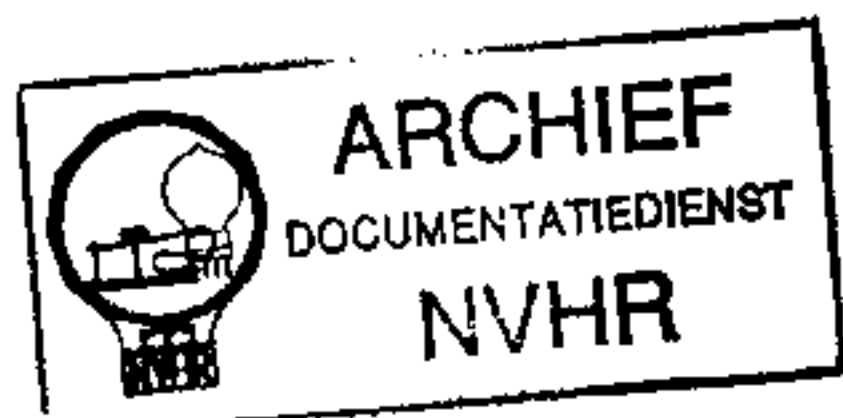


Met dank aan A.R.A. van Rossum
Ned. Ver. v. Historie v/d Radio



Raytheon Company Sorensen Operation
Richards Avenue, Norwalk, Connecticut 06856
Tel: 203-838-6571; TWX 710-468-2940; TELEX 96-5953

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
B 1		Blower	Forced air cooling	91-1000-2	Rotron
C 1 (a-e)		Cap., 32,000 mfd, 50 vdc	Ripple filter	24-2299-8	Sorensen-A Unit of Raytheon
C 5		Cap., .47 mfd, 200 vdc	Synch signal time constant	24-2409-17	Aerovox V146XR
C 6		Cap., 1.25 mfd, 200 vdc	Synch signal feed	24-2409-22	Aerovox V146XR
C 7		Cap., 2 mfd, 200 vdc	Stabilization	24-2409-21	Aerovox V146XR
C 8		Cap., .1 mfd, 200 vdc	Noise suppressor	24-2409-13	Aerovox V146XR
C 9		Cap., .022 mfd, 200 vdc	Noise suppressor	24-2409-9	Aerovox V146XR
C 10		Cap., .1mfd, 200 vdc	UJT firing	24-2409-13	Aerovox V146XR
C 11		Cap., 50 mfd, 25 vdc	Stabilization	24-2286-5	Sprague 45D
C 12		Cap., 25 mfd, 25 vdc	Stabilization	24-2286-4	Sprague 45D
C 13		Cap., 25 mfd, 25 vdc	Stabilization	24-2286-4	Sprague 45D
C 14		Cap., 100 mfd, 15 vdc	Stabilization	24-2285-2	Sprague 45D
C 15		Cap., .01 mfd, 200 vdc	Stabilization	24-2409-7	Aerovox V146XR
C 16		Cap., 100 mfd, 15 vdc	Reference time constant	24-2285-2	Sprague 45D
C 17		Cap., 10 mfd, 25 vdc	Stabilization	24-2286-3	Sprague 45D
C 18		Cap., 2 mfd, 200 vdc	Stabilization	24-2409-21	Aerovox V146XR
C 19		Cap., .01 mfd, 200 vdc	Stabilization	24-2409-7	Aerovox V146XR
C 20		Cap., 500 mfd, 50 vdc	Ripple filter - ref. supply	24-2287-9	Sprague 45D
C 21		Cap., 500 mfd, 50 vdc	Output cap - ref. regulator	24-2287-9	Sprague 45D
C 23		Cap., 25 mfd, 25 vdc	Stabilization	24-2286-4	Sprague 45D
C 24		Cap., .1 mfd, 200 vdc	Noise suppressor	24-2409-13	Aerovox V146XR
C 25		Cap., .1 mfd, 200 vdc	Noise suppressor	24-2409-13	Aerovox V146XR
C 26		Cap., .33 mfd, 400 vdc	RFI suppressor	24-2411-16	Aerovox V146XR
C 27		Cap., .33 mfd, 400 vdc	RFI suppressor	24-2411-16	Aerovox V146XR
C 28		Cap., 2.0 mfd, 330 vac	RFI suppressor	24-369	Sorensen-A Unit of Raytheon

FOR REFERENCE
 SCHEMATIC DRAWING
 200-²⁰⁰⁰ 3860

SORENSEN - A UNIT OF RAYTHEON CO.
 RICHARDS AVENUE, SO. NORWALK, CONN.

LIST NO. A14-5761 A
 SHEET 1 OF 8
 PREPARED IC DATE 9-7-65
 APPROVED BY _____

RELEASED

REPLACEMENT PARTS LIST
 MODEL DCR 40-60 A
 SERIAL NO. 600 TO

LIST NO. A14-5761 A
 SHEET 2 OF 8

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
C 29		Cap., .05 mfd, 500 vac	Spike suppressor	24-2010	Centralab I.D.-.05
C 30		Cap., .33 mfd, 400 vdc	RFI suppressor	24-2411-16	Aerovox V146XR
C 31		Cap., .33 mfd, 400 vdc	RFI suppressor	24-2411-16	Aerovox V146XR
C 32		Cap., .05 mfd, 500 vac	RFI suppressor	24-2010	Centralab I.D.-.05
C 33		Cap., .05 mfd, 500 vac	RFI suppressor	24-2010	Centralab I.D.-.05
C 34		Cap., .05 mfd, 500 vac	RFI suppressor	24-2010	Centralab I.D.-.05
C 35		Cap., .05 mfd, 500 vac	RFI suppressor	24-2010	Centralab I.D.-.05
C 37		Cap., .22 mfd, 200 vdc		24-2409-15	Aerovox V146XR
C 38		Cap., .05 mfd, 500 vac		24-2010	Centralab I.D.-.05
C 39		Cap., .05 mfd, 500 vac		24-2010	Centralab I.D.-.05
C 40		Cap., .05 mfd, 500 vac		24-2010	Centralab I.D.-.05
C 41		Cap., .05 mfd, 500 vac		24-2010	Centralab I.D.-.05
C 42		Cap., .22 mfd, 200 vdc		24-2409-15	Aerovox V146XR
C 43		Cap., .22 mfd, 200 vdc		24-2409-15	Aerovox V146XR
C 44		Cap., .22 mfd, 200 vdc		24-2409-15	Aerovox V146XR
C 45		Cap., .22 mfd, 200 vdc		24-2409-15	Aerovox V146XR
C 46		Cap., .05 mfd, 500 vac		24-2010	Centralab I.D.-.05
C 47		Cap., .05 mfd, 500 vac		24-2010	Centralab I.D.-.05
C 48		Cap., .1 mfd, 200 vdc		24-2409-13	Aerovox V146XR
CB 1		Circuit breaker	Over-current breaker	92-335	Heinemann AM30-30
CR 1		Rectifier	Main power rectifier	26-160	Sorensen - A Unit of Raytheon
CR 2		Rectifier	Main power rectifier	26-999	Sorensen-A Unit of Raytheon
CR 3		Rectifier	Main power rectifier	26-160	Sorensen-A Unit of Raytheon
CR 4		Rectifier	Main power rectifier	26-999	Sorensen-A Unit of Raytheon
CR 6		Rectifier	Blocking diode	26-153-1	Solitron CER 53
CR 7		Rectifier	Phase delayed switch	26-178-7	G.E., C30EX7
CR 3		Rectifier	Phase delayed switch	26-178-7	G.E., C30EX7

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
CR 9		Rectifier	Blocking diode	26-158-1	Solitron CER 68
CR 12		Rectifier	Synch supply rectifier	26-158-2	Solitron CER 69
CR 13		Rectifier	Synch supply rectifier	26-158-2	Solitron CER 69
CR 14		Rectifier	Waveform clipper	26-1017	Raytheon RD 9119
CR 15		Rectifier	Insulating diode, parallel oper.	26-1017	Raytheon RD 9119
CR 16		Rectifier	Clamp	26-1017	Raytheon RD 9119
CR 17		Rectifier	Clamp	26-1017	Raytheon RD 9119
CR 18		Rectifier	Bias	26-1017	Raytheon RD 9119
CR 19		Rectifier	Bias	26-1017	Raytheon RD 9119
CR 20		Rectifier	Bias	26-1017	Raytheon RD 9119
CR 21		Rectifier	Bias	26-1017	Raytheon RD 9119
CR 23		Rectifier	Temp. compensation	26-158-1	Solitron CER 68
CR 30		Rectifier	Bias	26-1017	Raytheon RD 9119
CR 33		Rectifier	clamp	26-1017	Raytheon RD 9119
CR 34		Rectifier	Ref. supply rectifier	26-158-2	Solitron CER 69
CR 35		Rectifier	Ref. supply rectifier	26-158-2	Solitron CER 69
CR 36		Rectifier, 1N751	Reference diode	26-211	Motorola 1N751
CR 37		Rectifier	Ref. supply rectifier	26-158-1	Soliton CER 68
CR 38		Rectifier, 1N753	Bias	26-206	Motorola, 1N753
CR 39		Rectifier, 1N746	Reference diode	26-223	Fughe, 1N746
CR 40		Rectifier	Blocking diode	26-1017	Raytheon RD 9119
CR 41		Rectifier 1N753	DS 3 shunt	26-206	Motorola 1N753
DS 1		Lamp		42-301	G.E., NE 51
XDS 1		Pilot lamp holder (red)	Power ON indicator	42-393	E.F. Johnson 147-1143-2
DS 2		Lamp		42-315	G.E., 1829
XDS 2		Pilot lamp holder (amber)	Thermal over-load indicator	43-322	E.F. Johnson 147-1142-4
DS 3		Lamp		42-341	G.E., 1302
XDS 3		Pilot lamp holder (green)	Current mode	43-341	E.F. Johnson 147-1142-3

REPLACEMENT PARTS LIST

LIST NO. A14-5761 A

MODEL DCR 40-60 A

SHEET 4 OF 8

SERIAL NO. 600 TO _____

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
L 1		Choke	Ripple filter	127-1595	Sorensen-A Unit of Raytheon
L 2		Choke	RFI choke	127-1700	Sorensen-A Unit of Raytheon
M 1		Ammeter 0 - 80 A DC	Output ammeter	94-433-7	Sorensen-A Unit of Raytheon
M 2		Voltmeter 0 - 50 V DC	Output voltmeter	94-549-4	Sorensen-A Unit of Raytheon
Q 1		Transistor	Synch generator	18-144	Fairchild FSC 3641
Q 2		Transistor	Emitter follower	18-144	Fairchild FSC 3641
Q 3		Transistor	Control signal amplifier	19-143	Fairchild 2N3638
Q 4		Transistor	Multivibrator	18-144	Fairchild FSC 3641
Q 5		Transistor	Multivibrator	18-144	Fairchild FSC 3641
Q 6		Transistor	Switch	18-143	Fairchild 2N3638
Q 7		Transistor	Switch	18-144	Fairchild FSC 3641
Q 8		Transistor. 2N1671A	Firing pulse generator	18-097	G.E., 2N1671A
Q 9		Transistor	Phase driver switches	18-144	Fairchild FSC 3641
Q 10		Transistor	Phase driver switches	18-144	Fairchild FSC 3641
Q 11		Transistor	Current limiting amplifier	18-143	Fairchild 2N3638
Q 12		Transistor	Bias current generator	18-143	Fairchild 2N3638
Q 13		Transistor	Current limiting switch	18-143	Fairchild 2N3638
Q 14		Transistor	Reference current generator	18-143	Fairchild 2N3638
Q 15		Transistor	Differential amplifier	18-125-2	Sorensen-A Unit of Raytheon
Q 16		Transistor	Differential amplifier	18-125-2	Sorensen-A Unit of Raytheon
Q 17		Transistor	Diff.amplifier current generator	18-144	Fairchild FSC 2641
Q 19		Transistor	Ref. supply passing stage	18-142	RCA 4C512
Q 21		Transistor	Ref. supply differential amplifier	18-144	Fairchild FSC 3641
Q 22		Transistor	Ref. supply differential amplifier	18-144	Fairchild FSC 3641
Q 23		Transistor	Ref. supply differential amplifier	18-144	Fairchild FSC 3641
Q24		Transistor	Ref. supply differential amplifier	18-144	Fairchild FSC 3641
Q25		Transistor	Current lamp amplifier	18-145	Raytheon RT 9343

REPLACEMENT PARTS LIST
 MODEL DCR 40-60 A
 SERIAL NO 00 TO

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
R 1		Resistor, 50 Ω , 100 w	Bleeder	27-856	Ward Leonard 100F50
R 2		Resistor, 4 Ω , 100 w	Bleeder	27-1045	Ward Leonard 100F4
R 3		Resistor, 4 Ω , 100 w	Bleeder	27-1045	Ward Leonard 100F4
R 4		Resistor, .01 Ω , 50 w	Current sensing resistor	190-3236	Sorensen-A Unit of Raytheon
R 5		Shunt, 80 A	Shunt	94-009	Sorensen-A Unit of Raytheon
R 6		Resistor, .75 Ω , 240 w	Current limiting resistor	27-1042	W.L. RIFLEX 5-1/2"D-core
R 7		Resistor, .75 Ω , 240 w	Current limiting resistor	27-1042	W.L. RIFLEX 6-1/2"D-core
R 9		Resistor, 4.7K Ω , 1/2 w	Voltage divider	27-107	Allen Bradley EB 4721
R 10		Resistor, 22K Ω , 1/2 w	Voltage divider	27-142	Allen Bradley EB 2231
R 11		Resistor, 2.7K Ω , 1/2 w	Series dropping resistor	27-174	Allen Bradley EB 2721
R 12		Resistor, 2.7K Ω , 1/2 w	Series dropping resistor	27-174	Allen Bradley EB 2721
R 13		Resistor, 68K Ω , 1/2 w	Synch signal timing	27-143	Allen Bradley EB 6531
R 14		Resistor, 2.2K Ω , 1/2 w	Q2 emitter resistor	27-152	Allen Bradley EB 2221
R 15		Resistor, 5.6K Ω , 1/2 w	Q3 emitter resistor	27-1112	Allen Bradley EB 5625
R 16		Resistor, 10K Ω , 1/2 w	Multivibrator input, signal resist	27-133	Allen Bradley EB 1031
R 17		Resistor, 1.8K Ω , 1/2 w	Q4 load resistor	27-176	Allen Bradley EB 1821
R 18		Resistor, 2.2K Ω , 1/2 w	Multivibrator emitter resistor	27-152	Allen Bradley EB 2221
R 19		Resistor, 10K Ω , 1/2 w	Q5 bias resistor	27-133	Allen Bradley EB 1031
R 20		Resistor, 680 Ω , 1/2 w	Hysteresis resistor	27-156	Allen Bradley EB 6311
R 21		Resistor, 6.8K Ω , 1/2 w	Q5 bias resistor	27-185	Allen Bradley EB 6321
R 22		Resistor, 1K Ω , 1/2 w	Q6 signal resistor	27-106	Allen Bradley EB 1021
R 23		Resistor, 2.2K Ω , 1/2 w	Dropping resistor	27-152	Allen Bradley EB 2221
R 24		Resistor, 1K Ω , 1/2 w	Q6 Current limit	27-103	Allen Bradley EB 1021
R 25		Resistor, 220 Ω , 1/2 w	Q7 drive resistor	27-101	Allen Bradley EB 2211
R 26		Resistor, 4.7K Ω , 1/2 w	Timing resistor	27-107	Allen Bradley EB 4721
R 27		Resistor, 390 Ω , 1/2 w	UJT Temp.compensation	27-1109	Allen Bradley EB 3911
R 28		Resistor, 47 Ω , 1/2 w	Q9 base resistor	27-181	Allen Bradley EB 4701
R 29		Resistor, 47 Ω , 1/2 w	Q10 base resistor	27-181	Allen Bradley EB 4701
R 30		Pot., 100 Ω , 2 w	Current limiting setting	29-449	Clarostat series 39
R 31		Pot., 150 Ω , 2 w	Pot.current limiting control	29-391	Clarostat type 43
R 32		Pot., 5K Ω , 2 w	Current limit.range adjust	29-476	Clarostat type 43

REPLACEMENT PARTS LIST
MODEL DCR 40-60 A
SERIAL NO 500 TO

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
R 33		Resistor, 100 Ω , 1/2 w	Stabilizing circuit resistor	27-173	Allen Bradley EB 1011
R 34		Resistor, 4.7K Ω , 1/2 w	Q11 load resistor	27-107	Allen Bradley EB 4721
R 35		Resistor, 1K Ω , 1/2 w	Current range limiting	27-103	Allen Bradley EB 1021
R 36		Resistor, 47 Ω , 1/2 w	Dropping resistor	27-181	Allen Bradley EB 4701
R 37		Resistor, 1K Ω , 1/2 w	Stabilizing circuit resistor	27-103	Allen Bradley EB 1021
R 38		Resistor, 560 Ω , 1/2 w	Q12 bias resistor	27-1103	Allen Bradley EB 5611
R 39		Resistor, 330 Ω , 1/2 w	Q12 emitter resistor	27-102	Allen Bradley EB 3311
R 40		Resistor, 10K Ω , 1/2 w	Q12 bias resistor	27-133	Allen Bradley EB 1031
R 41		Resistor, 475 Ω , 1/2 w	Q13 emitter resistor	28-1146	IRC, Type CEC-TO
R 43		Resistor, 1K Ω , 1 w	Q14 bias resistor	27-297	Allen Bradley GB 1025
R 44		Pot., 2K Ω , 2 w	Output range set	29-407	Clarostat type 43
R 45		Pot., 3K Ω , 2 w	Coarse output adjust	29-408	Clarostat type 43
R 46		Pot., 150 Ω , 2 w	Fine output adjust	29-391	Clarostat type 43
R 47		Pot., 2K Ω , 2 w	Output zero set	29-407	Clarostat type 43
R 48		Resistor, 470 Ω , 1/2 w	Stabilizing circuit resistor	27-166	Allen Bradley EB 4711
R 49		Resistor, 22K Ω , 1/2 w	Q3 drive resistor	27-142	Allen Bradley EB 2231
R 50		Resistor, 180 Ω , 1/2 w	Q17 emitter resistor	27-190	Allen Bradley EB 1811
R 51		Resistor, 2.2K Ω , 1/2 w	Q16 collector resistor	27-152	Allen Bradley EB 2221
R 52		Resistor, 2K Ω , 1/2 w	Q17 bias resistor	27-105	Allen Bradley EB 2021
R 53		Resistor, 120 Ω , 1/2 w	Q17 bias resistor	27-1107	Allen Bradley EB 1211
R 54		Resistor, 22K Ω , 1/2 w	Stabilizing circuit resistor	27-142	Allen Bradley EB 2231
R 55		Resistor, 2.7K Ω , 1/2 w	Q16 base resistor	27-174	Allen Bradley EB 2721
R 56		Resistor, 4.7K Ω , 5 w	Sensing divider	28-1150	Sage 1500S 4700-5
R 57		Resistor, 900 Ω , 3 w	Sensing divider	28-1153	Sage 1400S 900-5
R 59		Resistor, 4.7K Ω , 1/2 w	Q15 base resistor	27-107	Allen Bradley EB 4721
R 62		Resistor, 390 Ω , 1 w	Q19 by-pass resistor	28-703	Allen Bradley GB 3911
R 63		Resistor, 1.2K Ω , 1 w	Diff. amplifier emitter resistor	28-727	Allen Bradley GB 1225
R 64		Resistor, 1K Ω , 1/2 w	Q23 output resistor	27-103	Allen Bradley EB 1021
R 65		Resistor, 1K Ω , 1/2 w	Diff. amplifier emitter resistor	27-103	Allen Bradley EB 1021
R 66		Resistor, 1 K Ω , 1/2 w	Q24 output resistor	27-103	Allen Bradley EB 1021

MODEL DCR 40-80 A

SERIAL NO. 600TO

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
R 67		Resistor, 680 Ω , 1 w	Zener series resistor	28-701	Allen Bradley GB 6811
R 68		Pot., 1K Ω , 2 w	Ref. supply adjust	29-406	Clarostat type 43
R 71		Resistor, 470 Ω , 1/2 w	Q13 collector resistor	27-166	Allen Bradley EB 4711
R 72		Resistor, 330 Ω , 1/2 w	Q13 load resistor	27-102	Allen Bradley EB 3311
R 73		Resistor, 5.1K Ω , 2 w	DS 2 shunt	27-544	Allen Bradley HE 5125
R 74		Resistor, 1K Ω , 1/2 w	Stabilization	27-103	Allen Bradley EB 1021
R 75		Resistor, 1K Ω , 1/2 w	Q13 base current limiter	27-103	Allen Bradley EB 1021
R 76		Resistor, 100 Ω , 1/2 w	Q25 collector resistor	28-1203	IRC type CEC-TO
R 77		Pot., 50 Ω , 2 w	Current mode lamp adjust	29-467	IRC (CTS) series 110
① R 78		Resistor, 22 Ω , 1/2 w	Current mode lamp adj. resistor	27-153	Allen Bradley EB 2201
R 79		Resistor, 560 Ω , 1/2 w	Q21 bias resistor	27-1103	Allen Bradley EB 5611
S 1		Thermostat	Over-temp protection	91-1286	Sorensen-A Unit of Raytheon
T 1		Transformer	Main power transformer	126-2562	Sorensen-A Unit of Raytheon
T 2		Transformer	Aux. power transformer	126-2633	Sorensen-A Unit of Raytheon
T 3		Transformer, pulse	CR 7 firing	126-2570	Sorensen-A Unit of Raytheon
T 4		Transformer, pulse	CR 8 firing	126-2570	Sorensen-A Unit of Raytheon

REPLACEMENT PARTS LIST

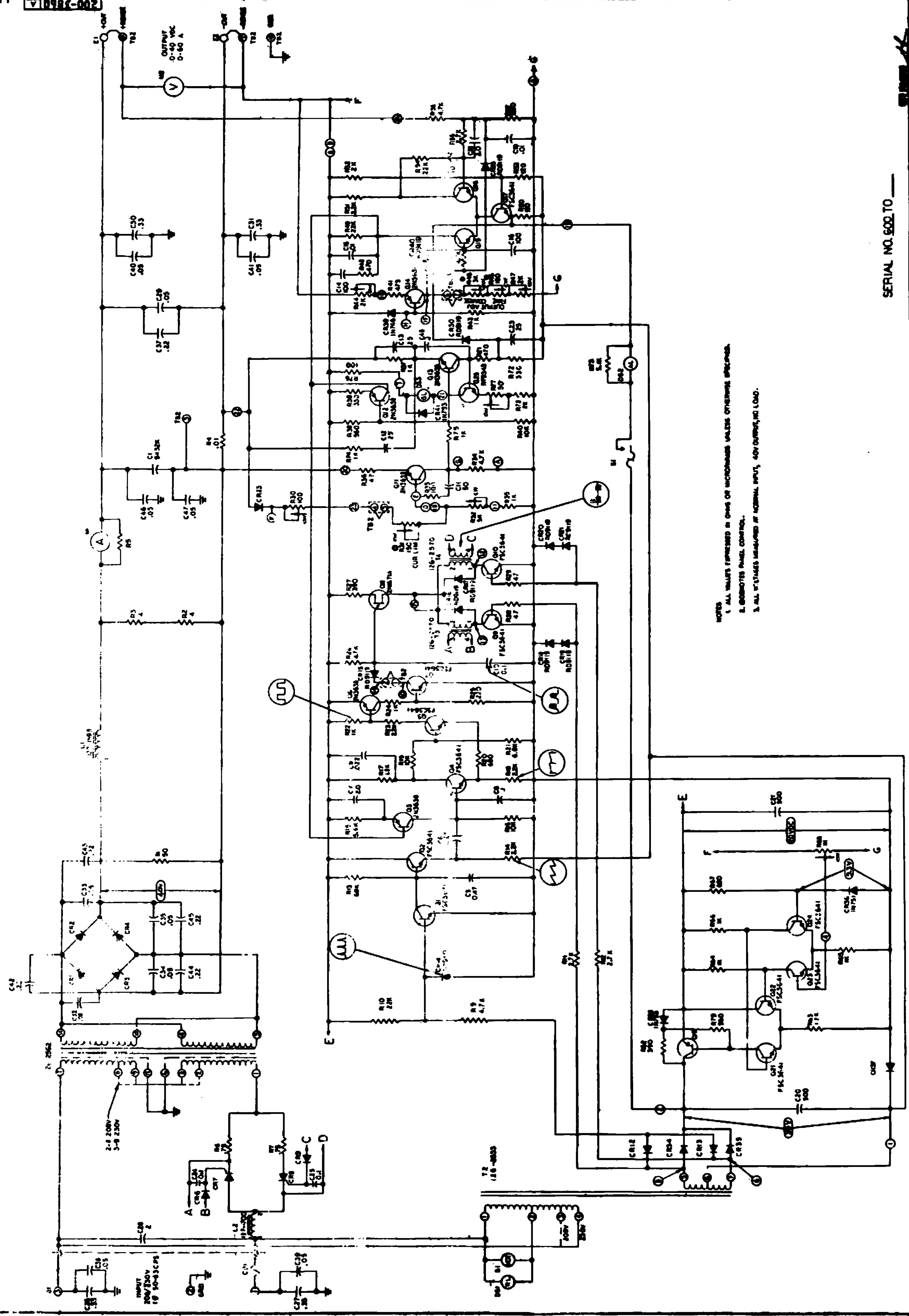
LIST NO. A14-5761 A

MODEL DCR 40-60 A

SHEET 3 OF 3

SERIAL NO. TO

SCHEMATIC SYMBOL	RECOMM. SPARES	DESCRIPTION	FUNCTION	SORENSEN PART NO.	MANUFACTURER
A	1	R78 (27-153) 22~ WAS (27-181) 47~	REVISION PAGE EFF. SER. NO 600	EN 2-3620	1-22-66 FP JEC.



NOTES:
 1. ALL VALUES EXPRESSED IN OHMS OR MICROHMS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS PANEL CONTROL.
 3. ALL VOLTAGES MEASURED AT NORMAL INPUT, 40V OUTPUT, NO LOAD.

SERIAL NO. 600 TO

POWER SUPPLY	MODEL 200-2850
SCHEMATIC DIAGRAM	E 200-3110 A
DATE	
BY	
APPROVED	
REVISIONS	