

REV	CHANGE	ER NO.	DFTS	CHECK	APPD	DATE
(A)	RELEASED TO PRODUCTION.	35-ER02339	-	-	-	12-30-71
(B)	ADDED VENDOR NAME & NOTE 1, TO SHEET 2	35-ER02450	<i>Dus</i>	<i>Dus</i>	-	1-18-72
(C)	CHANGED FORMAT DELETED 007-6004601; ADDED 007-6004604; ADDED SCOTT INFORMATION Added Memory save ckt performance specs.	35ER3503	<i>DW</i>	<i>DW</i>	<i>XJ</i>	6/7/72
(D)	Scott T & A Number Was 095-0610053	35-ER05931	<i>OCJ</i>	<i>OCJ</i>	<i>OCJ</i>	4/20/73
(E)	Move Sola numbers to Reference Column (reference 46RFC1077); in above change (C), Spec. No. was 007-6014604.	35ER07183	<i>OCJ</i>	<i>OCJ</i>	<i>OCJ</i>	10/30
(F)	Added 007-6004610 Requirement.	35ER07901	<i>OCJ</i>	<i>OCJ</i>	<i>OCJ</i>	3/4/74
(G)	REMOVED DATA FOR 007-6004604 REQMT. ADDED 50 HZ OPERATION 315-0531631.	46ER03099	<i>BWD</i>	<i>DLC</i>		2/9/74

MO	RFC NO.	PLANT LOC	DESCRIPTION	INTERPLANT USAGE (CODE)	REQD	NEXT ASSEMBLY
					1	315-0527900
MANUFACTURING OPTION FOR USE ONLY AT PLANT SHOWN					REPLACES DWG	
THIS DRAWING AND INFORMATION THEREON IS THE PROPERTY OF THE NATIONAL CASH REGISTER COMPANY AND ALL UNAUTHORIZED USE AND REPRODUCTION IS PROHIBITED.				NCR DATA PROCESSING DIVISION RANCHO BERNARDO, CALIFORNIA		
CLASS	MODEL	PLANT	CLASS	MODEL	PLANT	CLASS: M05
M05	01	35	M05	01	08	UNIT: Standard Part
DRAWING OF THE ASSEMBLY			START: 12-15-71			FINISH: 12-15-71
SHEET NO.			DFTS: G. HURLEY			NAME: POWER SUPPLY, INDEX-FPP
SIZE:			CHKR: A.L.W. 12-30-71			REV
DESIGNER: A GRAHAM			315-0525001			G
REV	A	B	APPD:	APPD:	CODE:	COVER SHEET SHEET 1 OF 2

INDEX

1.0 SCOPE

This index lists drawings by number, which are to be included in the field print package for the GPMC power supply program.

Drawing Numbers for F.P.P.	Content	Vendor	Power Supply	Ref Document
315-0525001	Index, PS Field Print Package	All	All	--
315-0531631	50 HZ OPERATION	SCOTT		
Note 1	Schematic Test and Adjustment Proc.	Sola	Ditto	007-6004690
Note 1		Sola	Ditto	315-0526405
Note 1	Memory Save (Mod 1)	Sola	Ditto	315-0526406
315-0519393	Schematic	Scott	Ditto	--
007-6004691	Test and Adjustment Procedure	Scott	Ditto	--
315-0526407	Memory Save (Mod 0)	Scott	Ditto	--
--	Top Assembly	Scott	Ditto	095-0610038
	Power Supply Requirements	All	5.1V 50A ±2% +12V 8A ±3% -12V 5A ±3%	007-6004610 (non-PCB Cap)

Note 1: Drawings listed under Ref. Documents may be obtained from NCR-RB Engineering files.

GPMC	
POWER SUPPLY, INDEX FPP	(G)
315-0525001	SHEET 2 of 2

REV	CHANGE	ER NO.	DFTS	CHECK	APPD	DATE
(A)	PRODUCTION RELEASE	35-07405	—	—	—	—
(B)	Modified Document Numbers to comply with non-PCB version power supply.	35-07901	—	—	<i>A.G.</i>	3-19-74
(C)	REMOVED FEATURE (F-20) ON COVER PAGE REMOVED NOTE ON Pg. 2.	46-03099	BWD	DLC		9/9/74

MO	RFC NO.	PLANT LOC	DESCRIPTION	INTERPLANT USAGE (CODE)	REQD	NEXT ASSEMBLY
			MANUFACTURING OPTION FOR USE ONLY AT PLANT SHOWN		1	315-0525001
					REPLACES DWG	

THIS DRAWING AND ANY ATTACHMENTS THERETO AND INFORMATION THEREON ARE THE PROPERTY OF THE NATIONAL CASH REGISTER COMPANY AND ALL UNAUTHORIZED USE AND REPRODUCTION IS PROHIBITED.						NGR DATA PROCESSING DIVISION RANCHO BERNARDO, CALIFORNIA	
CLASS	MODEL	PLANT	CLASS	MODEL	PLANT	CLASS:	UNIT: GPMC POWER SUPPLY
						START: 10/15/71 FINISH: 10/18/71	NAME: 50Hz OPERATION
						DFTS: R.F.S.	
DRAWING OF THE ASSEMBLY				CHKR: R.F.S.	315-0531631		REV
SHEET NO.				SIZE:	DESIGNER: R.F.S.		C
REV					APPD: A.G.	APPD:	CODE: COVER SHEET SHEET 1 OF 2

1.0 SCOPE

THE POWER SUPPLY ORDERED TO THIS 315 SPECIFICATION WILL BE A 007-6004610 WIRED FOR 50 HZ OPERATION.

2.0 DOCUMENTS

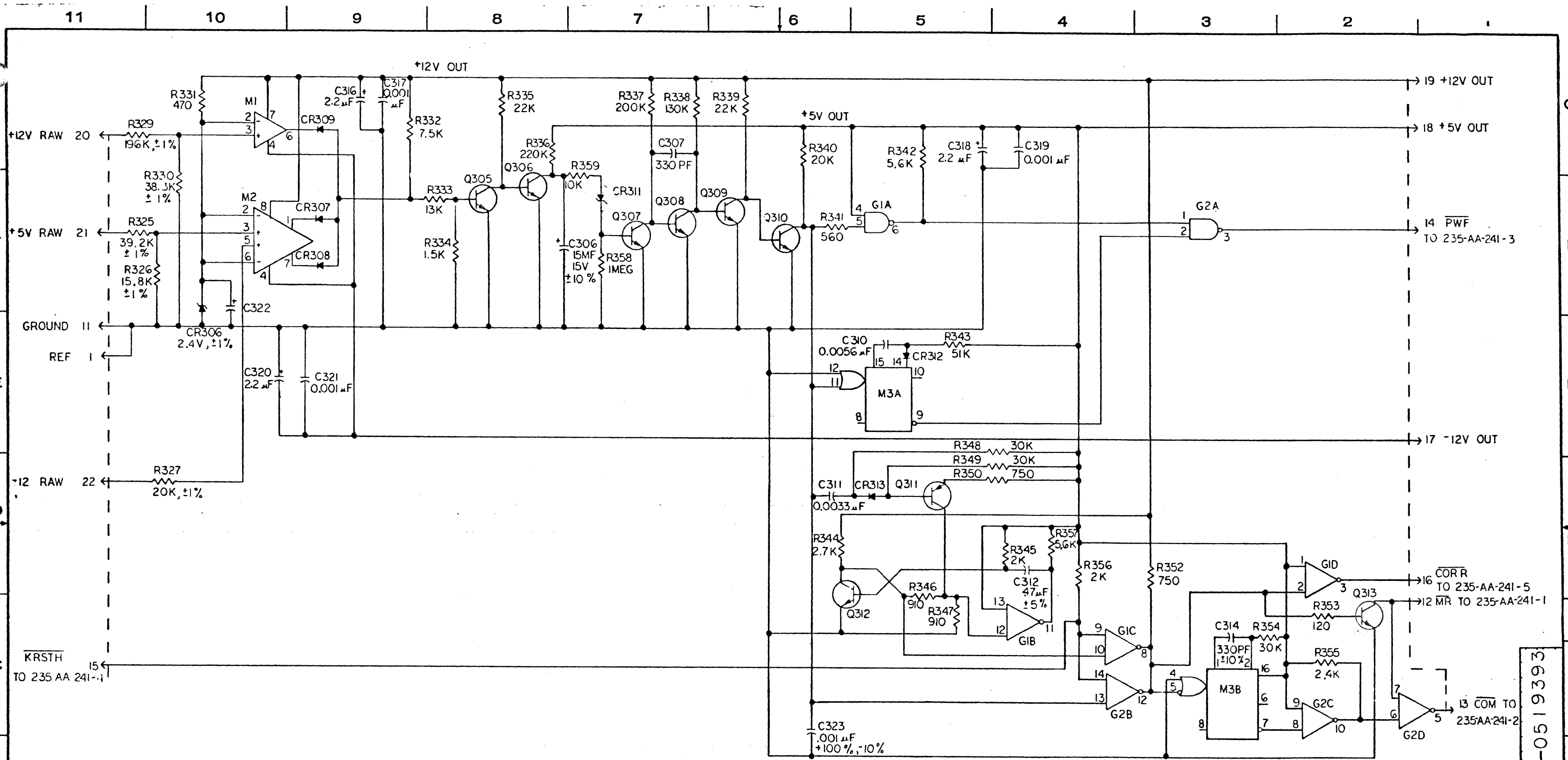
- 2.1 007-6004610 PROCUREMENT SPECIFICATION.
- 2.2 315-0525001, POWER SUPPLY F.P.P. INDEX.
- 2.3 315-0532150, 50 HZ FEATURE.

3.0 INSTRUCTIONS

- 3.1 WHEN THE 007-6004610 POWER SUPPLY IS WIRED FOR 50 HZ OPERATION, THE PART NUMBER 315-0531631 WILL BE MARKED ABOVE POWER SUPPLY NAMEPLATE IN ACCORDANCE WITH THE 50 HZ FEATURE DRAWING 315-0532150 AND THE PROCUREMENT SPECIFICATION 007-6004610.

~~NOTE: ADD FEATURE F99 IN THE "FEATURE INSTALLED" COLUMN OF THE MACHINE EQUIPMENT INVENTORY RECORD.~~

GPMC POWER SUPPLY	
50 HZ OPERATION	(C)
315-0531631	SHEET 2 OF 2



MEMORY SAVE CIRCUIT

10. FOR ASSY SEE 095-0610087 (PCBI)
 9. G2 IS 007-1667401
 8. G1 IS 007-1699401
 7. M3 IS 007-1698101
 6. M2 IS 007-1669603
 5. M1 IS 007-1669602
 4. Q313 IS 2N2219A
 3. Q311 IS 2N2904
 2. Q307, Q308 & Q309 ARE 2N3604
 1. Q305, Q309, Q310 & Q312 ARE 2N2369A

NOTES (UNLESS OTHERWISE SPECIFIED)

CHANGES: (D) REDRAWN, WAS E SIZE.

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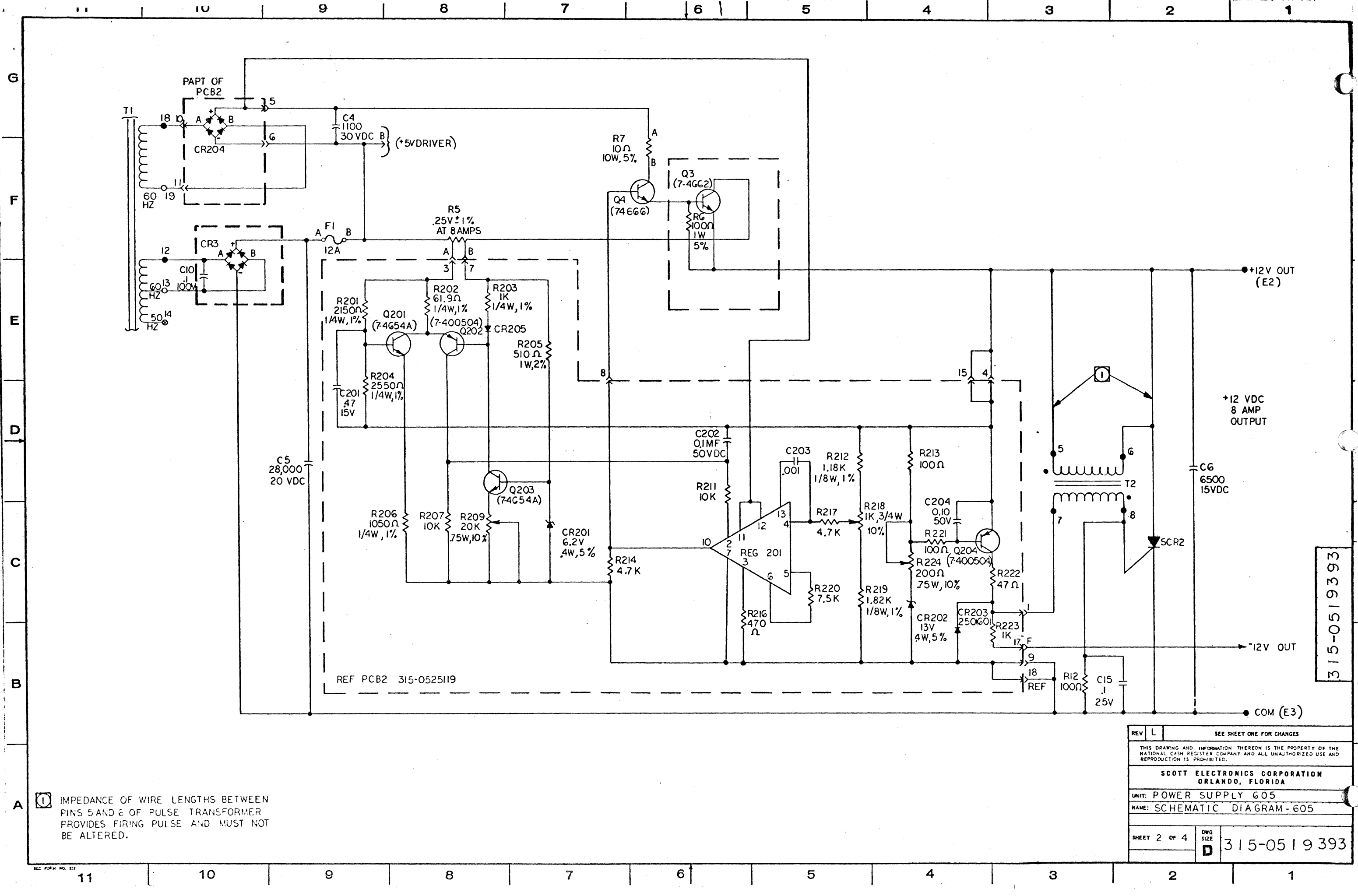
SCOTT ELECTRONICS CORPORATION
 ORLANDO, FLORIDA

CLASS: 605	UNIT: POWER SUPPLY-605
44 START: 10/24/74 FINISH: 10/24/74	NAME: SCHEMATIC DIAGRAM (605)
INTERPLANT USAGE (CODE)	DESIGNER:
REPLACES DWG	APPROVED:
	CODE: 2-9562

605	M05	44	L	44ER00600	RER	10/24/74	10/24/74	10/24/74	10/24/74
CLASS	MODEL	PLANT	REV	RELEASE NO.	DFTS	DATE	CHECK	APPD	

315-0519393

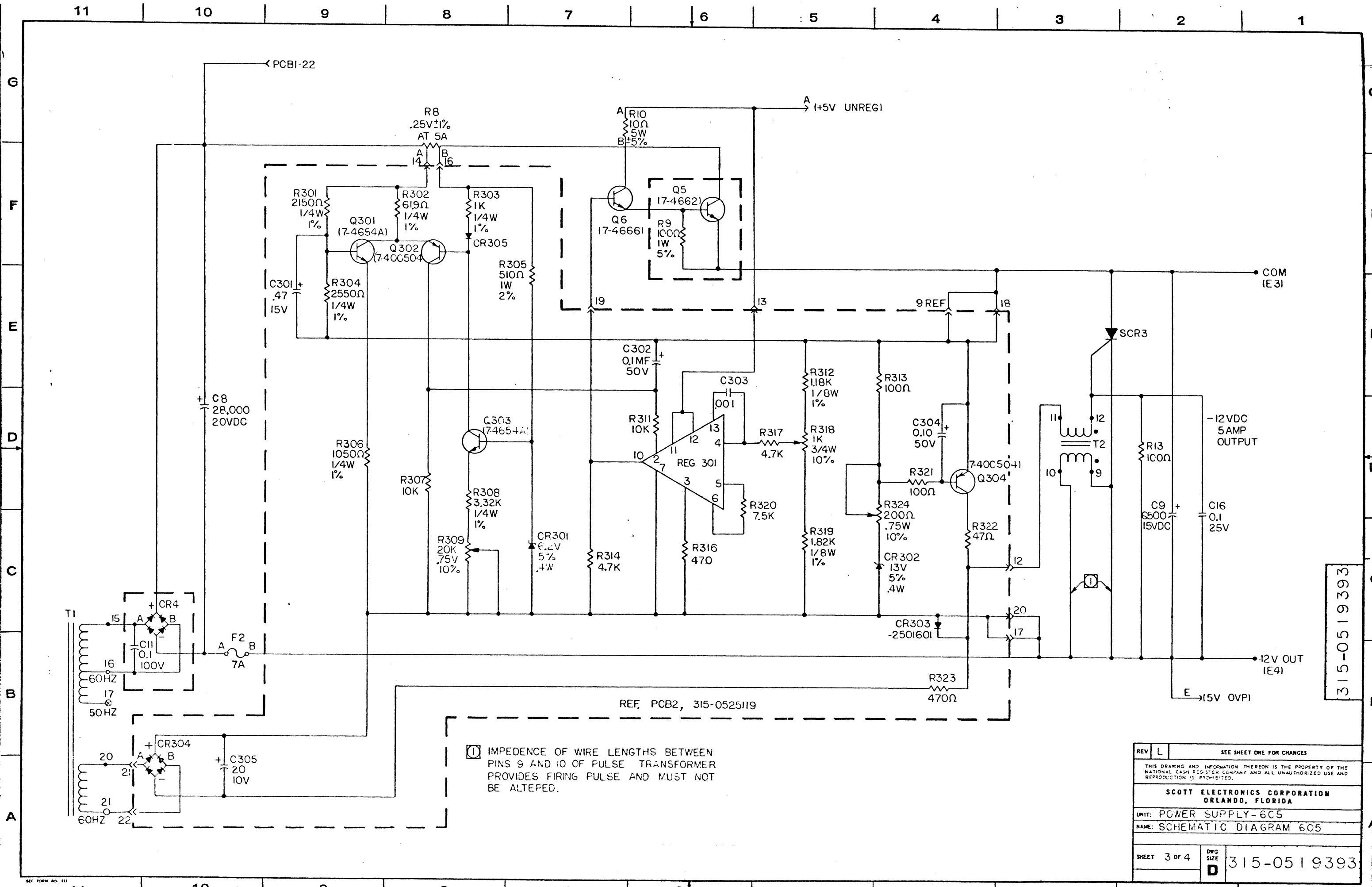
SHEET 1 OF 4
 D 315-0519393



① IMPEDANCE OF WIRE LENGTHS BETWEEN PINS 5 AND 6 OF PULSE TRANSFORMER PROVIDES FIRING PULSE AND MUST NOT BE ALTERED.

315-0519393

REV	L	SEE SHEET ONE FOR CHANGES
THIS DRAWING AND INFORMATION THEREON IS THE PROPERTY OF THE NATIONAL CASH REGISTER COMPANY AND ALL UNAUTHORIZED USE AND REPRODUCTION IS PROHIBITED.		
SCOTT ELECTRONICS CORPORATION ORLANDO, FLORIDA		
UNIT: POWER SUPPLY 605		
NAME: SCHEMATIC DIAGRAM - 605		
SHEET 2 OF 4	DWG SIZE	315-0519393

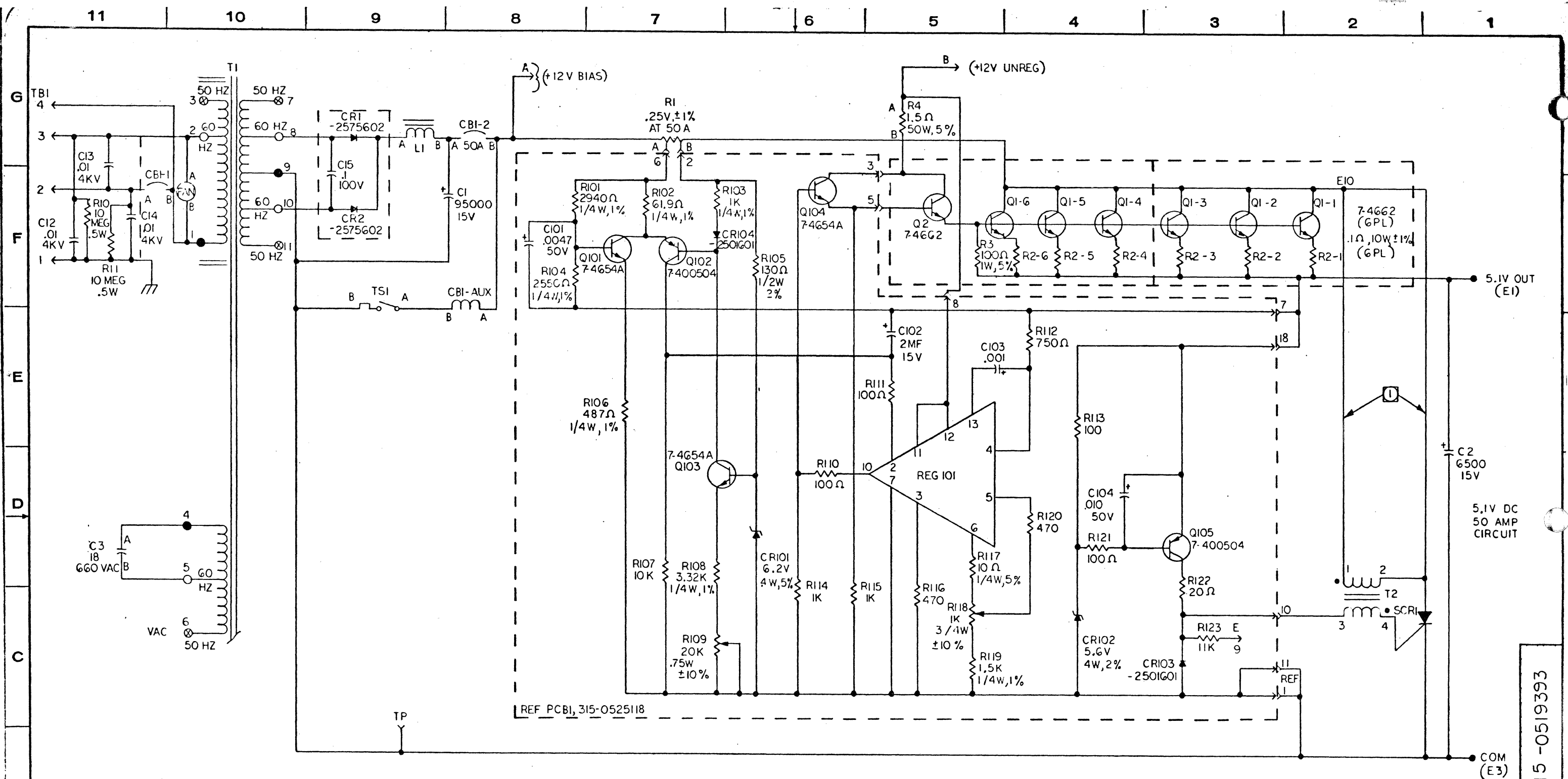


REF. PCB2, 315-0525119

① IMPEDENCE OF WIRE LENGTHS BETWEEN PINS 9 AND 10 OF PULSE TRANSFORMER PROVIDES FIRING PULSE AND MUST NOT BE ALTEPED.

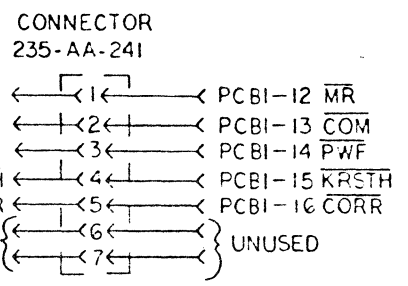
315-0519393

REV	L	SEE SHEET ONE FOR CHANGES
THIS DRAWING AND INFORMATION THEREON IS THE PROPERTY OF THE NATIONAL CASH REGISTER COMPANY AND ALL UNAUTHORIZED USE AND REPRODUCTION IS PROHIBITED.		
SCOTT ELECTRONICS CORPORATION ORLANDO, FLORIDA		
UNIT: POWER SUPPLY-605		
NAME: SCHEMATIC DIAGRAM 605		
SHEET	3 OF 4	DWG SIZE
		315-0519393



REF PCB1, 315-0525118

315-0519393



- ① IMPEDENCE OF WIRE LENGTHS BETWEEN PINS 1 AND 2 OF PULSE TRANSFORMER PROVIDES FIRING PULSE AND MUST NOT BE ALTERED.
- ALL CAPS IN μ FDS.
 - 50HZ \otimes , 60HZ \circ , COMMON \bullet .
 - 007 PREFIXES NOT SHOWN FOR COMPONENT IDENTIFICATIONS PRECEDED BY A DASH.
 - FOR ASSY, SEE ASSY DWG 095-0610087.
 - ALL RESISTORS ARE 1/2W, \pm 2%.

REV	L	SEE SHEET ONE FOR CHANGES
THIS DRAWING AND INFORMATION THEREON IS THE PROPERTY OF THE NATIONAL CASH REGISTER COMPANY AND ALL UNAUTHORIZED USE AND REPRODUCTION IS PROHIBITED.		
SCOTT ELECTRONICS CORPORATION ORLANDO, FLORIDA		
UNIT: POWER SUPPLY-G05		
NAME: SCHEMATIC-DIAGRAM-G05		
SHEET 4 OF 4	DWG SIZE	315-0519393

NCR

SUPPLIER CONTROL SPECIFICATION

SPECIFICATION
007-6004691
REVISION C

POWER SUPPLY

SCOTT

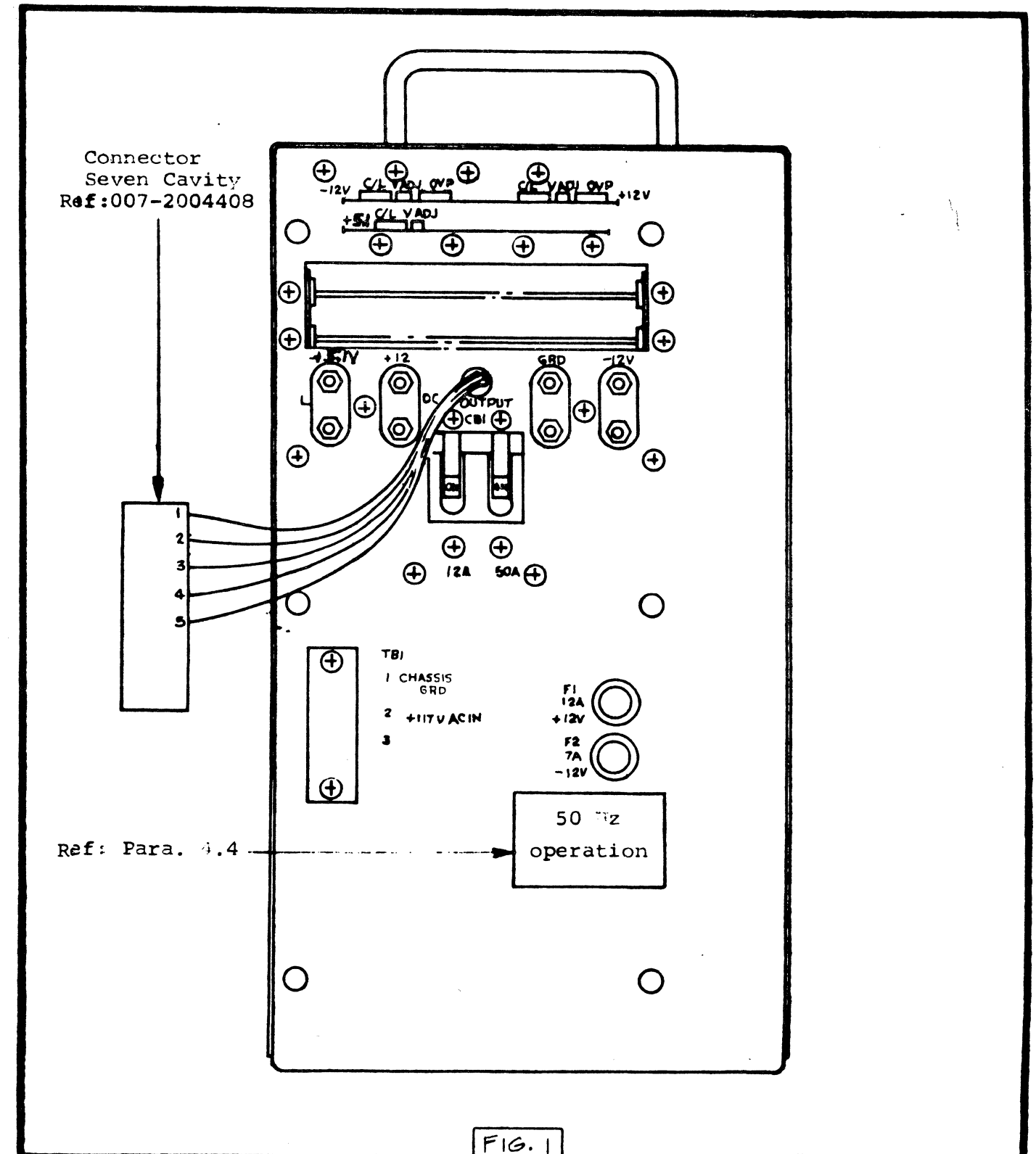
CODE 2-9001

SPECIFICATION REVISION	DESCRIPTION				APPROVAL	DATE
	CONTROL PLANT	RESP ENGR	DATE			
A	RELEASED FOR PRODUCTION 35 FEB 24 1972	RB	<i>[Signature]</i>	7/27/72	<i>[Signature]</i>	9/16/72
B	<i>[Signature]</i> 10/10/72 Para 4.4 for 60Hz was: T1-18 Is: T1-16 35 FEB 24 1972 <i>[Signature]</i> 10-6-72 35 FEB 24 1972		<i>[Signature]</i>		<i>[Signature]</i>	10/10/72
C	Added special instructions (Pg. 8), Fig. 2 C3 Note(*), and other specification additions to define and clarify a new Non-PCB (Polychlorinated Biphenyl) version of this power supply (007-6004610) <i>[Signature]</i> 3-15-74		<i>[Signature]</i>		<i>[Signature]</i>	3/15/74

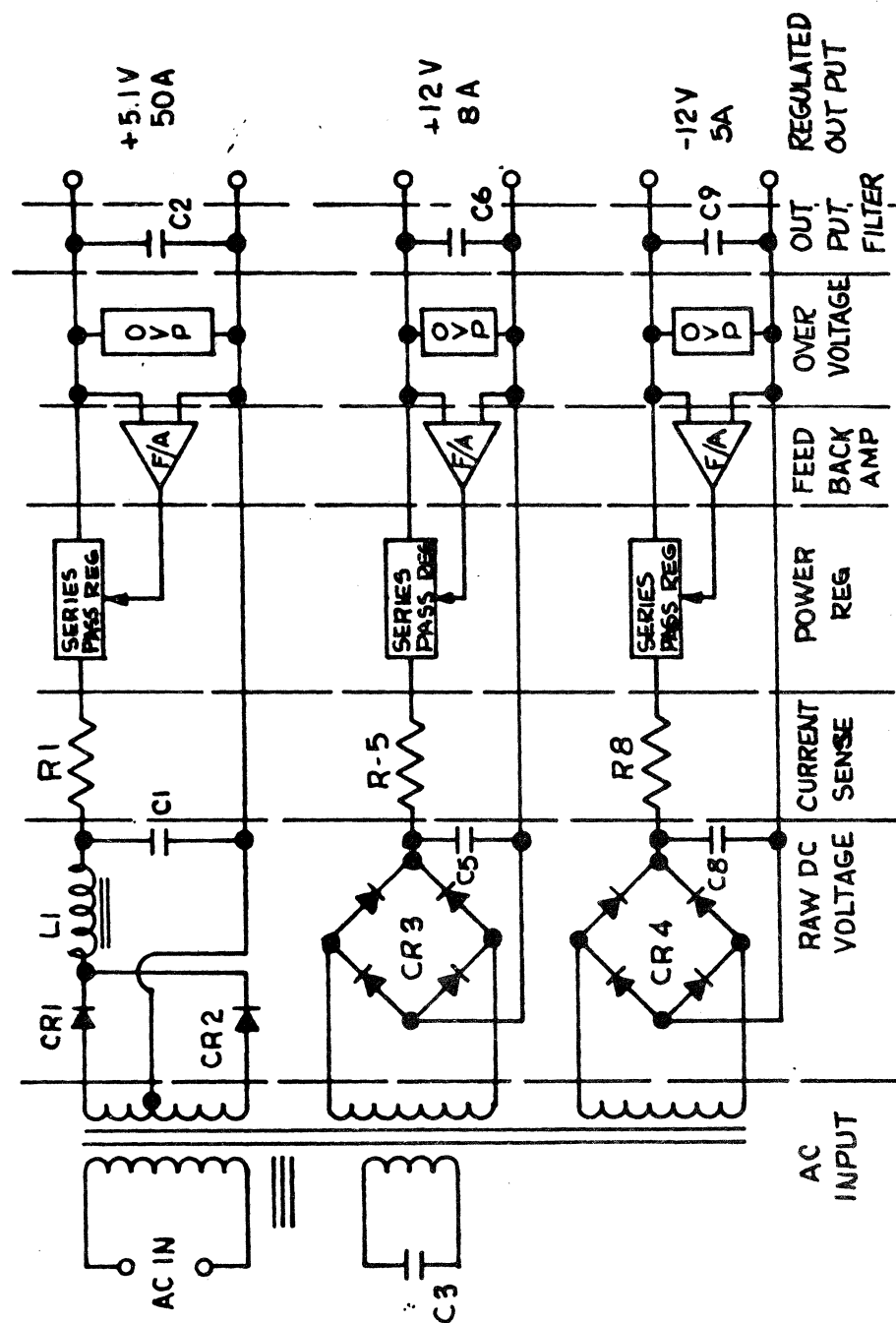
NCR

CONSTANT VOLTAGE D.C. POWER SUPPLY

SPECIFICATION
007-6004691
REVISION C



FUNCTIONAL DIAGRAM



* See Special Instructions on Page 8 concerning this capacitor!

FIG. 2

1.0 SCOPE

SCOPE

This supplier control specification defines those parameters not defined in Procurement Specification and applies to Power Supplies, Part Number 007-6004604, MOD "0" and 007-6004610, MOD "0".

2.0 ASSOCIATED DOCUMENTS (Latest Revision)

ASSOCIATED DOCUMENTS (Latest Revision)

2.1 REQUIRED

REQUIRED

2.1.1

007-6010000, General Specification, Constant Voltage, DC Power Supply.

2.1.2

007-6004604, Procurement Specification, +5.1V 50A, +12V 8A, and -12V 5A Power Supply.

2.1.3

007-6004610, Procurement Specification.

2.1.4

007-9813451 thru 99, Capacitor, Non-PCB

2.2 REFERENCE

REFERENCE

2.2.1

Schematic, 315-0519393.

2.2.2

Test and Adjustment Procedure, 095-0610053.

2.2.3

Top Assembly Drawing, 095-0610038.

3.0 REQUIREMENTS

REQUIREMENTS

Requirements in this section are not defined in the Procurement Specification.

NCR reserves the right to change this specification for the purpose of eliminating obsolete or undesirable components. No changes in this specification can be made on orders which are in process, however, without the approval of Scott Electronics; and no changes in this specification can be made without the approval of Scott Electronics, unless 120 days advance notice of change is given to Scott Electronics.

3.1 Input Current

Maximum Input Current shall not exceed 12 amps RMS.

Test Conditions:

Input Voltage 103 to 132 Volts RMS

Frequency 50 or 60 Hz

All loads at edge of Current Limit.

Ambient Temperature $25^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$

3.2 Modification Number

3.2.1 When any component or part is changed to the extent that the form, fit or function of the new component or part is not directly interchangeable with the old component, a new modification number is required.

3.2.2 The supplier control specification will be upgraded to reflect this modification and supplies will be inspected to the highest modification number.

3.2.3 The nameplate on the power supply shall be marked with the highest modification number. Modification numbers will begin with MOD 0 and will increase one number per modification (MOD 1, MOD 2, etc.).

3.2.4 The instruction book shall reflect the highest modification number in accordance with specification 007-7660201.

4.0 POWER SUPPLY OPERATION

4.1 Theory of operation, Refer to Figure 2.

These power supplies use a series pass regulator for each of its three output voltages. Each series pass regulator in turn, is controlled with an I.C. feedback amplifier.

The upstream, or raw DC voltage, is developed by a ferroresonant transformer which offers a high degree of line voltage isolation.

Each output is designed with foldback current limiting which lowers the power dissipation to a safe level in the pass section in the event of a short circuit.

Over voltage protection is provided on each output and is interlocked with each other output such that an over voltage condition on any one output will turn off this power supply through the auxilliary circuit of the circuit breaker CB 1.

4.2 Power Supply Adjustments, each output

Current limit and OVP adjustments are available if required and are identified in Figure 1.

Voltage adjustments, shown in Figure 1 are located on the printed circuit boards.

4.3 Set up and adjustment procedure.

4.3.1.1 Check insulation resistance between input terminals and chassis and output terminals and chassis. The resistance shall be 1 megohm or greater.

4.3.2 Check the DC fuses for correct type and rating.

F1 12 Amp

F2 7 Amp

CB1-1 12A Magnetic Breaker

CB1-2 50A Magnetic Breaker

4.3.3 Apply 117VAC line voltage at 60 Hz and minimum required load current, see paragraph 4.4 for 50Hz operation.

Output Voltage	Minimum Load Current	Resistors for Minimum load	NCR Number
+5.1V	5A	1Ω 100W	007-6735201
+12V	.8	15Ω 25W	007-6735007
-12V	.5	25Ω 25W	007-6735008

4.3.4 Adjust output voltage control until the output voltage is set to specified value.

4.3.5 Set the load current at 120% of full load current.

Output Voltage	For ~120% Load Current	Resistors for Max. Load	NCR Number
+5.1V	Load with 5	.5Ω 100W	007-6735315
+12.0V	Load 15Ω with 3	4Ω 100W	007-6735204
-12.0V	Load 25Ω with 1	2Ω 100W	007-6735202

4.3.6 Carefully adjust the current limit potentiometer until the output current begins to limit. An increase in the 120 Hz ripple voltage will just be observed on the output terminals when correctly set.

4.3.7 At 117VAC line voltage and min load, adjust the output voltage to OVP voltage specified and adjust OVP potentiometers to fire at this specified value.

Output Voltage	OVP Voltage
+5.1V	6 ± .5 VDC
+12V	+14.5 ± .5 VDC
-12V	-14.5 ± .5

When OVP circuit fires, output drops to ≈ 1 volt. To reset turn off A.C. power.

4.3.8 When the current limit and OVP potentiometers are set, set output voltage to correct value at nominal line and minimum loads as defined in paragraph 4.3.3.

4.4 Frequency Change

To change frequency from 60 Hz operation to 50 Hz operation, move wires on transformer, T1 as follows:

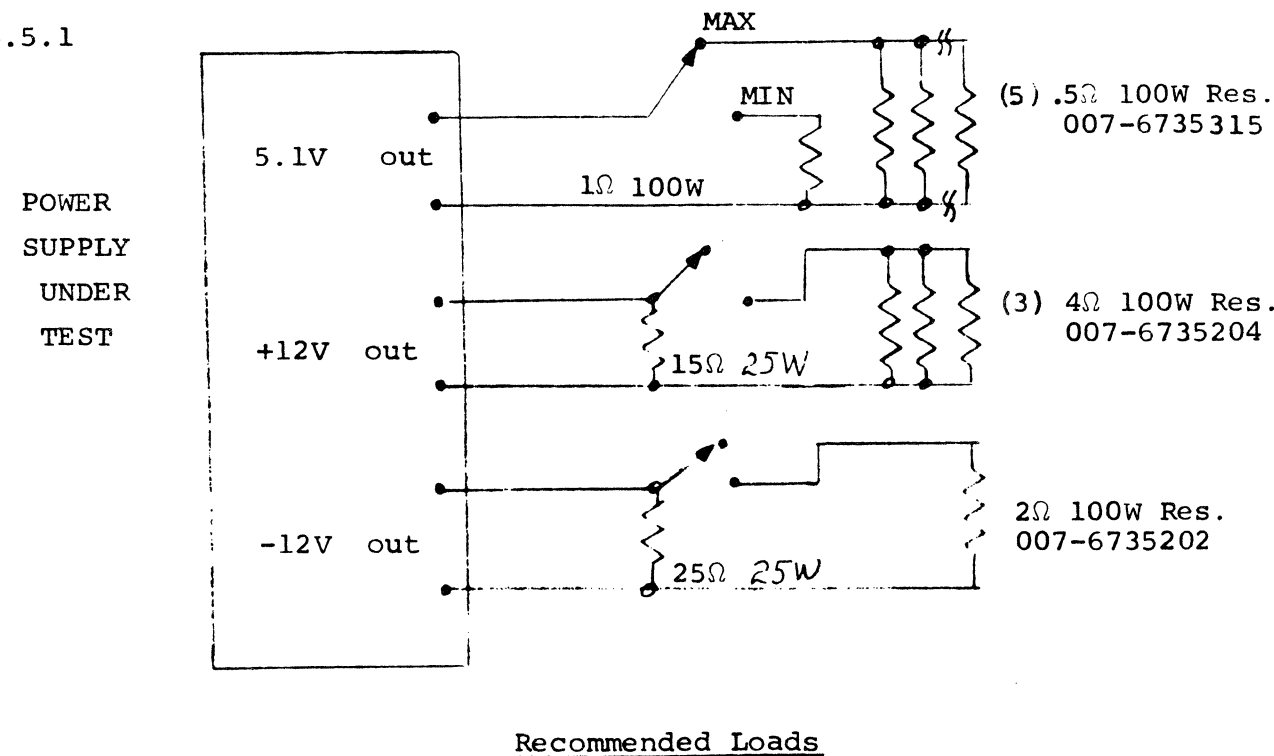
60 Hz	to	50Hz
T1-2		T1-3
T1-8		T1-7
T1-10		T1-11
T1-5		T1-6
T1-16		T1-17
T1-13		T1-14

Use 50Hz label, 007-4052002, when wired in 50Hz mode or 60Hz label, 007-4052003, when wired in 60Hz mode. Locate label in accordance with Fig. 1 of this specification.

4.5 Power Supply Bench Test

Upon completion of any internal electrical repairs, the power supply should be operated into dummy loads per Para. 4.3.3 to assure that the voltages are within their normal range.

4.5.1



SPECIAL INSTRUCTIONS:

Power Supply 007-6004604 which contained PCB capacitors shall now be manufactured or reworked with Non-PCB capacitors and identified as 007-6004610 according to the following instructions:

Capacitor Replacement

Remove capacitor C3 (007-1180630) from power supply 007-6004604 and replace with Non-PCB cap 007-9813455.¹ This instruction is applicable for both 50 Hz and 60 Hz versions of the P/S.

Labeling (identification)

When a 007-6004604 is reworked or manufactured to become a 007-6004610, the same labeling procedures outlined in the procurement specification shall be followed except:

1. Paragraph 2.1.2* shall be "NCR Specification 315-0531631, power supply, 50 Hz operation".
2. Paragraph 2.1.6* shall be "NCR Specification 315-0532150, 50Hz Feature".
3. Paragraph 3.1.4.1* shall be "Feature F 01, Power Supply, 50 Hz operation ref 315-0532150".

All reworked power supplies with an original NCR nameplate (007-5292102) installed and marked with an 007-6004604 shall be reidentified with new number 007-6004610 in accordance with procurement specification 007-6004610.

All new power supplies manufactured with non-PCB capacitors shall have P/N 007-6004610 marked in accordance with procurement specification 007-6004610.

* Procurement Specification 007-6004604 paragraph references.

¹ Use recommended mounting straps 007-0690597.