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# FIELD MAINTENANCE PRINT SET

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NOTE: THIS SHEET OF THE TABLE OF CONTENTS IS THE REVISION CONTROL DOCUMENT USED FOR CDC DISK DRIVE DOCUMENTATION UPDATES.

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 Field Maintenance  
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SECTION 2  
 (CDC DISK DRIVE)

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1-126	C	2-8	C
1-127	C	2-9	C
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1-130	C	2-12	C
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## PREFACE

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This manual contains information applicable to the logic cards used in the BK7B1-E/F (SMDs):

The manual has been prepared for customer engineers and other technical personnel directly involved with maintaining these drives.

This manual is divided into three sections. The content of each section is described below:

Section 1 -- Diagrams. Contains logic and wiring diagrams for the drive.

Section 2 -- Wire Lists. Contains logic wire wrap information for the drive.

Section 3 -- Card Component Layouts. Contains diagrams showing the location of all physical components on each card in the drive.

Other manuals applicable to the previously listed drives are:

<u>Publication No.</u>	<u>Title</u>
83323810	Hardware Reference Manual
83323820	Hardware Maintenance Manual, Volume 1

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FLT	Fault	PC PT	Piece Part
FREQ	Frequency	PLO	Phase Lock Oscillator
FTU	Field Test Unit	PN	Part Number
FWD	Forward	POS	Positive
GEN	Generator	PWR	Power
GND	Ground	RCVRS	Receivers
HD	Head	RD	Read
I/O	Input-Output	RDY	Ready
INTLK	Interlock	REC	Receiver
INTGRTR	Integrator	REF	Reference
LD	Load	REG	Register
MAINT	Maintenance	REV	Reverse
MAX	Maximum	RGTR	Register
MB	Megabyte	TRM	Reserve Timer
MPM	Modified Frequency Modulation	RTZ	Return to Zero
MK	Mark	S&IOBC	Sector and Index on B Cable
MULT	Multiple	S/C	Series Code
NC	No Connection	SEC	Second
NEG	Negative	SEL	Select
NOM	Nominal	SEQ	Sequence
NON-VDE	See Page 1-1	SER	Servo
NORM	Normal	SH	Sheet
NRM	Normal	SOL	Solenoid
NRZ	Nonreturn to Zero		

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SR	Servo	VCO	Voltage Controlled Oscillator
SW	Switch	W+R	Write or Read
T	Track	W-R	Write and Read
TBS	To Be Supplied	W/	With
TLA	Top Level Assembly	W/O	Without
TP	Test Point	WRT	Write
TRK	Track	WT	White
TTL	Transistor Transistor Logic	XDUCER	Transducer
UNREG	Unregulated	XMTR	Transmitter
VDE	See page 1-1		

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## DIAGRAMS

1

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### INTRODUCTION

This section contains diagrams representing all electrical circuitry and wiring contained in the drive. It also contains information concerning the interpretation of the electrical circuit and wiring diagrams. This results in the diagrams set actually containing two different types of diagrams: (1) key to logic, and (2) card cabling, and harnessing schematics.

The diagrams set begins with the key to logic. These sheets contain information concerning interpretation of the actual circuit diagrams.

The card, cabling and harnessing diagrams follow the key to diagrams and comprise the major portion of the diagram set. The card diagrams are schematics of the circuit cards used in the drive. The cabling and harnessing diagrams show the wiring that interconnects the cards and other circuitry contained in the drive.

Information concerning applicability may be contained on the schematics themselves in the form of notes. This makes it necessary to check carefully for notes (particularly on the cover sheet of the schematics) when using the diagrams to ensure that they are interpreted correctly.

Either of two different power supplies may be installed in the drive. One is VDE approved and the other is not. Notes on the diagrams and other references to VDE/NON-VDE applicability are interpreted as follows:

- No notes: Information applies to all units.
- VDE only: Information applies to 50 Hz units, series code 25 and above, and older units with 57453. It also applies to 60 Hz units, series code 26 and above, and older units with 57550.
- NON-VDE only: Information applies to 50 Hz units, series code 24 and below without 57453, and 60 Hz units, series code 25 and below without 57550.

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Each sheet in the diagrams has a title block containing the information shown in figure 1-1. This information is explained as follows:

- Title -- Description of the information contained on that sheet.
- Publication Number -- Indicates the publication number of this manual. This number is in lieu of the number usually found at the bottom of each page.
- Manual Revision Letter -- Indicates the revision level of this sheet and should correspond to the revision level indicated on the List of Effective Pages sheet in the front matter of this manual.
- Diagram Revision Letter -- Indicates revision level of this diagram and changes each time the diagram changes .
- Card Type -- Indicates the type of card containing the circuitry shown on this diagram. This is included only on the first sheet of each card type and will not be found on diagrams showing key to logic, cabling or harnessing information.
- Card Location -- Applicable only to cards located in the logic or read/write chassis, this number indicates the location of the card within the chassis.
- Cross Reference Number -- Each sheet (except those in key to logic) has a unique 3-digit cross reference number. The first two digits of this number pertain to the physical location of that circuitry within the drive. The last digit pertains to show this circuitry.
- Sheet Number -- Pertains to the number of sheets required to show this circuitry and should match the last digit of the cross reference number.
- Page Number -- Indicates the page number of this sheet within the manual. This number is in lieu of the number usually found at the bottom of each sheet.

Table 1-1 lists the contents of the diagrams set and includes the cross reference number, location and title of each sheet in the set. However, each title and cross reference number is listed only once. This is important to note where several sheets have the same title and cross reference number but contain different information because they apply to different units.

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		Key to Diagrams - Chassis Map
		Key to Diagrams - Configuration
		Key to Diagrams - Intersheet Referencing
		Key to Diagrams - Wirewrap Panel
		Key to Diagrams - Miscellaneous
011	A2A01	Transmitter, Receivers, Head Address Register (_TVV)
012	A2A01	Transmitters
013	A2A01	Receivers and Hd Register
021	A2A02	Receivers Diagrams (_RVV)
022	A2A02	Receivers
023	A2A02	Receivers
024	A2A02	Reveiver and Transmitter
061	A2A06	Access Control and Index/Sector Decode (_LTV)
062	A2A06	Access Control and Index/Sector Decode
063	A2A06	Forward and Reverse EOT
064	A2A06	Max Address Fault
071	A2A07	Access Control No. 1 Diagrams (_LVV)
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TABLE 1-1. CONTENTS OF DIAGRAMS (Contd)

Cross Reference Number	Module* Location	Diagrams Title
072	A2A07	Direction Control, Fine Latch, On Cyl and Cyl Pulses
073	A2A07	Seek FF and Seek Error Detection
074	A2A07	Servo Fault, Load FF and RTZ FF
081	A2A08	Diff Bits, Head Reg, Speed Enable, Unit Select Diagrams (_QPV)
082	A2A08	Speed Relay and Motor Relay Control. Up to Speed
083	A2A08	Head Select Register, Unit Sel Xmtr/Rcvr, Seek End Xmtr
084	A2A08	Difference Bits
101	A2A10	Write Clock 806 Khz to 9.67 Mhz Diagrams (_LSV)
102	A2A10	Sector, Index, Ref and Write PLO Clocks
103	A2A10	Servo and Read Clocks
121	A2A12	Difference Generation and Control Diagrams (_LWV)
122	A2A12	Cylinder Address Register
123	A2A12	Cylinder Address Register
124	A2A12	Difference Counter Generation
125	A2A12	Difference Counter Output
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132	A2A13	NRZ to MFM Data-Part I
133	A2A13	NRZ to MFM Data-Part II
141	A2A14	Data Latch Diagrams (_LRV)
142	A2A14	Analog Data to Read Data
143	A2A14	Lock to Data And Address Mark Detect
151	A2A15	Read PLO Diagrams (_LZV)
152	A2A15	Data Strobe Delay, Read Data Output
153	A2A15	VCO Output
154	A2A15	Clock Data Output
155	A2A15	Read PLO Timing Diagram
161	A2A16	FTU/Head Alignment Card Slot Wiring
162	A2A16	FTU/Head Alignment Card Slot
171	A2A17	Fault Card Diagrams (_KPV)
172	A2A17	Head Select, Write + Read and Cylinder Fault
173	A2A17	Voltage Fault
174	A2A17	Master Clear, Unit Ready and Fault
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175	A2A17	Receivers and Transmitters
181	A2A18	Fine Servo Decoder Diagrams (_FRV)
182	A2A18	Sensing Dibits and AGC'ed Servo Signal
183	A2A18	Track Servo Signal and Cyl Detect A and B
184	A2A18	Track Servo Signal
185	A2A18	Cyl Detect A and B
191	A2A19	Access Control No. 2 Diagrams (_KGV)
192	A2A19	Write Inhibit, Fwd/Rev EOT Enables. Coarse/Fine Position Signals
193	A2A19	Fine Enable, Slope Gate and Offset Command Generation
194	A2A19	Forward/Reserve Offset and Fine Position Signal
201	A2A20	Analog Servo Diagrams (_MSV)
202	A2A20	Cylinder Detect, Velocity, and Velocity Gain Adjust
203	A2A20	D/A Converter and Desired Velocity Generator.
204	A2A20	Summing Amplifier Output and Drive Current V/C PWR AMP
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TABLE 1-1. CONTENTS OF DIAGRAMS (Contd)

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611	A3E01	R/W Control and Cabling Diagrams (_PKV)
612	A3E01	Input Power Wiring and Card Voltage Control
613	A3E01	Read/Write Control
621	A3E02	Write Driver Card Edge Connector and Cabling Diagrams (_PJV)
622	A3E02	Write Driver and Write Fault Detect
623	A3E02	Write Driver and Write Fault
631	A3E03	Read Amplifier and Address Mark Detection Diagrams (_PHV)
632	A3E03	Input Voltage Pins and Voltage Regulator
633	A3E03	Read Amplifier and Address Mark Detection
634	A3E03	Read Amplifier and Address Mark Detection
641	A3A04	Diode Matrix and Mother Board, Board Layout Diagrams (_XFN)
642	A3E04	Diode Matrix and Mother Board Schematic
651	A3E05	Head Select Board. Head Plug Connectors, Cabling and Card Layout Diagrams (_XGN)
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652	A3E05	Unused Logic Elements, Voltage Input Pins, Cabling Information.
653	A3E05	Head Select Decode and Head Bit Enable
654	A3E05	Head Enables and Multi Head Select
655	A3E05	Head Enables and Multi Head Select
761	A3	Track Servo Preamp Diagrams (_ZQN)
762	A3	Track Servo Preamp Cabling/Plug Connections
763	A3	Track Servo Preamp Schematic
771	A4	A4 - Operator Control Panel Diagrams (_ZYN)
772	A4	Fault Clear and LAP Switches, Fault and Ready Indicators
773	A4	Start Switch/Start Indicator, Start Interlock Reference Schematic
781	A3	A3 - I/O Cabling Diagrams
782	A3	I/O Harness Wiring and Tag/Bus Decode
791	A3	A3 - Misc Deck Wiring Diagrams
792	A3	A3 - Misc Deck Wiring Vel Xdcr, Speed Sensor, S1, S4, S6, L1 and Voice Coil
801	A1	A1 - Power Supply Diagrams

Table Continued on Next Page

TABLE 1-1. CONTENTS OF DIAGRAMS (Contd)

Cross Reference Number	Module* Location	Diagrams Title
802	A1	A1 - Power Supply, Power Supply External Cabling
803	A1	A1 - Power Supply, AC Power, DC Circuit Breakers and Relays K6, K7, K8
803**	A1	A1 - Power Supply, AC Power, Motor, Brake, and Local/Remote Switch.
804	A1	A1 - Power Supply, Drive Motor, Start Triacs and Local/Remote Switch
804**	A1	A1 - Power Supply, AC Power, DC Circuit breakers.
811	A1	Relay Board Power Wiring, Component Layout and Diagrams (_YFN)
812	A1	Relay Board Schematic-Part I
813	A1	Relay Board Schematic-Part II
811**	A1	A1 - Rectifier/Filter Board
812**	A1	A1 - Rectifier/Filter Board Schematic
821	A1	Rectifier and Capacitor Board Component Layout and Diagrams (_YEN)
822	A1	Rectifier and Capacitor Board
821**	A1	A1 - Control Board Diagrams (_CFN)
822**	A1	A1 - Control Board Schematic (Part 1)
823**	A1	A1 - Control Board Schematic (Part 2)
831	A1	Voice Coil Power Amp Diagrams (_ZCN)
832	A1	A1 - Power Supply Voice Coil Power Amp

Table Continued on Next Page



TABLE 1-1. CONTENTS OF DIAGRAMS (Contd)

Cross Reference Number	Module* Location	Diagrams Title
841/851**	A2	A2 5 Volt-Regulator Diagrams
842/852**	A2	A2 +5 Volt Regulator PC Board and AlP3
843/853**	A2	Schematic Diagram, -5 Volt Regulator
844/854**	A2	Schematic Diagram, +5 Volt Regulator
841**	A4	Relay board Diagrams (_FNN)
842**	A4	Relay board

\*Location Code is as follows: A1 - Power Supply, A2 - Logic Chassis, A3 - Deck, A4 - Control Panel (refer to Diagrams - Key to Diagrams for configuration drawing).

\*\*Applicable to VDE, units only.

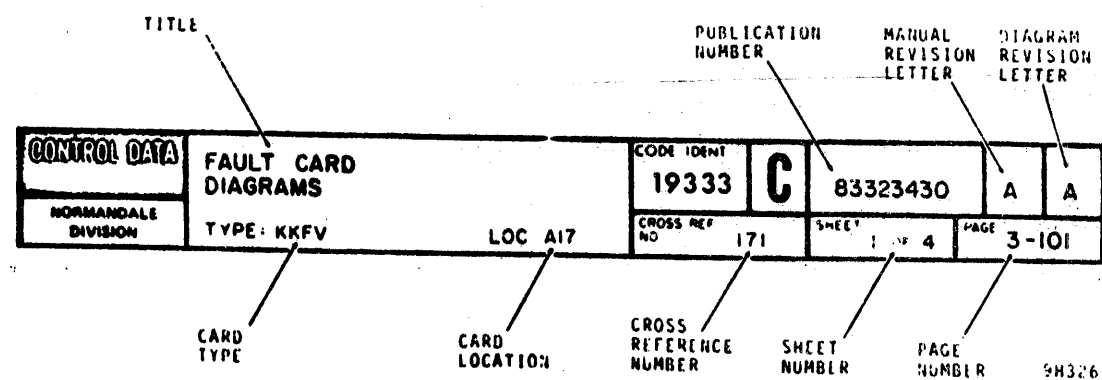


Figure 1-1. Diagram Title Block

CDC PRINT SET  
B-SP-RM05-0-8K7B  
SHEET 18 of 180

REV B

4

1

3

2

1

REVISION STATUS OF SHEETS																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A	A	A	A	A															
B	B	B	A	A	A															

REVISIONS					
REV	ECC	DESCRIPTION	DWY	DATE	CHK'D
A	PE23CCO	RELEASED			
B	57433	ADD VDE	FRB	8.1.7	

D

D

C

C

B

B

A

A

A

A

4

1

3

↑

DESIGN		FOR USE BY	
CHECKED			
ENGINEER			
APPROVED			

STORAGE MODULE DRIVE  
KEY TO LOGIC  
DIAGRAM

DATE	1933	83323800	C	B
CROSS REF NO.		SHEET 1 of 6	PAGE 1-11	

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 19 OF 180

REV B

REF 8120000  
REF 8120027

1. CHASSIS MAP

KEY	FUNCTIONAL NAME CROSS REF NO	MODULE TYPE IDENTIFIER
-----	---------------------------------	---------------------------

LOGIC CHASSIS

A01	XMTRS/RCVRS. HD ADD REG 011-013	_TVV
A02	RCVRS 021-024	_RVV
A03	NOT USED	
A04	NOT USED	
A05	NOT USED	
A06	ACCESS CNTL. INDEX/SECTOR DECODE 061-064	_LTV
A07	ACCESS CNTL NO. 1 071-074	_LVV
A08	DIFF BITS. HD RES. SPEED. UNIT SEL 081-084	_OPV
A09	NOT USED	
A10	WRT CLK 101-103	_LSV
A11	NOT USED	
A12	DIFF GEN AND CNTL 121-125	_LWV
A13	NRZ TO MFM 131-133	_LXV
A14	DATA LATCH 141-143	_LRV
A15	READ PLO 151-155	_LZV
A16	NOT USED	
A17	FAULT CARD 171-175	_KPV

LOGIC CHASSIS

A18	FINE SERVO DECODE 181-185	_FRV
A19	ACCESS CONTROL NO. 2 191-194	_KGV
A20	ANALOG SERVO 201-204	_MSV

READ/WRT CHASSIS

E01	RD/WRT CNTL 611-613	_PKV
E02	WRT DRVR 621-622	_PJV
E03	RD AMPLIFIER 631-633	_Pwv
E04	DIODE MATRIX AND MOTHER BOARD 641-642	_XFN
E06	HD SEL 651-654	_XGN

	TRACK SERVO PREAMP 761-763	_ZON
--	-------------------------------	------

	OPERATOR PANEL 771-773	_ZYN
--	---------------------------	------

POWER SUPPLY

	RELAY BOARD 811-813	_YFN
	CAPACITOR BOARD 821-822	_YEN
	POWER AMP 831-832	_ZCN

LOGIC CHASSIS

	±5 VOLT REGULATOR 841-844
--	------------------------------

LOGIC CHASSIS

	±5 VOLT REGULATOR 851-854
--	------------------------------

NOTES:

- 1 LOCATED ON DECK
- 2 PLUGS INTO A2PD94 FROM CARD SIDE OF LOGIC CHASSIS
- 3. FOR SPECIFIC CARD TYPE REFER TO SPARE PARTS LIST.
- 4 USED FOR HEAD ALIGNMENT CARD DURING MAINTENANCE
- 5 NON-VDE POWER SUPPLY
- 6 VDE POWER SUPPLY

POWER SUPPLY

	RECTIFIER FILTER BOARD 811-812	_CBN
	CONTROL BOARD 821-824	_CFN
	POWER AMP 831-832	_ZCN
	RELAY BOARD 841-842	_FNN

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 20 OF 180

REV B

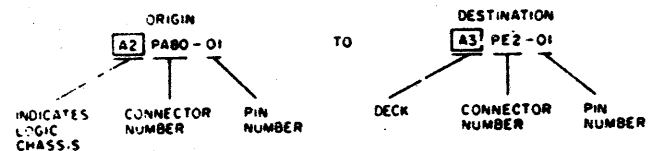
HARRIS DIVISION	CHASSIS MAP	CODE 1084	C	83323800	C	B
		19333				
		CROSS REF NO		SHEET 2		PAGE 1-12

2. CONFIGURATION

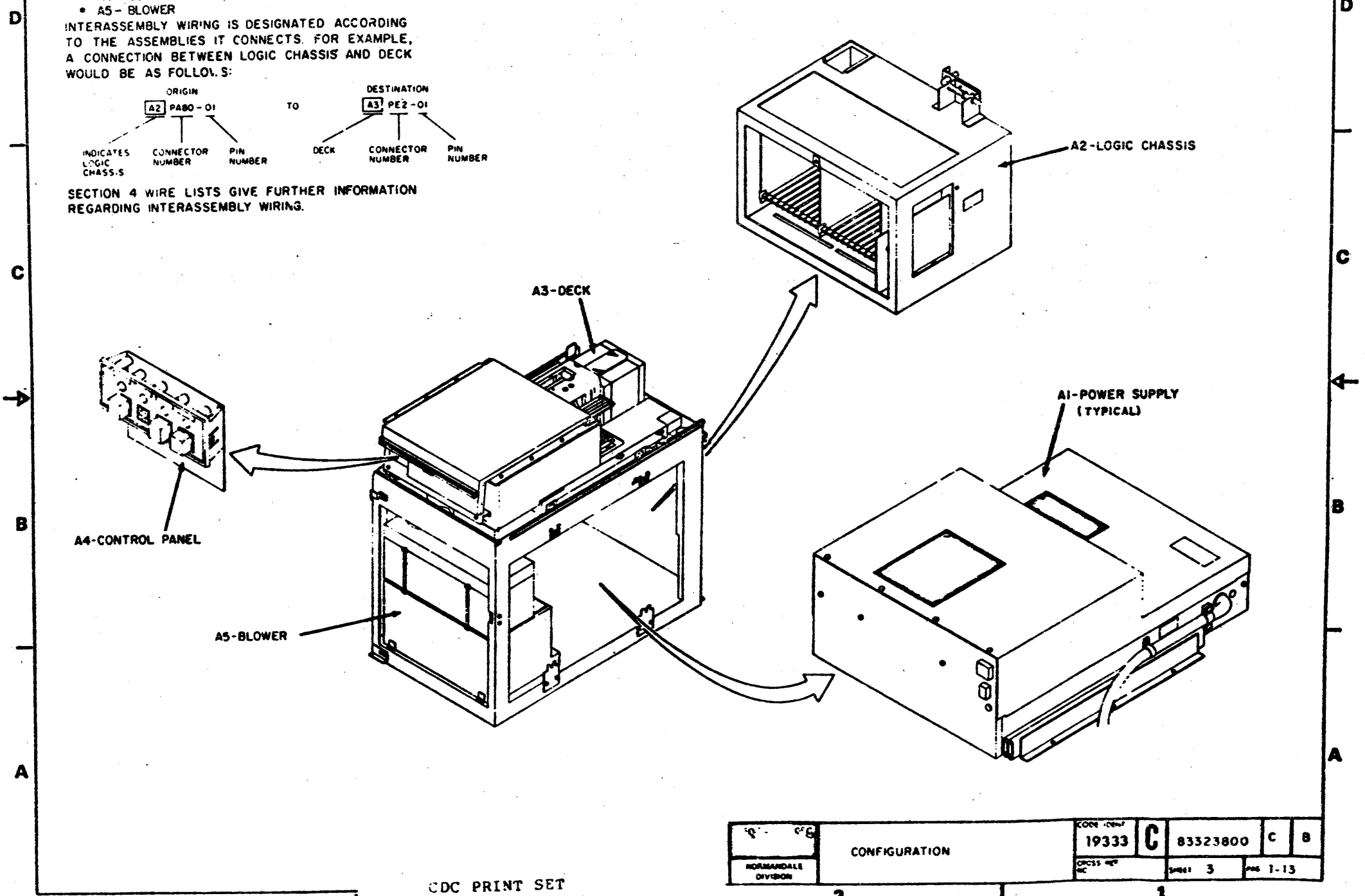
DRIVE HAS FIVE MAJOR ASSEMBLIES

- A1 - POWER SUPPLY
- A2 - LOGIC CHASSIS
- A3 - DECK
- A4 - CONTROL PANEL
- A5 - BLOWER

INTERASSEMBLY WIRING IS DESIGNATED ACCORDING TO THE ASSEMBLIES IT CONNECTS. FOR EXAMPLE, A CONNECTION BETWEEN LOGIC CHASSIS AND DECK WOULD BE AS FOLLOWS:



SECTION 4 WIRE LISTS GIVE FURTHER INFORMATION REGARDING INTERASSEMBLY WIRING.



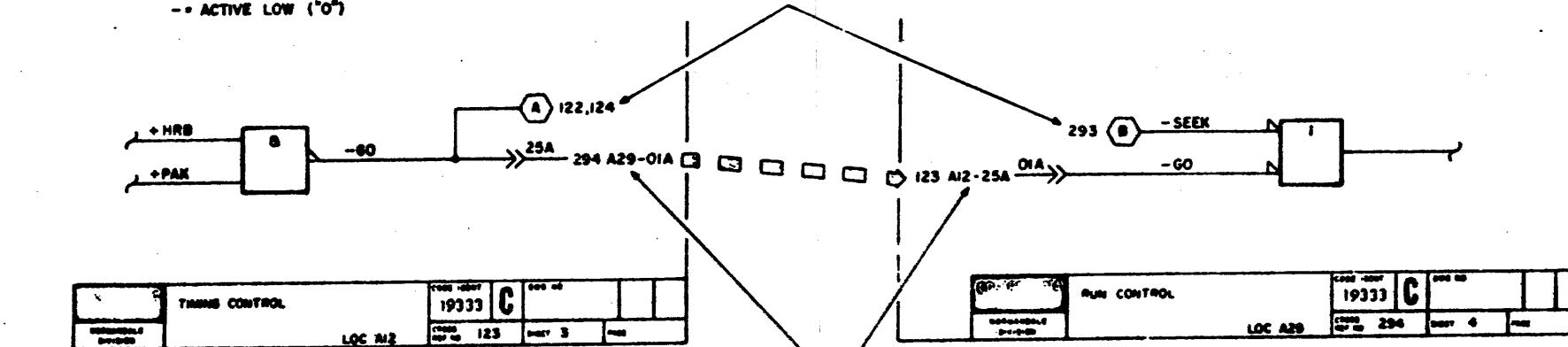
NORMANDELL DIVISION	CONFIGURATION	19333	C	83323800	C	B
				SHEET 3	PAGE 1-13	

**3. INTERSHEET REFERENCING**

THE FOLLOWING EXPLAINS THE BASIC METHOD OF INTER-SHEET REFERENCING.  
FOR MORE INFORMATION REFER TO CDC-STD 1-41-108

SIGNAL NAME WHEN ACTIVE  
+ = ACTIVE HIGH ("1")  
- = ACTIVE LOW ("0")

HEXAGON IDENTIFIES SIGNALS LEAVING OR ENTERING THIS SHEET BUT NOT THE CARD  
ADJACENT NUMBERS IDENTIFY OTHER CROSS REFERENCE NUMBERS WHERE SIGNAL IS USED



SOURCE SHOWS WHERE SIGNAL ORIGINATES

DESTINATIONS SHOW ALL LOCATIONS WHERE OUTPUT SIGNALS GO WITHOUT REGARD TO ACTUAL BACKPANEL WIRE ROUTING, IN THE EXAMPLE SHOWN IT IS AS FOLLOWS

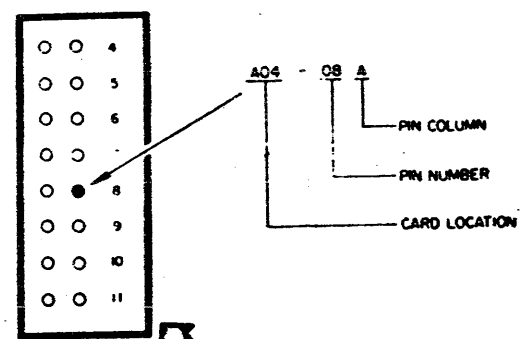
294 A29 01A  
CROSS REFERENCE NUMBER CARD LOCATION PIN NUMBER

NORRANDALS DIVISION	INTERSHEET REFERENCING		CODE IDENT 19333 C	83323800	A	A
			CROSS REF NO	SHEET 4	PAGE 1-14	

4 3 2 1

4 LOG-C CHASSIS WIREWRAP PANEL

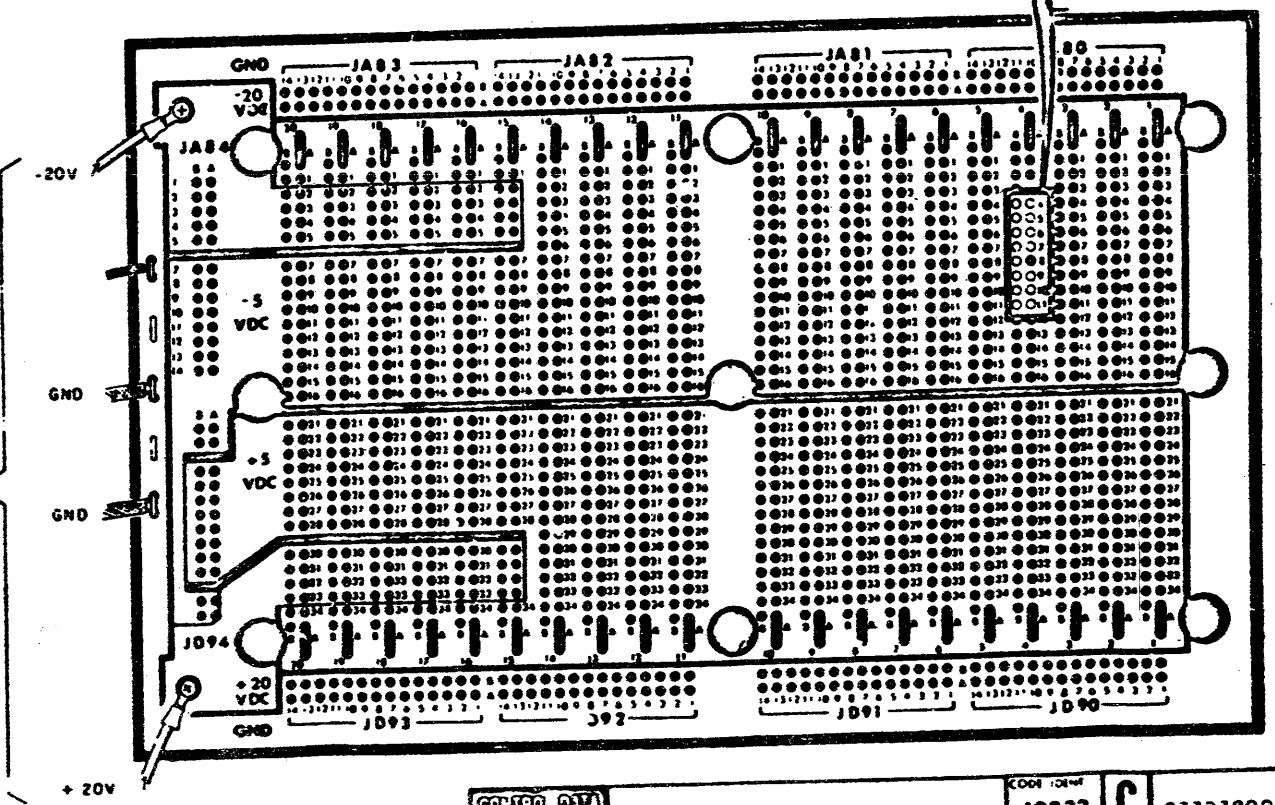
1. VOLTAGE DISTRIBUTED AS FOLLOWS:
  - +20V TO PIN 33B AT LOCATIONS A15 THROUGH A20
  - 20V TO PIN 02B AT LOCATIONS A15 THROUGH A20
  - +5V TO PIN 34B AT ALL LOCATIONS
  - 5V TO PIN 01B AT ALL LOCATIONS
2. GROUND DISTRIBUTED TO PINS 01A AND 34A AT ALL LOCATIONS
3. JAB0 THROUGH JAB4 AND JD90 THROUGH JD94 ARE AUXILIARY CONNECTORS USED TO CONNECT WIRE WRAP PANEL TO OTHER ASSEMBLIES.



D  
C  
B  
A

D  
C  
B  
A

VIEWED FROM WIREWRAP SIDE

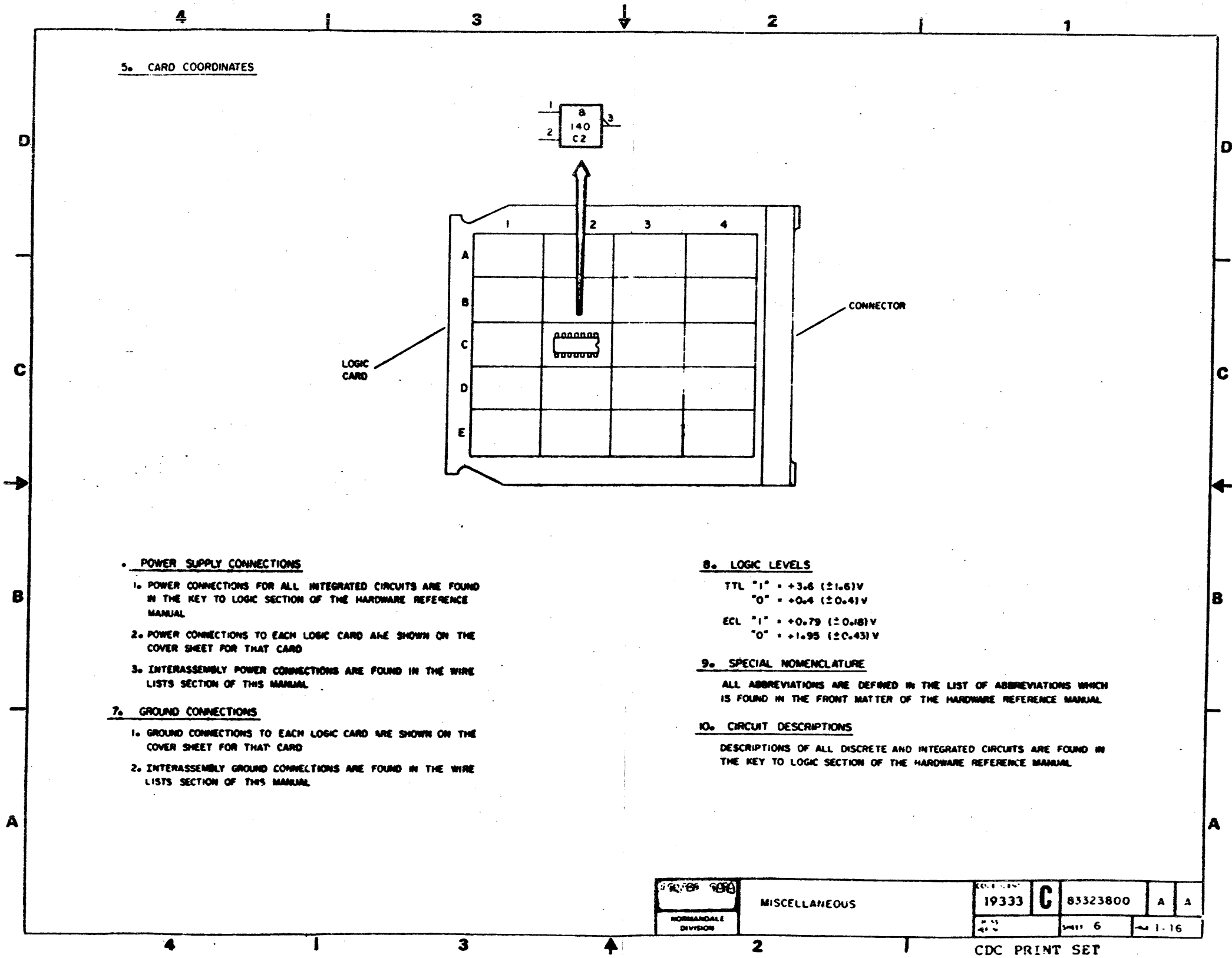


NORMANDE DIVISION	WIREWRAP PANEL	CODE FORM	19333	C	83323800	A	A
		CROSS REF			SHEET 5	PAGE 1-15	

CDC PRINT SET  
B-SP-RM95-U-BK7B  
SHEET 23 of 180

REV B

4 3 2 1



**5. CARD COORDINATES**

**6. POWER SUPPLY CONNECTIONS**

1. POWER CONNECTIONS FOR ALL INTEGRATED CIRCUITS ARE FOUND IN THE KEY TO LOGIC SECTION OF THE HARDWARE REFERENCE MANUAL
2. POWER CONNECTIONS TO EACH LOGIC CARD ARE SHOWN ON THE COVER SHEET FOR THAT CARD
3. INTERASSEMBLY POWER CONNECTIONS ARE FOUND IN THE WIRE LISTS SECTION OF THIS MANUAL

**7. GROUND CONNECTIONS**

1. GROUND CONNECTIONS TO EACH LOGIC CARD ARE SHOWN ON THE COVER SHEET FOR THAT CARD
2. INTERASSEMBLY GROUND CONNECTIONS ARE FOUND IN THE WIRE LISTS SECTION OF THIS MANUAL

**8. LOGIC LEVELS**

- TTL "1" = +3.6 (±1.6)V  
 "0" = +0.4 (±0.4)V
- ECL "1" = +0.79 (±0.18)V  
 "0" = +1.95 (±0.43)V

**9. SPECIAL NOMENCLATURE**

ALL ABBREVIATIONS ARE DEFINED IN THE LIST OF ABBREVIATIONS WHICH IS FOUND IN THE FRONT MATTER OF THE HARDWARE REFERENCE MANUAL

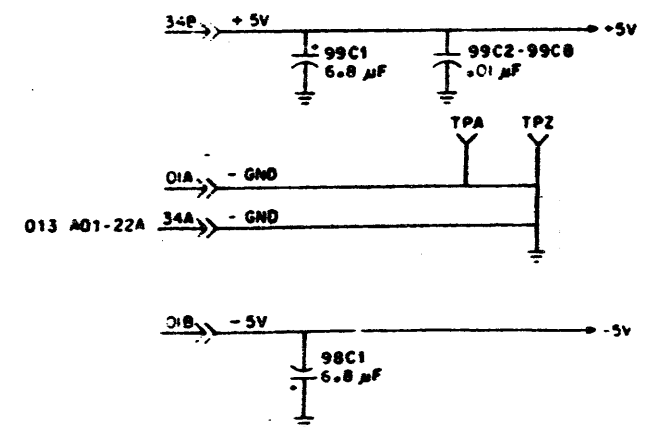
**10. CIRCUIT DESCRIPTIONS**

DESCRIPTIONS OF ALL DISCRETE AND INTEGRATED CIRCUITS ARE FOUND IN THE KEY TO LOGIC SECTION OF THE HARDWARE REFERENCE MANUAL

NORRISDALE DIVISION	MISCELLANEOUS	19333	<b>C</b>	83323800	A	A
		SHEET 6	1-16			

REVISION STATUS OF SHEETS																				
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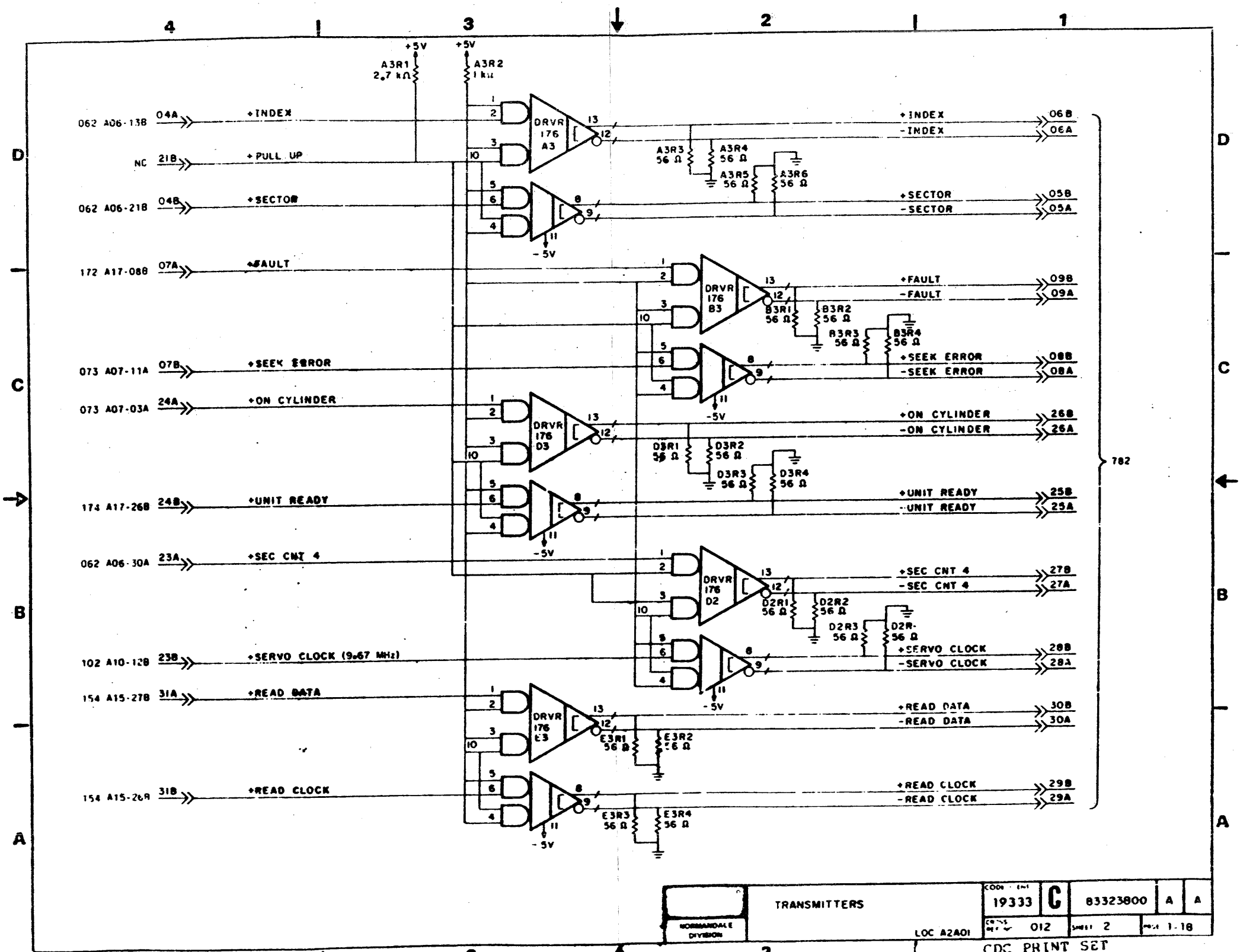
REVISIONS					
REV	ECO	DESCRIPTION	DATE	CHK'D	
A	PEJ/KA	RELEASE			



DRAWN	<i>[Signature]</i>	3/8/77	TRANSMITTERS AND RECEIVERS - HEAD ADDRESS REGISTER DIAGRAMS TYPE JTVV LOC A2A01	ECO#	19333	C	83323800	A	A
CHECKED				DATE	011	SHEET	1 of 3	PAGE	1 of 17
ENGINEER	<i>[Signature]</i>								
APPROVED									

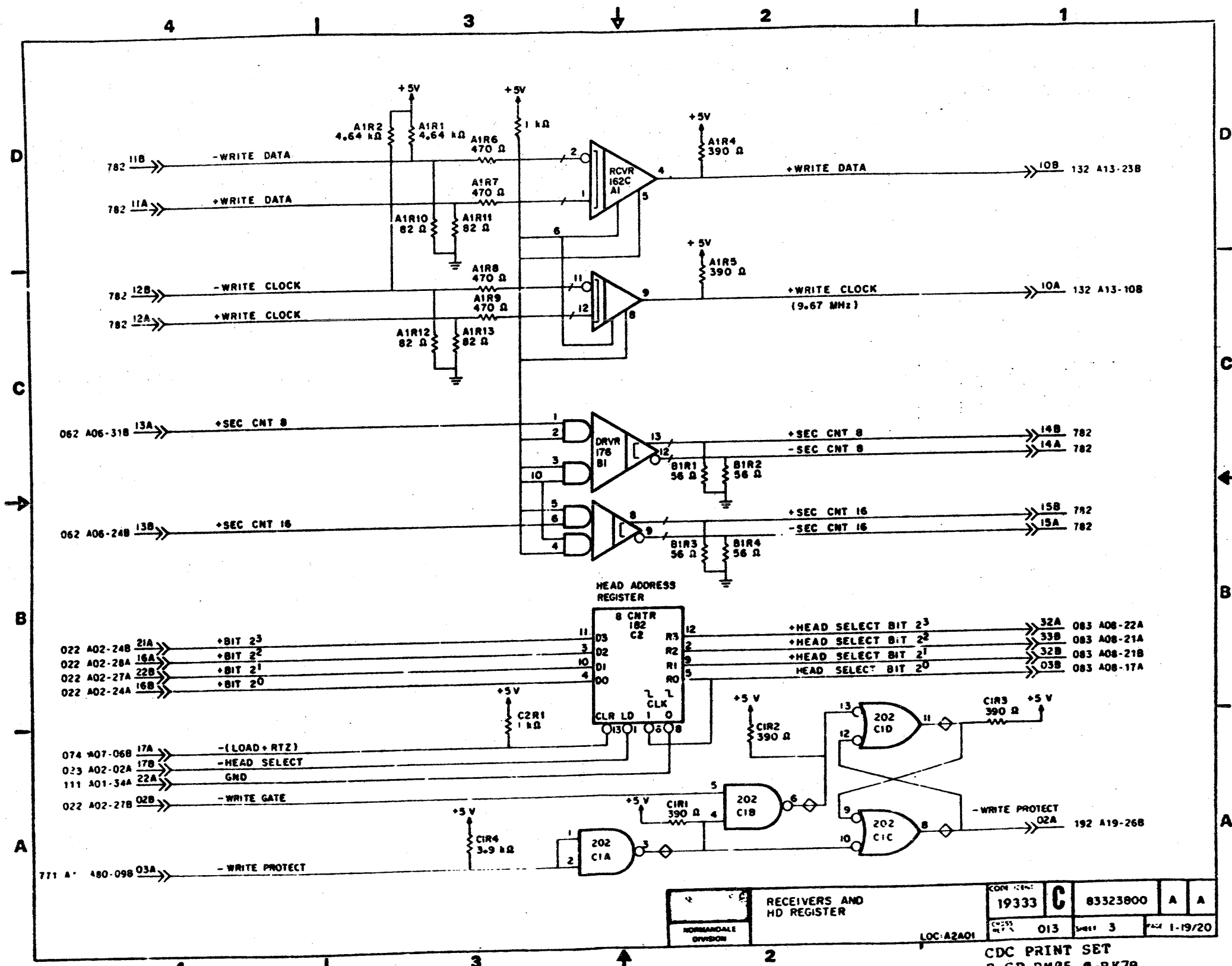
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 25 of 180  
 REV B





NORMANDE DIVISION	TRANSMITTERS		19333	C	83323800	A	A
	LOC A2401		012	SHEET 2	OF 1-18		

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 26 OF 180  
 REV B



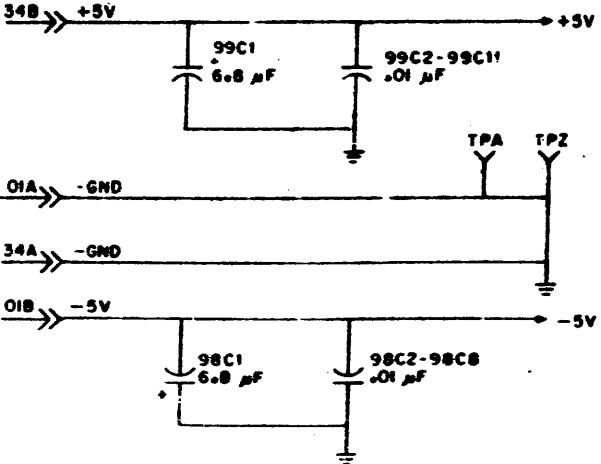
NORMAN DALE DIVISION	RECEIVERS AND HD REGISTER		19333	C	83323800	A	A
	LOC: A2A01		013	Sheet 3	PAGE 1-19/20		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 27 of 180  
REV B

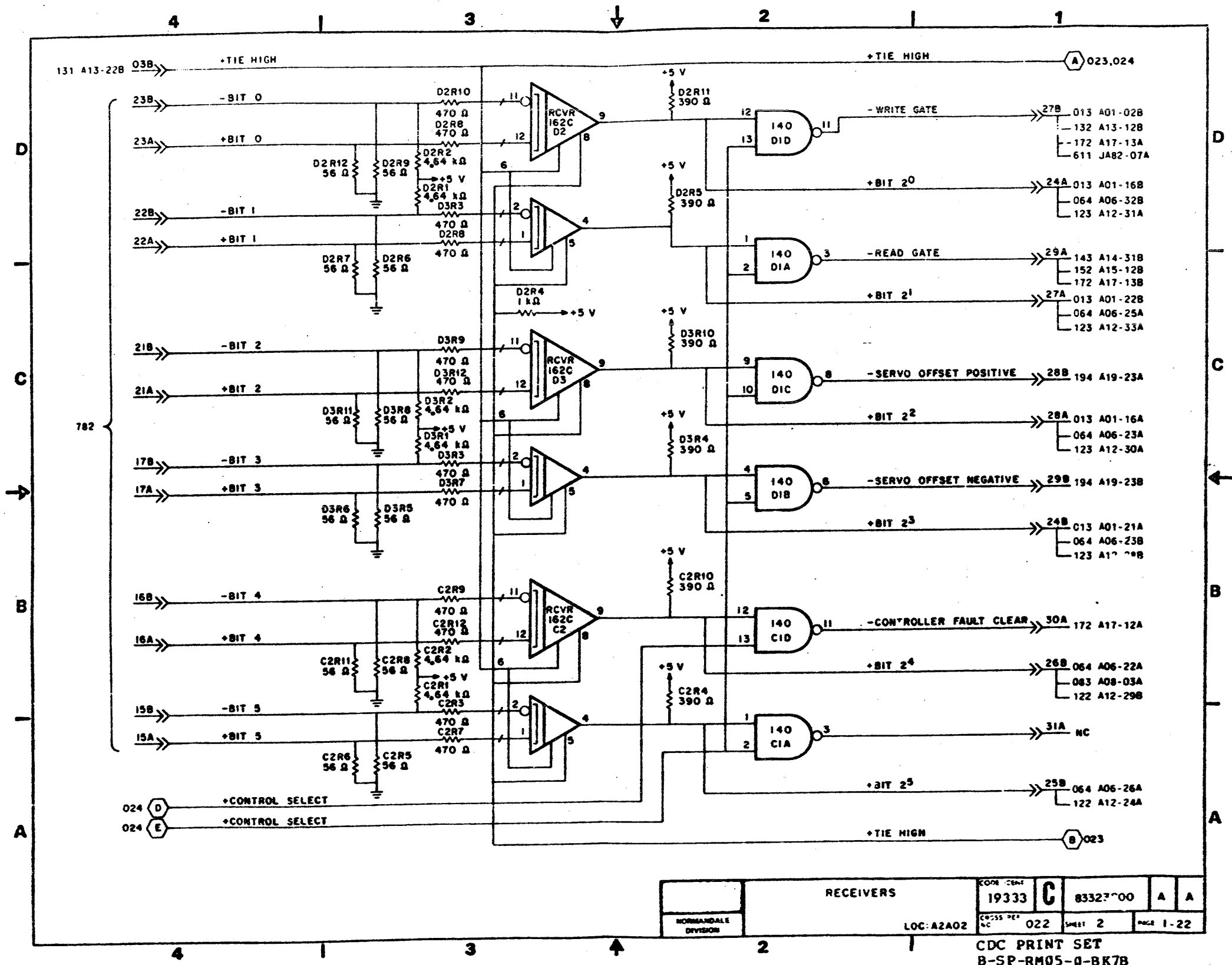
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A	A	A	A																	

REVISIONS						
REV	ECD	DESCRIPTION	DRFT	DATE	CHK'D	
A	PEZS	RELEASED				

UNUSED LOGIC ELEMENTS		
ELEMENT TYPE	LOCATION	OUTPUT PIN(S)
173H	B1B	6
230LS	A1A	12

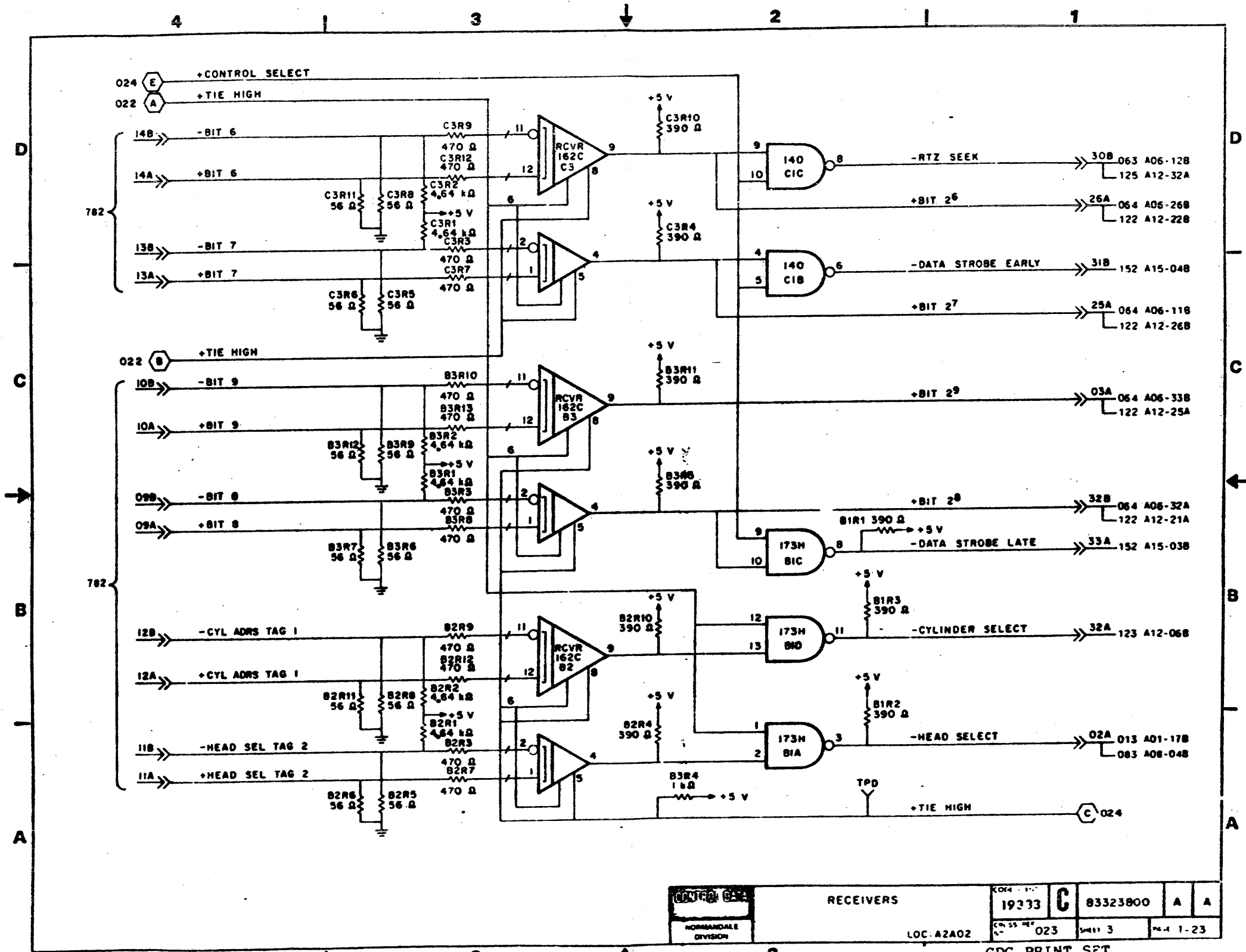


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CHECKED				RECEIVERS DIAGRAMS	19333	C	83323800	E	A
ENGINEER			NORMAN DALE DIVISION	TYPE HRVY	LOC A2A02	OZI	SHEET 1-4	REV 1-21	REF 01200002



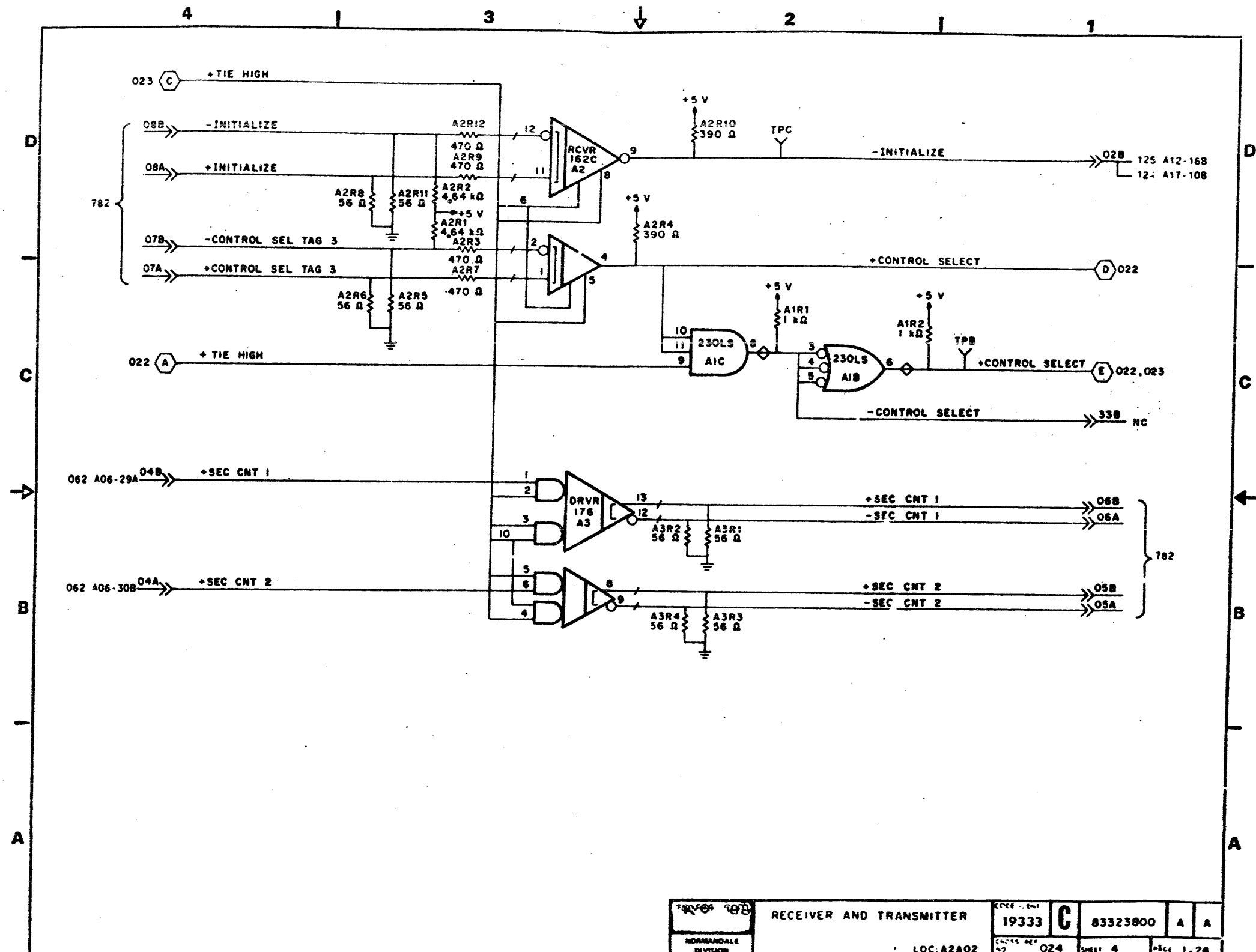
NORMAN DALE DIVISION	RECEIVERS	CODE: 19333	C	8332700	A	A
	LOC: A2A02	REV: 022	SHEET 2	PAGE 1-22		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 29 of 180  
REV B



CONTROL CASE	RECEIVERS	19333	C	83323800	A	A
		023	3	1-23		
NORMANDEALE DIVISION	LOC: A2A02					

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 30 of 180  
 REV B



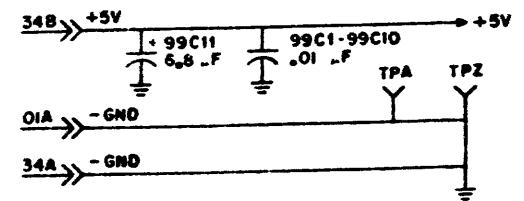
	RECEIVER AND TRANSMITTER			
	NORRISDALE DIVISION	LOC: A2A02	19333 024	C 83323800 SHEET 4 PAGE 1-24

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 31 of 180  
 REV B

REVISION STATUS OF SHEETS																			
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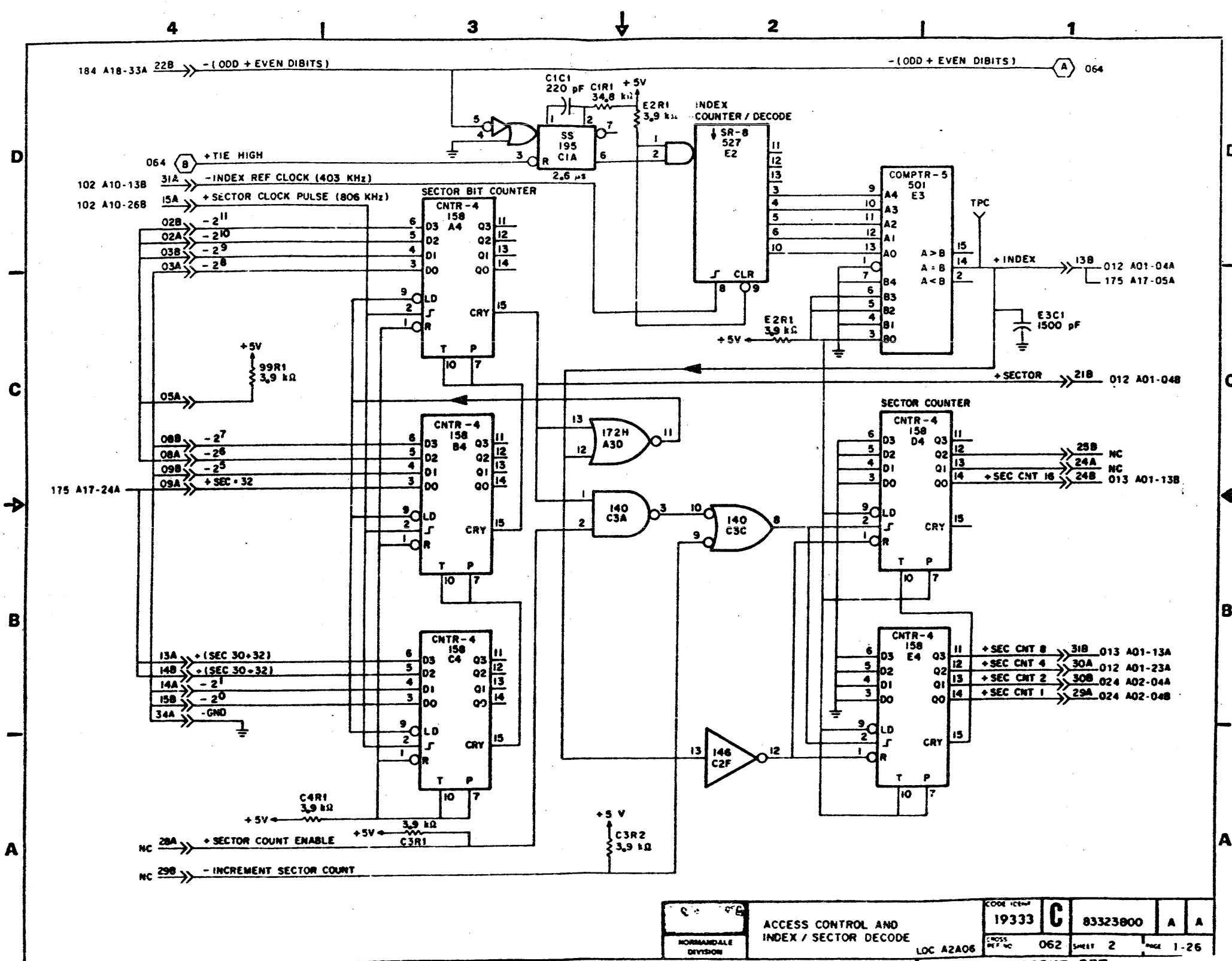
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TYPE	LOCATION	OUTPUT PIN(S)
146	C2C	6
140	DIC	8
140	E1	6,8

REVISIONS				
REV	ECO	DESCRIPTION	DATE	CHK'D
1				



DRAWN	<i>C. L. ...</i>	19333	C	83323800	A	A
CHECKED						
ENGINEER	<i>J. ...</i>					
APPROVED						

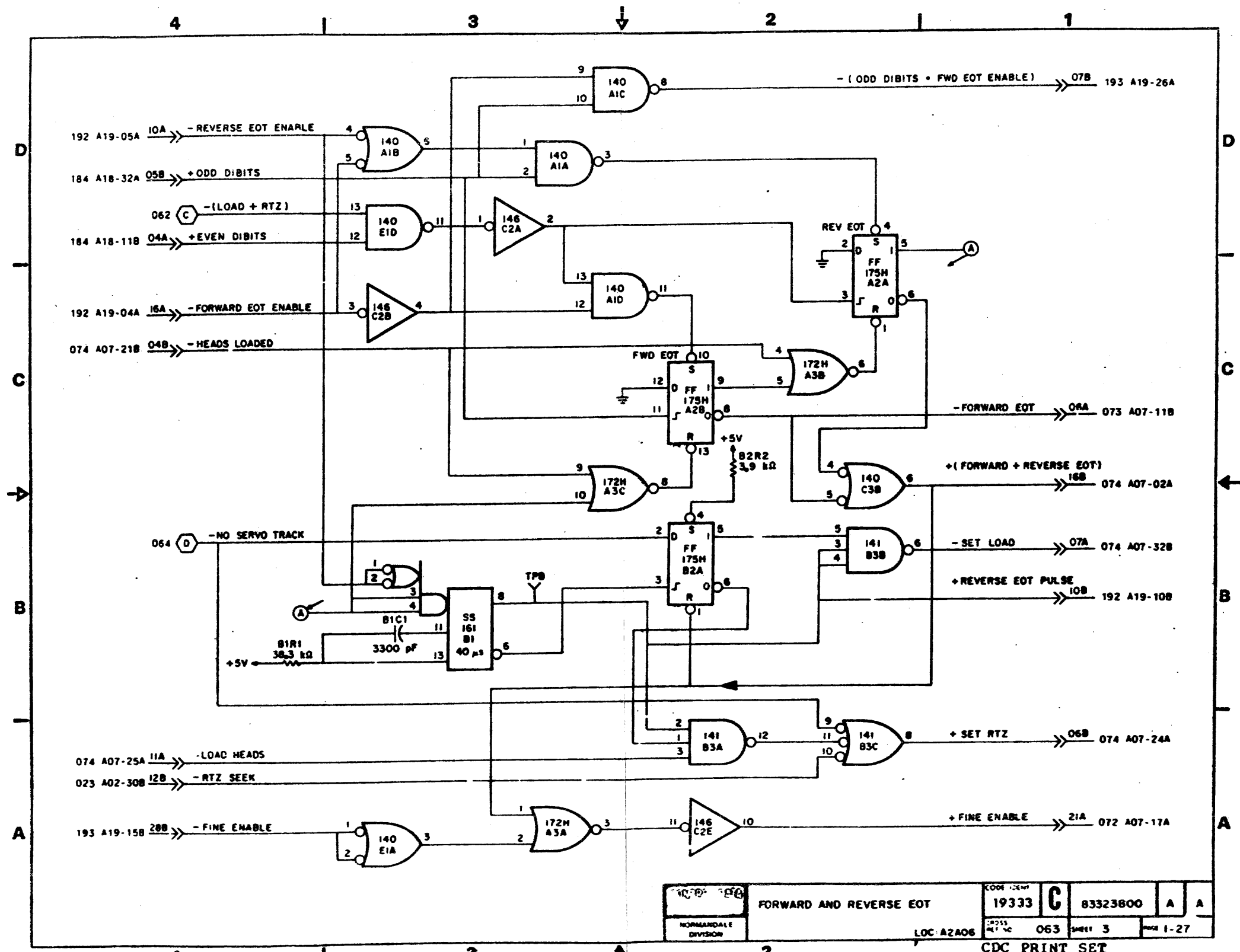
ACCESS CONTROL AND INDEX /  
 SECTOR DECODE  
 DIAGRAMS  
 TYPE ELTV  
 LOC A2A06  
 CDC PRINT SET  
 B-SP-RM35-3-BK7B  
 SHEET 32 of 180  
 REV 9



NORMANDALE DIVISION	ACCESS CONTROL AND INDEX / SECTOR DECODE	CODE 19333	83323800	A	A
	LOC A2A06	CROSS REF NO 062	SHEET 2	PAGE 1-26	

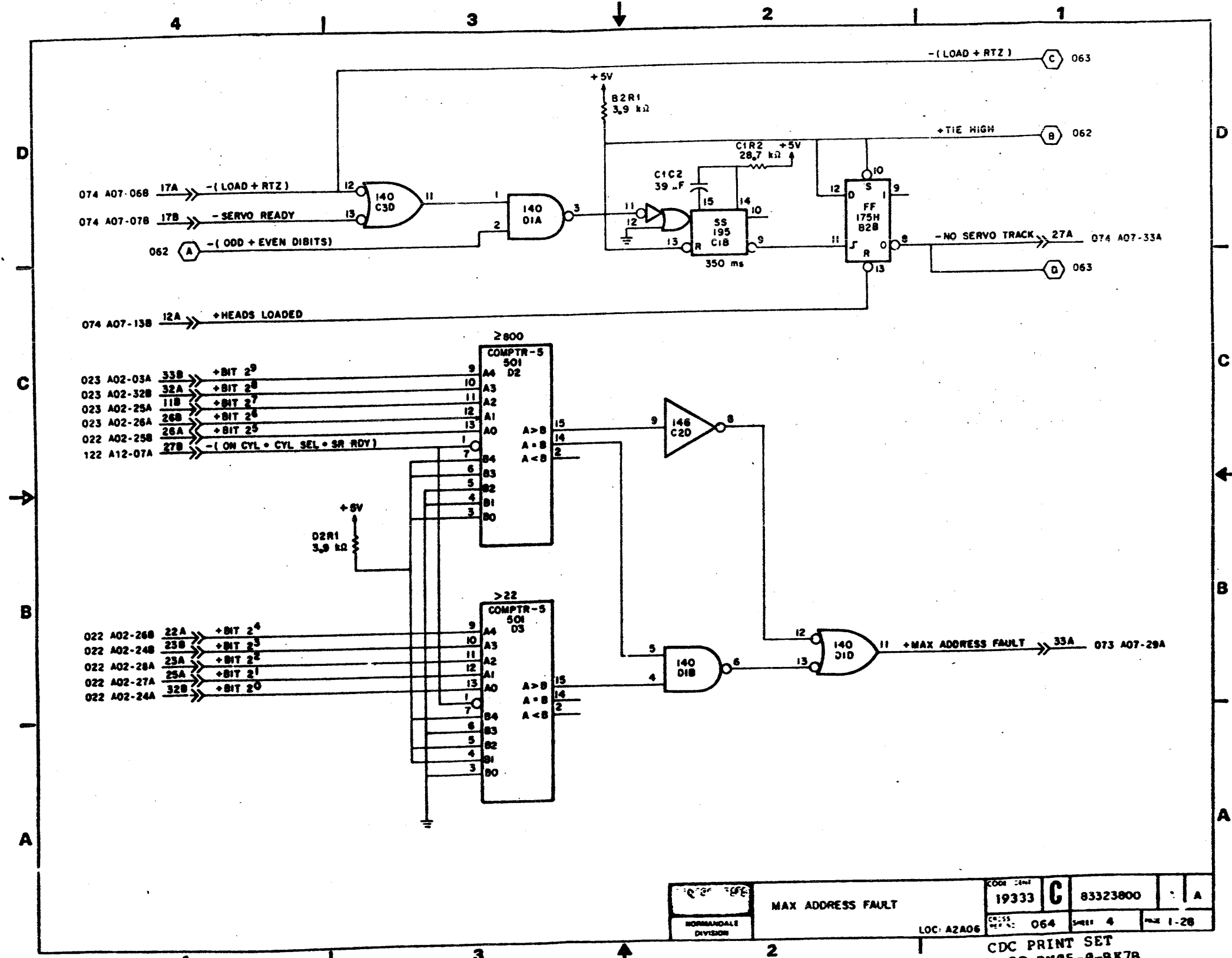
CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 33 of 180  
REV B





19333		C		83323800		A	A
NORMANDALE DIVISION		LOC: A2A06		063		SHEET 3	

CDC PRINT SET  
 B-SP-RM05-0-8K7B  
 SHEET 34 of 180  
 REV B



19333	C	83323800	A
LOC: A2A06	064	SHEET 4	PAGE 1-28

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 35 of 180  
 REV B

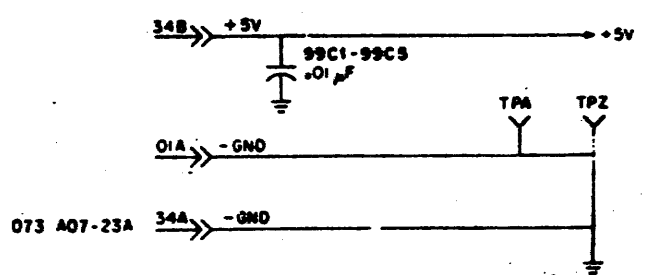
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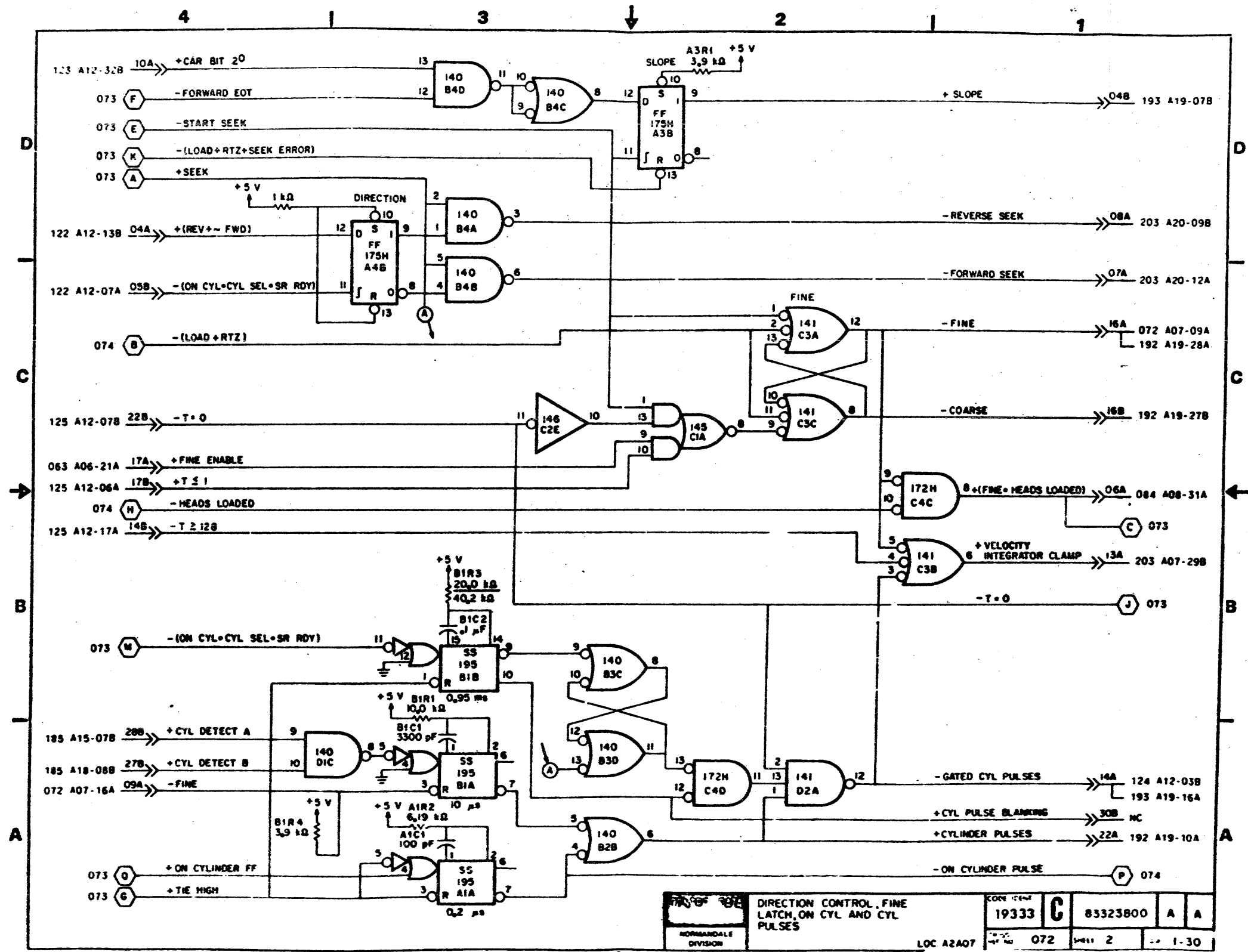
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REV	ECO	DESCRIPTION	DRFT	DATE	CHK'D
A		RELEASE			

**UNUSED LOGIC ELEMENT**

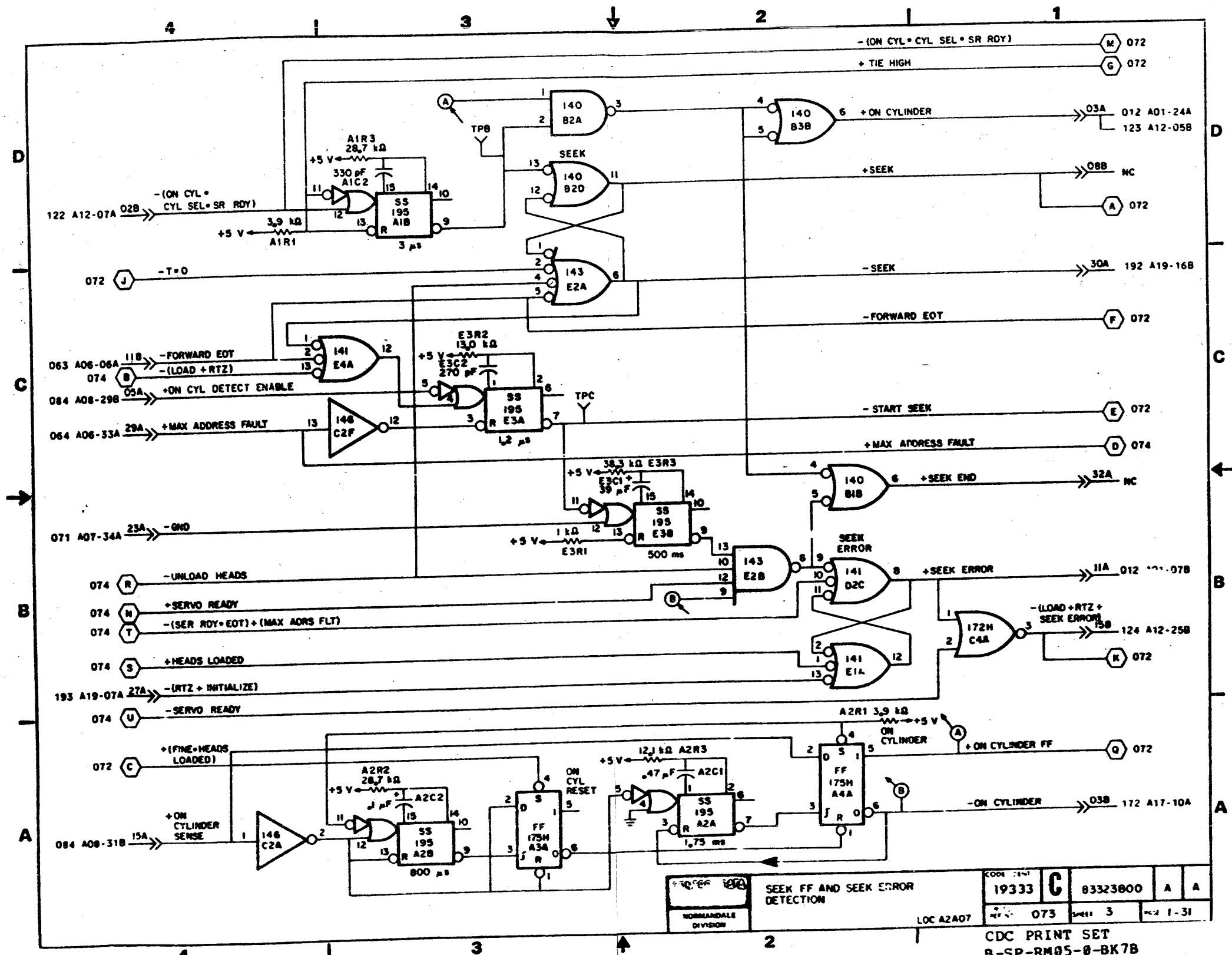
ELEMENT TYPE	LOCATION	OUTPUT PIN(S)
172H	D3C	8



<table border="1"> <tr><td>DESIGN</td><td>G. Rains</td></tr> <tr><td>DATE</td><td></td></tr> <tr><td>BY</td><td></td></tr> <tr><td>APP'D</td><td></td></tr> </table>	DESIGN	G. Rains	DATE		BY		APP'D		<table border="1"> <tr><td>REV</td><td>FOR 1000</td></tr> <tr><td>DIVISION</td><td>NORMAN DALE</td></tr> </table>	REV	FOR 1000	DIVISION	NORMAN DALE	<table border="1"> <tr><td>ACCESS CONTROL NO 1</td><td>DIAGRAMS</td></tr> <tr><td>TYPE RLV</td><td>LOC A2A07</td></tr> </table>	ACCESS CONTROL NO 1	DIAGRAMS	TYPE RLV	LOC A2A07	<table border="1"> <tr><td>CONTRACT NO</td><td>19333</td><td>C</td><td>83323800</td><td>A</td><td>A</td></tr> <tr><td>NO.</td><td>071</td><td>1-4</td><td>1-29</td><td></td><td></td></tr> </table>	CONTRACT NO	19333	C	83323800	A	A	NO.	071	1-4	1-29		
DESIGN	G. Rains																														
DATE																															
BY																															
APP'D																															
REV	FOR 1000																														
DIVISION	NORMAN DALE																														
ACCESS CONTROL NO 1	DIAGRAMS																														
TYPE RLV	LOC A2A07																														
CONTRACT NO	19333	C	83323800	A	A																										
NO.	071	1-4	1-29																												



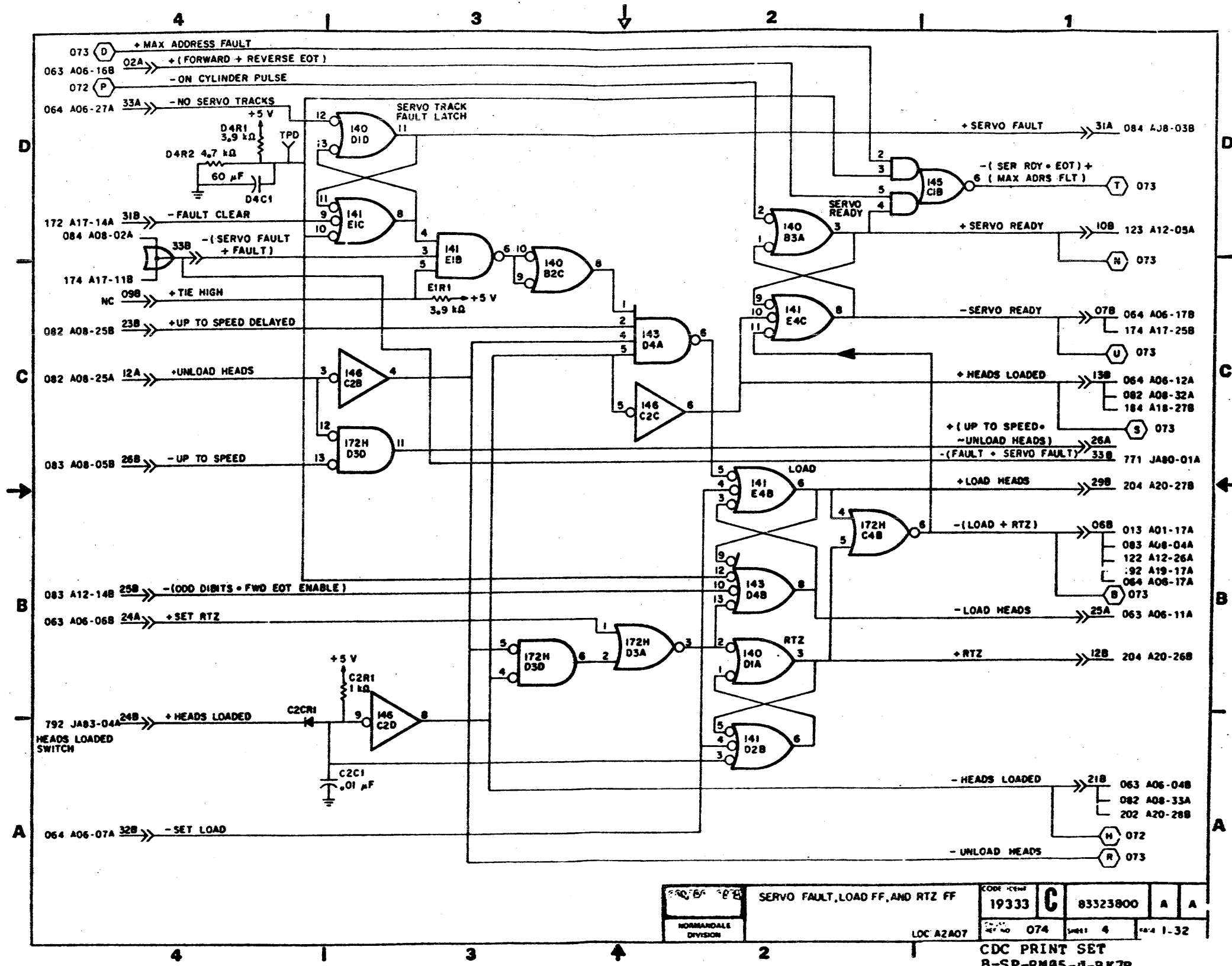
19333 C 83323800 A A  
 072 SHEET 2 1-30  
 CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 37 of 180  
 REV B



SEEK FF AND SEEK ERROR DETECTION

19333	C	83323800	A	A
073	Sheet 3	1-31		

LOC A2A07



NORRISDALE DIVISION	SERVO FAULT, LOAD FF, AND RTZ FF	CODE 19333	C	83323800	A	A
	LOC A2A07	REV NO 074	SHEET 4	REV 1-32		

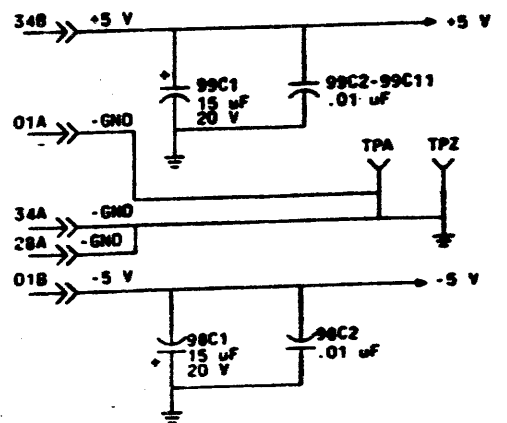
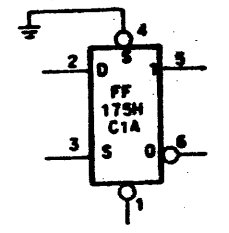
**REVISION STATUS OF SHEETS**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A	A	A																	
B	A	B	A																	

**REVISION**

REV	ECO	DESCRIPTION	DATE	BY
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B	57433	ADD VDE	2/5	2-21B

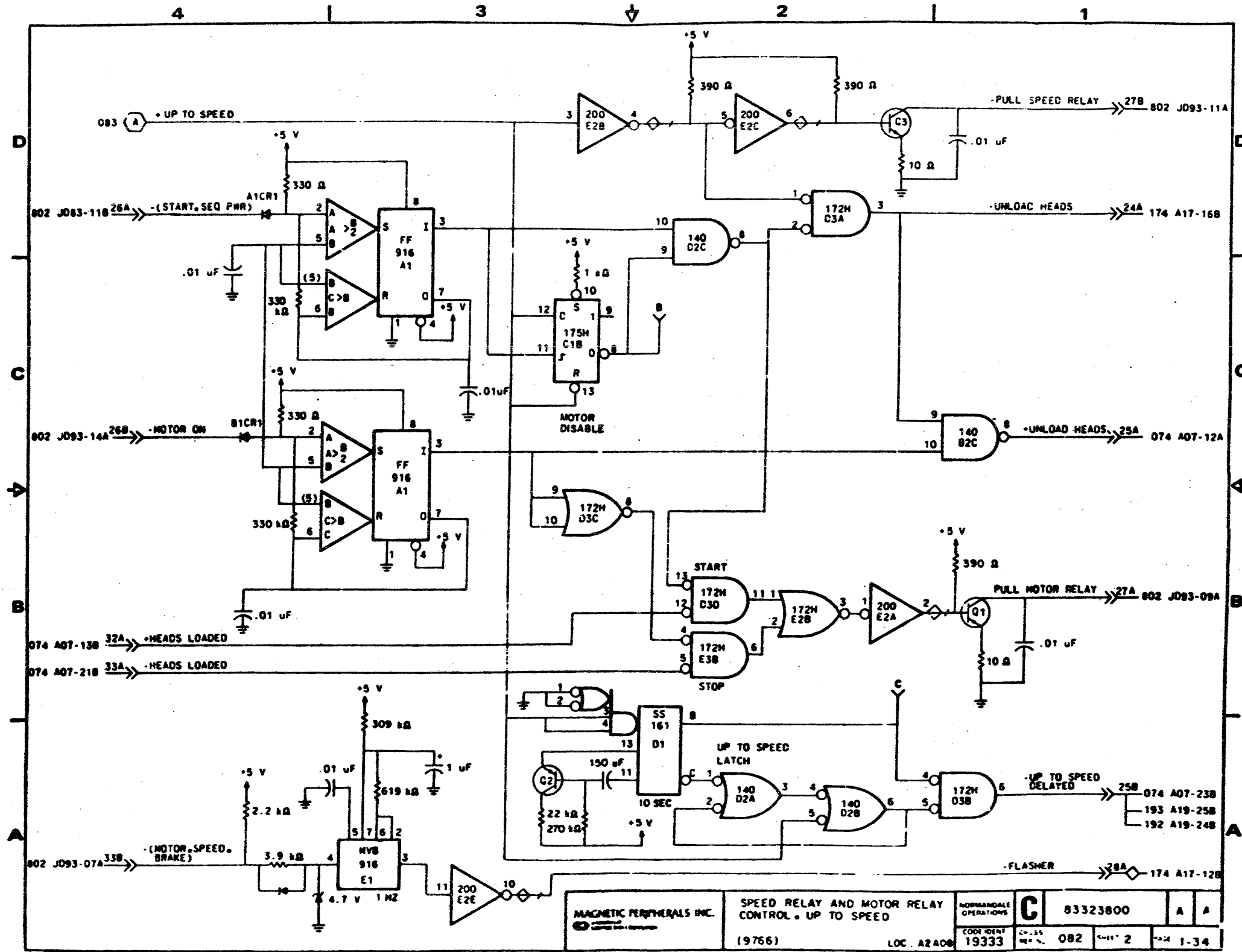
UNUSED LOGIC ELEMENTS



DESIGN		<b>MAGNETIC PERIPHERALS INC.</b>	DIFF BITS, HEAD REG SPEED ENABLE, UNIT SELECT DIAGRAMS TYPE: EGPV	LOC: A2A08	NORMANDALE OPERATIONS	<b>C</b>	83323800	C	B
CHECKED									
ENGINEER									
APPROVED									
CODE IDENT	19333	CLASS	081	SHEET	1 of 4	FIG.	1-33		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 40 of 180  
REV B

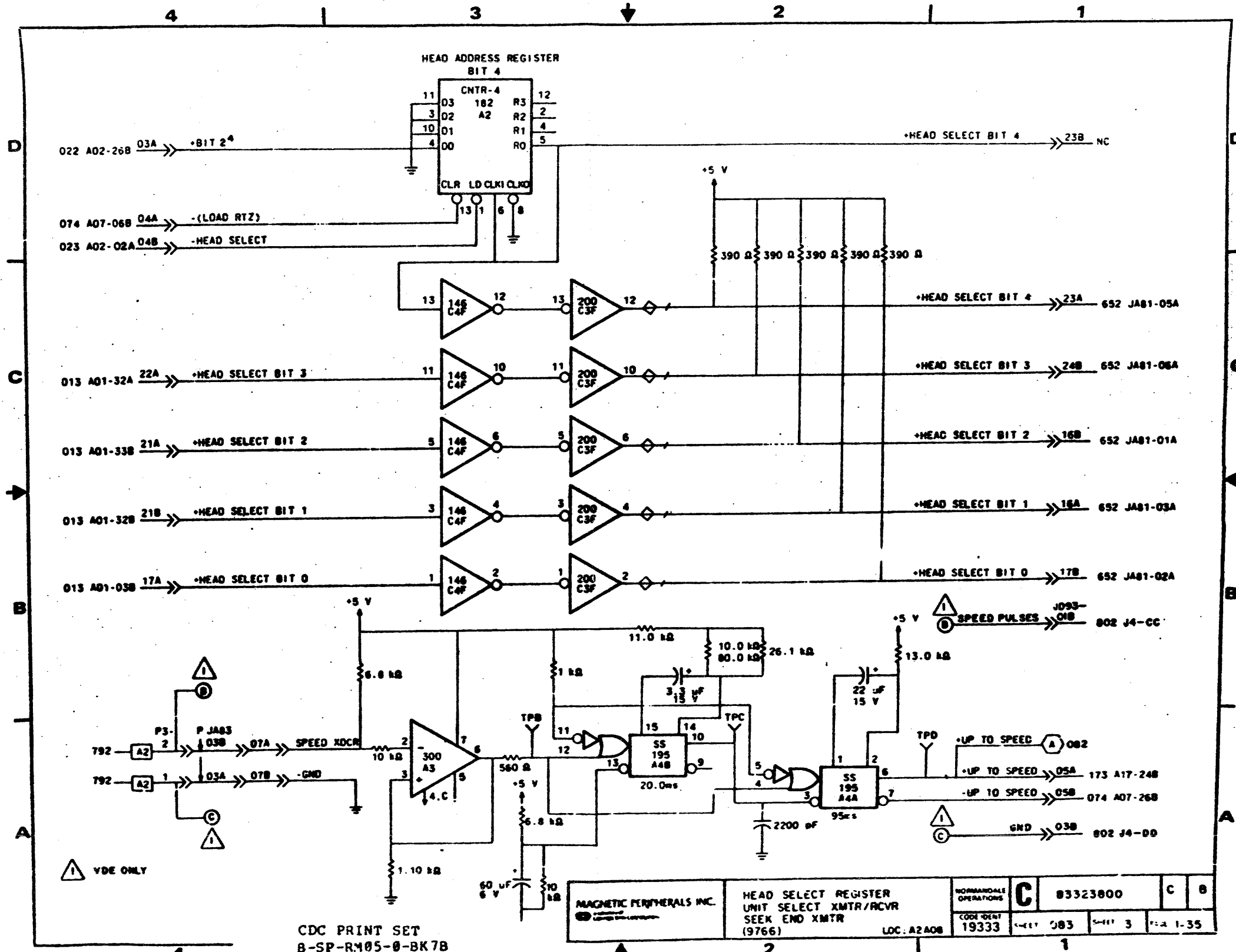
REF 8120008  
REF 8120028



MAGNETIC PERIPHERALS INC.		SPEED RELAY AND MOTOR RELAY CONTROL - UP TO SPEED		NORMANDALE OPERATIONS		C 83323800		A A	
(19766)		LOC. A2A08		CODE IDENT 19333		REV. 082		1-11-72	
								1-34	

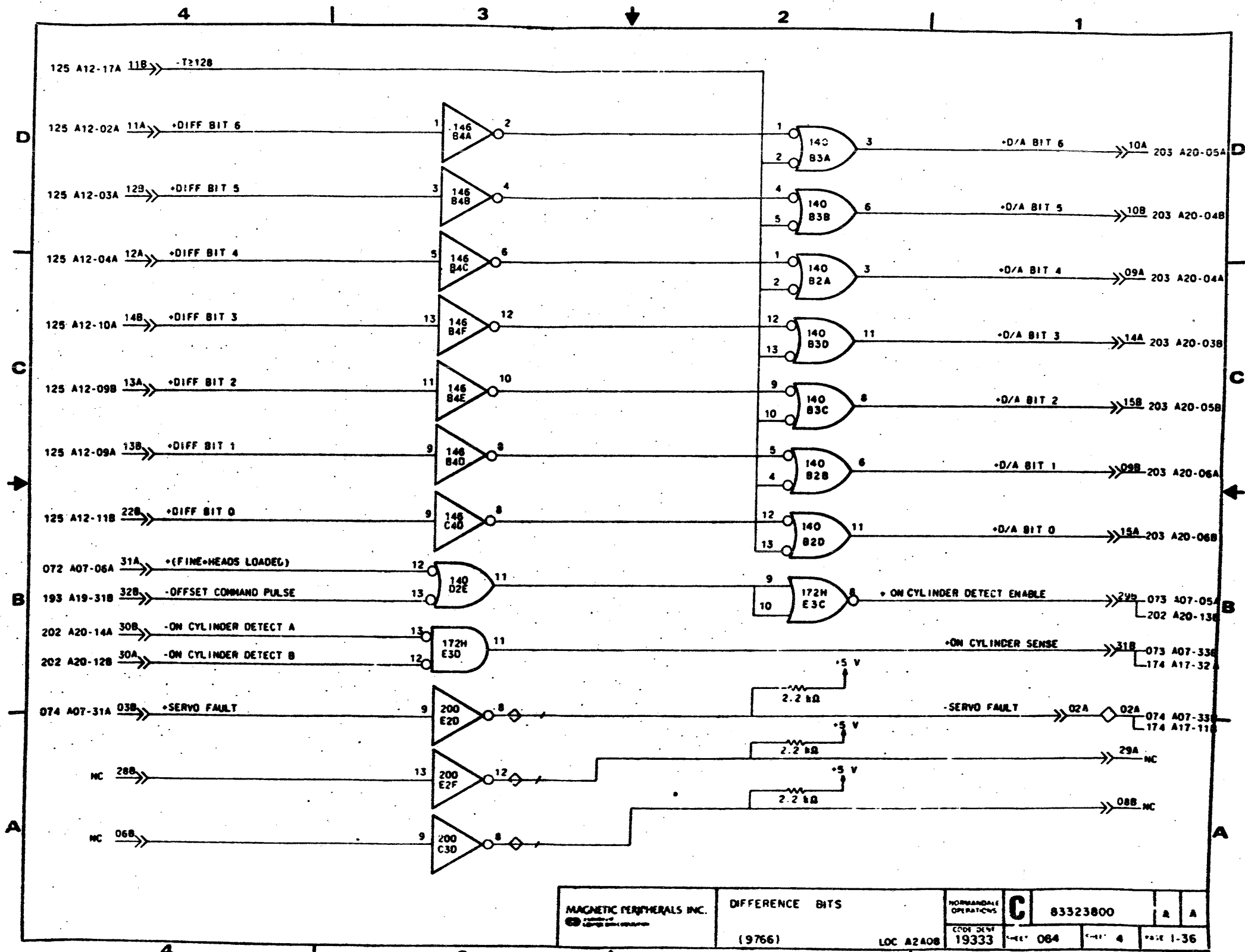
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 41 of 180  
 REV B





CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 42 of 180

REV B



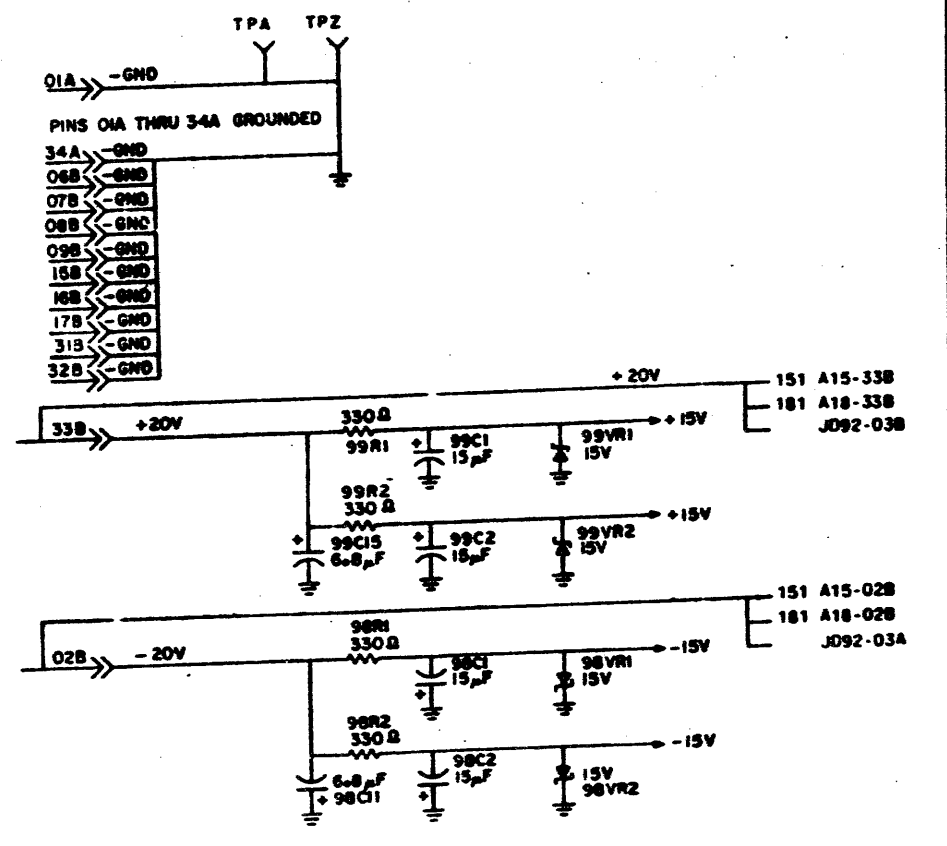
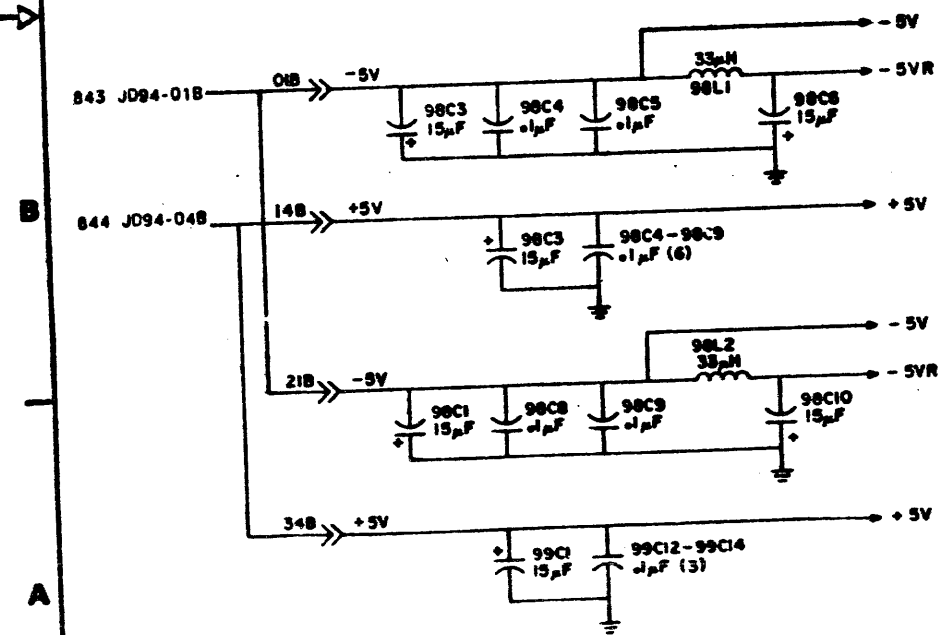
MAGNETIC PERIPHERALS INC.	DIFFERENCE BITS	NORANDA OPERATIONS	C	83323800	A	A
	(9766)					

CDC PRINT SET  
 B-SP-RM85-8-BK7B  
 SHEET 43 of 180 REV B

REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A																	
B	A	A																	

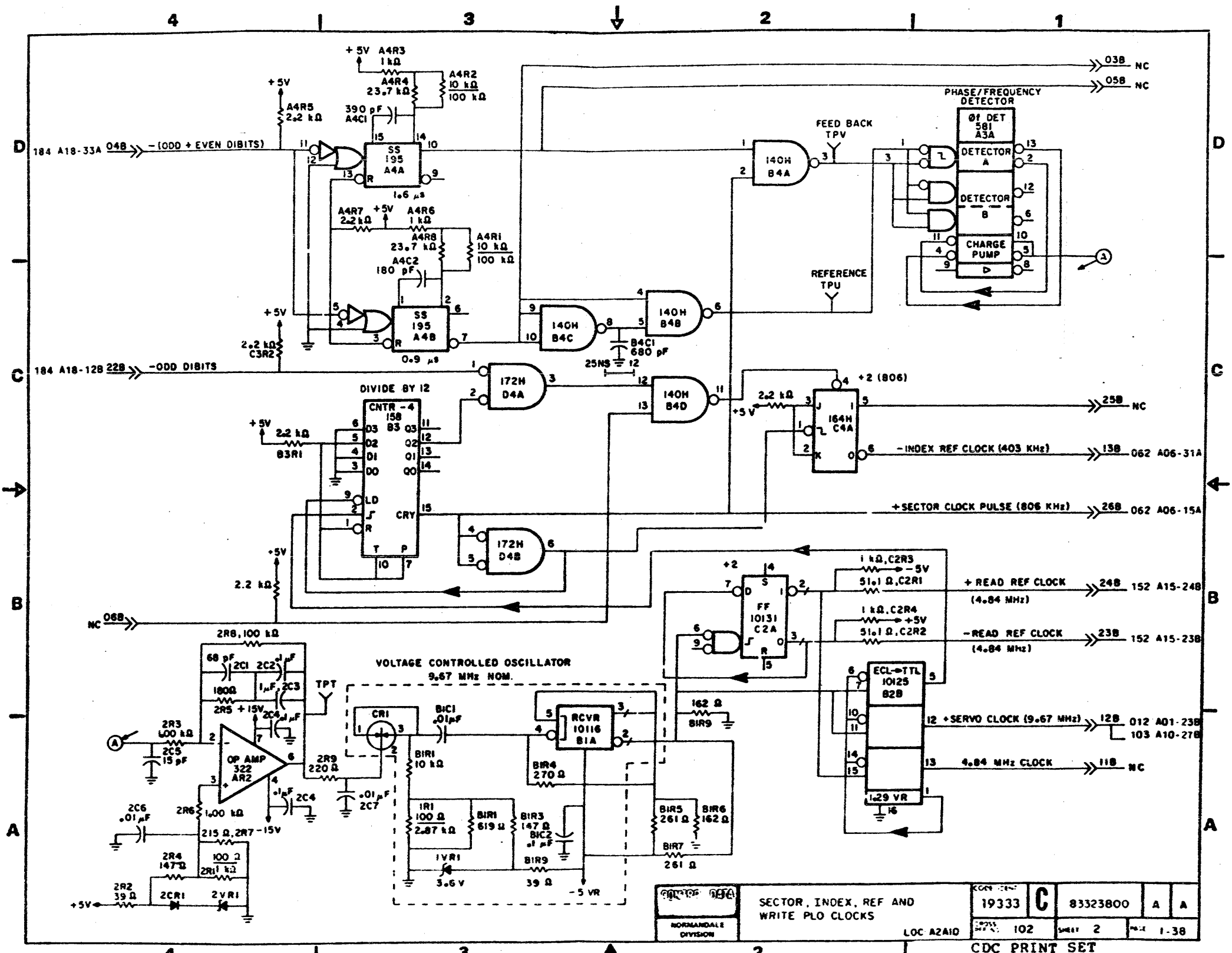
REVISIONS					
REV	ECO	DESCRIPTION	DRFT	DATE	CHK'D
A	922700	RE-FASED			
B	97453	ADD VDE	578	11.1	

UNUSED LOGIC ELEMENTS		
TYPE	LOCATION	OUTPUT PIN(S)
10131	C2	14, 15
10131	D2	14, 15
10116	B1	6, 7, 14, 15
10116	D1	2, 3, 6, 7
10125	D3	4, 13
10125	B2	4
140H	D4	6



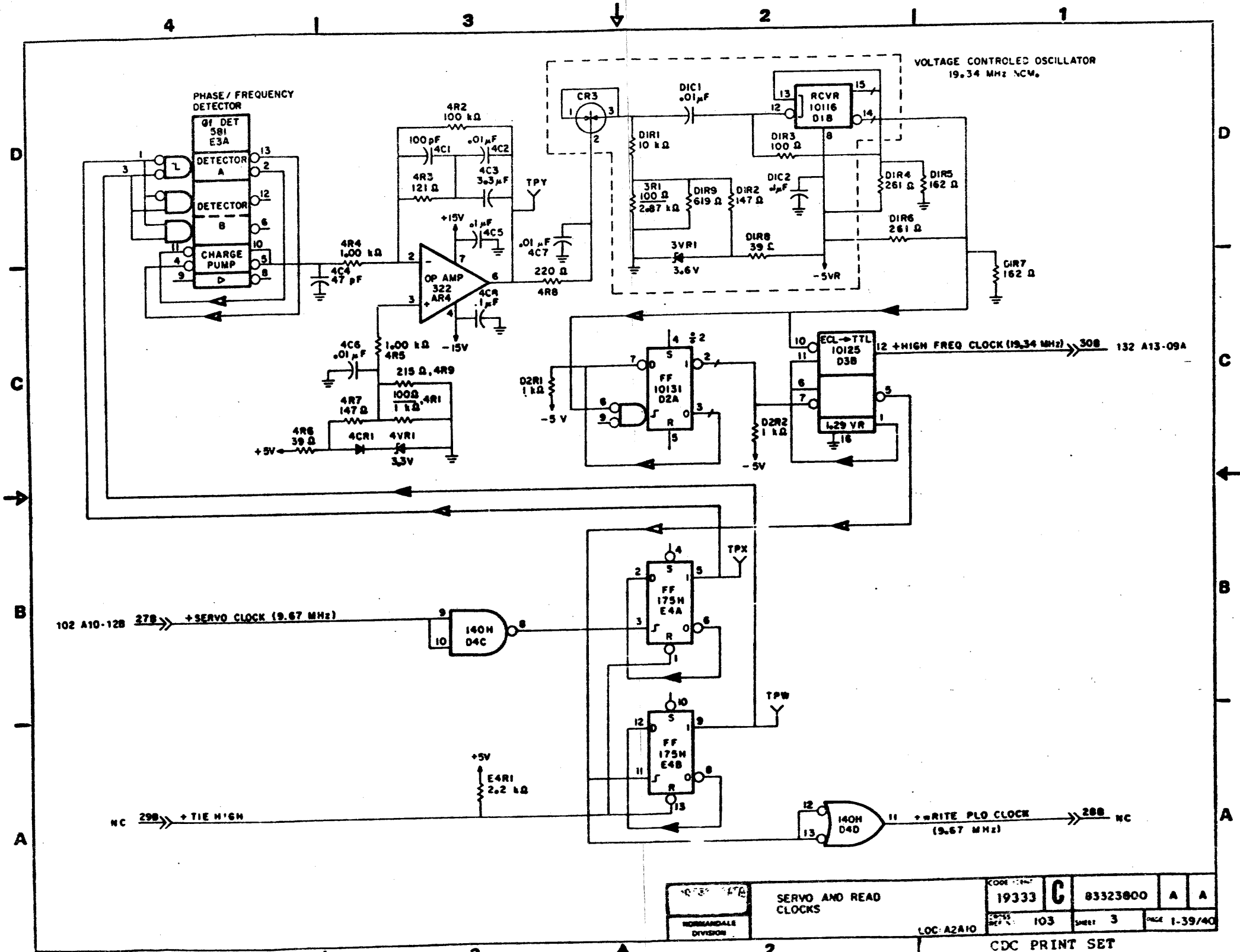
<table border="1"> <tr><td>DRAWN</td><td>ALS</td><td>5-1-77</td></tr> <tr><td>CHECKED</td><td></td><td></td></tr> <tr><td>ENGINEER</td><td></td><td></td></tr> <tr><td>APPROVED</td><td></td><td></td></tr> </table>	DRAWN	ALS	5-1-77	CHECKED			ENGINEER			APPROVED			WRITE CLOCK 806 KHZ TO 9.67 MHZ DIAGRAMS TYPE CLSV LOC A2A10	COOL IDENT 19333 C CROSS REF 101	83323800 1-3 1-37
DRAWN	ALS	5-1-77													
CHECKED															
ENGINEER															
APPROVED															

CDC PRINT SET  
 B-SP-R405-0-BK7B  
 SHEET 44 of 180  
 REV B



NORMANDEALE DIVISION	SECTOR, INDEX, REF AND WRITE PLO CLOCKS		19333	C	83323800	A	A
	LOC A2A10	102	SHEET 2	PAGE 1-38			

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 45 of 180 KEV B



NORMAN DALE DIVISION	SERVO AND READ CLOCKS	19333	C	83323800	A	A
	LOC: A2A10	103	SHEET 3	PAGE 1-39/40		

CDC PRINT SET  
3-SP-RM05-0-BK7B  
SHEET 46 of 180  
REV B

**REVISION STATUS OF SHEETS**

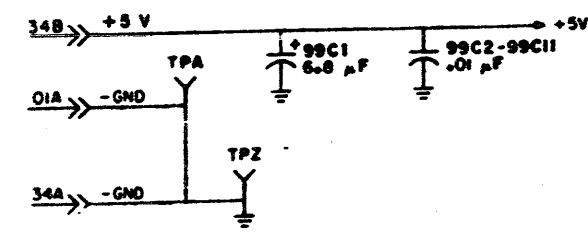
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A	A	A	A	A															

**REVISIONS**

REV	ECO	DESCRIPTION	DWPT	DATE	CHK'D
A	RE23000	RELEASEC			

**UNUSED LOGIC ELEMENTS**

ELEMENT TYPE	LOCATION	OUTPUT PIN(S)
200	A1	8,10,12
140	B4	6



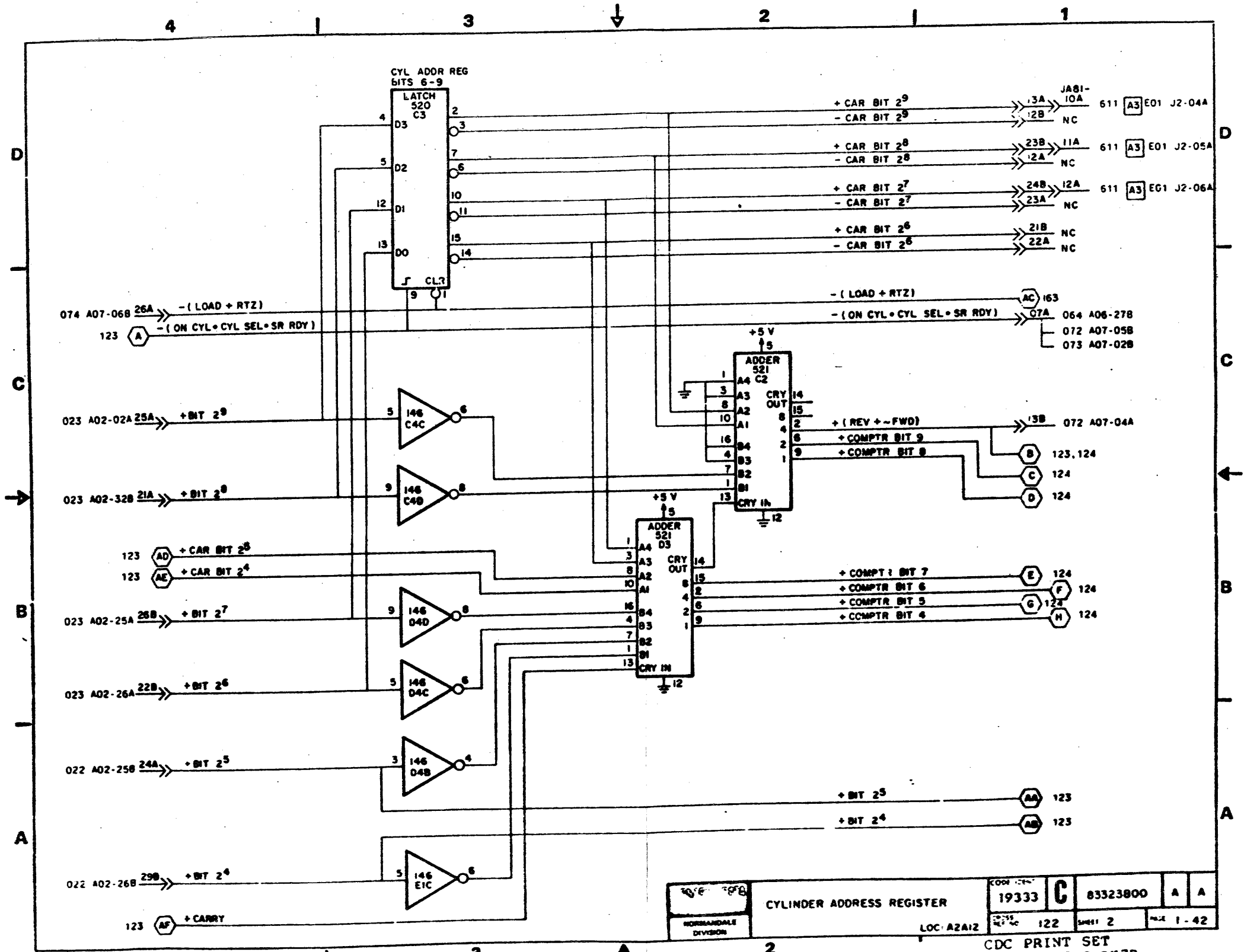
DATE	19333	CODE 1000	C	83323800	A	A
CHECKED						
ENGINEER						
APPROVED						

DIFFERENCE GENERATOR AND  
CONTROL  
DIAGRAMS  
TYPE FLWV  
LOC A2A12

CROSS REF NO 121 SHEET 1 of 5 PAGE 1-4.

CDC PRINT SET  
B-SP-RM05-0-BK78  
SHEET 47 of 180

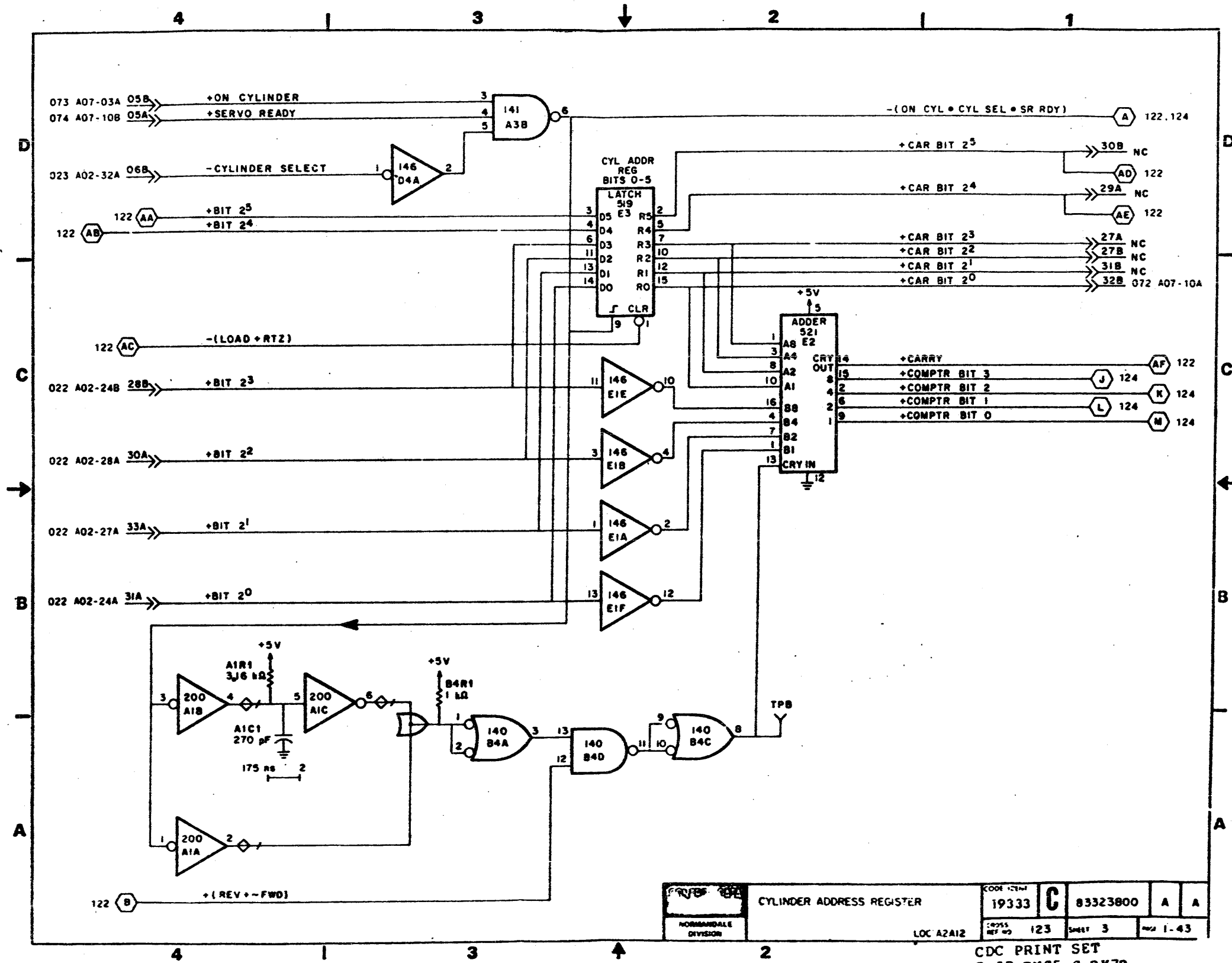
REV B



NORANDA  
 DIVISION  
**CYLINDER ADDRESS REGISTER**  
 LOC: A2A12

19333	C	83323800	A	A
122	SHEET 2	PAGE 1-42		

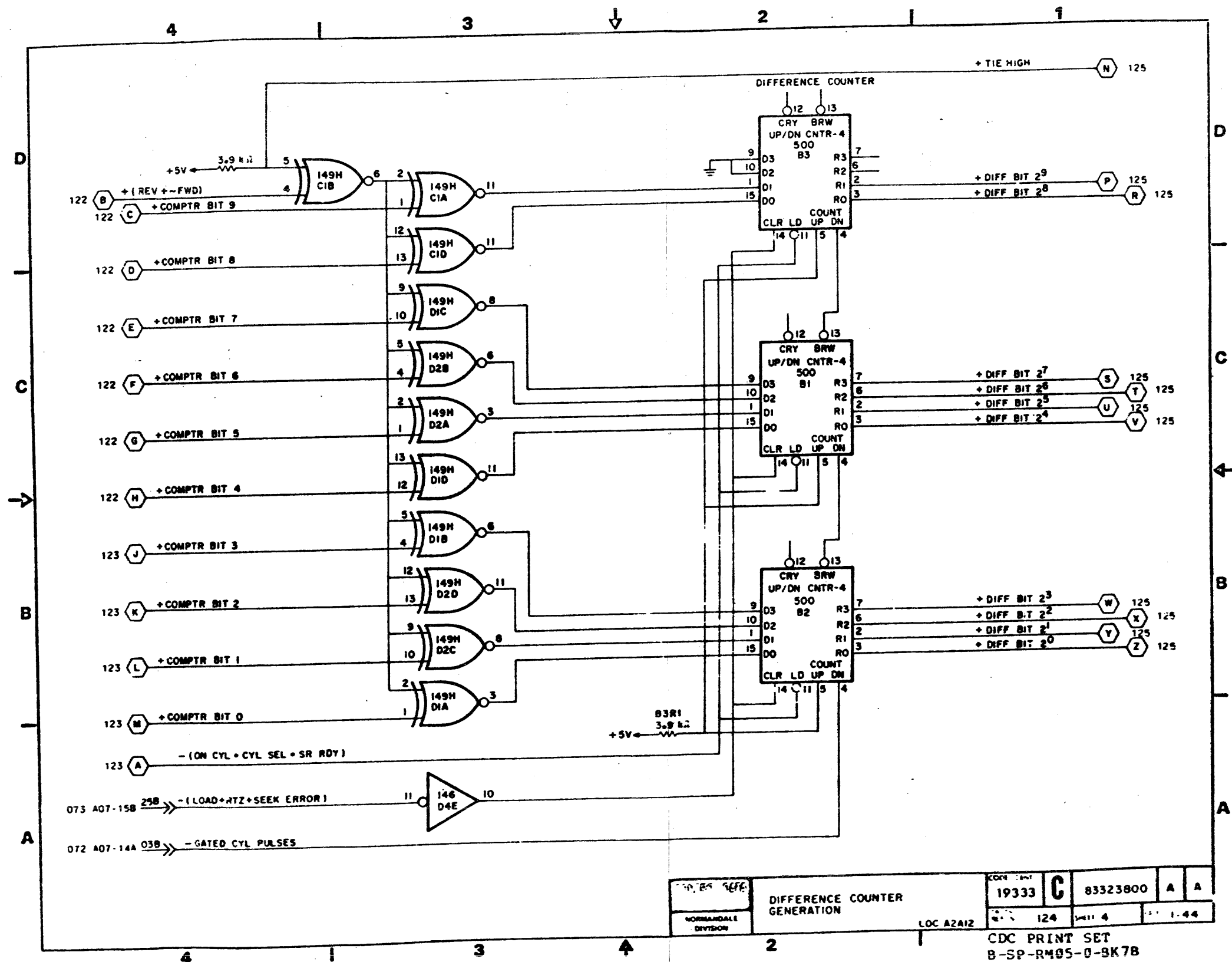
CDC PRINT SET  
 B-SP-RM05-0-9K79  
 SHEET 48 OF 180  
 REV B



NORMANDEALE DIVISION	CYLINDER ADDRESS REGISTER		CODE 19333	C	83323800	A	A
	LOC A2A12	123	SHEET 3				

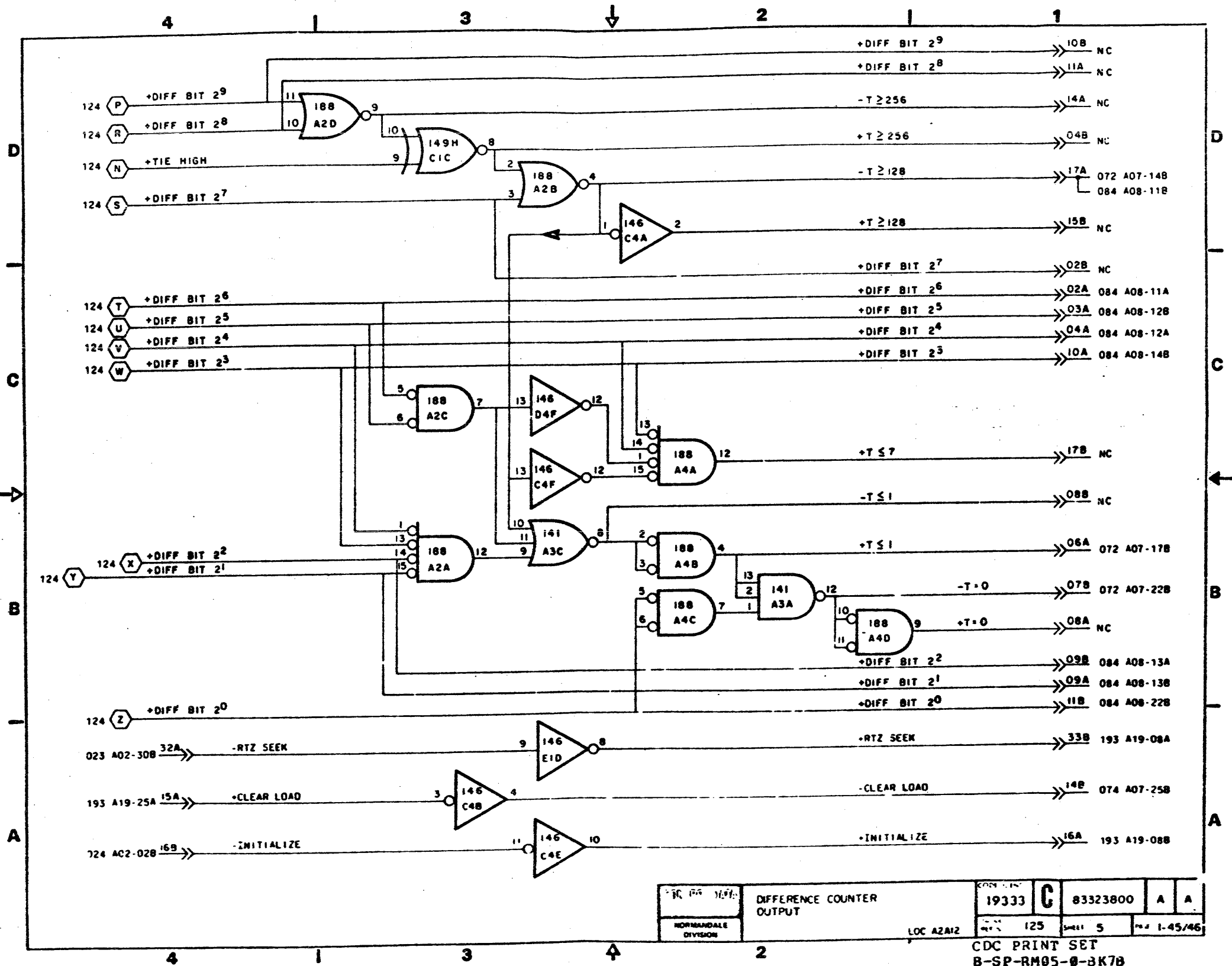
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 49 of 190  
 REV B





DIFFERENCE COUNTER GENERATION	19333	C	83323800	A	A
LOC A2A1Z	124	4	1-44		

CDC PRINT SET  
 B-SP-RM05-0-9K7B  
 SHEET 50 of 180  
 REV B



19333	C	83323800	A	A
125	5	1-45/46		

CDC PRINT SET  
 B-SP-RM05-0-3K7B  
 SHEET 51 OF 180  
 REV B

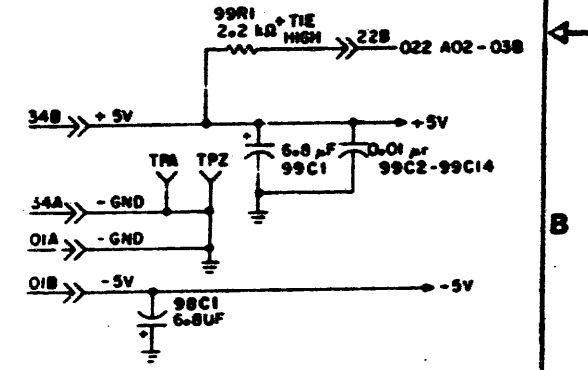
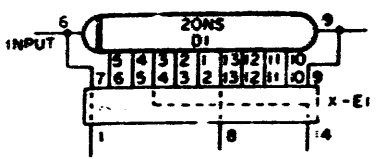
REVISION STATUS OF SHEETS

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A	A	A																		

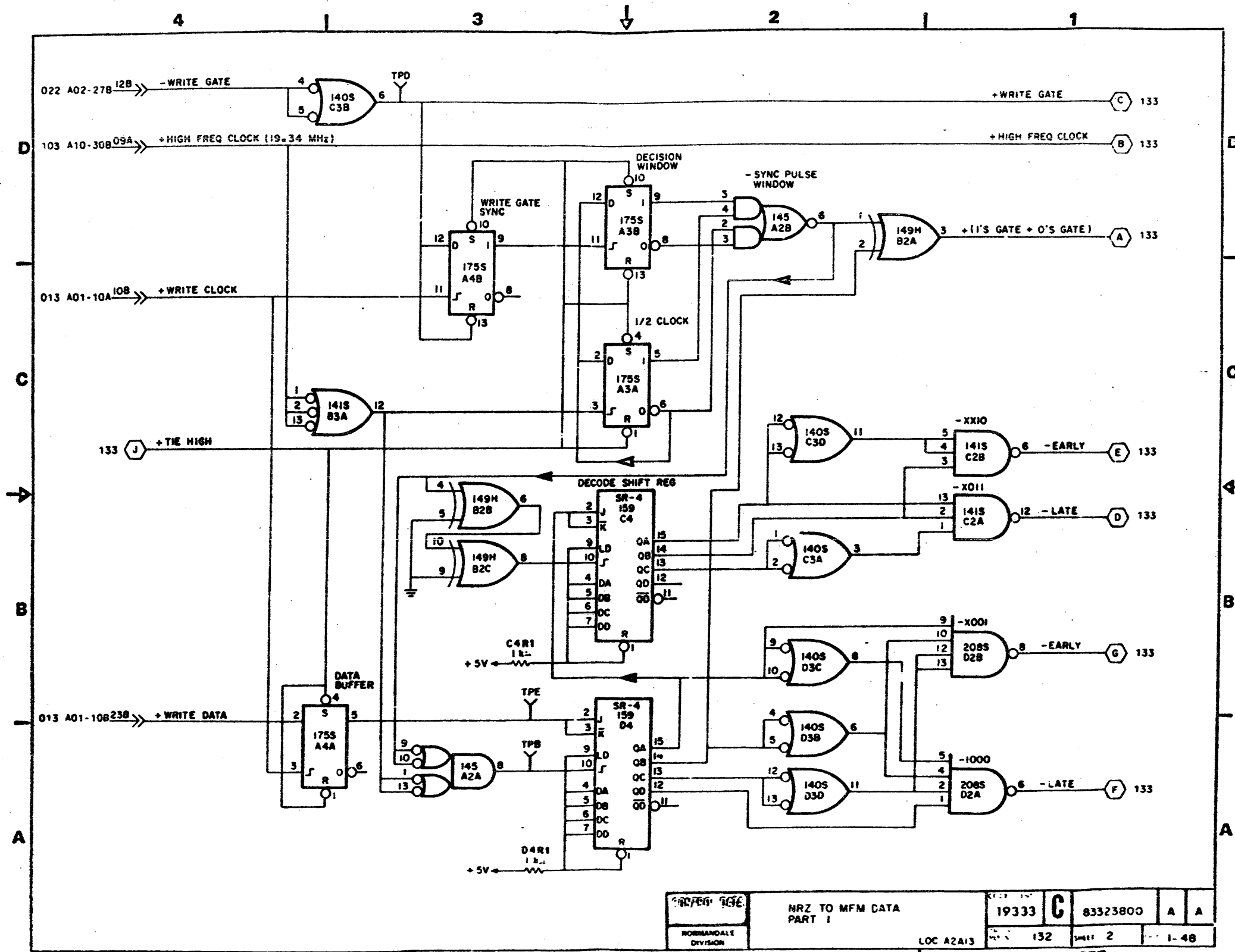
REVISIONS						
REV	ECO	DESCRIPTION	DRFT	DATE	CHK'D	
A	1	REVISED				

NOTE:  
 1. DELAY LINES ARE CONNECTED TO JUMPER BLOCK AS SHOWN IN DIAGRAM AT THE RIGHT. ACTUAL DELAYS ARE SELECTED DURING MANUFACTURING. THIS DIAGRAM SHOWS TYPICAL CONNECTIONS. DELAY TIME FOR EACH DELAY LINE PIN RELATIVE TO PIN 6 INPUT IS SHOWN IN CHART TO THE RIGHT.

PIN	ZONS DELAY
5	2 NS
4	4 NS
3	6 NS
2	8 NS
1	10 NS
13	12 NS
12	14 NS
11	16 NS
10	18 NS
9	ZONS

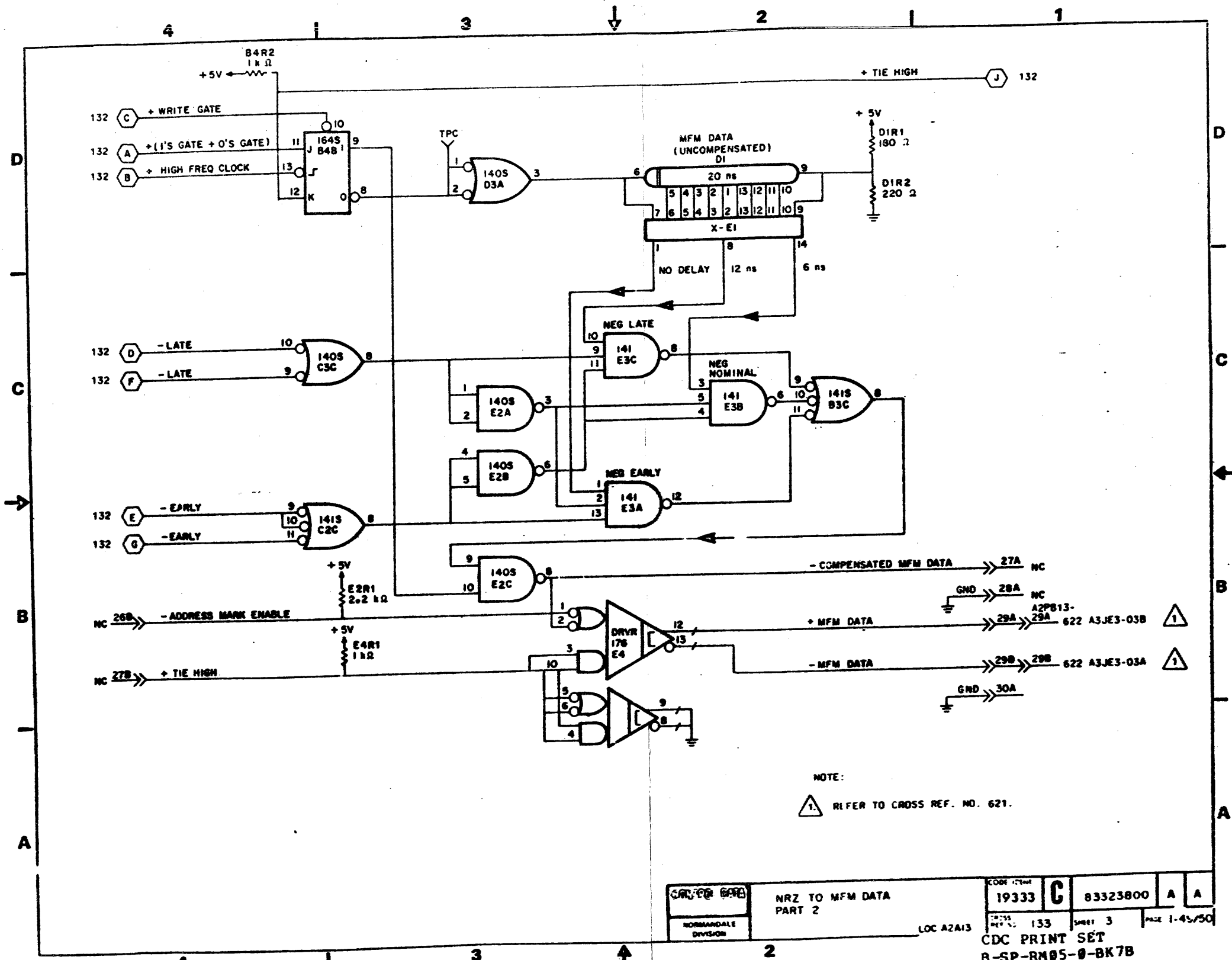


DRWN	G. P. W.	3377	DATE	REV	NRZ TO COMPENSATED MFM DIAGRAMS	19333	C	83323800	A	A
CHK'D					TYPE ELXV	LOC A2A13				
ENGR										
APPR										



19333 132 83323800 1-48	C 2 A A	NRZ TO MFM DATA PART 1
		CDC PRINT SET B-SP-RM05-0-BK7B SHEET 53 of 180

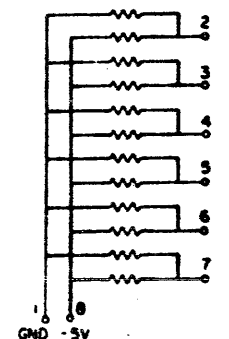
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 53 of 180  
 REV B



REVISION STATUS OF SHEETS																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A	A																		

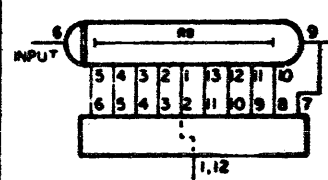
REVISIONS					
REV	ECO	DESCRIPTION	DRFT	DATE	CDR'S
1	RE13000	RF-CAU			

NOTES  
 TYPICAL CONFIGURATION FOR TERMINATORS AT-C2A, AT-C2B AND AT-B4A AS FOLLOWS

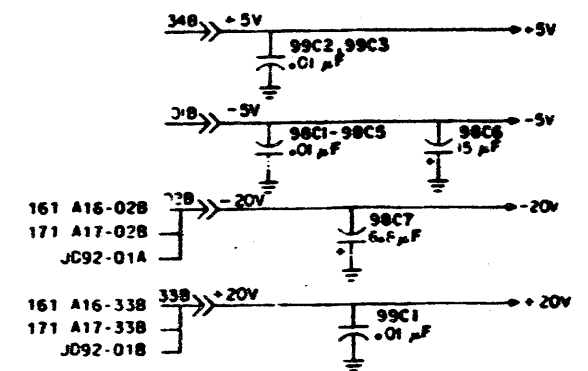
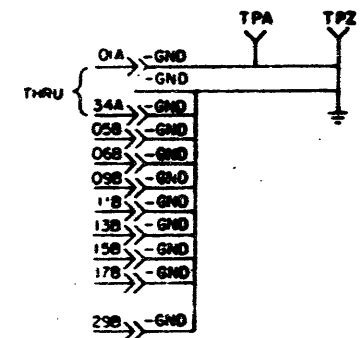


2 DELAY LINES ARE CONNECTED TO JUMPER BLOCK AS SHOWN IN DIAGRAM BELOW. ACTUAL DELAYS ARE SELECTED DURING MANUFACTURING. THIS DIAGRAM SHOWS TYPICAL CONNECTIONS. DELAY TIME FOR EACH DELAY LINE PIN RELATIVE TO PIN 6 INPUT IS SHOWN IN CHART BELOW.

PIN	DELAY - NSES (NS)	
	B1	A2
5	5	10
4	10	20
3	15	30
2	20	40
1	25	50
13	30	60
12	35	70
11	40	80
7	45	90
9	50	100

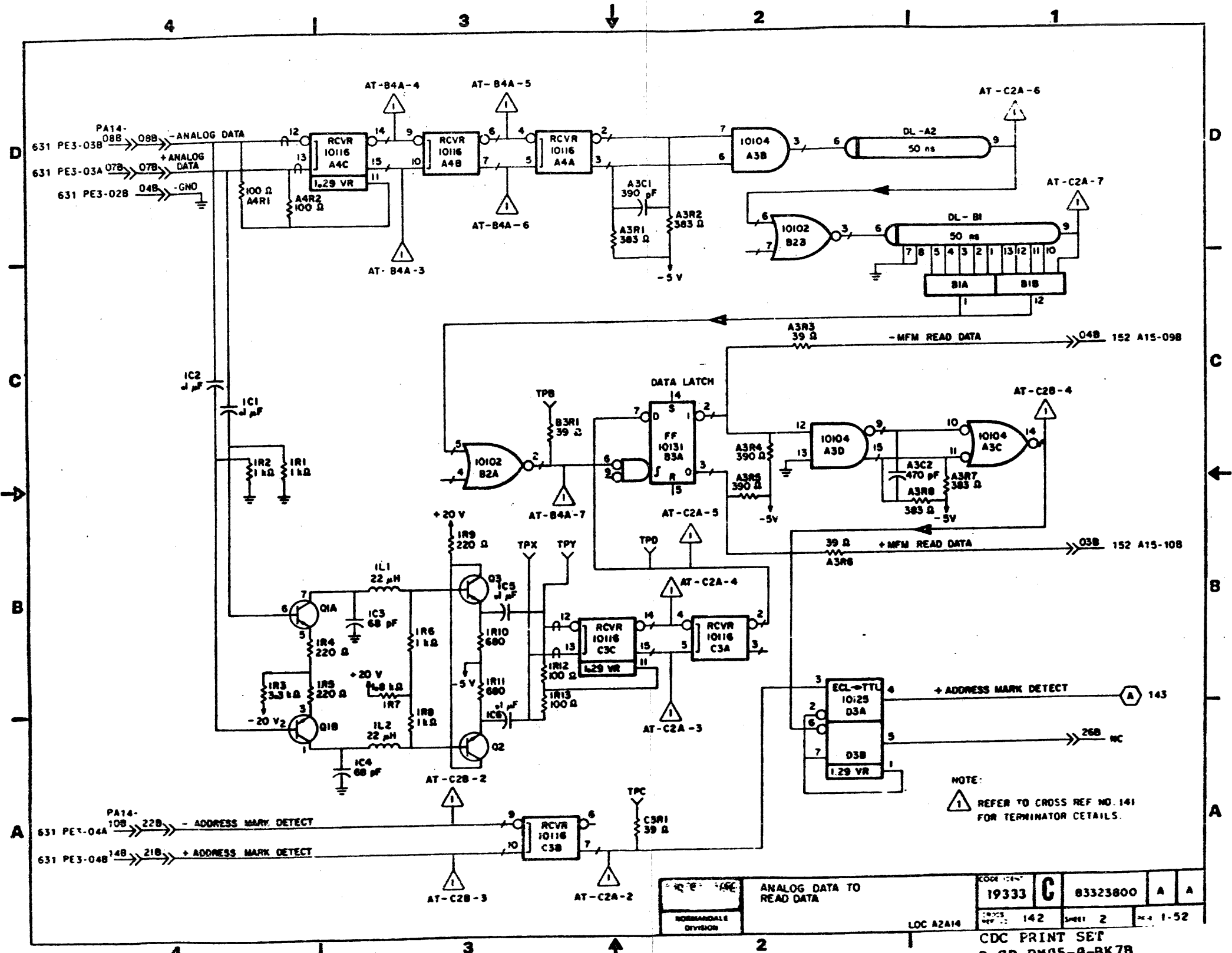


UNUSED LOGIC ELEMENTS		
TYPE	LOCATION	OUTPUT PIN(S)
145	A1	9, 10
1648	D2	8, 9
10104	A3	2
10102	B2	9, 15, 14
10125	D3	12, 13
10131	B3	14, 15
200	E2	2, 4, 6, 8



DRAWN	MANDERSON	477	6	670	DATA LATCH DIAGRAMS	CODE 19333	C	83323800	A	A
CHECKED										
ENGINEER	<i>[Signature]</i>				TYPE HLRV	CROSS REF 141	SHEET 1 of 3	PAGE 1-51		
APPROVED										

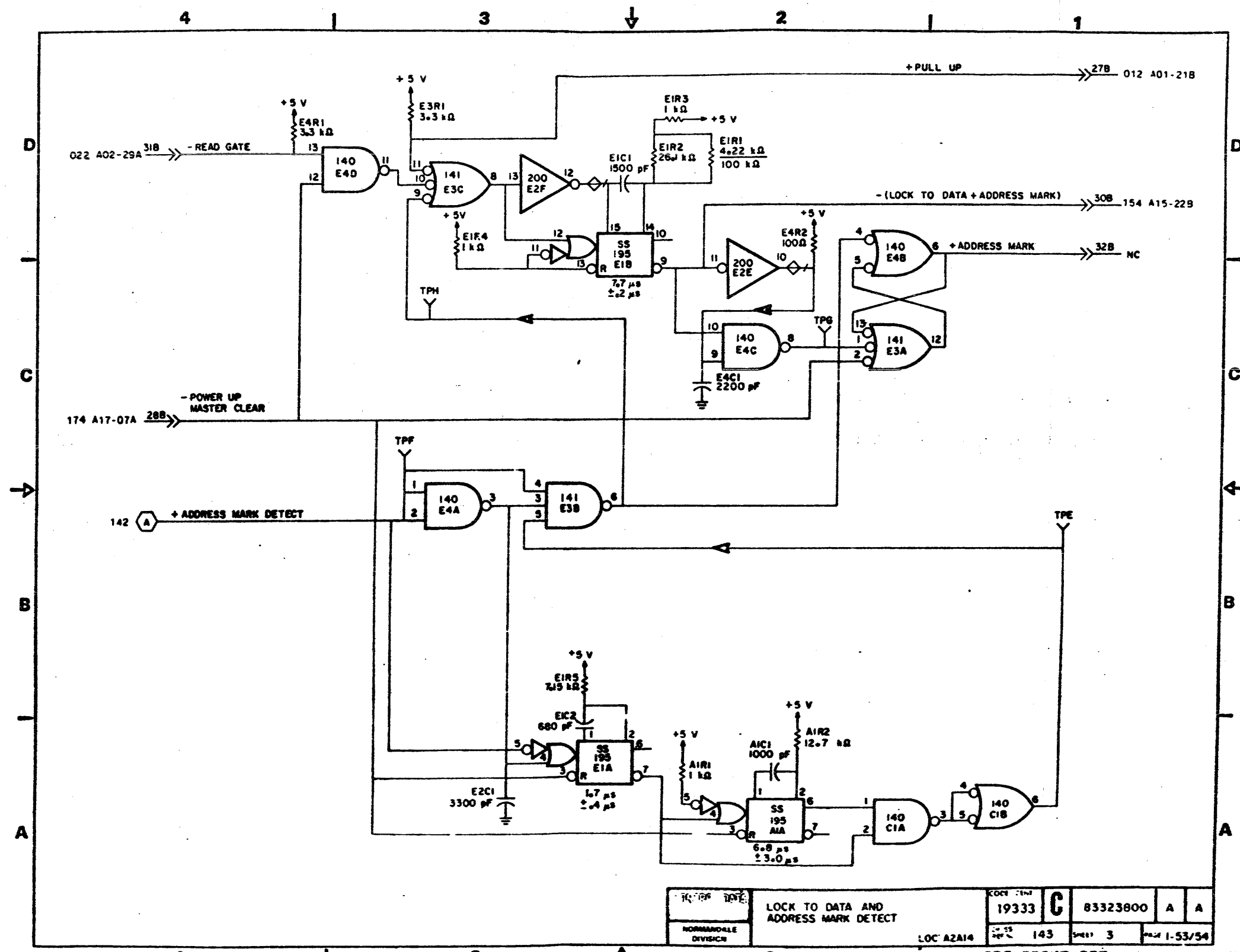
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 55 of 180  
 REV B



19333  
 142  
 SHEET 2  
 1-52  
 CDC PRINT SET  
 B-SP-R405-0-BK7B  
 SHEET 56 OF 180

ANALOG DATA TO  
 READ DATA  
 LOC A2A14

REV B



DATE	19333	REV	C	83323800	A	A
NORMANVILLE DIVISION	143	SHEET	3	PAGE 1-53/54		

LOCK TO DATA AND ADDRESS MARK DETECT

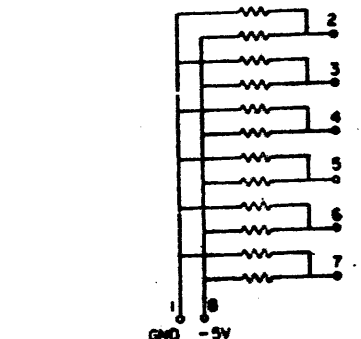
LOC A2A14



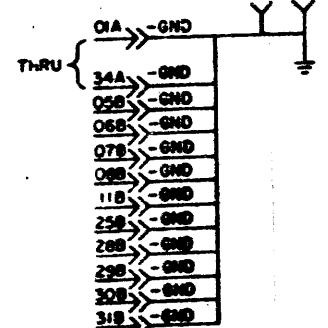
REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A	A															
B	A	A	A	A															

REVISIONS				
REV	ECO	DESCRIPTION	DRFT	DATE
A	ME237	RELEASED		
B	57453	ADD VDE	1/26	1955

NOTES  
 1. TYPICAL CONFIGURATION FOR TERMINATORS ATA3, ATB2, ATB3, ATB4, ATC3, ATD4, ATE2 AS FOLLOWS



NOTE 2 SEE LOWER LEFT CORNER



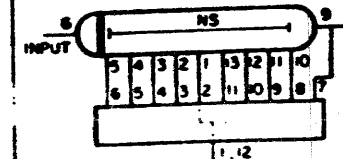
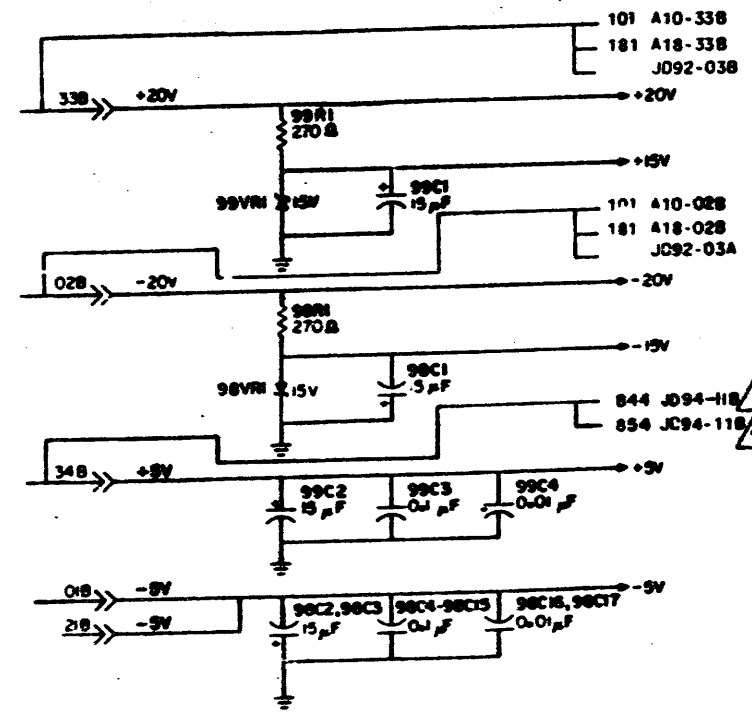
UNUSED LOGIC ELEMENTS

TYPE	LOCATION	OUTPUT PIN(S)
10131	E4	2,3
10116	E1	14,18
10116	C3	2,3,14,18
10128	D4	4,5

PIN	DELAY TIMES IN NS	
	B1	A2
5	5	10
4	10	20
3	15	30
2	20	40
1	25	50
13	30	60
12	35	70
11	40	80
10	45	90
9	50	100

2. DELAY LINES ARE CONNECTED TO JUMPER BLOCK AS SHOWN IN DIAGRAM BELOW. ACTUAL DELAYS ARE SELECTED DURING MANUFACTURING. THIS DIAGRAM SHOWS TYPICAL CONNECTIONS. DELAY TIME FOR EACH DELAY LINE PIN RELATIVE TO PIN 6 INPUT IS SHOWN IN CHART BELOW.

3. VDE ONLY  
 4. NON-VDE ONLY

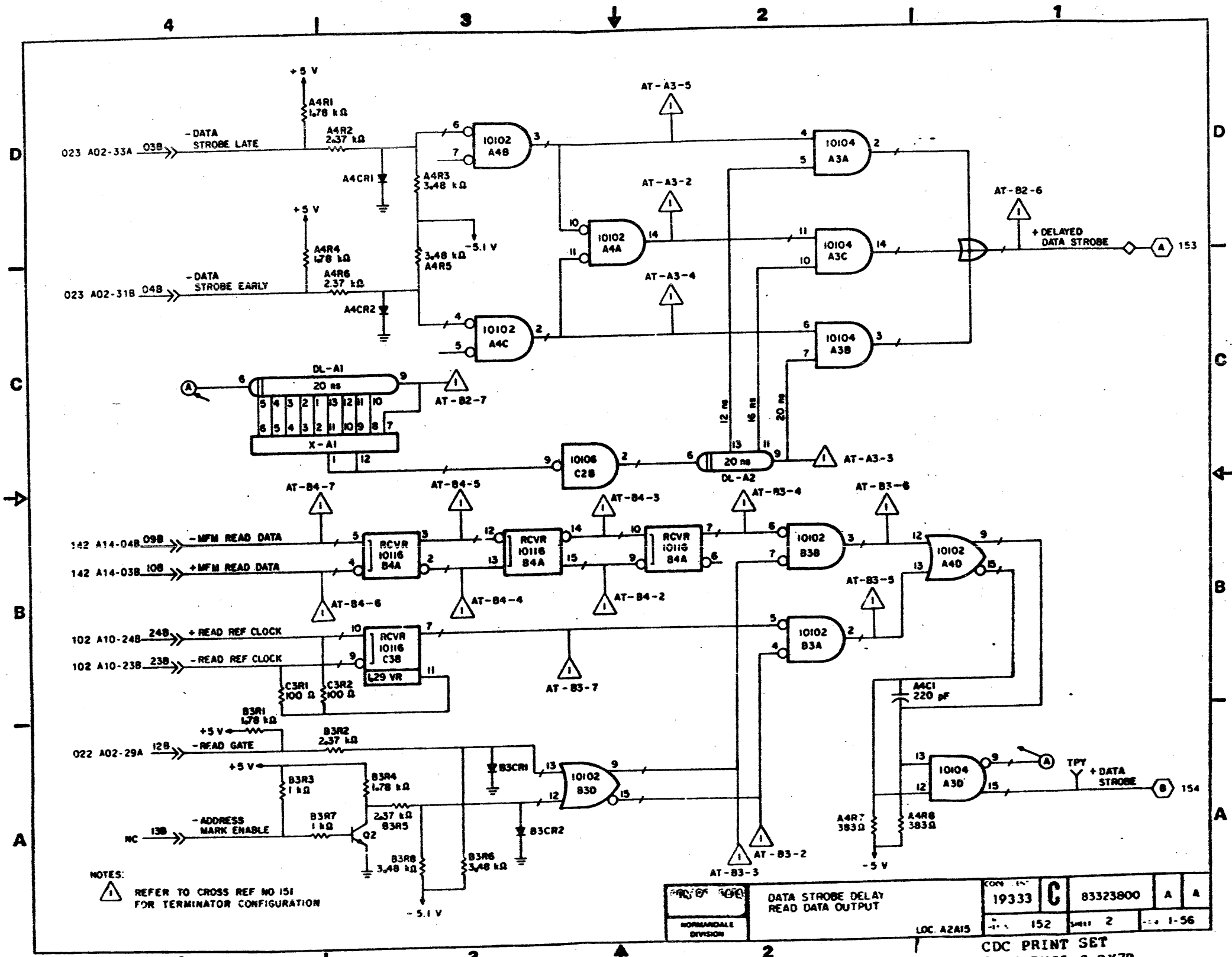


CDC PRINT SET  
 3-SP-RM05-0-BK7B  
 SHEET 58 OF 180

READ PLO DIAGRAMS  
 TYPE BL2V LOC A2A15

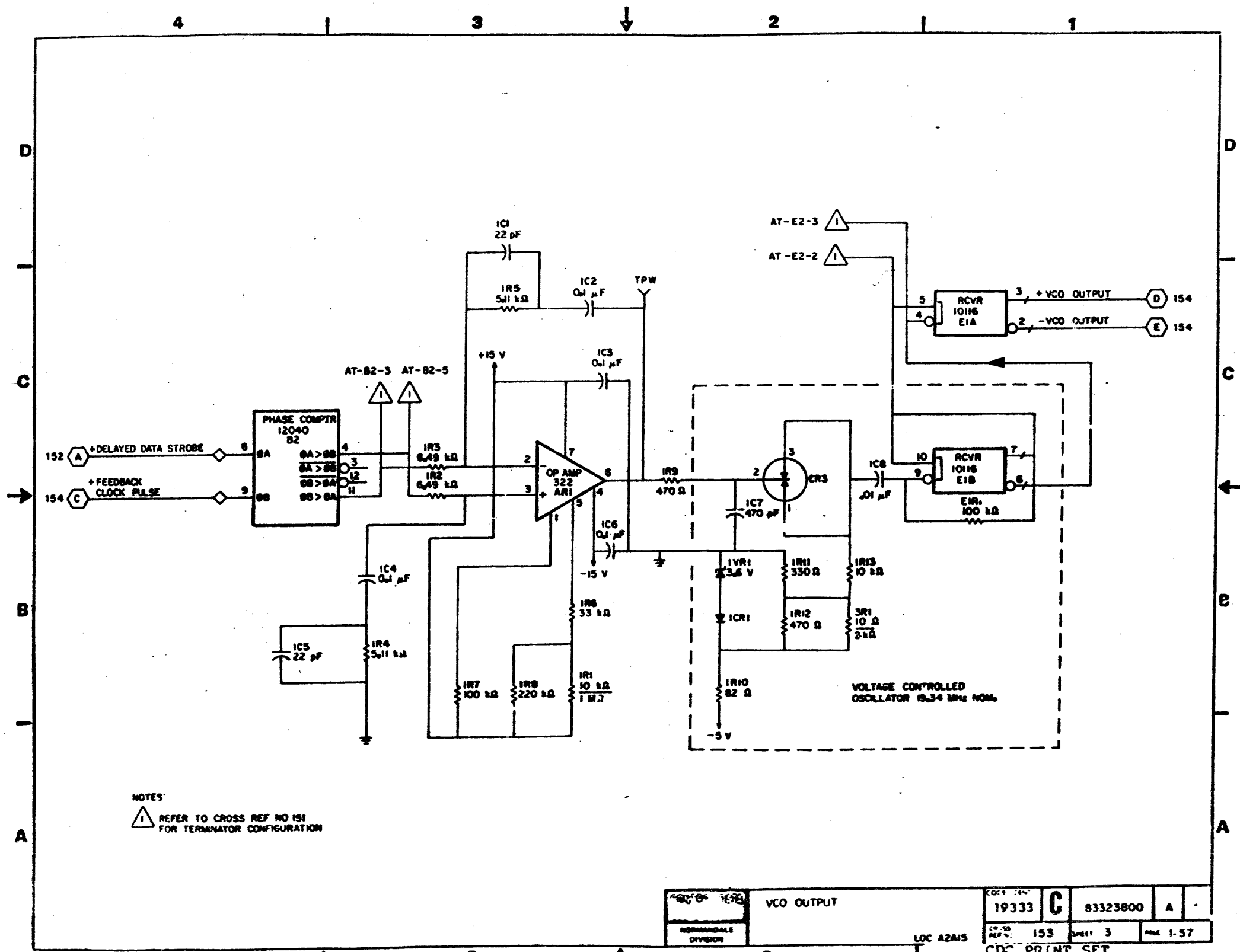
19333	C	83323800	C	B
151	1-5	1-55		

REV 3



PROJECT NO.	DATA STROBE DELAY READ DATA OUTPUT	CONTRACT NO.	19333	83323800	A	A
NORANDA DIVISION	LOC A2A15	NO.	152	SHEET 2	1-56	

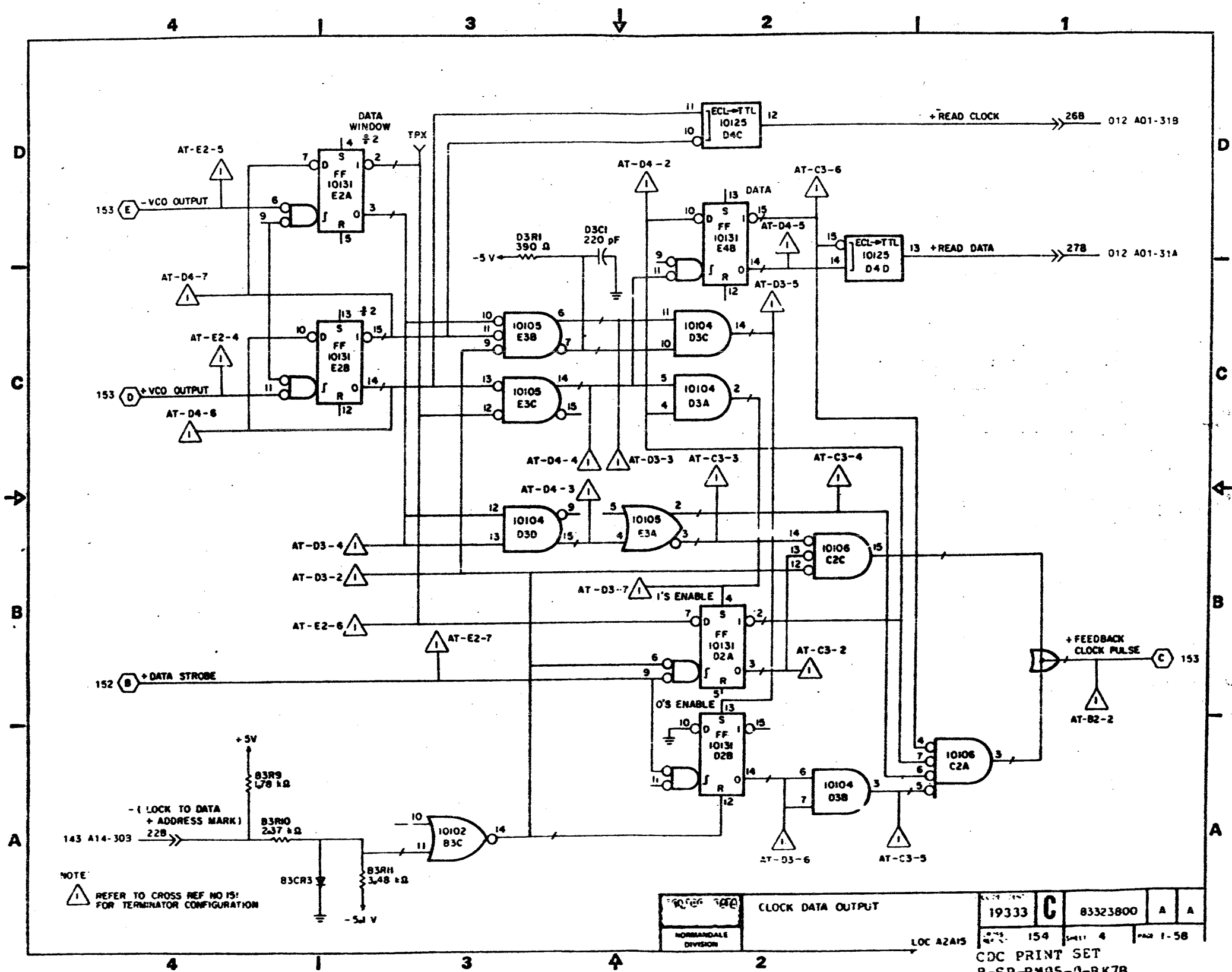
CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 59 of 180  
REV B



NOTES:  
 ⚠ REFER TO CROSS REF NO 151 FOR TERMINATOR CONFIGURATION

19333	C	83323800	A
153	SHEET 3	1-57	

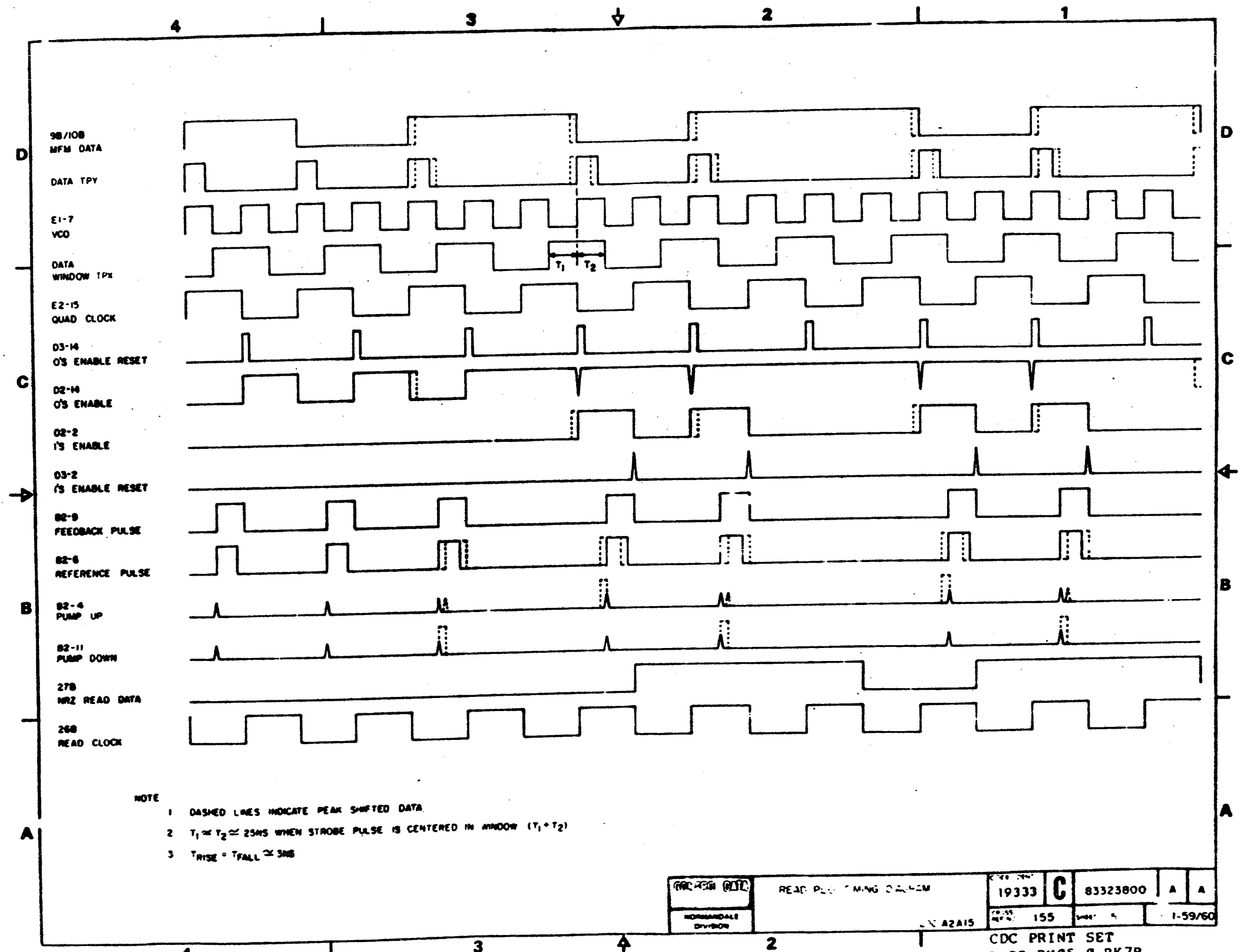
LOC A2A15  
 CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 60 of 180  
 REV B



NOTE  
 REFER TO CROSS REF NO 151  
 FOR TERMINATOR CONFIGURATION

19333	C	83323800	A	A
154	4	1-58		

CDC PRINT SET  
 B-SP-R405-0-BK7B  
 SHEET 61 of 180  
 REV B

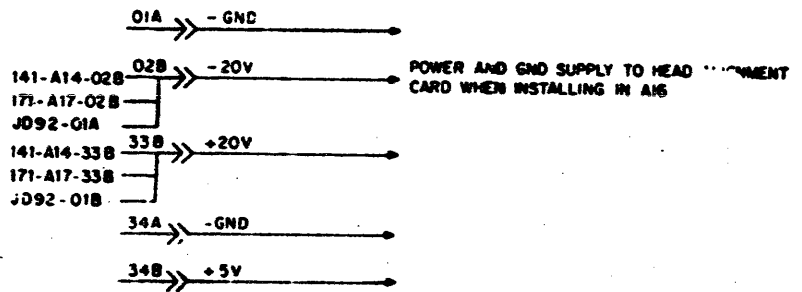


NOTE  
 1 DASHED LINES INDICATE PEAK SHIFTED DATA.  
 2  $T_1 \approx T_2 \approx 25\text{NS}$  WHEN STROBE PULSE IS CENTERED IN WINDOW ( $T_1 + T_2$ )  
 3  $T_{\text{RISE}} = T_{\text{FALL}} \approx 3\text{NS}$

 ROCKWELL  ROCKWELL DIVISION	READ PULSING COLUMN A2A15	19333	<b>C</b>	83323800	A	A
		155	1-59/60			

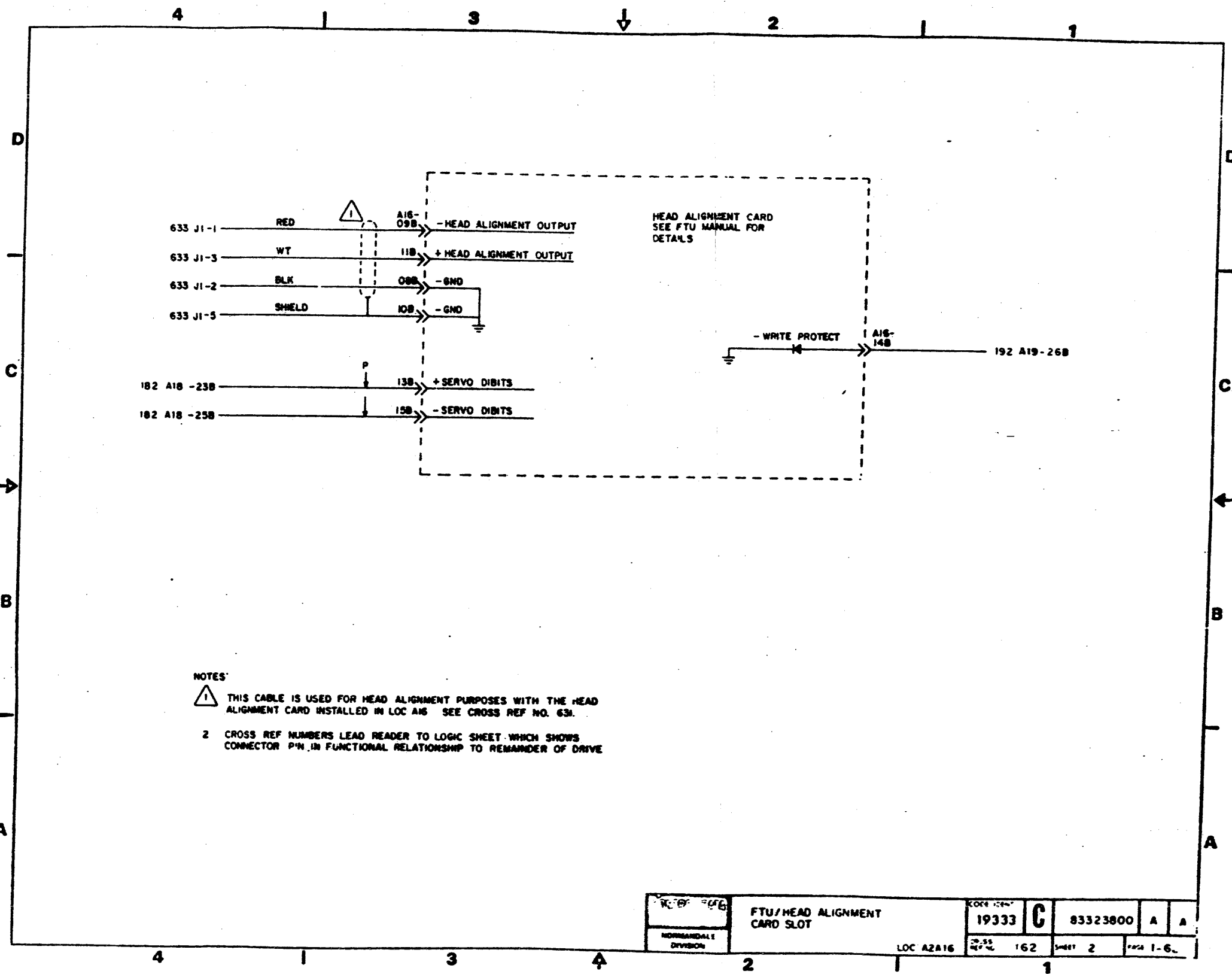
REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A																		

REVISIONS					
REV	ECO	DESCRIPTION	DWTR	DATE	CHK'D
A	PE23000	RELEASED			



DRAWN		FTU/HEAD ALIGNMENT CARD SLOT WIRING DIAGRAMS		CODE	19333	C	83323800	A	A
CHECKED				ORIGIN	161		SHEET 1 OF 2	1-61	
ENGINEER				CDC PRINT SET					
APPROVED				B-SP-RM05-0-BK7B					

SHEET 53 OF 190 REV B



NOTES:

1 THIS CABLE IS USED FOR HEAD ALIGNMENT PURPOSES WITH THE HEAD ALIGNMENT CARD INSTALLED IN LOC A16 SEE CROSS REF NO. 631.

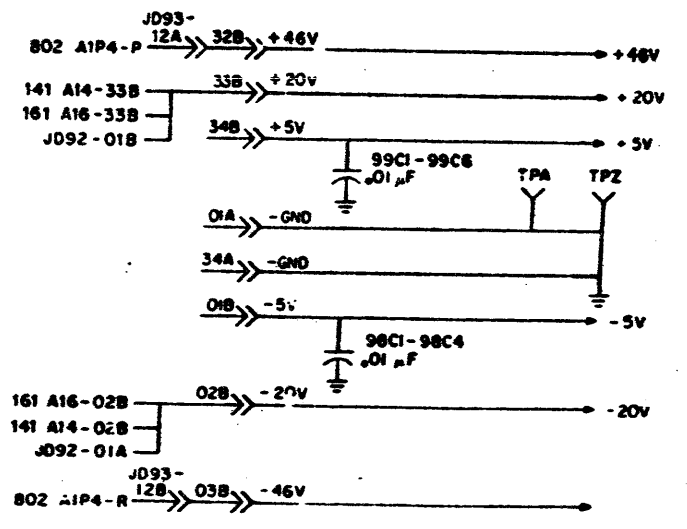
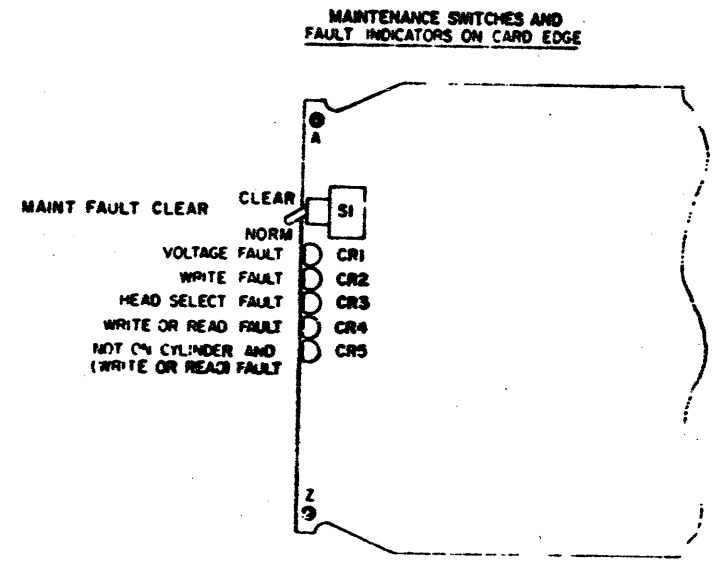
2 CROSS REF NUMBERS LEAD READER TO LOGIC SHEET WHICH SHOWS CONNECTOR PIN IN FUNCTIONAL RELATIONSHIP TO REMAINDER OF DRIVE

19333	FTU/HEAD ALIGNMENT CARD SLOT	19333	C	83323800	A	A
NORMANDEALE DIVISION	LOC A2A16	162	SHEET 2	PAGE 1-6		

REVISION STATUS OF SHEETS																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A	A																
B	A	A	A	A																
C	A	C	A	A																

REVISIONS					
REV	ECO	DESCRIPTION	DRFT	DATE	CHK'D
A	PE23000	REL. 1.0			
B	57453	ADD VDE			
L	PE37451	CHG - RFLV COMP ASSY			

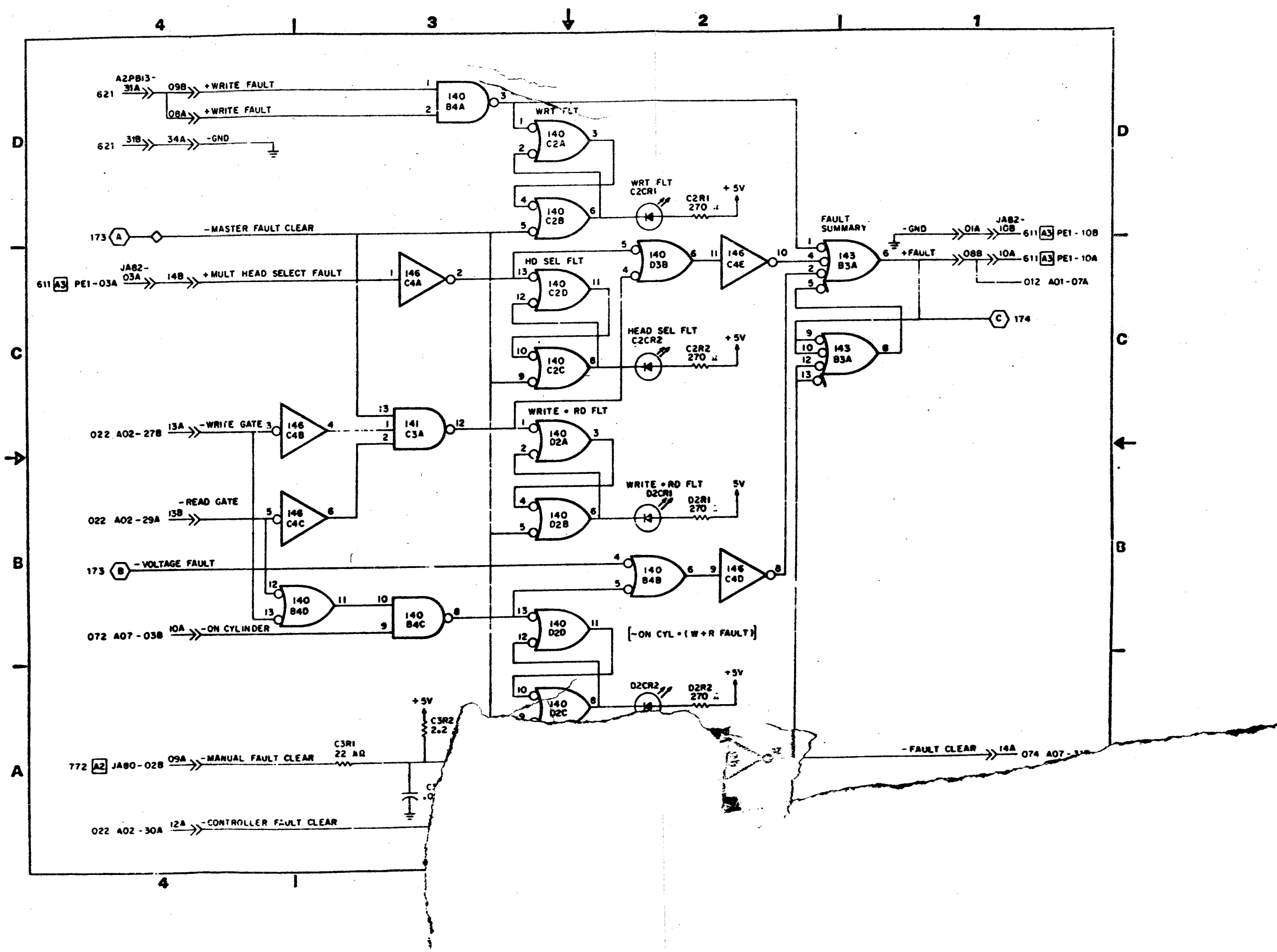
UNUSED LOGIC ELEMENTS		
TYPE	LOCATION	OUTPUT PIN(S)
175H	C1	5, 6
4049	E2	10, 12
200	B2	6

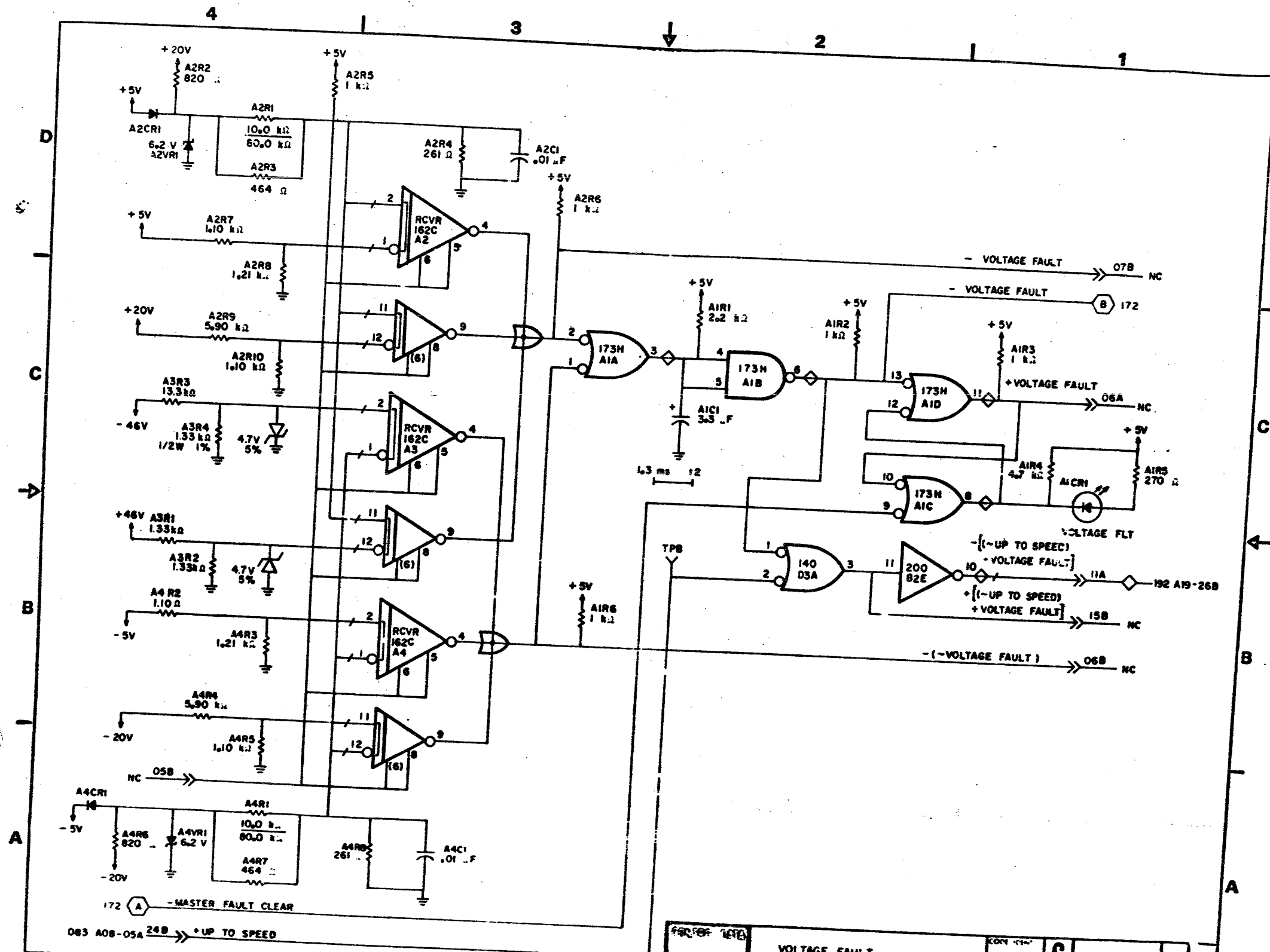


DESIGNED: <i>G. RAB...</i> CHECKED: ENGINEER: APPROVED:	DATE: <i>1-6-63</i> NORMAL:	<b>FAULT CARD DIAGRAMS</b> TYPE: <i>HKFV</i>	LOC: <i>A2A17</i>	CORR: <i>19333</i> NO: <i>171</i>	<b>C</b> REF: <i>81200017</i> <i>81200031</i>	C C 1-63
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CDC PRINT SET  
 B-SP-RM05-0-BK79  
 SHEET 65 OF 180  
 REV B

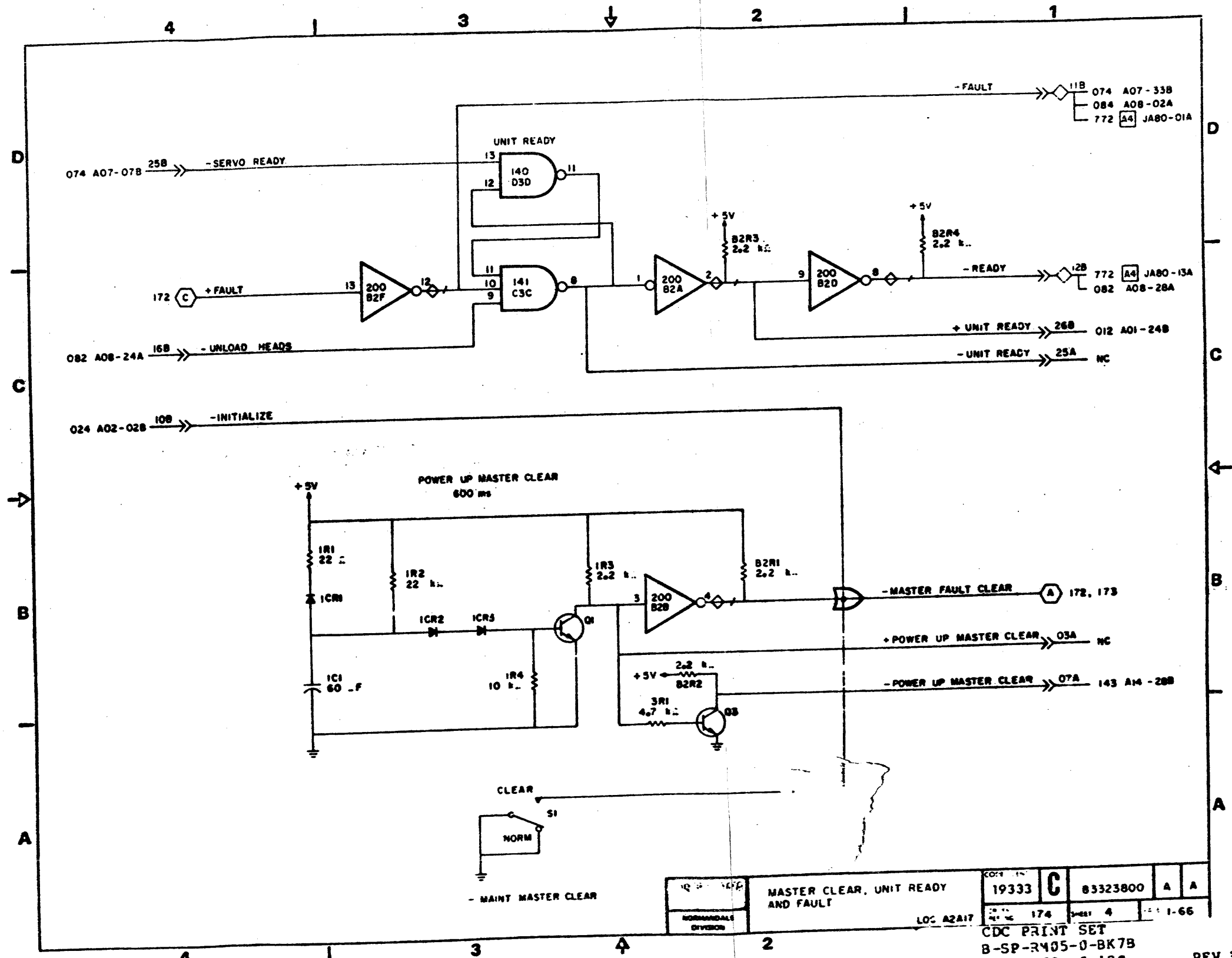




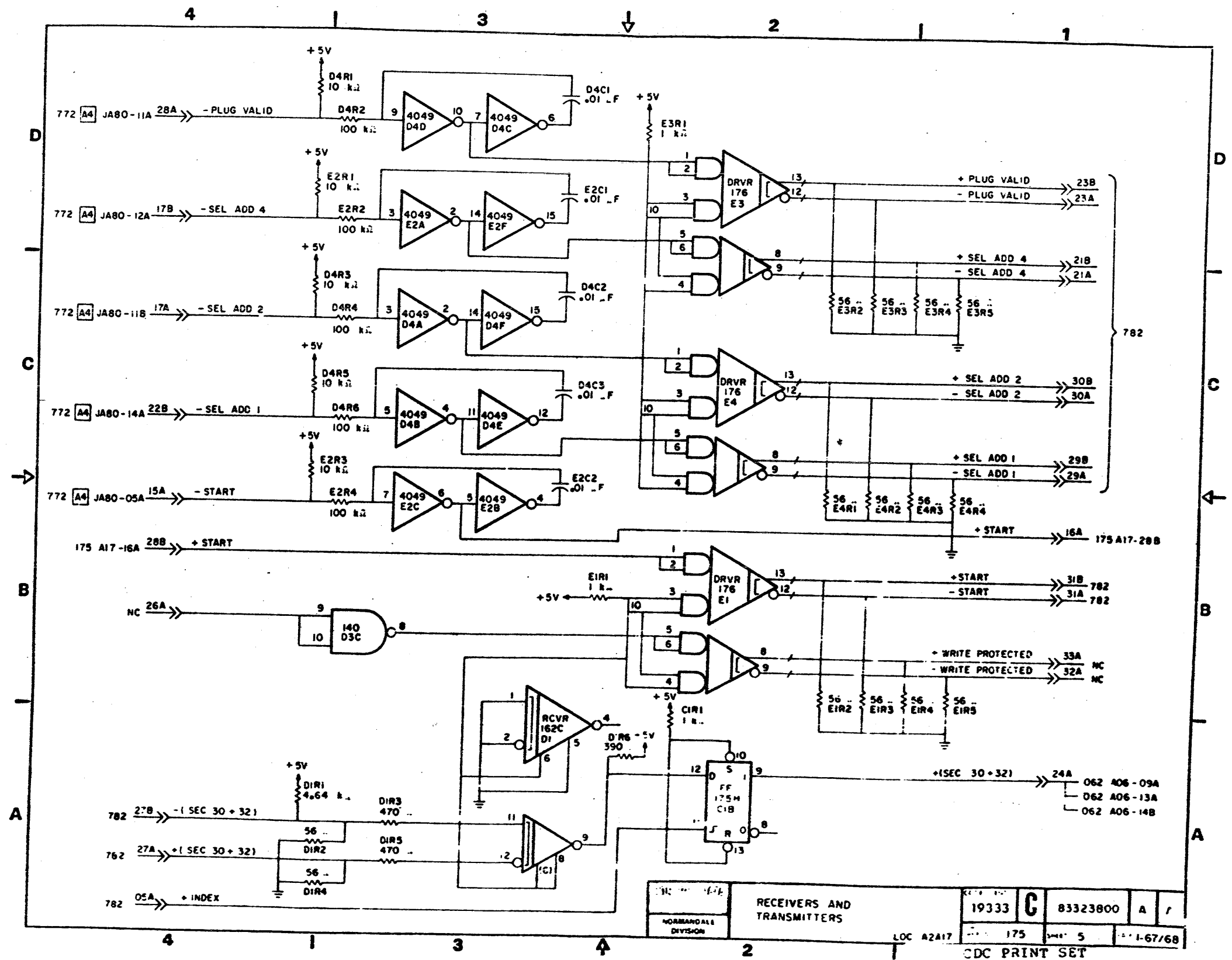


CDC PRINT SET  
 B-SP-RM05-U-9K7B  
 SHEET 57 of 180  
 REV B

FORM 107E	VOLTAGE FAULT	19333	83323800	C	C
NO. 173	LOC A2A17	SHEET 3	1-65		



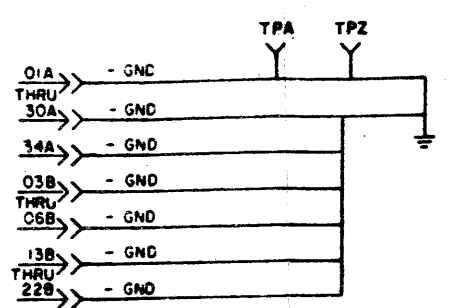
19333 C 83323800 A A  
 174 SHEET 4 1-66  
 CDC PRINT SET  
 B-SP-R405-0-BK7B  
 SHEET 68 of 180  
 REV 3



NORMANDALE DIVISION	RECEIVERS AND TRANSMITTERS		19333	C	83323800	A	r
	LOC A2A17		175	5	1-67/68		

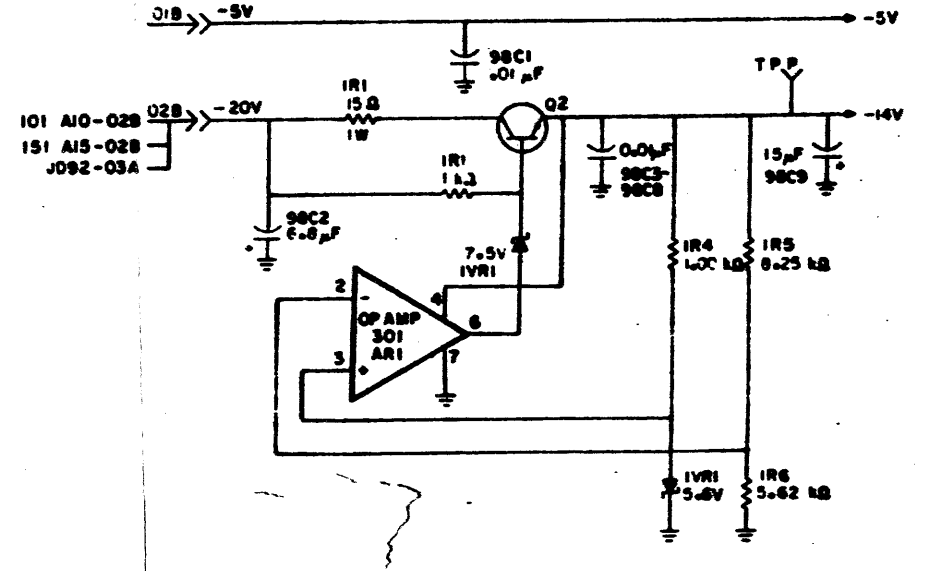
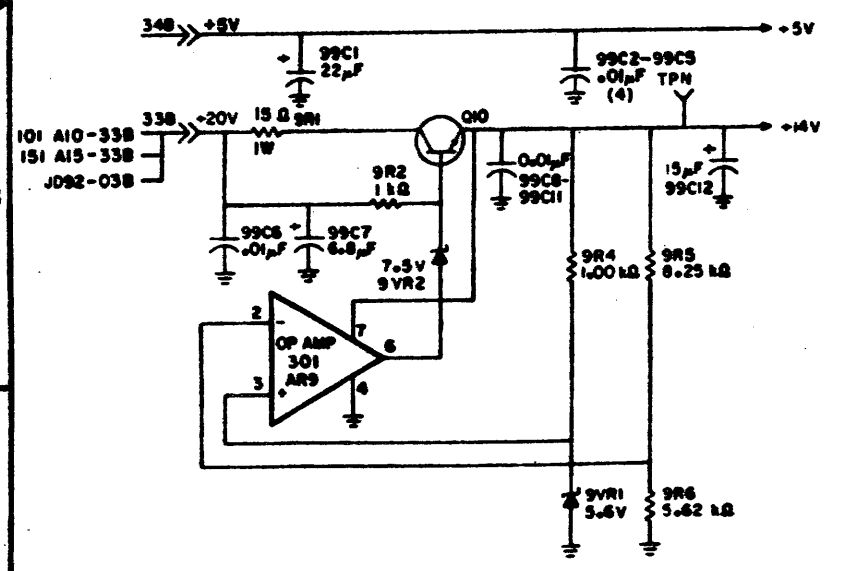
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 69 of 190 REV B

REVISION STATUS OF SHEETS																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A	A	A	A																



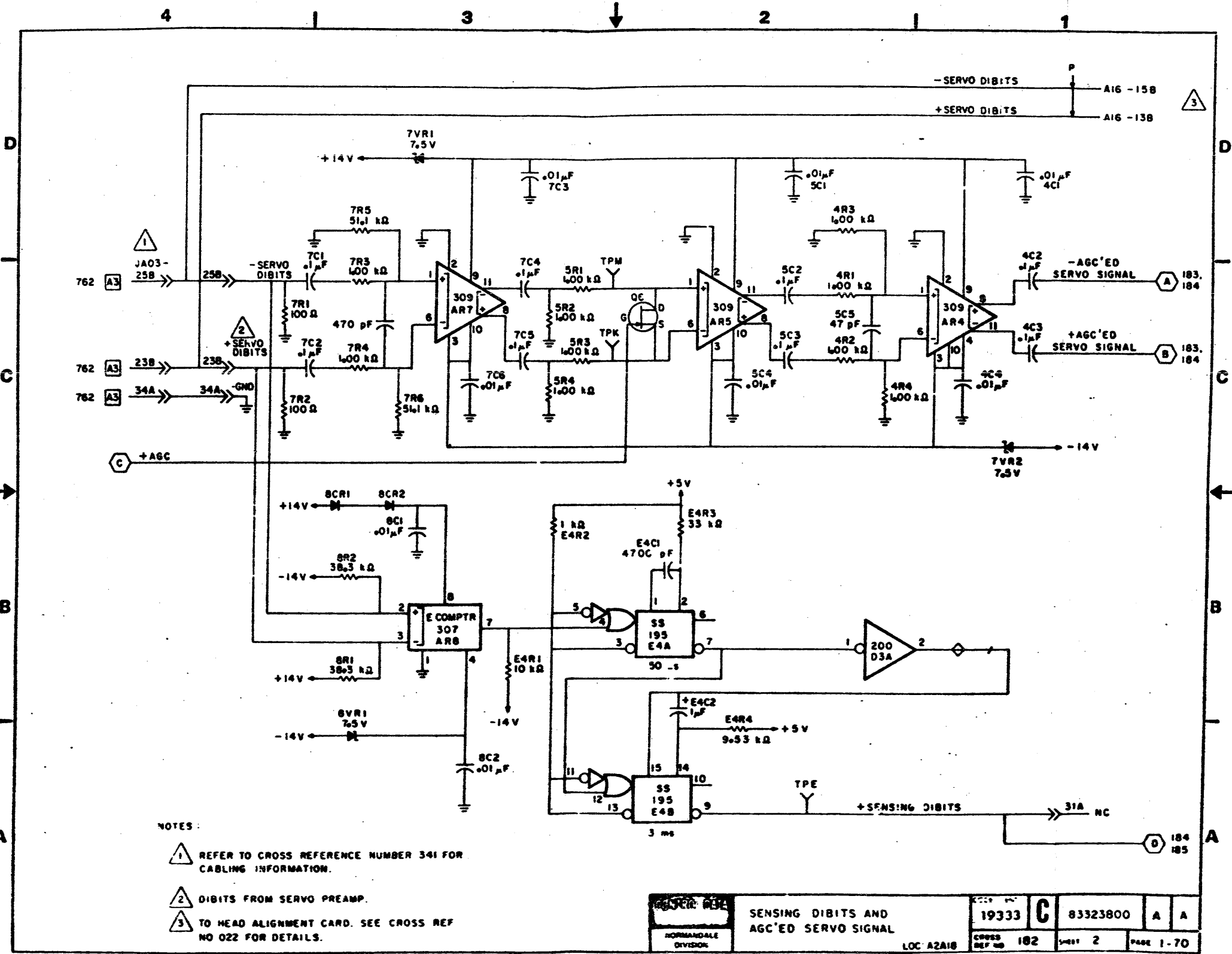
REVISIONS				
REV.	ECO	DESCRIPTION	DATE	CHK'D

UNUSED LOGIC ELEMENTS		
TYPE	LOCATION	OUTPUT PIN(S)
200	D3	4,6



Drawn: <i>U. D.</i> 2-4-77		FINE SERVO DECODER DIAGRAMS		19333	C	83323800	A	A
Engineer: <i>J. J. W.</i>	NORMANDALE DIVISION	TYPE: MFRV	LOC: A2A18	181	1-5	1-69		

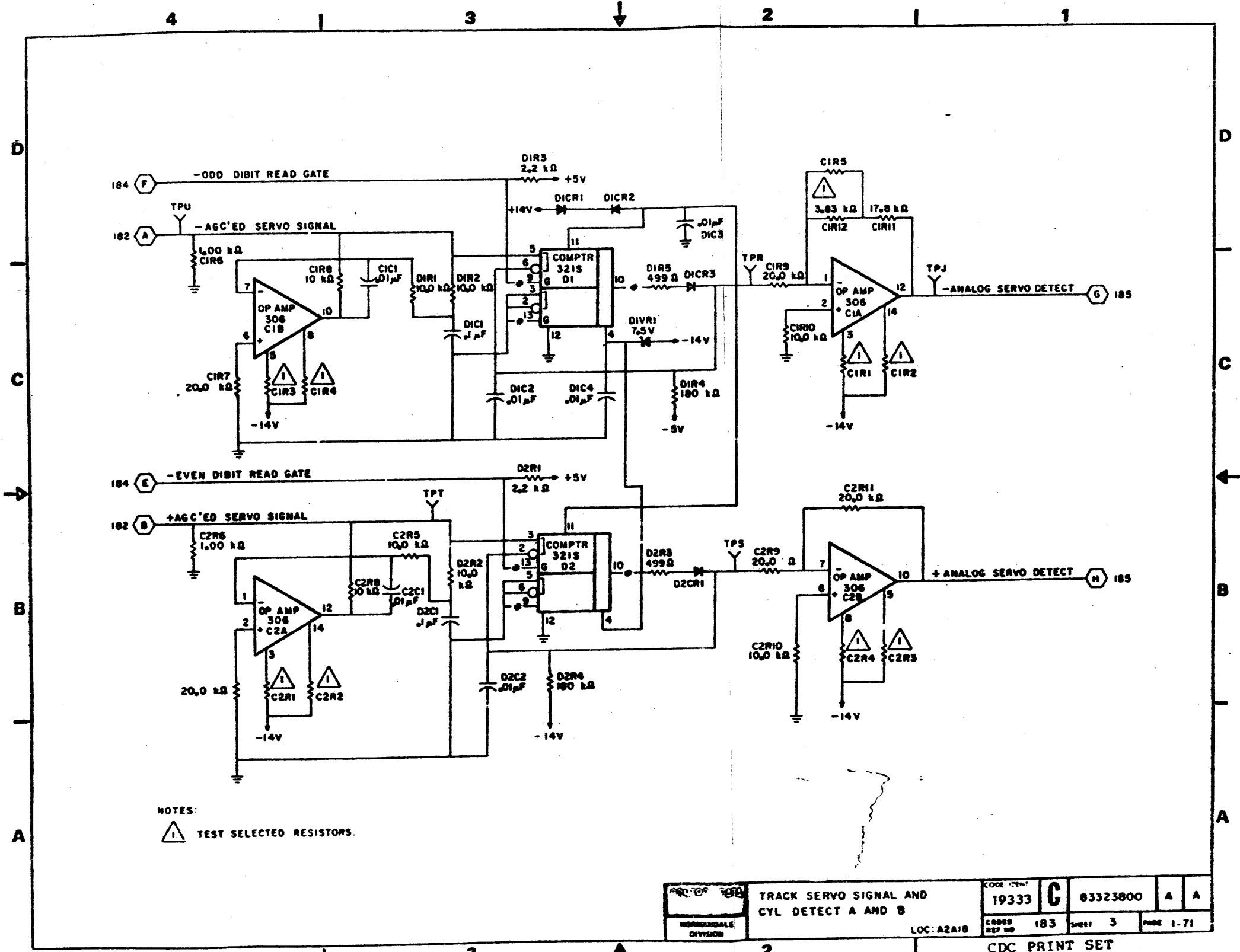
CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 70 of 180  
REV B



- NOTES:
- 1 REFER TO CROSS REFERENCE NUMBER 341 FOR CABLING INFORMATION.
  - 2 DIBITS FROM SERVO PREAMP.
  - 3 TO HEAD ALIGNMENT CARD. SEE CROSS REF NO 022 FOR DETAILS.

NORMAN DALE DIVISION	SENSING DIBITS AND AGC'ED SERVO SIGNAL	19333	C	83323800	A	A
		CROSS REF NO 182	SHEET 2	PAGE 1-70		

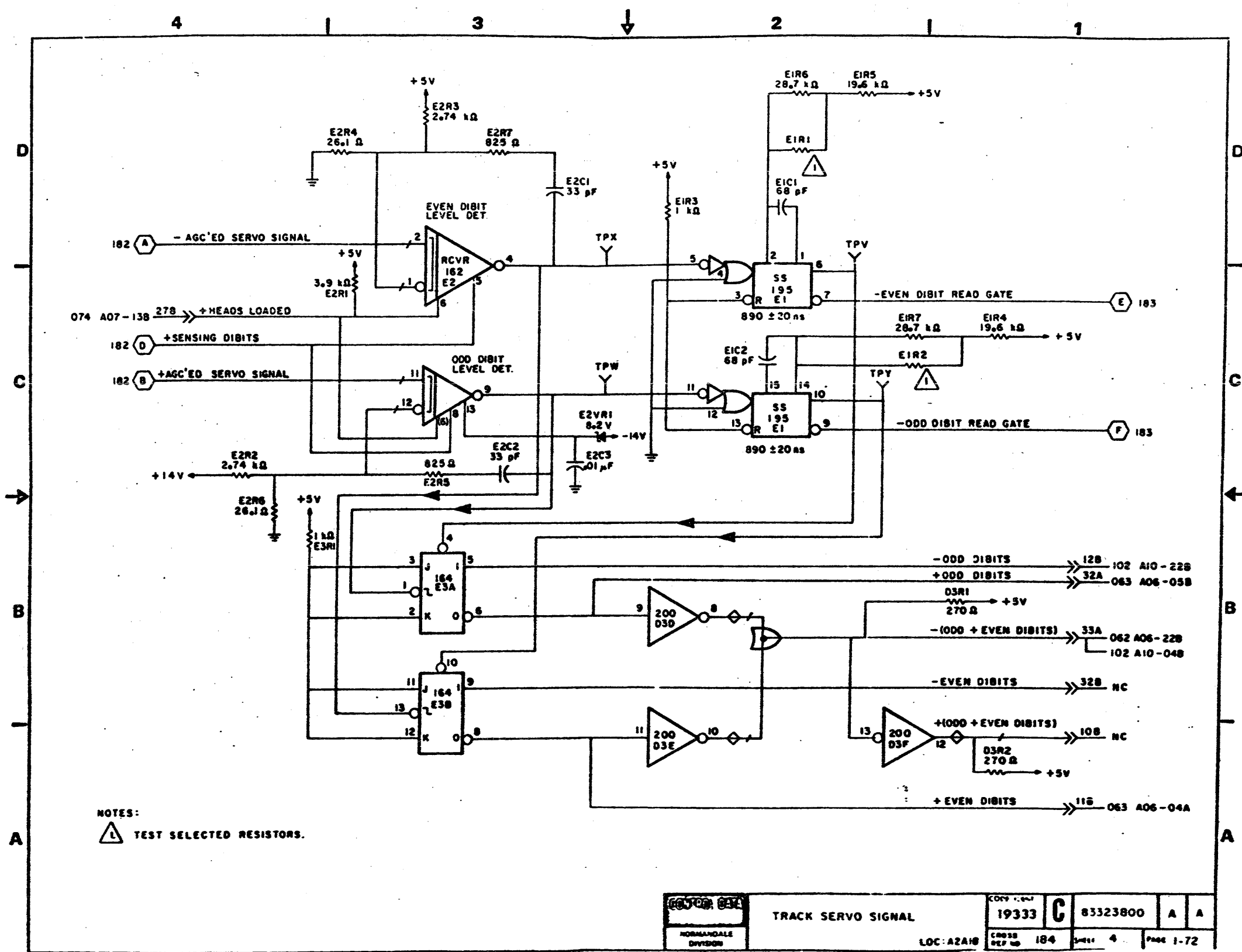
CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 71 of 180  
REV B



NOTES:  
 ⚠ TEST SELECTED RESISTORS.

NORRISDALE DIVISION	TRACK SERVO SIGNAL AND CYL DETECT A AND B		CODE 19333	C	83323800	A	A
	LOC: A2A18		CROSS REF NO 183	SHEET 3	PAGE 1-71		

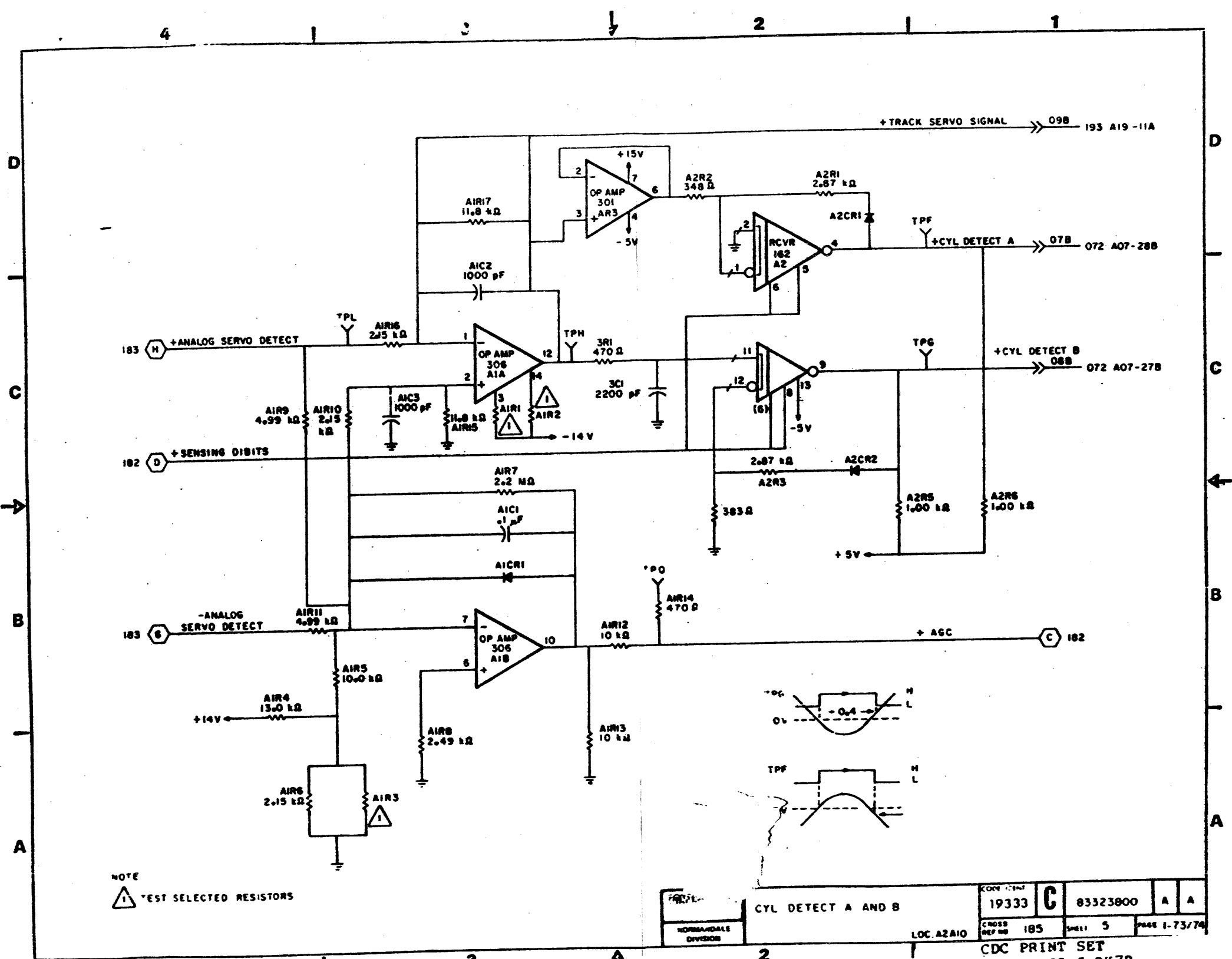
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 72 of 180  
 REV B



NOTES:  
 ⚠ TEST SELECTED RESISTORS.

 NORMAN DALE DIVISION	TRACK SERVO SIGNAL		COPY NO. 19333	83323800	A	A
	LOC: A2A10		CROSS REF NO 184	SHEET 4	PAGE 1-72	



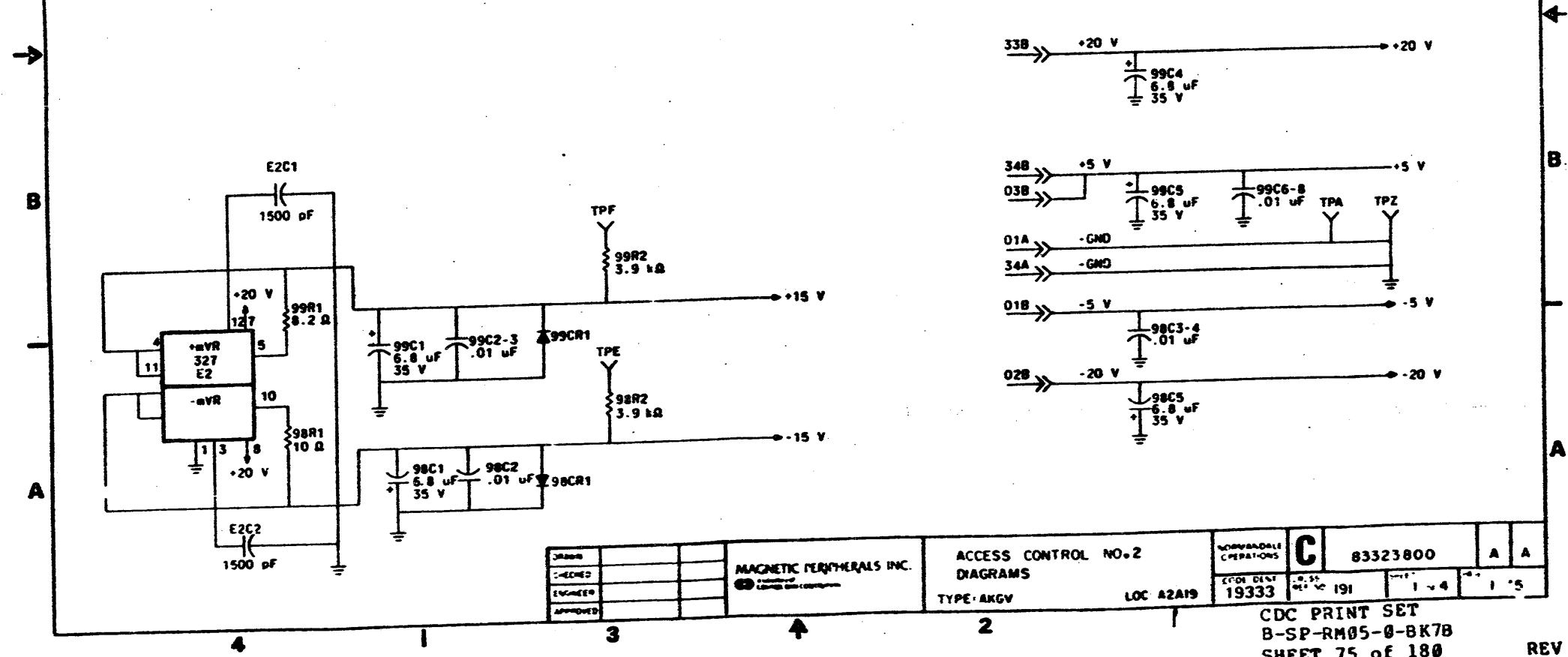


CYL DETECT A AND B	19333	C	83323800	A	A
	185				

LOC. A2A10  
 CDC PRINT SET  
 B-SP-R405-0-BK7B  
 SHEET 74 of 180  
 REV B

REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A																

REVISION					
NO.	DATE	INITIALS	DESCRIPTION	BY	APP.
1			RELEASEE		



DESIGNED	
CHECKED	
ENGINEER	
APPROVED	

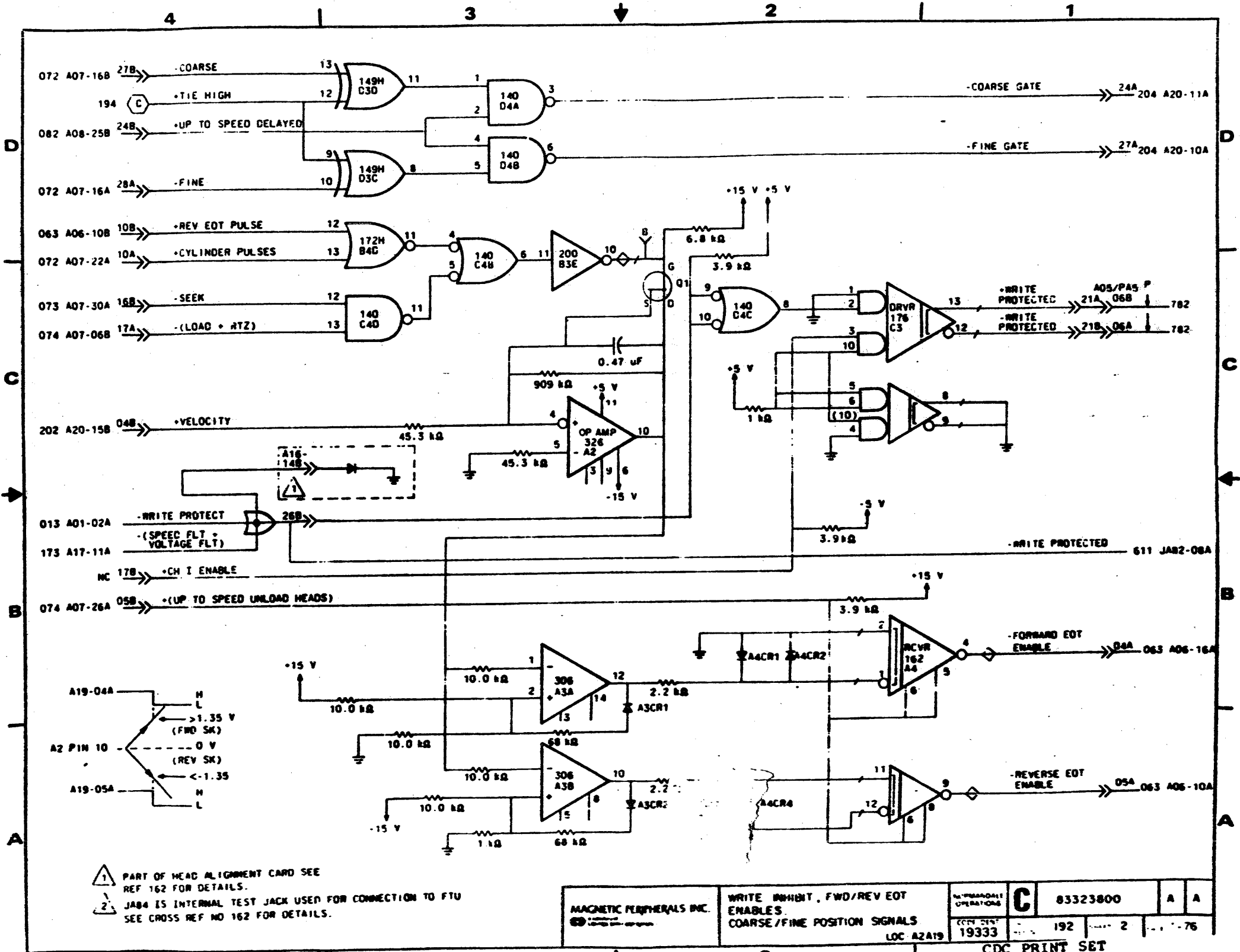
MAGNETIC PERIPHERALS INC.  
AN INSTRUMENT DIVISION OF  
 GENERAL ELECTRIC COMPANY

ACCESS CONTROL NO. 2  
 DIAGRAMS  
 TYPE: AKGV  
 LOC 42A19

NONREPRODUCIBLE OPERATIONS	<b>C</b>	83323800	A	A
FORM 10-64 19333	REV. 191	1-4	1-5	

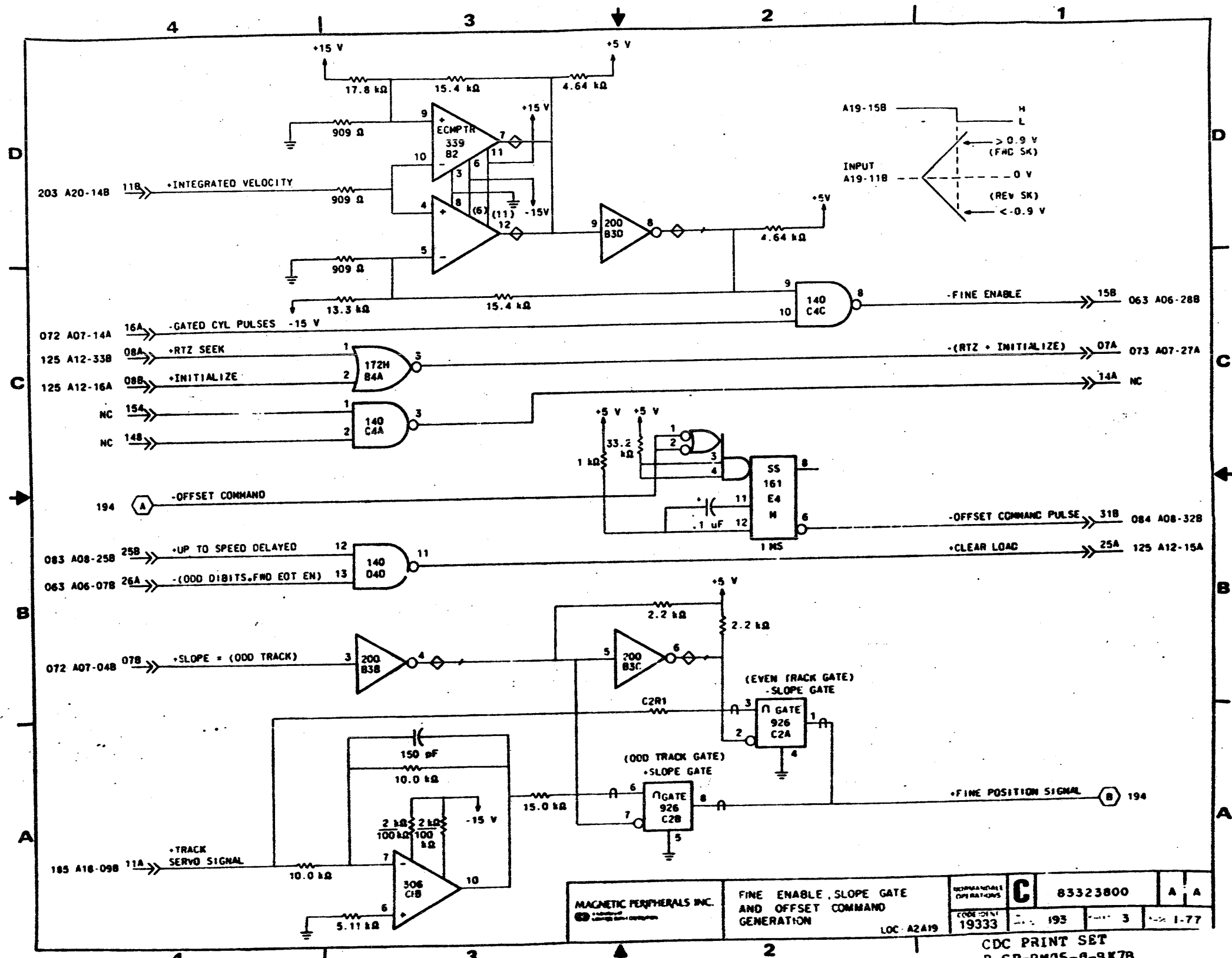
CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 75 OF 180

REV B



1 PART OF HEAD ALIGNMENT CARD SEE REF 162 FOR DETAILS.  
 2 JAB4 IS INTERNAL TEST JACK USED FOR CONNECTION TO FTU SEE CROSS REF NO 162 FOR DETAILS.

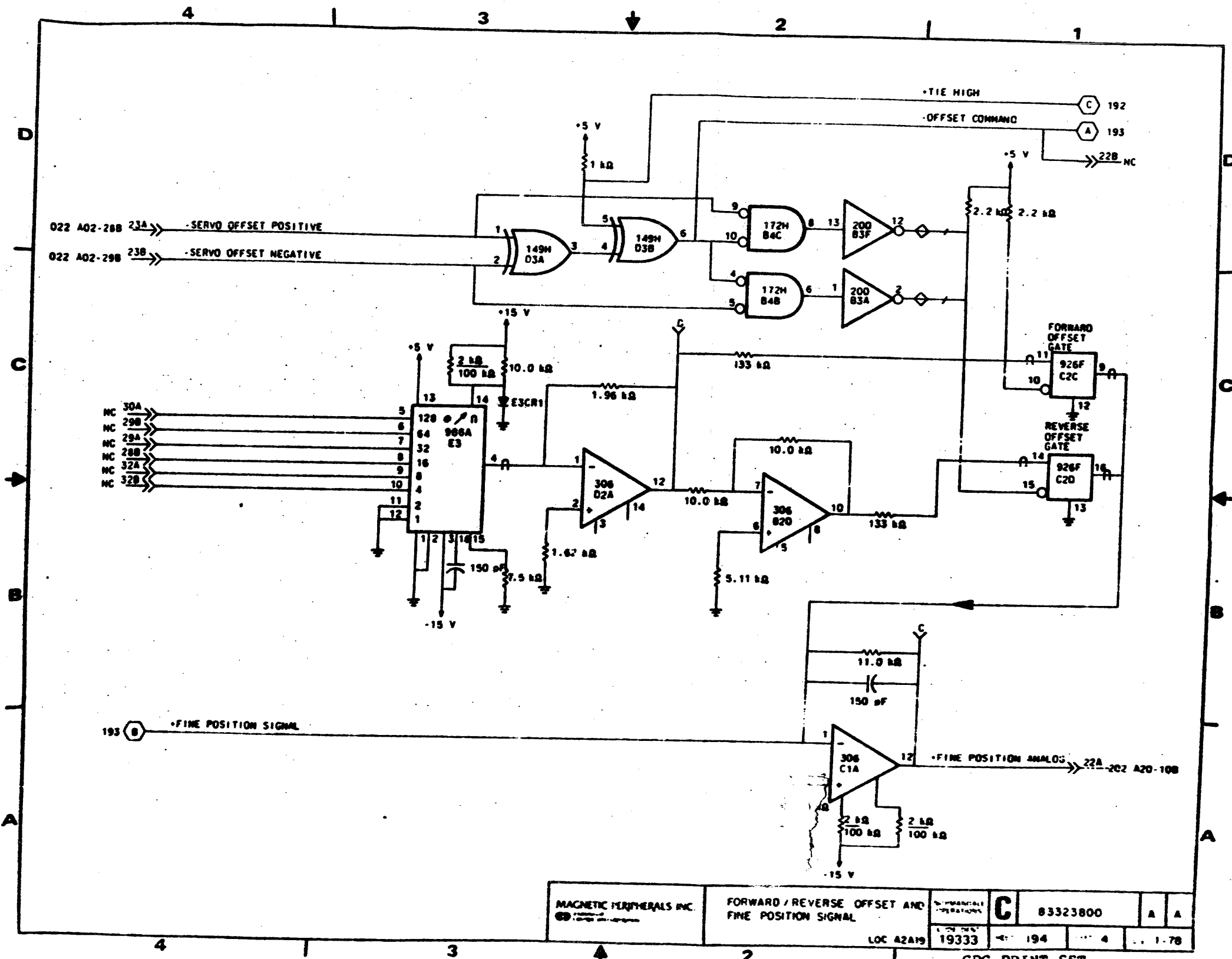
MAGNETIC PERIPHERALS INC.	WRITE INHIBIT, FWD/REV EOT ENABLES	OPERATIONS	C	83323800	A	A
	COARSE/FINE POSITION SIGNALS	19333	192	2	76	
	LOC A2A19					



MAGNETIC PERIPHERALS INC.  
MEMPHIS, TENNESSEE

FINE ENABLE, SLOPE GATE  
 AND OFFSET COMMAND  
 GENERATION  
 LOC. A2419

MANUFACTURE OPERATIONS	<b>C</b>	83323800	A	A
CODE IDENT	19333	193	3	1-77

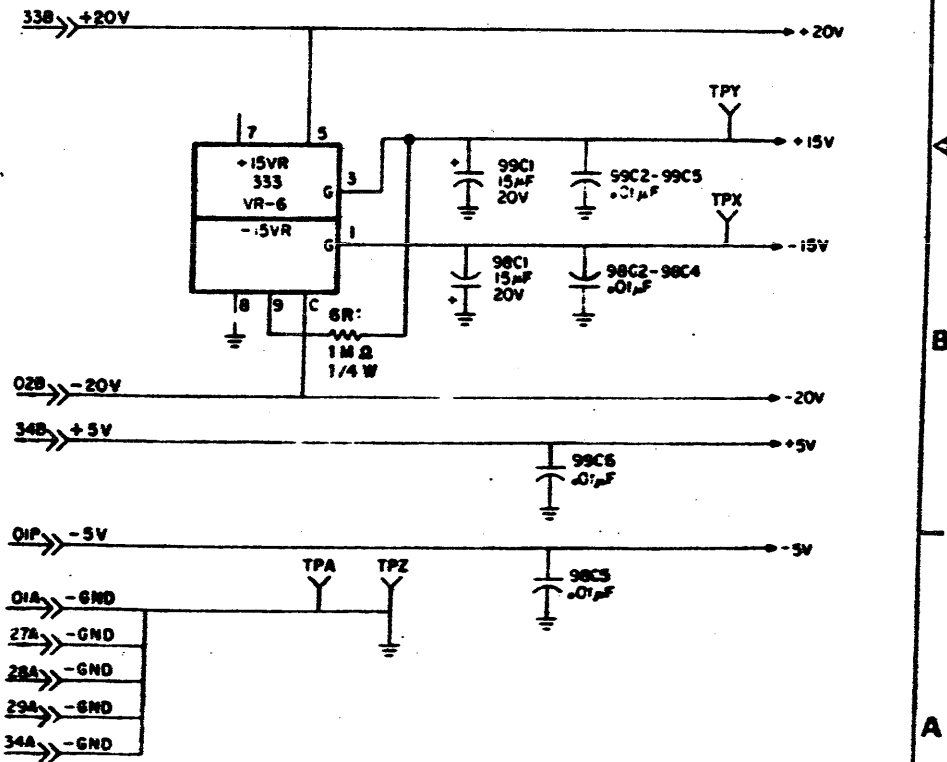
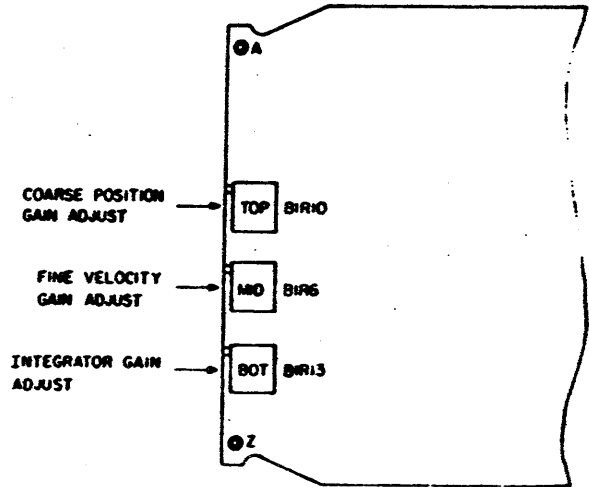
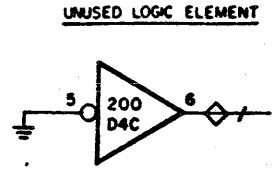


MAGNETIC PERIPHERALS INC. <small>10000 WILSON AVENUE, CHICAGO, ILL. 60648</small>	FORWARD / REVERSE OFFSET AND FINE POSITION SIGNAL LOC A2A19	SUPPLEMENTAL OPERATIONS 19333	<b>C</b>	83323800	A	A
		194	4	1-78		

CDC PRINT SET  
 B-SP-R405-0-3K78  
 SHEET 78 of 180  
 REV B

REVISION STATUS OF SHEETS																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A																	
B	A	B	A																	
C	C	C	C																	
D	C	D	C																	
E	C	D	C																	

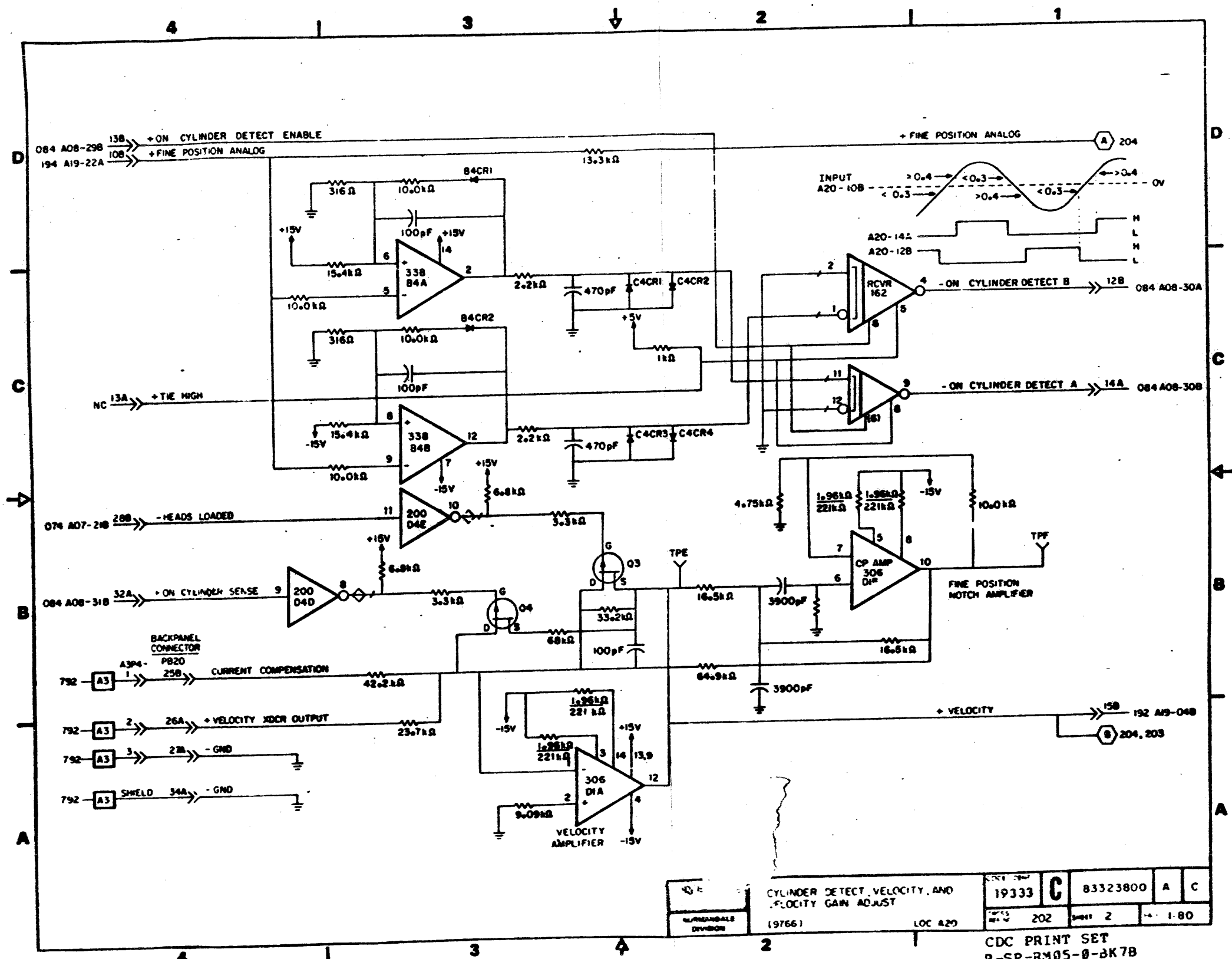
REVISIONS						
REV	ECO	DESCRIPTION	DRFT	DATE	CHK'D	
A	PE2151	RELEASED	JP			
B	PE22926	EMPHASIS CORRECTION	VA			
C	PE35259	LOGIC DIAG CORRECTION	SR	5-1-79		
D	PE35234	LOGIC CORRECTION	VA	2-5-79		
E	PE37589A	DESIGN IMPROVEMENT	CA	6-19-81		



DESIGNED	BY CC-BSTROM								
CHECKED									
DESIGNED									
APPROVED									

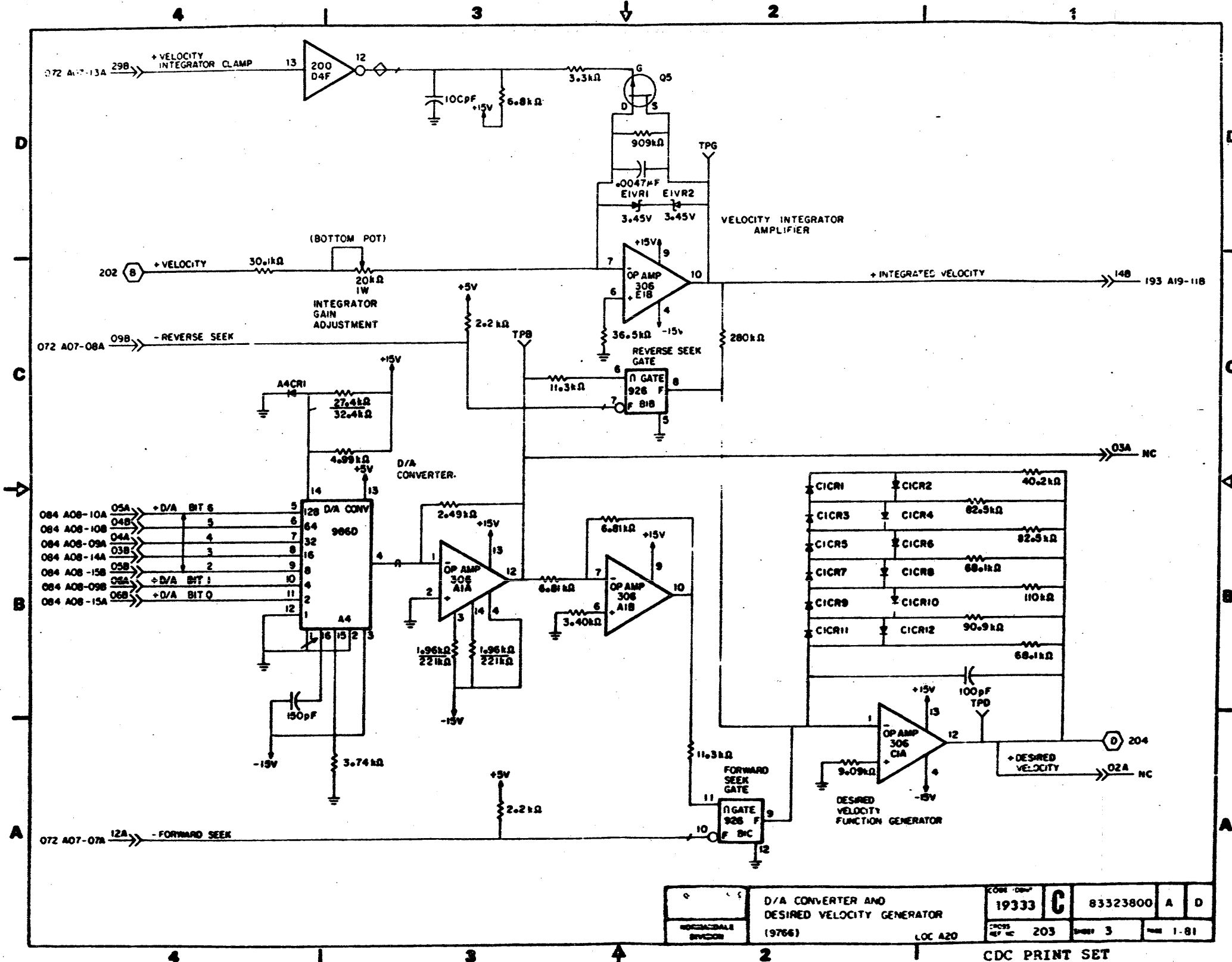
ANALOG SERVO DIAGRAMS		CODE 19333	C	83323800	E	E
TYPE DMSV	LOC A20	CROSS REF NO 201	SHEET 1 of 4	DATE 1-79		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 79 of 180  
REV 9



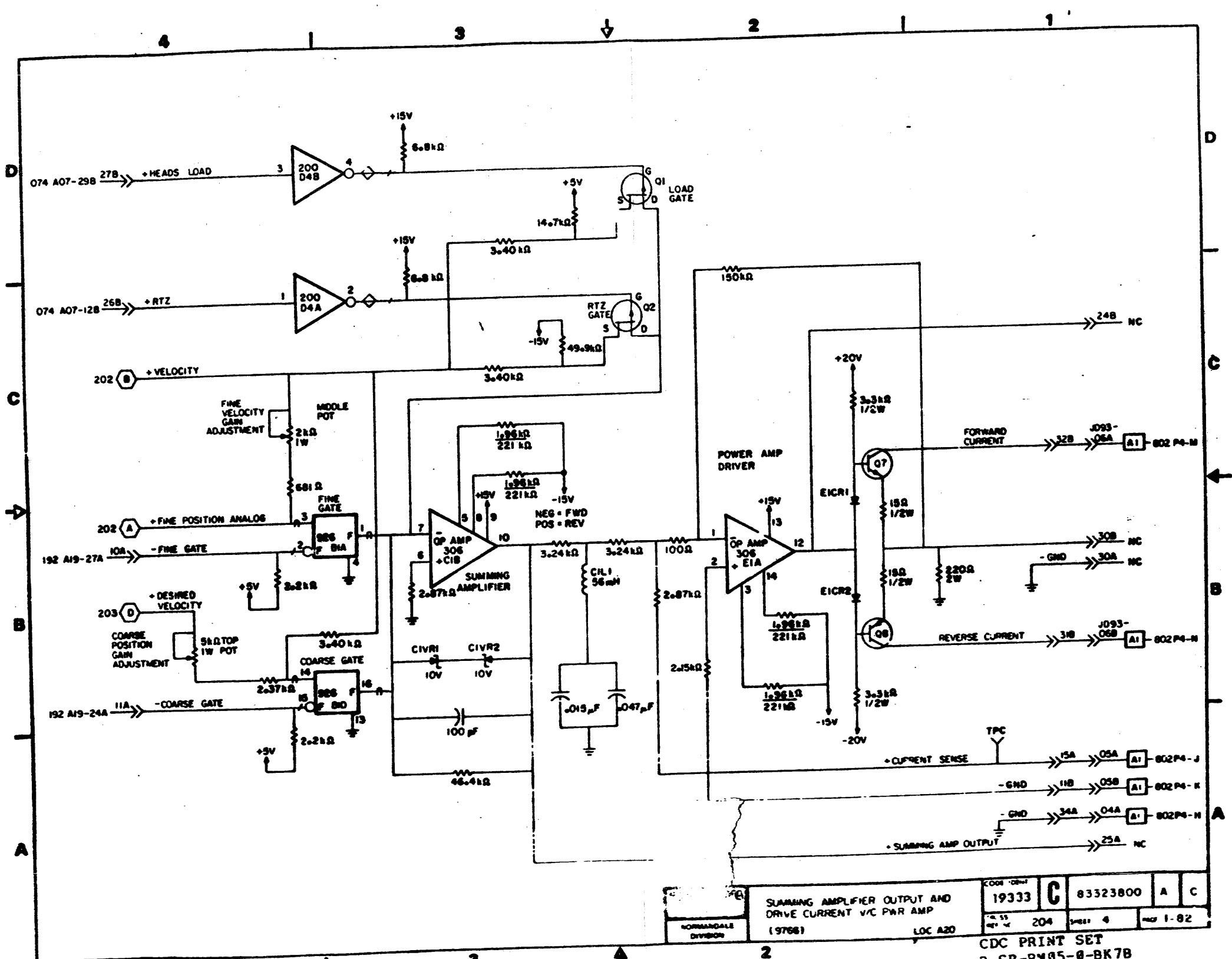
UNRELEASABLE DIVISION	CYLINDER DETECT, VELOCITY, AND FINE POSITION GAIN ADJUST		19333	C	83323800	A	C
	19766	LOC 420	202	2	1-80		

CDC PRINT SET  
 B-SP-RM05-0-3K7B  
 SHEET 80 OF 180  
 REV B



D/A CONVERTER AND DESIRED VELOCITY GENERATOR (1976)		19333 C	83323800 A D
LOC A20	203	SHEET 3	REV 1-81



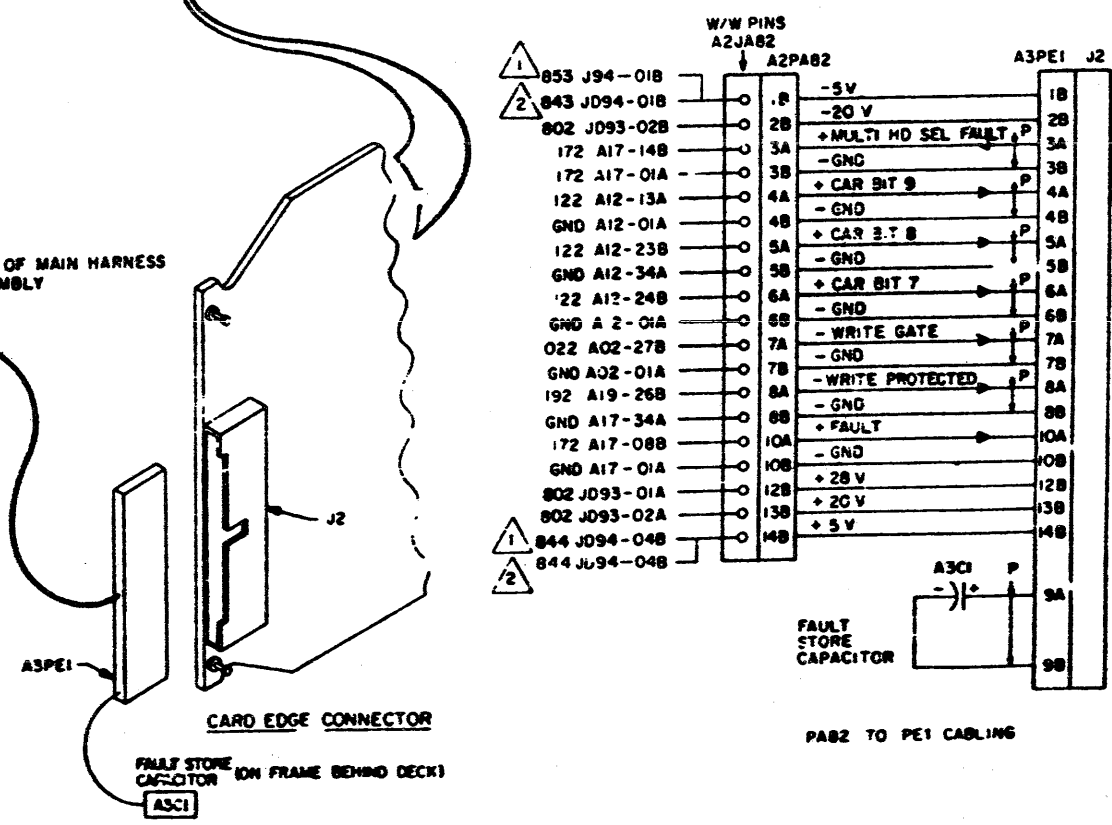
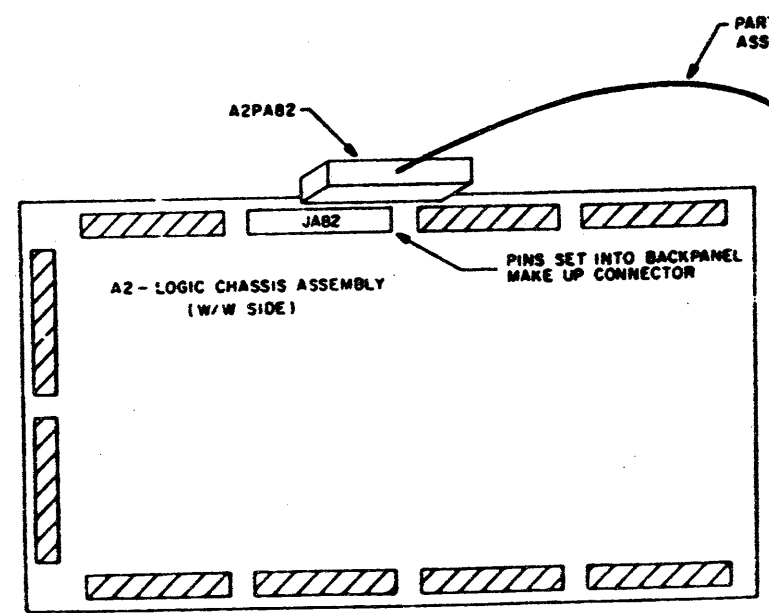
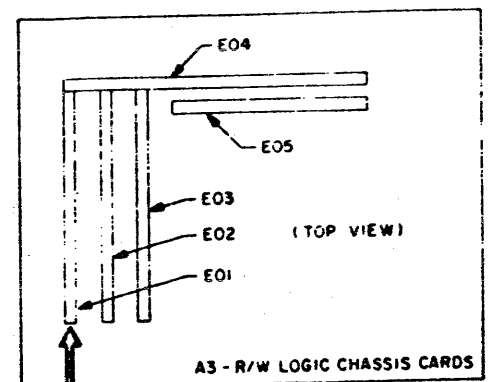


NORANDALE DIVISION	SUMMING AMPLIFIER OUTPUT AND DRIVE CURRENT V/C PAR AMP (9766)		CODE OR-1 19333	C	83323800	A	C
	REV 55 REV 12	204	1-82	4	1-82		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 82 of 180  
REV B

REVISION STATUS OF SHEETS																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A	A																		
B	B	B																		
C	B	B																		

REVISIONS				
REV	ECO	DESCRIPTION	DRFT	DATE
A	PE2300	RELEASED	---	8-1-73
B	PE2253	LOGIC DIA CORR	MA	2-17-73
C	57453	ADD VDE	GRS	11-23-73

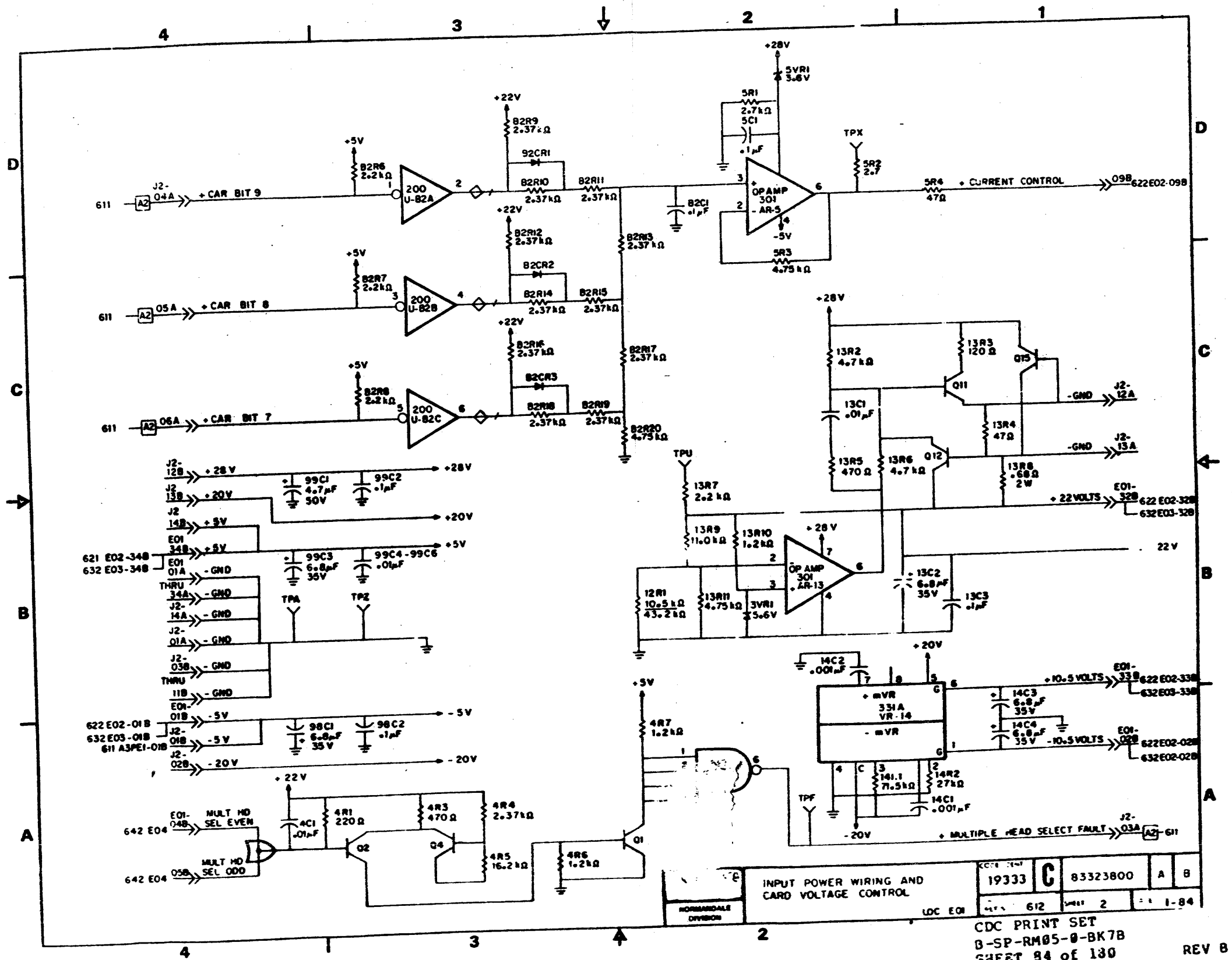


1 VDE-ONLY  
2 NON-VDE ONLY

CDC PRINT SET  
B-SP-RM05-J-8K7B  
SHEET 83 OF 180

REV B

<table border="1"> <tr><td>DESIGN</td><td>DATE</td></tr> <tr><td>CHECKED</td><td></td></tr> <tr><td>APPROVED</td><td></td></tr> </table>	DESIGN	DATE	CHECKED		APPROVED		<p>R/W CONTROL AND CABLING DIAGRAMS</p> <p>TYPE: 4P1V      LOC: E01</p>	<p>Code: 19333      C      83323800      C      C</p> <p>Sheet: 611      1 of 3      1-3</p> <p>REF: 83215221      REF: 8-2-7032</p>
DESIGN	DATE							
CHECKED								
APPROVED								

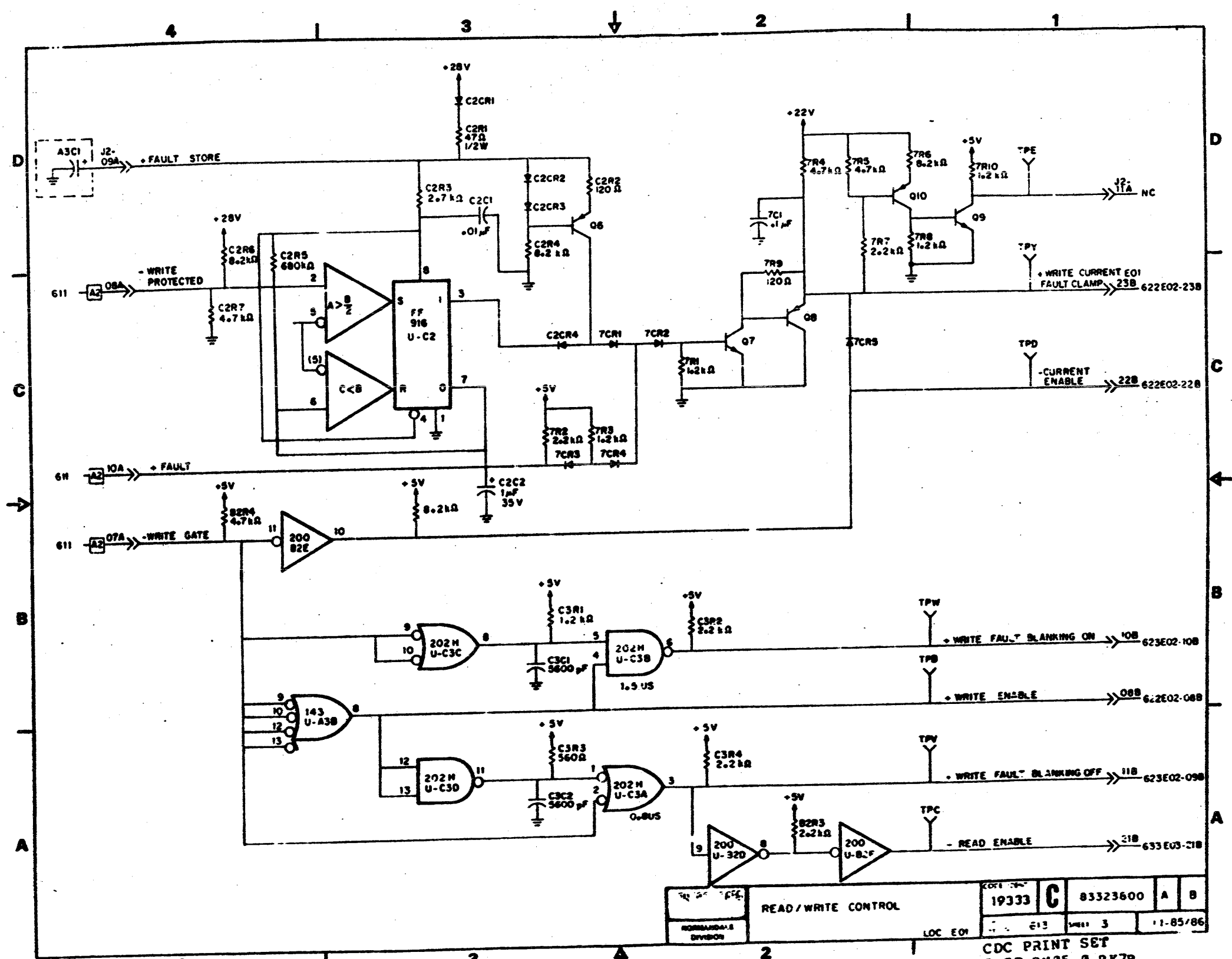


INPUT POWER WIRING AND  
CARD VOLTAGE CONTROL

19333	C	83323800	A	B
612	2	1-84		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 94 of 130

REV B



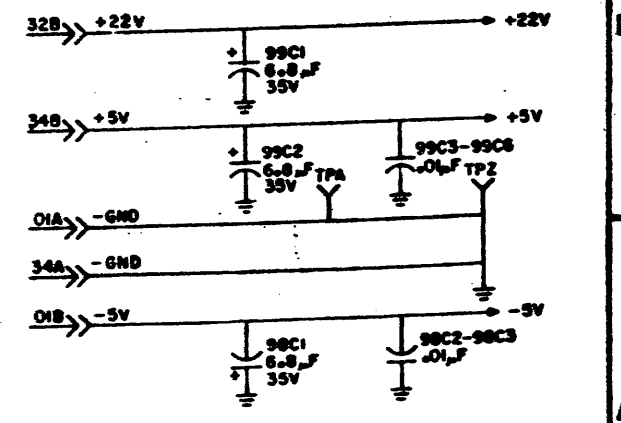
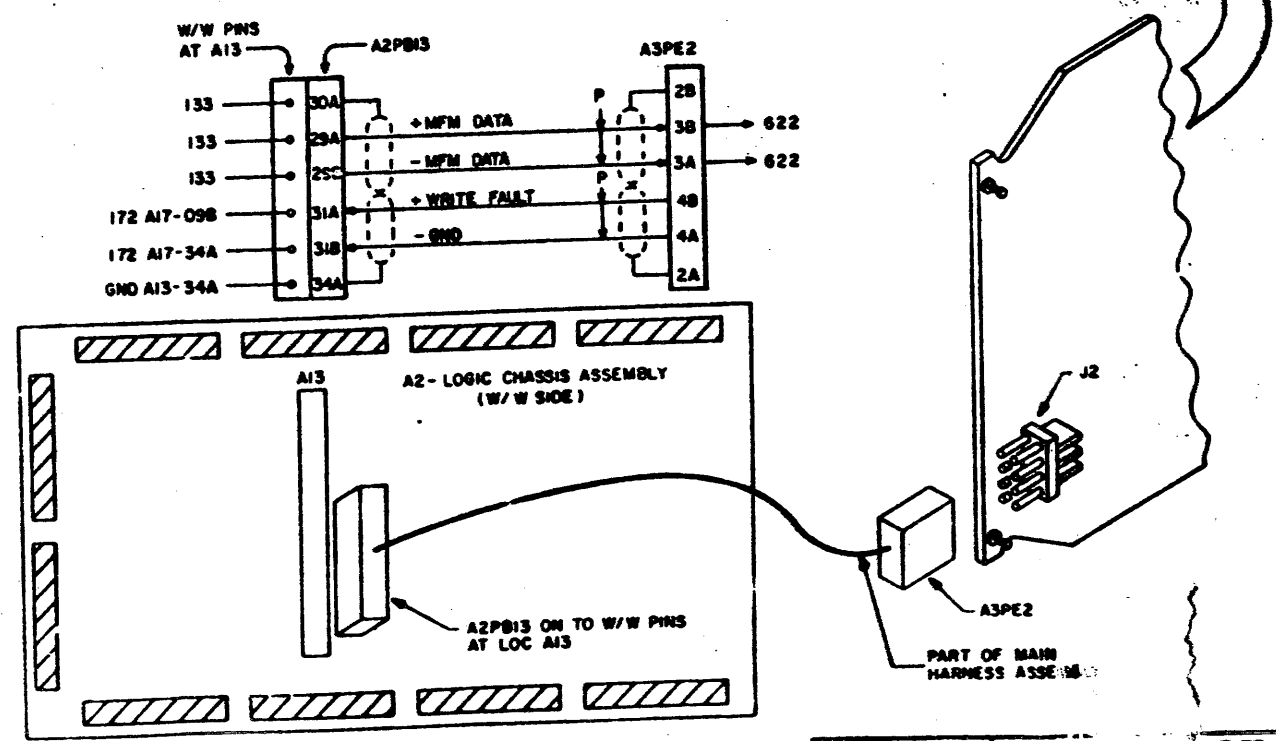
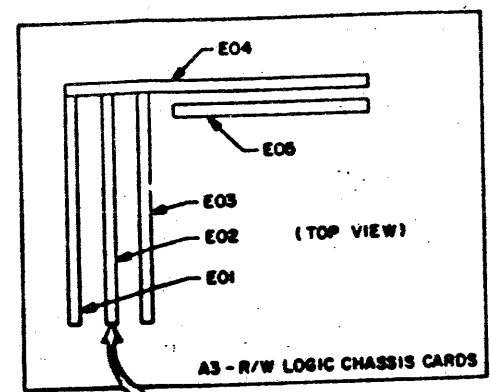
19333	C	83323600	A	B
213	3	11-85/86		

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 85 of 180

REV B

REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A																	
B	B	B																	
C	C	B																	

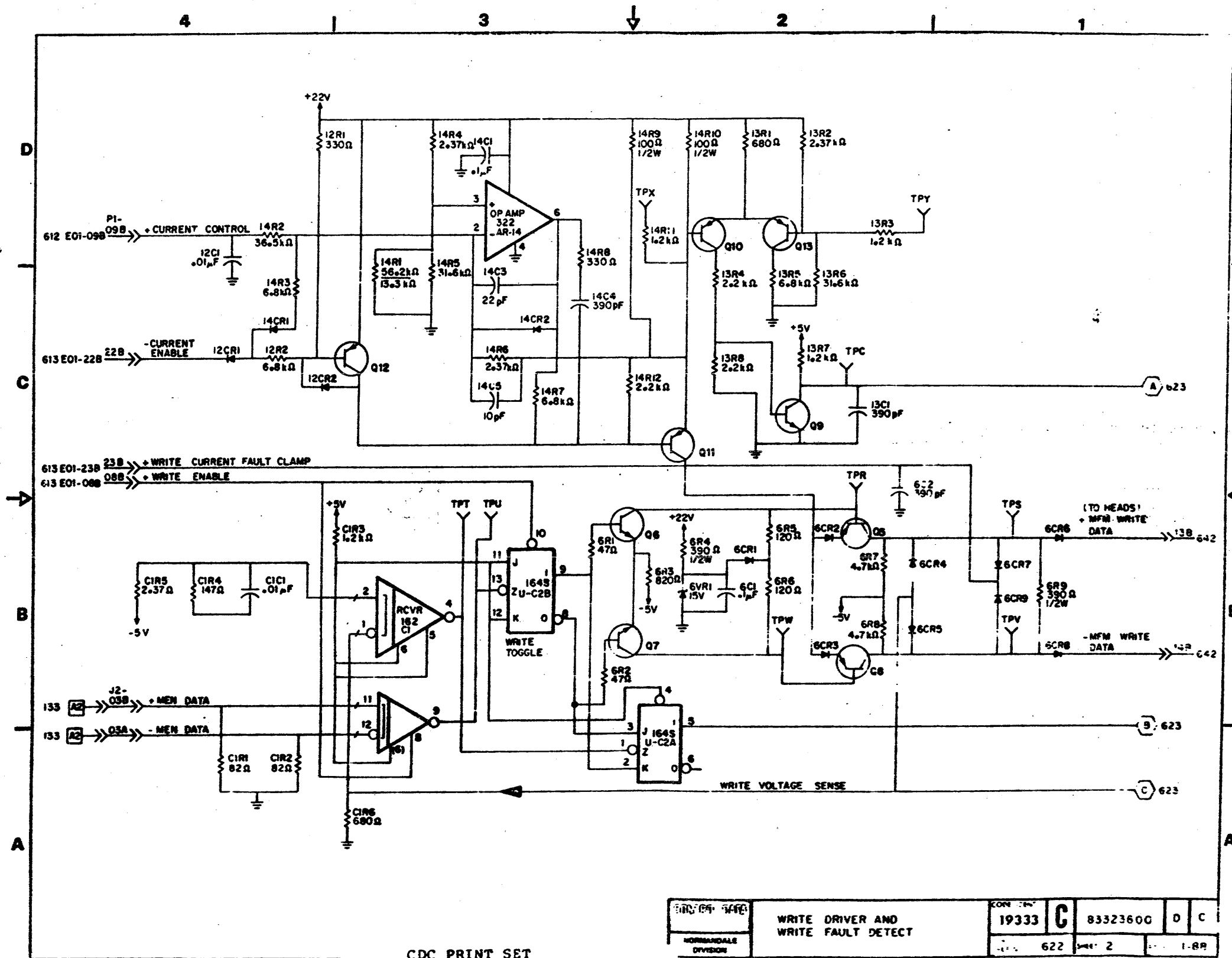
REVISIONS					
REV	ECO	DESCRIPTION	DATE	BY	CHKD
A	PE25000	RELEASED	7/7	MA	SGN
1	PE25000	30C 31A 31B	MA	SGN	
2	PE25000	31A 31B			



DESIGNED BY	BERGSTROM	10-21-78	WRITE DRIVER CARD EDGE CONNECTOR AND CABLING DIAGRAMS	19333	C	83323800	D	C
CHECKED BY				621	1-3	1-87		
APPROVED BY			TYPE: BPJV	LOC E02				

CDC PRINT SET  
3-SP-RM05-0-3K7B  
SHEET 85 of 190

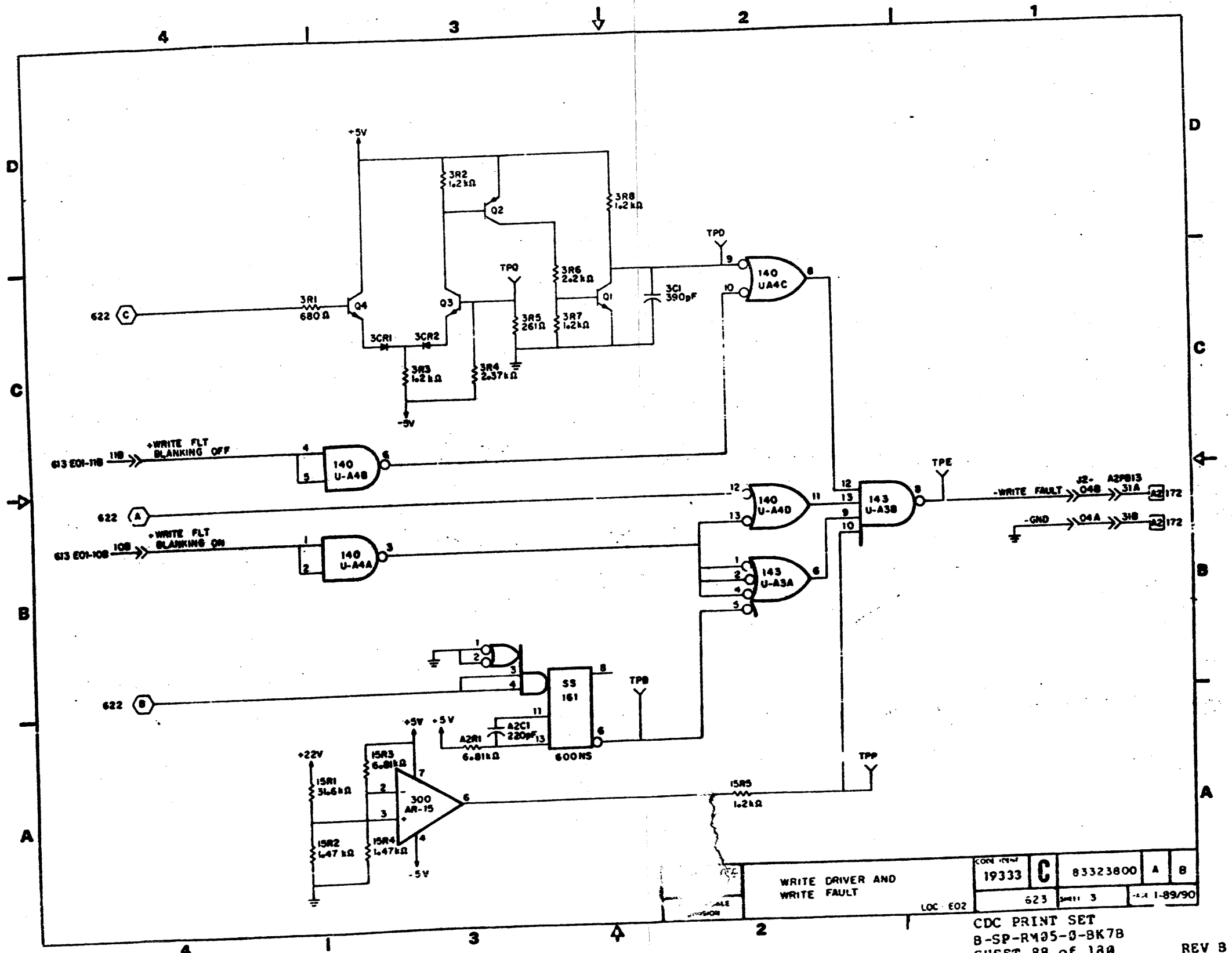
R2V 3



CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 87 of 180

REV B

19333	C	8332360C	D	C
622	SHEET 2	1-88		



WRITE DRIVER AND  
WRITE FAULT

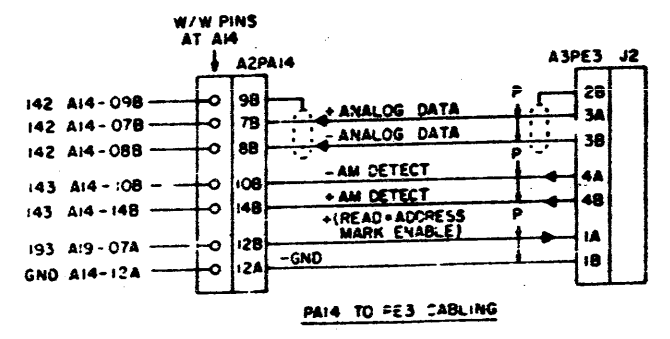
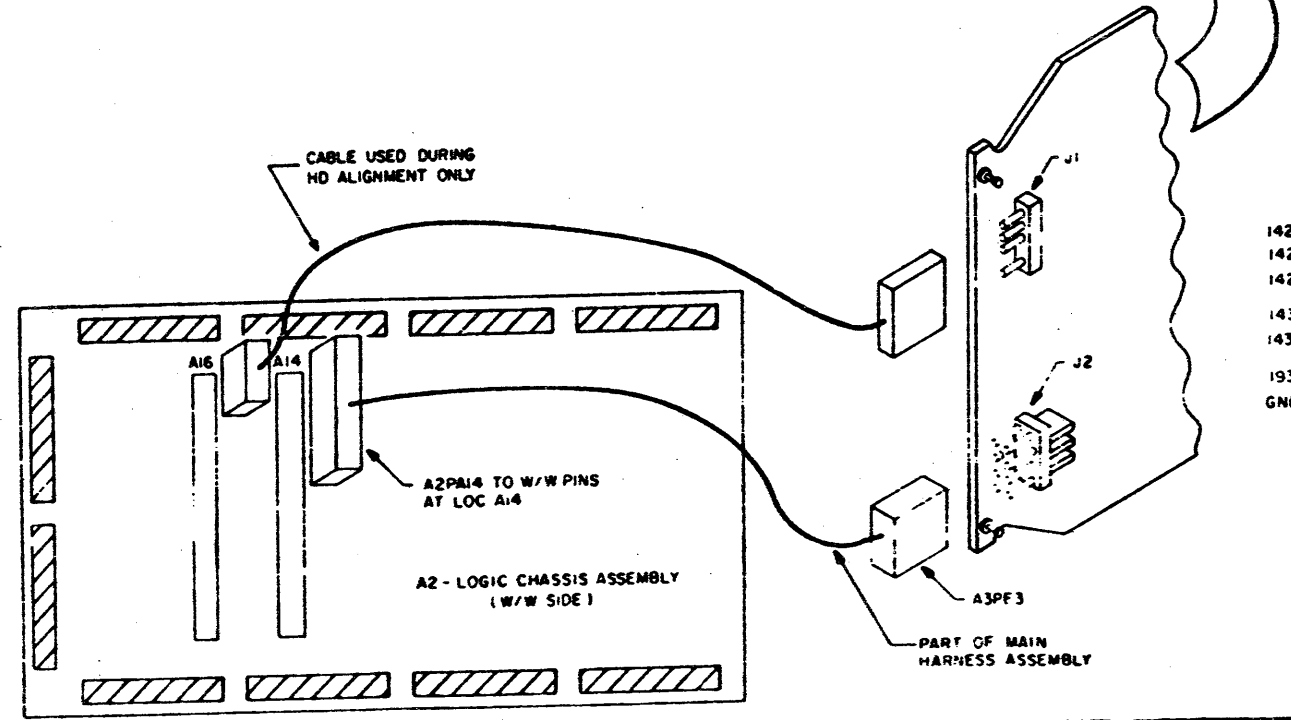
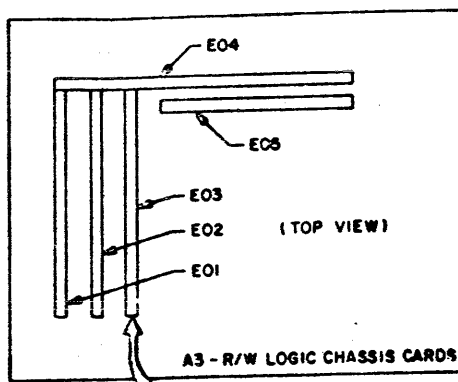
19333	C	83323800	A	B
623	SHEET 3	REV 1-89/90		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 88 of 180

REV B

REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A																

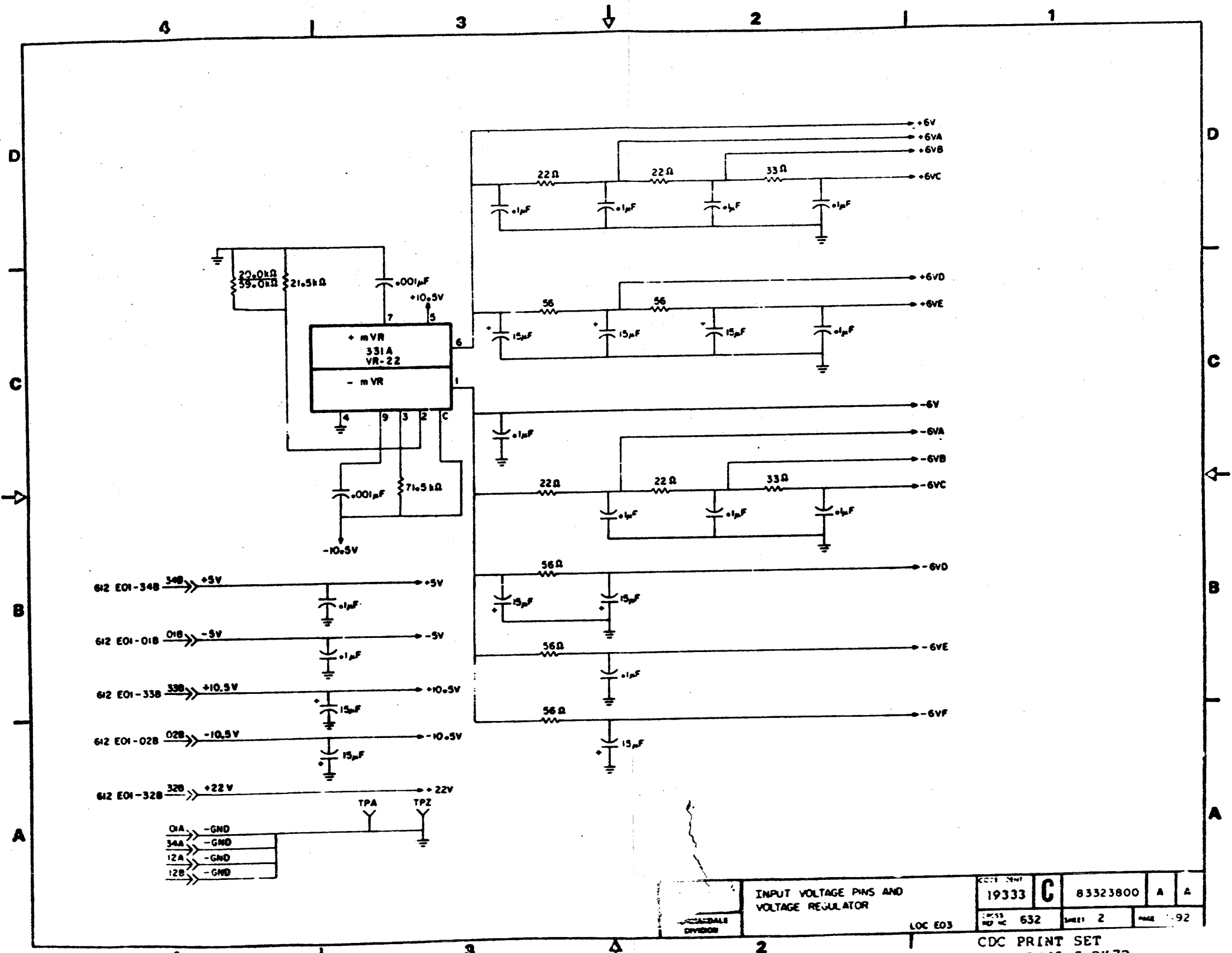
REVISIONS					
REV	ECO	DESCRIPTION	DATE	BY	CHK'D
A	PL23000	RELEASE			



DRAWN	Checked	LOC. 76	READ AMPLIFIER AND ADDRESS MARK DETECTION DIAGRAMS	CODE 1-497	19333	C	83323800	A	A
CHECKED			TYPE 4PHV	LOC E03	634	1-4	1-91		
ENGINEER			REVISIONS DIVISION						
APPROVED									

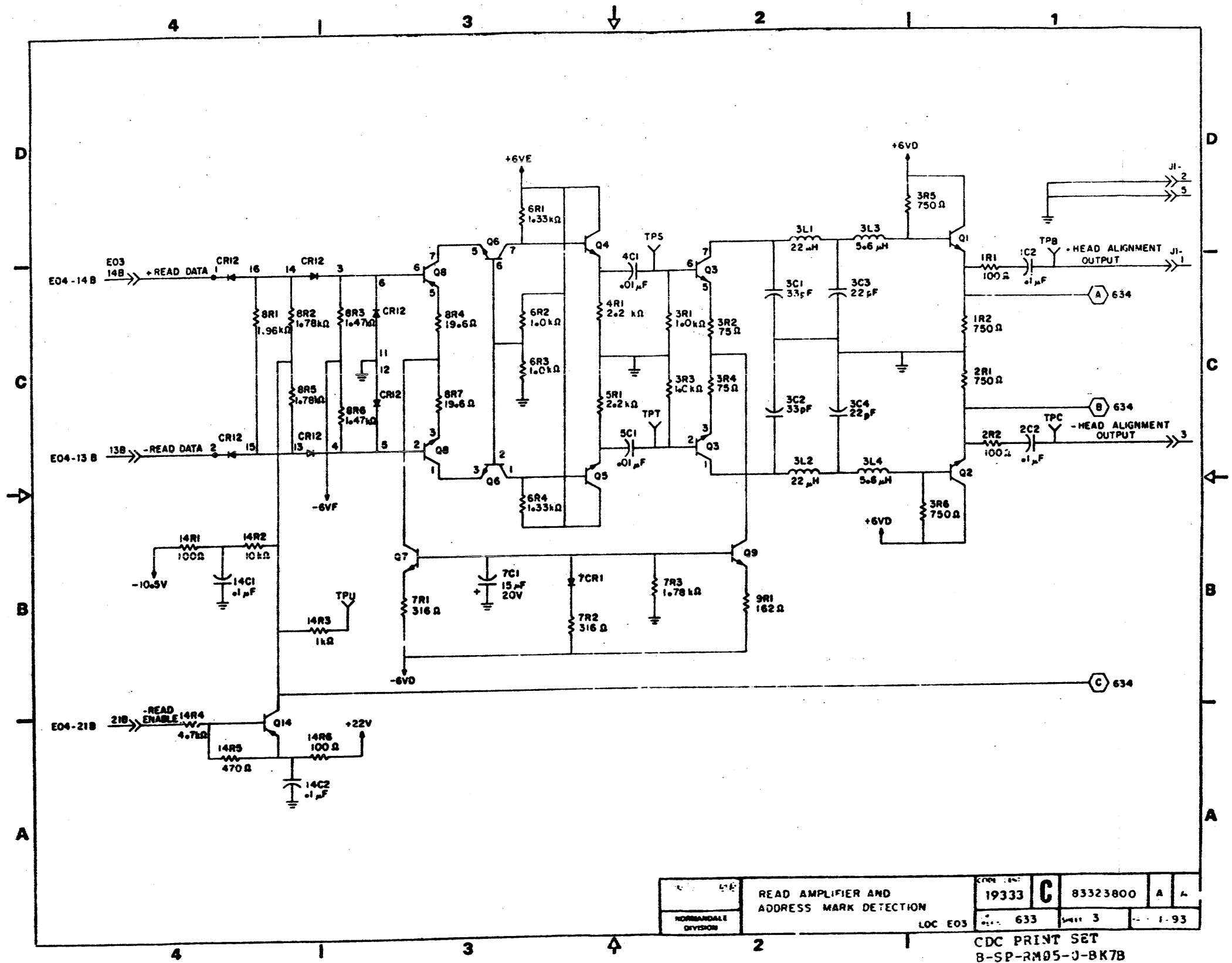
CDC PRINT SET  
B-SP-3435-0-3K7B  
SHEET 99 OF 190  
REV B





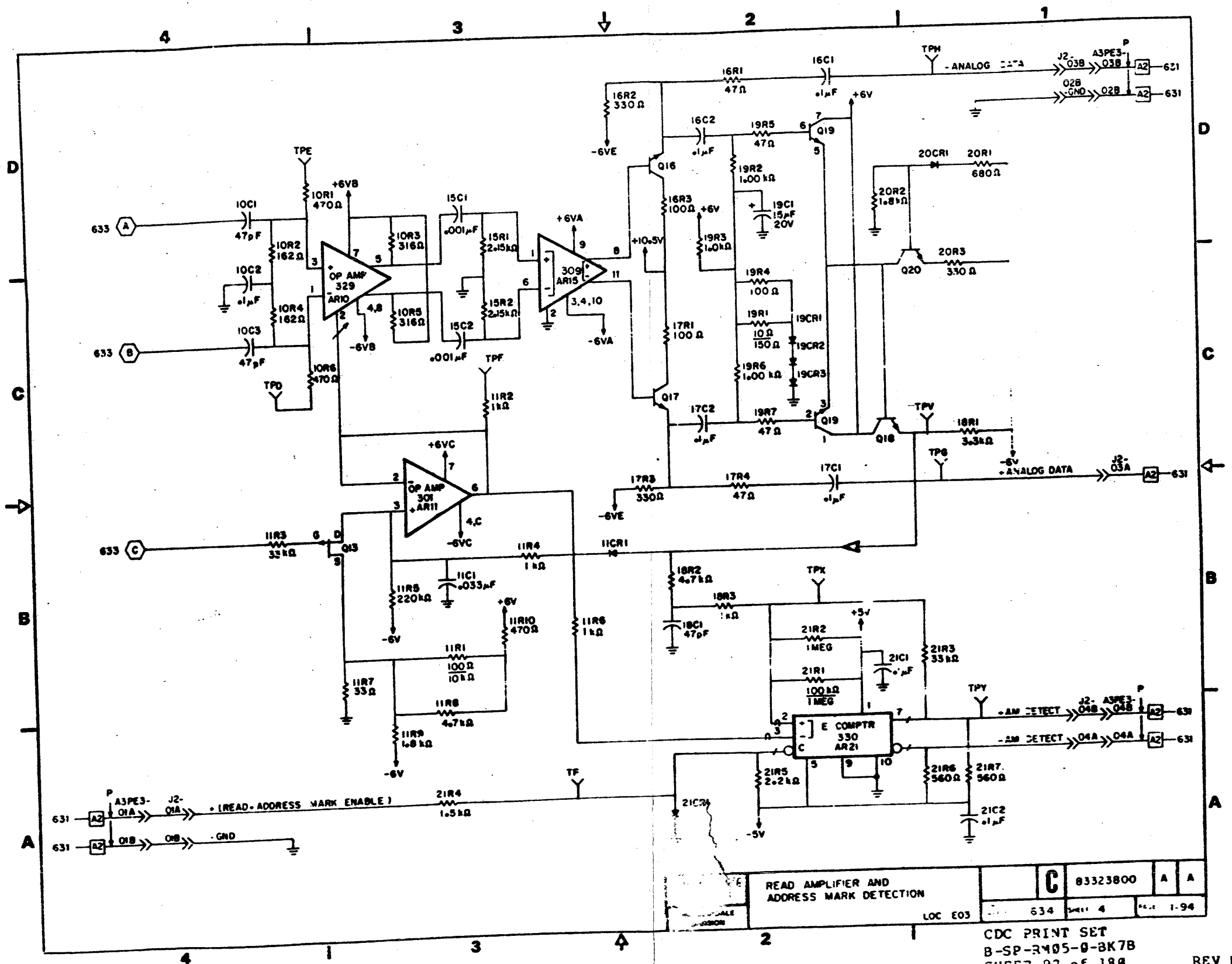
INPUT VOLTAGE PINS AND VOLTAGE REGULATOR LOC E03	19333 C	83323800 A A
	632	SHEET 2 PAGE 92

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 90 of 180 REV B



NORRISDALE DIVISION	READ AMPLIFIER AND ADDRESS MARK DETECTION	19333	C	83323800	A	A
	LOC E03	633	3	1-93		

CDC PRINT SET  
 B-SP-RM05-J-BK7B  
 SHEET 91 of 180  
 REV B

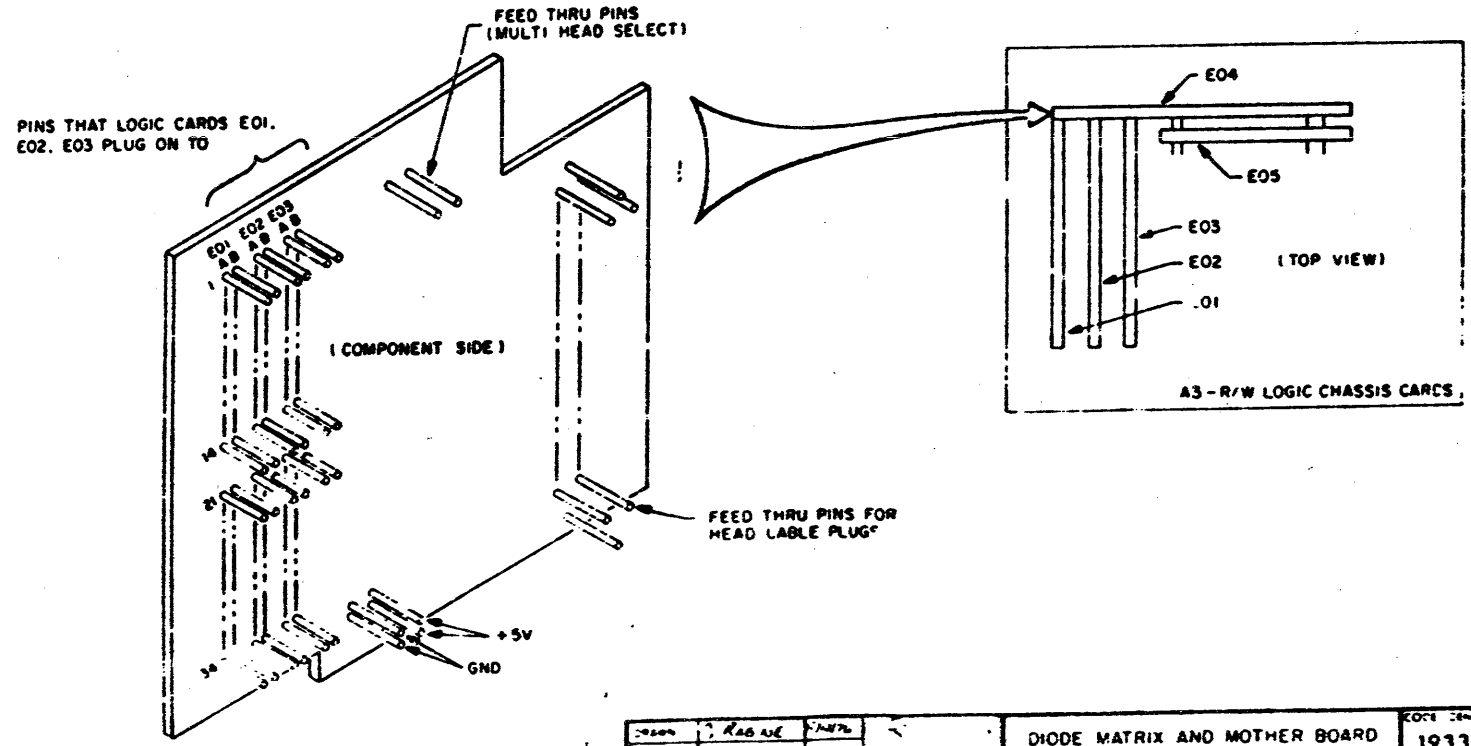


READ AMPLIFIER AND ADDRESS MARK DETECTION  
 LOC E03  
 C 83323800 A A  
 634 SHEET 4 OF 1-94

### REVISION STATUS OF SHEETS

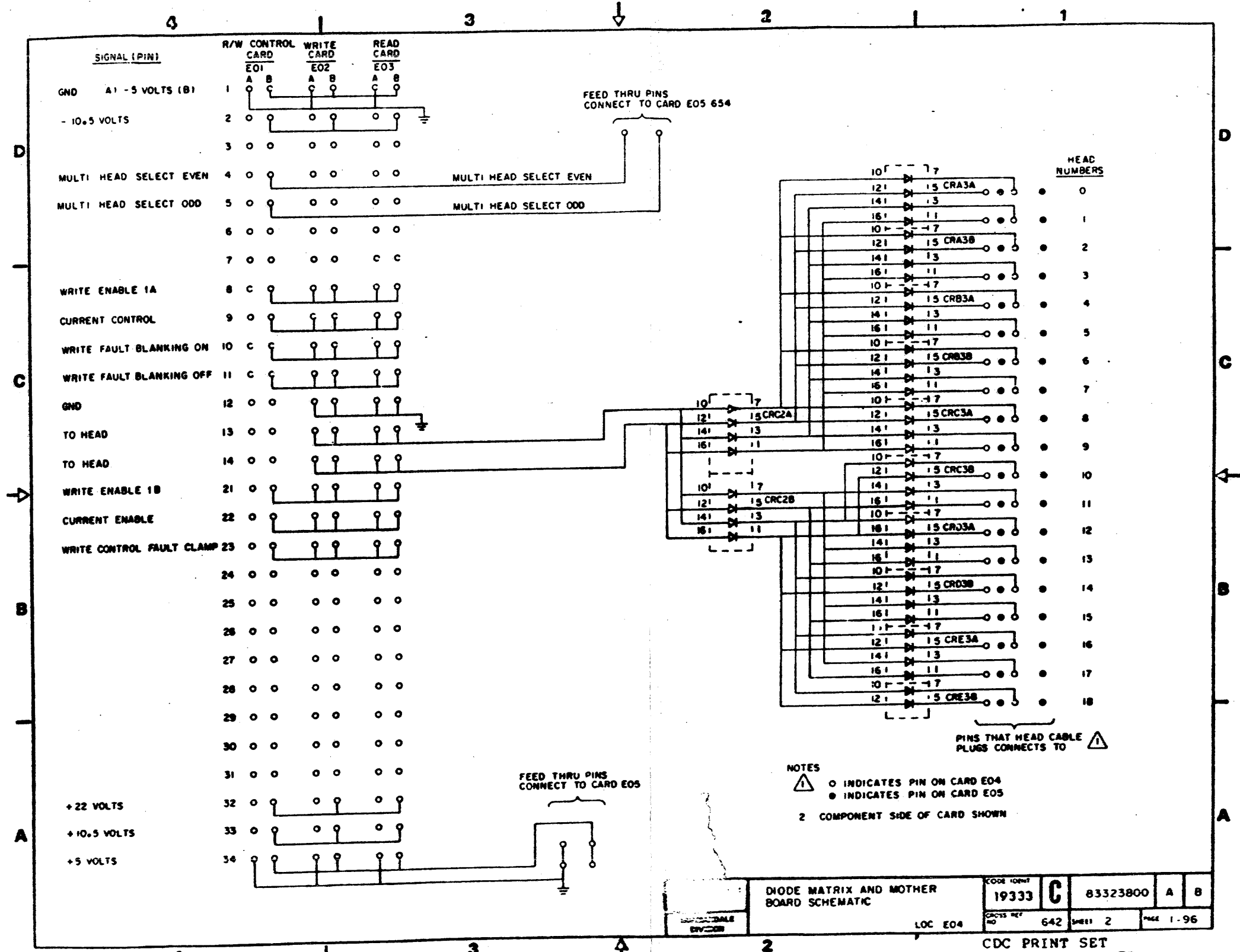
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A																		
B	B																		

REVISIONS						
REV	ECO	DESCRIPTION	DATE	BY	CHK'D	APP'D
A	FE1000	RELEASED	7/27/70	JK		
B	FE10750	LOC CHG	8/6/70	JK		



DESIGN	Rad	JK		DIODE MATRIX AND MOTHER BOARD BOARD LAYOUT DIAGRAMS	19333	C	83323800	A	B
CHECKED									
ENGINEER	JK			TYPE 4XFN	LOC E04	641	SHEET 1 of 2	PAGE 1-95	
APPROVED									

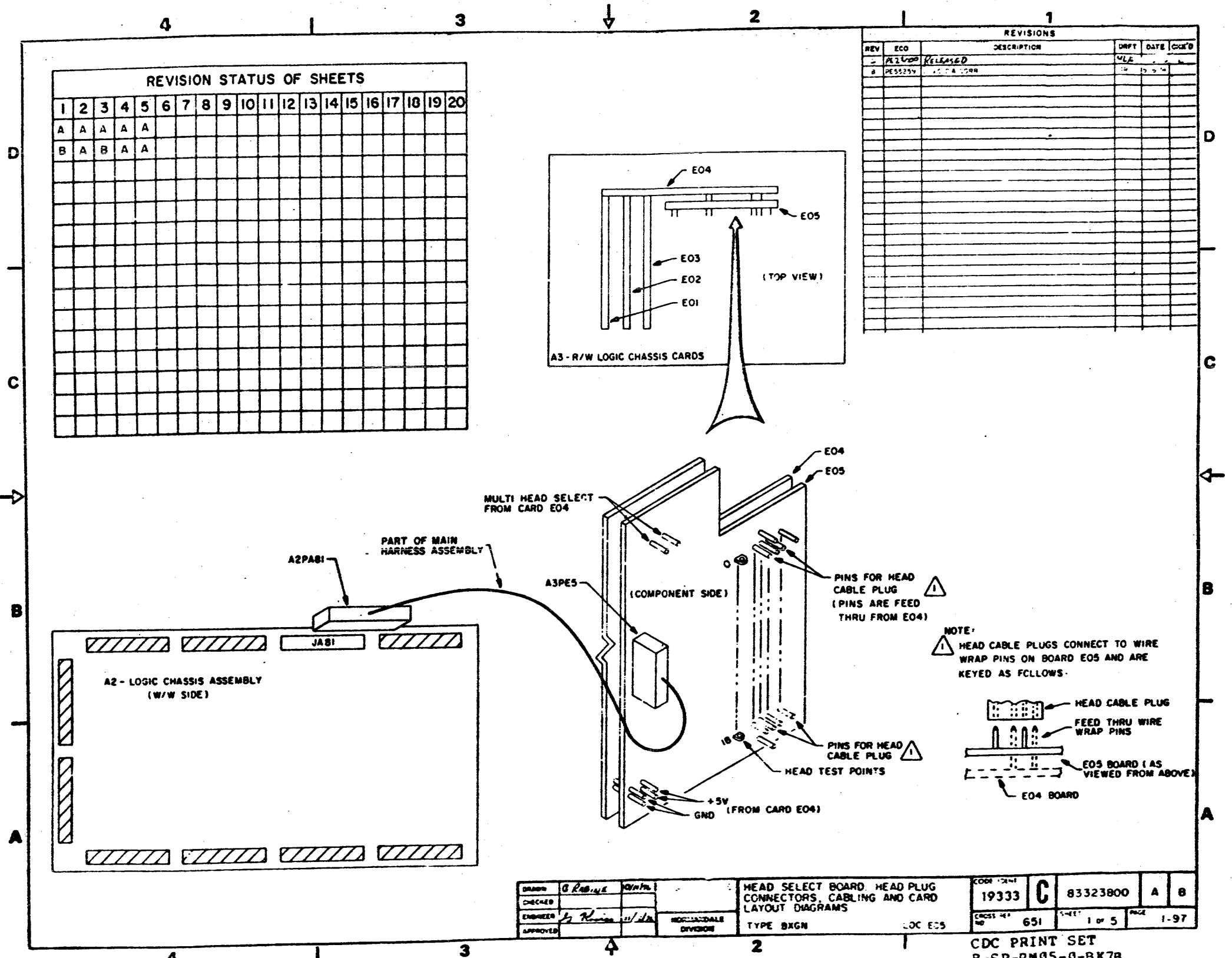
CDC PRINT SET  
 B-SP-RM05-9-BK7B  
 SHEET 93 of 183  
 REV B



NOTES  
 ⚠ INDICATES PIN ON CARD E04  
 ● INDICATES PIN ON CARD E05  
 2 COMPONENT SIDE OF CARD SHOWN

DIODE MATRIX AND MOTHER BOARD SCHEMATIC		CODE 19333	83323800	A	B
LOC E04	CIRCUIT NO 642	SHEET 2	PAGE 1-96		

CDC PRINT SET  
 3-SP-RM05-0-BK7B  
 SHEET 94 of 180  
 REV B

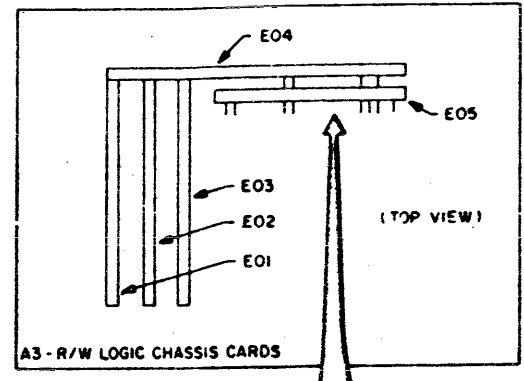


**REVISION STATUS OF SHEETS**

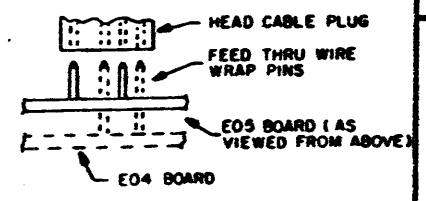
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A	A															
B	A	B	A	A															

**REVISIONS**

REV	ECO	DESCRIPTION	DWPT	DATE	CHK'D
1	PL2400	RELEASED	MLE		
2	PE55254	AS OF 1998		10 15 98	



**NOTE:**  
 HEAD CABLE PLUGS CONNECT TO WIRE WRAP PINS ON BOARD E05 AND ARE KEYED AS FOLLOWS:

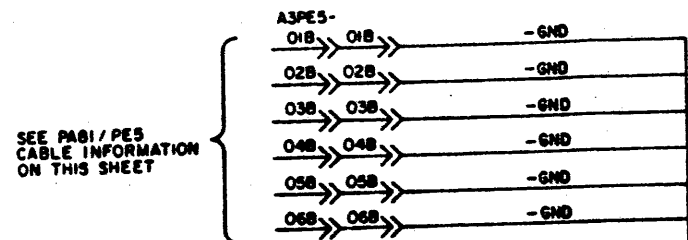
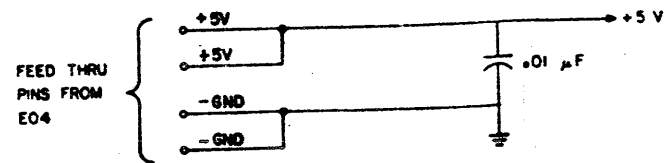


DRAWN	G. R. ...	DATE	
CHECKED			
ENGINEER	J. ...		
APPROVED			

**HEAD SELECT BOARD, HEAD PLUG CONNECTORS, CABLING AND CARD LAYOUT DIAGRAMS**

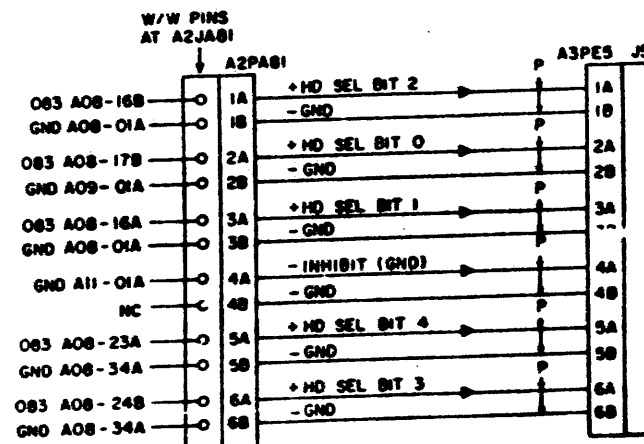
TYPE B8GN      LOC E05

CODE	19333	C	83323800	A	B
CHASSIS #	651	SHEET	1 of 5	PAGE	1-97



UNUSED LOGIC ELEMENTS

ELEMENT	LOCATION	OUTPUT PIN(S)
146	A2	2, 4
146	B2	4
146	C2	4
146	D2	4

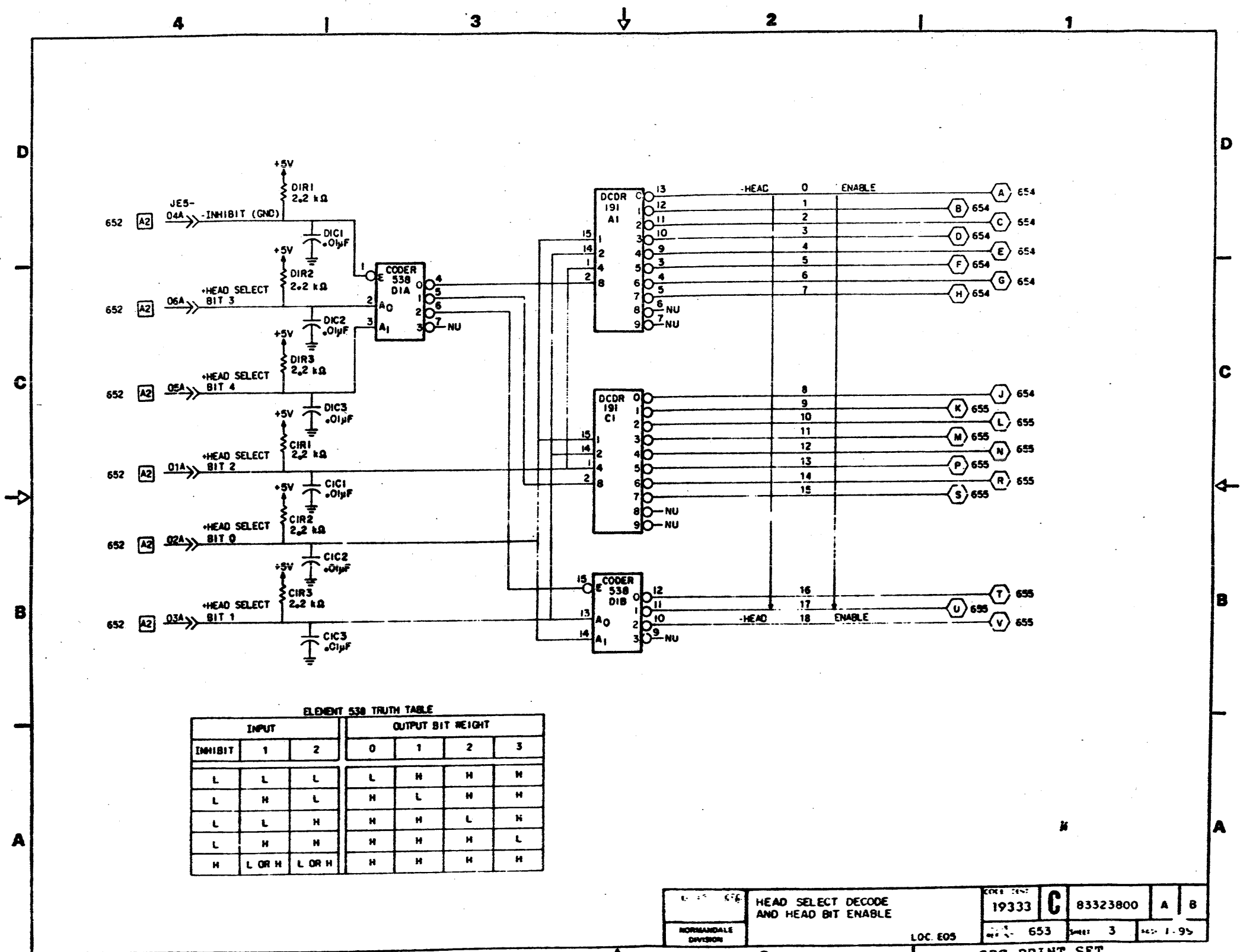


PAB1 TO PES CABLING

UNUSABLE SYMBOL	LOC EDB	UNUSED LOGIC ELEMENTS, VOLTAGE INPUT PINS, CABLING INFORMATION	CODE 19333	C	83323800	A	A
		652	SHEET 2	PAGE 1-98			

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 96 of 180

REV B

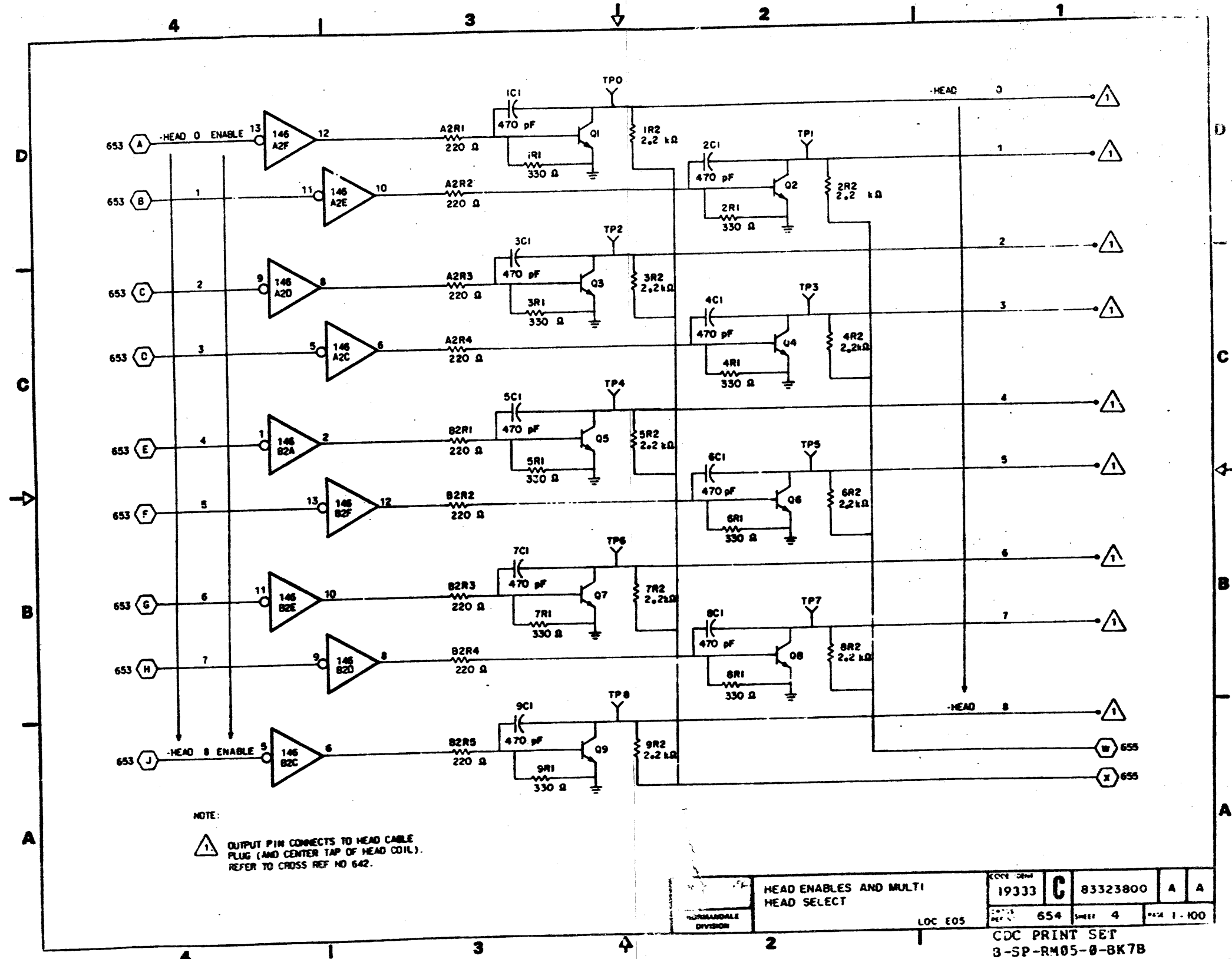


ELEMENT 538 TRUTH TABLE

INHIBIT	INPUT		OUTPUT BIT WEIGHT			
	1	2	0	1	2	3
L	L	L	L	H	H	H
L	H	L	H	L	H	H
L	L	H	H	H	L	H
L	H	H	H	H	H	L
H	L OR H	L OR H	H	H	H	H

19333	C	83323800	A	B
653	3	1-95		

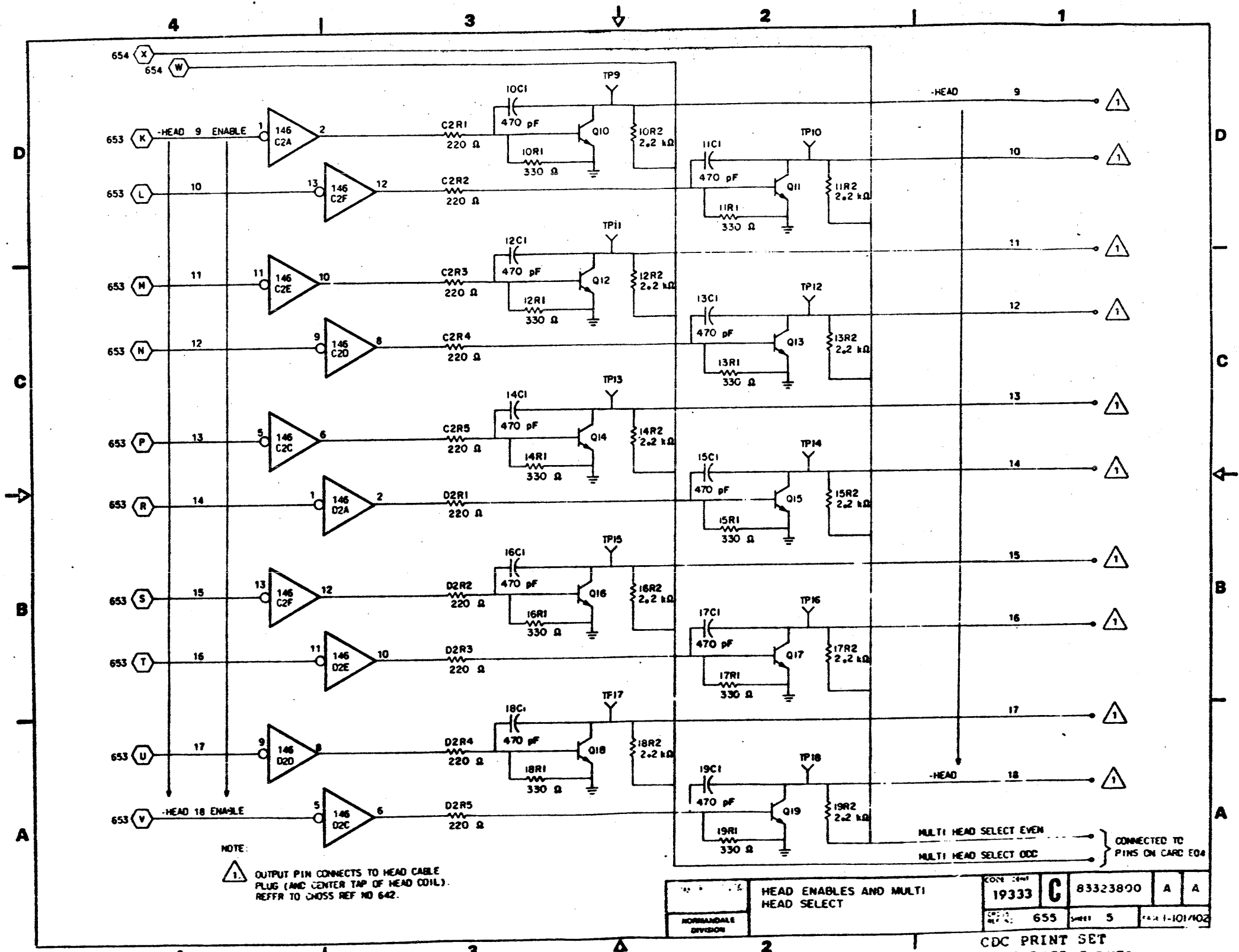




NOTE:  
 ⚠ OUTPUT PIN CONNECTS TO HEAD CABLE PLUG (AND CENTER TAP OF HEAD COIL). REFER TO CROSS REF NO 642.

MORRISANDALE DIVISION	HEAD ENABLES AND MULTI HEAD SELECT		LOC E05	CODE DESG 19333	C	83323800	A	A
	REV 654	SHEET 4	PAGE 1-100					

CDC PRINT SET  
 3-SP-R405-0-BK7B  
 SHEET 98 of 180  
 REV 3



NOTE:  
 1. OUTPUT PIN CONNECTS TO HEAD CABLE PLUG (AND CENTER TAP OF HEAD COIL). REFER TO CROSS REF NO 642.

NORANDA DIVISION	HEAD ENABLES AND MULTI HEAD SELECT		CON. NO. 19333	C	83323800	A	A
			REV. 655	SHEET 5	DATE 1-101/102		

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 99 of 180  
 REV B

**REVISION STATUS OF SHEETS**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A																		
B	B	B																		
C	C	C																		
D	D	D																		

**REVISIONS**

REV	ECO	DESCRIPTION	DATE	CHK'D
A	HE2507	HE. EAM	10 5 57	
B	HE5273	LOG C DIA C. 24	11 1 73	
C	HE5276	REMOVED UNL. ET. TERMINALS	11 1 73	
D	57493	ADD VDE	11 3 73	

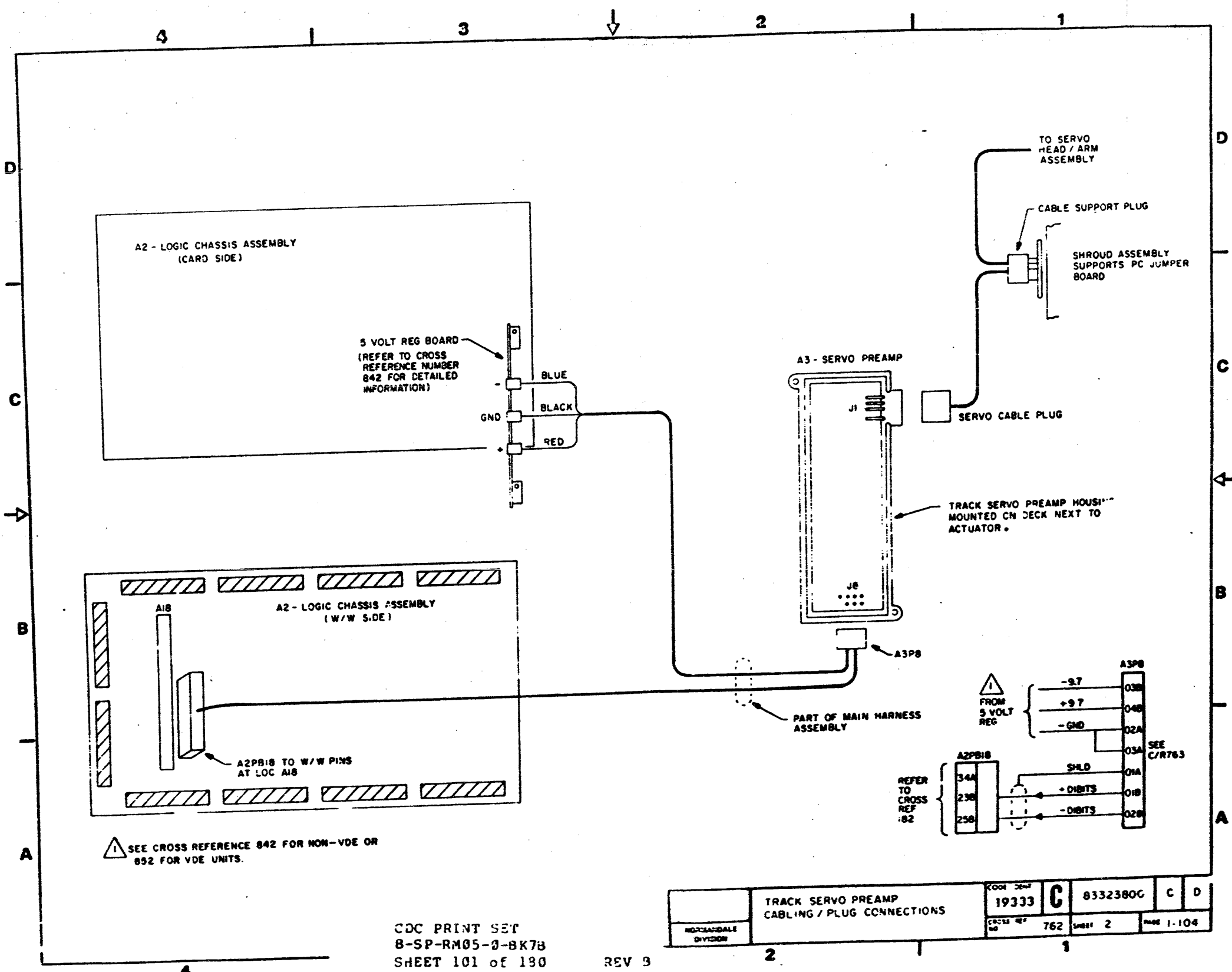
DRAWN	HE2507
CHECKED	
EMBEDDED	
APPROVED	

TRACK SERVO PREAMP  
DIAGRAMS  
TYPE FZ0N

19333	<b>C</b>	83323800	C	D
761	SHEET 1 OF 3	PAGE 1-1-73		

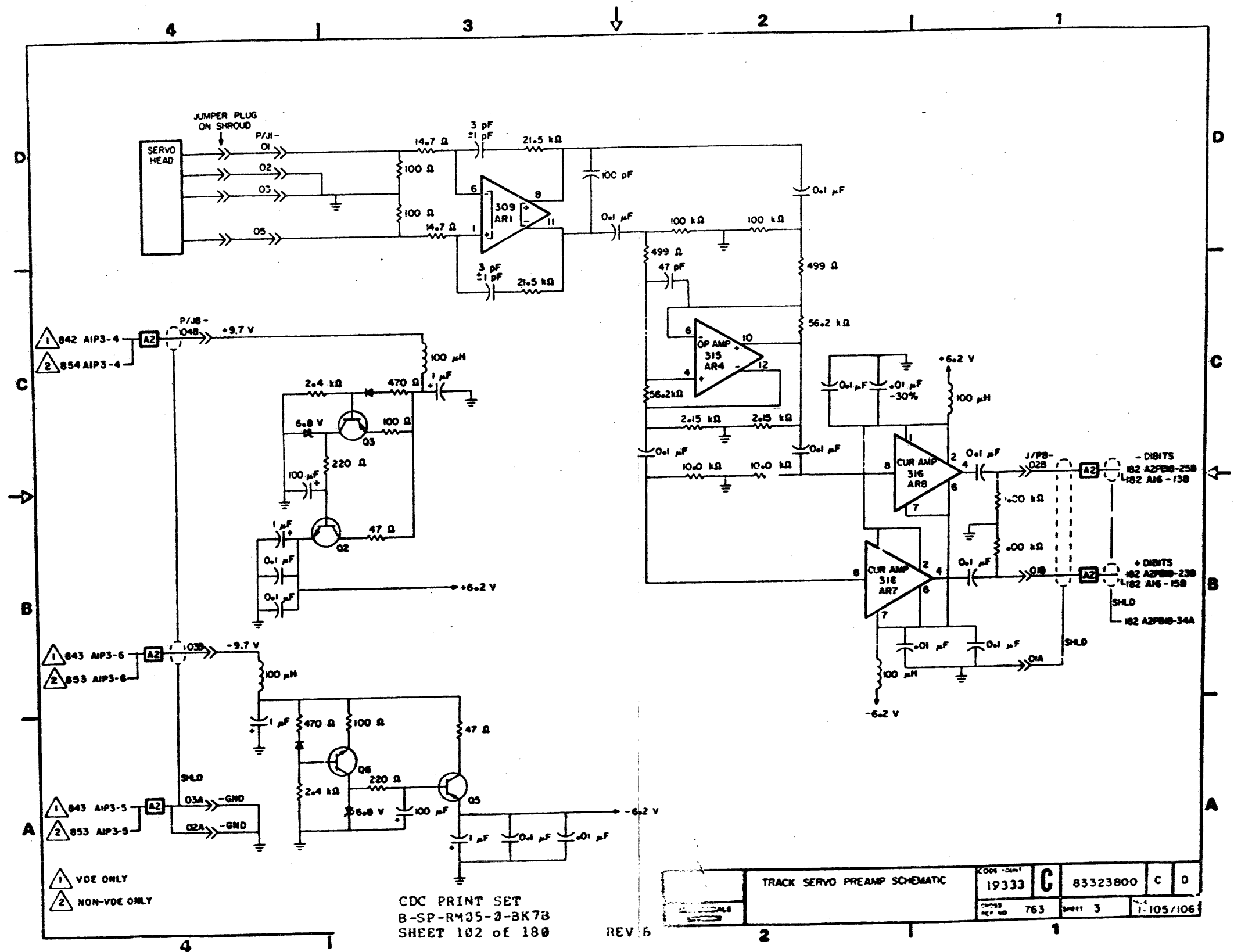
CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 100 OF 180  
REV B

REF 832 5226  
REF 832 0033



CDC PRINT SET  
8-SP-RM05-0-BK7B  
SHEET 101 of 180

REV 3



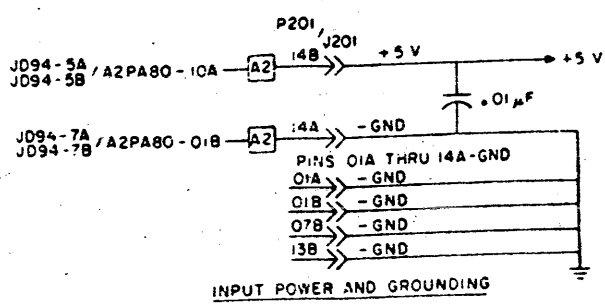
1 VDE ONLY  
 2 NON-VDE ONLY

CDC PRINT SET  
 B-SP-RM35-3-8K7B  
 SHEET 102 OF 180

REV 6

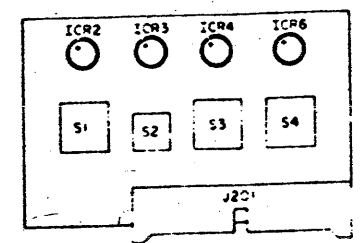
TRACK SERVO PREAMP SCHEMATIC		19333	C	83323800	C	D
763	3	1-105/106				

REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A																	
B	A	A																	
C	C	C	C																
D	D	C	D																

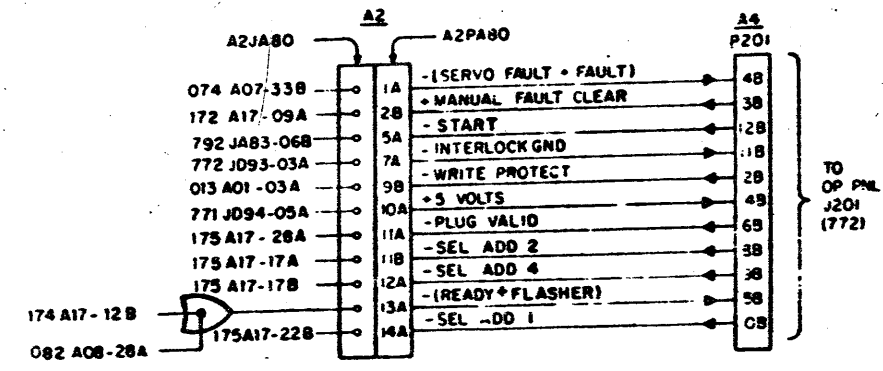
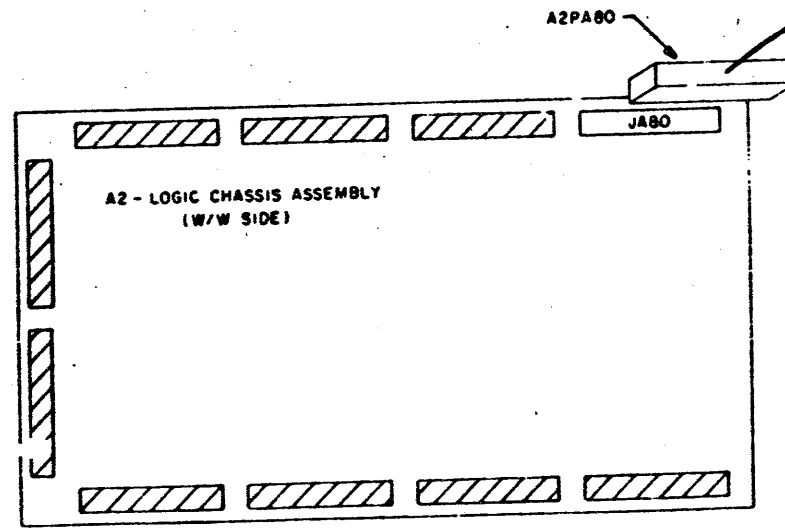


REVISIONS				
REV	ECO	DESCRIPTION	DWPT	DATE
A	19333	REVISED OF EASED	EMW	1-15-72
B	5744	CORRECT DIAGRAMS	EMW	1-22-72
C	57453	ADD GDE	EMW	1-22-72
D	57535	CORRECT DIAGRAMS	EMW	1-22-72

OPERATOR CONTROL PANEL  
(COMPONENT LAYOUT)



CONTROL PANEL  
HARNESS ASSEMBLY

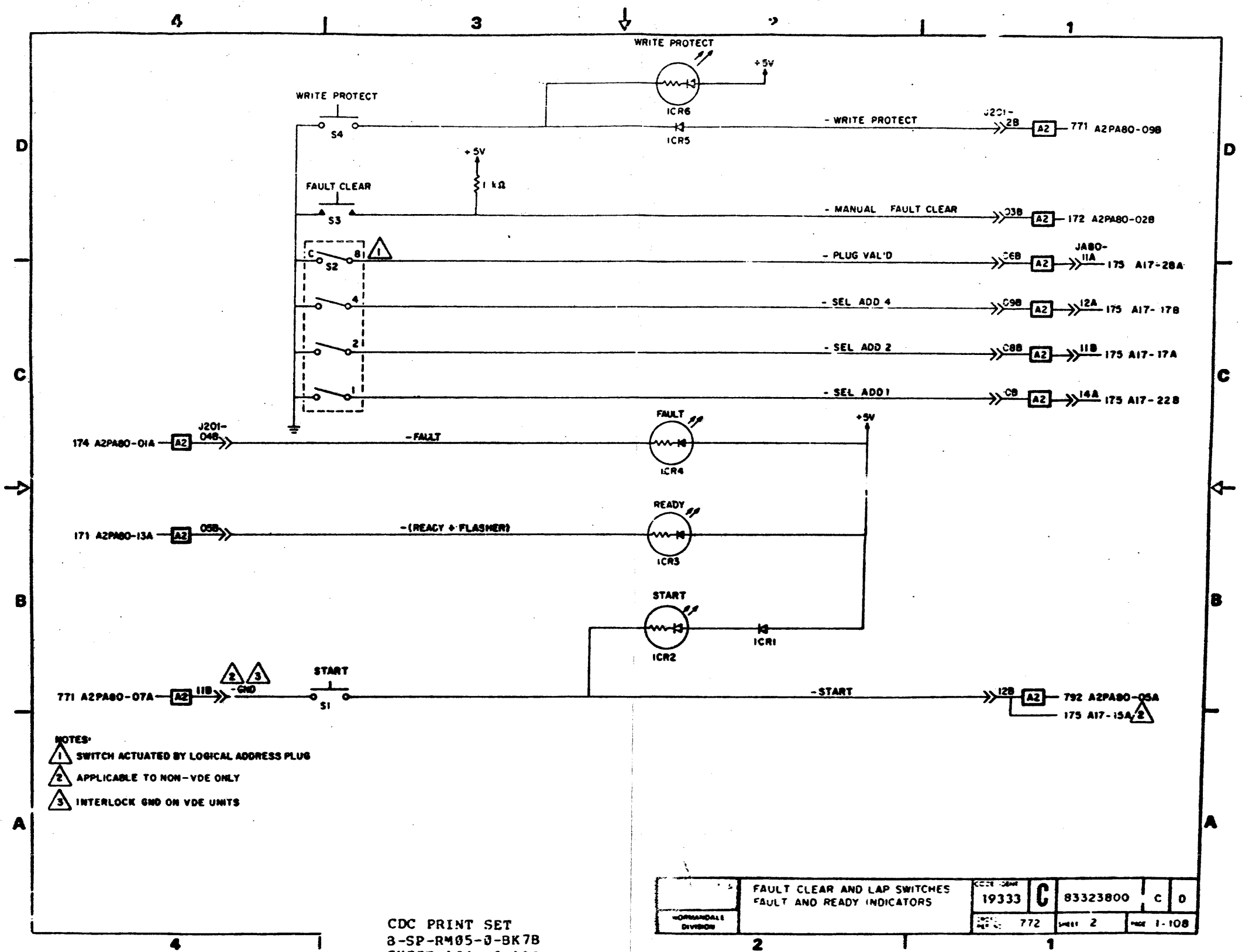


DRAWN CHECKED ENGINEER APPROVED	BERGSTR [Signature] [Signature] [Signature]	DATE 1-15-72 DIVISION NORMAN DALE
--	--	--

A4 - OPERATOR CONTROL PANEL  
DIAGRAMS  
TYPE NZYM

CONTROL NO. 19333	C	83323800	E   D
771	4	1-107	

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 103 of 180  
 REV B

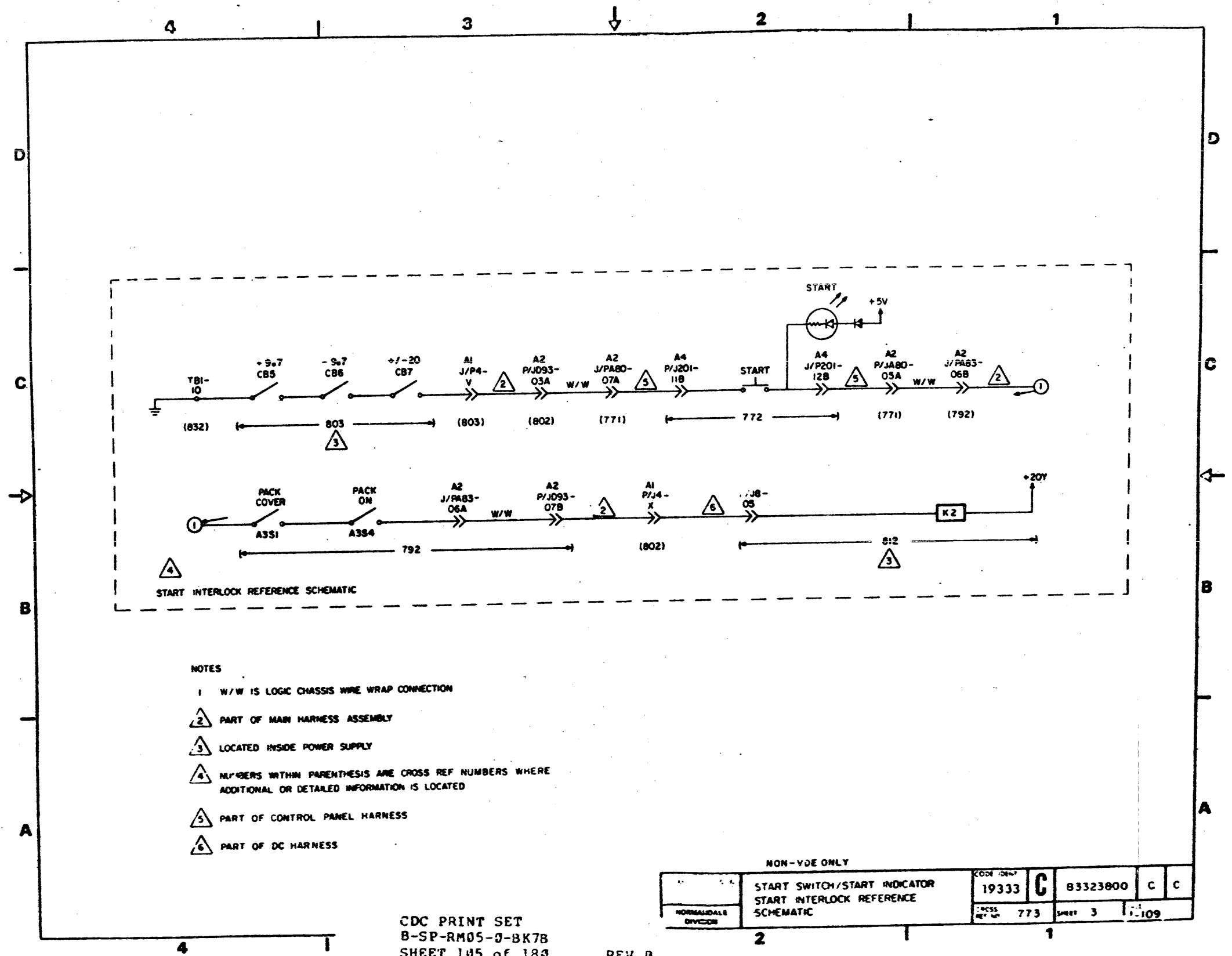


- NOTES:
- △ SWITCH ACTUATED BY LOGICAL ADDRESS PLUS
  - ② APPLICABLE TO NON-VDE ONLY
  - ③ INTERLOCK GND ON VDE UNITS

CDC PRINT SET  
 8-SP-RM05-0-BK7B  
 SHEET 104 of 180

REV B

COMMERCIAL DIVISION	FAULT CLEAR AND LAP SWITCHES FAULT AND READY INDICATORS	CCRE-3644 19333	C	83323800	C	D
		772	SHEET 2	PAGE 1-108		



START INTERLOCK REFERENCE SCHEMATIC

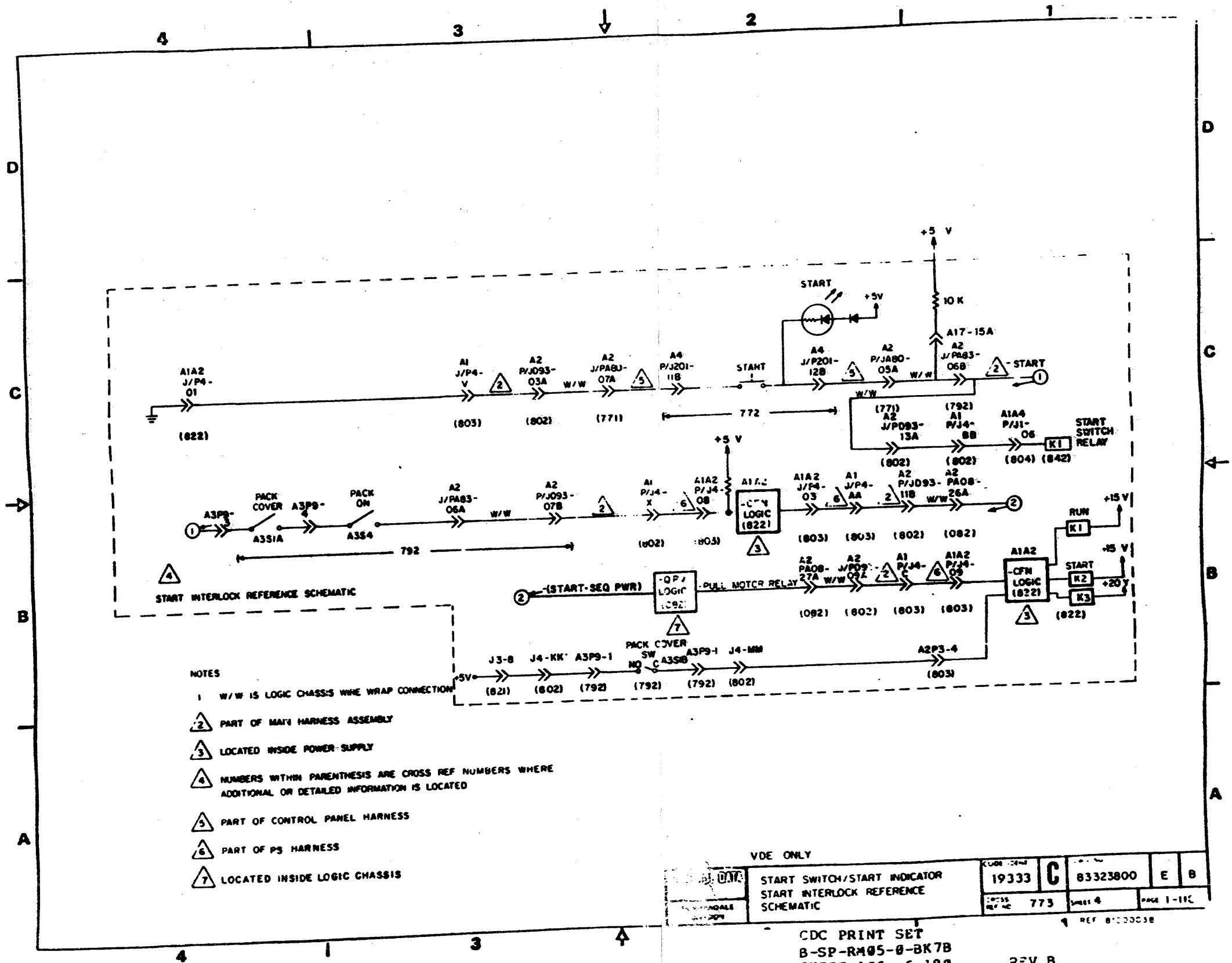
- NOTES
- 1 W/W IS LOGIC CHASSIS WIRE WRAP CONNECTION
  - 2 PART OF MAIN HARNESS ASSEMBLY
  - 3 LOCATED INSIDE POWER SUPPLY
  - 4 NUMBERS WITHIN PARENTHESIS ARE CROSS REF NUMBERS WHERE ADDITIONAL OR DETAILED INFORMATION IS LOCATED
  - 5 PART OF CONTROL PANEL HARNESS
  - 6 PART OF DC HARNESS

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 105 of 180

REV B

NON-VDE ONLY			
NORWALDALE DIVISION	START SWITCH/START INDICATOR START INTERLOCK REFERENCE SCHEMATIC	CODE IDENT 19333 C	83323800 C C
	2	773	SHEET 3 1-109





VDE ONLY

START SWITCH/START INDICATOR  
START INTERLOCK REFERENCE  
SCHEMATIC

19333	C	83323800	E	B
773	SHEET 4	PAGE 1-11C		

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 106 of 180

REV B

**REVISIONS**

REV	ECO	DESCR PT-ON	DRFT	DATE	CHK'D
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A																		

**A2 - LOGIC CHASSIS ASSEMBLY (W/W SIDE)**

**I/O HARNESS ASSEMBLY REFER TO CROSS REF NO 782**

**ASJ3 (A CABLE)**

**ASJ2 (B CABLE)**

**A2PA01**

**A2PA02**

**A2PA05**

**AO1**

**AO2**

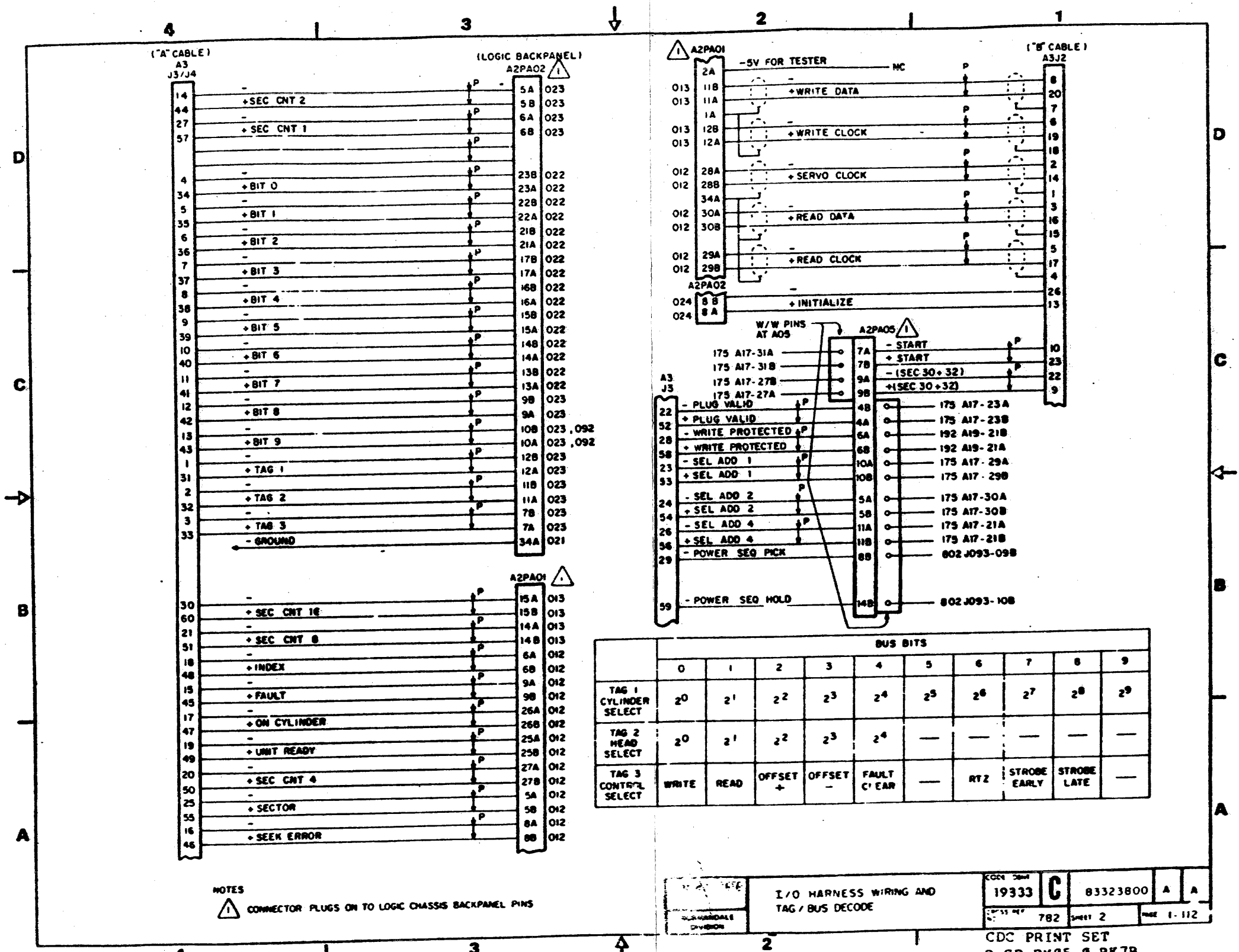
**AO3**

**AO4**

**AO5**

DESIGN	19333	CODE IDENT	<b>C</b>	833238-10	E	A
ENGINEER		CROSS REF NO	781	SHEET 1 - 2	PAGE 1 - 111	
APPROVE				REF 81200022		

**A3 - I/O CABLING DIAGRAMS**  
 CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 107 of 180      REV 8

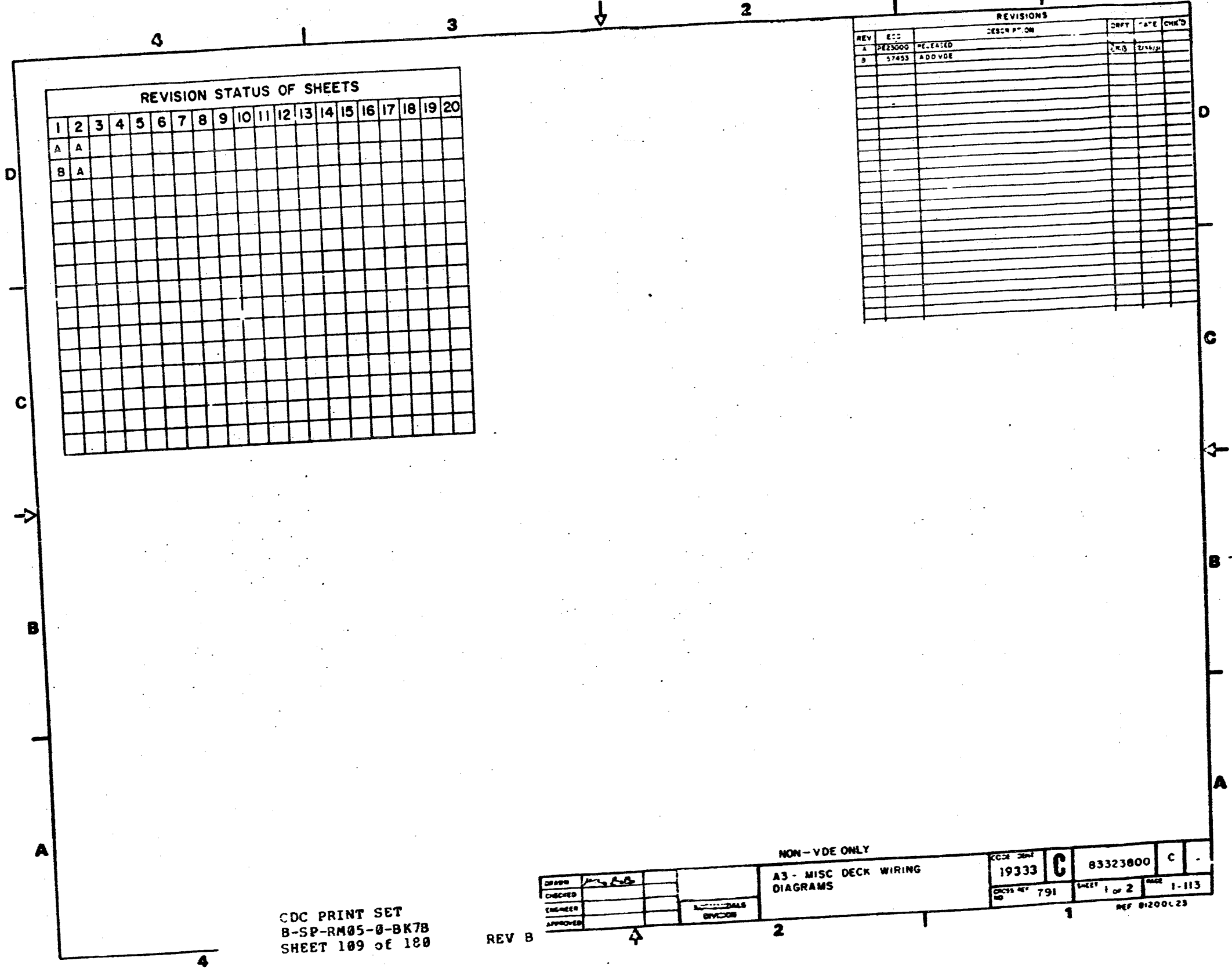


	0	1	2	3	4	5	6	7	8	9
TAG 1 CYLINDER SELECT	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>3</sup>	2 <sup>4</sup>	2 <sup>5</sup>	2 <sup>6</sup>	2 <sup>7</sup>	2 <sup>8</sup>	2 <sup>9</sup>
TAG 2 HEAD SELECT	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>3</sup>	—	—	—	—	—	—
TAG 3 CONTR'L SELECT	WRITE	READ	OFFSET +	OFFSET -	FAULT C'EAR	—	RTZ	STROBE EARLY	STROBE LATE	—

I/O HARNESS WIRING AND TAG / BUS DECODE

19333 C 83323800 A A

782 SHEET 2 PAGE 1-112



**REVISION STATUS OF SHEETS**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A																			
B	A																			

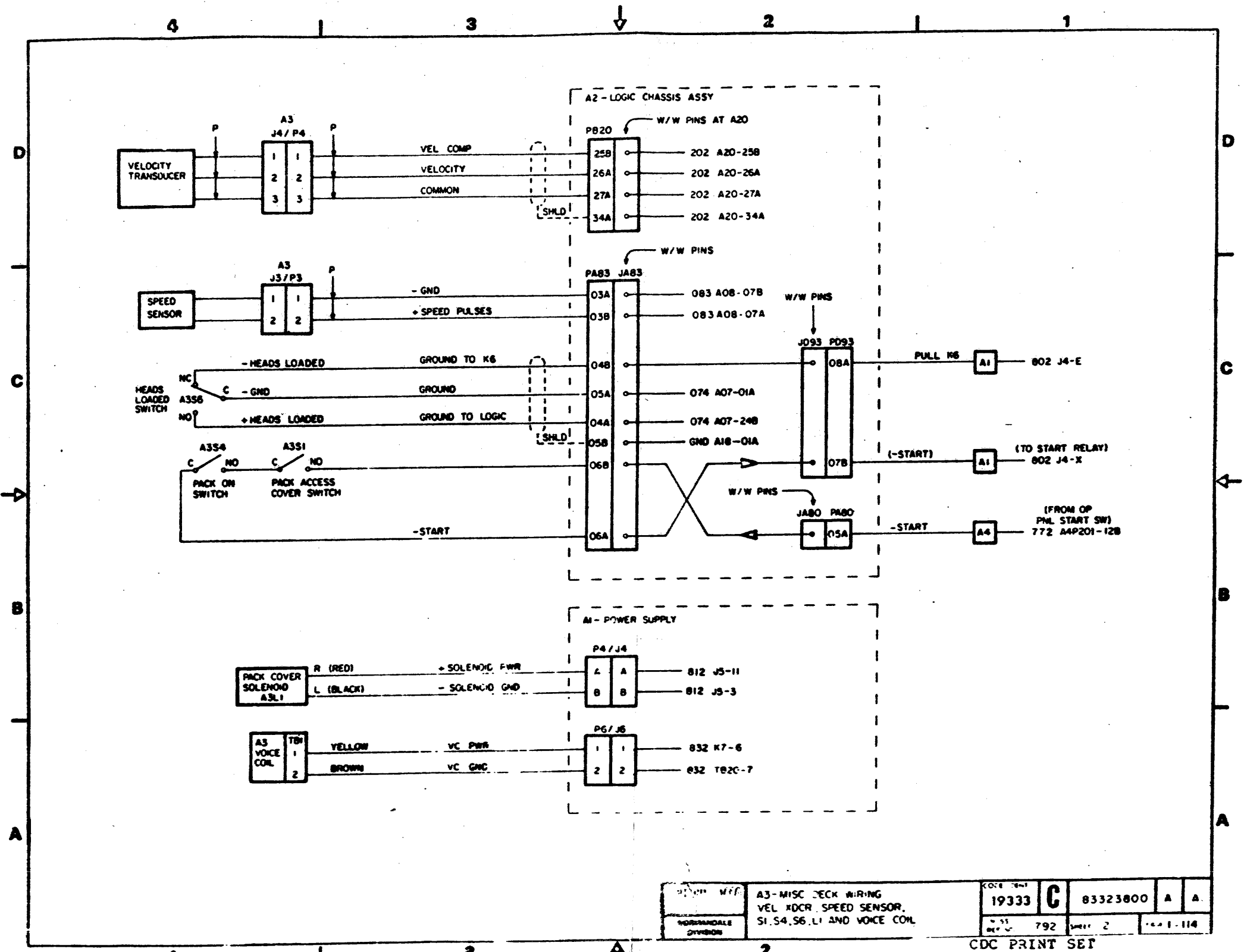
**REVISIONS**

REV	ECC	DESCRIPTION	DRFT	DATE	CHK'D
A	PE23000	RELEASED	AKB	2/15/66	
B	57453	ADD VDE			

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 109 OF 180

NON-VDE ONLY

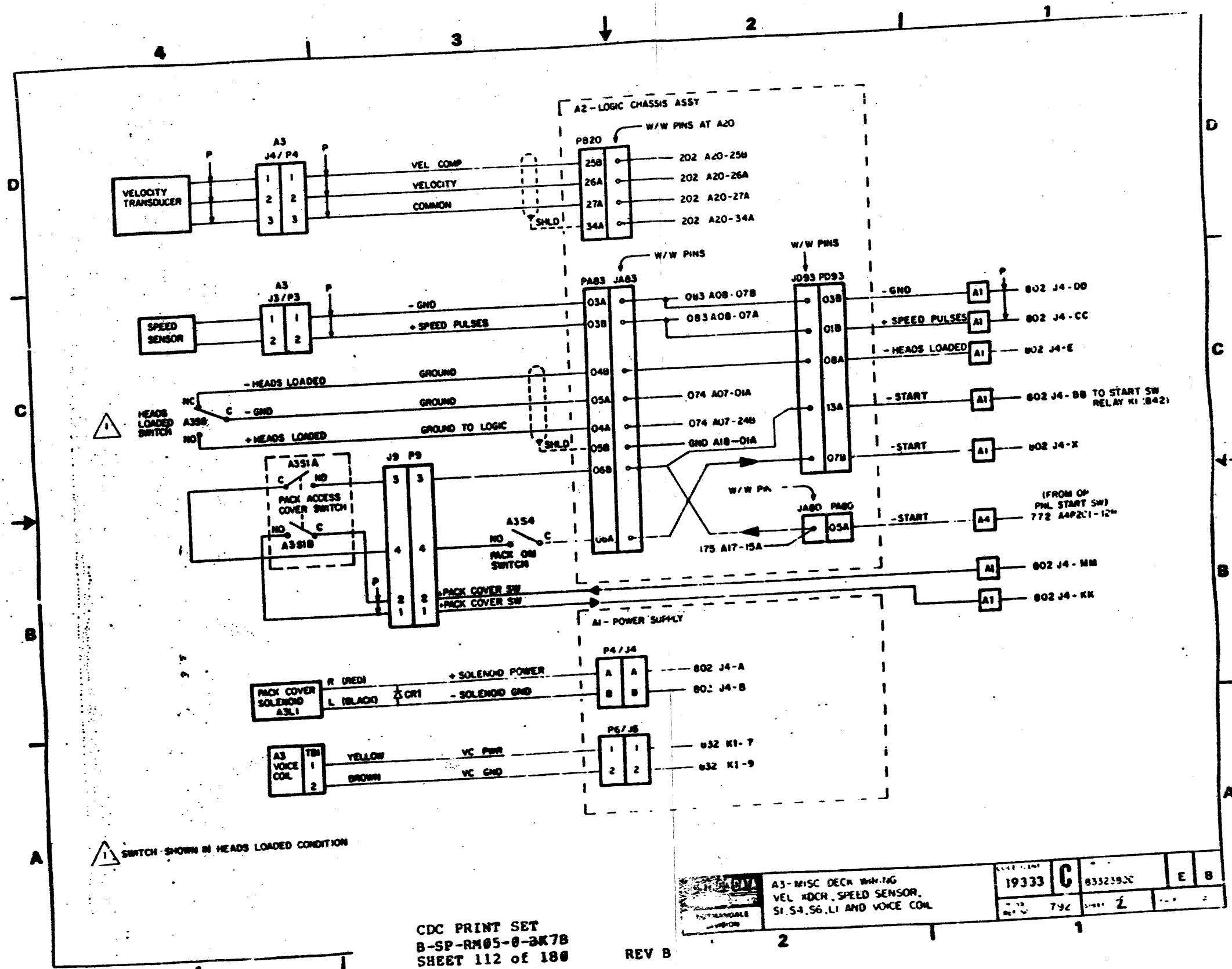
DESIGN	<i>AB</i>			
CHECKED				
ENGINEER				
APPROVED				
		19333	83323800	C
		CROSS REF 791	SHEET 1 OF 2	PAGE 1-113
				REF 81200.23



WIRING	A3-MISC DECK WIRING VEL XDCR, SPEED SENSOR, SI, S4, S6, L1 AND VOICE COIL	19333	C	83323800	A	A
792	SHEET 2	1-114				

CDC PRINT SET  
3-SP-RM05-0-BK7B  
SHEET 110 of 180  
REV B



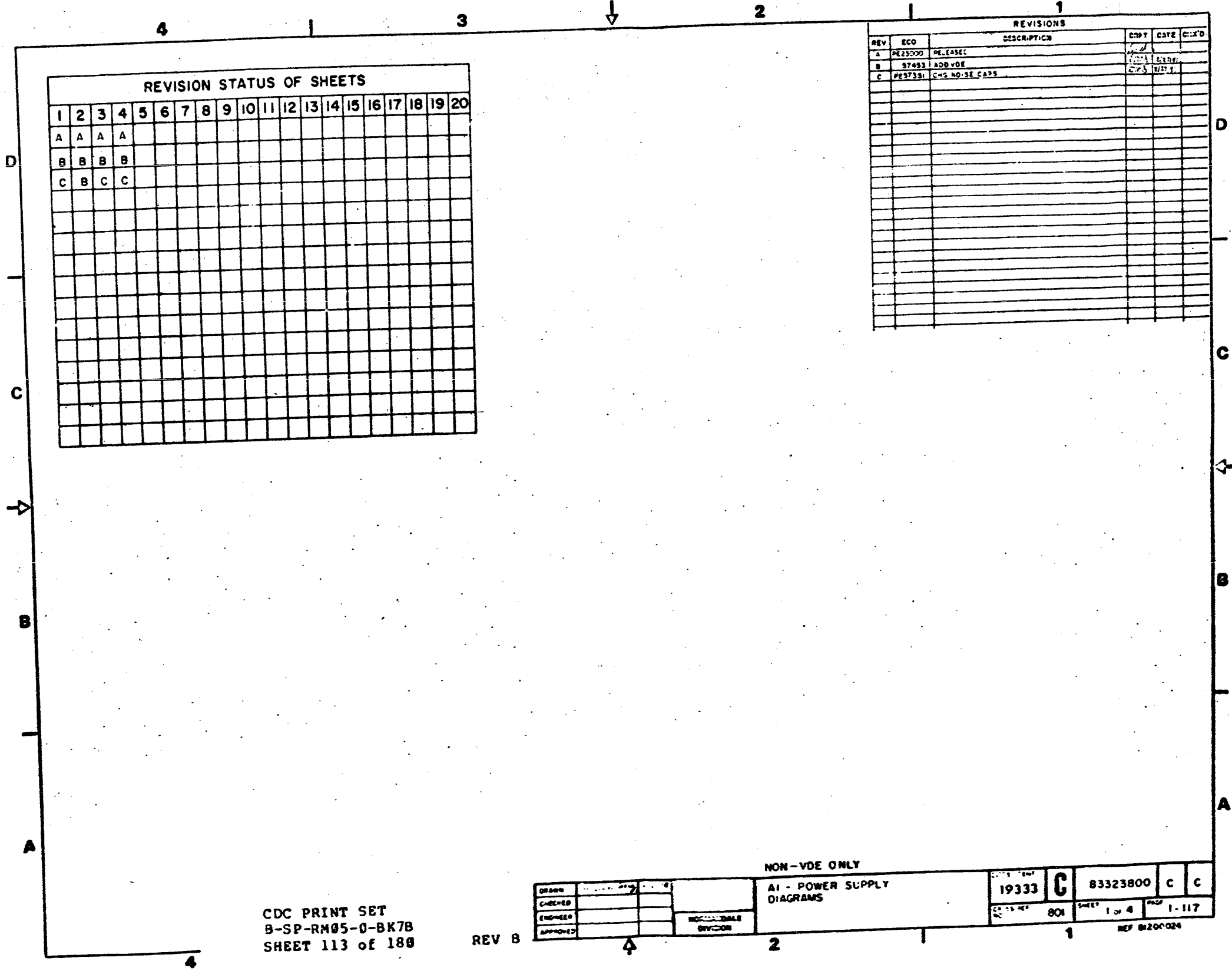


SWITCH SHOWN IN HEADS LOADED CONDITION

CDC PRINT SET  
 B-SP-RM05-0-3K7B  
 SHEET 112 of 180

REV B

	A3-MISC DECK WIRING		19333	C	8332193C	E	B
	VEL KDCR, SPEED SENSOR, SI, S-3, S6, L1 AND VOICE COIL		792	2			



REVISION STATUS OF SHEETS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A	A																
B	B	B	B	B																
C	B	C	C																	

REVISIONS

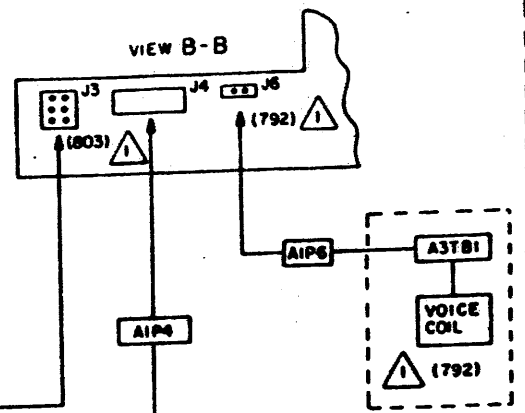
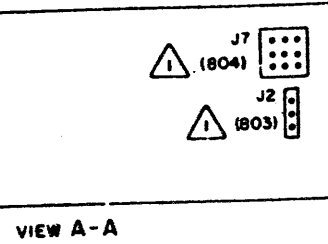
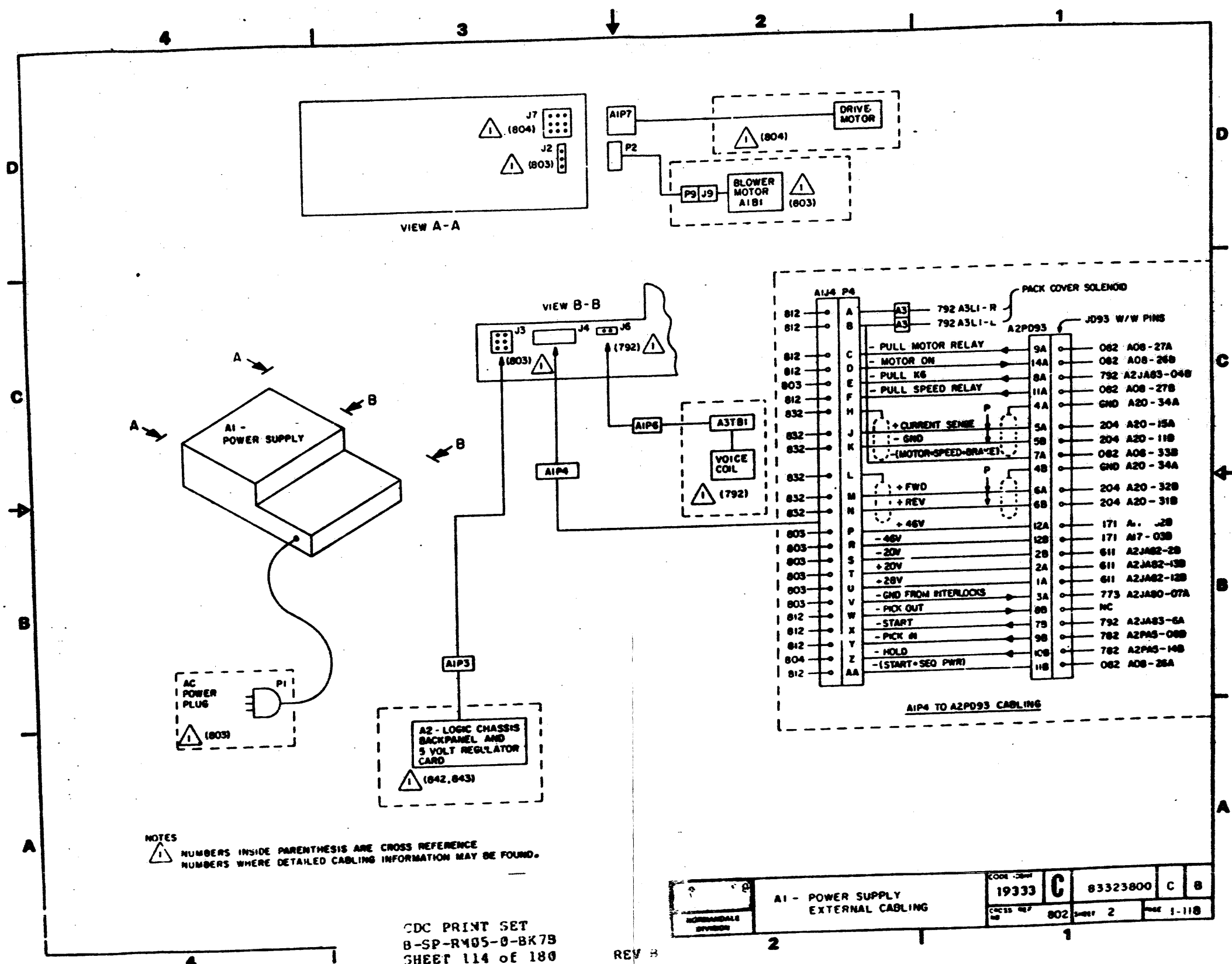
REV	ECO	DESCRIPTION	DATE	BY
A	PE25000	RELEASEC		
B	57453	ADD VDE		
C	PE27131	CHG NO-SE CAPS		

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 113 of 180

REV B

NON-VDE ONLY				
DRAWN				
CHECKED				
ENGINEER				
APPROVED				
AI - POWER SUPPLY DIAGRAMS		19333	C	83323800
		801	SHEET 1 of 4	1-117
REF 84200024				





A1J4 P4

PACK COVER SOLENOID

A2P093

JD93 W/W PINS

812	A	- PULL MOTOR RELAY	9A	082 A08-27A
812	B	- MOTOR ON	14A	082 A08-26B
812	C	- PULL K6	8A	792 A2JA83-04B
803	D	- PULL SPEED RELAY	11A	082 A08-27B
812	E	- CURRENT SENSE	4A	GND A20-34A
832	F	- GND	5A	204 A20-15A
832	G	- (MOTOR SPEED BRAKE)	5B	204 A20-11B
832	H	- FWD	7A	082 A08-33B
832	I	- REV	4B	GND A20-34A
832	J	- +46V	6A	204 A20-32B
803	K	- -46V	6B	204 A20-31B
803	L	- -20V	12A	171 A. J2B
803	M	- +20V	12B	171 A17-03B
803	N	- +28V	2B	611 A2JA82-2B
803	O	- GND FROM INTERLOCKS	2A	611 A2JA82-13B
803	P	- PICK OUT	1A	611 A2JA82-12B
812	Q	- START	3A	773 A2JA80-07A
812	R	- PICK IN	8B	NC
812	S	- HOLD	7B	792 A2JA83-6A
804	T	- (START+SEQ PWR)	9B	782 A2PA5-08B
812	AA		10B	782 A2PA5-14B
			11B	082 A08-28A

AIP4 TO A2P093 CABLING

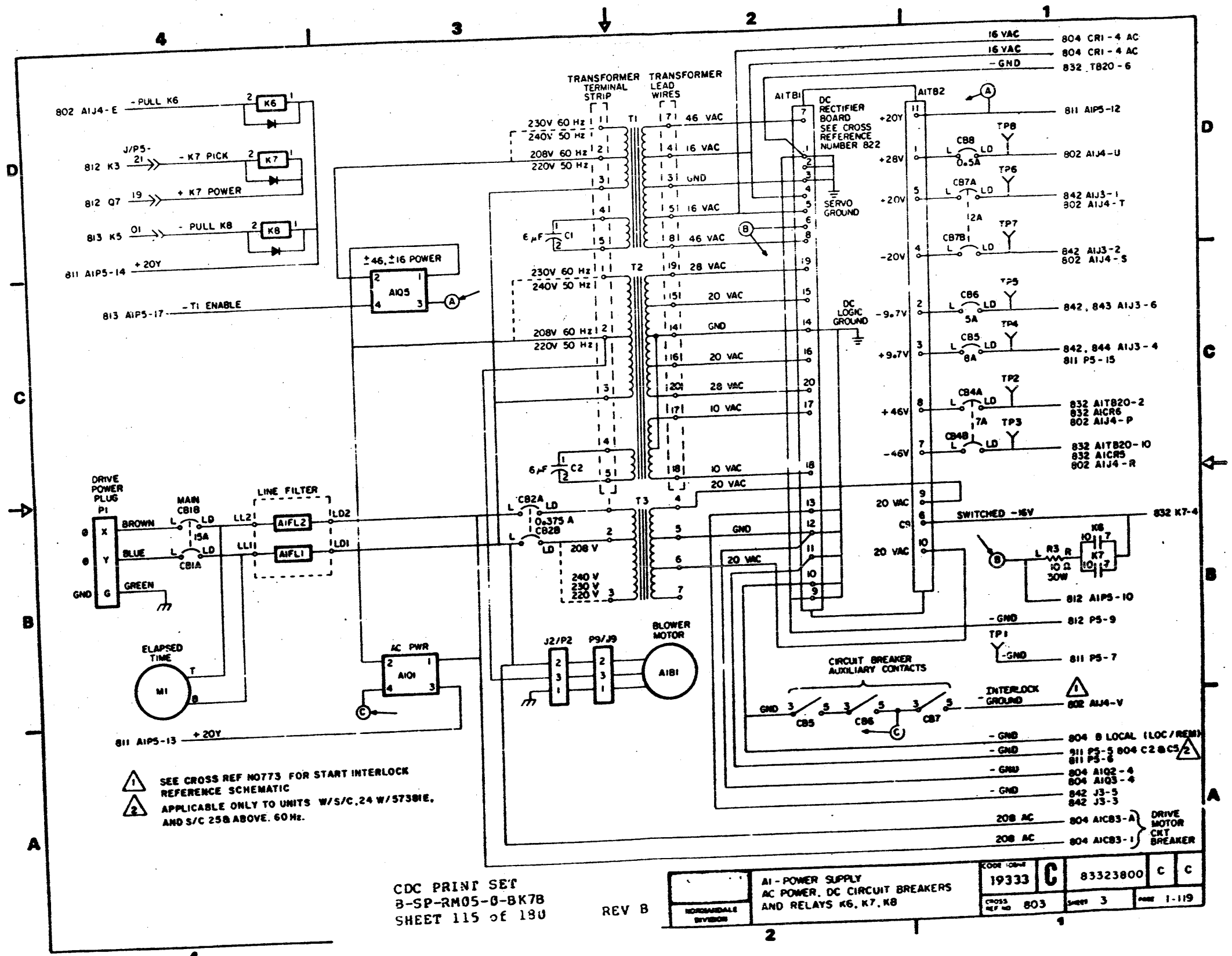
NOTES

NUMBERS INSIDE PARENTHESIS ARE CROSS REFERENCE NUMBERS WHERE DETAILED CABLING INFORMATION MAY BE FOUND.

CDC PRINT SET  
B-SP-R405-0-BK73  
SHEET 114 of 180

REV B

19333	C	83323800	C	B
802	2	1-118		

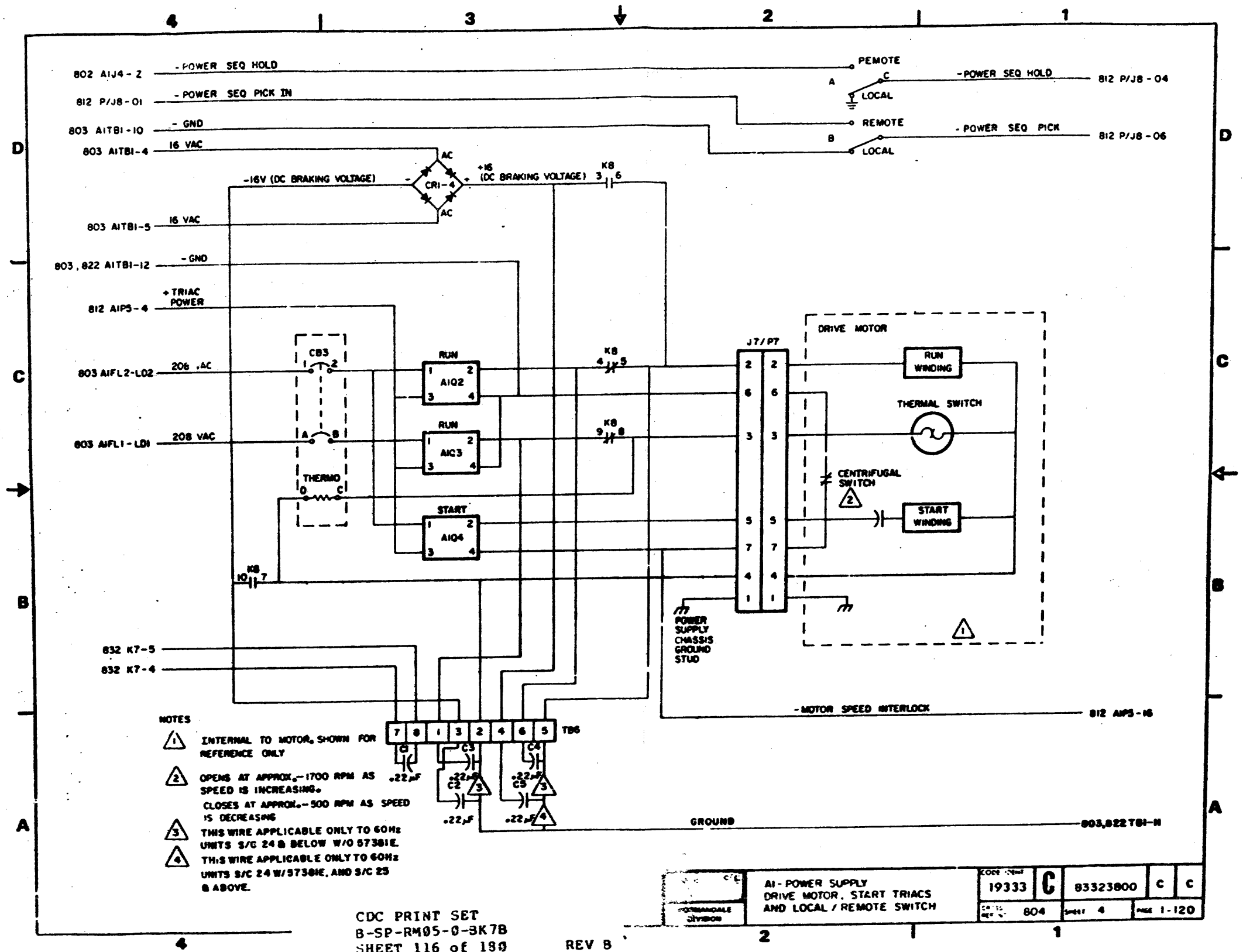


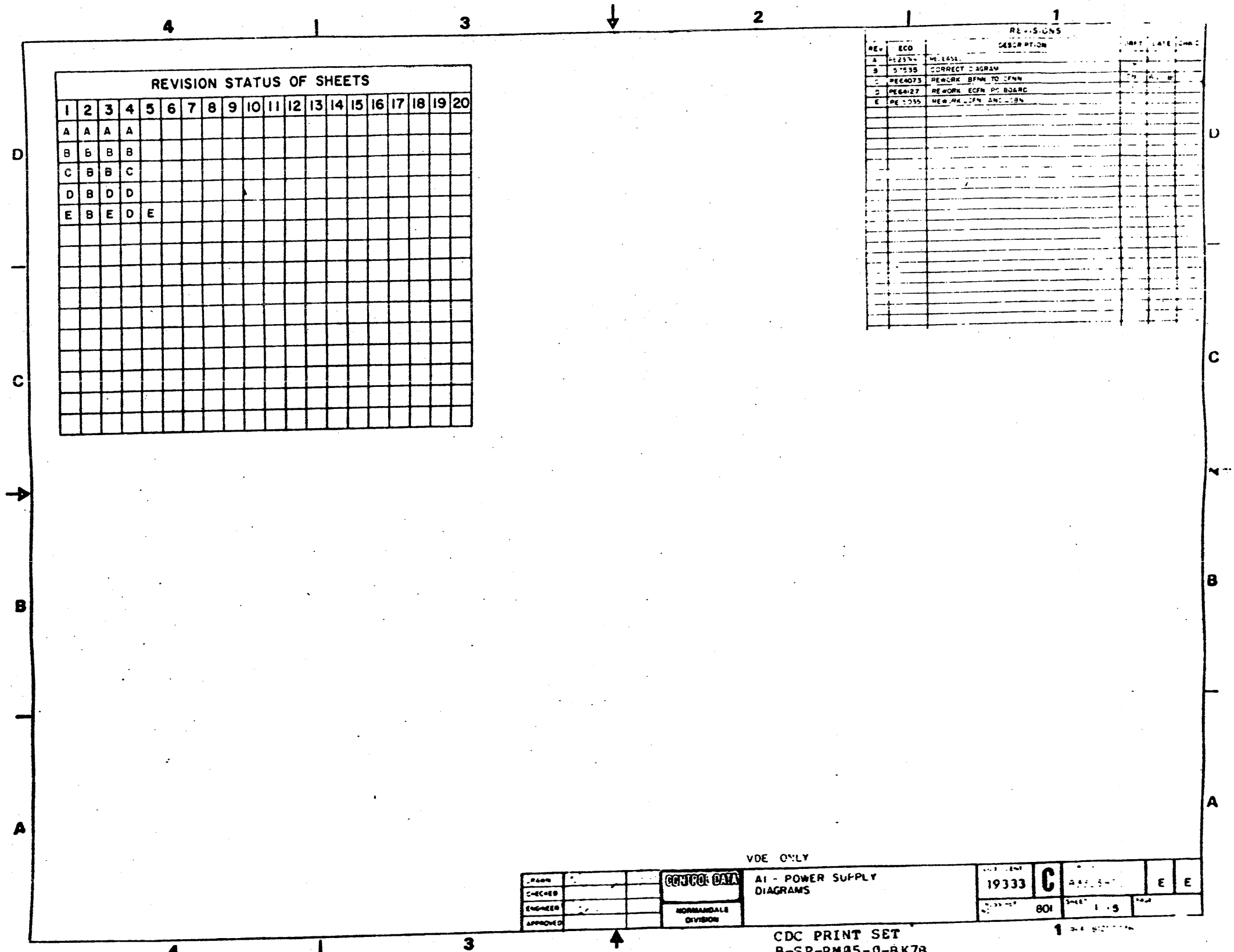
1 SEE CROSS REF 80773 FOR START INTERLOCK  
 REFERENCE SCHEMATIC  
 2 APPLICABLE ONLY TO UNITS W/S/C.24 W/57381E,  
 AND S/C 258 ABOVE. 60 Hz.

CDC PRINT SET  
 B-SP-RM05-0-BK78  
 SHEET 115 of 180

REV B

NORANDA DIVISION	AI - POWER SUPPLY AC POWER, DC CIRCUIT BREAKERS AND RELAYS K6, K7, K8		CODE 19333	83323800	C	C
	CROSS REF NO 803	SHEET 3	PAGE 1-119			



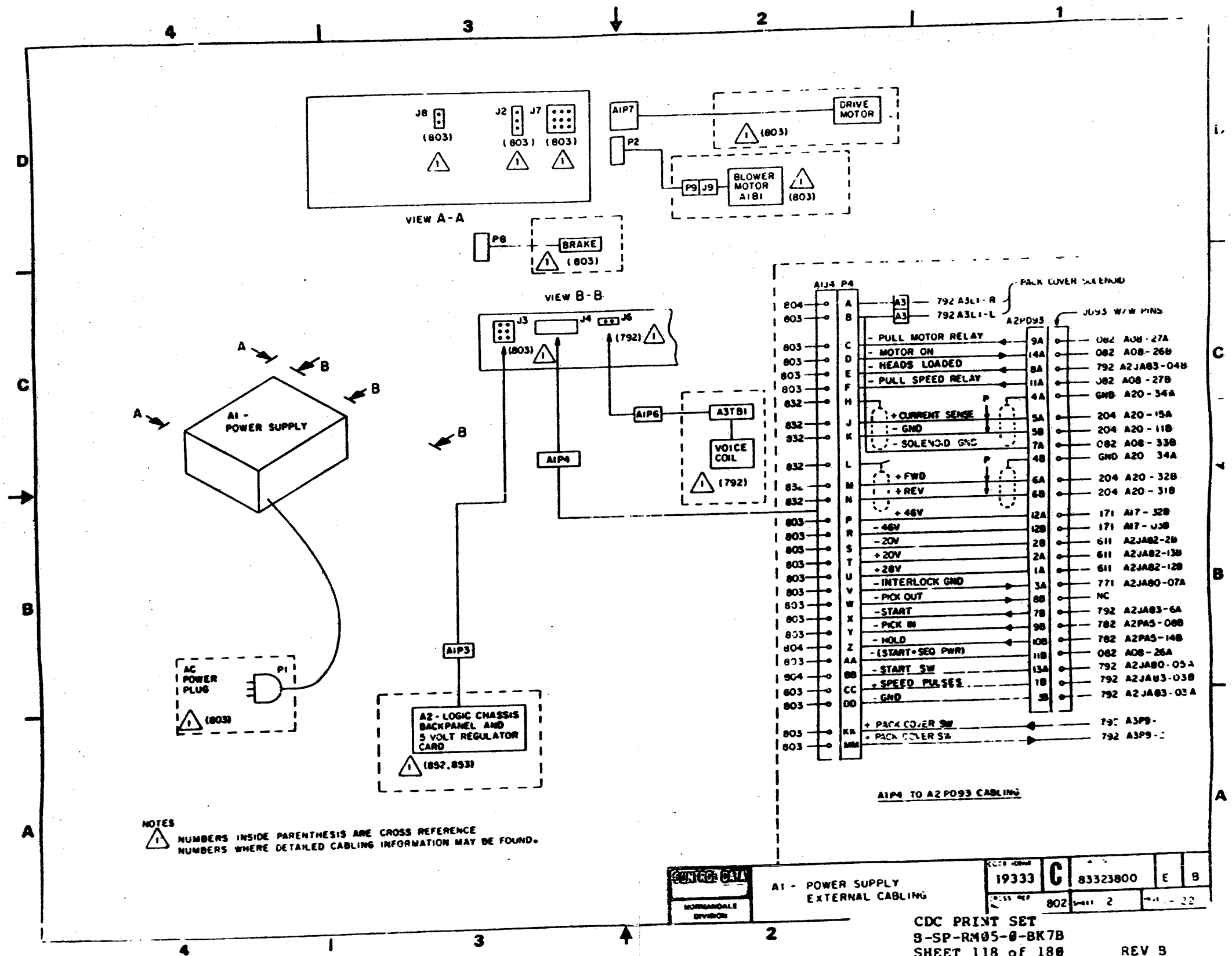


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A																	
B	B	B	B																	
C	B	B	C																	
D	B	D	D																	
E	B	E	D	E																

REV	ECO	DESCRIPTION	DATE
A	51234	REV. 1434	
B	51235	CORRECT DIAGRAM	
C	51236	REWORK BFM TO CFM	
D	51237	REWORK ECFM PC BOARD	
E	51238	NEW PC BOARD	

VDE ONLY				AI - POWER SUPPLY DIAGRAMS		19333	C	E	E
DESIGNED		NORMAN DALE DIVISION		DATE		801	SHEET	1	5

CDC PRINT SET  
 B-SP-RM05-0-BK78  
 SHEET 117 OF 180  
 REV B

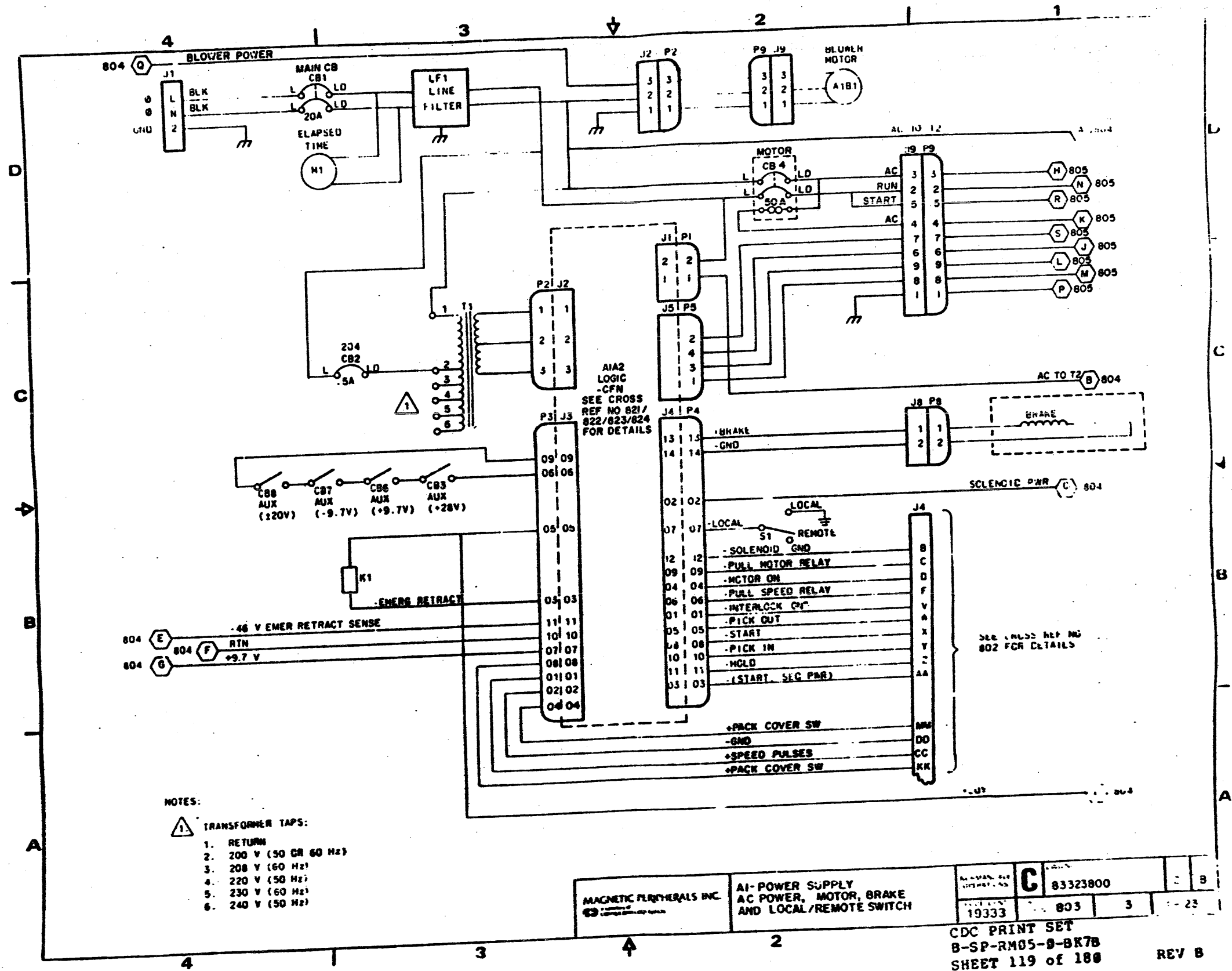


**AI - POWER SUPPLY EXTERNAL CABLING**

19333 C 83323800 E B

802 2 22

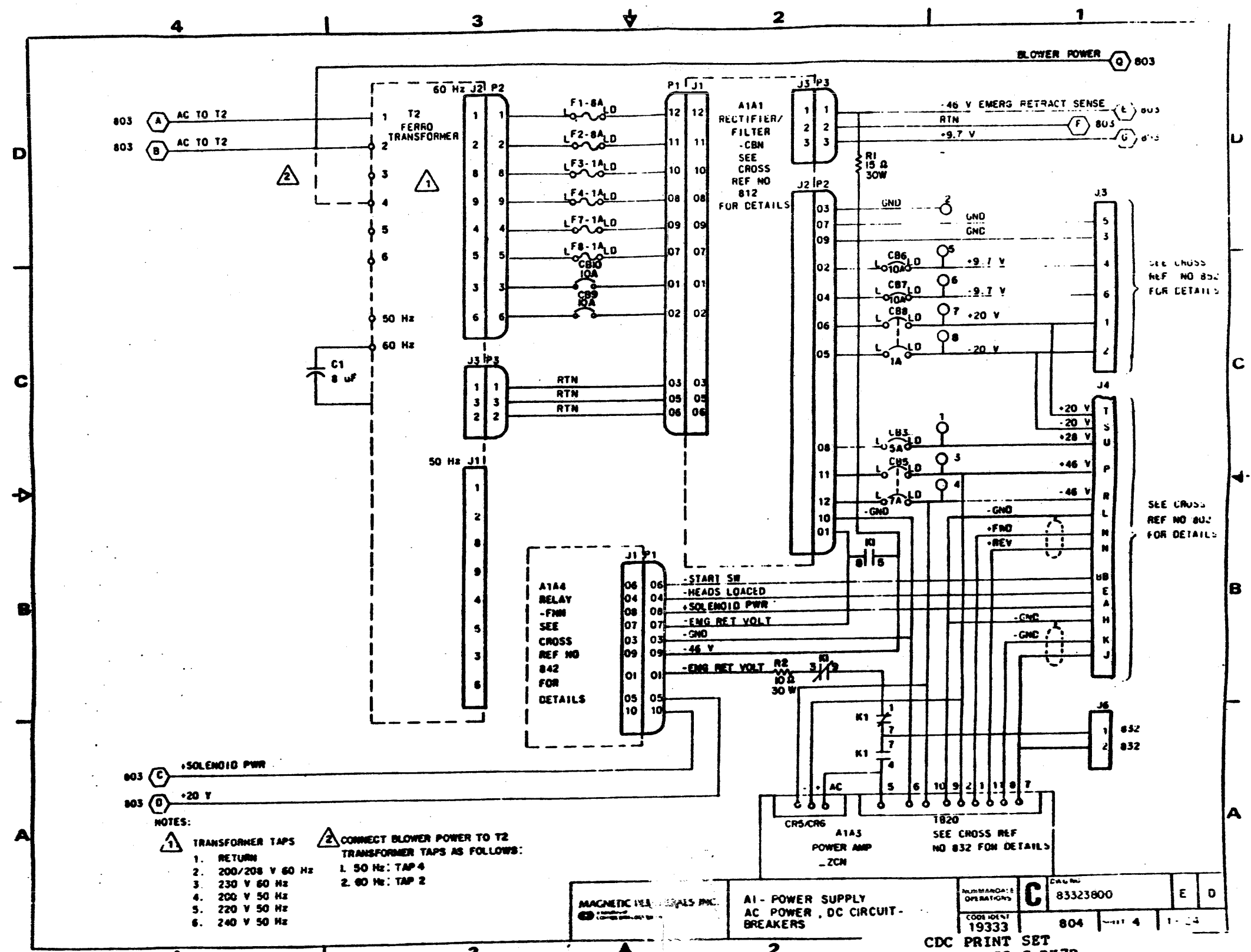
CDC PRINT SET  
S-SP-RM05-0-BK7B  
SHEET 118 OF 180 REV B



- NOTES:
- ⚠ TRANSFORMER TAPS:
1. RETURN
  2. 200 V (50 OR 60 Hz)
  3. 208 V (60 Hz)
  4. 220 V (50 Hz)
  5. 230 V (60 Hz)
  6. 240 V (50 Hz)

MAGNETIC PERIPHERALS INC.	AI-POWER SUPPLY AC POWER, MOTOR, BRAKE AND LOCAL/REMOTE SWITCH	REV. NO. 19333	C	83323800	2	B
				803	3	23

CDC PRINT SET  
B-SP-RM05-9-BK7B  
SHEET 119 of 180  
REV B

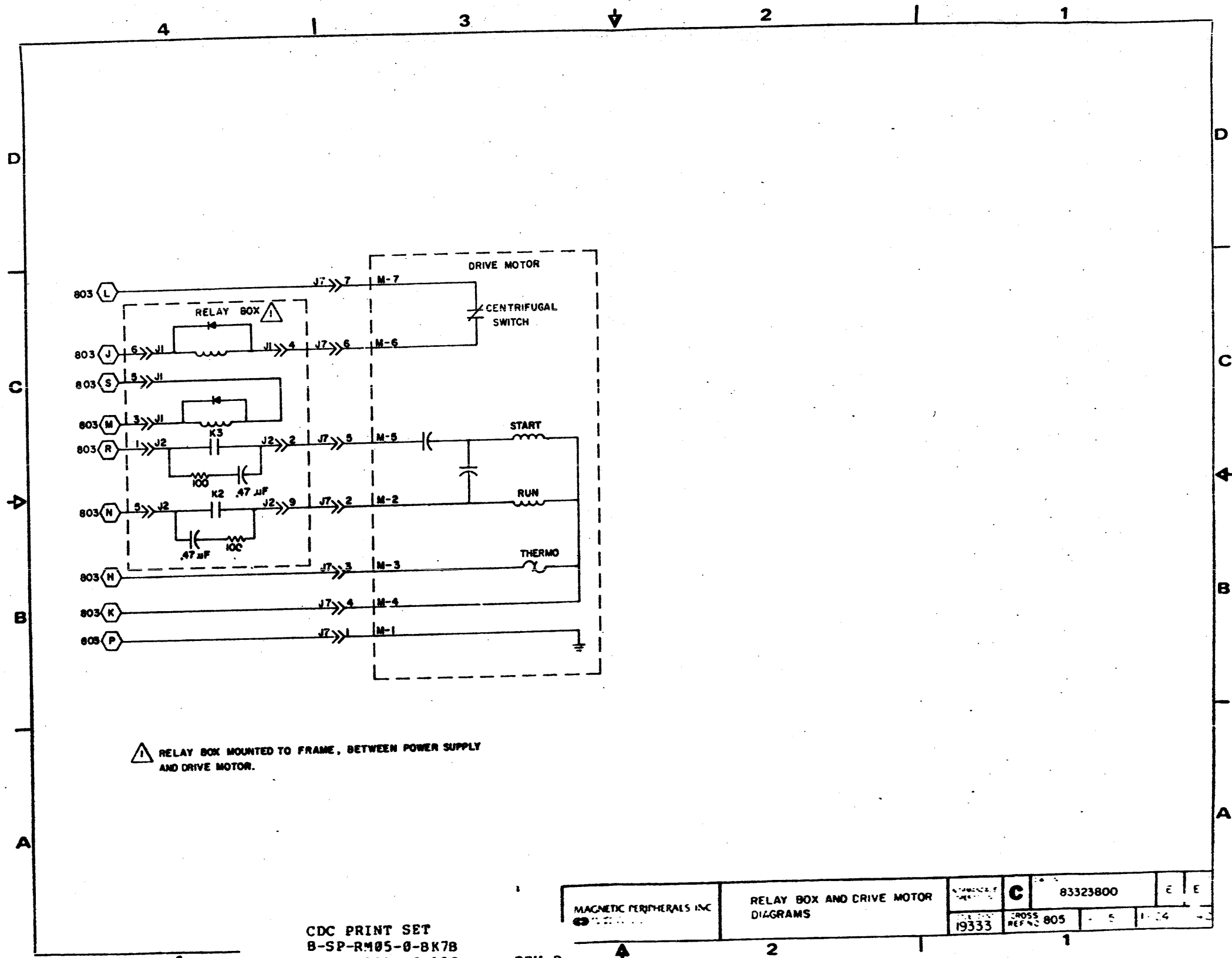


MAGNETIC HEAD REELS INC.

A1 - POWER SUPPLY  
AC POWER, DC CIRCUIT-  
BREAKERS

Auth/MANAGE/OPERATIONS	<b>C</b>	DRG No: 83323800	E	D
CODE IDENT	19333	804	4	1-24

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 120 of 180  
REV B



CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 121 of 180

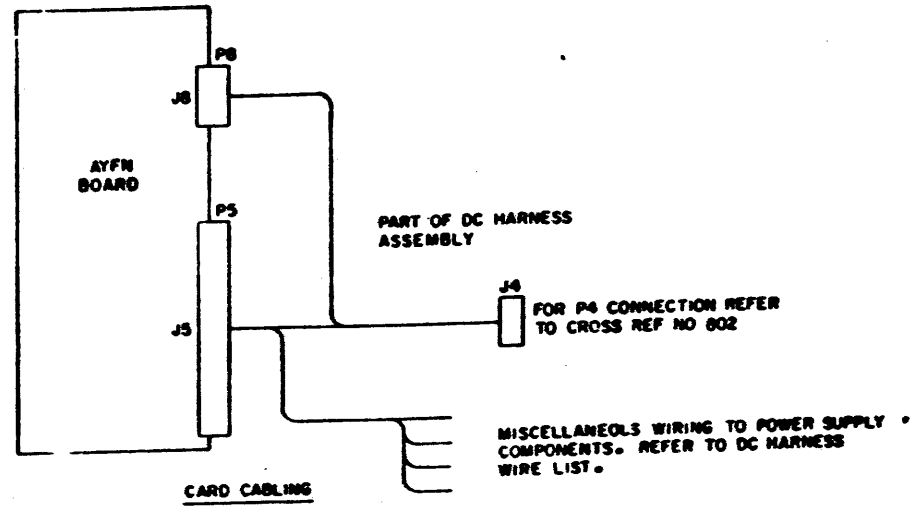
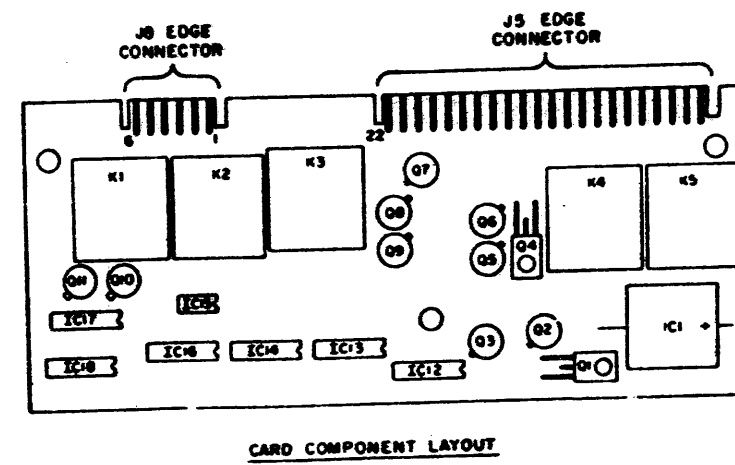
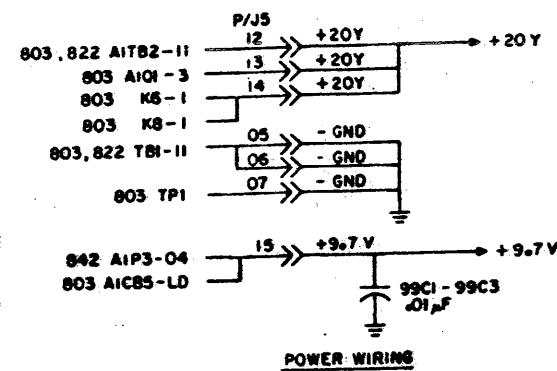
REV B

MAGNETIC PERIPHERALS INC 19333	RELAY BOX AND DRIVE MOTOR DIAGRAMS	C	83323800	E	E
	CROSS REF NO 805				



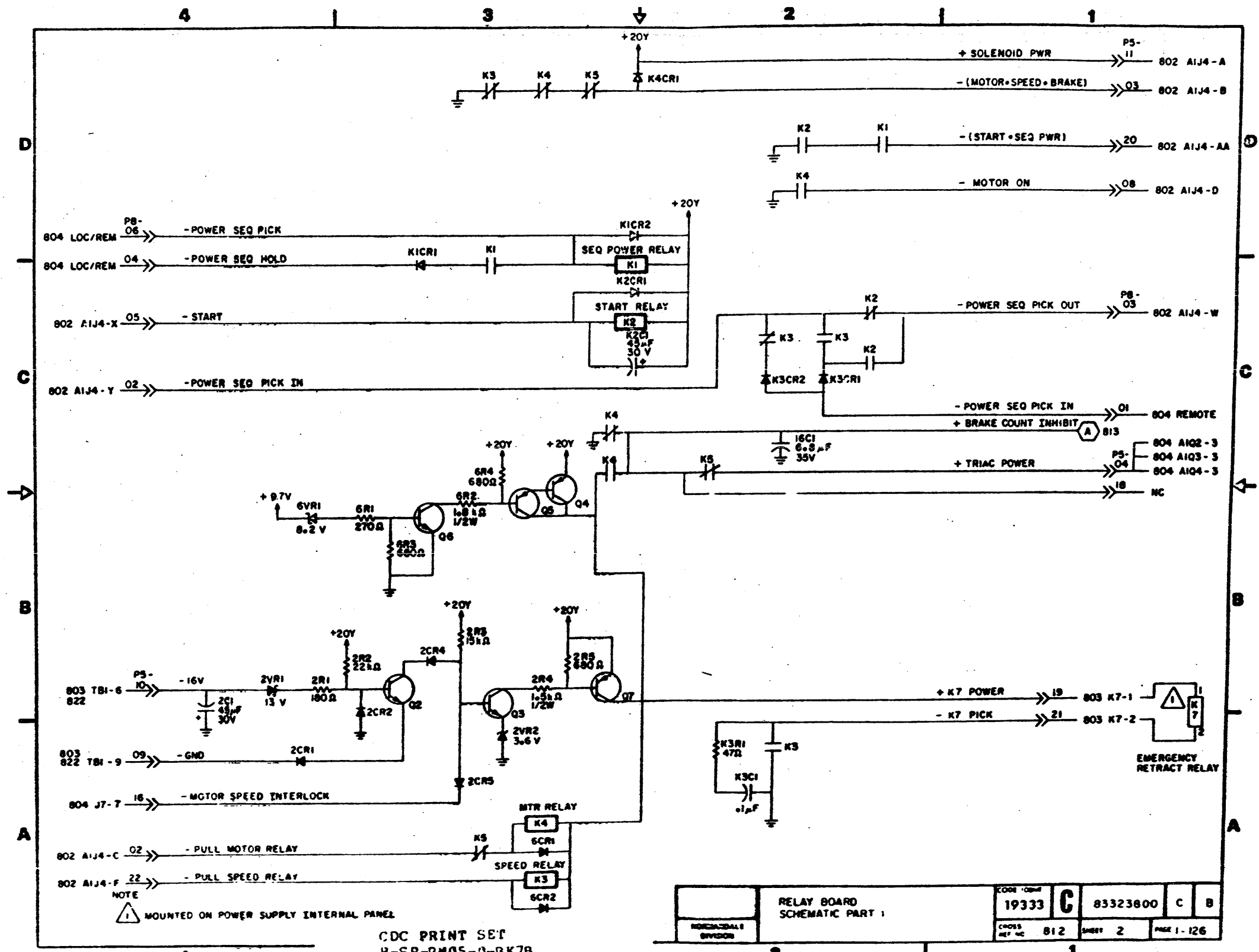
REVISION STATUS OF SHEETS																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A																	
B	B	B																	

REVISIONS					
REV	ECO	DESCRIPTION	DRFT	DATE	CHK'D
A	RE2300C	RELEASEC			
B	57453	ADD VDE		1/12/50	



CDC PRINT SET  
B-SP-RM05-0-3K7B  
SHEET 122 of 180  
REV B

DRAWN		CHECKED		ENGINEER		APPROVED		NON-VDE ONLY	
G. RABINE								RELAY BOARD POWER WIRING, COMPONENT LAYOUT, AND DIAGRAMS	
								TYPE: AYFN	
								CODE 19333 C 83323800 C B	
								CROSS REF NO 811 SHEET 1 of 3 PAGE 1-125 REF 81200025	

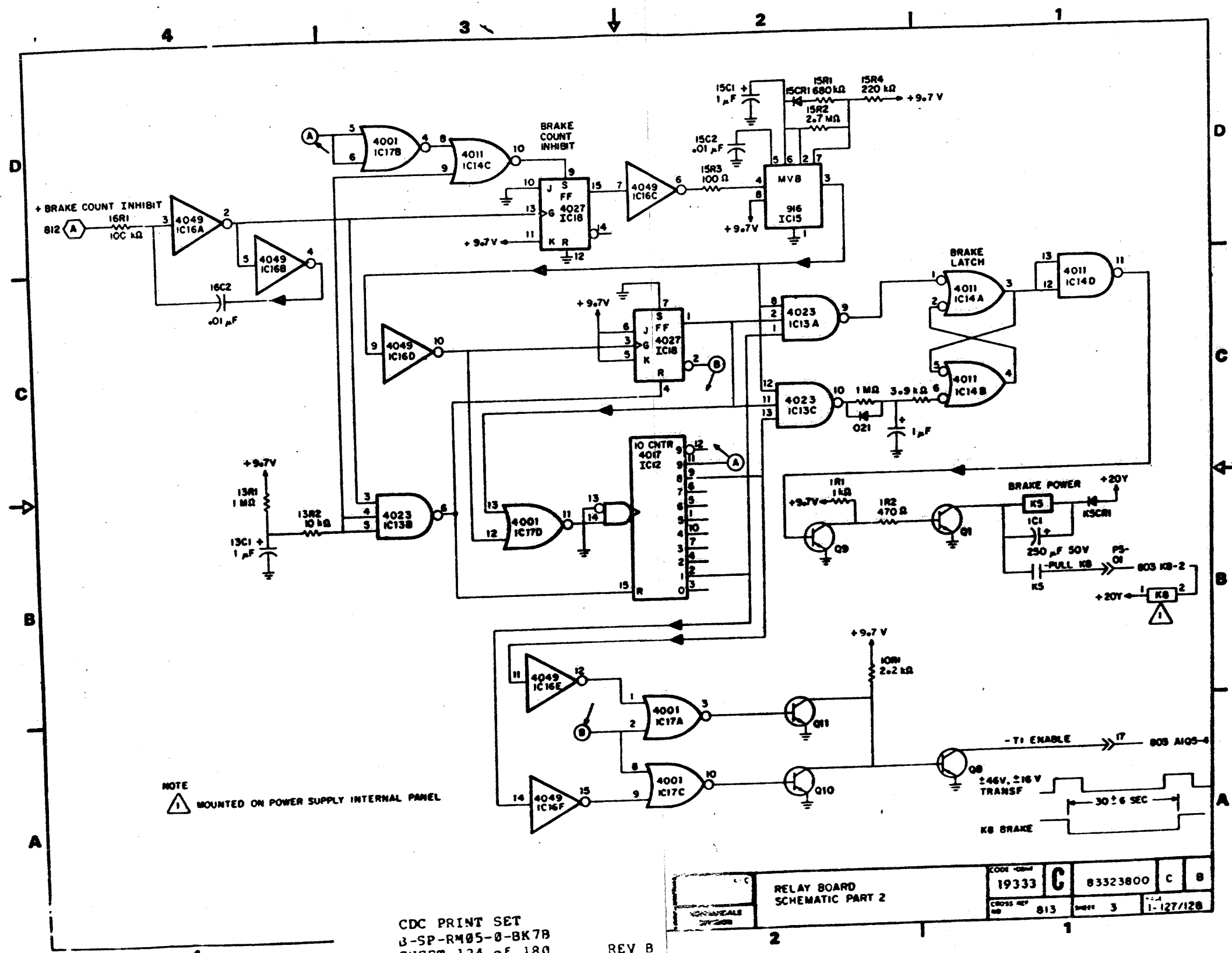


NOTE  
 △ MOUNTED ON POWER SUPPLY INTERNAL PANEL

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 123 of 130

REV B

MORGENTHAU DIVISION	RELAY BOARD SCHEMATIC PART 1		CODE IDENT 19333	C	83323800	C	B
	CROSS REF NO	812	SHEET	2	PAGE	1-126	



NOTE  
 MOUNTED ON POWER SUPPLY INTERNAL PANEL

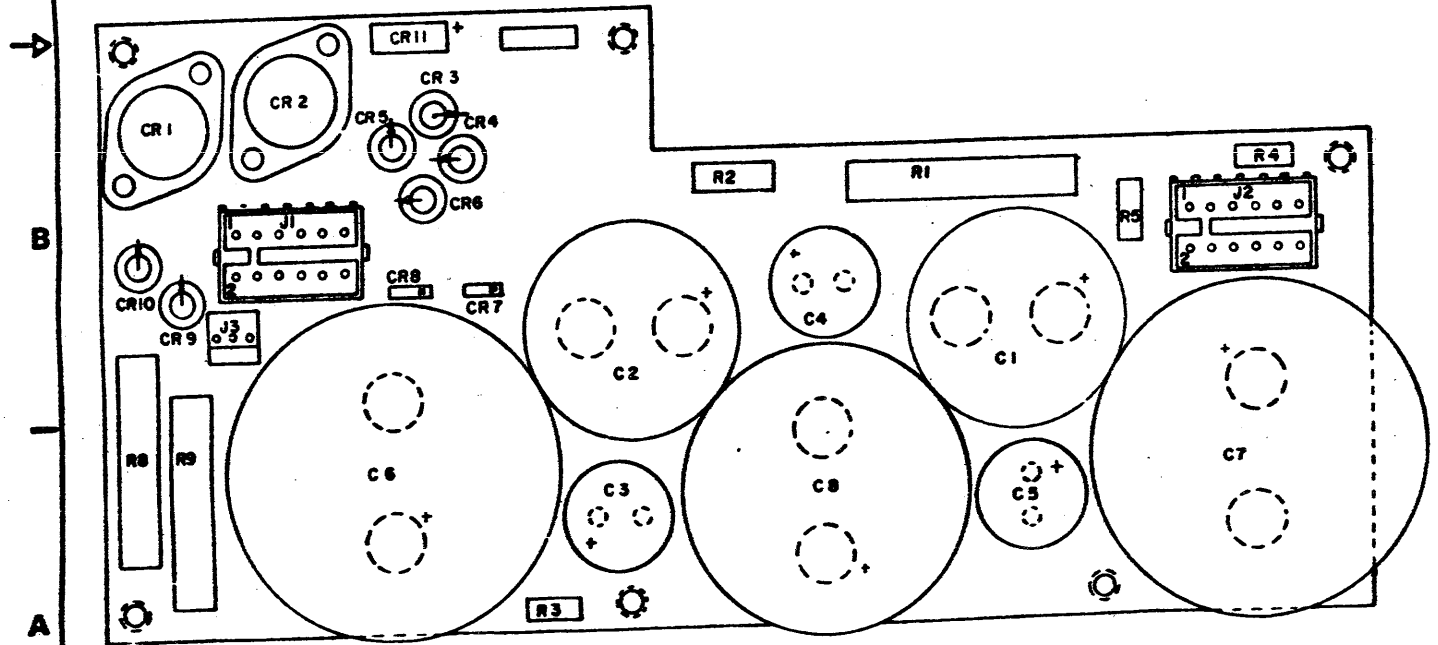
CDC PRINT SET  
 J-SP-RM05-0-BK7B  
 SHEET 124 of 180

REV B

RELAY BOARD SCHEMATIC PART 2		CODE 19333	83323800	C	B
CROSS REF NO	813	SHEET 3	1-127/128		

REVISION STATUS OF SHEETS																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A																			
B	B																			
C	C																			
D	D																			

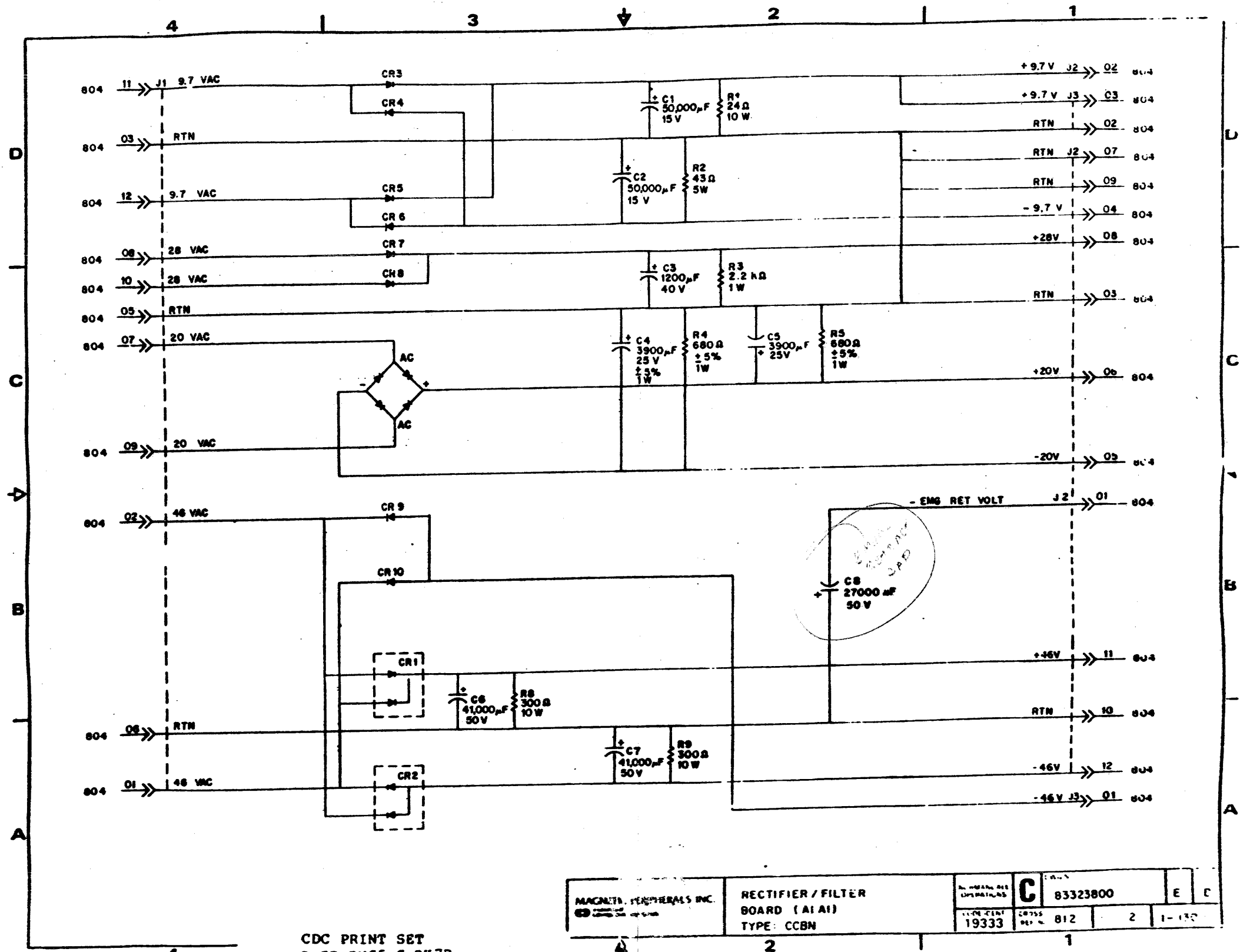
REV.	DATE	DESCRIPTION	BY	CHKD.
A		WELLA ED		
B	5/5/55	CORRECT DIAGRAM		
	5/6/55	CHG ACBM TO CCBM		
D	5/15/55	REWORK CFM B-CBM		



DRAWN: <i>F. Long</i> CHECKED: <i>[Signature]</i> ENGINEER: <i>[Signature]</i> APPROVED: <i>[Signature]</i>	MAGNETIC PERIPHERALS INC. 1000 W. 10th St. Lincoln, Nebraska	VDE ONLY RECTIFIER / FILTER BOARD (A1A1) TYPE: CCBM	LOC: _____	PART NO: <b>C 83323800</b>	E D
		19333	811	1 2	1-129

CDC PRINT SET  
 B-SP-RM05-0-BK7B  
 SHEET 125 of 180  
 REV B

REF B1200257

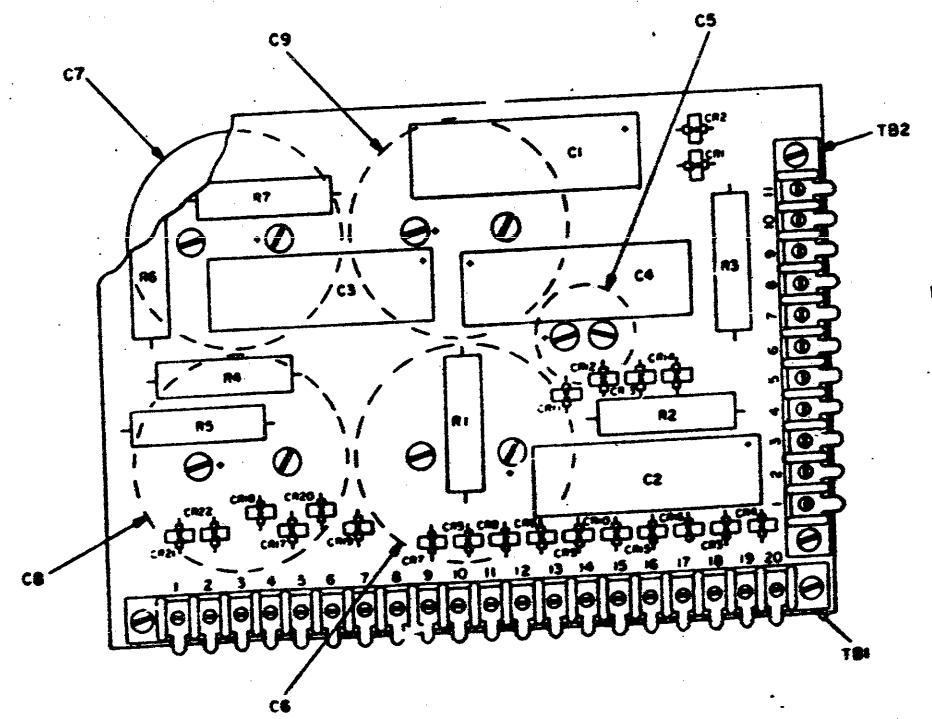


CDC PRINT SET  
 B-SP-RM05-B-BK7B  
 SHEET 126 of 180  
 REV B

MAGNETA PERIPHERALS INC.	RECTIFIER / FILTER BOARD (A1A1) TYPE: CCBN	PART NO. 83323800		E	C
		19333	812		

REVISION STATUS OF SHEETS																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A																			
B	B																			
C	C																			

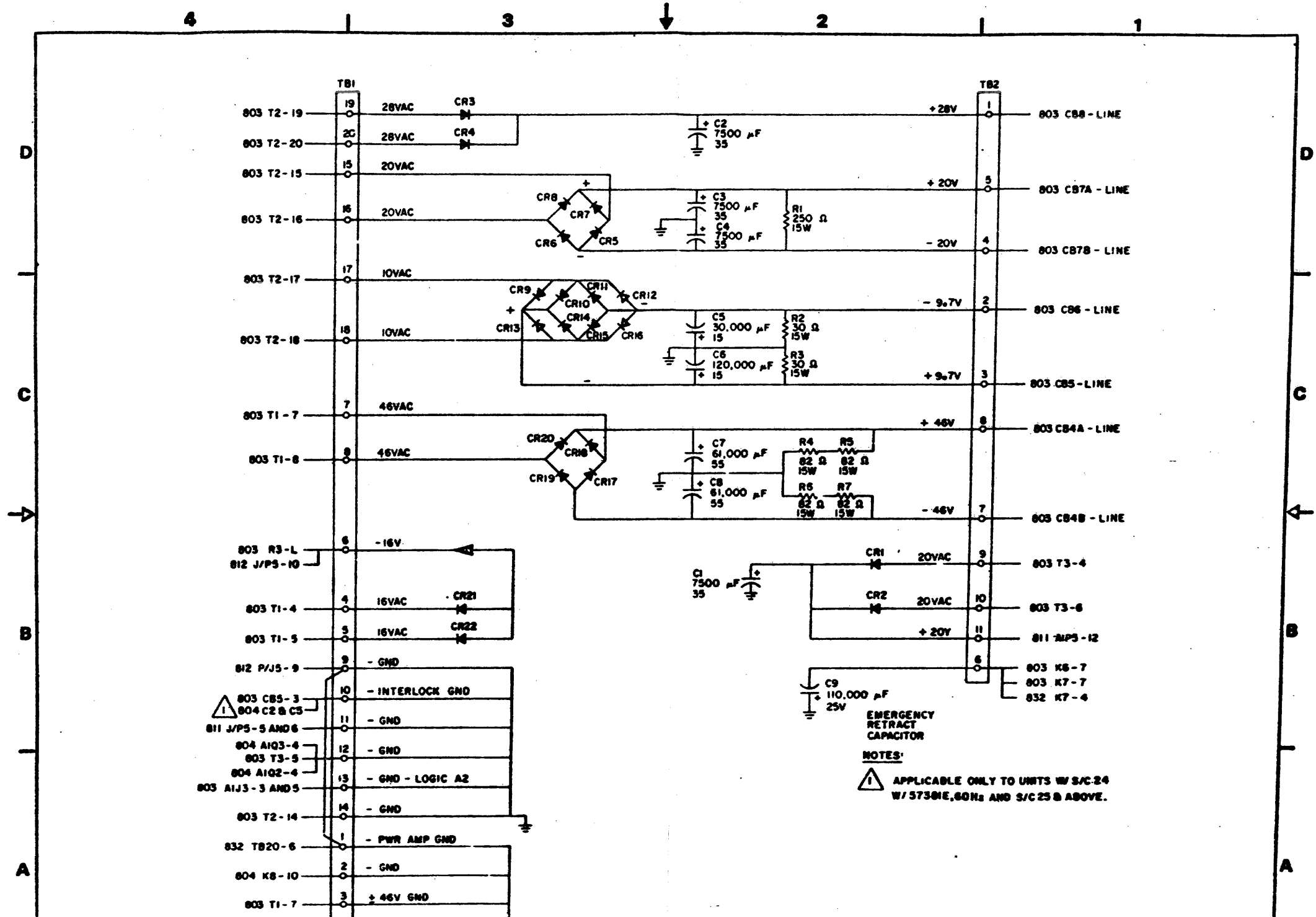
REVISIONS					
REV	ECO	DESCRIPTION	DWPT	DATE	CHE'D
A	182000	RELEASED			
B	57433	ADD VDE			
C	5758-E	CHG NO. SEC CAPS			



BOARD IS MOUNTED ON TO CAPACITORS C5, C6, C7, C8, C9

DRAWN: <i>[Signature]</i> CHECKED: <i>[Signature]</i> ENGINEER: <i>[Signature]</i> APPROVED: <i>[Signature]</i>	NON-VDE ONLY <b>RECTIFIER AND CAPACITOR BOARD COMPONENT LAYOUT AND DIAGRAMS</b> TYPE: SYEN	CODE: 19333 CROSS REF: 821	<b>C</b> SHEET: 1 of 2	83323800 PAGE: 1-131 REF: 83215212	E C
--	--	-------------------------------	---------------------------	--	--------

CDC PRINT SET  
 B-SP-RM05-0-3K7B  
 SHEET 127 of 180  
 REV B



CDC PRINT SET  
 B-SP-RM05-0-3K7B  
 SHEET 128 of 180

REV B

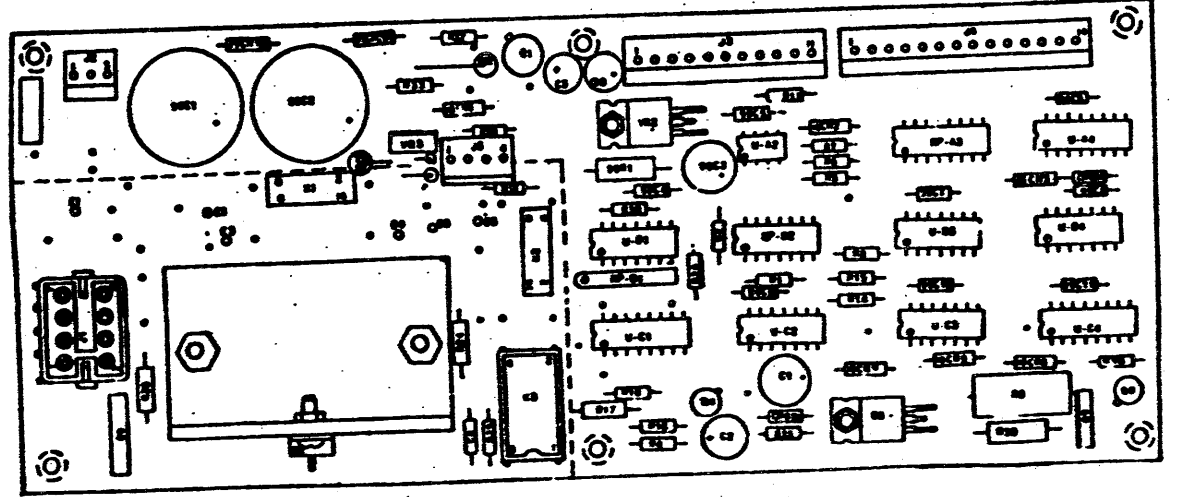
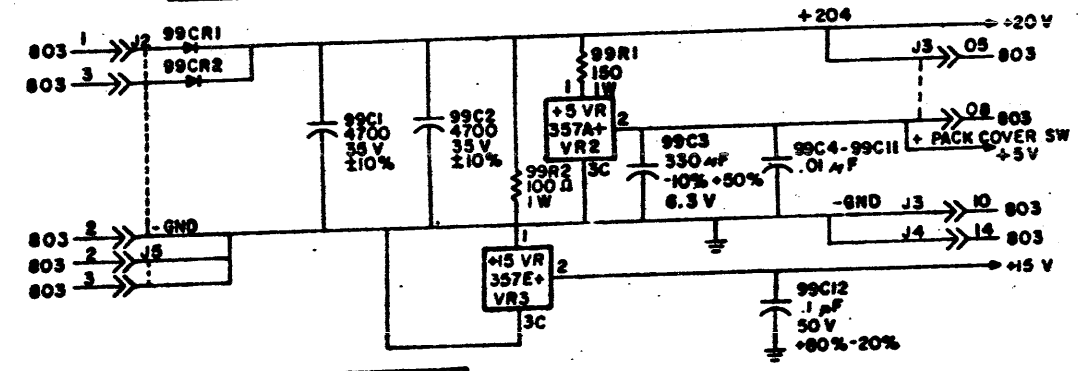
RECTIFIER AND CAPACITOR BOARD		CODE 19333	C	83323800	C	C
REV	NO	822	SHEET 2	PAGE 1-132		

REVISION STATUS OF SHEETS																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A	A	A																	
B	B	B	B																	
C	C	C	C																	
D	D	D	D																	
E	E	E	E																	
F	D	E	D																	
G	G	G	G																	

UNUSED RESISTOR PACKS	
LOCATION	PINS
RP-A3	9, 15
RP-B1	4, 5, 6

UNUSED LOGIC ELEMENTS		
ELEMENT	LOCATION	OUTPUT PINS
148LS	U-C3	4, 10
341	U-B1	13
MC1413	U-C1	10

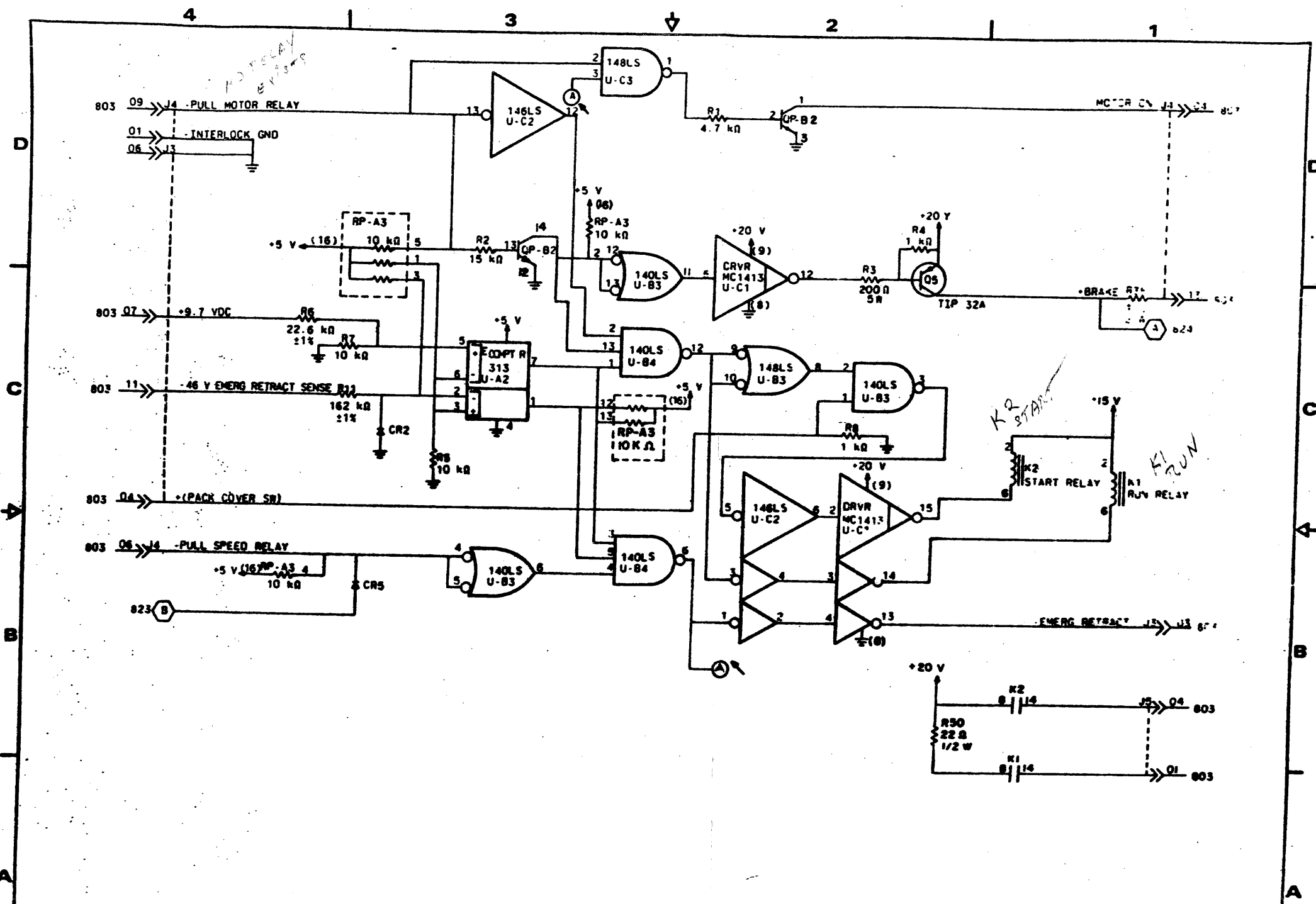
REV.	ECN	RELEASED BY	DATE
A	457055	RELEASED	
B	37535	CORRECT DIAGRAM	
C	64040	CHANGE TO CCFM COMP ASSY	
D	64088	CHANGE TO CCFM COMP ASSY	
E	57578	CHANGE TO CCFM COMP ASSY	
F	64089	CHANGE TO CCFM COMP ASSY	
G	266427	REWORK CCFM PC BOARD	



DESIGNED BY <i>T. Long</i>	DATE <i>11/10</i>	MAGNETIC PERIPHERALS INC.	VDE ONLY		CONTROL BOARD DIAGRAMS (A1 A2)	19333	C	83323800	E G	
CHECKED BY										
ENG. DES.										
APPROVED BY										
REV B			3	2	1	1	821	1	4	1-133

CDC PRINT SET  
B-SP-RM85-8-BK78  
SHEET 129 OF 180



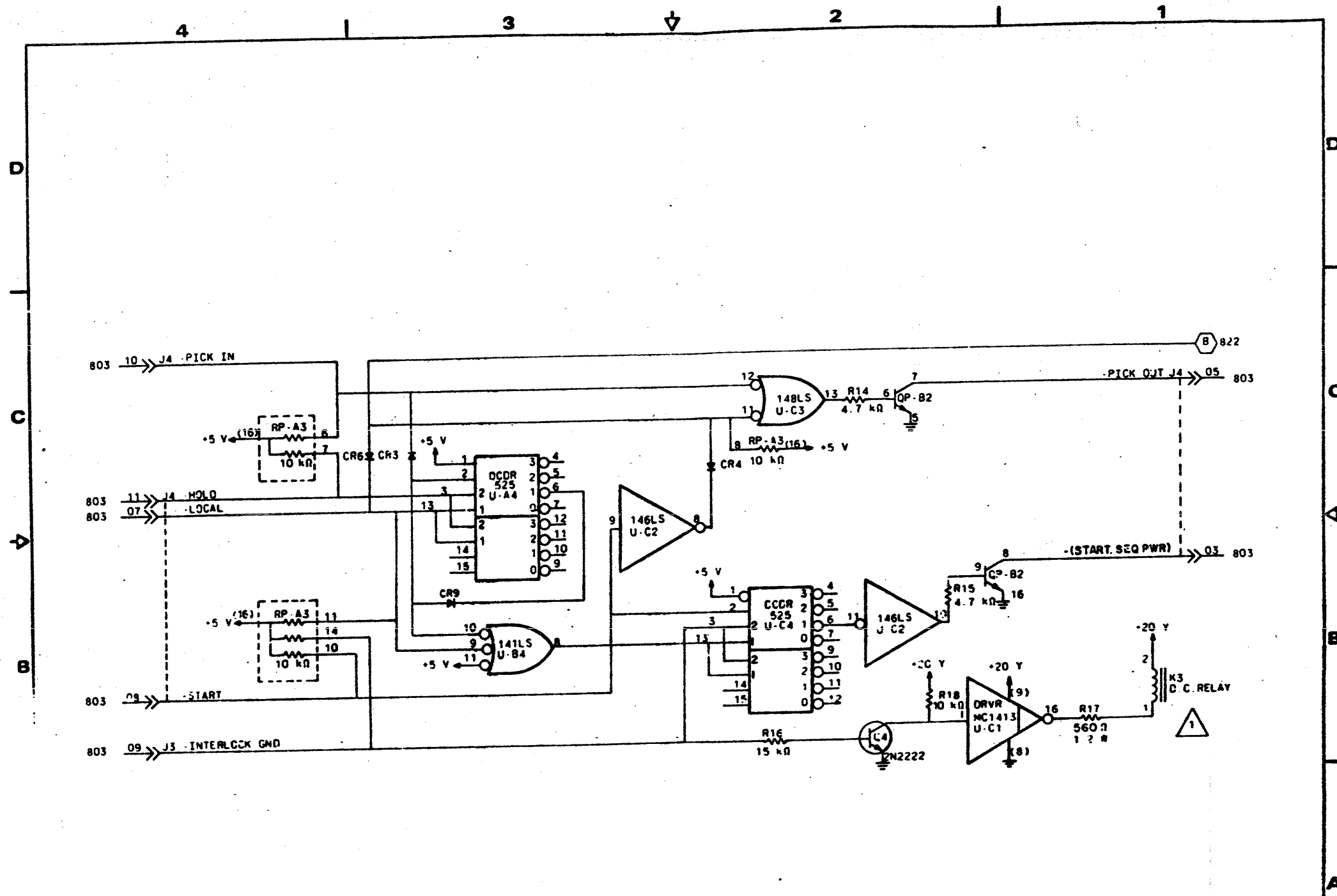


CONTACTS SHOWN ON CR 824

CDC PRINT SET  
 S-SP-RM05-0-9K7B  
 SHEET 130 of 180

REV B

MAGNETIC PERIPHERALS, INC.	CONTROL BOARD PART I	DATE 1933	REV 022	83323000	E	G
	TYPE: FCFN			2		1-134

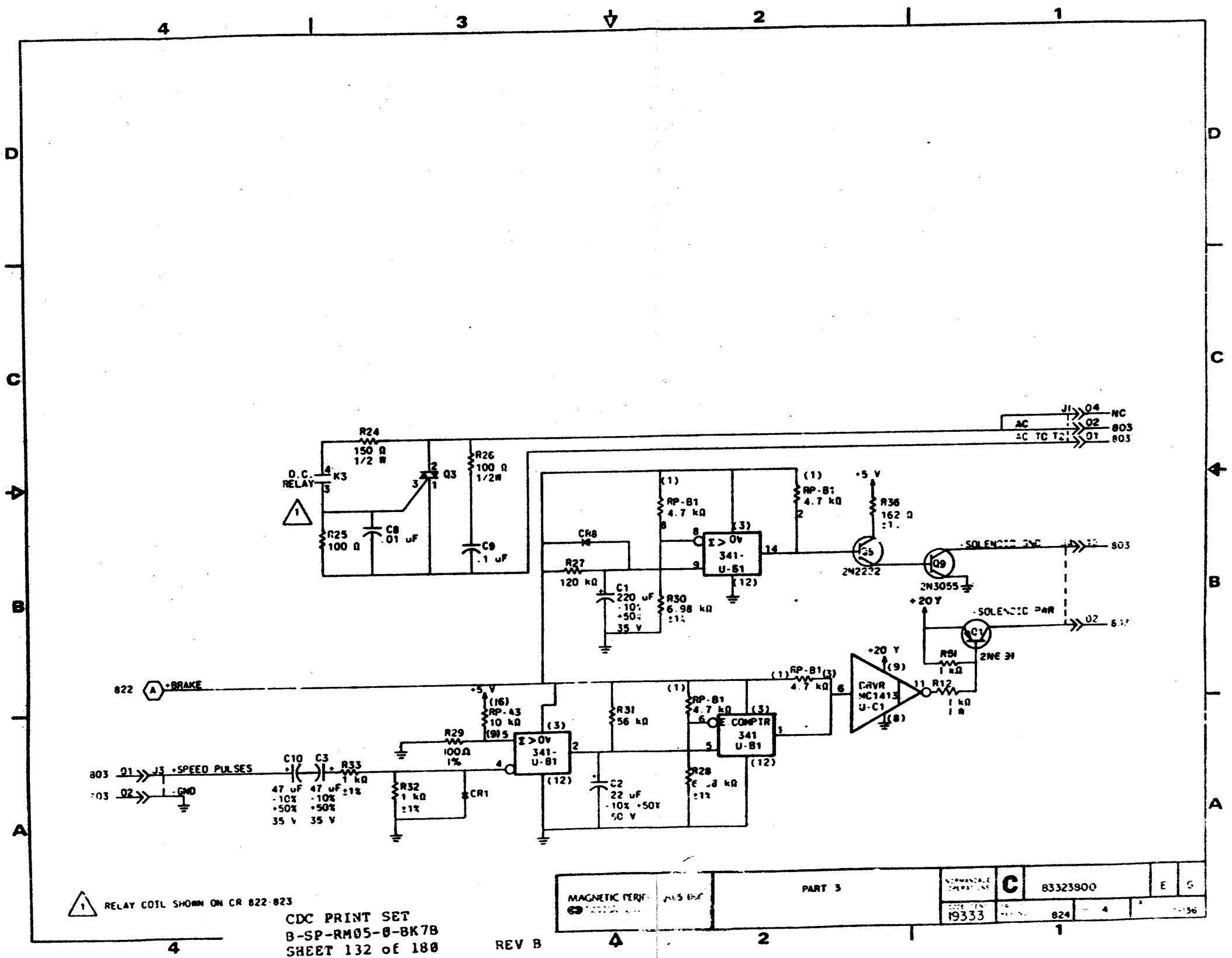


CONTACTS SHOWN ON CR B74

CDC PRINT SET  
 B-SP-RM05-U-8K7B  
 SHEET 131 of 180

REV B

MAGNETIC PERIPHERALS INC.	PART 2	NORMALE OPERATIONS	C	83 323800	E	G
		CODE SENT 19333				

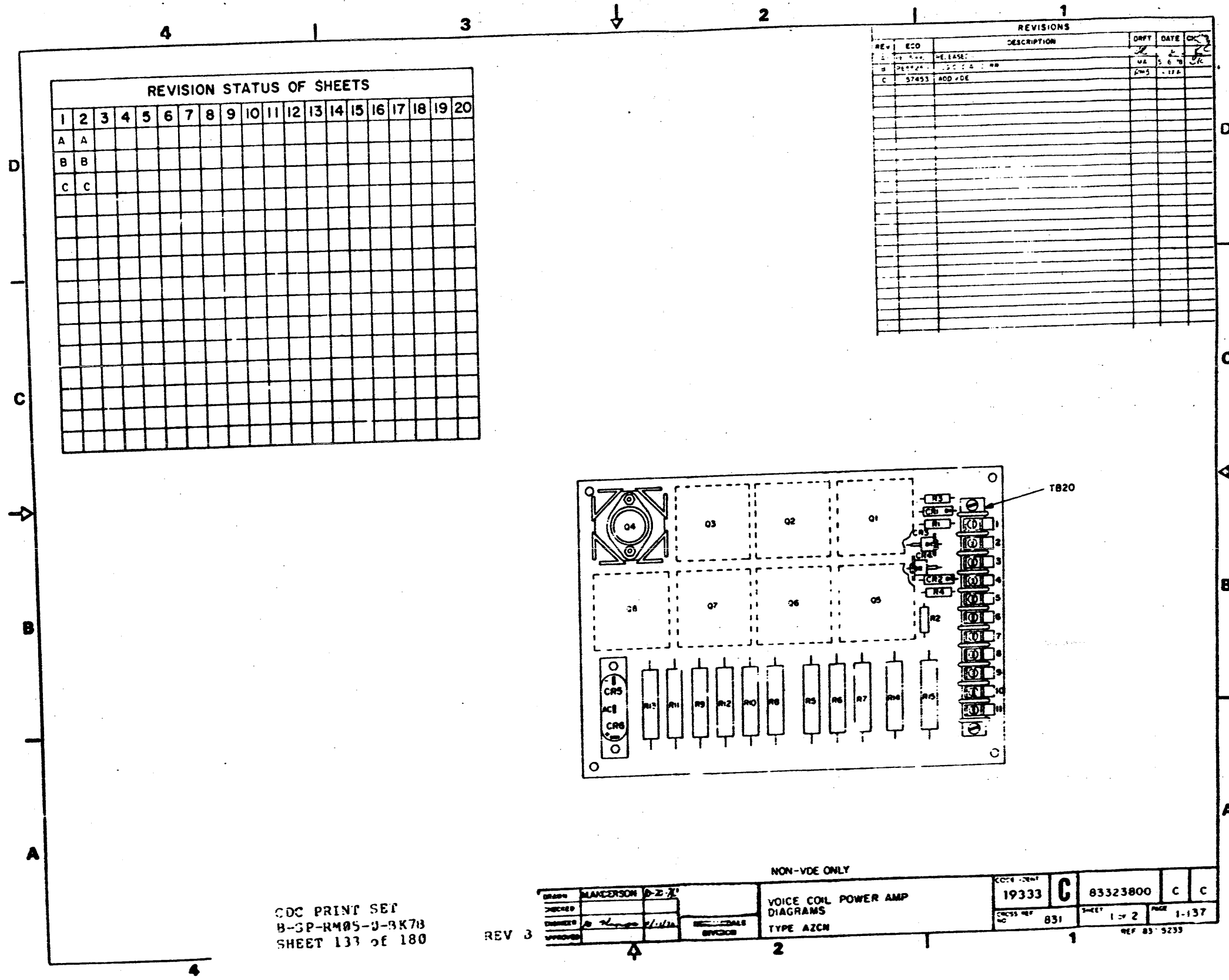


RELAY COIL SHOWN ON CR 822-823

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 132 of 180

REV B

MAGNETIC PERM.	REV B	PART 3	19333	824	4	56
			83323900	E	G	



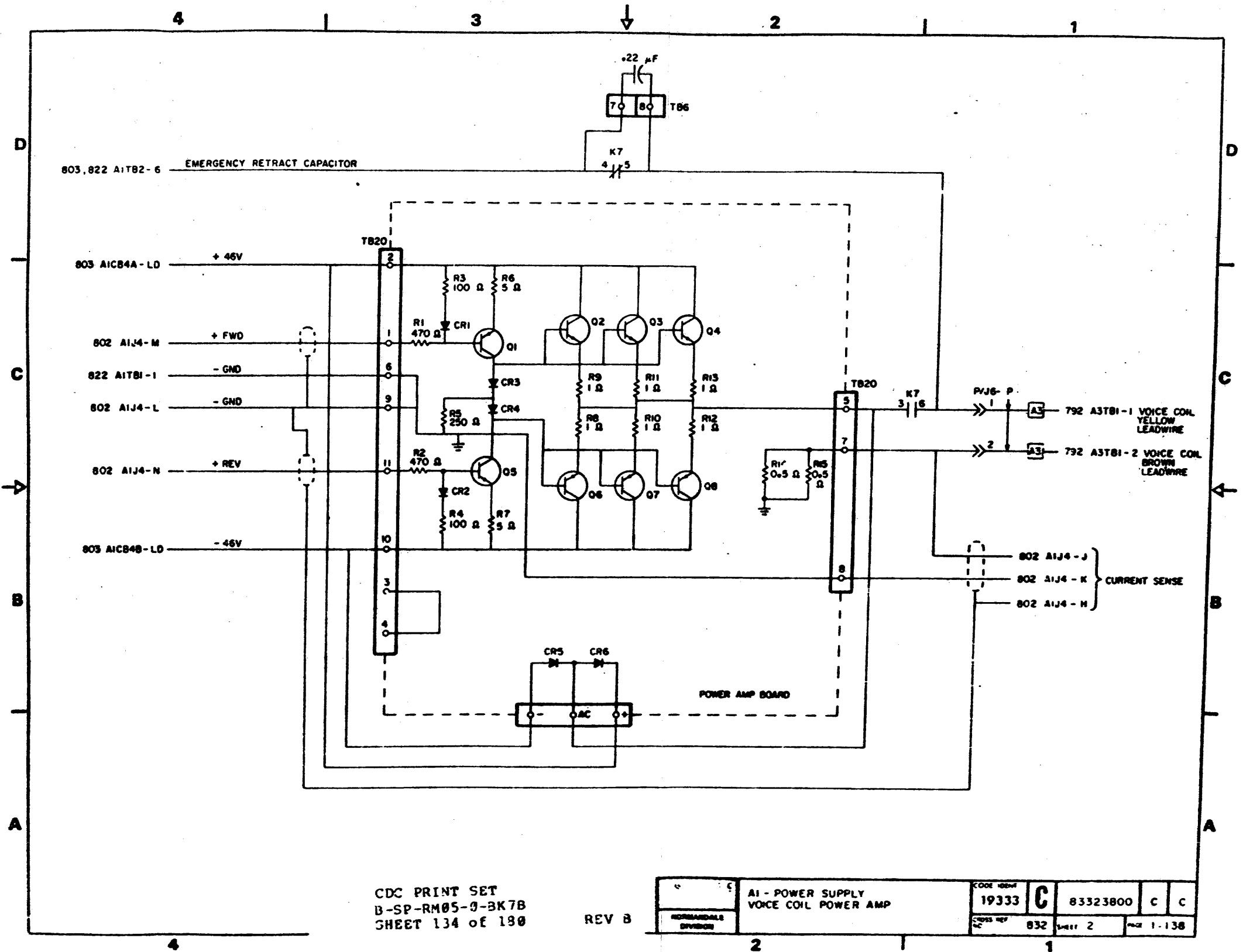
**REVISION STATUS OF SHEETS**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A																				
B	B																				
C	C																				

REVISIONS						
REV	ECO	DESCRIPTION	DRAFT	DATE	CHK	BY
1	...	...				
2	...	...				
3	...	...				
4	...	...				
5	...	...				
6	...	...				
7	...	...				
8	...	...				
9	...	...				
10	...	...				
11	...	...				
12	...	...				
13	...	...				
14	...	...				
15	...	...				
16	...	...				
17	...	...				
18	...	...				
19	...	...				
20	...	...				

CDC PRINT SET  
 B-SP-RM05-U-3K78  
 SHEET 133 of 180

REV 3	DRAWN	BLANCKSON	DATE	9-2-78	NON-VDE ONLY	19333	C	83323800	C	C
	CHECKED									
	ENGINEER									
	APPROVED									
	VOICE COIL POWER AMP DIAGRAMS TYPE AZCN									
						831	SHEET 1 of 2	PAGE 1-137		
								REF 83-5233		

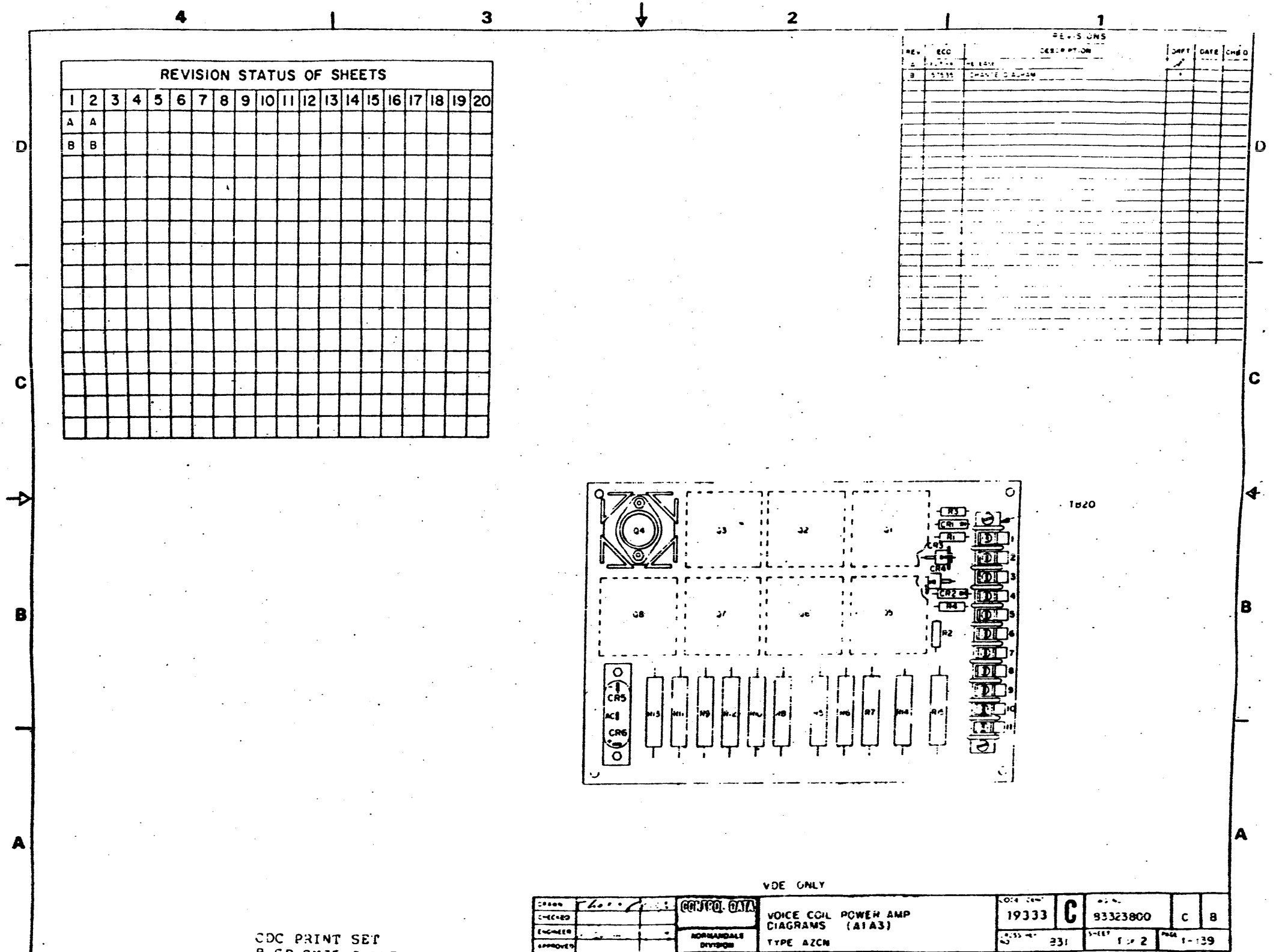


CDC PRINT SET  
 B-SP-RM05-9-BK7B  
 SHEET 134 of 180

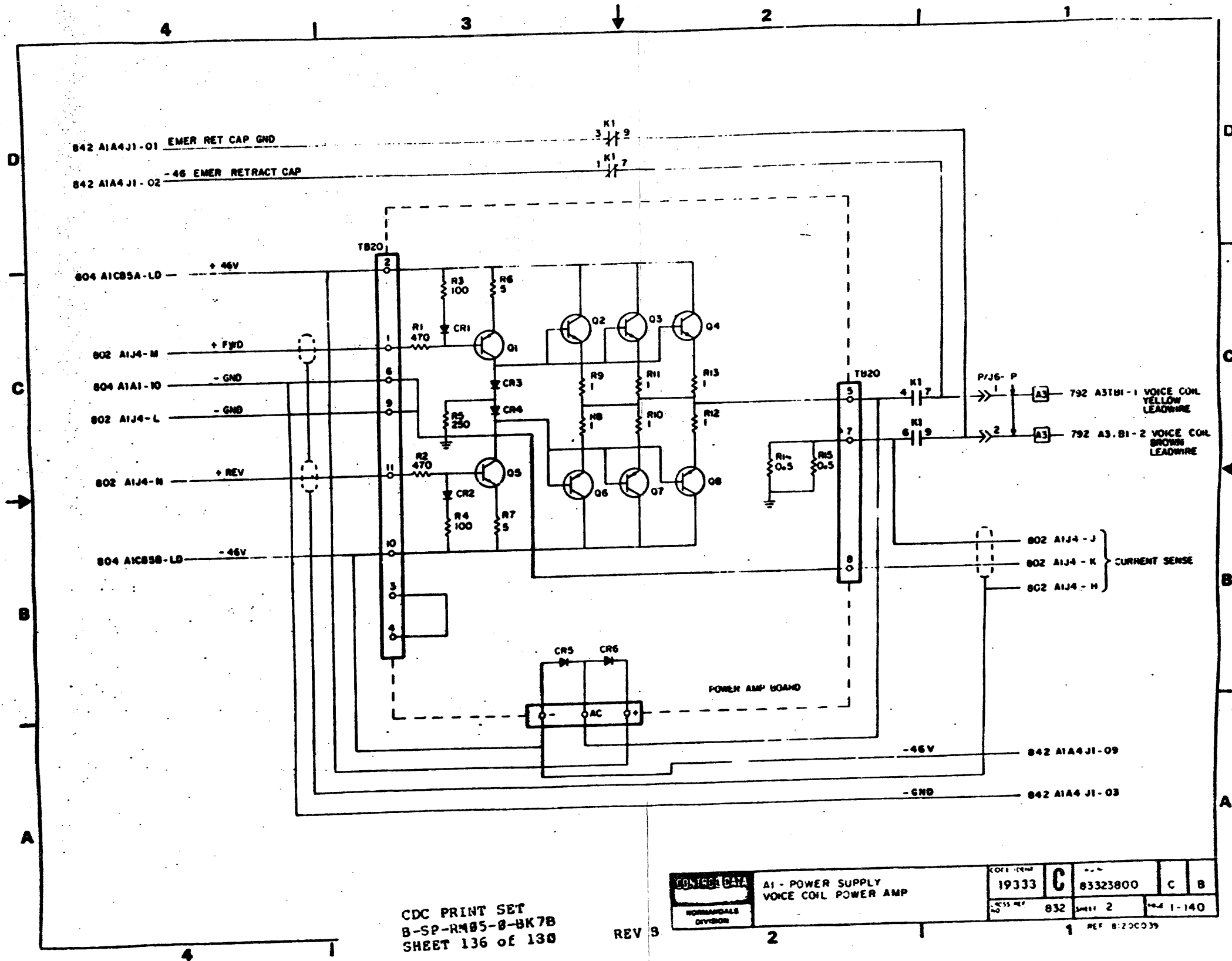
REV B

NORLANDALE DIVISION	A1 - POWER SUPPLY VOICE COIL POWER AMP		CODE 19333	C	83323800	C	C
	832	SHEET 2	PAGE 1-138				

2 1



DESIGN					VOIC COIL POWER AMP					19333		C		93323800		C	B
CHECKED					DIAGRAMS (A1A3)												
ENGINEER					TYPE AZCN					231		SHEET		1 of 2		PAGE	
APPROVED										1						1-139	
																REF 8122059	



CDC PRINT SET  
 B-SP-RM85-8-BK7B  
 SHEET 136 of 130

REV 9

CONTROL DATA	A1 - POWER SUPPLY VOICE COIL POWER AMP	19333	C	83323800	C	B
WORKING DIVISION		832	SHEET 2	1-140		
				1	REF B:220039	

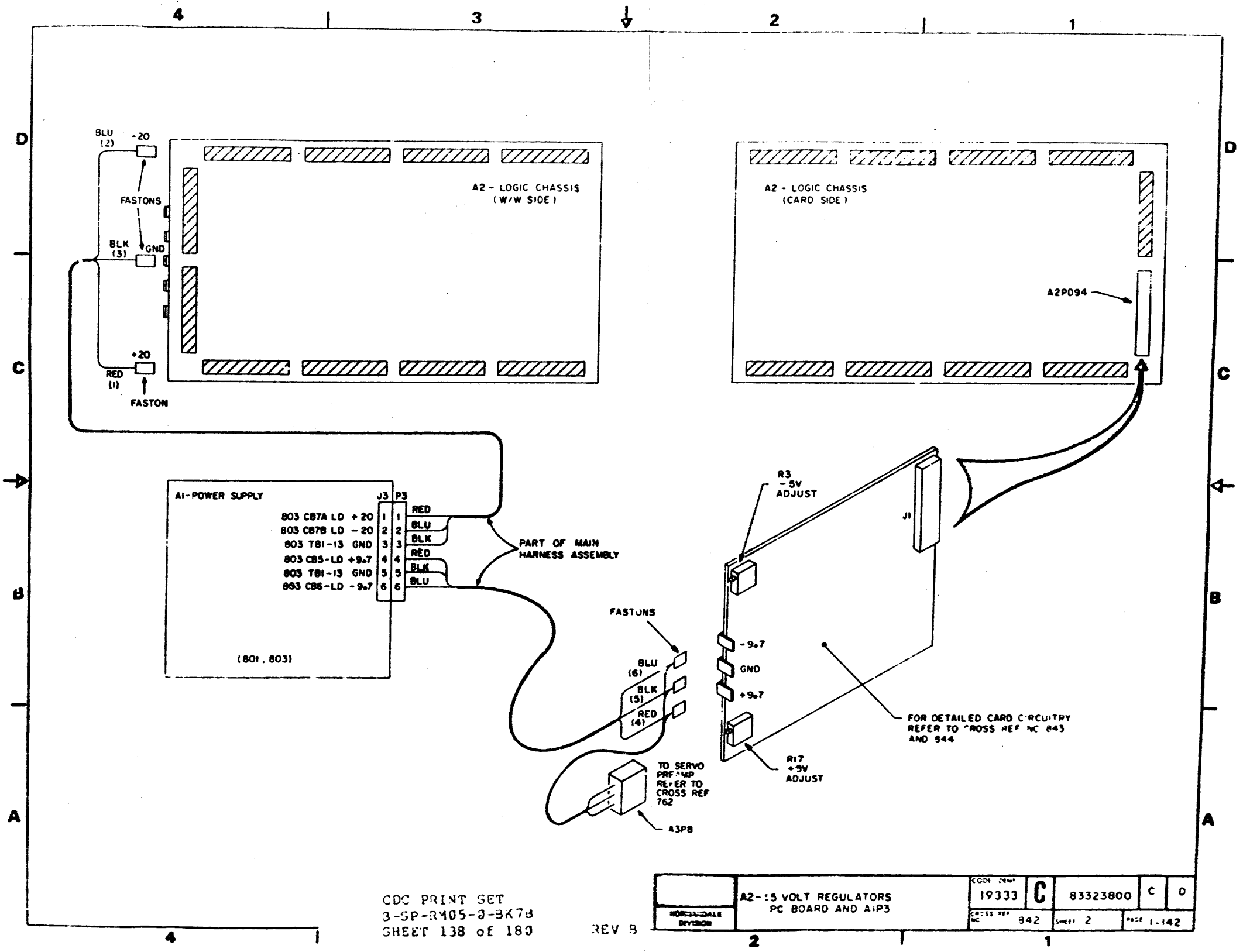
REVISION STATUS OF SHEETS																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A																	
B	A	B	B																	
C	A	B	C																	
D	D	D	D																	

REVISIONS					
REV	ECO	DESCRIPTION	DRFY	DATE	CHK'D
1	42300	RELEASE	SC	11-1-78	CC
2	455259	LOG-C DIA CORR	MA	5-6-78	JF
3	455779	UPDATE LOG POINTS	MA	2-1-79	JF
4	57453	ADD VDE	JWB	11-1-78	

DRAWN		CHECKED		ENGINEER		APPROVED		NON-VDE ONLY		A2 5 VOLT - REGULATOR DIAGRAMS		CODE IDENT	19333	C	83323800	C	D	CROSS REF NO	841	SHEET	1 of 4	PAGE	1-141	REF 832 3234
-------	--	---------	--	----------	--	----------	--	--------------	--	--------------------------------	--	------------	-------	---	----------	---	---	--------------	-----	-------	--------	------	-------	--------------

CDC PRINT SET  
 B-SP-RM05-0-8K7B  
 SHEET 137 of 190  
 REV B

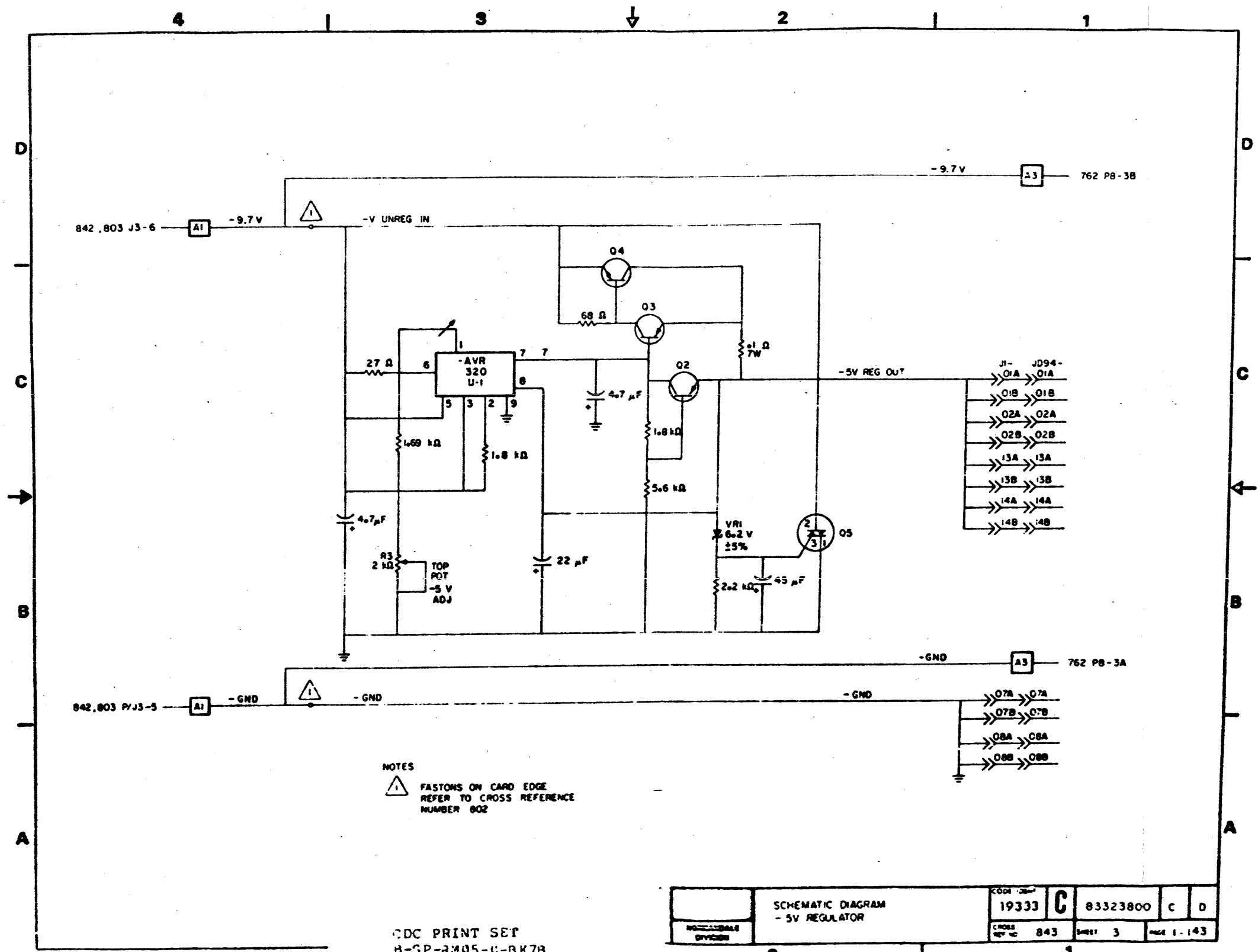




CDC PRINT SET  
3-SP-RM05-0-3K78  
SHEET 138 of 180

REV B

A2-5 VOLT REGULATORS PC BOARD AND AIP3		CODE NO 19333	C	83323800	C	D
REVISION DIVISION		CROSS REF MC 842	SHEET 2	PAGE 1-142		

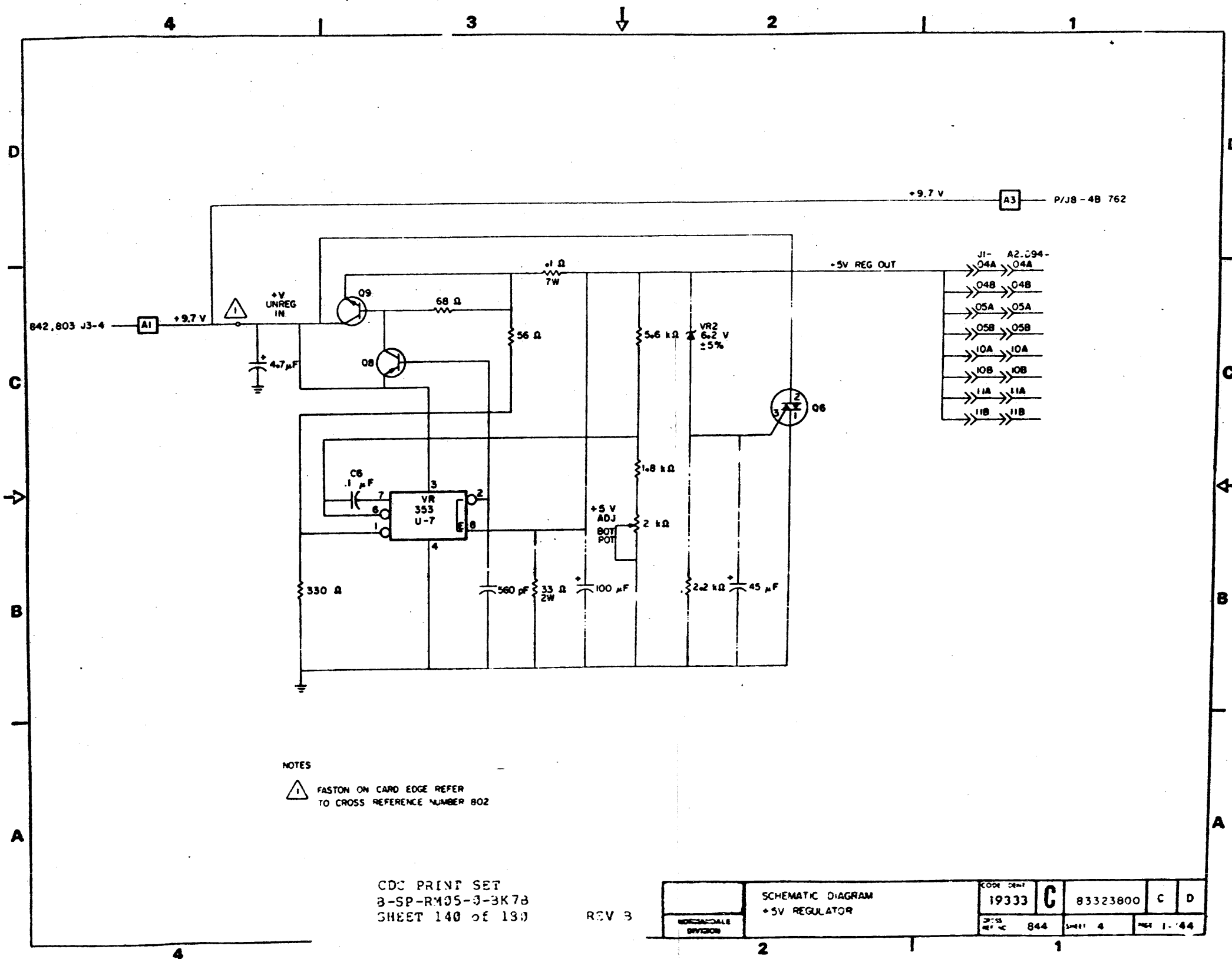


NOTES  
 ⚠ FASTONS ON CARD EDGE  
 REFER TO CROSS REFERENCE  
 NUMBER 802

CDC PRINT SET  
 8-SP-RM05-U-BK7B  
 SHEET 139 of 180

REV B

NO. OF SHEETS DIVISION	SCHEMATIC DIAGRAM - 5V REGULATOR	CODE	C	83323800	C	D
		19333				
		CROSS REF NO	843	SHEET	3	PAGE
					1	143

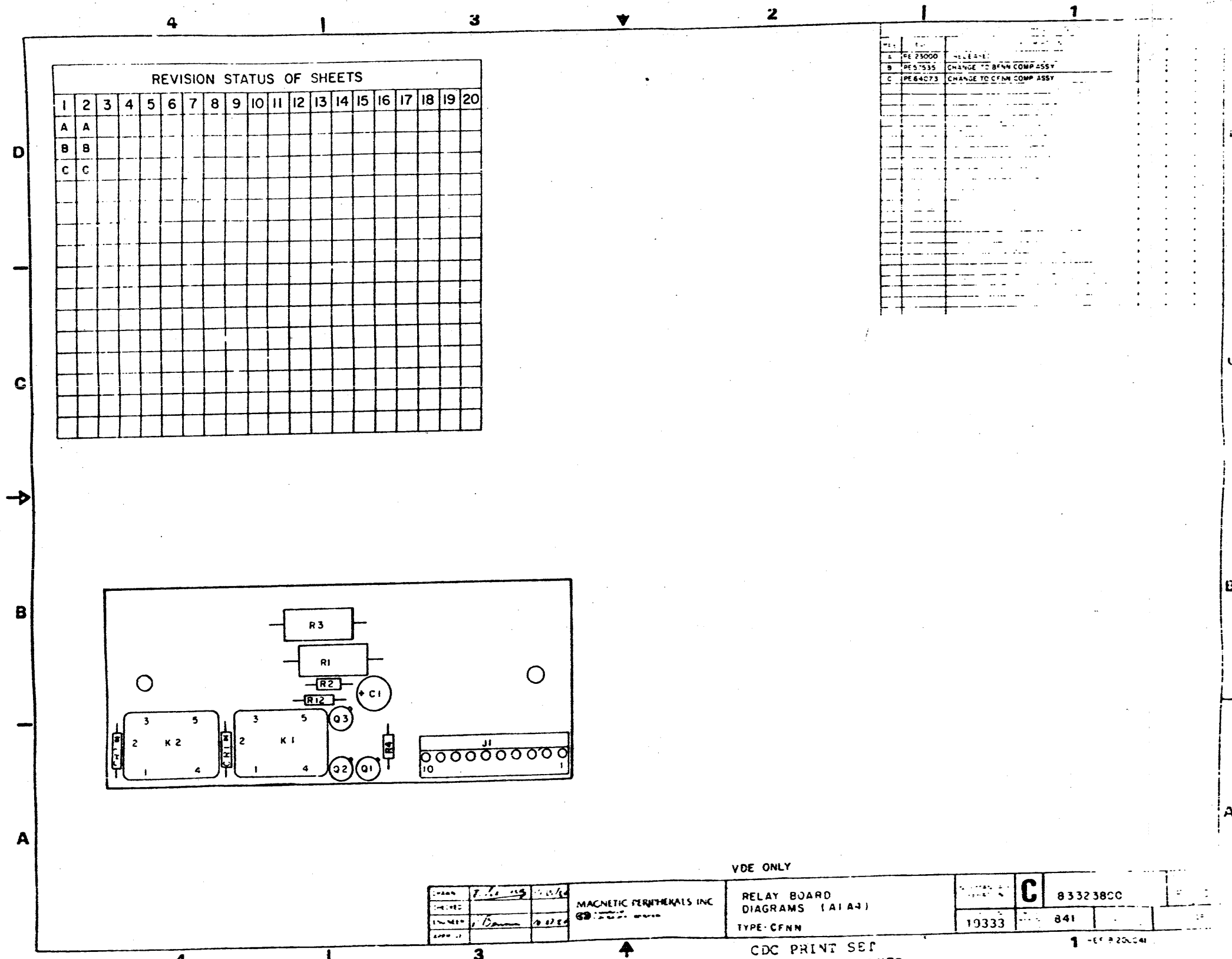


NOTES  
 ⚠ FASTON ON CARD EDGE REFER TO CROSS REFERENCE NUMBER 802

CDC PRINT SET  
 3-SP-R105-3-3K78  
 SHEET 140 of 130

REV 3

MICROCALE DIVISION	SCHEMATIC DIAGRAM +5V REGULATOR	CODE DESI	C	83323800	C	D
		19333				
		DES REF NO	844	SHEET	4	PAGE
					1	44



REVISION STATUS OF SHEETS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	A																			
B	B																			
C	C																			

REV	NO	DATE	DESCRIPTION
A	PE 23000		RELEASE
B	PE 57535		CHANGE TO CFNN COMP ASSY
C	PE 64073		CHANGE TO CFNN COMP ASSY

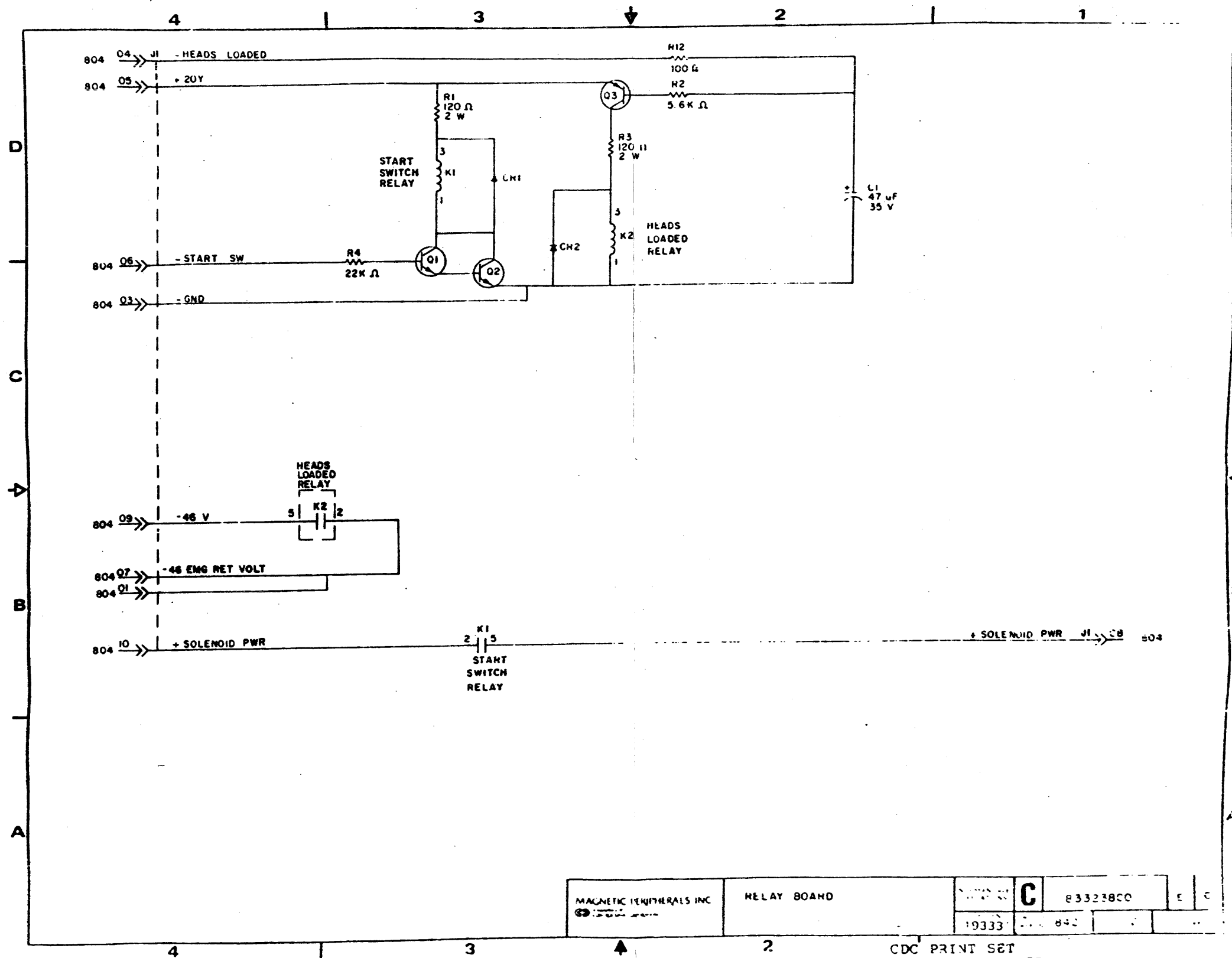
DESIGNED	7.10.59	11.15.60	MAGNETIC PERIPHERALS INC	RELAY BOARD DIAGRAMS (A1A4) TYPE-CFNN	C	833238CC
CHECKED						
APPROVED						
DATE						

VDE ONLY

CDC PRINT SET  
B-SP-RM05-0-3K73  
SHEET 141 of 133

REV 9

1 - OF 220041



CDC PRINT SET  
 B-SP-R405-C-8K7B  
 SHEET 142 of 180  
 REV 3

REVISION STATUS OF SHEETS																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	A	A	A																	
B	B	B	B																	

REVISIONS						
REV	ECO	DESCRIPTION	DRY	DATE	CHK'D	
A	PE 23000	REL. EASLE				
B	57433	CORRECTED C DIAGRAMS				

DRAWN	<i>[Signature]</i>	CONTROL: <i>[Signature]</i>
CHECKED		
ENGINEER	<i>[Signature]</i>	NORMAN DALE DIVISION
APPROVED		

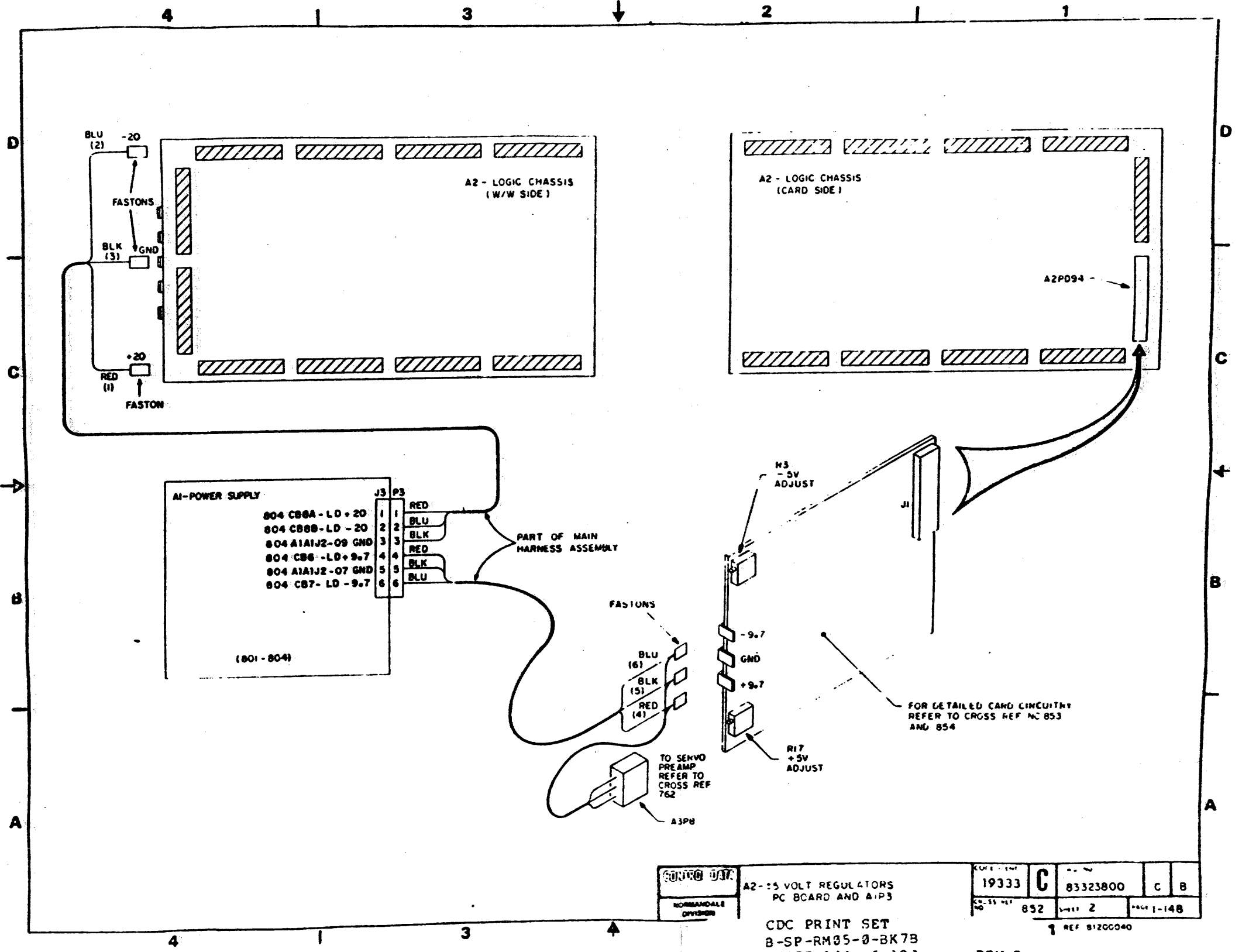
VDE ONLY

A2 5 VOLT -REGULATOR  
DIAGRAMS

DATE	1933	NO	C	83323800	C	B
NO.	851	SHEET	1 of 4	REF	1-147	
				1 REF	8-200000	

CDC PRINT SET  
B-SP-RM05-J-3K78  
SHEET 143 of 180

REV B



SONO DAT  
NORMAN DALE  
DIVISION

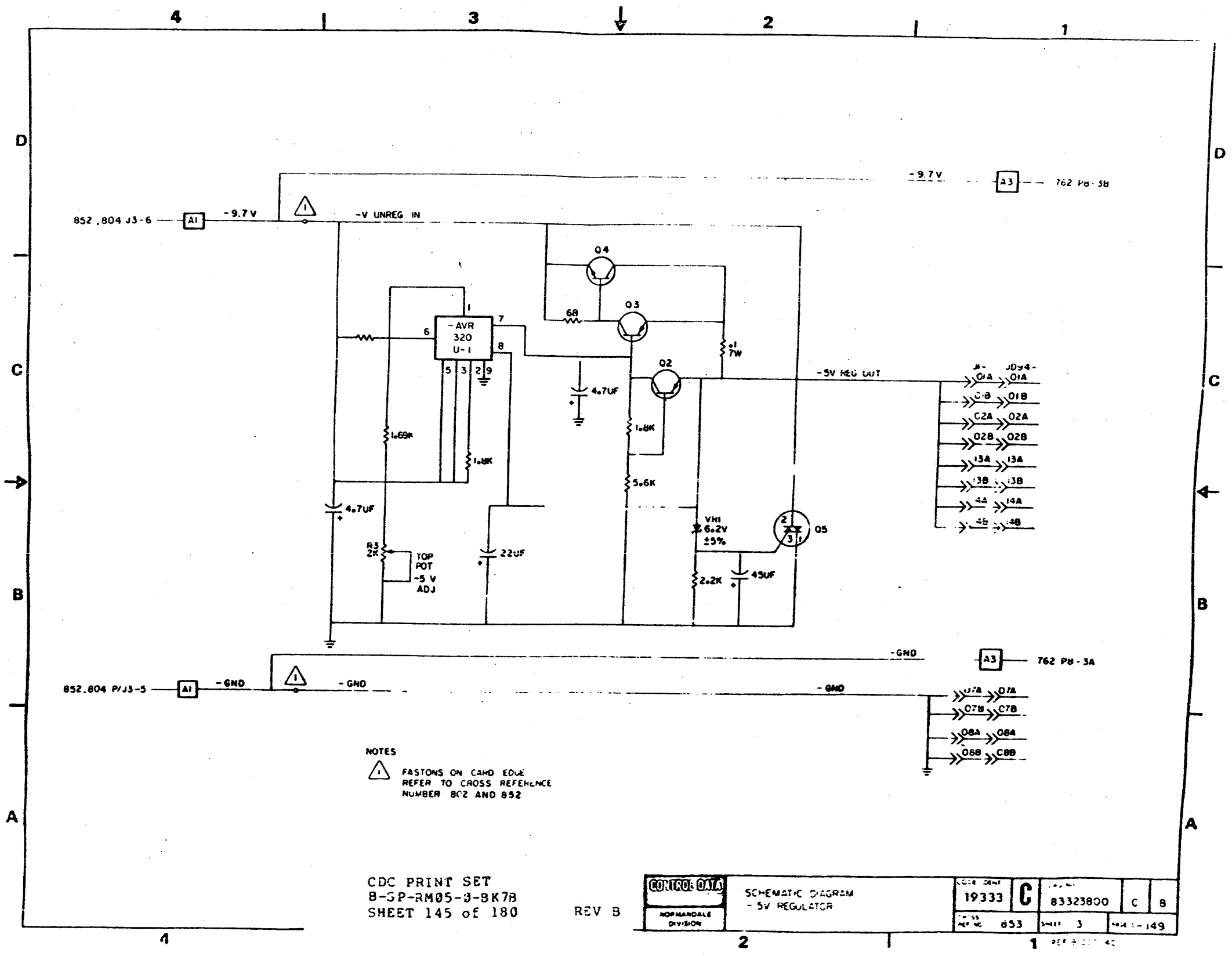
A2-5VOLT REGULATORS  
PC BOARD AND AIP3

CDC PRINT SET  
B-SP-RM05-0-BK7B  
SHEET 144 of 180

19333	C	83323800	C	B
852	2	1-148		

REF 81200040

REV B



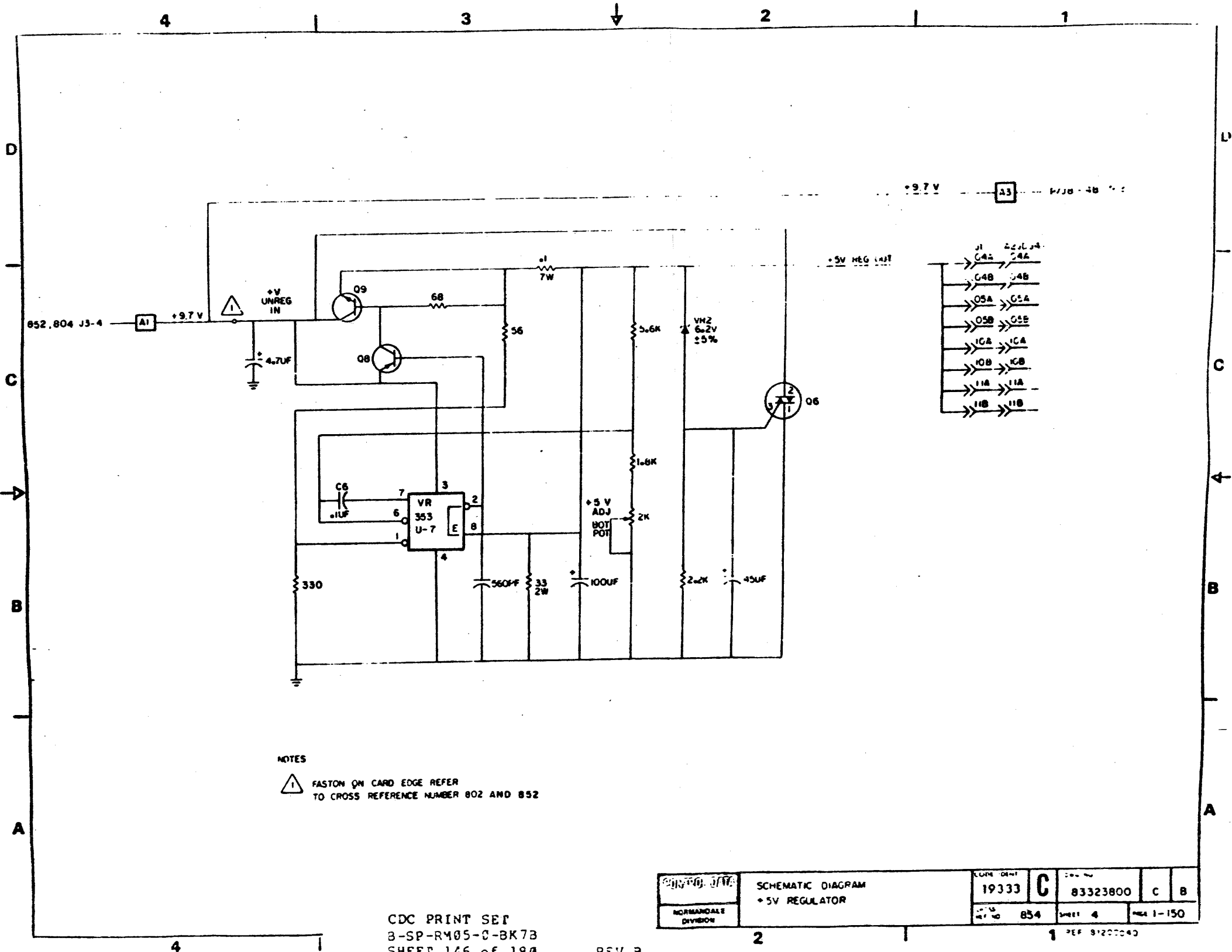
NOTES  
 ⚠ FASTONS ON CARD EDGE REFER TO CROSS REFERENCE NUMBER 8C2 AND 852

CDC PRINT SET  
 B-SP-RM05-3-BK7B  
 SHEET 145 of 180

REV B

CONTROL DATA NORMANDALE DIVISION	SCHEMATIC DIAGRAM - 5V REGULATOR	DATE DESIGNED	19333	C	PART NUMBER	83323800	C	B
		REVISED	853					





NOTES  
 1 FASTON ON CARD EDGE REFER TO CROSS REFERENCE NUMBER 802 AND 852

CDC PRINT SET  
 B-SP-R405-C-8K73  
 SHEET 145 of 180

REV B

NORMANDEALE DIVISION	SCHEMATIC DIAGRAM +5V REGULATOR	FORM DESIG	C	DESIGN NO	C	B
		19333		83323800		
		REF NO	SHEET	PAGE		
		854	4	1-150		

REF 81200040

## SECTION 2

## WIRE LISTS

---

**INTRODUCTION**

This section contains the wire list for the logic chassis wire-wrap. This list is useful when making repairs to the logic chassis wirewrap panel.

**LOGIC WIREWRAP****General**

This list shows the origin, destination, and Z level of all wirewrap connections on the logic chassis backpanel.

The wires are listed in order of card location and pin number. The lowest card location is listed first and the highest last. Following the listing of connections between card locations is a list of connections between the pins at the card locations and the pins on the auxiliary connectors (JA80 - JA84 and JD90 and JD94). The pins at each card location or auxiliary jack also are listed from lowest to highest.

This list is a double ended type listing. This means that each wire is listed twice, first by the lowest card or jack it is wired to and then by the highest.

The following explains each of the columns in the wire list (refer to figure 2-1).

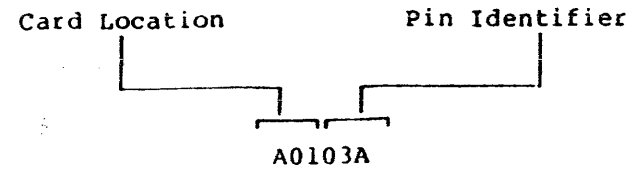
**Signal Name or Number Identification**

Contains a number which is for factory use only.

**Origin/Destination**

These columns list both ends of each connection. The terms are defined in the following example:

Example:



The Key to Diagrams in the Diagrams section of this manual has additional information on card and pin locations.

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
WIREWRAP LIST			LOGIC W/W	1 of 12	A
SIGNAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTINATION	Z LEVEL	NOTES	
102111	A0101B	A0102A	1		
102111	A0102A	A0101B	1		
100108	A0102B	A1708A	1		
100211	A0103A	A0231A	1		
100206	A0230A	A1712A	1		
100205	A0230B	A0612B	1		
100203	A0231A	A1326B	2		
100211	A0231A	A0103A	1		

A diagram showing two wire connections on a surface. The first connection is labeled "Z LEVEL 2" and the second is labeled "Z LEVEL 1".

9E82

Figure 2-1. Example of Logic Wirewrap List

### Z Level

Each pin may contain either one or two wires. If it contains two wires, they must be separated vertically (refer to figure 2-1). The Z level refers to whether the wire wrapped connection is on the level closest to the wirewrap panel surface (level 1) or farthest from it (level 2). If the pin contains only one wire, it is always 1 wrap. In either case the same Z level is maintained at both ends of the wire.

### Notes

Contains signal names, history or other information pertaining to wire list.

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List			REF	1 of 13	REF
SIGNAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI NATION	Z LEVEL	NOTES	
A0102A		A19268	1	REF.	
A0102B		A02278	2	1. VDE 77446347 REV. AY	
A0103A	J	A00098	1	2. NON-VDE 77446323 REV. AF	
A0103B		A0817A	1		
A0104A		A06138	2		
A0104B		A06218	1		
A0107A		A17068	1		
A0107B		A0711A	1		
A0110A		A13108	1		
A0110B		A13238	1		
A0113A		A06318	1		
A0113B		A06248	1		
A0116A		A0220A	1		
A0116B		A0224A	1		
A0117A		A0804A	1		
A0117B		A0202A	1		
A0121A		A02248	1		
A0121B		A14278	1		
A0122A		A0134A	1		
A0122B		A0227A	1		
A0123A		A0630A	1		
A0123B		A10128	1		
A0124A		A0703A	1		
A0124B		A17268	1		
A0131A		A15278	1		
A0131B		A15268	1		
A0132A		A0022A	1		
A0132B		A00218	1		
A0133B		A0821A	1		
A0134A		A0122A	1		
A0201A	J	A82078	1		
A0202A		A01178	1		
A0202A		A00048	2		
A0202B		A12168	1		
A0203A		A06338	1		
A0204A		A06308	1		
A0204B		A0629A	1		
A0224A		A01168	1		
A0224A		A06328	2		
A0224B		A0121A	1		
A0224B		A06238	2		
A0225A		A06118	2		
A0225B		A0626A	2		
A0226A		A06268	2		
A0226B		A0622A	2		
A0227A		AJ1228	1		
A0227A		A0625A	2		
A0227B	J	A8207A	1		
A0227B		AJ1028	2		
A0228A		A0116A	1		
A0228A		A0623A	2		

CDC PRINT SET  
B-SP-RM05-2-3K78  
SHEET 150 OF 180

REV 8

TITLE Wire Wrap Wire List		WL	DOCUMENT NO.	SHEET NO. 2	REV
SYMBOL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTINATION	Z LEVEL	NOTES	
A0228B		A1923A	1		
A0229A		A1431B	1		
A0229B		A1923B	1		
A0230A		A1712A	1		
A0230B		A0612B	1		
A0231B		A1504B	1		
A0232A		A1206B	1		
A0232B		A0632A	2		
A0233A		A1503B	1		
A0504A		A1723B	1		
A0504B		A1723A	1		
A0505A		A1730A	1		
A0505B		A1730B	1		
A0506A		A1921B	1		
A0506B		A1921A	1		
A0507A		A1731A	1		
A0507B		A1731B	1		
A0508B		JD9309B	1		
A0509A		A1727B	1		
A0509B		A1727A	1		
A0510A		A1729A	1		
A0510B		A1729B	1		
A0511A		A1721A	1		
A0511B		A1721B	1		
A0514B		JD9310B	1		
A0602A		A0602B	2		
A0602A		A0603B	1		
A0602B		A0602A	2		
A0603A		A0609B	1		
A0603A		A0614A	2		
A0603B		A0609A	2		
A0603B		A0602A	1		
A0604A		A1811B	1		
A0604B		A0721B	1		
A0605A		A0609A	1		
A0605B		A1832A	1		
A0606A		A0711B	1		
A0606B		A0724A	1		
A0607A		A0732B	1		
A0607B		A1926A	1		
A0608A		A0605A	1		
A0608A		A0603B	2		
A0608B		A0609B	2		
A0609A		A0613A	2		
A0609A		A1724A	1		
A0609B		A0608B	2		
A0609B		A0603A	1		
A0610A		A1905A	1		
A0610B		A1910B	1		
A0611A		A0725A	1		

CDC PRINT SET  
3-SP-RM05-U-3K79  
SHEET 151 of 190

REV 3

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				3	
SIGNA. NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI NATION	Z LEVEL	NOTES	
A06118		A0225A	2		
A06118		A12268	1		
A0612A		A07138	1		
A06128		A1232A	2		
A06128		A02308	1		
A0613A		A06148	1		
A0613A		A0609A	2		
A06138		A1705A	1		
A06138		A0104A	2		
A0614A		A0603A	2		
A0614A		A06158	1		
A06148		A0613A	1		
A0615A		A10268	1		
A06158		A0634A	2		
A06158		A0614A	1		
A0616A		A1904A	1		
A06168		A0702A	1		
A0617A		A07068	1		
A0617A		A1226A	2		
A06178		A07078	1		
A0621A		A0717A	1		
A06218		A01048	1		
A0622A		A02268	2		
A0622A		A0803A	1		
A06228		A10048	2		
A0623A		A0228A	2		
A0623A		A1230A	1		
A06238		A12288	1		
A06238		A02248	2		
A06248		A01138	1		
A0625A		A1233A	1		
A0625A		A0227A	2		
A0626A		A1224A	1		
A0626A		A02258	2		
A06268		A0226A	2		
A06268		A12228	1		
A0627A		A0733A	1		
A06278		A07058	1		
A06288		A19158	1		
A0629A		A02048	1		
A0630A		A0123A	1		
A06308		A0204A	1		
A0631A		A10138	1		
A06318		A0113A	1		
A0632A		A1221A	1		
A0632A		A02328	2		
A06328		A0224A	2		
A06328		A1231A	1		
A0633A		A0729A	1		

CDC PRINT SET  
3-SP-RM05-C-3K78  
SHEET 152 of 180

REV B

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				4	
SIGNAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTINATION	Z LEVEL	NOTES	
A0633B		A0203A	1		
A0633B		A1225A	2		
A0634A		A0615B	2		
A0701A		JA8305A	1		
A0702A		A0616B	1		
A0702B		A0705B	2		
A0702B		A1207A	1		
A0703A		A1205B	2		
A0703A		A0124A	1		
A0703B		A1710A	1		
A0704A		A1213B	1		
A0704B		A1907B	1		
A0705A		A0829B	2		
A0705B		A0627B	1		
A0705B		A0702B	2		
A0706A		A0831A	1		
A0706B		A0804A	2		
A0706B		A0617A	1		
A0707A		A2012A	1		
A0707B		A0617B	1		
A0707B		A1725B	2		
A0708A		A2009B	1		
A0709A		A0716A	2		
A0710A		A1232B	1		
A0710B		A1205A	1		
A0711A		A0107B	1		
A0711B		A0606A	1		
A0712A		A0825A	1		
A0712B		A2026B	1		
A0713A		A2029B	1		
A0713B		A0612A	1		
A0713B		A0832A	2		
A0714A		A1203B	1		
A0714B		A0811B	2		
A0715A		A0831B	1		
A0715B		A1225B	1		
A0716A		A1928A	1		
A0716A		A0709A	2		
A0716B		A1927B	1		
A0717A		A0621A	1		
AC717B		A1206A	1		
A0721B		A0833A	2		
A0721B		A0604B	1		
A0722A		A1910A	1		
A0722B		A1207B	1		
A0723A		A0734A	1		
A0723B		A0825B	1		
A0724A		A0606B	1		
A0724B		JA8304A	1		

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REV 3

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				5	
SYMBOL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI NATION	Z LEVEL	NOTES	
A0725A		A0611A	1		
A0725B		A1214B	1		
A0726A		A1905B	1		
A0726B		A0805B	1		
A0727A		A1907A	1		
A0727B		A1808B	1		
A0729B		A1807B	1		
A0729A		A0633A	1		
A0729B		A2027B	1		
A0730A		A1916B	1		
A0731A		A0803B	1		
A0731B		A1714A	1		
A0732B		A0607A	1		
A0733A		A0627A	1		
A0733B	JA8001A		1		
A0733B	A0802A		2		
A0734A	A0723A		1		
A08J1A	JA8101B		1		
A0801A	JA8103B		2		
A08J2A	A0733B		2		
A08J2A	A1711B		1		
A08J3A	A0622A		1		
A0803A	A1229B		2		
A0803B	A0731A		1		
A08J4A	A07J6B		2		
A0804A	A0117A		1		
A0804B	A0202A		2		
A0805A	A1724B		1		
A08J5B	A0726B		1		
A08J7A	JA8303B		1		
A0807B	JA8303A		1		
A08J9A	A2004A		1		
A08J9B	A2006A		1		
A0810A	A20J5A		1		
A0810B	A2004B		1		
A0811A	A1202A		1		
A0811B	A0714B		2		
A0811B	A1217A		1		
A0812A	A12J4A		1		
A0812B	A1203A		1		
A0813A	A1209B		1		
A0813B	A1209A		1		
A0814A	A2003B		1		
A0814B	A1210A		1		
A0815A	A2006B		1		
A0815B	A20J5B		1		
A0816A	JA8103A		1		
A0816B	JA8101A		1		
A0817A	A0103B		1		

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REV B



TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				6	
SIGNAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI NATION	Z LEVEL	NOTES	
A0817B	JA8102A		1		
A0821A	A0133B		1		
A0821B	A0132B		1		
A0822A	A0132A		1		
A0822B	A1211B		1		
A0823A	JA8105A		1		
A0824A	A1716B		1		
A0824B	JA8106A		1		
A0825A	A0712A		1		
A0825B	A1924B		2		
A0825B	A0723B		1		
A0826A	JD9311B		1		
A0826B	JD9314A		1		
A0827A	JD9309A		1		
A0827B	JD9311A		1		
A0828A	A1712B		2		
A0829B	A0705A		2		
A0829B	A2013B		1		
AG830A	A2012B		1		
A0830B	A2014A		1		
A0831A	A0706A		1		
A0831B	A2032A		2		
A0831C	A0715A		1		
A0832A	A1827B		1		
A0832A	A0713B		2		
A0832B	A1931B		1		
A0833A	A2028B		1		
AG833A	A0721B		2		
A0833B	JD9307A		1		
A0834A	JA8105B		1		
A0934A	JA8106B		2		
AG901A	JA8102B		1		
A1001B	A1021B		1		
A1002B	A1502B		1		
A1002B	JD97J3A		2		
A1004B	A1633A		1		
A1004B	AG622B		2		
A1012B	A1027B		2		
A1012B	A0123B		1		
A1013B	AG631A		1		
A1014B	JD9404A		2		
A1014B	A1034B		1		
A1021B	A1001B		1		
A1021B	JD9401B		2		
A1022B	A1812B		1		
A1023B	A1523B		1		
A1024B	A1524B		1		
A1026B	A0617A		1		

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REV B

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				7	
CONC. NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI NATION	Z LEVEL	NOTES	
A1027B		A1012B	2		
A1030B		A1309A	1		
A1033B		JD9203B	2		
A1033B		A1533B	1		
A1034B		A1014B	1		
A1101A		JA8104A	1		
A1201A		JA8206B	2		
A1201A		JA8204B	1		
A1202A		A0811A	1		
A1203A		A0812B	1		
A1203B		A1916A	2		
A1203B		A0714A	1		
A1204A		A0812A	1		
A1205A		A0710B	1		
A1205B		A0703A	2		
A1206A		A0717B	1		
A1206B		A0232A	1		
A1207A		A0702B	1		
A1207B		A0722B	1		
A1209A		A0813B	1		
A1209B		A0813A	1		
A1210A		A0814B	1		
A1211B		A0822B	1		
A1213A		JA8204A	1		
A1213B		A0704A	1		
A1214B		A0725B	1		
A1215A		A1925A	1		
A1216A		A1908B	1		
A1216B		A0202B	1		
A1216B		A1710B	2		
A1217A		A0811B	1		
A1221A		A0632A	1		
A1222B		A0626B	1		
A1223B		JA8205A	1		
A1224A		A0626A	1		
A1224B		JA8206A	1		
A1225A		A0633B	2		
A1225B		A0715B	1		
A1226A		A1917A	1		
A1226A		A0617A	2		
A1226B		A0611B	1		
A1228B		A0623B	1		
A1229B		A0803A	2		
A1230A		A0623A	1		
A1231A		A0632B	1		
A1232A		A0612B	2		
A1232B		A0710A	1		
A1233A		A0625A	1		

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REV 3

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV
Wire Wrap Wire List				8	
SIGNAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTINATION	Z LEVEL	NOTES	
A1233B		A1908A	1		
A1234A		JA8205B	1		
A1301A		A1305A	1		
A1305A		A1301A	1		
A1309A		A1030B	1		
A1310B		A0110A	1		
A1312R		JA8207A	2		
A1312B		A1713A	1		
A1323B		A0110B	1		
A1331A		A1709B	1		
A1331B		A1734A	1		
A1402B		JD9201A	2		
A1402B		A1602B	1		
A1403R		A1510B	1		
A1404B		A1509B	1		
A1410B		A1422B	1		
A1414B		A1421B	1		
A1421B		A1414B	1		
A1422B		A1410B	1		
A1427B		A0121B	1		
A1428B		A1707A	1		
A1430B		A1522B	1		
A1431B		A1512B	2		
A1431B		A0229A	1		
A1433B		A1633B	1		
A1433B		JD9201B	2		
A1502B		A1002B	1		
A1503B		A0233A	1		
A1504B		A0231B	1		
A1509B		A1404B	1		
A1510B		A1403B	1		
A1512B		A1713B	1		
A1512B		A1431B	2		
A1522B		A1430B	1		
A1523B		A1023B	1		
A1524B		A1024B	1		
A1526B		A0131B	1		
A1527B		A0131A	1		
A1533B		A1033B	1		
A1602B		A1402B	1		
A1613B		A1823B	1		
A1614B		A1926B	2		
A1614B		A1711A	1		
A1615B		A1825B	1		
A1633B		A1433B	1		
A1701A		JA8203B	1		
A1701A		JA8210B	2		
A1702B		JD9201A	1		
A1703B		JD9312B	1		

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TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				9	
ORIGIN NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI NATION	Z LEVEL	NOTES	
A1705A	A0613B		1		
A1707A	A1428B		1		
A1708A	A1709B		2		
A1708B	A0107A		1		
A1708B	JA8210A		2		
A1709A	JA8002B		1		
A1709B	A1331A		1		
A1709B	A1708A		2		
A1710A	A0703B		1		
A1710B	A1216B		2		
A1711A	JA8208A		2		
A1711A	A1614B		1		
A1711B	A0802A		1		
A1712A	A0230A		1		
A1712B	A0828A		2		
A1712B	JA8013A		1		
A1713A	A1312B		1		
A1713B	A1512B		1		
A1714A	A0731B		1		
A1714B	JA8203A		1		
A1715A	JA8005A		2		
A1716A	A1728B		1		
A1716B	A0824A		1		
A1717A	JA8011B		1		
A1717B	JA8012A		1		
A1721A	A0511A		1		
A1721B	A0511B		1		
A1722B	JA8014A		1		
A1723A	A0504B		1		
A1723B	A0504A		1		
A1724A	A0609A		1		
A1724B	A0805A		1		
A1725B	A0707B		2		
A1726B	A0124B		1		
A1727A	A0509B		1		
A1727B	A0509A		1		
A1728A	JA8011A		1		
A1728B	A1716A		1		
A1729A	A0510A		1		
A1729B	A0510B		1		
A1730A	A0505A		1		
A1730B	A0505B		1		
A1731A	A0507A		1		
A1731B	A0507B		1		
A1732B	JD9312A		1		
A1733B	JD9201B		1		
A1734A	JA8208B		2		

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REV B

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				10	
SIGNAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTINATION	Z LEVEL	NOTES	
A1734A		A1331B	1		
A1801A		JA8305B	1		
A1802B		JD9203A	1		
A18J7B		A0728B	1		
A1808B		A0727B	1		
A1809B		A1911A	1		
A1811B		A06J4A	1		
A1812B		A1022B	1		
A1823B		A1613B	1		
A1825B		A1615B	1		
A1827B		A0832A	1		
A1832A		A0605B	1		
A1833A		A1004B	1		
A1833B		JD9203B	1		
A1904A		A0616A	1		
A1904B		A2015B	1		
A1905A		A0610A	1		
A1905B		A0726A	1		
A1907A		A0727A	1		
A1907B		A0704B	1		
A1908A		A1233B	1		
A1908B		A1216A	1		
A1910A		A0722A	1		
A1910B		A0610B	1		
A1911A		A1809B	1		
A1911B		A2014B	1		
A1915B		A0628B	1		
A1916A		A1203B	2		
A1916B		A0730A	1		
A1917A		A1226A	1		
A1921A		A0506B	1		
A1921B		A0506A	1		
A1922A		A2010B	1		
A1923A		A0228B	1		
A1923B		A0729B	1		
A1924A		A2011A	1		
A1924B		A1925B	1		
A1924B		A0825B	2		
A1925A		A1215A	1		
A1925B		A1924B	1		
A1926A		A0607B	1		
A1924B		A1614B	2		
A1926B		A0102A	1		
A1927A		A2010A	1		
A1927B		A0716B	1		
A1928A		A0716A	1		
A1931B		A0832A	1		
A2003B		A0814A	1		

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TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				11	
SERIAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTINATION	Z LEVEL	NOTES	
A2004A		A0809A	1		
A2004B		A0810B	1		
A2005A		A0810A	1		
A2005B		A0815B	1		
A2006A		A0809B	1		
A2006B		A0815A	1		
A2009B		A0708A	1		
A2010A		A1927A	1		
A2010B		A1922A	1		
A2011A		A1924A	1		
A2011B		JD93J5B	1		
A2012A		A0707A	1		
A2012B		A0830A	1		
A2013B		A0829B	1		
A2014A		A0830B	1		
A2014B		A1911B	1		
A2015A		JD93J5A	1		
A2015B		A1904B	1		
A2026B		A0712B	1		
A2027B		A0729B	1		
A2028B		A0833A	1		
A2029B		A0713A	1		
A2031B		JD9306B	1		
A2032A		A0831B	2		
A2032B		JD9306A	1		
A2034A		JD9304A	2		
A2034B		JD9304B	1		
JA8001A		A0733B	1		
JA8001B		JD9407B	2		
JA8001B		JD9407A	1		
JA8002B		A1709A	1		
JA8005A		JA83J6B	1		
JA8005A		A1715A	2		
JA8007A		JD93J3A	1		
JA8009B		A0103A	1		
JA8010A		JD9405A	1		
JA8010A		JD9405B	2		
JA8011A		A1728A	1		
JA8011B		A1717A	1		
JA8012A		A1717B	1		
JA8013A		A1712B	1		
JA8014A		A1722B	1		
JA8101A		A0816B	1		
JA8101B		A0801A	1		
JA8102A		A0817B	1		
JA8102B		A0901A	1		
JA8103A		A0816A	1		
JA8103B		A08J1A	2		

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REV 9

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				12	
SKINA. NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI. NATION	Z LEVEL	NOTES	
JA8104A	A1101A		1		
JA8105A	A0823A		1		
JA8105B	A0834A		1		
JA8106A	A0824B		1		
JA8106B	A0834A		2		
JA8201B	JD9401B		1		
JA8201B	JD9401A		2		
JA8202B	JD9302B		1		
JA8203A	A1714B		1		
JA8203B	A1701A		1		
JA82J4A	A1213A		1		
JA8204B	A1201A		1		
JA8205A	A1223B		1		
JA8205B	A1234A		1		
JA8206A	A1224B		1		
JA8206B	A1201A		2		
JA8207A	A1312B		2		
JA8207A	A0227B		1		
JA8207B	A0201A		1		
JA8208A	A1711A		2		
JA8208B	A1734A		2		
JA8210A	A1708B		2		
JA8210B	A1701A		2		
JA8212B	JD9301A		1		
JA8213B	JD9302A		1		
JA8214B	JD9404A		1		
JA8214B	JD9404B		2		
JA8303A	A0807B		1		
JA8303A	JD9303B		2	VDE ONLY	
JA83J3B	A0807A		1		
JA8303B	JD9301B		2	VDE ONLY	
JA8304A	A0724B		1		
JA8304B	JD9308A		1		
JA8305A	A1701A		1		
JA83J5B	A1801A		1		
JA8306A	JD9307B		1		
JA8306B	JA8005A		1		
JA8306B	JD9313A		2	VDE ONLY	
JD92J1A	A1402B		2		
JD92J1A	A1702B		1		
JD92J1B	A1733B		1		
JD92J1B	A1433B		2		
JD9203A	A1802B		1		
JD9203A	A1002B		2		
JD92J3B	A1833B		1		
JD92J3B	A1033B		2		
JD93J1A	JA8212B		1		
JD9301B	JA8303B		2	VDE ONLY	
JD9302A	JA8213B		1		

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REV 9

TITLE		WL	DOCUMENT NO.	SHEET NO.	REV.
Wire Wrap Wire List				13	
SIGNAL NAME OR NUMBER IDENTIFICATION	ORIGIN	DESTI NATION	Z LEVEL	NOTES	
JD9302B	JA8202B	1			
JD9303A	JA8007A	1			
JD9303B	JA8303A	2		VDE ONLY	
JD9304A	A2034A	2			
JD9304B	A2034A	1			
JD9305A	A2015A	1			
JD9305B	A2011B	1			
JD9306A	A2032B	1			
JD9306B	A2031B	1			
JD9307A	A0833B	1			
JD9307B	JA8306A	1			
JD9308A	JA8304B	1			
JD9309A	A0827A	1			
JD9309B	A0508B	1			
JD9310B	A0514B	1			
JD9311A	A0827B	1			
JD9311B	A0826A	1			
JD9312A	A1732B	1			
JD9312B	A1703B	1			
JD9313A	JA8306B	2		VDE ONLY	
JD9314A	AJ826B	1			
JD9401A	JA8201B	2			
JD9401B	JA8201B	1			
JD9401B	A1021B	2			
JD9404A	JA8214B	1			
JD9404A	A1014B	2			
JD9404B	JA8214B	2			
JD9405A	JA8010A	1			
JD9405B	JA8010A	2			
JD9407A	JA8001B	1			
JD9407B	JA8001B	2			

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REV 3



INTRODUCTION

This section contains a component layout diagram for each card used in the 7B1-E/F.

Each diagram is an exact picture of the component side of the card, showing locations and reference designators for all components. The reference designators shown here correspond to those shown in Section 1 -- Logic Diagrams.

This section is arranged according to the four-character code that identifies the logic card. The examples below explain the meaning of that code.

Example:

ALRV  
 The first character A stands for the mod level or revision of the card. This character changes whenever a functional change is made to the card.

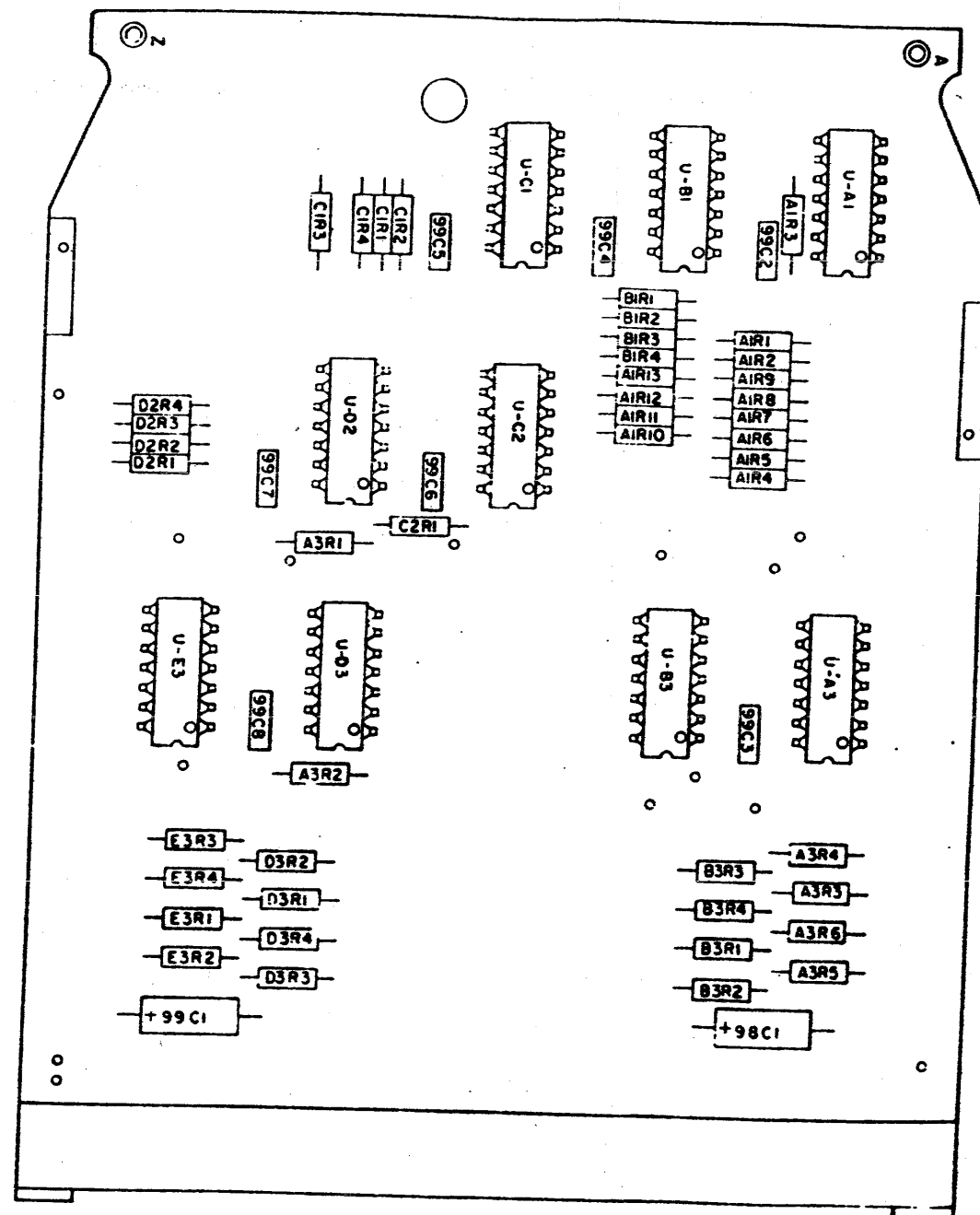
Example:

ALRV  
 The last 3 characters LRV stand for the basic card type and never change.

The mod level may be either a letter or a number; the basic card type will always be letters.

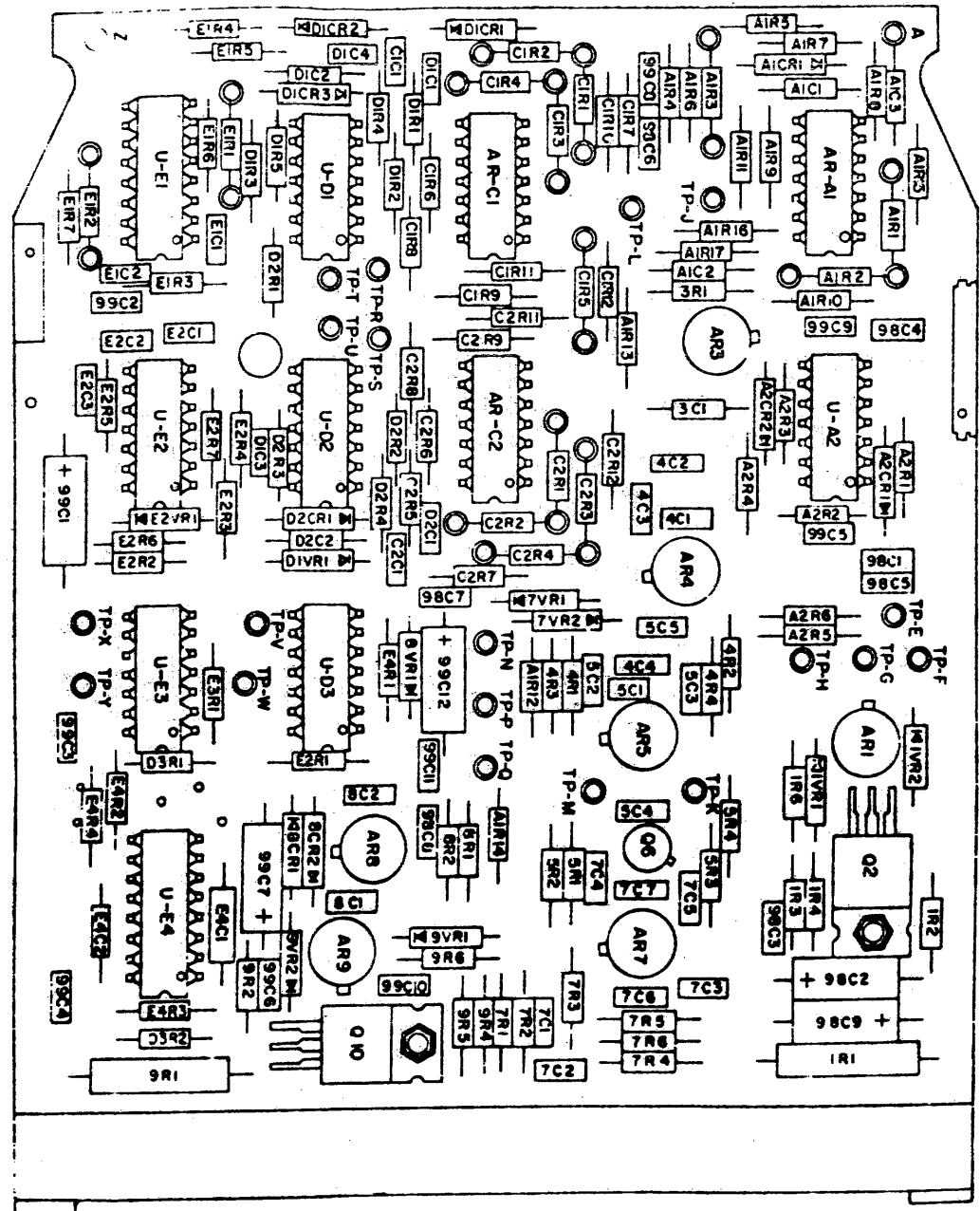
Card diagrams appear in alphanumeric order, first according to the basic card type and then according to mod level. For example, the card types AABC, ACBC, 4CBC, ABBC, 5CBC, BCBC, ADDB, and 3DBC would appear in this order:

- AABC
- ABBC
- 4CBC
- BCBC
- 5CBC
- ACBC
- 4DBC
- ADBC



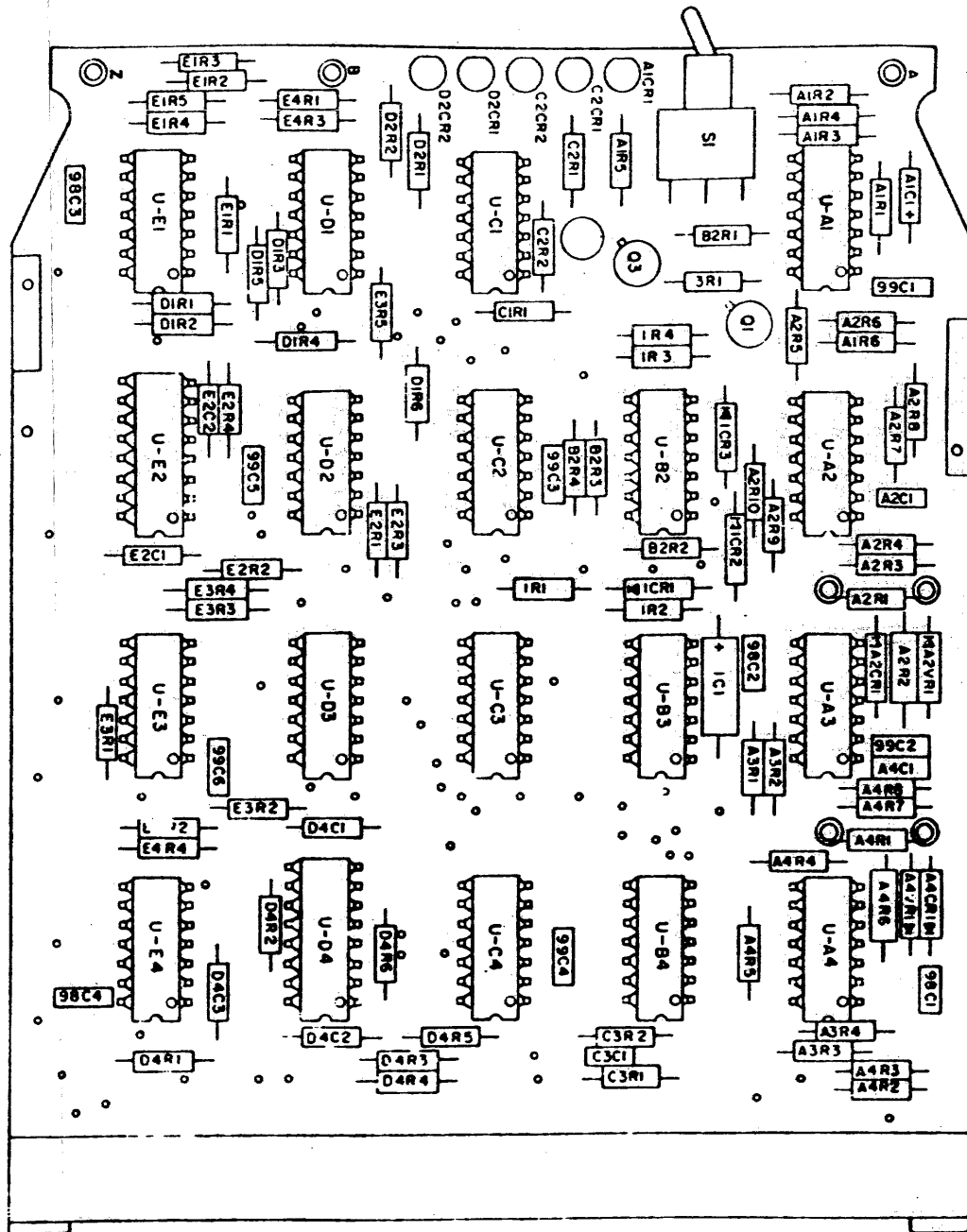
JTVV

9W167



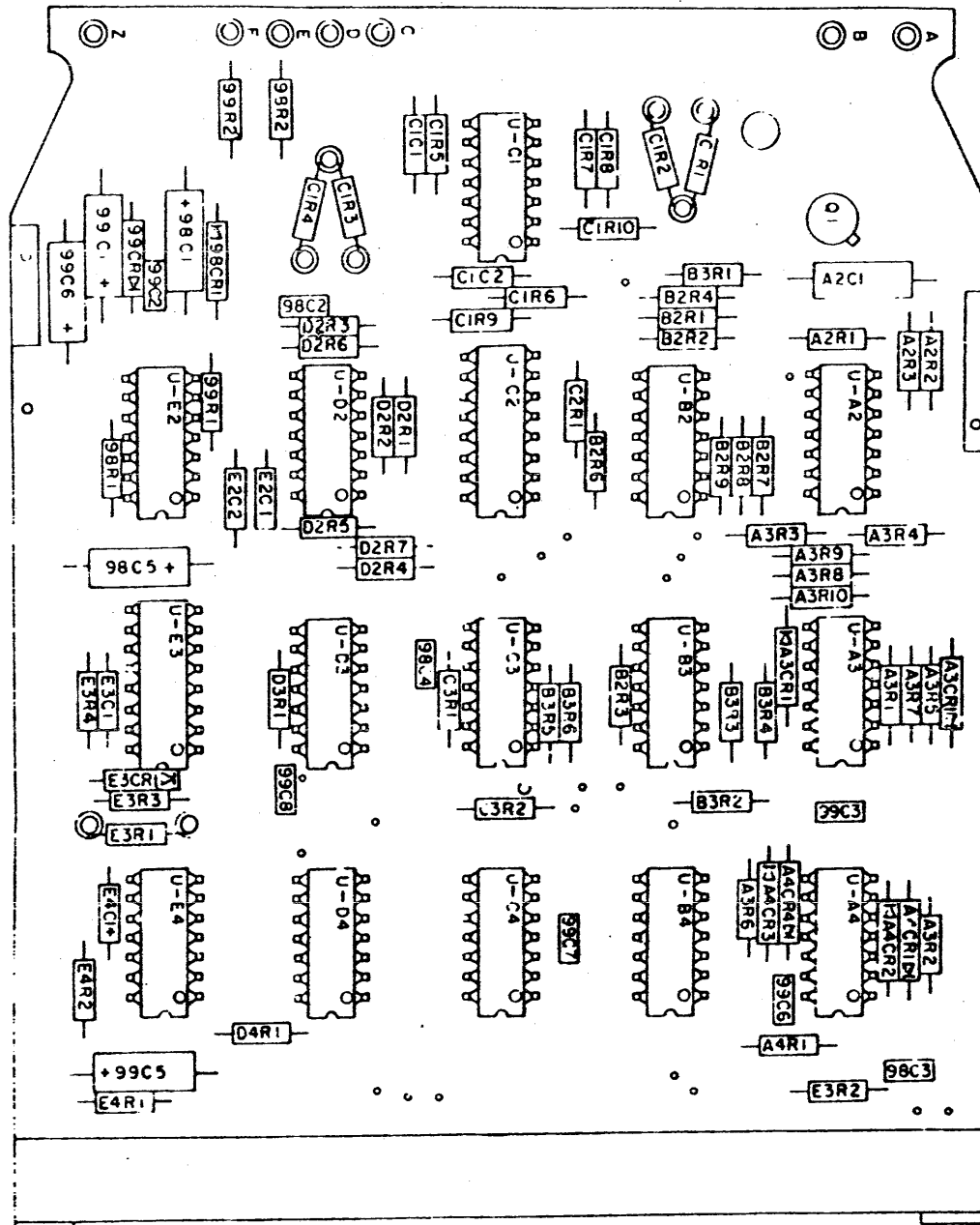
HFRV

9W15

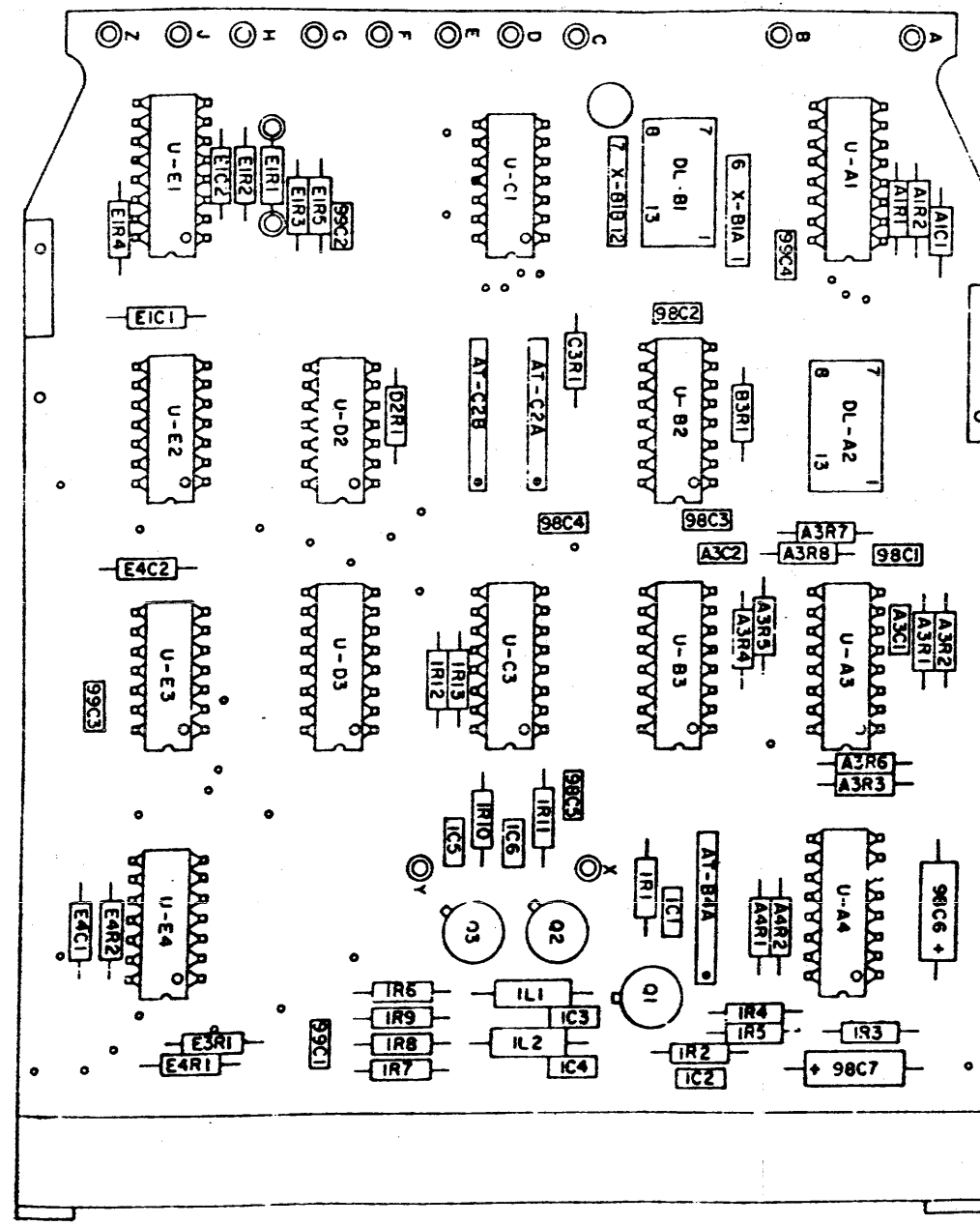


EKfV

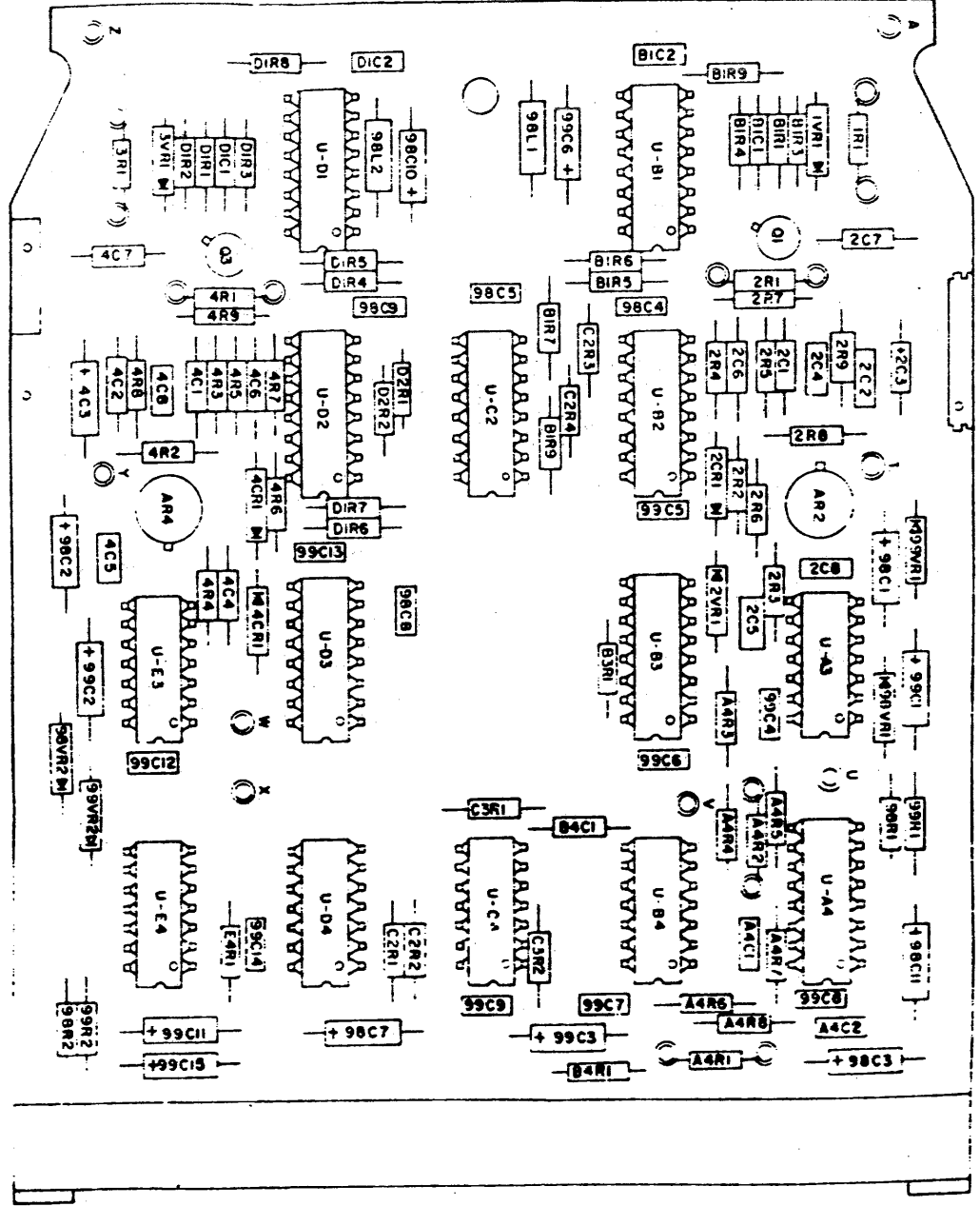
9W152



AKGV 9W153



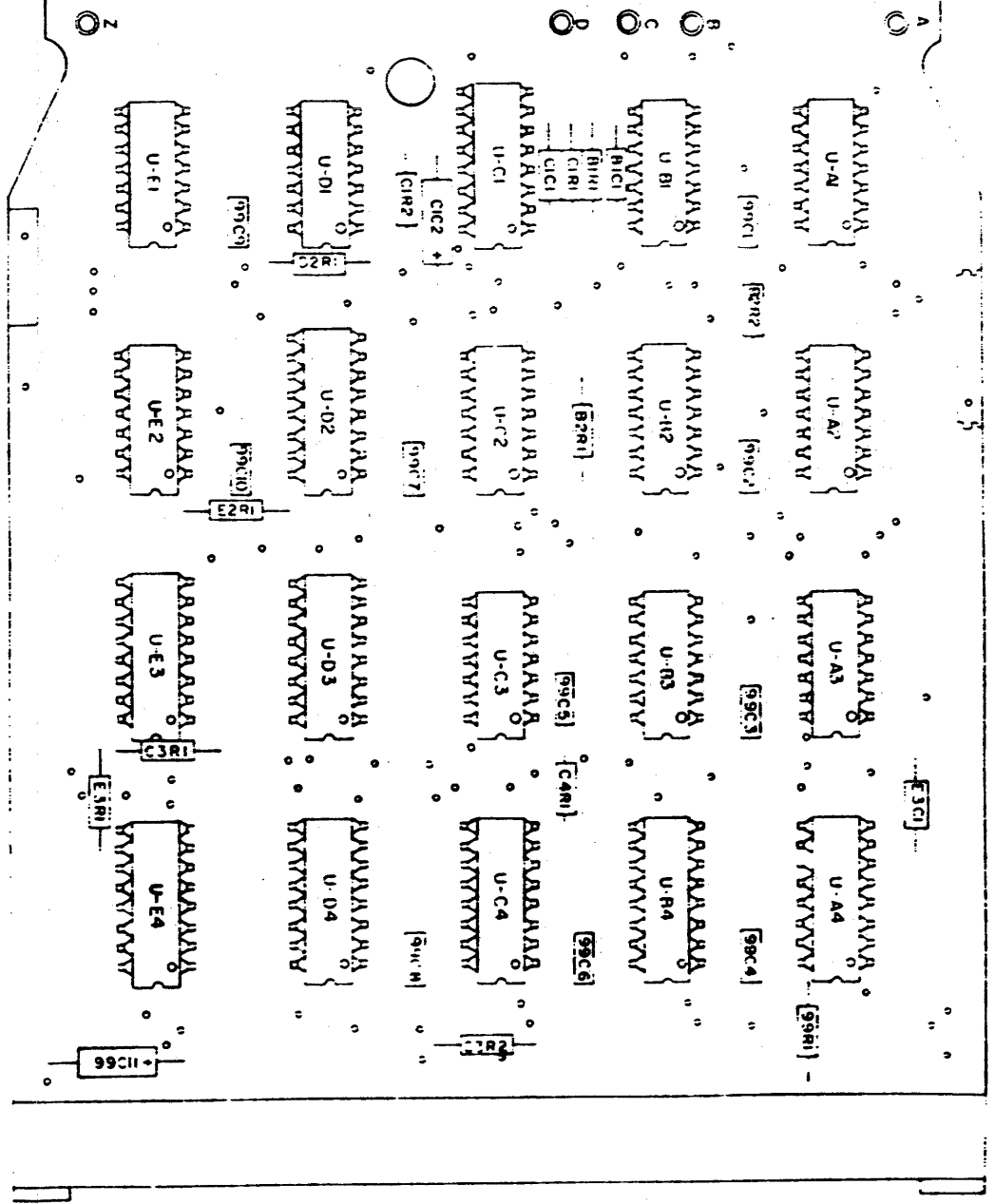
HLRV 9W154



9A55  
CLSV

3-6

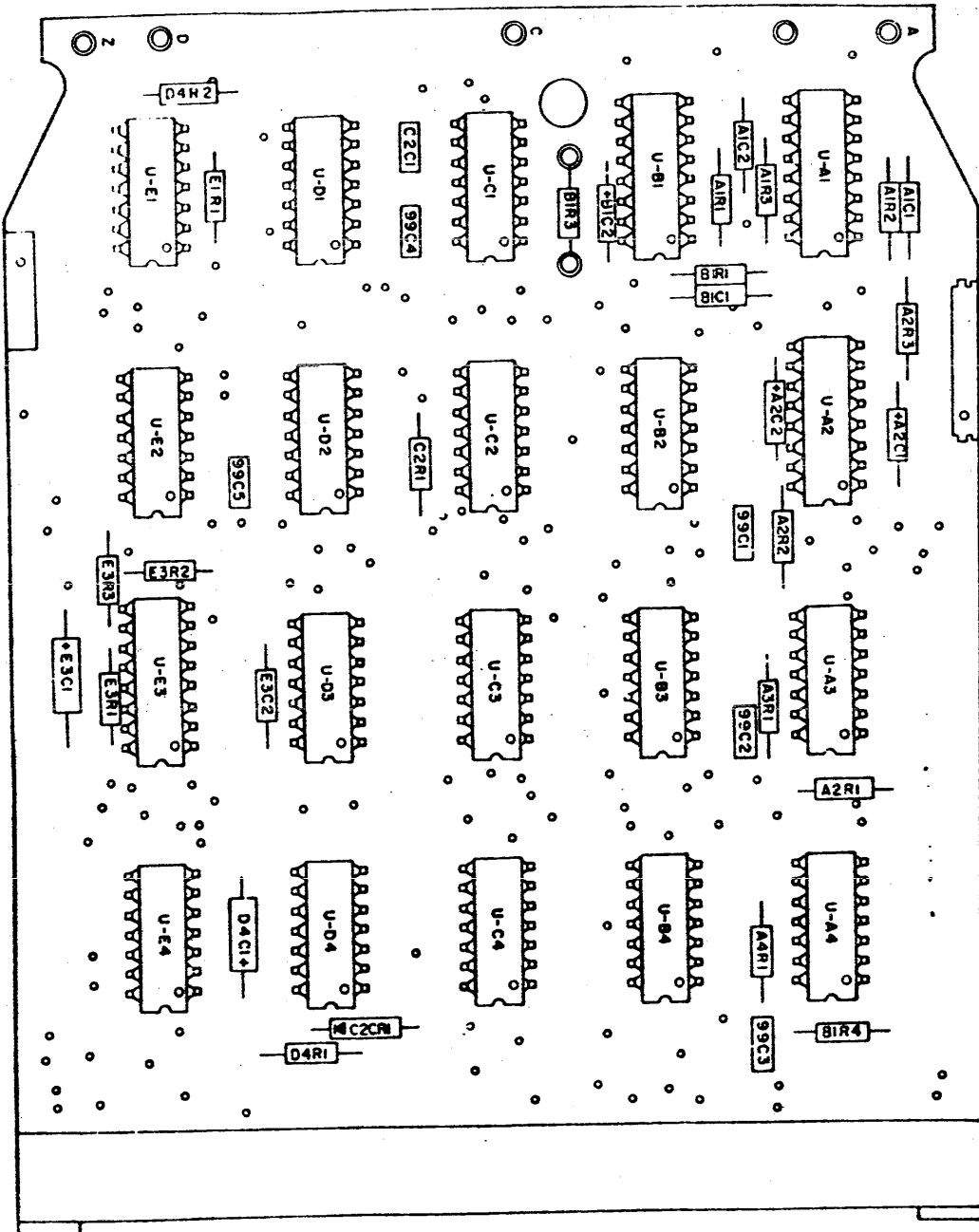
83322800 A  
 100 PARTS SET  
 U-01 U-02 U-03 U-04  
 U-B1 U-B2 U-B3 U-B4  
 U-C1 U-C2 U-C3 U-C4  
 98C1 98C2 98C3 98C4  
 98C5 98C6 98C7 98C8  
 98C9 99C1 99C2 99C3  
 99C4 99C5 99C6 99C7  
 99C8 99C9 99C10 99C11  
 99C12 99C13 99C14 99C15  
 99C16 99C17 99C18 99C19  
 99C20 99C21 99C22 99C23  
 99C24 99C25 99C26 99C27  
 99C28 99C29 99C30 99C31  
 99C32 99C33 99C34 99C35  
 99C36 99C37 99C38 99C39  
 99C40 99C41 99C42 99C43  
 99C44 99C45 99C46 99C47  
 99C48 99C49 99C50 99C51  
 99C52 99C53 99C54 99C55  
 99C56 99C57 99C58 99C59  
 99C60 99C61 99C62 99C63  
 99C64 99C65 99C66 99C67  
 99C68 99C69 99C70 99C71  
 99C72 99C73 99C74 99C75  
 99C76 99C77 99C78 99C79  
 99C80 99C81 99C82 99C83  
 99C84 99C85 99C86 99C87  
 99C88 99C89 99C90 99C91  
 99C92 99C93 99C94 99C95  
 99C96 99C97 99C98 99C99  
 99C100



9W156  
CLSV

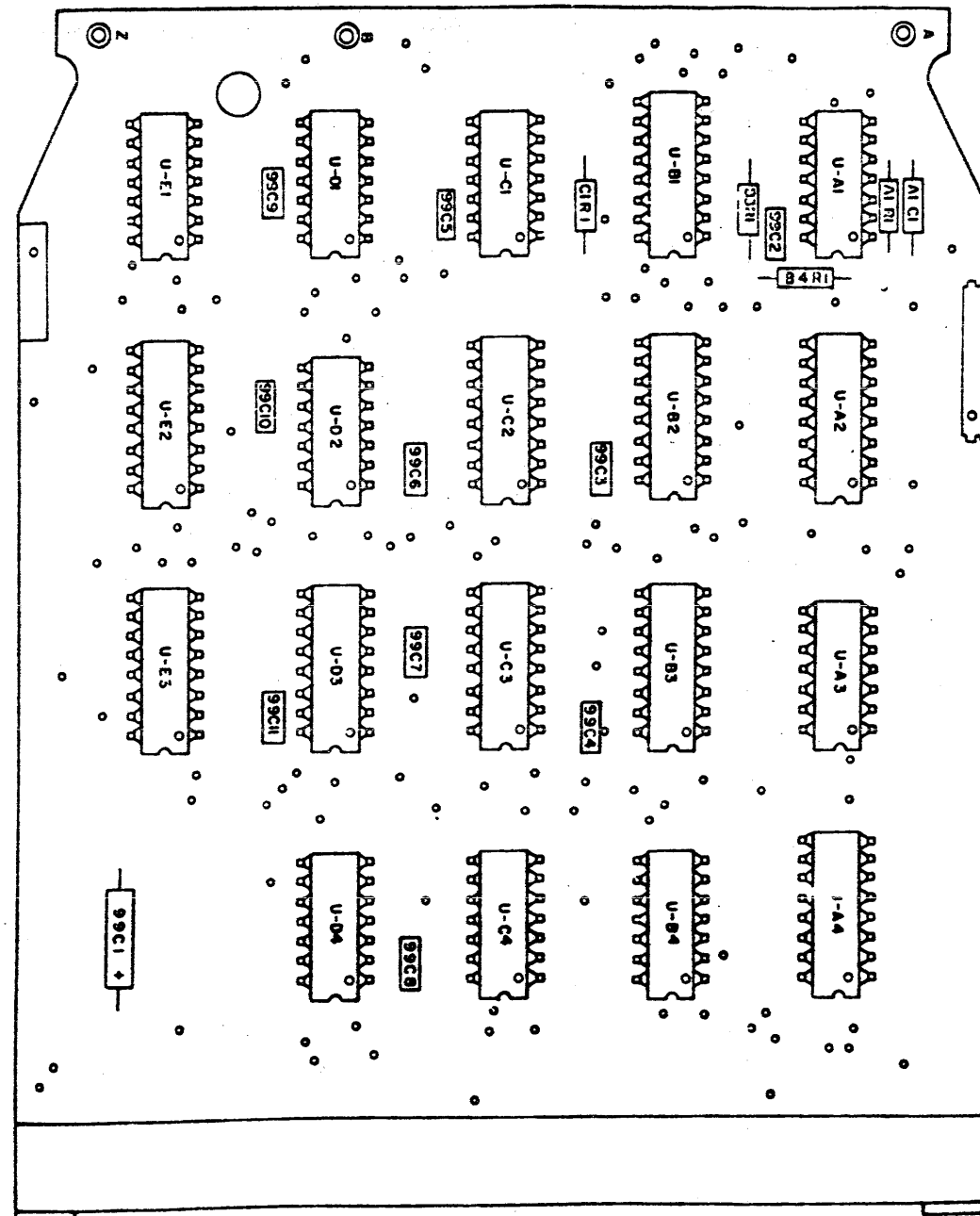
3-7

83323800 A  
 100 PARTS SET  
 U-01 U-02 U-03 U-04  
 U-B1 U-B2 U-B3 U-B4  
 U-C1 U-C2 U-C3 U-C4  
 98C1 98C2 98C3 98C4  
 98C5 98C6 98C7 98C8  
 98C9 99C1 99C2 99C3  
 99C4 99C5 99C6 99C7  
 99C8 99C9 99C10 99C11  
 99C12 99C13 99C14 99C15  
 99C16 99C17 99C18 99C19  
 99C20 99C21 99C22 99C23  
 99C24 99C25 99C26 99C27  
 99C28 99C29 99C30 99C31  
 99C32 99C33 99C34 99C35  
 99C36 99C37 99C38 99C39  
 99C40 99C41 99C42 99C43  
 99C44 99C45 99C46 99C47  
 99C48 99C49 99C50 99C51  
 99C52 99C53 99C54 99C55  
 99C56 99C57 99C58 99C59  
 99C60 99C61 99C62 99C63  
 99C64 99C65 99C66 99C67  
 99C68 99C69 99C70 99C71  
 99C72 99C73 99C74 99C75  
 99C76 99C77 99C78 99C79  
 99C80 99C81 99C82 99C83  
 99C84 99C85 99C86 99C87  
 99C88 99C89 99C90 99C91  
 99C92 99C93 99C94 99C95  
 99C96 99C97 99C98 99C99  
 99C100



RLVV

9W157



FLWV

9W158

3-8

CDC PRINT SET  
B-SP-RMJS-0-BK7B  
SHEET 171 of 180

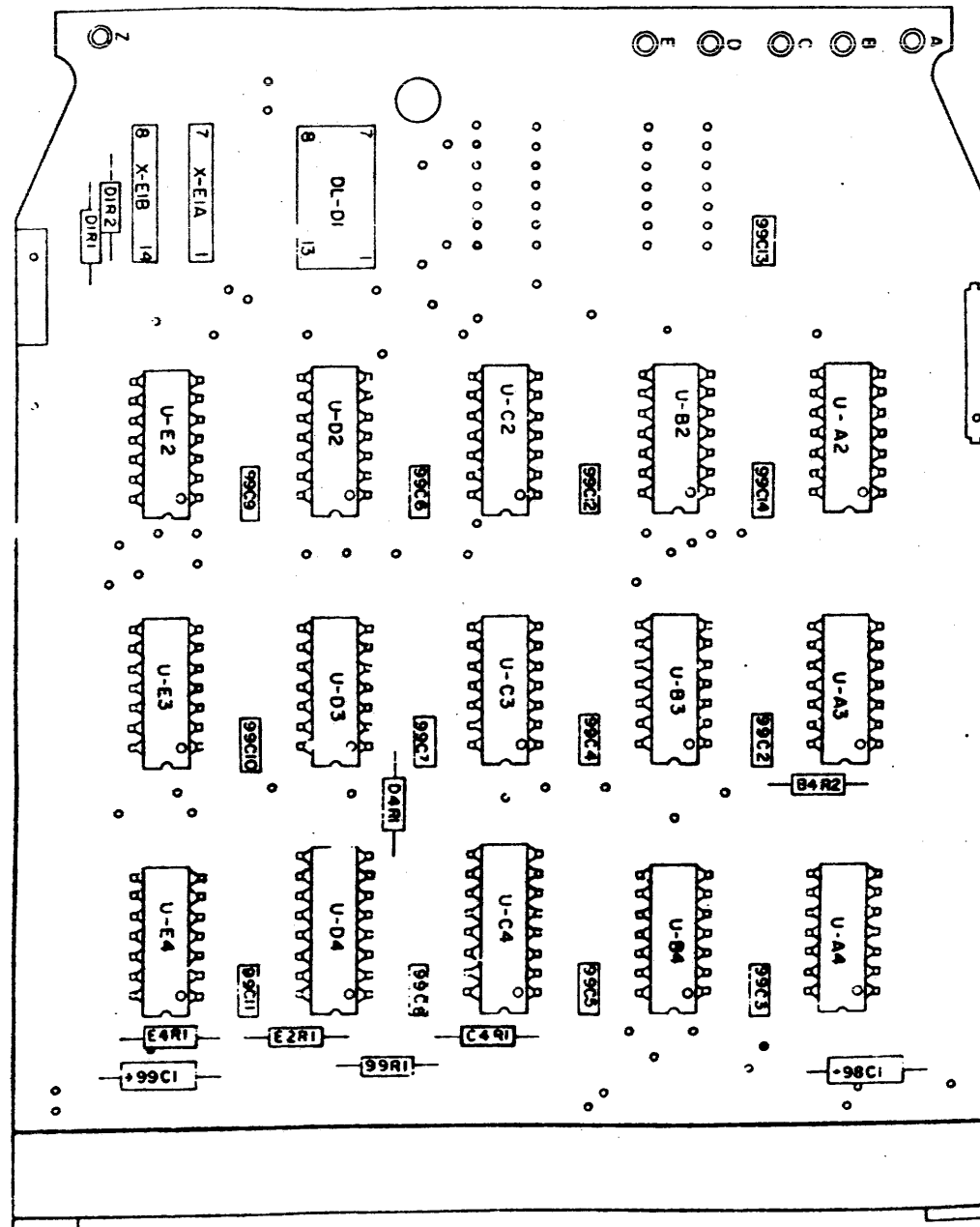
83323800 A 83323800 A

REV B

3-9

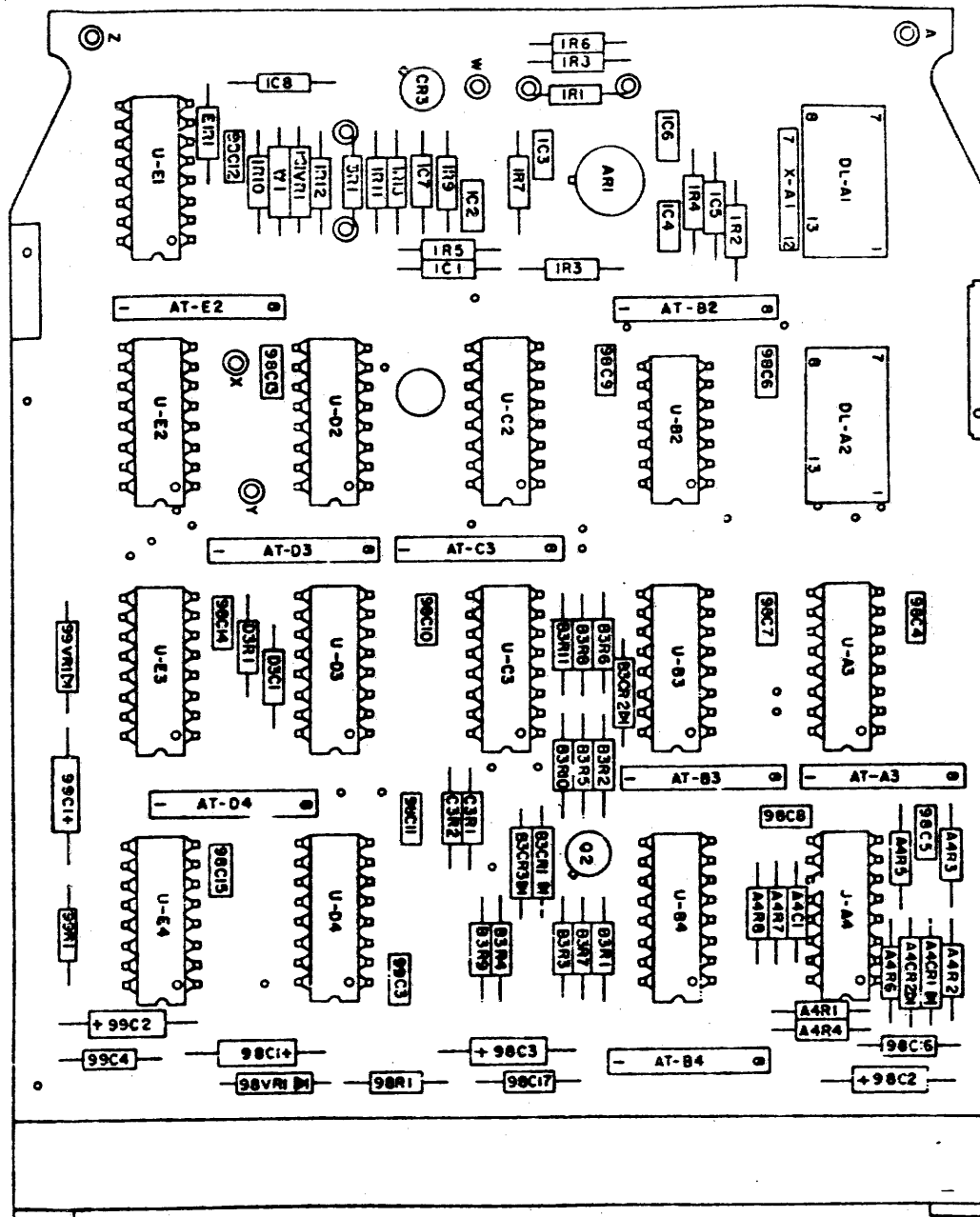
CDC PRINT SET  
B-SP-RMJS-0-BK7B  
SHEET 172 of 130

REV B



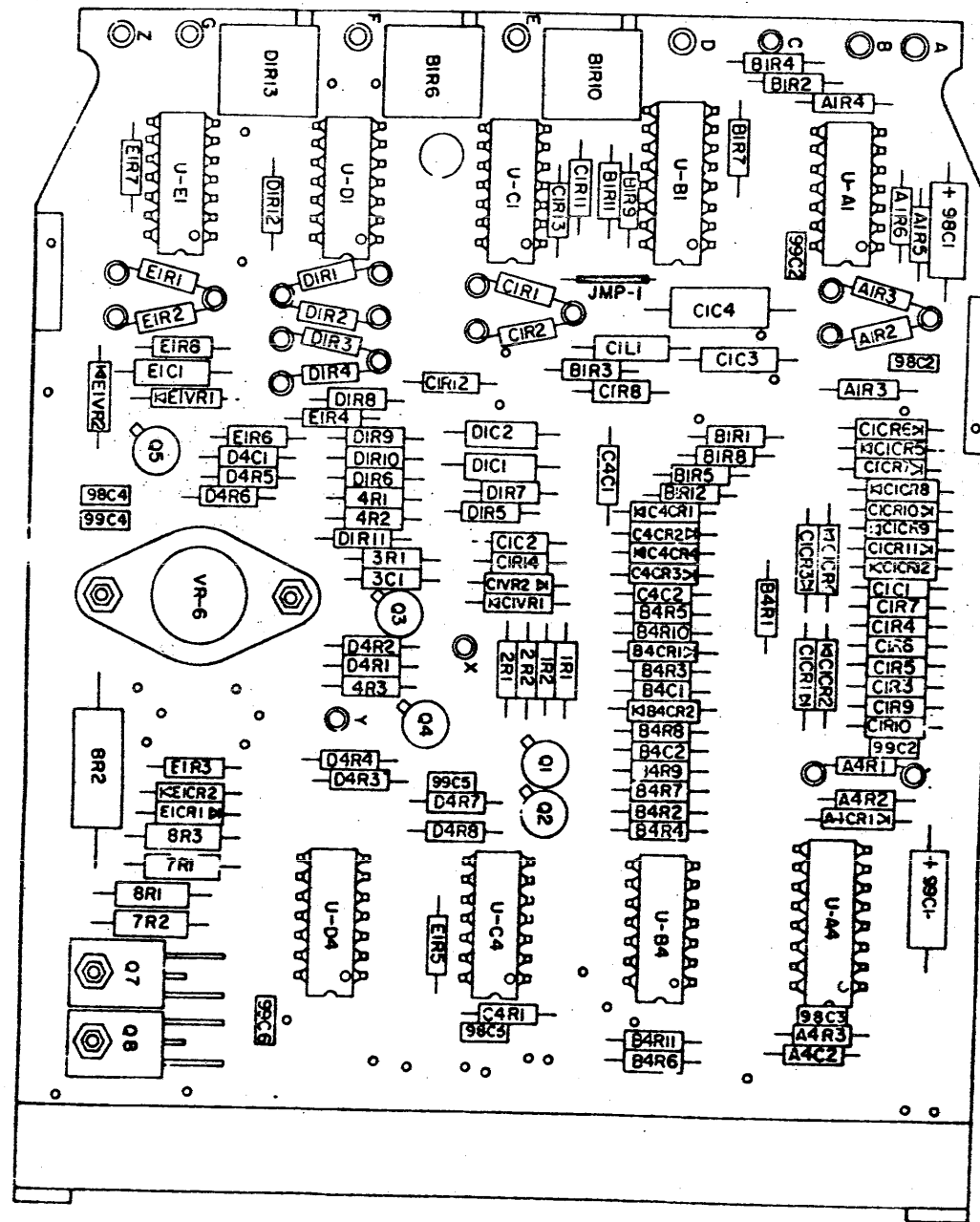
ELXV

9W159



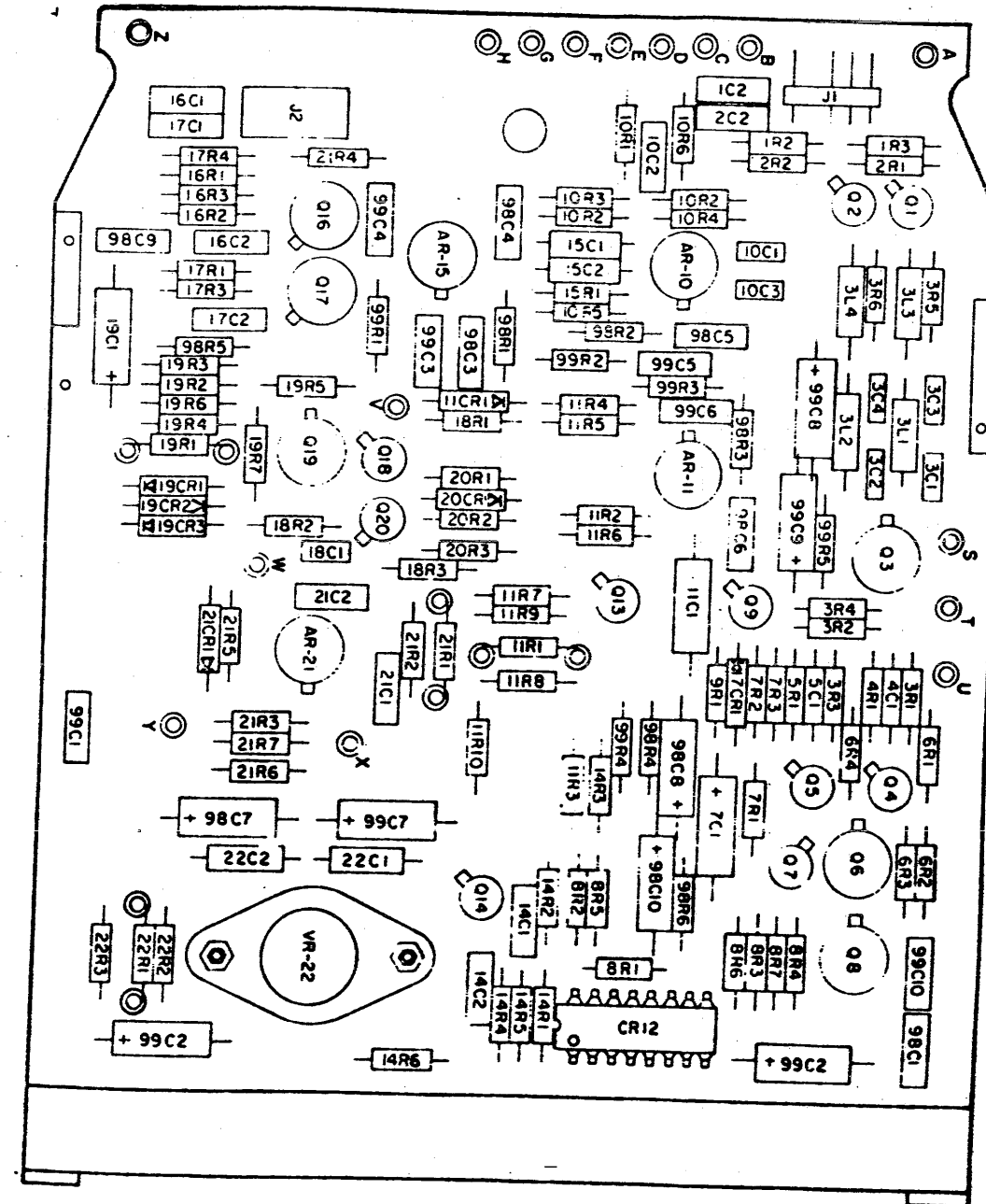
BLZV

9W160



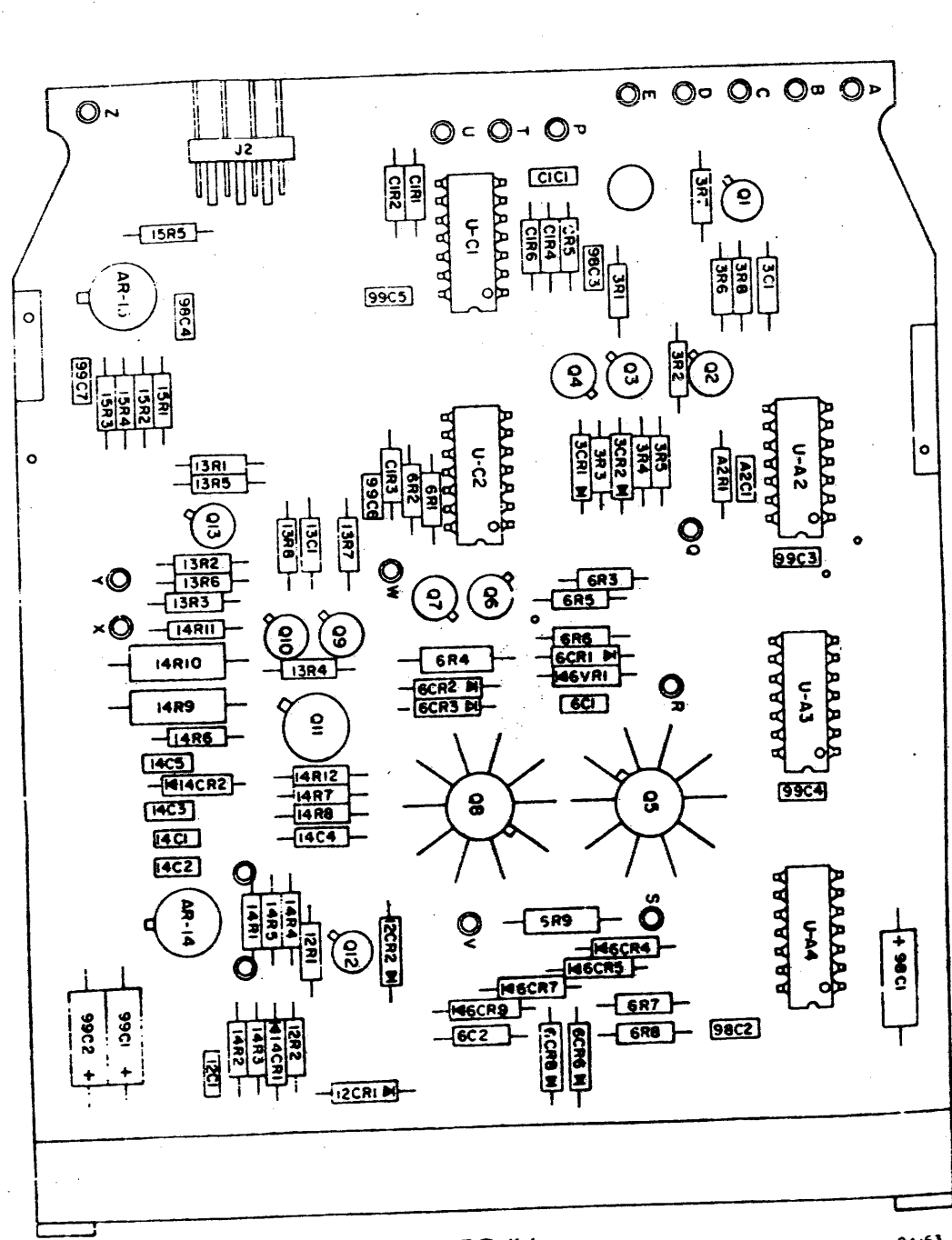
DMSV

9W161

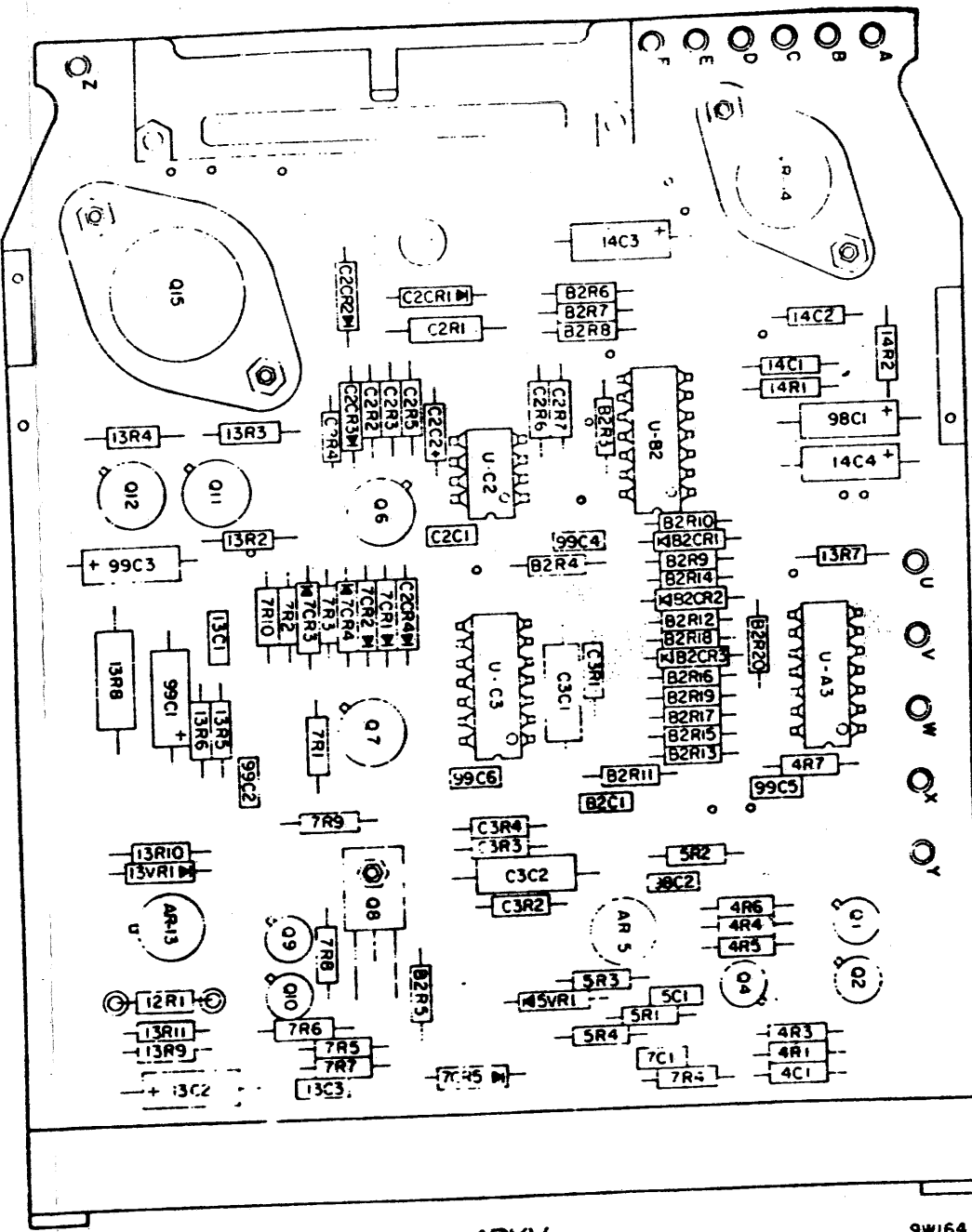


4PHV

9W162

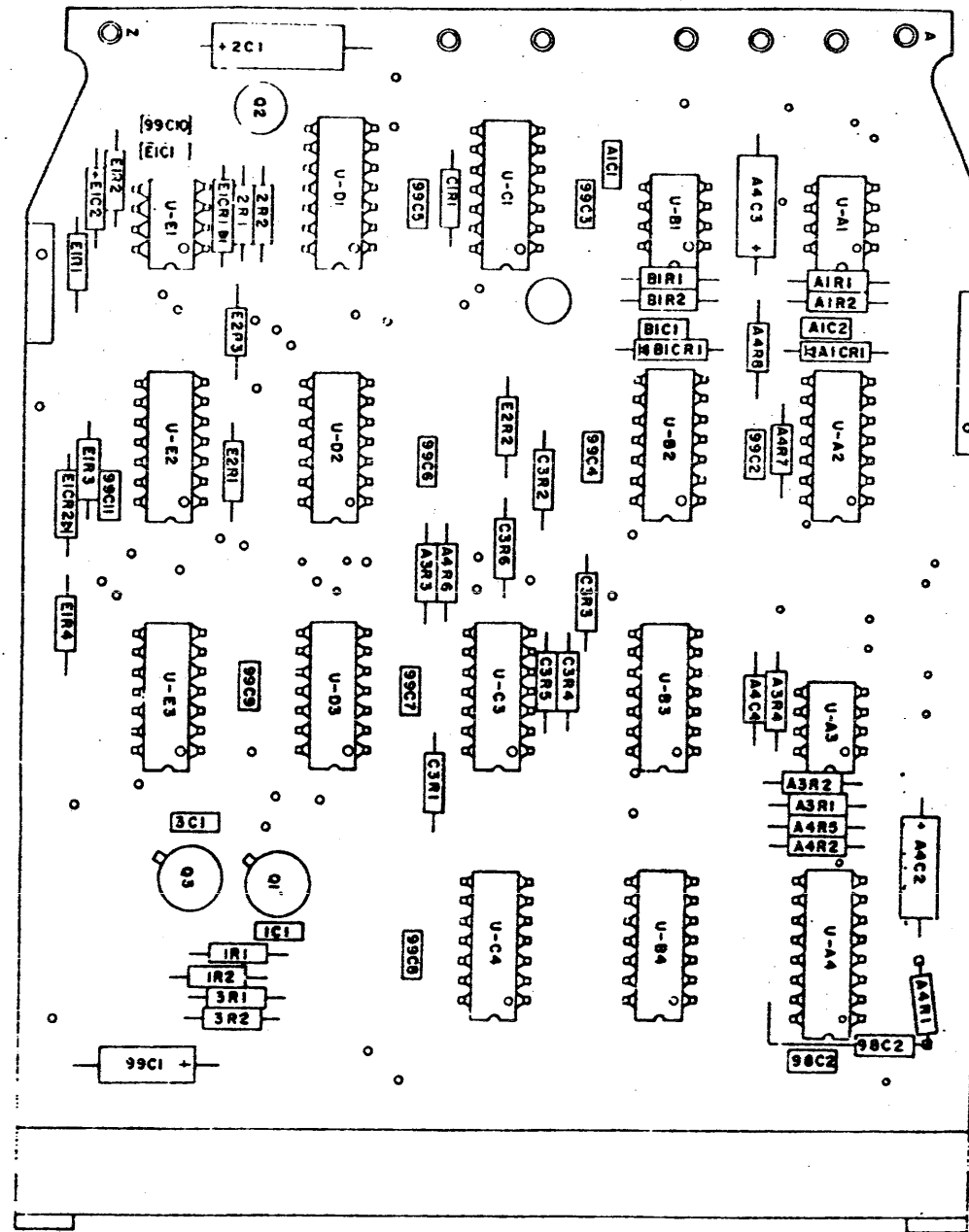


94:63



9W164





FQPV

9W:65

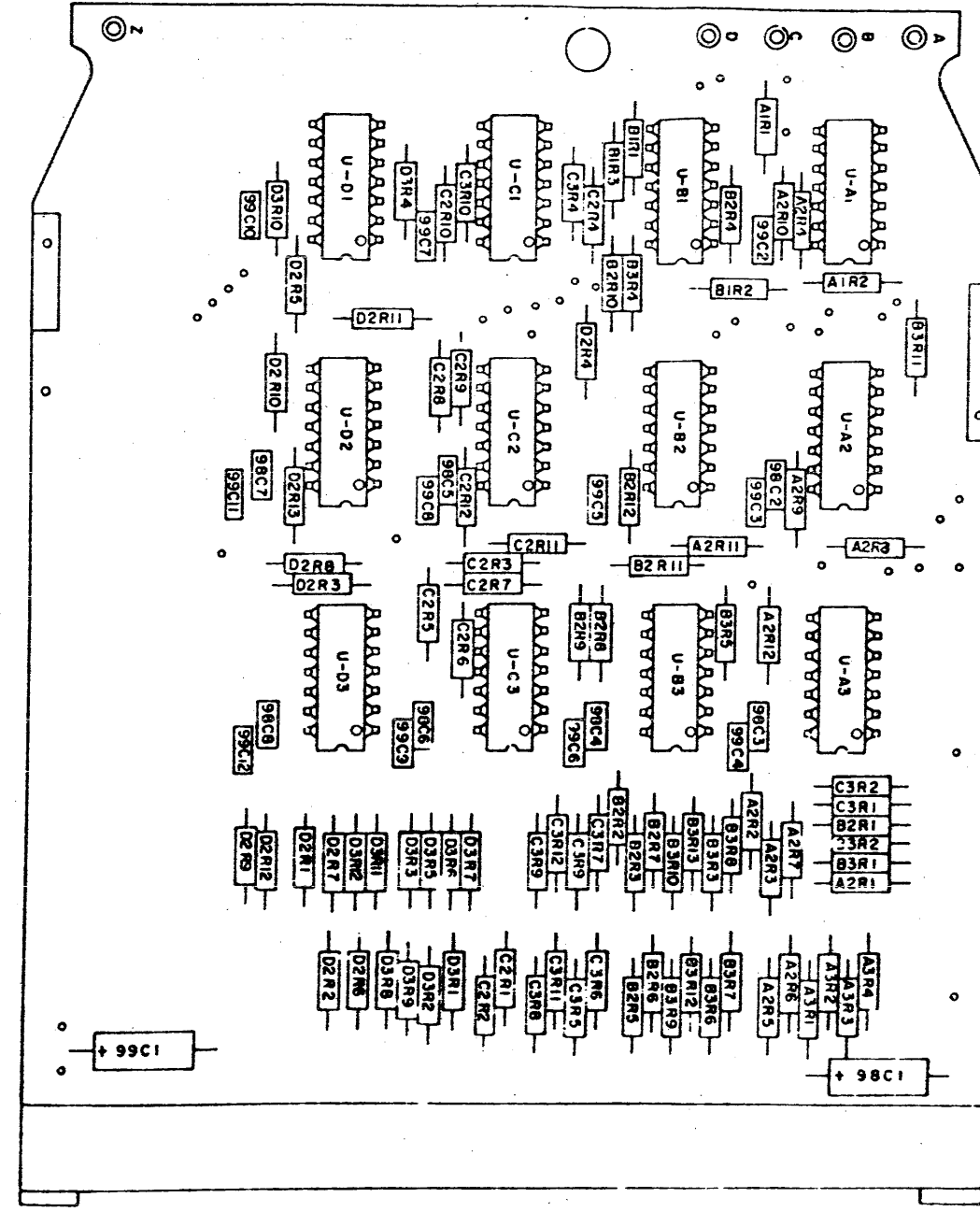
3-16

SHEET 179 OF 180

REV B

2772800 1

3332300 A



HRVV

9W:66

3-17

SHEET 180 OF 180

REV B