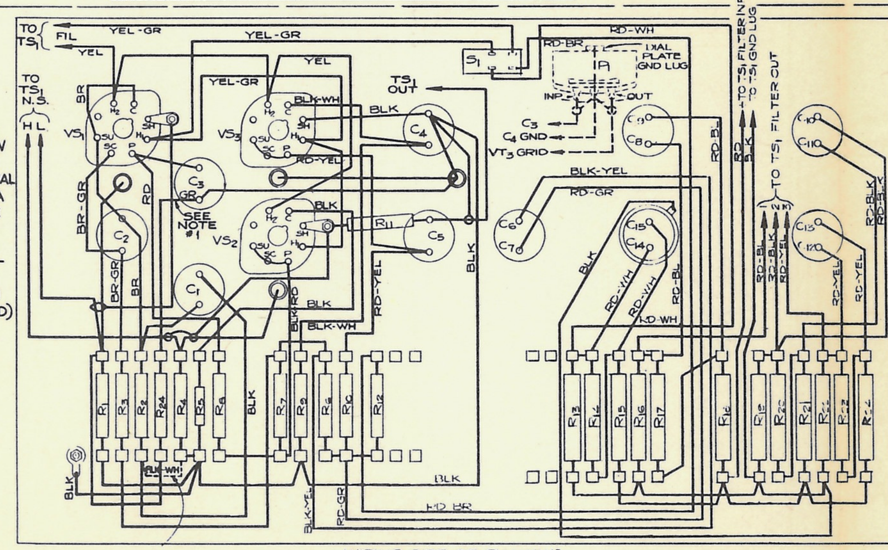
"A" REDRAWN FROM ISSUE #1 DUE TO CIRCUIT CHANGE
A.S. | 6-18-40
ISSUE :-2 6-20-40
"B" WIRING CHANGED AND NOTE #1 ADDED
A.S. | 1-17-41
ISSUE :-3 1-18-41



DESIGNATION	PART NO.	APPARATUS
C_1-C_4	SN-504	25 MFD. 25V. CAPACITOR
$C_2-C_3-C_5$	SN-514	.05 MFD. 400 V. "
C_6 TO C_{15}	SN-1322	8-8 MFD. 450 V. DUAL CAPAC. $(C_6-C_7)(C_8-C_9)(C_{10}-C_{11})(C_{12}-C_{13})(C_{14}-C_{15})$
R_2-R_9	SN-1130	2,000 Ω " " " BT-1
$R_3-R_{11}-R_{24}$	SN-517	2 MEG. " " " "
R_1-R_4	SN-580	250,000 Ω " " " "
R_5	SN-612	10,000 Ω ½ WATT " " BT-½
R_6-R_{10}	SN-111	15,000 Ω 1 WATT " " BT-1
R_7	SN-522	70,000 Ω " " "
R_8	SN-689	55,000 Ω " " "
R_{12}	SN-1052	20,000 Ω " " "
$R_{13}-R_{16}-R_{19}-R_{22}$	SN-1321	125,000 Ω 2 WATT " " BT-2
R_{14}	SN-1111	15,000 Ω " " " "
$R_{15}-R_{18}-R_{21}-R_{24}$	SN-1320	25,000 Ω " " " "
$R_{17}-R_{20}-R_{23}$	SN-1363	10,000 Ω " " " "
S_1	SN-608	D.P.S.T. TOGGLE SWITCH
P_1	SN-1325	500,000 Ω POT. 19-2DB STEPS
$VS_1-VS_2-VS_3$	SN-561	STANDARD 8 PRONG SOCKET
$VT_1-VT_2-VT_3$	SN-792	VACUUM TUBE (6J7-B-31)
TS_1	AM-2099	TERMINAL STRIP

NOTE

1-IF INCREASED GAIN IS REQUIRED, WHEN A LOW IMPEDANCE SOURCE IS CONNECTED TO TERMINAL NS(L), CHANGE R_1 TO A VALUE TO MATCH THE IMPEDANCE OF THE SOURCE, DISCONNECT THE GREEN WIRE CONNECTED TO R_{24} AND CONNECT THE BLK-WH STRAP (SHOWN DOTTED) BETWEEN R_2 AND R_4. INSERT AN SN-792 VT IN SOCKET VS_1



WIRING SIDE OF CHASSIS

SEE NOTE #1

UNLESS OTHERWISE SPECIFIED
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

SCALE

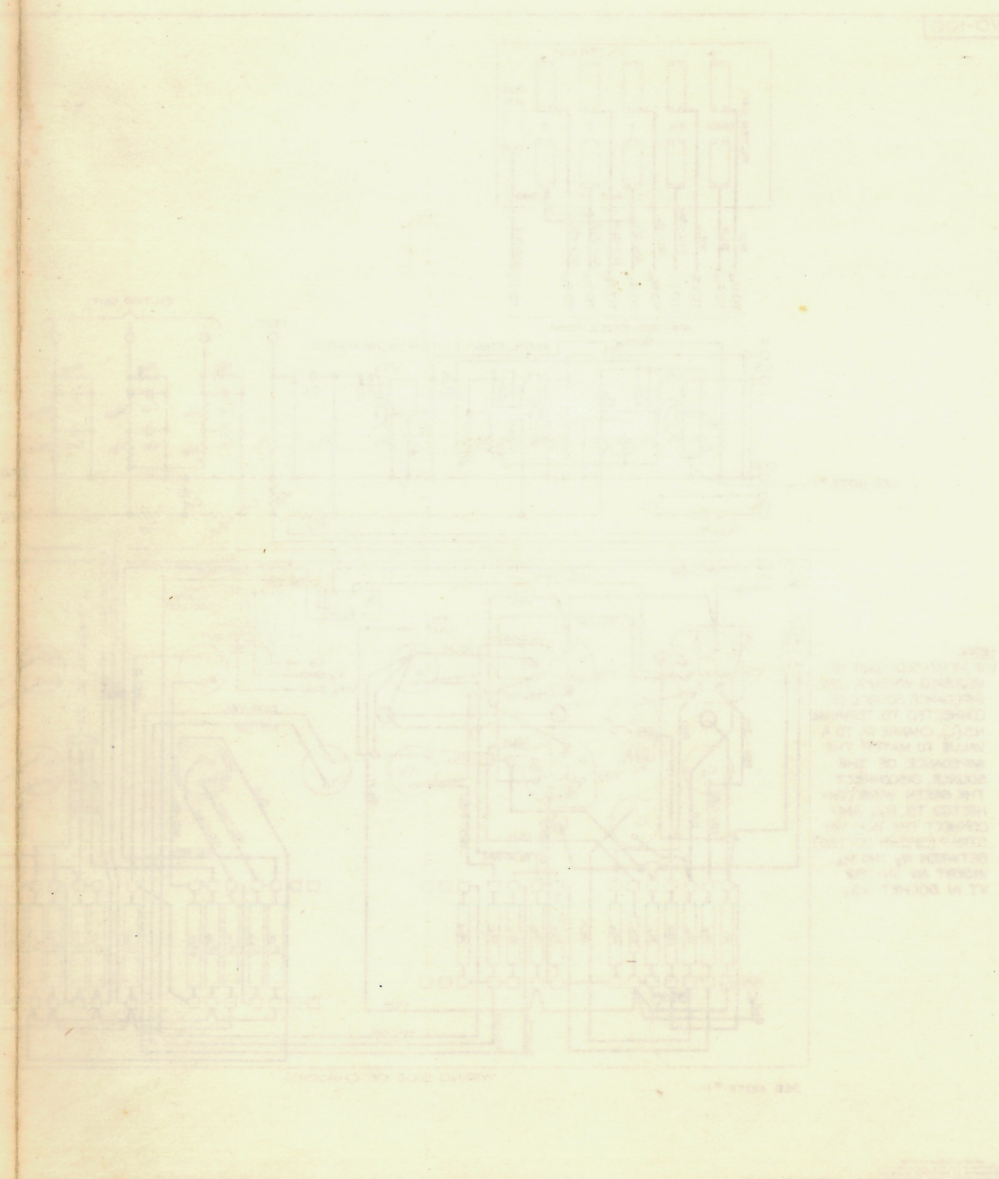
AM 1009 AMPL-FILTER

WIRING DIAGRAM & SCHEMATIC

INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET NEW YORK

DR. A.S. CHK. APPD

WD-166



1. DESCRIPTION - The AM-1025 is a rack mounted, AC operated, single push-pull stage, power amplifier of recessed panel construction. It is used particularly in Drive-In Theatre Systems.

2. CHARACTERISTICS

Gain	9 DB when substituted for nominal 12 ohm load on AM-1001 Amplifier
Impedance	Input (source) 10 and 20 ohms Input (internal) 46 and 70 ohms Output (load) 10 and 20 ohms Output (internal) 20 and 48 ohms
Power Output	60 Watts, 40 DB; 47.8 DBM
Frequency Response	±1 DB 30-15,000 cps
Noise Level	-27 DB: -19.2 DBM
Vacuum Tubes	2 - 807, 2 - 0D3/VR150, 1 - 5R4GY
Power Supply Required	105-125 Volts AC, 50-60 cycle, 150 Watts
Dimensions	8-3/4" H x 19" W
Weight	47 lbs.

3. INSTALLATION INSTRUCTIONS

3.1 General - Remove knock-outs in the ends of the chassis to facilitate cooling.

3.2 Power transformer connections

Average Line Voltage	T-3 Transformer Tap
Over 115	125 V
110 - 115	115 V
100 - 110	105 V

3.3 Output Transformer Connections

Load	T-2 Transformer Tap
14-24 ohms	20 ohms
6-14 ohms	10 ohms

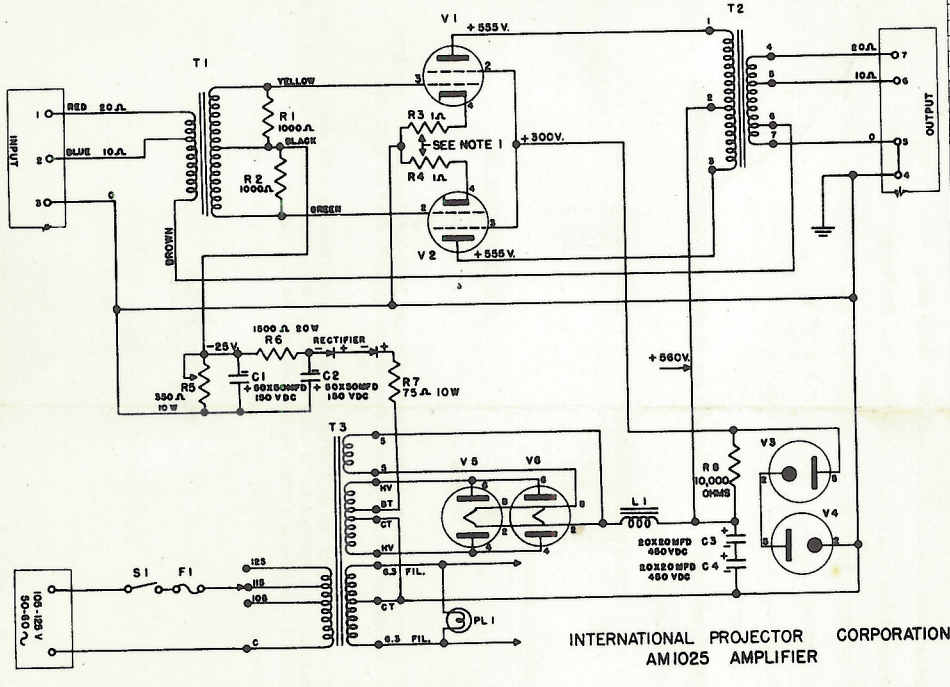
NOTE: Impedance of Simplex Coupling Units and In-A-Car Speakers (2 speakers, volume controls full on) is approximately 1500 ohms at 1000 cps.

4. MODIFICATIONS - R-7 Resistor in amplifiers of early manufacture is a 20 ohm 2 watt resistor. It is recommended that this be changed to 75 ohms 10 watts. When this change is made the bias voltage should be readjusted by moving slider on R-5 Resistor to the top.

Associate Drawing
4179 Schematic

Issued by
Engineering Department
Printed in U. S. A.

July 15, 1949
Issue #1



PARTS LIST	
C1,2	50-50MFD. 150 V MALLORY FP214
C3,4	20-20MFD. 450V " FP234
R1,2	1,000 OHM 2W IRC BT2
R3,R4	1 OHM 1W (MATCHED TO ±2%) IRC BW 1 ±5 %
R5	350 OHM 10W OHMITE DIVIDOHM 1017
R6	1500 OHM 20W " BROWN DEVIL
R7	75 OHM. 10W
R8	10,000 OHM 10W OHMITE BROWN DEVIL
T1	ALTEC LANSING 4541
T2	" " 16130
T3	ALTEC LANSING TM609
V1,2	807 RCA OR SYLVANIA
V3,4	OD3/VR150 " "
V5,6	5R4GY " "
L1	ALTEC LANSING TL-521
S1	H&H 1561 S.P.S.T.
F1	3 AMP. LITTEL FUSE 3AG
RECTIFIER 2	100MA. RADIO RECEPTOR 5MI
PL 1	G.E. MAZDA NO. 44

OPERATING DATA	
* GAIN	110D
* * POWER OUTPUT AT 2.25%	
TOTAL HARMONICS AT 400 C.P.S.	60 WATTS
FREQUENCY RESPONSE	±1 DB 30-15,000 ~
NOISE LEVEL	-27DB

REFERENCE - 0 DB = .006 WATTS

* FROM 20 Ω INPUT AND WHEN REPLACING A NOMINAL 20 Ω LOAD TERMINATING A SOURCE WHOSE EFFECTIVE INTERNAL IMPEDANCE IS 10 OHMS

* * 13 VOLTS ACROSS TERMS. 1 & 3 REQUIRED FOR MAXIMUM POWER OUTPUT

INDICATED VOLTAGES ARE WITH ZERO SIGNAL

10661-2A

NOTES:
1- FOR CHECKING TUBES FOR EMISSION OR BALANCE CONNECT AS-1800 METER (0.1 MA RANGE) ACROSS R-3 OR R-4. MULTIPLY METER READING BY 1250 TO OBTAIN ACTUAL CATHODE CURRENT IN MILLIAMPS. (NORMAL METER READING .032-.04 MA; CATHODE CURRENT 40-50MA)

ISSUE	APP'D	DATE	CHANGE
1		5-6-46	
2		5-2-49	REVISED NOTES
2A		6-30-49	R-7 WAS 20Ω 2W, ONE RECTIFIER & NOTE 1 W.N.S.

DR. BY C.P.W. APP'D

ALTEC LANSING CORPORATION
HOLLYWOOD, CALIF.

AM1025 AMPLIFIER SCHEMATIC

4179

AMPLIFIER, AM-1025 40025

ALTEC SERVICE CORPORATION SUPPLEX

PRINTED IN U.S.A.

1. GENERAL

1.1 The AM-1040 Amplifier used in the X-L25-D and X-L25X-D Drive-In Systems is the Simplex AM-1018 (Altec Lansing 287-W) Amplifier equipped with a TL-216 Input Transformer.

1.2 Until advised to the contrary, the TL-216 Transformer will be shipped separately and should be mounted in the holes already provided in the chassis of the AM-1018 Amplifier and connected to the amplifier as per Altec Lansing Drawing 3741, file 50.03, Amplifier 287-W, in the Altec Lansing bulletins.

1.3 The input of the TL-216 Transformer should be strapped for 14 ohms.

1. DESCRIPTION

1.1 The NTS-1125 Amplifier is a modified Bogen HO-125 Amplifier and is to be used only for Drive-In Theatre Installations with In-Car Speakers.

2. CHARACTERISTICS

2.1 This amplifier delivers its rated power output of 125 watts over a limited frequency range with 5% harmonic distortion and as such will handle a maximum of 500 of these In-Car Speakers.

2.2 National Theatre Supply Headquarters advises that this amplifier is not to be used in regular theatre installations as such use would lead to continual trouble and complaints due to its limited frequency response and high noise level distortion.

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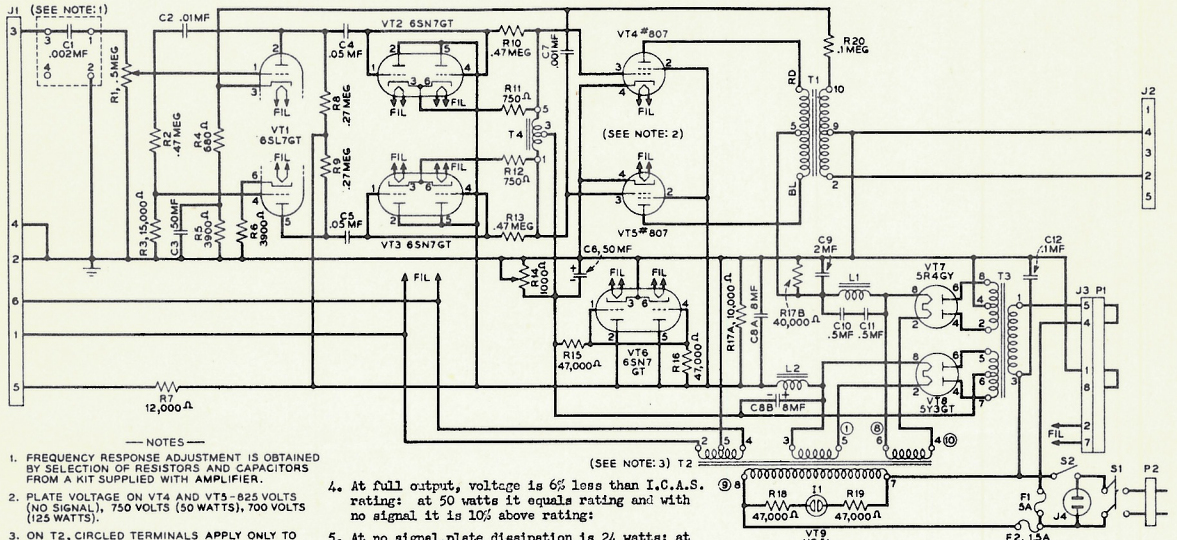
May 2, 1950

NS-128

ISSUE: 1 7-26-50



— NOTES —

1. FREQUENCY RESPONSE ADJUSTMENT IS OBTAINED BY SELECTION OF RESISTORS AND CAPACITORS FROM A KIT SUPPLIED WITH AMPLIFIER.
2. PLATE VOLTAGE ON VT4 AND VT5 - 825 VOLTS (NO SIGNAL), 750 VOLTS (50 WATTS), 700 VOLTS (125 WATTS).
3. ON T2, CIRCLED TERMINALS APPLY ONLY TO SERIAL NUMBERS 99 TO 120 AND 205 TO 227 INCLUSIVE.
4. At full output, voltage is 6% less than I.C.A.S. rating: at 50 watts it equals rating and with no signal it is 10% above rating:
5. At no signal, plate dissipation is 24 watts; at full output it is 30 watts being maximum rating of R.C.A.

SYMBOL NO.	PART NO.	DESCRIPTION
C1		CAPACITOR, .002 MF. 500 VOLTS
C2		CAPACITOR, .01 MF. 600 VOLTS, C-D #GT6S1
C3, C6		CAPACITOR, 50 MF. 50 VOLTS, C-D #BR 505
C4, C5		CAPACITOR, .05 MF. 400 VOLTS, C-D #GT4S5
C7		CAPACITOR, .001 MF. 600 VOLTS, C-D #GT6D1
C8A, C8B		CAPACITOR, 8-8 MF. 500 VOLTS, C-D #EB10018
C9		CAPACITOR, 2 MF. 1000 VOLTS, C-D #T-10020
C10, C11		CAPACITOR, .5 MF. 400 VOLTS, C-D #GT4P5
C12		CAPACITOR, .1 MF. 600 VOLTS, C-D #DYRT-6010
F1		FUSE, 5 AMP. NO. 3AG-5
F2		FUSE, 1.5 AMP. NO. 3AG-1.5
I1		PILOT LIGHT, NE 51
J1		RECEPTACLE, INPUT, 6 PRONG
J2		RECEPTACLE, OUTPUT, 5 PRONG
L1		REACTOR, BOGEN #T512 BU
L2		REACTOR, BOGEN #T501 B
P1		PLUG, AC.
R1		POTENTIOMETER, .5 MEG., IRC #Q13-133
R2, R10, R13		RESISTOR, .47 MEG., 1/2 WATT, IRC #BTS-470 K
R3		RESISTOR, 15,000 OHMS, 1/2 WATT, IRC #BTS-15 K

SYMBOL NO.	PART NO.	DESCRIPTION
R4		RESISTOR, 680 OHMS, 1/2 WATT, IRC #BTS-680
R5, R6		RESISTOR, 3900 OHMS, 1 WATT, IRC #BTA-3900-5%
R7		RESISTOR, 12,000 OHMS, 1/2 WATT, IRC #BTS-12 K
R8, R9		RESISTOR, .27 MEG., 1/2 WATT, IRC #BTS-270 K
R11, R12		RESISTOR, 750 OHMS, 1/2 WATT, IRC #BTS-750
R14		RESISTOR, 1000 OHMS, 10 WATT, IRC #ABA-1000
R15, R16, R18, R19		RESISTOR, 47,000 OHMS, 1/2 WATT, IRC #BTS-47 K
R17A, R17B		RESISTOR, 50,000 OHMS, 50 WATT, IRC #EPA-50 K
R20		RESISTOR, .1 MEG., 1/2 WATT, IRC #BTS-100 K
S1		SWITCH, D.P.S.T. H & H #80600
S2		SWITCH INTERLOCK, H & H #80830
T1		TRANSFORMER, OUTPUT, BOGEN #T269-1
T2		TRANSFORMER, FILAMENT, BOGEN #T360-1
T3		TRANSFORMER, PLATE, BOGEN #T357-1
T4		TRANSFORMER, DRIVER, BOGEN #T119B4
V1		VACUUM TUBE, 6SL7GT
V2, V3, V6		VACUUM TUBE, 6SN7GT
V4, V5		VACUUM TUBE, #807
V7		VACUUM TUBE, 5R4GY
V8		VACUUM TUBE, 5Y3GT

NOTE: David Bogen Company has provided the following data regarding plate voltage and dissipation of the 807 Vacuum Tubes.

Output	Plate Voltage (Note 4)	Plate Dissipation (Note 5)
0 Signal	825	24 Watts
50 Watts	750	-
125 Watts	700	30 Watts

NTS-1125 AMPLIFIER
SCHEMATIC
NATIONAL THEATRE SUPPLY
92 GOLD ST. NEW YORK 7, N.Y.
DR. CH'K. APP'D.
NS-128

NTS-1125 AMPLIFIER 40-03

ALTEC SERVICE CORPORATION SIMPLEX

Issued by Engineering Department
Printed in U.S.A.

0. ABSTRACT

0.1 To provide information on the subject of blowing fuses in the AM-1026 Amplifier.

1. GENERAL

1.1 Tests by International Projector Corporation based on reports of the AM-1026 Amplifier blowing fuses indicated that the 807 Tubes became cherry-red and the fuse blew in approximately one hour's operation when the output of the amplifier was shorted, and the audio signal adjusted so that signal peaks were approximately 60 watts.

2. CONCLUSION

2.1 As a result of these tests International Projector Corporation suggests that in case similar symptoms are encountered in the field, a check should be made to see that the load presented to the amplifier is normal.

2.11 The most likely source of trouble will be shorted ramp feed lines.

SUBJECT - OVERHEATING OF 807 VACUUM TUBES

High plate current (at zero signal) and consequent overheating of 807 Vacuum Tubes in the AM-1026 Amplifier have been found due to one or more of the following conditions:

1. Short circuits in output lines - This has occurred in Drive-In theatres.

2. Defective voltage regulator tubes - The 807 screen supply should be close to 300 V.

3. Heater cathode leakage in 6SN7 Vacuum Tubes - The manufacturer recommends type 6SN7GTA only.

4. Leakage of C3 and C4 - Universal replacement was made some time ago with the CD-Gray Tiger type. If these give trouble, headquarters should be notified by special memorandum. Leakage is most easily detected by connecting the DC VTVM across R12 and R13 in turn. There should be no observable deflection of the meter needle.

5. The bias voltage may be below the normal value of -30 volts measured between the 807 grids and ground. This may be due to:

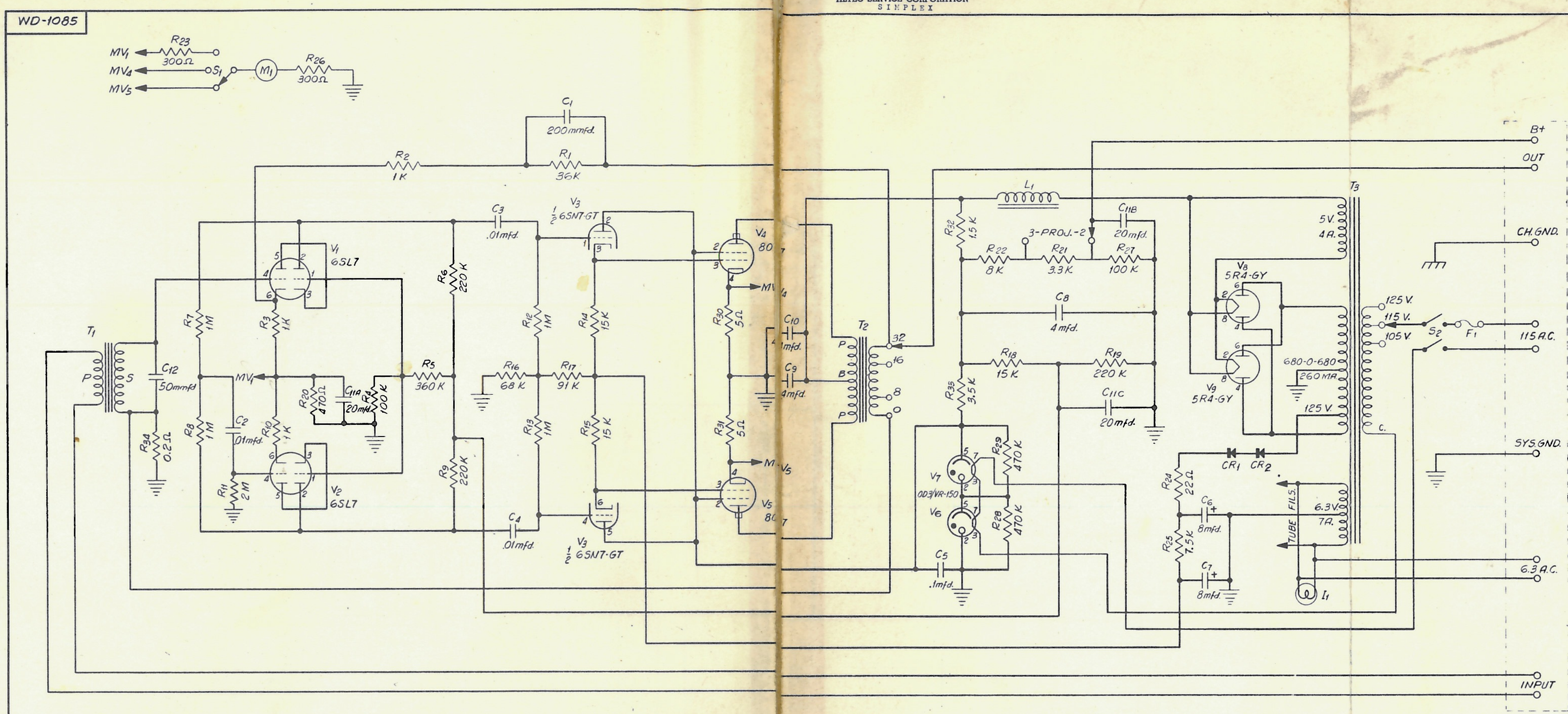
   (a) Incorrect power transformer tap - Use taps as follows:

   Line voltage 122 to 130, use 125 V tap
   Line voltage 113 to 121, use 115 V tap
   Line voltage below 112, use 105 V tap

   (b) Inefficient CR1 and CR2 bias rectifiers - Restore bias voltage to -30 V ± 10% by changing R17 (91,000 ohms) to 75,000 ohms, 1 watt. If there is reason to believe the rectifiers are defective, replacements should be ordered.

WD-1085

ISSUE 1 11-17-49
REVERSED PIN N^os 2 & 8 OF V8 & V9 CHANGED TITLE & REF. DWG AME-1026 FROM 50W. REPLACED WD-1085 SCHEMATIC REF. DWG. WITH WIRING DIA.
A.D.
ISSUE 2 3-17-50



SYMBOL	I.P.C. PT. Nº	DESCRIPTION
R1	PA-1010	RESISTOR, 36K, 1 W., CARBON
R2	-2051	" , 1K, 1W., "
R3	-2051	" , 1K, 1W., "
R4	-2045	" , 100K, 1W., "
R5	-2073	" , 360K, 1W., "
R6	-2072	" , 220K, 1W., "
R7	-2048	" , 1M, 1W., "
R8	-2048	" , 1M, 1W., "
R9	-2072	" , 220K, 1W., "
R10	-2051	" , 1K, 1W., "
R11	-2074	" , 2M, 1W., "
R12	-2048	" , 1M, 1W., "
R13	-2048	" , 1M, 1W., "
R14	-2069	" , 15K, 1W., "
R15	-2069	" , 15K, 1W., "
R16	-2070	" , 68K, 1W., "
R17	-2071	" , 91K, 1W., "
R18	-2069	" , 15K, 1W., "
R19	-2072	" , 220K, 1W., "
R20	-2075	" , 470Ω, 1W., "
R21	-2523	" , 3.3K, 2W., "
R22	-2077	" , 8K, 5W., WIREWOUND
R23	-2802	" , 300Ω, 1W., CARBON
R24	-2451	" , 22Ω, 1W., "

SYMBOL	I.P.C. PT. Nº	DESCRIPTION
R25	PA-2067	RESISTOR, 7.5K, 2W., CARBON
R26	-2802	" , 300Ω, 1W., "
R27	-2076	" , 100K, 2W., "
R28	-2046	" , 470K, 1W., "
R29	-2046	" , 470K, 1W., "
R30	-2038	" , 5Ω, 1W., "
R31	-2038	" , .5Ω, 1W., "
R32	-2101	" , 1.5K, 25W., WIREWOUND
R33	-2100	" , 3.5K, 25W., "
R34	-2066	" , 0.2Ω, 2W., "
C1	-2803	CAPACITOR, 200mmfd, 500 V., MOLDED MICA
C2	-2058	" , .01 mfd., 600 V., TUBULAR, PAP.
C3	-2058	" , .01 mfd., 600 V., " "
C4	-2058	" , .01 mfd., 600 V., " "
C5	-2099	" , .1 mfd., 400 V., " "
C6	-2061	" , 8 mfd., 250 V., TUBULAR, ELEC.
C7	-2061	" , 8 mfd., 250 V., " "
C8	-2098	" , 4 mfd., 600 V., PAPER, CAN
C9	-2098	" , 4 mfd., 600 V., " "
C10	-2098	" , 4 mfd., 600 V., " "
C11A	-2085	CAPACITOR ELECTROLYTIC 20 mfd., 2[illegible]5 V.
C11B		20 mfd., 4[illegible]0 V.
C11C		20 mfd., 4[illegible]0 V.
C12	-2623	CAPACITOR, 50mmfd., 5[illegible]0 V. MOLDED MICA

LEGEND ÷ K = x 1000 Ω
M = x 1,000,00[illegible]0 Ω

SYMBOL	I.P.C. PT. Nº	DESCRIPTION
T1	PB-2082	INPUT TRANSFORMER
T2	PC-2095	OUTPUT "
T3	PC-2094	POWER "
L1	PB-2096	CHOKE
F1	PA-2455	FUSETRON, 2.5A.
I1	PA-2425	DIAL LAMP, 6-8 V.
S1	-2092	ROTARY SWITCH, 1 POLE, 3 POS.
S2	-2089	TOGGLE SWITCH, D.P.S.T.
CR1	-2091	SELENIUM RECTIFIER
CR2	-2091	" "
M1	-2088	D.C. MILLIAMMETER
V1	-1055	VACUUM TUBE, 6SL7-GT
V2	-1055	" " , 6SL7-GT
V3	-2607	" " , 6SN7-GT
V4	-2608	" " , 807
V5	-2608	" " , 807
V6	-1053	REGULATOR TUBE, OD3/VR-150
V7	-1053	" " , OD3/VR-150
V8	-2137	VACUUM TUBE, 5R4-GY
V9	-2137	" " , 5R4-GY

REFERENCE DWGS.
AME-1026 X-L AMPLIFIER, 60 W.
WE-1094 WIRING DIAGRAM

SCALE

SCHEMATIC
60 W. AMPLIFIER

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

DR. A.D. CH'K. APP'D

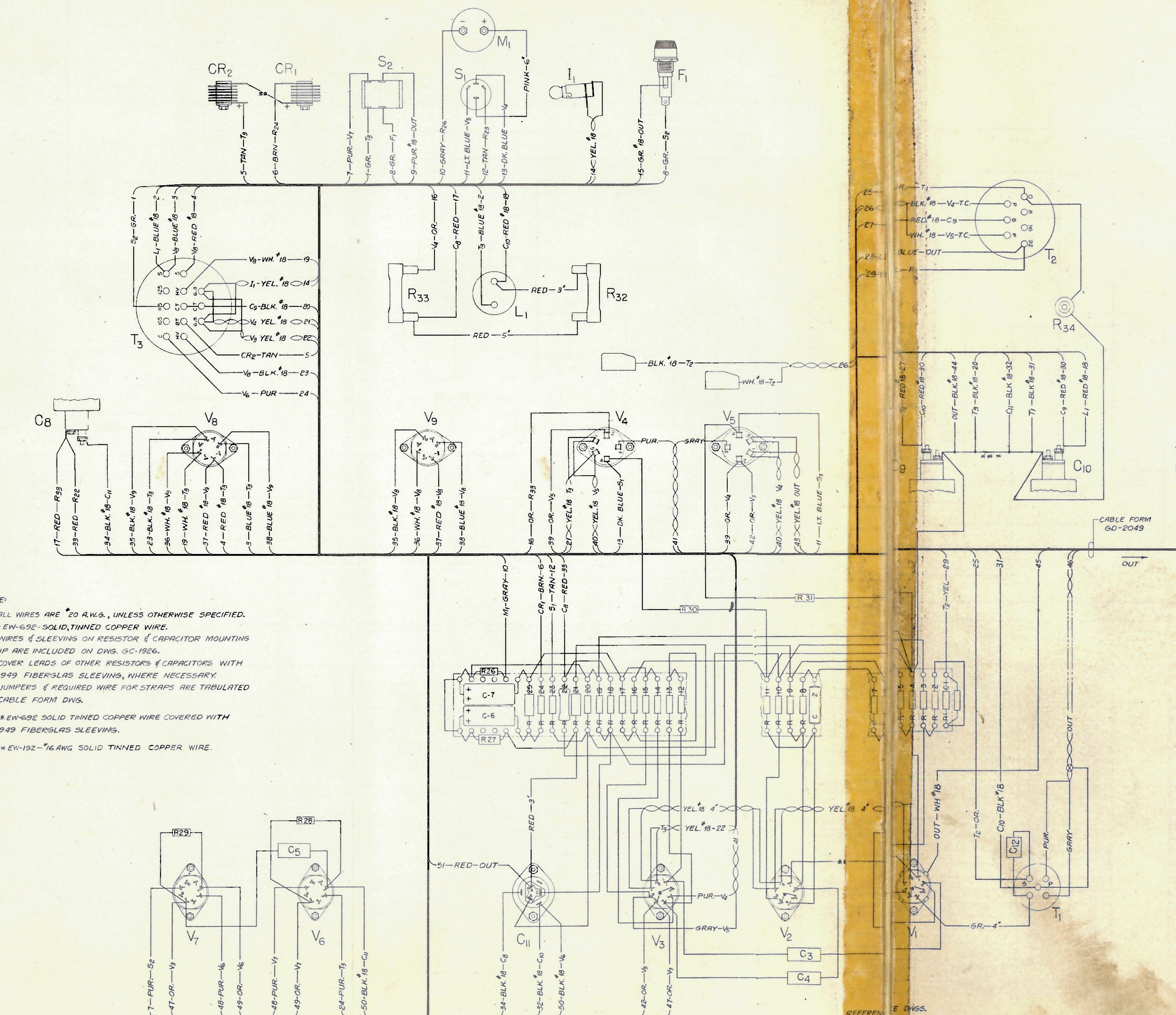
PRODUCT CLASS

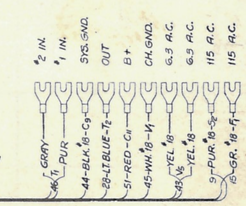
WD-1085

UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS BREAK SHARP CORNERS
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

ALTEC SERVICE CORPORAT[illegible]ON
SIMPLEX

WE-1094





NOTE:

ALL WIRES ARE #20 A.W.G., UNLESS OTHERWISE SPECIFIED.

* EW-692-SOLID, TINNED COPPER WIRE.

WIRES & SLEEVING ON RESISTOR & CAPACITOR MOUNTING STRIP ARE INCLUDED ON DWG. GC-1926.

COVER LEADS OF OTHER RESISTORS & CAPACITORS WITH EW-949 FIBERGLAS SLEEVING, WHERE NECESSARY.

JUMPERS & REQUIRED WIRE FOR STRAPS ARE TABULATED ON CABLE FORM DWG.

** EW-692 SOLID TINNED COPPER WIRE COVERED WITH EW-949 FIBERGLAS SLEEVING.

*** EW-192-#16 AWG SOLID TINNED COPPER WIRE.

SYMBOL	I.P.C. PT. Nº	DESCRIPTION
R_1	PA-1010	RESISTOR, 36K., 1W. CARBON
R_2	2051	" , 1K, 1W. "
R_3	2051	" , 1K, 1W., "
R_4	2045	" , 100K, 1W., "
R_5	2073	" , 360K, 1W., "
R_6	2072	" , 220K, 1W., "
R_7	2048	" , 1M., 1W., "
R_8	2048	" , 1M., 1W., "
R_9	2072	" , 220K., 1W., "
R_{10}	2051	" , 1K, 1W., "
R_{11}	2074	" , 2M, 1W., "
R_{12}	2048	" , 1M, 1W., "
R_{13}	2048	" , 1M, 1W., "
R_{14}	2069	" , 15K, 1W., "
R_{15}	2069	" , 15K, 1W., "
R_{16}	2070	" , 68K, 1W., "
R_{17}	2071	" , 91K, 1W., "
R_{18}	2069	" , 15K, 1W., "
R_{19}	2072	" , 220K, 1W., "
R_{20}	2075	" , 470Ω, 1W., "
R_{21}	2523	" , 3.3K, 2W., "
R_{22}	2077	" , 8K, 5W., WIREWOUND
R_{23}	2802	" , 300Ω, 1W., CARBON
R_{24}	2451	" , 22Ω, 1W., "
R_{25}	2067	" , 7.5K, 2W., "
R_{26}	2802	" , 300Ω, 1W., "
R_{27}	2076	" , 100K, 2W., "
R_{28}	2046	" , 470K, 1W., "
R_{29}	2046	" , 470K, 1W., "
R_{30}	2038	" , 5Ω, 1W., "
R_{31}	2038	" , 5Ω, 1W., "
R_{32}	2101	" , 1.5K, 25W., WIREWOUND
R_{33}	2100	" , 3.5K, 25W., "
R_{34}	2066	" , 0.2Ω, 2W., "

C_1	2803	CAPACITOR, 200mmfd., 500V., MOLDED MICA	
C_{12}	2623	" , 50mmfd., 500V., MOLDED MICA	
C_2	2058	" , .01 mfd., 600V., TUBULAR, PAPER	
C_3	2058	" , .01 mfd., 600V., " , "	
C_4	2058	" , .01 mfd., 600V., " , "	
C_5	2099	" , .1 mfd., 400V., " , "	
C_6	2061	" , 8 mfd., 250V., " , ELECT.	
C_7	2061	" , 8 mfd., 250V., " , "	
C_8	2098	" , 4 mfd., 600V., PAPER, CAN	
C_9	2098	" , 4 mfd., 600V., " , "	
C_{10}	2098	" , 4 mfd., 600V., " , "	
C_{11A}	2085	CAPACITOR ELECTROLYTIC	20 mfd., 25V.
C_{11B}			20 mfd., 450V.
C_{11C}			20 mfd., 450V.
T_1	PB-2082	INPUT TRANSFORMER	
T_2	PC-2095	OUTPUT "	
T_3	PC-2094	POWER "	
L_1	PB-2096	CHOKE	
F_1	PA-2455	FUSETRON, 2.5 AMP.	
I_1	2425	DIAL LAMP, 6-8 V.	
S_1	2092	ROTARY SWITCH, 1 POLE, 3 POS.	
S_2	2089	TOGGLE SWITCH, D.P.S.T.	
CR_1	2091	SELENIUM RECTIFIER	
CR_2	2091	" "	
M_1	2088	D.C. MILLIAMETER	
V_1	1055	VACUUM TUBE, 6SL7-GT	
V_2	1055	" " , 6SL7-GT	
V_3	2607	" " , 6SN7-GT	
V_4	2608	" " , 807	
V_5	2608	" " , 807	
V_6	1053	REGULATOR TUBE, 0D3/VR-150	
V_7	1053	" " , 0D3/VR-150	
V_8	2137	VACUUM TUBE, 5R4-GY	
V_9	2137	" " , 5R4-GY	

LEGEND-
K = x 1000 Ω
M = x 1,000,000 Ω

REFEREN[illegible]E DWGS.
AME-10[illegible]6 - 60 W. AMPLIFIER ASS'Y
WD-10[illegible]5 - SCHEMATIC

ISSUE-1 11-17-49
CHANGES MADE AS PER PRINT ATTACHED TO CHANGE NOT. 13752
C.S.
ISSUE-2- 2-7-50
JUMPER FROM C-11 TO R-18 WAS TO R-19
A.D.
ISSUE 3 - 3-[illegible]-5[illegible]

WIRING DIAGRAM
60 W. AMPLIFIER

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

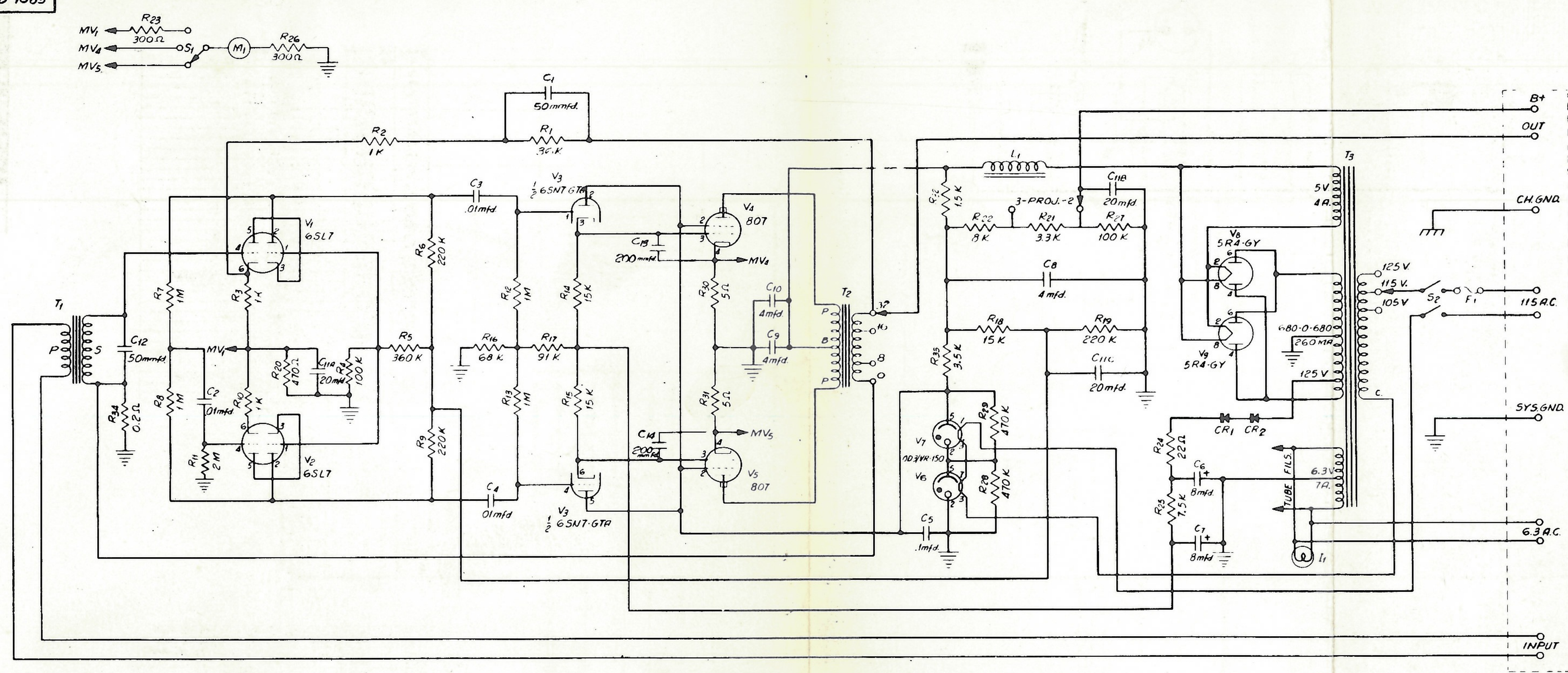
DR. A.D. CH'K. APP'D.

F WE-1094

Issued by
Engineering Department
Printed in U.S.A.

ALTEC SERVICE CORPORATION
SIMPLEX

WD-1085



SYMBOL	I.P.C. PT. Nº	DESCRIPTION
R1	PA-1010	RESISTOR, 36K, 1W, CARBON
R2	-2051	" , 1K, 1W., "
R3	-2051	" , 1K, 1W., "
R4	-2045	" , 100K, 1W., "
R5	-2073	" , 360K, 1W., "
R6	-2072	" , 220K, 1W., "
R7	-2048	" , 1M, 1W., "
R8	-2048	" , 1M, 1W., "
R9	-2072	" , 220K, 1W., "
R10	-2051	" , 1K, 1W., "
R11	-2074	" , 2M, 1W., "
R12	-2048	" , 1M, 1W., "
R13	-2048	" , 1M, 1W., "
R14	-2069	" , 15K, 1W., "
R15	-2069	" , 15K, 1W., "
R16	-2070	" , 68K, 1W., "
R17	-2071	" , 91K, 1W., "
R18	-2069	" , 15K, 1W., "
R19	-2072	" , 220K, 1W., "
R20	-2075	" , 470Ω, 1W., "
R21	-2523	" , 3.3K, 2W., "
R22	-2077	" , 8K, 5W., WIREWOUND
R23	-2802	" , 300Ω, 1W., CARBON
R24	-2451	" , 22Ω, 1W., "

SYMBOL	I.P.C. PT. Nº	DESCRIPTION	
R25	PA-2067	RESISTOR, 7.5K, 2W, CARBON	
R26	-2802	" , 300Ω, 1W., "	
R27	-2076	" , 100K, 2W., "	
R28	-2046	" , 470K, 1W., "	
R29	-2046	" , 470K, 1W., "	
R30	-2038	" , 5Ω, 1W., "	
R31	-2038	" , .5Ω, 1W., "	
R32	-2101	" , 1.5K, 25W., WIREWOUND	
R33	-2100	" , 3.5K, 25W., "	
R34	-2064	" , 0.2Ω, 2W., "	
C1	2683	CAPACITOR, 50mmfd, 500V., MOLDED MICA	
C2	-2058	" , .01mfd., 600V., TUBULAR, PAP.	
C3	-2058	" , .01mfd., 600V., " "	
C4	-2058	" , .01mfd., 600V., " "	
C5	-2099	" , .1mfd., 400V., " "	
C6	2061	" , 8mfd., 250V., TUBULAR, ELEC.	
C7	-2061	" , 8mfd., 250V., " "	
C8	-2098	" , 4mfd., 600V., PAPER, CAN	
C9	-2098	" , 4mfd., 600V., " "	
C10	-2098	" , 4mfd., 600V., " "	
C11A	-2085	CAPACITOR ELECTROLYTIC	20mfd., 25V.
C11B			20mfd., 450V.
C11C			20mfd., 450V.
C12	-2623	CAPACITOR, 50mmfd., 500V. MOLDED MICA	
C13	-2803	" , 200mmfd., 500V., " "	
C14	-2803	" , 200mmfd., 500V., " "	

LEGEND - K = × 1000 Ω
M = × 1,000,000 Ω

SYMBOL	I.P.C. PT. Nº	DESCRIPTION
T1	PB-2082	INPUT TRANSFORMER
T2	PC-2095	OUTPUT "
T3	PC-2094	POWER "
L1	PB-2096	CHOKE
F1	PA-2455	FUSETRON, 2.5A.
I1	PA-2425	DIAL LAMP, 6-8 V.
S1	-2092	ROTARY SWITCH, 1-POLE, 3 POS.
S2	-2089	TOGGLE SWITCH, D.P.S.T.
CR1	-2091	SELENIUM RECTIFIER
CR2	-2091	" "
M1	-2088	D.C. MILLIAMMETER
V1	1055	VACUUM TUBE, 6SL7-GT
V2	-1055	" " , 6SL7-GT
V3	1956	" " , 6SN7-GTA
V4	-2608	" " , 807
V5	-2608	" " , 807
V6	1053	REGULATOR TUBE, OD3/VR-150
V7	1053	" " , OD3/VR-150
V8	2137	VACUUM TUBE, 5R4-GY
V9	-2137	" " , 5R4-GY

REFERENCE DWGS.
AME-1026 POWER AMPLIFIER
WE-1094 WIRING DIAGRAM

ISSUE 1 11-17-49
REVERSED PIN Nº 2 & 8 OF V8 & V9 CHANGED TITLE & REF. DWG AME-1026 REPLACED WD-1085 SCHEMATIC REF. DWG. WITH WIRING DIA.
A.D.
ISSUE 2 3-17-50
V3 WAS PART 6SN7-GT. TITLE WAS ... REF. DWG WAS X-L AMPLIFIER GOV'T.
A.D.
ISSUE-3 4-27-50
ADDED C-13 & C-14 CAPACITORS TO SCHEMATIC & TABLE
A.D.
ISSUE-4 5-24-50
C13 WAS PA-2803 200mmfd AS PER DEV. PERMIT #556
A.D.
ISSUE-5 6-22-50

SCALE

PRODUCT CLASS

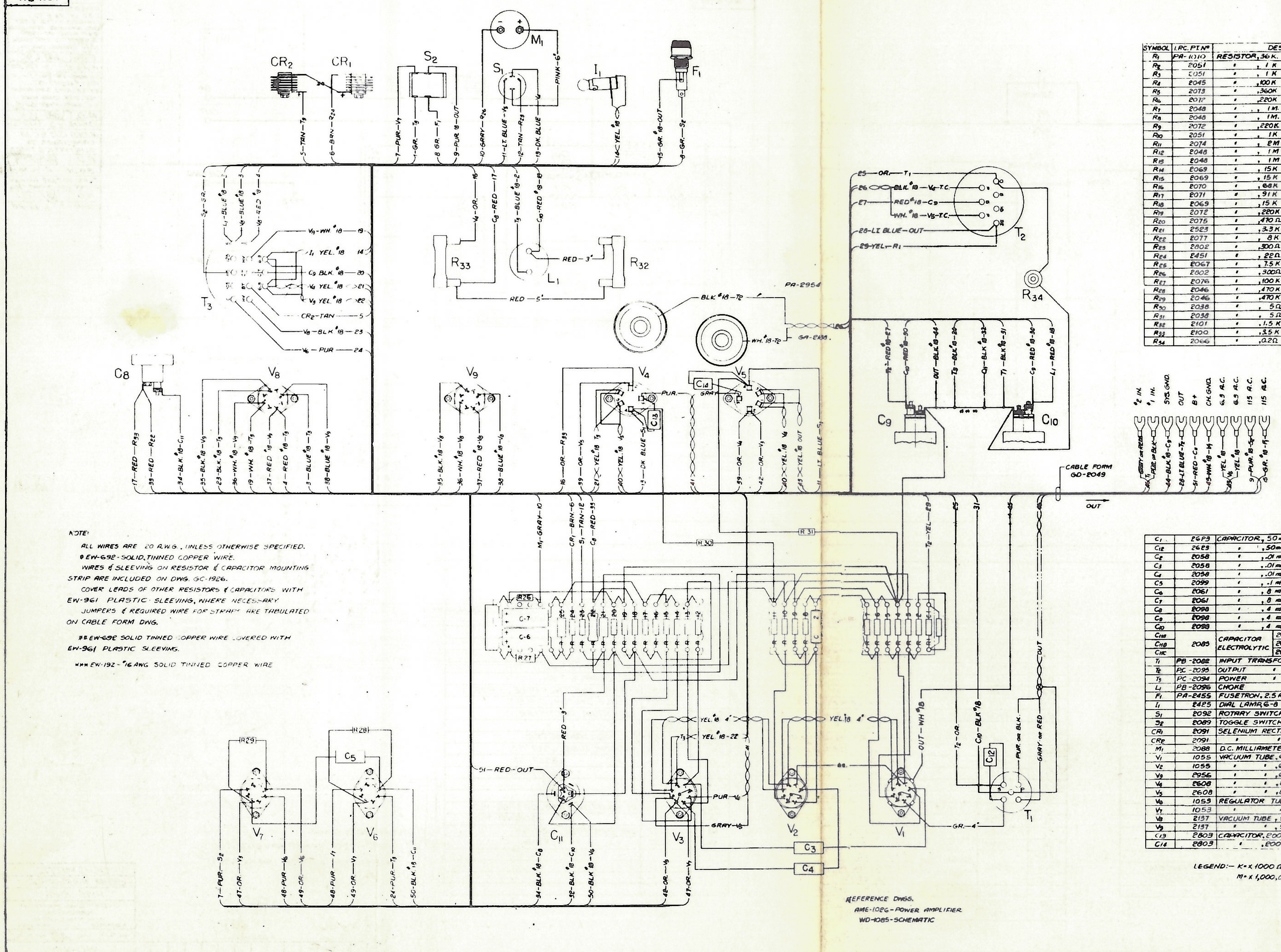
SCHEMATIC
POWER AMPLIFIER
AME-1026
INTERNATIONAL PROJECTOR CORPORATION
88 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY
DR. A.D. CH'K APP'D
WD-1085

Printed in U.S.A.

AME-1026 POWER AMPLIFIER

ALTEC SERVICE CORPORATION
SIMPLEX

WE-1094



NOTE:

ALL WIRES ARE 20 A.W.G., UNLESS OTHERWISE SPECIFIED.

* EW-692 - SOLID, TINNED COPPER WIRE.

WIRES & SLEEVING ON RESISTOR & CAPACITOR MOUNTING STRIP ARE INCLUDED ON DWG. GC-1926.

COVER LEADS OF OTHER RESISTORS & CAPACITORS WITH EW-961 PLASTIC SLEEVING, WHERE NECESSARY

JUMPERS & REQUIRED WIRE FOR STRAPS ARE TABULATED ON CABLE FORM DWG.

** EW-692 SOLID TINNED COPPER WIRE COVERED WITH EW-961 PLASTIC SLEEVING.

*** EW-192 - #16 AWG SOLID TINNED COPPER WIRE

SYMBOL	I.P.C. PT. No	DESCRIPTION
R_1	PA-1010	RESISTOR, 36 K., 1 W. CARBON
R_2	2051	" , 1 K, 1 W., "
R_3	2051	" , 1 K, 1 W., "
R_4	2045	" , 100 K, 1 W., "
R_5	2073	" , 360 K, 1 W., "
R_6	2072	" , 220 K, 1 W., "
R_7	2048	" , 1 M., 1 W., "
R_8	2048	" , 1 M., 1 W., "
R_9	2072	" , 220 K., 1 W., "
R_{10}	2051	" , 1 K, 1 W., "
R_{11}	2074	" , 2 M, 1 W., "
R_{12}	2048	" , 1 M, 1 W., "
R_{13}	2048	" , 1 M, 1 W., "
R_{14}	2069	" , 15 K, 1 W., "
R_{15}	2069	" , 15 K, 1 W., "
R_{16}	2070	" , 68 K, 1 W., "
R_{17}	2071	" , 91 K, 1 W., "
R_{18}	2069	" , 15 K, 1 W., "
R_{19}	2072	" , 220 K, 1 W., "
R_{20}	2075	" , 470 Ω, 1 W., "
R_{21}	2523	" , 3.3 K, 2 W., "
R_{22}	2077	" , 8 K, 5 W., WIREWOUND
R_{23}	2802	" , 300 Ω, 1 W., CARBON
R_{24}	2451	" , 22 Ω, 1 W., "
R_{25}	2067	" , 7.5 K, 2 W., "
R_{26}	2802	" , 300 Ω, 1 W., "
R_{27}	2076	" , 100 K, 2 W., "
R_{28}	2046	" , 470 K, 1 W., "
R_{29}	2046	" , 470 K, 1 W., "
R_{30}	2038	" , 5 Ω, 1 W., "
R_{31}	2038	" , 5 Ω, 1 W., "
R_{32}	2101	" , 1.5 K, 25 W., WIREWOUND
R_{33}	2100	" , 3.5 K, 25 W., "
R_{34}	2066	" , 0.2 Ω, 2 W., "

C_1	2623	CAPACITOR, 50 mmfd., 500 V., MOLDED MICA	
C_{12}	2623	" , 50 mmfd., 500 V., MOLDED MICA	
C_2	2058	" , .01 mfd., 600 V., TUBULAR, PAPER	
C_3	2058	" , .01 mfd., 600 V., " , "	
C_4	2058	" , .01 mfd., 600 V., " , "	
C_5	2099	" , .1 mfd., 400 V., " , "	
C_6	2061	" , 8 mfd., 250 V., " , ELECT.	
C_7	2061	" , 8 mfd., 250 V., " , "	
C_8	2098	" , 4 mfd., 600 V., PAPER, CAN	
C_9	2098	" , 4 mfd., 600 V., " , "	
C_{10}	2098	" , 4 mfd., 600 V., " , "	
C_{11A}	2085	CAPACITOR ELECTROLYTIC	20 mfd., 25 V.
C_{11B}			20 mfd., 450 V.
C_{11C}			20 mfd., 450 V.
T_1	PB-2082	INPUT TRANSFORMER	
T_2	PC-2093	OUTPUT "	
T_3	PC-2094	POWER "	
L_1	PB-2096	CHOKE	
F_1	PA-2455	FUSETRON, 2.5 AMP.	
I_1	2425	DIAL LAMP, 6-8 V.	
S_1	2092	ROTARY SWITCH, 1 POLE, 3 POS.	
S_2	2089	TOGGLE SWITCH, D.P.S.T.	
CR_1	2091	SELENIUM RECTIFIER	
CR_2	2091	" "	
M_1	2088	D.C. MILLIAMETER	
V_1	1055	VACUUM TUBE, 6SL7-GT	
V_2	1055	" " , 6SL7-GT	
V_3	2956	" " , 6SN7-GTA	
V_4	2608	" " , 807	
V_5	2608	" " , 807	
V_6	1053	REGULATOR TUBE, OD3/VR-150	
V_7	1053	" " , OD3/VR-150	
V_8	2137	VACUUM TUBE, 5R4-GY	
V_9	2137	" " , 5R4-GY	
C_{13}	2803	CAPACITOR, 200 mmfd., 500 V., MOLDED MICA	
C_{14}	2803	" , 200 mmfd., 500 V., " "	

LEGEND:— K = x 1000 Ω
M = x 1,000,000 Ω

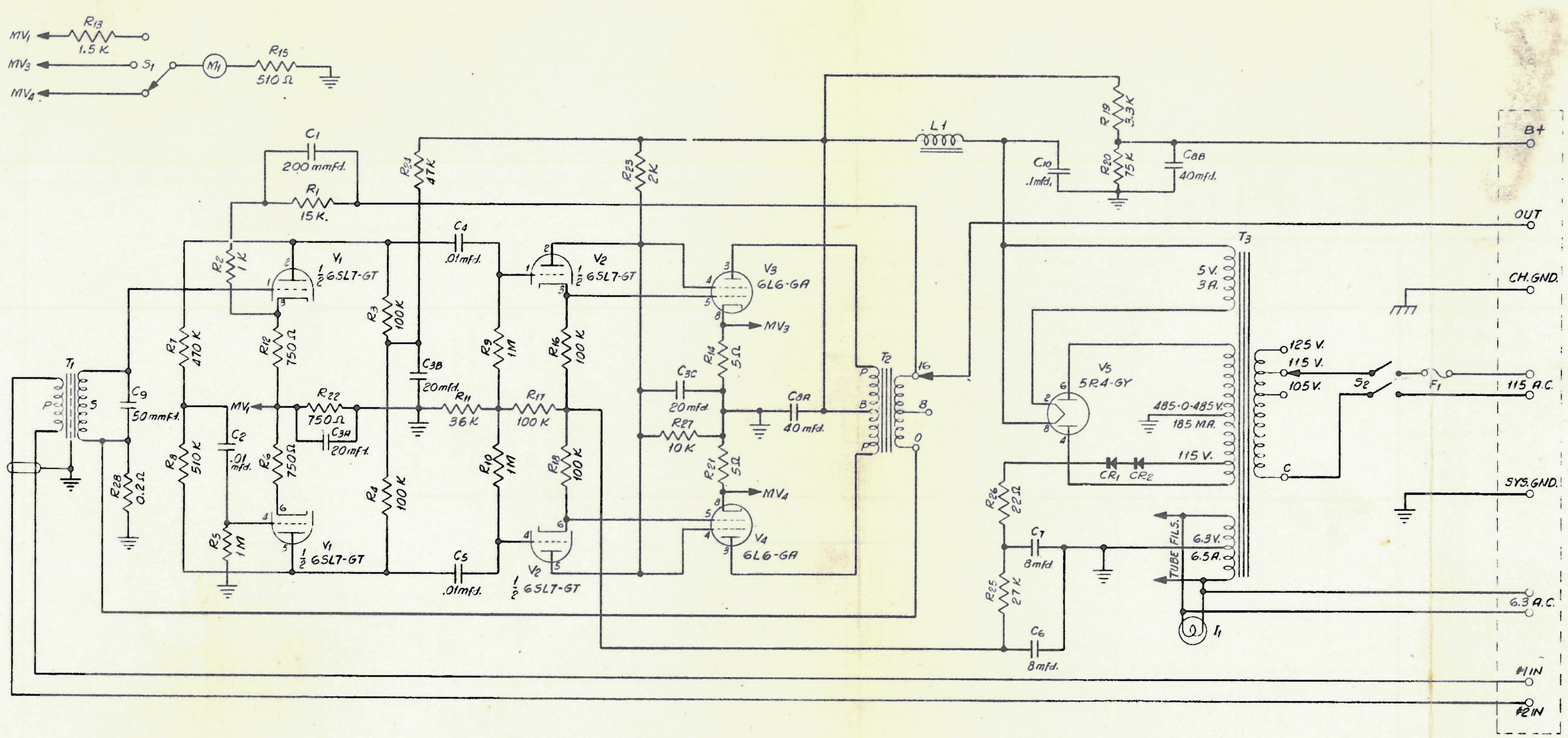
REFERENCE DWGS.
AME-1026 - POWER AMPLIFIER
WD-1085 - SCHEMATIC

ISSUE: 1 11-17-49
CHANGES MADE AS PER PRINT ATTACHED TO CHANGE NOT. 15732
C.S.
ISSUE 2 - 2-7-50
JUMPER FROM C-11 TO R-18 WAS TO R-17
A.D.
ISSUE 3
EW-961 PLASTIC SLEEVING WAS EW-949 FIBERGLAS SLEEVING.
TITLE WAS COM. AMPLIFIER
V3 WAS PA-2607 - 6SN7GT
REPLACED TOP CAPS AS PER CHANGE ON ASSY.
A.D.
ISSUE 4 4-27-50
ADDED C-13 & C-14 TO DRAWING & TABLE
ADDED ALTERNATE CO... TO WIRE 46
A.D.
ISSUE 5
C1 WAS ...
A.D.
ISSUE 6

WIRING DIAGRAM
AME-1026
POWER AMPLIFIER
INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY
DR. A.D. CH'K APP'D
F WE-1094

WD-1086

ISSUE 1	10-17-49
ADDED SHIELD & GRND CONNECTION TO T1, ADDED C-10. CHANGED INPUT TERMINALS FROM "INPUT" TO "#1 IN" & "#2 IN".	
ISSUE 2	1-4-50



SYMBOL	I.P.C. PT. Nº	DESCRIPTION
R1	PA-2069	RESISTOR, 15 K, 1 W., CARBON
R2	-2051	" , 1 K, 1 W., "
R3	-2045	" , 100 K, 1 W., "
R4	-2045	" , 100 K, 1 W., "
R5	-2048	" , 1 M, 1 W., "
R6	-1004	" , 750 Ω, 1 W., "
R7	-2046	" , 470 K, 1 W., "
R8	-2047	" , 510 K, 1 W., "
R9	-2048	" , 1 M, 1 W., "
R10	-2048	" , 1 M, 1 W., "
R11	-1010	" , 36 K, 1 W., "
R12	-1004	" , 750 Ω, 1 W., "
R13	-2125	" , 1.5 K, 1 W., "
R14	-2038	" , 5 Ω, 1 W., "
R15	-2040	" , 510 Ω, 1 W., "
R16	-2045	" , 100 K, 1 W., "
R17	-2045	" , 100 K, 1 W., "
R18	-2045	" , 100 K, 1 W., "
R19	-2523	" , 3.3 K, 2 W., "
R20	-2050	" , 75 K, 2 W., "

SYMBOL	I.P.C. PT. Nº	DESCRIPTION	
R21	PA-2038	RESISTOR, 5 Ω, 1 W., CARBON	
R22	-1004	" , 750 Ω, 1 W., "	
R23	-2039	" , 2 K, 5 W., WIREWOUND	
R24	-2043	" , 47 K, 1 W., CARBON	
R25	-2044	" , 27 K, 1 W., "	
R26	-2451	" , 22 Ω, 1 W., "	
R27	-2086	" , 10 K, 25 W., WIREWOUND	
R28	-2066	" , 0.2 Ω, 2 W., "	
C1	-2803	CAPACITOR, 200 mmfd., 500 V., MOLDED MICA	
C2	-2058	" , .01 mfd., 600 V., TUB., PAPER	
C3A	-2085	CAPACITOR ELECTROLYTIC	20 mfd., 25 V.
C3B			20 mfd., 450 V.
C3C			20 mfd., 450 V.
C4	-2058	CAPACITOR, .01 mfd., 600 V., TUB., PAPER	
C5	-2058	" , .01 mfd., 600 V., " , "	
C6	-2061	" , 8 mfd., 250 V., TUB., ELEC.	
C7	-2061	" , 8 mfd., 250 V., " "	
C8A	-2084	"	40 mfd., 450 V.,
C8B			40 mfd., 450 V.,
C9	-2623	" , 50 mmfd, 500 V., MOLDED MICA	
C10	2880	" , .1 mfd., 600 V. TUB., PAPER	

SYMBOL	I.P.C. PT. Nº	DESCRIPTION
T1	PB-2082	INPUT TRANSFORMER
T2	-2081	OUTPUT "
T3	PC-2080	POWER "
L1	PB-2083	CHOKE
F1	PA-2499	FUSETRON, 2A.
I1	-2425	DIAL LAMP, 6-8 V.
CR1	-2091	SELENIUM RECTIFIER
CR2	-2091	" "
M1	-2088	D.C. MILLIAMMETER
S1	-2092	ROTARY SWITCH, 1 POLE, 3 POS.
S2	-2089	TOGGLE SWITCH, D.P.S.T.
V1	-1055	VACUUM TUBE, 6SL7-GT
V2	-1055	" " , 6SL7-GT
V3	-2129	" " , 6L6-G
V4	-2129	" " , 6L6-G
V5	-2137	" " , 5R4-GY

LEGEND: K = × 1000 Ω
M = × 1,000,000 Ω

REFERENCE DWGS.
AME-1027-20 W. AMPLIFIER ASS'Y
WE-1092-WIRING DIAGRAM

SCALE

SCHEMATIC
20 W. AMPLIFIER

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

DR. AD CH'K. APP'D.

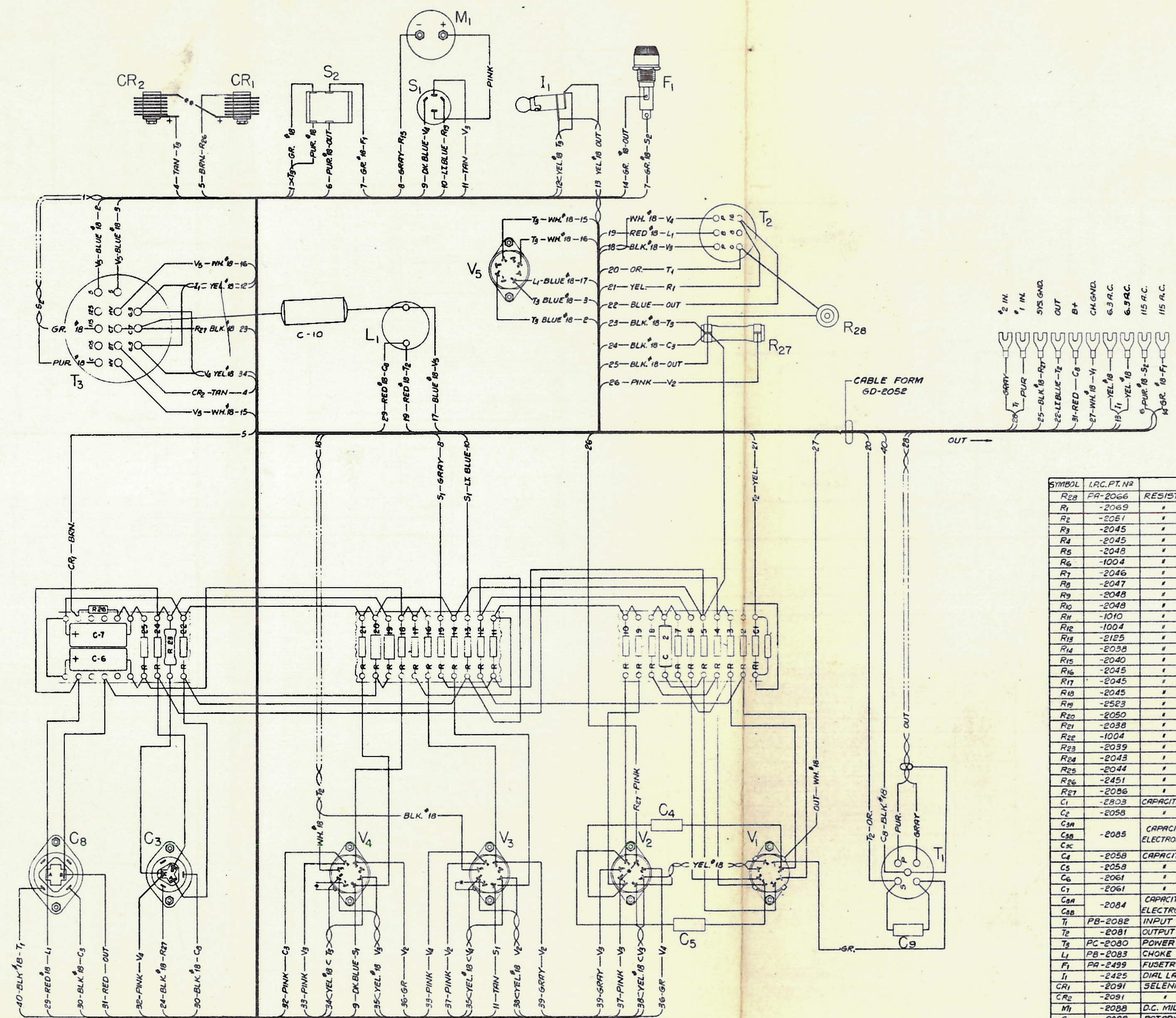
PRODUCT CLASS

WD-1086

UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS BREAK SHARP CORNERS
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

WE-1092

ISSUE-1 10-17-49
ADDED C-10 CAPACITOR. ADDED WIRE 40-BLK #18 (2-PLACES)
REMOVED WH. #18 WIRE FROM CENTER LUG OF T1 TO GRN. CONNECTION OF V1. ADDED SHIELD TO TWISTED PUR. GREY WIRE & CONNECTED TO CENTER TERMINAL OF T1.
REVERSED COLOR OF INPUT WIRES #1 2
ISSUE-2 1-12-50



SYMBOL	I.P.C. PT. №	DESCRIPTION	
R_{28}	PA-2066	RESISTOR, 0.2Ω, 2W, WIREWOUND	
R_1	-2069	″ ,15 K ,1W , CARBON	
R_2	-2051	″ , 1 K ,1W , ″	
R_3	-2045	″ ,100 K ,1W , ″	
R_4	-2045	″ ,100 K ,1W , ″	
R_5	-2048	″ , 1M ,1W , ″	
R_6	-1004	″ ,750Ω ,1W , ″	
R_7	-2046	″ ,470 K ,1W , ″	
R_8	-2047	″ ,510 K ,1W , ″	
R_9	-2048	″ , 1M ,1W , ″	
R_{10}	-2048	″ , 1M ,1W , ″	
R_{11}	-1010	″ , 36K ,1W , ″	
R_{12}	-1004	″ ,750Ω ,1W , ″	
R_{13}	-2125	″ , 1.5 K ,1W , ″	
R_{14}	-2038	″ , 5Ω ,1W , ″	
R_{15}	-2040	″ ,510Ω ,1W , ″	
R_{16}	-2045	″ ,100 K ,1W , ″	
R_{17}	-2045	″ ,100 K ,1W , ″	
R_{18}	-2045	″ ,100 K ,1W , ″	
R_{19}	-2523	″ ,3.3 K ,2W , ″	
R_{20}	-2050	″ ,75 K ,2W , ″	
R_{21}	-2038	″ , 5Ω ,1W , ″	
R_{22}	-1004	″ ,750Ω ,1W , ″	
R_{23}	-2039	″ , 2K ,5W , WIREWOUND	
R_{24}	-2043	″ ,47 K ,1W , CARBON	
R_{25}	-2044	″ ,27 K ,1W , ″	
R_{26}	-2451	″ ,22Ω ,1W , ″	
R_{27}	-2086	″ ,10 K ,25W, WIREWOUND	
C_1	-2803	CAPACITOR, 200mmfd., 500V, MOLDED MICA	
C_2	-2058	″ ,.01 mfd. ,600V, TUBULAR, PAPER	
C_{3A}	-2085	CAPACITOR ELECTROLYTIC	20 mfd. 25 V.
C_{3B}			20 mfd. 450 V.
C_{3C}			20 mfd. 450 V.
C_4	-2058	CAPACITOR, .01mfd. ,600V, TUBULAR, PAPER	
C_5	-2058	″ ,.01mfd. ,600V, ″ , ″	
C_6	-2061	″ , 8mfd. ,250V, ″ ,ELEC.	
C_7	-2061	″ , 8mfd. ,250V, ″ ″	
C_{8A}	-2084	CAPACITOR ELECTROLYTIC	40mfd., 450 V.
C_{8B}			40mfd., 450 V.
T_1	PB-2082	INPUT TRANSFORMER	
T_2	-2081	OUTPUT ″	
T_3	PC-2080	POWER ″	
L_1	PB-2083	CHOKE	
F_1	PA-2499	FUSETRON, 2 AMP.	
I_1	-2425	DIAL LAMP, 6-8 V.	
CR_1	-2091	SELENIUM RECTIFIER	
CR_2	-2091	″ ″	
M_1	-2088	D.C. MILLIAMMETER	
S_1	-2092	ROTARY SWITCH, 1 POLE, 3 POS.	
S_2	-2089	TOGGLE SWITCH, D.P.S.T.	
V_1	-1055	VACUUM TUBE, 6SL7-GT	
V_2	-1055	″ ″ , 6SL7-GT	
V_3	-2129	″ ″ , 6L6-G	
V_4	-2129	″ ″ , 6L6-G	
V_5	-2137	″ ″ , 5R4-GY	
C_9	-2623	CAPACITOR, 50mmfd., 500V., MOLDED MICA	
C_{10}	-2880	″ ,.1mfd., 600 V., TUBULAR, PAPER	

ALL WIRES ARE #20 A.W.G., UNLESS OTHERWISE SPECIFIED.
* EW-692 - SOLID TINNED COPPER WIRE
JUMPER & STRAP LENGTHS INCLUDED ON CABLE FORM DWG.
WIRES ON RESISTOR & CAPACITOR STRIP ARE INCLUDED ON DWG. GC-1925
COVER LEADS OF RESISTORS & CAPACITORS WITH EW-949 FIBERGLAS SLEEVING WHERE NECESSARY.
** EW-692 WIRE COVERED WITH EW-949 SLEEVING.

LEGEND-
K = × 1000 Ω
M = × 1,000,000 Ω

REFERENCE DWGS.
AME 1027-20 W. AMPLIFIER ASS'Y
WD-1086-SCHEMATIC

WIRING DIAGRAM
20 W. AMPLIFIER

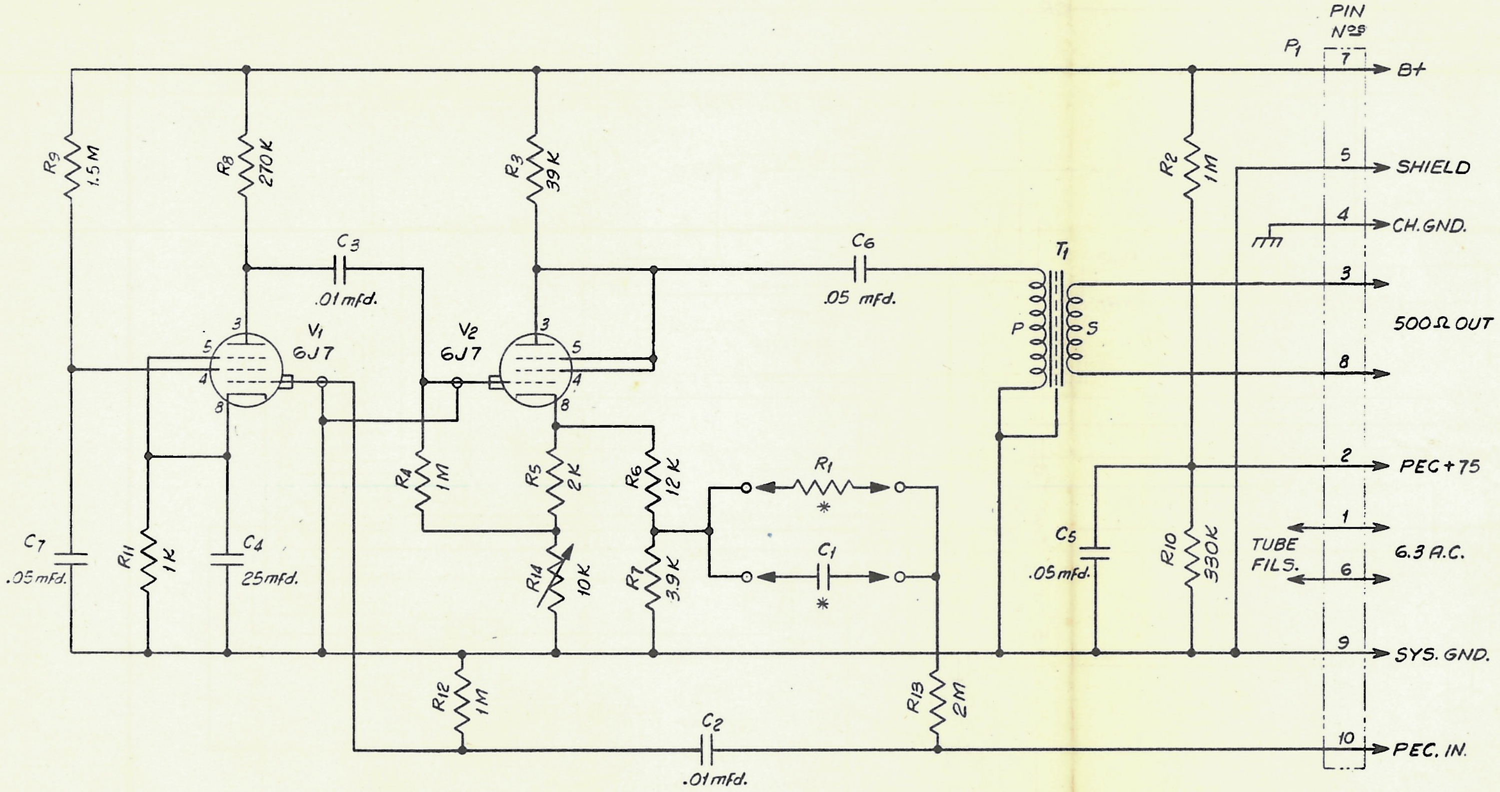
INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY
DR. A.D. CH'K. APP'D.

F WE-1092

Issued by
Engineering Department
Printed in U.S.A.

WC-1089

ISSUE 1 1-11-50



SYMBOL	I.P.C. PT. Nº	DESCRIPTION
* R_1	PA-2047	RESISTOR, 510K, 1W, CARBON
R_1	-2074	" , 2M, 1W, "
R_1	-2639	" , 3.9M, 1W, "
R_2	-2048	" , 1M, 1W, "
R_3	-2054	" , 39K, 1W, "
R_4	-2048	" , 1M, 1W, "
R_5	-2052	" , 2K, 1W, "
R_6	-2053	" , 12K, 1W, "
R_7	-1007	" , 3.9K, 1W, "
R_8	-2055	" , 270K, 1W, "
R_9	-2057	" , 1.5M, 1W, "
R_{10}	-2521	" , 330K, 1W, "
R_{11}	-2051	" , 1K, 1W, "
R_{12}	-2048	" , 1M, 1W, "
R_{13}	-2074	" , 2M, 1W, "
R_{14}	-2062	" , 10K, 2W, POTENTIOMETER

SYMBOL	I.P.C. PT. Nº	DESCRIPTION
* C_1	PA-2637	CAPACITOR, .003 mfd., 600V., TUB., PAPER
C_1	-2120	" , .001 mfd., 600V., " "
C_1	-2638	" , .0005 mfd., 600V., " "
C_2	-2058	" , .01 mfd., 600V., " "
C_3	-2058	" , .01 mfd., 600V., " , "
C_4	-2617	" , 25 mfd., 25V., CAN, ELECT.
C_5	-2117	" , .05 mfd., 400V., CAN, PAPER
C_6	-2117	" , .05 mfd., 400V., " , "
C_7	-2117	" , .05 mfd., 400V., " "
T_1	-2121	OUTPUT TRANSFORMER, 500 Ω
P_1	-2063	MALE PANEL CONNECTOR, 10 PRONG
V_1	-2118	VACUUM TUBE, 6J7
V_2	-2118	" " , 6J7

NOTE:
ALTERNATIVE PARTS R_1 & C_1 FOR LOW FREQUENCY WARPING ARE SUPPLIED SEPARATELY WITH AMPLIFIER.

* IN AMPLIFIER AS SHIPPED.

ASSOCIATED DWGS
GC-1936-ASSEMBLY
WC-1090-WIRING DIAGRAM

SCALE

SCHEMATIC
SOUNDHEAD AMPLIFIER

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

DR. A.D. CH'K. APP'D.

PRODUCT CLASS

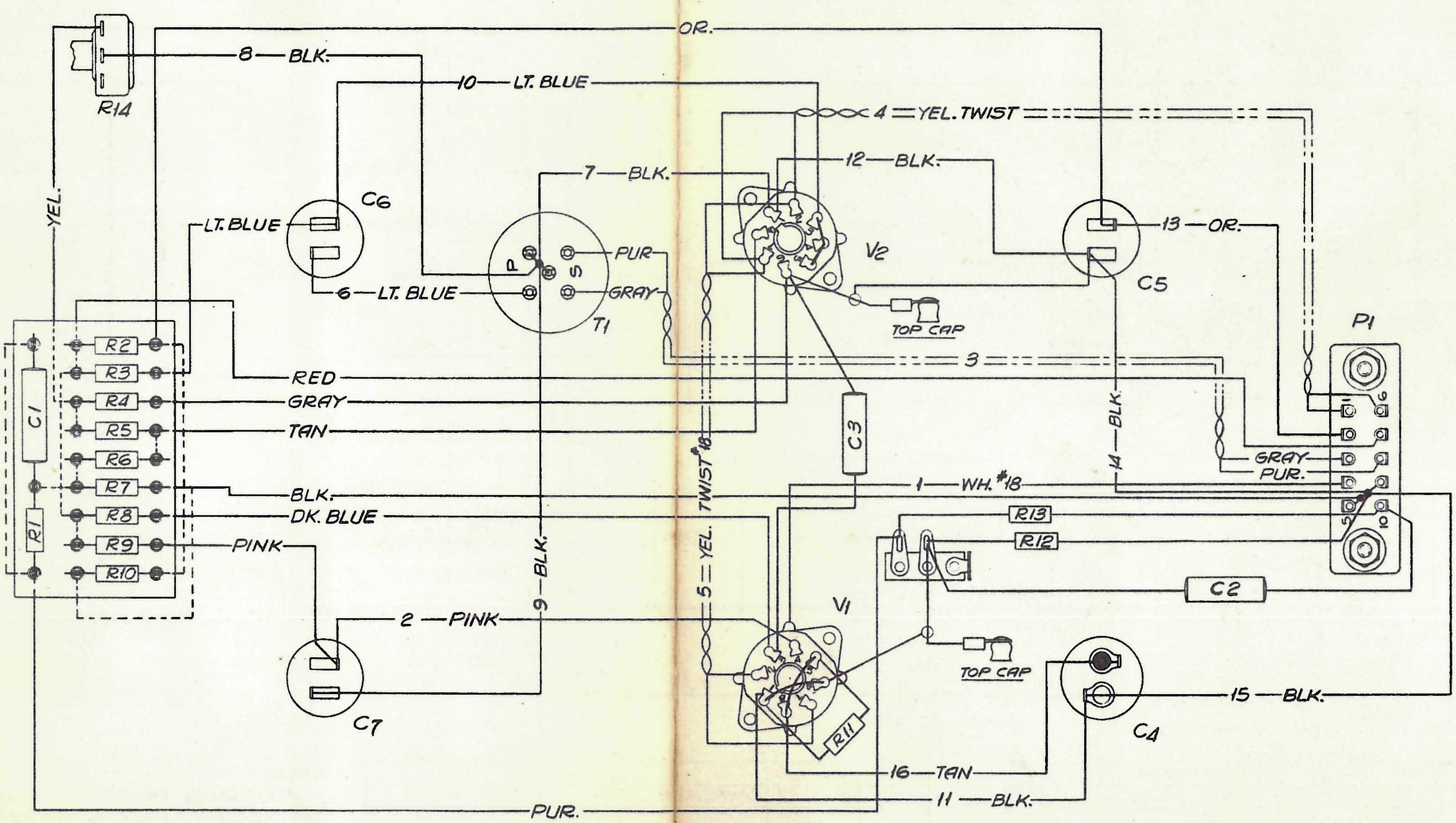
WC-1089

UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS BREAK SHARP CORNERS
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

ALTEC SERVICE CORPORATION
SIMPLEX

WC-1090

DRAWN 1-11-50
ISSUE 1 1-11-50



WIRE #	FROM	TO	LENGTH	COLOR	PART #
1	P1/4	V1	3	WHITE	EW-951
2	V1/4	C7	3	PINK	EW-955
3	P1/3&8	T1	4	GRAY PUR TWIST	EW-944
4	V2/2&7	P1/1&6	5½	YEL. TWIST	EW-942
5	V2/2&7	V1/1&7	5½	YEL. TWIST	EW-942
6	C6	T1	3	LT. BLUE	EW-912
7	V2/1	T1	3	BLACK	EW-920
8	R14	T1	4½	BLACK	EW-920
9	T1	C7	3	BLACK	EW-920
10	V2/3	C6	4	LT. BLUE	EW-912
11	V1/1	C4	3	BLACK	EW-920
12	V2/1	C5	3	BLACK	EW-920
13	P1/2	C5	3	ORANGE	EW-956
14	P1/9	C5	3	BLACK	EW-920
15	P1/9	C4	3	BLACK	EW-920
16	V1/8	C4	3	TAN	EW-913

	SYMBOL	I.P.C. PT.#	DESCRIPTION
*	R1	PA-2047	RESISTOR, 510K, 1W, CARBON
	R1	PA-2074	" , 2M, 1W, "
	R1	PA-2639	" , 3.9M, 1W, "
	R2	PA-2048	" , 1K, 1W, "
	R3	PA-2054	" , 39K, 1W, "
	R4	PA-2048	" , 1K, 1W, "
	R5	PA-2052	" , 2K, 1W, "
	R6	PA-2053	" , 12K, 1W, "
	R7	PA-1007	" , 3.9K, 1W, "
	R8	PA-2055	" , 270K, 1W, "
	R9	PA-2057	" , 1.5M, 1W, "
	R10	PA-2521	" , 330K, 1W, "
	R11	PA-2051	" , 1K, 1W, "
	R12	PA-2048	" , 1M, 1W, "
	R13	PA-2074	" , 2M, 1W, "
	R14	PA-2062	" , 10K, 2W, POTENTIOMETER

	SYMBOL	I.P.C. PT.#	DESCRIPTION
*	C1	PA-2637	CAPACITOR, .003 mfd., 600V., TUB., PAPER
	C1	PA-2120	" , .001 mfd., 600V., " "
	C1	PA-2638	" , .0005 mfd., 600V., " "
	C2	PA-2058	" , .01 mfd., 600V., " "
	C3	PA-2058	" , .01 mfd., 600V., " "
	C4	PA-2617	" , 25 mfd., 25V., CAN, ELECT.
	C5	PA-2117	" , .05 mfd., 400V., CAN, PAPER
	C6	PA-2117	" , .05 mfd., 400V., " , "
	C7	PA-2117	" , .05 mfd., 400V., " "
	T1	PA-2121	OUTPUT TRANSFORMER, 500Ω
	P1	PA-2063	MALE PANEL CONNECTOR, 10 PRONG
	V1	PA-2118	VACUUM TUBE, 6J7
	V2	PA-2118	" " , 6J7

SCALE ~

STRAPS ARE EW-692-#20 SOLID TINNED COPPER WIRE.
WIRES ARE #20 AWG., UNLESS OTHERWISE SPECIFIED.
COVER STRAPS & RESISTOR & CAPACITOR LEADS
WITH EW-949, #20 FIBERGLAS SLEEVING.

NOTE: ALTERNATIVE PARTS R1 & C1 FOR LOW FREQUENCY WARPING ARE SUPPLIED SEPARATELY WITH AMPLIFIER.

* IN AMPLIFIER AS SHIPPED.

ASSOCIATED DWGS: GC-1936 ASSEMBLY
WC-1089 SCHEMATIC

WIRING DIAGRAM
R.E.C. AMPLIFIER

INTERNATIONAL PROJECTOR CORPORATION
88 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

DR. A.D. CH'K. APP'D

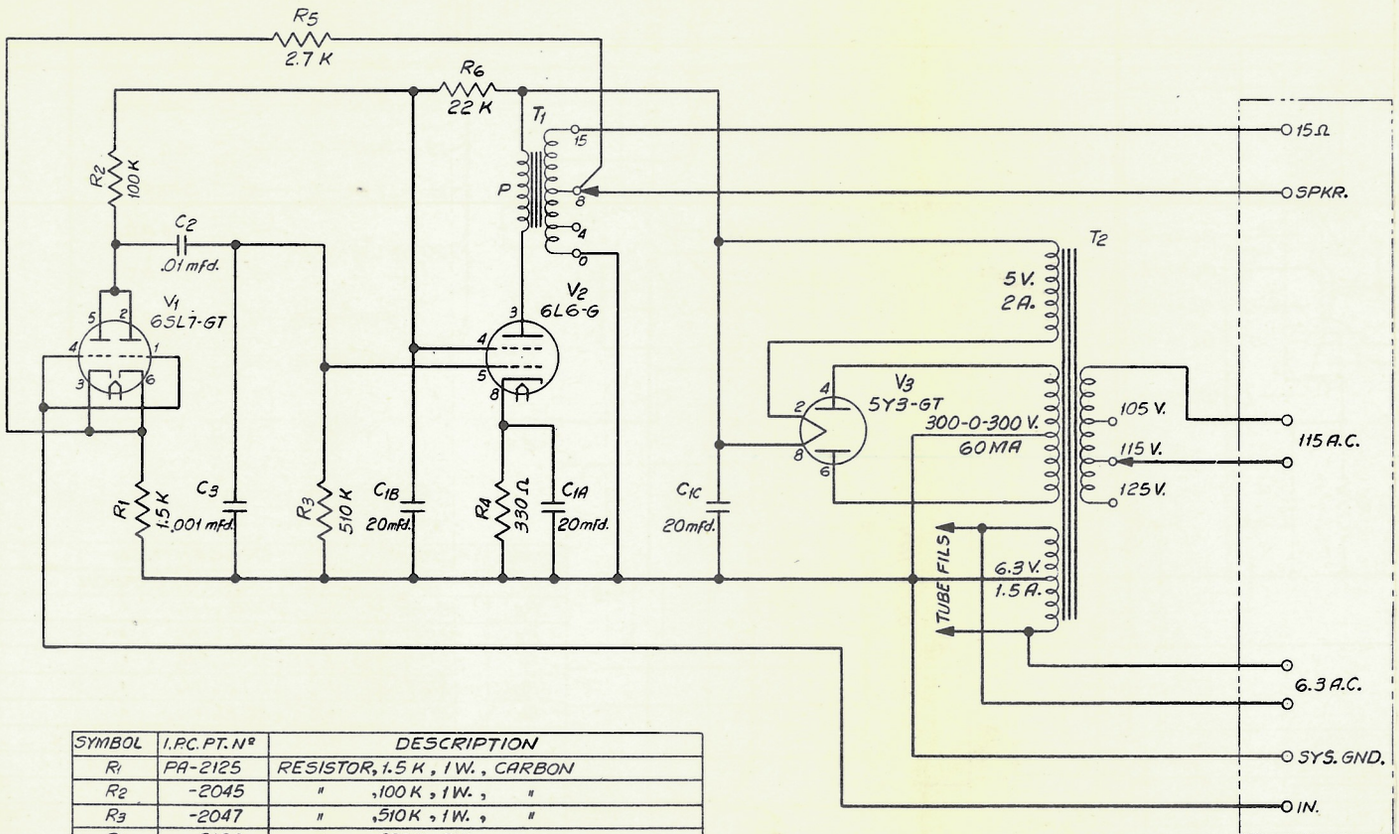
UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS BREAK SHARP CORNERS
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

PRODUCT CLASS

WC-1090

WC-1087

ISSUE 1 10-7-2



SYMBOL	I.P.C. PT. Nº	DESCRIPTION	
R_1	PA-2125	RESISTOR, 1.5 K, 1 W., CARBON	
R_2	-2045	" ,100 K, 1 W., "	
R_3	-2047	" ,510 K, 1 W., "	
R_4	-2128	" ,330 Ω, 2 W., "	
R_5	-2127	" ,2.7 K, 1 W., "	
R_6	-2126	" ,22 K, 1 W., "	
C_{1A}	-2085	CAPACITOR, ELEC.	20 mfd. 25 V.
C_{1B}			20 mfd. 450 V.
C_{1C}			20 mfd. 450 V.
C_2	-2058	CAPACITOR, .01 mfd., 600 V., TUBULAR, PAPER	
C_3	-2120	" ,.001 mfd., 600 V., " , "	
T_1	PB-2124	OUTPUT TRANSFORMER	
T_2	-2123	POWER "	
V_1	PA-1055	VACUUM TUBE 6SL7-GT	
V_2	-2129	" " 6L6-G	
V_3	-2130	" " 5Y3-GT	

LEGEND: K=1000 Ω

REFERENCE DWGS.
AMB-1029-MONITOR AMPLIFIER ASSY.
WC-1039-WIRING DIAGRAM

SCALE

SCHEMATIC
MONITOR AMPLIFIER

INTERNATIONAL PROJECTOR CORPORATION
55 LA FRANCE AVENUE
BLOOMFIELD NEW JERSEY

DR. A.D. CH'K. APP'D.

PRODUCT CLASS F

WC-1087

UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS BREAK SHARP CORNERS
TOLERANCES OF ALL FRACT. DIM. TO BE ± 1/64
TOLERANCES OF ALL DECIMAL DIM. TO BE ± .005

"ALBANENE" NO. 1001, KEUFFEL & ESSER CO., N.Y. 6

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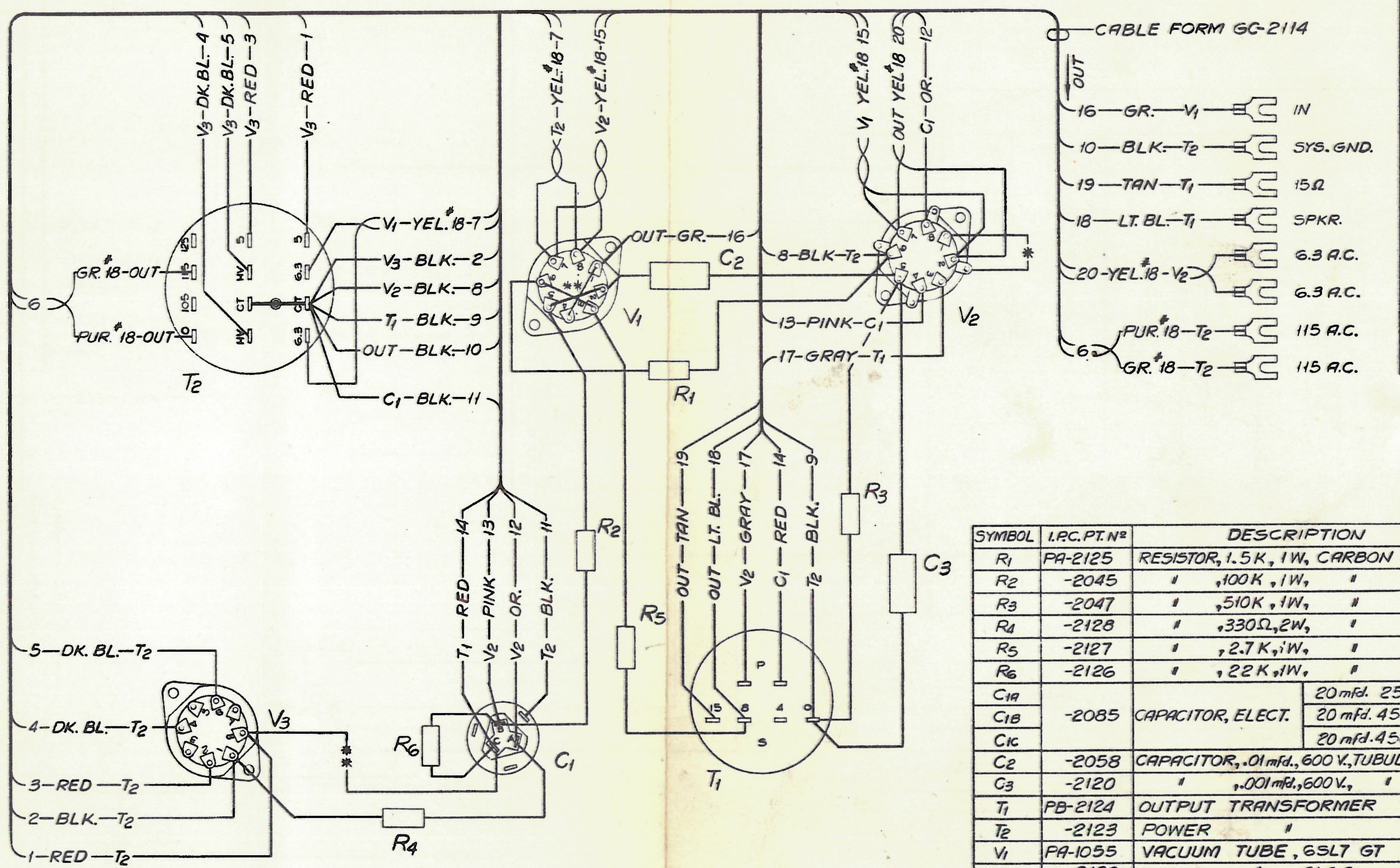
ALTEC SERVICE CORPORATION
SIMPLEX

WC-1093

ISSUE 1 10-17-49



SYMBOL	I.P.C. PT. Nº	DESCRIPTION	
R_1	PA-2125	RESISTOR, 1.5 K, 1W, CARBON	
R_2	-2045	" , 100 K, 1W, "	
R_3	-2047	" , 510 K, 1W, "	
R_4	-2128	" , 330Ω, 2W, "	
R_5	-2127	" , 2.7 K, 1W, "	
R_6	-2126	" , 22 K, 1W, "	
C_{1A}			20 mfd. 25 V.
C_{1B}	-2085	CAPACITOR, ELECT.	20 mfd. 450 V.
C_{1C}			20 mfd. 450 V.
C_2	-2058	CAPACITOR, .01 mfd., 600 V., TUBULAR, PAPER	
C_3	-2120	" , .001 mfd., 600 V., " "	
T_1	PB-2124	OUTPUT TRANSFORMER	
T_2	-2123	POWER "	
V_1	PA-1055	VACUUM TUBE, 6SL7 GT	
V_2	-2129	" " , 6L6 G	
V_3	-2130	" " , 5Y3 GT	

ALL WIRES ARE Nº 20 A.W.G., UNLESS OTHERWISE SPECIFIED.
ALL WIRES ARE TABULATED ON CABLE FORM DWG.
COVER LEADS OF RESISTORS & CAPACITORS WITH EW-949, Nº 20 FIBERGLAS SLEEVING.

* EW-692-Nº 20 SOLID TINNED COPPER WIRE.
** EW-692 WIRE COVERED WITH EW-949 SLEEVING.
⊕ EW-192 Nº 16 SOLID TINNED COPPER WIRE. (JUMPER ON T_2)

REFERENCE DWGS.
AMB-1029 MON. AMP. ASS'Y.
WC-1087 SCHEMATIC

SCALE

WIRING DIAGRAM
MONITOR AMPLIFIER

INTERNATIONAL PROJECTOR CORPORATION
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BLOOMFIELD NEW JERSEY

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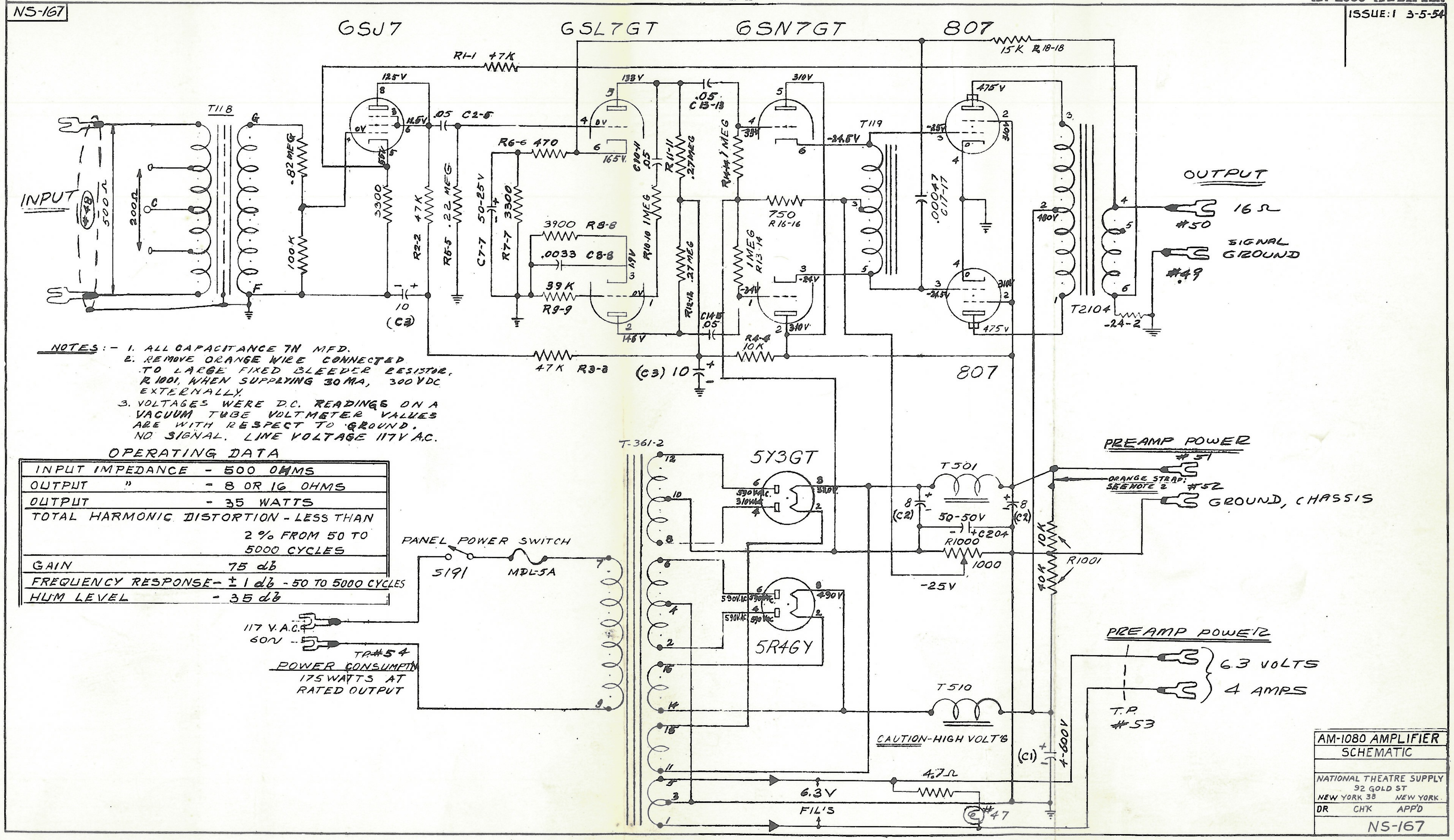
PRODUCT CLASS

WC-1093



NOTES:- 1. ALL CAPACITANCE IN MFD.
2. REMOVE ORANGE WIRE CONNECTED TO LARGE FIXED BLEEDER RESISTOR, R 1001, WHEN SUPPLYING 30 MA, 300 VDC EXTERNALLY.
3. VOLTAGES WERE D.C. READINGS ON A VACUUM TUBE VOLTMETER VALUES ARE WITH RESPECT TO GROUND. NO SIGNAL. LINE VOLTAGE 117V A.C.

OPERATING DATA

INPUT IMPEDANCE	- 500 OHMS
OUTPUT "	- 8 OR 16 OHMS
OUTPUT	- 35 WATTS
TOTAL HARMONIC DISTORTION	- LESS THAN 2 % FROM 50 TO 5000 CYCLES
GAIN	75 db
FREQUENCY RESPONSE	- ± 1 db - 50 TO 5000 CYCLES
HUM LEVEL	- 35 db

AM-1080 AMPLIFIER
SCHEMATIC

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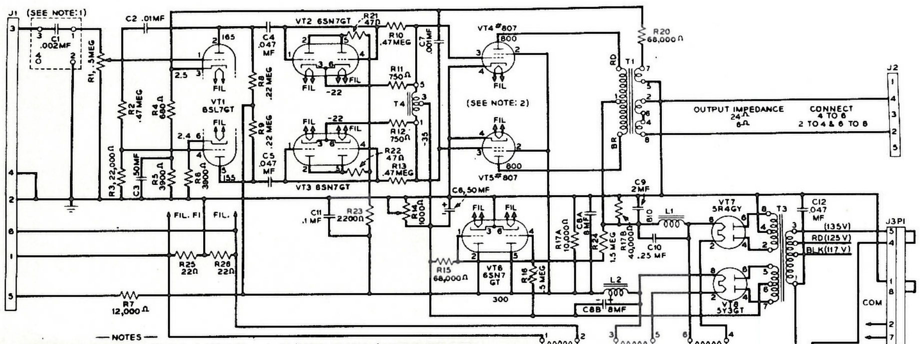

— NOTES —

1. FREQUENCY RESPONSE ADJUSTMENT IS OBTAINED BY SELECTION OF RESISTORS AND CAPACITORS FROM A KIT SUPPLIED WITH AMPLIFIER.
2. ALL VOLTAGE READINGS TAKEN WITH A 20,000 OHMS PER VOLT VOLTMETER AND CONTROLS SET AT ZERO. PLATE VOLTAGE ON VT4 AND VT5 IS 800 VOLTS (NO SIGNAL), 750 VOLTS (50 WATTS), 700 VOLTS (125 WATTS).
3. THE SCHEMATIC SHOWN IS FOR AMPLIFIERS BEGINNING WITH SERIAL NO. 850
4. T1 (BOGEN NO. T 269-2) USED IN AMPLIFIERS ABOVE SERIAL NO. 350. BOGEN NO. T 269-1, USED IN PREVIOUS AMPLIFIERS, IS SHOWN IN FIG. A.
5. T2 (BOGEN NO. T360-1) USED IN AMPLIFIERS BELOW SERIAL NO. 600, IS SHOWN IN FIG. B. CIRCLED TERMINALS APPLY ONLY TO SERIAL NOS. 99 TO 120 AND 205 TO 227 INCLUSIVE.
6. T3 (BOGEN NO. T357-1) USED IN AMPLIFIERS BELOW SERIAL NO. 600. NO. T357-3 AND NO. T357-5 USED AMPLIFIERS BETWEEN SERIAL NO. 601 AND NO. 849. REFER TO FIG. C.

SYMBOL NO.	PART NO.	DESCRIPTION
C1		CAPACITOR, .002 MF. 500 VOLTS
C2		CAPACITOR, .01 MF. 600 VOLTS, C-D #GT6S1
C3, C6		CAPACITOR, 50 MF. 50 VOLTS, C-D #BR 505
C4, C5, C12		CAPACITOR, .047 MF. 600 VOLTS, C-D #GT6S47
C7		CAPACITOR, .001 MF. 600 VOLTS, C-D #GT6D1
C8A, C8B		CAPACITOR, 8-8 MF. 500 VOLTS, C-D #EB10018
C9		CAPACITOR, 2 MF. 1000 VOLTS, C-D #T-10020
C10		CAPACITOR, .25 MF. 1200 VOLTS, C-D #MD-12P25
C11		CAPACITOR, .1 MF. 600 VOLTS, C-D #DYRT-6010
F1		FUSE, 2.5 AMP. NO. MDL-2.5
F2		FUSE, 1.5 AMP. NO. MDL-1.6
I1		PILOT LIGHT, NE 51
J1		RECEPTACLE, INPUT, 6 PRONG
J2		RECEPTACLE, OUTPUT, 5 PRONG
L1		REACTOR, BOGEN #T512 BU
L2		REACTOR, BOGEN #T501 B
P2		PLUG, AC.
R1, R16		POTENTIOMETER, .5 MEG., IRC #Q13-133
R2, R10, R13		RESISTOR, .47 MEG., 1/2 WATT, IRC #BTS-470 K
R3		RESISTOR, 22,000 OHMS, 1/2 WATT, IRC #BTS-22 K

SYMBOL NO.	PART NO.	DESCRIPTION
R4		RESISTOR, 680 OHMS, 1/2 WATT, IRC #BTS-680
R5, R6		RESISTOR, 3900 OHMS, 1 WATT, IRC #BTA-3900-5%
R7		RESISTOR, 12,000 OHMS, 1/2 WATT, IRC #BTS-12 K
R8, R9		RESISTOR, .22 MEG., 1/2 WATT, IRC #BTS-220 K
R11, R12		RESISTOR, 750 OHMS, 2 WATT, IRC #BTB-750
R14		RESISTOR, 1000 OHMS, 10 WATT, IRC 1 3/4 AA-1000
R18, R19		RESISTOR, 47,000 OHMS, 1/2 WATT, IRC #BTS-47 K
R17A, R17B		RESISTOR, 50,000 OHMS, 50 WATT, IRC #EPA-50 K
R15, R20		RESISTOR, 68,000 OHMS, 2 WATT, IRC #BTB-68 K
R21, R22		RESISTOR, 47 OHMS, 1 WATT IRC #BTA-47
R23		RESISTOR, 2200 OHMS, 2 WATT IRC #BTB-2200
R24		RESISTOR, 1.5 MEG, 2 WATT IRC #BTB-1.5 M
R25, R26		RESISTOR 22 OHMS, 1/2 WATT IRC #BTS-22
S1		SWITCH, D.P.S.T. H & H #80800
S2		SWITCH INTERLOCK, H & H #80360
T1		TRANSFORMER, OUTPUT, BOGEN #T269-2
T2		TRANSFORMER, FILAMENT, BOGEN #T360-3
T3		TRANSFORMER, PLATE, BOGEN #T357-6
T4		TRANSFORMER, DRIVER, BOGEN #T119B4
V1		VACUUM TUBE, 6SL7GT
V2, V3, V6		VACUUM TUBE, 6SN7GT
V4, V5		VACUUM TUBE, #807
V7		VACUUM TUBE, 5R4GY
V8		VACUUM TUBE, 5Y3GT

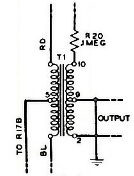

FIG A

BOGEN NO T269-1

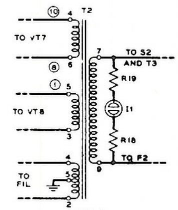

FIG. B

BOGEN NO T360-1

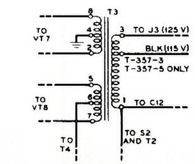

FIG. C

BOGEN NO. T357-1, T-357-3, T-357-5

REDRAWN FROM ISSUE: 2 WITH THE FOLLOWING CHANGES:
T2 WAS T360-1
T3 WAS T357-1
C10 WAS .5 MF, 600 V C-D #DRT-6050G
C11 WAS SAME AS C10 AND IN SERIES WITH IT ACROSS L1
R16 WAS .47 MEG, 1/2 WATT
R3 WAS 15K, 1/2 WATT
R8, R9, WERE .27 MEG, 1/2 WATT
R11, R12 WERE 150 OHMS, 1/2 WATT
R15 WAS 47 K, 1/2 WATT
R21, R22, R23, R24, R25, R26 AND NOTE: 5 WERE NOT SHOWN
NOTES: 2, 3 AND 4 REVISED

CFA

ISSUE: 3 10-27-53
C4, C5 WERE .05 MF. 810 V AND 800 V WERE 835 V AND 825 V RESP. T3 WAS BOGEN T 357-3. C12 WAS .1 MF. NOTE: 5 REVISED NOTE: 6 ADDED AND FIG. C CHANGED TO AGREE

CFA

ISSUE: 4 4 2 55

NTS-1125 AMPLIFIER
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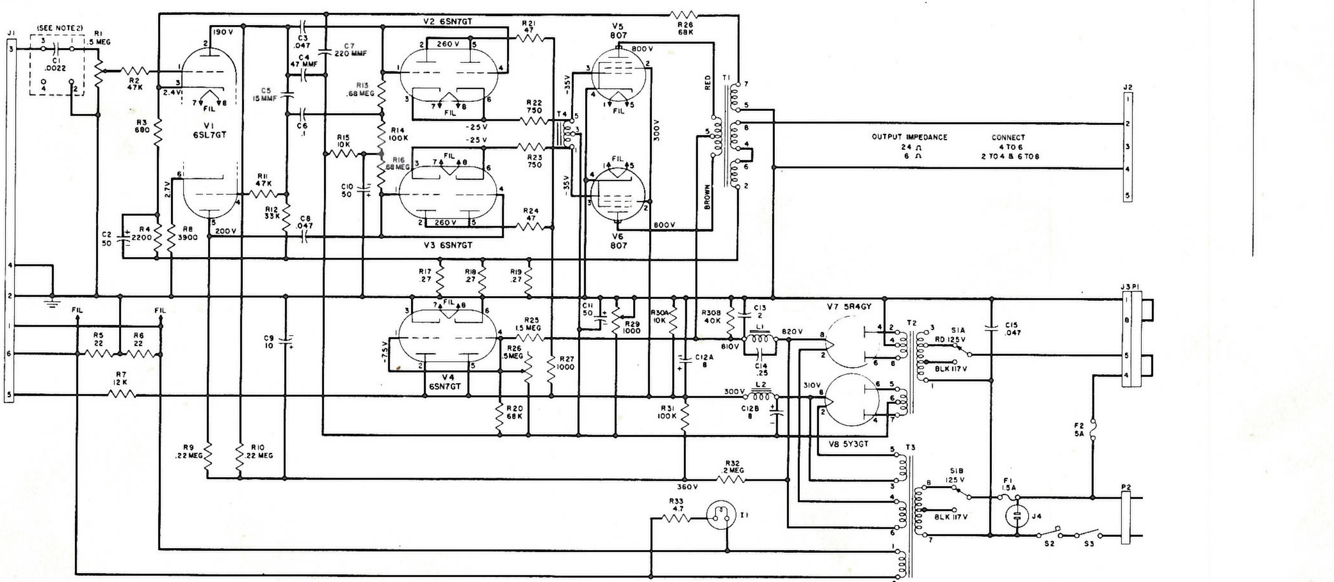

— NOTES —

1. ALL CAPACITOR VALUES ARE IN MICROFARADS AND ALL RESISTOR VALUES ARE IN OHMS, UNLESS OTHERWISE SPECIFIED.

2. FREQUENCY RESPONSE ADJUSTMENT IS OBTAINED BY SELECTION OF CAPACITORS AND RESISTORS FROM A KIT SUPPLIED WITH THE AMPLIFIER.

3. ALL VOLTAGE READINGS ARE TAKEN WITH A 20,000 OHM/VOLT VOLTMETER AND CONTROLS SET AT ZERO. PLATE VOLTAGE ON V5 AND V6 IS 800 VOLTS (NO SIGNAL), 750 VOLTS (50 WATTS), AND 700 VOLTS (125 WATTS).

SYMBOL NO.	PART NO.	DESCRIPTION
C1	C151	CAPACITOR, .0022 MF, 600 VOLTS, C-D # PTE 6D22
C2, C10, C11	C204	CAPACITOR, 50 MF, 50 VOLTS, C-D # BR 505
C3, C8	C164	CAPACITOR, .047 MF, 400 VOLTS, C-D # PTE 4547
C4	C807	CAPACITOR, 47 MMF, 500 VOLTS, MALLORY #UC-5447 (10%)
C5	C804	CAPACITOR, 15 MMF, 500 VOLTS, MALLORY #UC-5415 (10%)
C6	C142	CAPACITOR, .1 MF, 200 VOLTS, C-D # PJ2 P1
C7	C811	CAPACITOR, 220 MMF, 500 VOLTS, MALLORY #UC-5322 (10%)
C9	C213	CAPACITOR, 10 MF, 450 VOLTS, C-D # EB 9100
C12	C538	CAPACITOR, 8-8 MF, 500 VOLTS, C-D # EB 10018
C13	C522	CAPACITOR, 2 MF, 1000 VOLTS, C-D # T-10020
C14	C137	CAPACITOR, .25 MF, 1200 VOLTS, #MD-12P25
C15	C147	CAPACITOR, .047 MF, 600 VOLTS, C-D # GT6547
F1	H512	FUSE, 1.5 AMP, #MDX 1.6
F2	H516	FUSE, 5.0 AMP, #MDX 5.0
I1		PILOT LIGHT
J1	B182	RECEPTACLE, INPUT, 6 PRONG
J2	B181	RECEPTACLE, OUTPUT, 5 PRONG
L1	T512	REACTOR
L2	T501	REACTOR
P2		PLUG, AC
R1, R26	V275A	POTENTIOMETER, .5 MEG. IRC # Q13-133
R2, R11,		RESISTOR, 47K 1/2 WATT, IRC #BTS-47K
R3		RESISTOR, 680 OHMS, 1/2 WATT, IRC #BTS-680
R4		RESISTOR, 2200 OHMS, 1/2 WATT, IRC #BTS-2200
R5, R6		RESISTOR, 22 OHMS, 1/2 WATT, IRC #BTS-22
R7		RESISTOR, 12K 1/2 WATT, IRC #BTS-12K
R8		RESISTOR, 3900 OHMS, 1/2 WATT, IRC #BTS-3900

SYMBOL NO.	PART NO.	DESCRIPTION
R9, R10		RESISTOR, .22MEG. 1/2 WATT, IRC #BTS-220K
R12		RESISTOR, 33K 1/2 WATT, IRC #BTS-33K
R13, R16		RESISTOR, .68MEG. 1/2 WATT, IRC #BTS-680K
R14, R31		RESISTOR, 100K 1/2 WATT, IRC #BTS-100K
R15		RESISTOR, 10K 1/2 WATT, IRC #BTS-10K
R17, R18, R19		RESISTOR, .27 OHMS 1/2 WATT, IRC #BTS-.27
R20, R28		RESISTOR, 68K 2 WATT, IRC #BTB-68K
R21, R24		RESISTOR, 47 OHMS 2 WATT, IRC #BTB-47
R22, R23		RESISTOR, 750 OHMS 2 WATT, IRC #BTB-750 (±5%)
R25		RESISTOR, 1.5MEG. 2 WATT, IRC #BTB-1.5 MEG.
R27		RESISTOR, 1K 2 WATT, IRC #BTB-1K
R29	R142A	RESISTOR, 1K 25 WATT, IRC 2 1/2 DA-1000
R30	R134B	RESISTOR, 50K 50 WATT, IRC #EPA-50K
R32		RESISTOR, .2MEG. 2 WATT, IRC #BTB-.2MEG. (±5%)
S1	S395A	SWITCH, DPDT, C-H #8908K331
S2	S309A	SWITCH, INTERLOCK, H & H #81075
S3	S191A	SWITCH, SPST, H & H #20994HW
T1	T269-2	TRANSFORMER, OUTPUT,
T2	T357-6	TRANSFORMER, PLATE,
T3	T360-3	TRANSFORMER, FILAMENT,
T4	T119	TRANSFORMER, DRIVER,
V1		VACUUM TUBE, 6SL7GT
V2, V3, V4		VACUUM TUBE, 6SN7GT
V5, V6		VACUUM TUBE, #807
V7		VACUUM TUBE, 5R4GY
V8		VACUUM TUBE, 5Y3GT
R33		RESISTOR, 4.7 OHMS 1/2 WATT, IRC #BTS-4.7

ISSUE 1 6-24-56

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