

NO	1-55
AMPLIFIER	
121A	

1-4-40

**GENERAL**

A 3-STAGE AMPLIFIER INTENDED FOR USE AS A LINE AMPLIFIER IN SOUND SYSTEMS OR SPEECH INPUT EQUIPMENTS. THE APPARATUS IS MOUNTED ON BOTH SIDES OF A FLANGED PANEL WHICH MAY BE FASTENED TO A RELAY RACK MOUNTING PLATE.

**ELECTRICAL CHARACTERISTICS**

GAIN..... 78 DB MAXIMUM WITH PROVISION FOR DECREASING TO 70 DB. MAY ALSO BE USED AS A 2-STAGE AMPLIFIER WITH APPROXIMATELY 48 DB GAIN BY ELIMINATING FIRST STAGE.

OPERATES FROM..... 30, 250, OR 600 OHMS.

INTERNAL INPUT IMPEDANCE... OPEN CIRCUIT.

OPERATES INTO..... 600 OHMS.

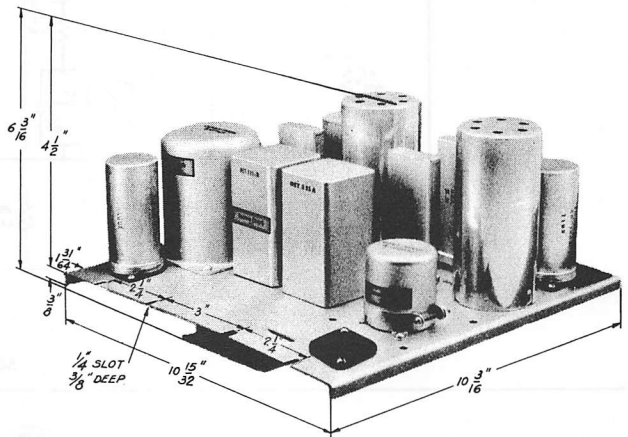
INTERNAL OUTPUT IMPEDANCE.. APPROX. 600 OHMS.

OUTPUT POWER..... APPROX. .6 WATT (+28 DB)\* WITH 1% TOTAL HARMONIC DISTORTION.

OUTPUT NOISE..... -42 DB UNWEIGHTED\*  
-52 DB WEIGHTED\*  
\*(REF. = .001 WATT)

FREQUENCY CHARACTERISTIC... SEE CURVE.

POWER SUPPLY..... FILAMENT - 6.3 V., 2 AMP.  
PLATE - 275 V., 30 M.A.  
(FILAMENT AND PLATE SUPPLY MAY BE OBTAINED FROM 18A RECTIFIER)



**VACUUM TUBES (MUST BE ORDERED SEPARATELY)**

1 - W. E. 347A, 1 - W. E. 348A AND 1 - W. E. 349A OR  
2 - TYPE 6J7G VACUUM TUBES AND 1 - TYPE 6P6 VACUUM TUBE.

**EQUIPMENT CHARACTERISTICS**

PANEL SIZE..... APPROX. 10-1/4" X 10-1/2". THE APPARATUS EXTENDS APPROX. 4-1/2" FROM THE FRONT AND 2" FROM THE REAR OF THE PANEL.

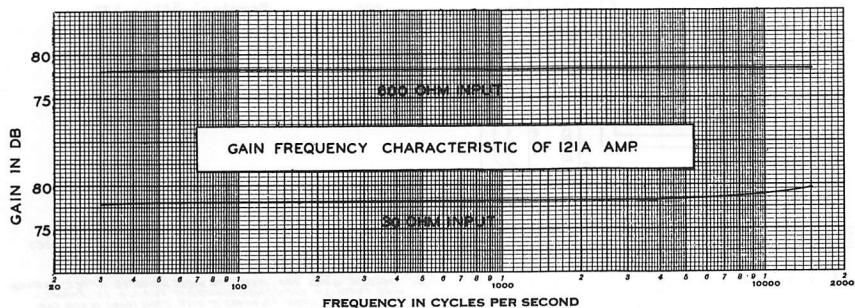
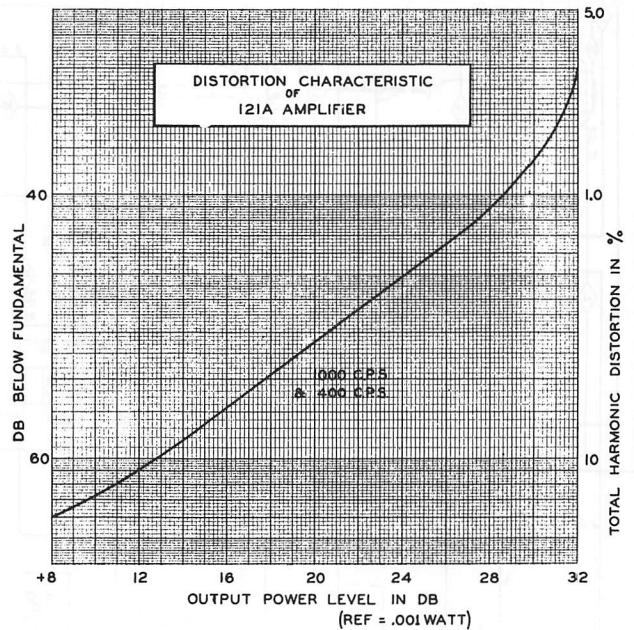
WEIGHT..... APPROX. 10 LBS.

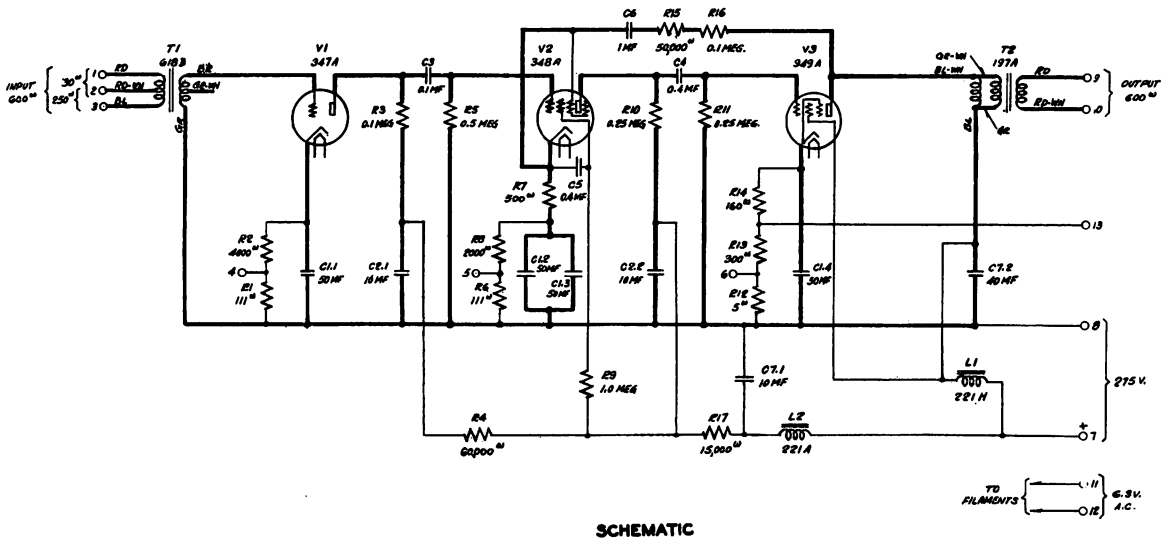
MOUNTING..... DESIGNED FOR MOUNTING ON A 177A MOUNTING PLATE, WHICH REQUIRES 10-15/32" OF RELAY RACK SPACE. FLEXIBLE RUBBER MOUNTINGS ARE FURNISHED.

FINISH..... BRIGHT ALUMINUM LACQUER ON ZINC-PLATED STEEL.

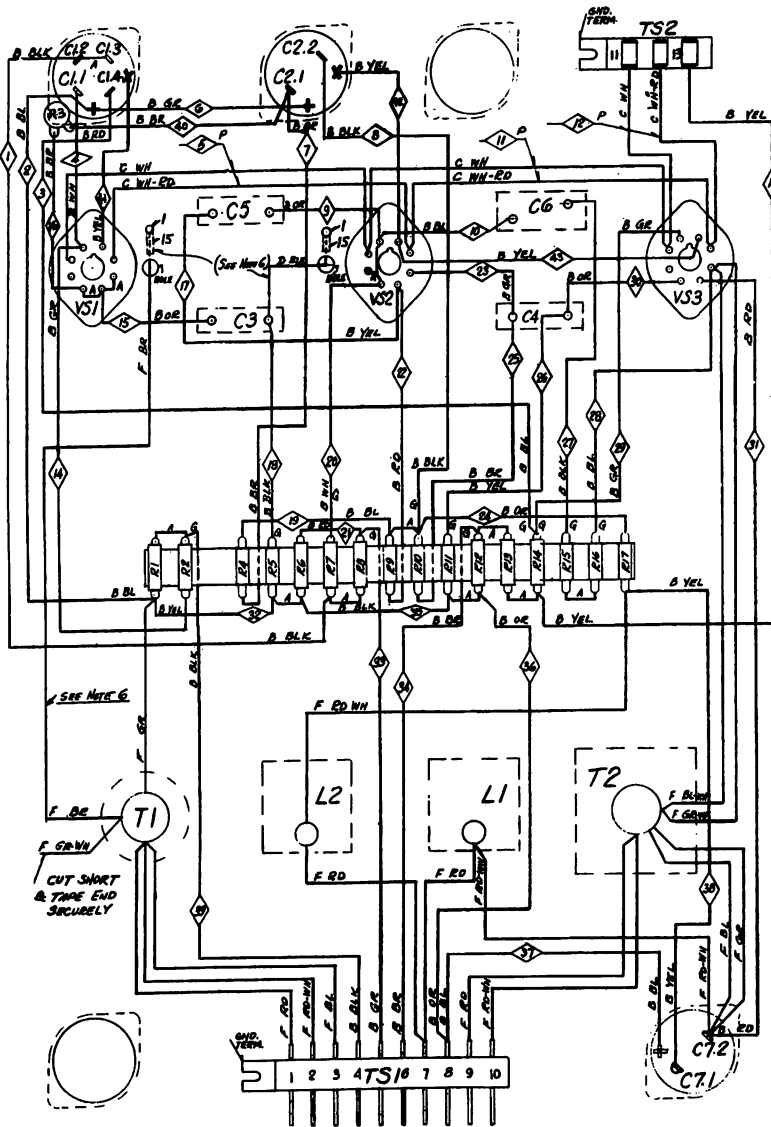
**REFERENCES**

- ESR-675280.....ASSEMBLY AND STOCK LIST
- ESO-675281.....SCHEMATIC DIAGRAM
- ESR-675282.....WIRING DIAGRAM
- ESA-675666.....TESTING INFORMATION





SCHMATIC



WIRING DIAGRAM

Designation	Apparatus
R <sub>1</sub> to R <sub>17</sub> excepting R <sub>3</sub>	IRC Type BT 1 Watt Resistors
R <sub>3</sub>	IRC Type WW3 100,000 $\Omega$ Resistor
C <sub>1.1</sub> , C <sub>1.2</sub> , C <sub>1.3</sub> , C <sub>1.4</sub>	Sprague 50-50-50-50- MF - 150V Electrolytic Cond.
C <sub>2.1</sub> , C <sub>2.2</sub>	Sprague 10-10 MF - 450V Electrolytic Cond.
C <sub>7.1</sub> , C <sub>7.2</sub>	Sprague 10-40 MF - 450V Electrolytic Cond.
C <sub>3</sub>	234C Condenser
C <sub>4</sub> , C <sub>5</sub>	230A Condenser
C <sub>6</sub>	229C Condenser
T <sub>1</sub>	618B Input Transformer
T <sub>2</sub>	197A Output Transformer
L <sub>1</sub>	221H Retard Coil
L <sub>2</sub>	221A Retard Coil
VS <sub>1</sub> , VS <sub>2</sub> , VS <sub>3</sub>	Eby Mfg Co #39-1-E VT Sockets
V <sub>1</sub>	347A Vacuum Tube
V <sub>2</sub>	348A Vacuum Tube
V <sub>3</sub>	349A Vacuum Tube
TS1	P-250833 Terminal Strip
TS2	Terminal Strip per ESO-675407-3&8

NOTES:  
 1. WIRES MARKED "A" ARE PER ITEM 3  
 2. "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S" "T" "U" "V" "W" "X" "Y" "Z" "AA" "AB" "AC" "AD" "AE" "AF" "AG" "AH" "AI" "AJ" "AK" "AL" "AM" "AN" "AO" "AP" "AQ" "AR" "AS" "AT" "AU" "AV" "AW" "AX" "AY" "AZ" "BA" "BB" "BC" "BD" "BE" "BF" "BG" "BH" "BI" "BJ" "BK" "BL" "BM" "BN" "BO" "BP" "BQ" "BR" "BS" "BT" "BU" "BV" "BW" "BX" "BY" "BZ" "CA" "CB" "CC" "CD" "CE" "CF" "CG" "CH" "CI" "CJ" "CK" "CL" "CM" "CN" "CO" "CP" "CQ" "CR" "CS" "CT" "CU" "CV" "CW" "CX" "CY" "CZ" "DA" "DB" "DC" "DD" "DE" "DF" "DG" "DH" "DI" "DJ" "DK" "DL" "DM" "DN" "DO" "DP" "DQ" "DR" "DS" "DT" "DU" "DV" "DW" "DX" "DY" "DZ" "EA" "EB" "EC" "ED" "EE" "EF" "EG" "EH" "EI" "EJ" "EK" "EL" "EM" "EN" "EO" "EP" "EQ" "ER" "ES" "ET" "EU" "EV" "EW" "EX" "EY" "EZ" "FA" "FB" "FC" "FD" "FE" "FF" "FG" "FH" "FI" "FJ" "FK" "FL" "FM" "FN" "FO" "FP" "FQ" "FR" "FS" "FT" "FU" "FV" "FW" "FX" "FY" "FZ" "GA" "GB" "GC" "GD" "GE" "GF" "GG" "GH" "GI" "GJ" "GK" "GL" "GM" "GN" "GO" "GP" "GQ" "GR" "GS" "GT" "GU" "GV" "GW" "GX" "GY" "GZ" "HA" "HB" "HC" "HD" "HE" "HF" "HG" "HH" "HI" "HJ" "HK" "HL" "HM" "HN" "HO" "HP" "HQ" "HR" "HS" "HT" "HU" "HV" "HW" "HX" "HY" "HZ" "IA" "IB" "IC" "ID" "IE" "IF" "IG" "IH" "II" "IJ" "IK" "IL" "IM" "IN" "IO" "IP" "IQ" "IR" "IS" "IT" "IU" "IV" "IW" "IX" "IY" "IZ" "JA" "JB" "JC" "JD" "JE" "JF" "JG" "JH" "JI" "JJ" "JK" "JL" "JM" "JN" "JO" "JP" "JQ" "JR" "JS" "JT" "JU" "JV" "JW" "JX" "JY" "JZ" "KA" "KB" "KC" "KD" "KE" "KF" "KG" "KH" "KI" "KJ" "KK" "KL" "KM" "KN" "KO" "KP" "KQ" "KR" "KS" "KT" "KU" "KV" "KW" "KX" "KY" "KZ" "LA" "LB" "LC" "LD" "LE" "LF" "LG" "LH" "LI" "LJ" "LK" "LL" "LM" "LN" "LO" "LP" "LQ" "LR" "LS" "LT" "LU" "LV" "LW" "LX" "LY" "LZ" "MA" "MB" "MC" "MD" "ME" "MF" "MG" "MH" "MI" "MJ" "MK" "ML" "MM" "MN" "MO" "MP" "MQ" "MR" "MS" "MT" "MU" "MV" "MW" "MX" "MY" "MZ" "NA" "NB" "NC" "ND" "NE" "NF" "NG" "NH" "NI" "NJ" "NK" "NL" "NM" "NN" "NO" "NP" "NQ" "NR" "NS" "NT" "NU" "NV" "NW" "NX" "NY" "NZ" "OA" "OB" "OC" "OD" "OE" "OF" "OG" "OH" "OI" "OJ" "OK" "OL" "OM" "ON" "OO" "OP" "OQ" "OR" "OS" "OT" "OU" "OV" "OW" "OX" "OY" "OZ" "PA" "PB" "PC" "PD" "PE" "PF" "PG" "PH" "PI" "PJ" "PK" "PL" "PM" "PN" "PO" "PP" "PQ" "PR" "PS" "PT" "PU" "PV" "PW" "PX" "PY" "PZ" "QA" "QB" "QC" "QD" "QE" "QF" "QG" "QH" "QI" "QJ" "QK" "QL" "QM" "QN" "QO" "QP" "QQ" "QR" "QS" "QT" "QU" "QV" "QW" "QX" "QY" "QZ" "RA" "RB" "RC" "RD" "RE" "RF" "RG" "RH" "RI" "RJ" "RK" "RL" "RM" "RN" "RO" "RP" "RQ" "RR" "RS" "RT" "RU" "RV" "RW" "RX" "RY" "RZ" "SA" "SB" "SC" "SD" "SE" "SF" "SG" "SH" "SI" "SJ" "SK" "SL" "SM" "SN" "SO" "SP" "SQ" "SR" "SS" "ST" "SU" "SV" "SW" "SX" "SY" "SZ" "TA" "TB" "TC" "TD" "TE" "TF" "TG" "TH" "TI" "TJ" "TK" "TL" "TM" "TN" "TO" "TP" "TQ" "TR" "TS" "TT" "TU" "TV" "TW" "TX" "TY" "TZ" "UA" "UB" "UC" "UD" "UE" "UF" "UG" "UH" "UI" "UJ" "UK" "UL" "UM" "UN" "UO" "UP" "UQ" "UR" "US" "UT" "UU" "UV" "UW" "UX" "UY" "UZ" "VA" "VB" "VC" "VD" "VE" "VF" "VG" "VH" "VI" "VJ" "VK" "VL" "VM" "VN" "VO" "VP" "VQ" "VR" "VS" "VT" "VU" "VV" "VW" "VX" "VY" "VZ" "WA" "WB" "WC" "WD" "WE" "WF" "WG" "WH" "WI" "WJ" "WK" "WL" "WM" "WN" "WO" "WP" "WQ" "WR" "WS" "WT" "WU" "WV" "WW" "WX" "WY" "WZ" "XA" "XB" "XC" "XD" "XE" "XF" "XG" "XH" "XI" "XJ" "XK" "XL" "XM" "XN" "XO" "XP" "XQ" "XR" "XS" "XT" "XU" "XV" "XW" "XZ" "YA" "YB" "YC" "YD" "YE" "YF" "YG" "YH" "YI" "YJ" "YK" "YL" "YM" "YN" "YO" "YP" "YQ" "YR" "YS" "YT" "YU" "YV" "YW" "YZ" "ZA" "ZB" "ZC" "ZD" "ZE" "ZF" "ZG" "ZH" "ZI" "ZJ" "ZK" "ZL" "ZM" "ZN" "ZO" "ZP" "ZQ" "ZR" "ZS" "ZT" "ZU" "ZV" "ZW" "ZX" "ZY" "ZZ"

ARE FOR REFERENCE AND MAY BE USED TO INDICATE SNAP SAMPLES.  
 6. SOLIDLY GROUND CAP. ITEM 1 TO WIRES INDICATED AFTER PASSING WIRE THROUGH UNFINISHED CHANNELS IN THE PANEL.  
 THREE SHALL BE APPLIED TO WIRES FROM PANEL TO GRID CAP. CONNECTION BETWEEN GRID CAP AND LEAD SHALL BE PROTECTED BY ITEM 15.  
 7. WIRES MARKED "P" ARE THUSTED PAIR.  
 8. "D" TO BE LONG ENOUGH TO PERMIT TIPPING THE RESISTANCE STRIP 90°