

REFERENCE 600 AMPLIFIER SCHEMATIC

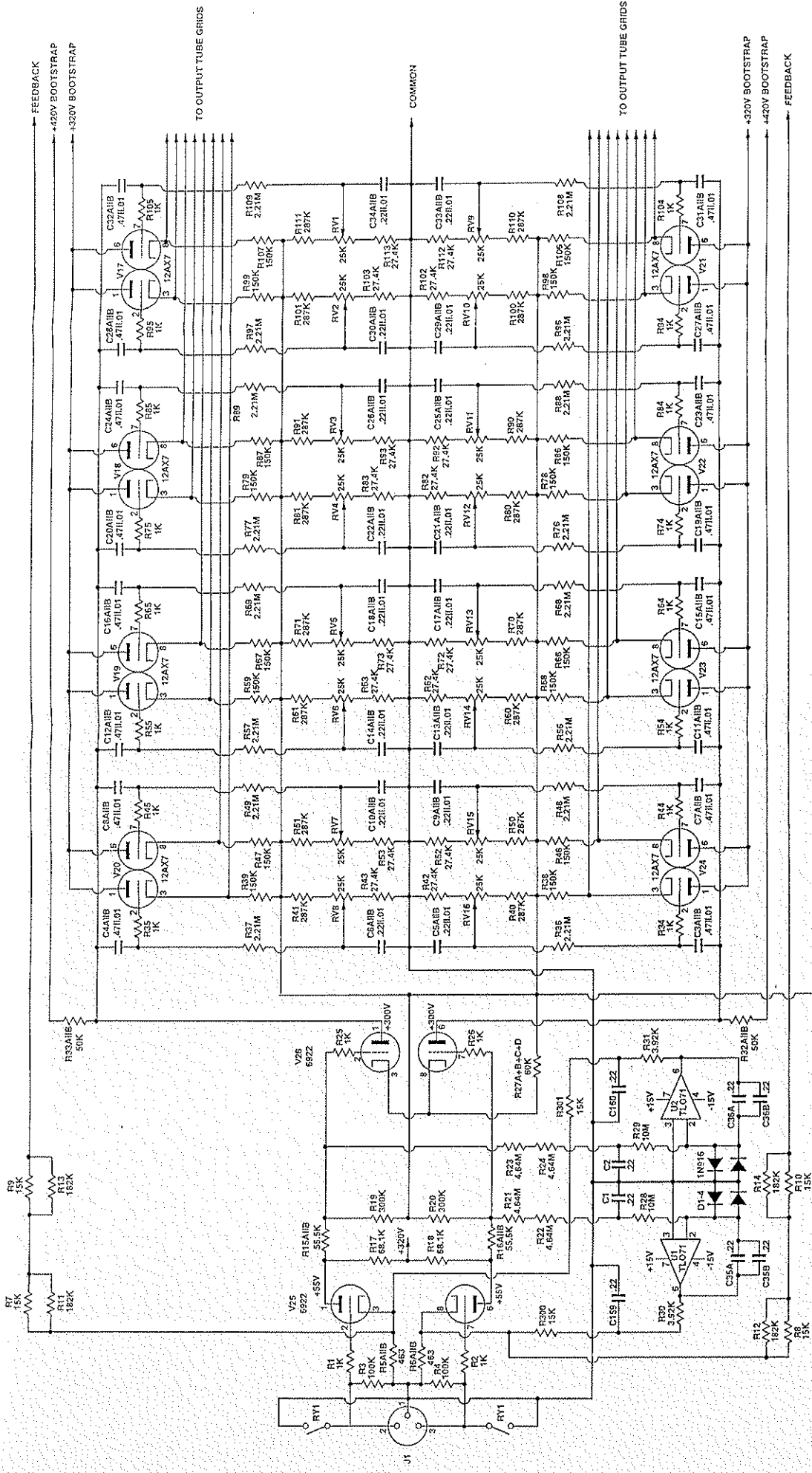
(12AX7 VERSION)

and

PARTS LIST

Schematic 11-27-95

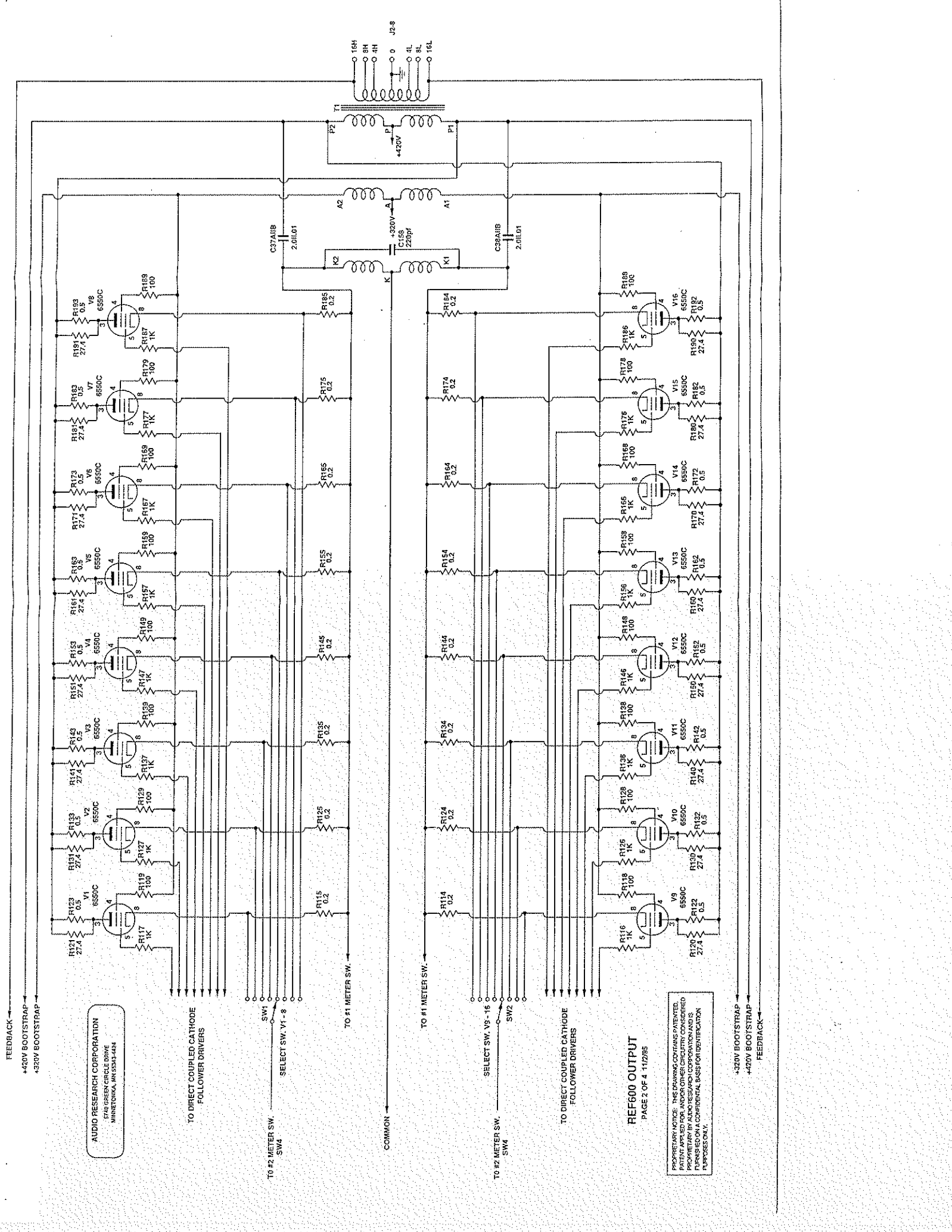
Parts List 2-23-96



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AUDIO RESEARCH CORPORATION
 5740 GREEN CIRCLE DRIVE
 MINNETONKA, MN 55343-4424

REF600 INPUT
 PAGE 1 OF 4 11/27/95



AUDIO RESEARCH CORPORATION
GREEN GLENE DRIVE
MANASSAS, VA 20108-4474

REF600 OUTPUT
PAGE 2 OF 4 11/2/85

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CORPORATION.

FEEDBACK

+420V BOOTSTRAP

+320V BOOTSTRAP

TO DIRECT COUPLED CATHODE
FOLLOWER DRIVERS

TO #2 METER SW.
SW4

SELECT SW. V1 - 8

TO #1 METER SW.

COMMON

TO #1 METER SW.

TO #2 METER SW.
SW4

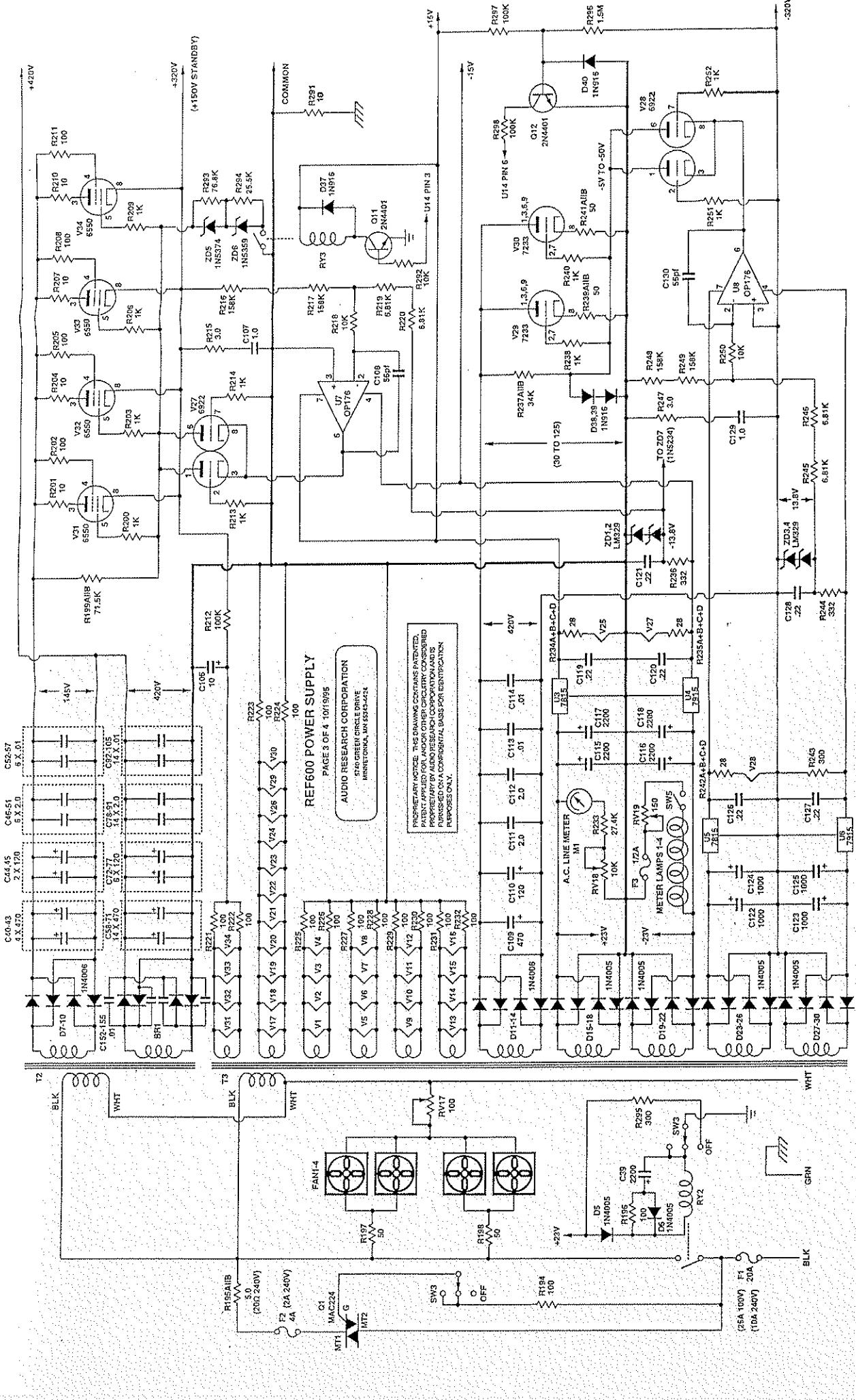
SELECT SW. V9 - 16

TO DIRECT COUPLED CATHODE
FOLLOWER DRIVERS

+320V BOOTSTRAP

+420V BOOTSTRAP

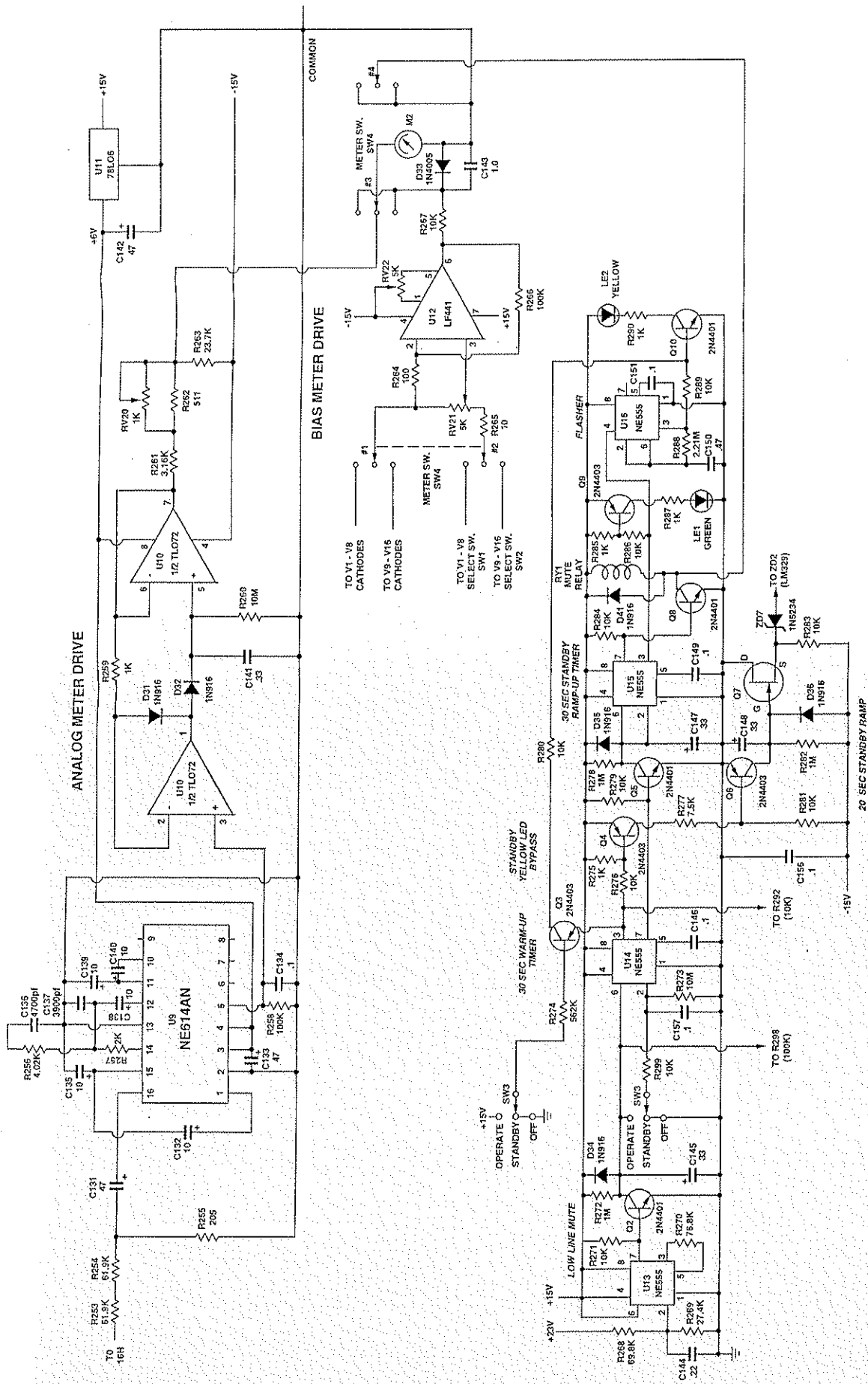
FEEDBACK



REF600 POWER SUPPLY

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 AUDIO RESEARCH CORPORATION
 5740 GREEN CIRCLE DRIVE
 HERNDON, VA 22061-4234

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AUDIO RESEARCH CORPORATION
5740 GREEN CIRCLE DRIVE
MINNETONKA, MN 55343-4424

REF600 SOFT START, METER DRIVE
PAGE 4 OF 4
10-25-95

PARTS LIST

As of FEB 23 96

PRODUCT: REF600 3

NOTES: REVISION LEVEL CHANGED ON 2/21/96

Schematic Symbol	Quantity	ARC Part #	Description
BR BRIDGE RECTIFIER			
BR1	1	30502310	BRIDGE RECTIFIER
C CAPACITORS			
C1,2,35A,36A,5A,6A,9A,10A,13A,14A,17A	17	53220507	CAP. .22 UF 10% 160V
C 18A,21A,22A,25A,26A,29A			
C3A,4A,7A,8A,11A,12A,15A,16A,19A,20A	16	53470514	CAP. 0.47UF 400V MIT
C 23A,24A,27A,28A,31A,32A			
C3B,4B,7B,8B,11B,12B,15B,16B,19B,20B	16	53100412	CAP. .01UF 600V
C 23B,24B,27B,28B,31B,32B			
C5B,6B,9B,10B,13B,14B,17B,18B,21B,22B	16	53100410	CAP. .01 UF 400V MKP10
C 25B,26B,29B,30B,33B,34B			
C30A,33A,34A,35B,36B,119,120,126,127	14	53220507	CAP. .22 UF 10% 160V
C 121,128,144,159,160			
C37A,38A,78-91,112,113	18	53200602	CAP. 2 UF +/-10% 450V
C37B,38B	2	53100412	CAP. .01UF 600V
C39,115,116,117,118	5	50220903	CAP. 2200 UF 35V.
C40-43,58-71,109	19	50470807	CAP. 470UF 450V
C44,45,72-77,110	9	50120801	CAP. 120UF 450V.
C46-51	6	53200603	CAP. 2 UF +/-10% 250V
C52-57,92-105,113,114	22	53100406	CAP. .01 UF +/-10% 630V
C106	1	50100704	CAP. 10 UF 450VDC
C107,129	2	53100610	CAP. 1UF 400V
C108,130	2	53560103	CAP. 56 PF +/-2% 630V DPN
C122,123,124,125	4	50100908	CAP. 1000 UF 63V
C131,133,142	3	50470701	CAP. 47UF 35V
C132,135,138,139,140	5	51100700	CAP. 10 UF 20V
C135,146,149,151,156,157	6	52100500	CAP. 0.1 UF 100V
C136	1	52470301	CAP. 4700PF CERAMIC
C137	1	52390300	CAP. 3900PF CERAMIC
C141	1	52330500	CAP. .33 UF 100V
C143	1	52100601	CAP. 1.0UF 20% 50V
C145,147,148	3	51330702	CAP. 33 UF +/-10% 16V
C150	1	52470500	CAP. .47UF CERAMIC
C152,153,154,155	4	53100407	CAP. .01 UF 250V 20% MPE MALL.
C158	1	53220201	CAP. 220 PF ±2.5% 630V PPN
D DIODES			
D1-4,31,32,34-40	13	30500910	1N916B
D5,6,15-30,33	19	30500400	IN4005 GENERAL INSTRUMENT
D7-14	8	30502200	IN4006
F FUSES			
F1	1	34502001	FUSE, MDA 20
F2	1	34500705	FUSE, MDQ-4
F3	1	34500202	FUSE, AGC 1/2

PARTS LIST

As of FEB 23 96

PRODUCT: REF600 3

NOTES: REVISION LEVEL CHANGED ON 2/21/96

Schematic Symbol	Quantity	ARC Part #	Description
FAN FANS			
FAN1-4	4	64000210	FAN, PAPST 4800N
J CONNECTORS			
J1	1	23201970	XLR CONNECTOR (Female)
J2-8	7	10036620	BINDING POST & KNOB
LE PANEL INDICATOR			
LE1	1	34300300	L.E.D. GREEN,D240
LE2	1	34300400	L.E.D. YELLOW,D240
M METERS/FANS			
M1	1	65000500	METER, VT150
M2	1	65000550	METER, REF600
ML1-4	4	34000410	LAMP, VT150SE
Q TRANSISTORS			
Q1	1	30010910	TRIAC, MAC224
Q2,5,8,10,11,12	6	30002800	TRANSISTOR,2N4401
Q3,4,6,9	4	30002900	TRANSISTOR,2N4403
Q7	1	30006603	FET, VIOLET ORANGE
R RESISTORS			
R1,2,25,26,34,35,44,45,54,55,64,65 R 74,75,84,85,94,95,104,105	20	42100314	RES. 1K 1% MK-5 50PPM
R3,4,258,256,297,298	6	42100503	RES. 100K+/-1% MK-3 50PPM
R5A,6A	2	42750203	RES. 750 OHM 1% MK-3 50PPM
R5B,6B	2	42121303	RES. 1.21K 1% MK-3 50PPM
R7,8,9,10,27A,27B,27C,27D,300,301	10	42150414	RES. 15K 1% MK-5 50PPM
R11,12,13,14	4	42182503	RES. 182K 1% MK-3 50PPM
R15A,16A,17,18,237A,237B	6	42681405	RES. 68.1K 1% MK-8 50PPM
R15B,16B,19,20	4	42300514	RES. 300K 1% MK-5 50PPM
R21,22,23,24	4	42464603	RES. 4.64 MEG. 1% MK-3 50PPM
R28,29,260,273	4	42100703	RES. 10 MEG 1% MK-3 50PPM
R30,31	2	42392303	RES. 3.92K 1% MK-3 50PPM
R32A,32B,33A,33B,212	5	42100505	RES. 100K 1% MK-8 50PPM
R36,37,48,56,57,68,69,76,77,88,89,96	17	42221603	RES. 2.21 MEG 1% MK-3 50PPM
R 97,108,109,288			
R38,39,46,47,58,59,66,67,78,79,86,87	16	42150514	RES. 150K 1% MK-5 1W 50PPM
R 98,99,106,107			
R40,41,50,51,60,61,70,71,80,81,90,91	16	42287503	RES. 287K 1% MK-3 50PPM
R 100,101,110,111			
R42,43,52,53,62,63,72,73,82,83,92,93	18	42274403	RES. 27.4K 1% MK-3 50PPM
R 102,103,112,113,233,269			
R114,115,124,125,134,135,144,145,154	16	43200004	RES. 0.2 OHM 5% 5W
R 155,164,165,174-5,184-5			

PARTS LIST

As of FEB 23 96

PRODUCT: REF600 3

NOTES: REVISION LEVEL CHANGED ON 2/21/96

Schematic Symbol	Quantity	ARC Part #	Description
R116,117,126,127,136,137,146,147,156 R 157,166,167,176,177,186	15	42100314	RES. 1K 1% MK-5 50PPM
R118,119,128,129,138,139,148,149,158 R 159,168,169,178,179,188	15	43100208	RES. 100 OHM 5% 3W SM186
R120,121,130,131,140,141,150,151,160 R 161,170,171,180-1,190-1	16	42274103	RES. 27.4 OHM1% MK-3 50PPM
R122,123,132,133,142,143,152,153,162 R 163,172,173,182-3,192-3	16	43050004	RES. 0.5 OHM+/-2% 3W W.W.
R188,200,203,206,209,238,240	7	42100314	RES. 1K 1% MK-5 50PPM
R189,202,205,208,211,239A,239B,241A R 241B	9	43100208	RES. 100 OHM 5% 3W SM186
R194	1	43100200	RES. 100 OHM 5% 2W
R195A,195B	2	43100106	RES. 10 OHM 20 WATT
R196,221,222,223,224,225,226,227,228 R 229,230,231,232,264	14	42100203	RES. 100 OHM 1% MK-3 50PPM
R197,198	2	43500100	RES. 50 OHM +/-5% 4 1/2W
R199A,199B	2	42143505	RES. 143K 1% MK-8 50PPM
R201,204,207,210	4	43100105	RES. 10 OHM 2W 5% W.W.
R213,214,251,252,259,275,285,287,290 R215,247	9 2	42100303 43300001	RES. 1K 1% MK-3 50PPM RES. 3 OHM 5% 6.5W PRC SM3114
R216,217,248,249	4	42158513	RES. 158K 1% MK-4 50PPM
R218,250,267,271,276,279,280,281,283 R 284,286,289,292,299	14	42100403	RES. 10K+/-1% MK-3 50PPM
R219,220,245,243	4	42681303	RES. 6.81K 1% MK-3 50PPM
R234A,234B,234C,235A,235B,235C,242A R 242B,242C	9	43680000	RES. 6.8 OHM 2W 5% SPH
R234D,235D,242D	3	43750001	RES. 7.5 OHM 2W W.W.
R236,244	2	42332203	RES. 332 OHM 1% MK-3 50PPM
R243,295	2	43300202	RES. 300 OHM 5% 2W W.W.
R253,254	2	42619403	RES. 61.9K 1% MK-3 50 PPM
R255	1	42205203	RES. 205 OHM 1% MK-3 50PPM
R256	1	42402303	RES. 4.02K 1% MK-3 50PPM
R257	1	42200303	RES. 2K 1% MK-3 50PPM
R261	1	42316303	RES. 3.16K 1% MK-3 50PPM
R262	1	42511203	RES. 511 OHM 1% MK-3 50PPM
R263	1	42237403	RES. 23.7K 1% MK-3 50PPM
R265,291	2	42100103	RES. 10 OHM 1% MK-3 50PPM
R268	1	42698403	RES. 69.8K 1% MK-3 50PPM
R270,293	2	42768403	RES. 76.8K 1% MK-3 50PPM
R271,278,282	3	42100603	RES. 1 MEG 1% MK-3 50PPM
R274	1	42562503	RES. 562K 1% MK-3 50PPM
R277	1	42750303	RES. 7.5K 1% MK-3 50PPM
R296	1	42150613	RES. 1.5 MEG 1% MK-4 50PPM

RV CONTROLS

RV1-16	16	45250404	POT, 25K Ω 10% CTS U550
RV17	1	45100200	POT 100 OHM 25W
RV18	1	45100424	10K TRIM POT
RV19	1	45150201	POT 150 OHM 2W.
RV20	1	45100300	TRIM POT 1K

PARTS LIST

As of FEB 23 96

PRODUCT: REF600 3

NOTES: REVISION LEVEL CHANGED ON 2/21/96

Schematic Symbol	Quantity	ARC Part #	Description
			RY RELAYS
RY1,3	2	64101600	RELAY, LS3
RY2	1	64100300	RELAY, 24V DC
			SW SWITCHES
SW1,2	2	24003100	SWITCH 5 POS., SDP1
SW3,4	2	24003030	SWITCH - OAK SW 3,4
SW5	1	24002900	SWITCH, AC VT130SE
			T TRANSFORMERS
T1	1	60013000	XFR. OUTPUT REF600
T2	1	60013100	XFR. PLATE 120V. REF600
T3	1	60013200	XFR. 120V. REF600
			U INTEGRATED CIRCUITS
U1,2	2	31001900	J FET INPUT OP-AMP
U3,5	2	31002000	MC7815CT
U4,6	2	31002700	MC7915 CT MOT.
U7,8	2	31002210	OP176GP
U9	1	31007700	IC, NE614
U10	1	31001910	TLO72CP
U11	1	31006610	REG. 6.2V 78L06
U12	1	31002401	LF 441 CN TESTED-ACCEPT
U13,14,15,16	4	31000800	NE555N TIMER
			V VACUUM TUBES
V1-16,31,32,33,34	20	32000561	VAC.TUBE, 6550C-TESTED
V17-24	8	32001320	VACUUM TUBE, 12AX7WB SOVTEK
V25,26,27,28	4	32001150	VAC.TUBE 6922 RUSSIAN
V29,30	2	32002110	TUBE, 7233
			ZD ZENER DIODES
ZD1-4	4	31000705	LM329DZ GREEN
ZD5	1	30502900	1N5374
ZD6	1	30503500	1N5359 B
ZD7	1	30502100	1N5234B