

**CONTROL DATA CORPORATION  
FIXED STORAGE DRIVE  
DIAGRAMS  
Volume 3**

**Models:**

**PA5G1/G2 (Wang 2268V-3)**

**PA5N1/N2 (Wang 2268V-4)**

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**Customer Engineering  
OEM Reprint**

**741-1663**

## PREFACE

The purpose of this manual is to provide the Wang-trained Customer Engineer (CE) with instructions to troubleshoot and repair the Control Data Corporation Fixed Storage Drive, Wang 2268V-3 and Wang 2268V-4.

**First Edition (April 1985)**

This document is a reprint of volume 3 of the Maintenance Manual for the Control Data Corporation Fixed Storage Drive. The material in this document may be used only for the purpose stated in the Preface. Updates and/or changes to this document will be published as Publications Update Bulletins (PUB's) or subsequent editions.

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**CDC® FIXED STORAGE DRIVE**

**PA5G1**

**PA5G2**

**PA5N1**

**PA5N2**

**DIAGRAMS**

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**Volume 3**

**HARDWARE MAINTENANCE MANUAL**

# REVISION RECORD

REVISION	DESCRIPTION
01 (11-15-83)	Preliminary release. Subject to change without notice.
02 (12-08-83)	Added CSUX (515 MB R/W) Diagrams. Manual at this revision remains preliminary and subject to change without notice.
03 (01-04-84)	Added BTQX (Dual Channel I/O) Diagrams. Manual at this revision remains preliminary and subject to change without notice.
A (01-15-84)	Manual released documenting series code 01 and 02 units.
B (05-11-84)	Manual revised to incorporate the following series code 03/04 changes: ECO 05684, technical changes, and editorial changes.
C (10-16-84)	Manual revised to incorporate the following series code 05/06 changes: Class 1 ECO's 05754, 05755, 05765, 05808, 05835, 05879, 05891, Class 2 ECO's 05831, 05940, technical changes, and editorial changes.

REVISION LETTERS I, O, Q  
AND X ARE NOT USED.

Address comments concerning this  
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Twin Cities Disk Division  
Customer Documentation Dept.  
5950 Clearwater Drive  
Minnetonka, MN 55343

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or use Comment Sheet in the back  
of this manual.

## LIST OF EFFECTIVE PAGES

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1-75	A	1-117	C
1-76	A	1-118	A
1-77	C	1-119	C
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1-79	C	1-121	A
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1-83	C	1-125	A
Blank	-	1-126	A
1-85	A	1-127	C
Blank	-	1-128	A
1-87	A	1-129	C
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## PREFACE

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This manual contains maintenance information for the CONTROL DATA® PA5G1/PA5G2, PA5N1/PA5N2 Fixed Storage Drives (FSD's). It is prepared for customer engineers and other technical personnel directly involved with maintaining the FSD.

The information in this manual is presented as follows:

Section 1 - Diagrams. Contains logic diagrams.

The following manuals apply to the FSD and are available from Control Data Corporation, Literature Distribution Services, 308 North Dale Street, St. Paul, MN 55103:

<u>Publication No.</u>	<u>Title</u>
83324760	PA5G1/PA5G2 and PA5N1/PA5N2 Hardware Maintenance Manual, Volume 1 (contains general description, operation, installation and checkout information, and parts data)
83324770	PA5G1/PA5G2 and PA5N1/PA5N2 Hardware Maintenance Manual, Volume 2 (contains theory of operation and maintenance)
83324780	PA5G1/PA5G2 and PA5N1/PA5N2 Hardware Maintenance Manual, Volume 3 (contains diagrams)
83322440	CDC Microcircuits, Volume 1 (provides functional descriptions for integrated circuits)
83324440	CDC Microcircuits, Volume 2 (provides functional descriptions for integrated circuits)



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## IMPORTANT SAFETY INFORMATION AND PRECAUTIONS

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Proper safety and repair is important to the safe, reliable operation of this unit. Service should be done by qualified personnel only. This maintenance manual describes procedures recommended by the manufacturer as effective methods of servicing the unit. Some of these procedures require the use of specially designed tools. For proper maintenance and safety, these specially designed tools should be used as recommended.

The procedures in this maintenance manual and labels on the unit contain warnings and cautions which must be carefully read and observed in order to minimize or eliminate the risk of personal injury. The warnings point out conditions or practices that are potentially hazardous to maintenance personnel. The cautions point out practices which, if disregarded, could damage the unit and make it unsafe for use.

For the safety of maintenance and operating personnel, the following precautions must be observed:

- Perform all maintenance in accordance with the procedures given in this manual.
- Read and observe all cautions and warnings provided in the procedures and labeled on the unit.
- Use the special tools called out in the maintenance procedures.
- Observe sound safety practices when performing maintenance.
- Use caution when troubleshooting a unit that has voltages present. Remove power from unit before servicing or replacing components.
- Wear safety glasses when servicing units.
- Wear safety shoes when removing or replacing heavy components.

It is also important to understand that these warnings and cautions are not exhaustive. The manufacturer could not possibly know, evaluate and advise maintenance personnel of all conceivable ways in which maintenance might be performed or the possible risk of each maintenance technique. Consequently, the manufacturer has not completed any such broad evaluation. Thus, any persons who use any non-approved maintenance procedure or tool must first satisfy themselves that neither their safety nor the unit performance will be jeopardized by the maintenance techniques they select.

## ABBREVIATIONS

---

A	Ampere	CLK	Clock
ABV	Above	CLR	Clear
ac	Alternating Current	cm	Centimeter
ADD	Address	CNTR	Counter
ADDR	Address	COMP	Comparator
ADJ	Adjust	CONT	Control
ADRS	Address	CONTD	Continued
AGC	Automatic Gain Control	CT	Center Tap
ALT	Alternate	CYL	Cylinder
AM	Address Mark	D/A	Digital to Analog
AME	Address Mark Enable	dc	Direct Current
AMP	Amplifier, Ampere	DET	Detect
ASSY	Assembly	DIFF	Differential
BLW	Below	DIV	Division
C	Celsius	DLY	Delay
CB	Circuit Breaker	DRVR	Driver
CDA	Complete Drive Assembly	ECL	Emitter Coupled Logic
CDC	Control Data Corporation	ECO	Engineering Change Order
CH	Channel	EN	Enable
CHK	Check	ENBL	Enable

## ABBREVIATIONS (Contd)

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EXT	External	IND	Index
F	Fahrenheit, Fuse	INTRPT	Interrupt
FCO	Field Change Order	I/O	Input/Output
FDBK	Feedback	IPB	Illustrated Parts Breakdown
FIG	Figure	IPS	Inches per Second
FLT	Fault	kg	Kilogram
FSD	Fixed Storage Drive	kPa	Kilopascal
ft	Foot	kW	Kilowatt
FTU	Field Test Unit	lb	Pound
FWD	Forward	LED	Light Emitting Diode
GND	Ground	LSI	Large Scale Integration
HD	Head	LTD	Lock to Data
HEX	Hexagon	m	Meter
Hg	Mercury	MAX	Maximum
HR	High Resolution	MB	Megabyte
HYST	Hysteresis	MEM	Memory
Hz	Hertz	MHz	Megahertz
IC	Integrated Circuit	mm	Millimeter
IDENT	Identification	MPI	Magnetic Peripherals, Inc.
in	Inch		

## ABBREVIATIONS (Contd)

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MPU	Microprocessor Unit	PS	Power Supply
MRK	Mark	PWR	Power Supply
ms	Millisecond	RCVR	Receiver
MTR	Motor	RD	Read
mV	Millivolt	RDY	Ready
NC	No Connection	REF	Reference
NORM	Normal	REQ	Request
NRZ	Non Return to Zero	RES	Resolution
ns	Nanosecond	REV	Reverse, Revision
OC	On Cylinder	RGTR	Register
OS	One-Shot	r/min	Revolutions Per Minute
OSC	Oscillator	RSD	Removable Storage Drive
P	Plug	RTZ	Return to Zero
PD	Peak Detect	R/W	Read/Write
pF	Picofarad	s	Second
PG	Page	S/C	Series Code
PHH	Phillips Head	SEC	Second
PLO	Phase Lock Oscillator	SEL	Select
PROC	Procedure	SEQ	Sequence
PROG	Programmable	SPD	Speed

## ABBREVIATIONS (Contd)

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SS	Sector Switch	W	Watts
T	Tracks to go	W/	With
TF	Thread Forming	W/O	Without
TIM	Timer	W PROT	Write Protect
TP	Test Point	W+R	Write or Read
TSP	Troubleshooting Procedure	W·R	Write and Read
TTL	Transistor-Transistor Logic	WRT	Write
V	Volts, Voltage	XFR	Transfer
Vbb	Bias Voltage	?	Ohms
VCC	Bias Voltage	\$	Hexadecimal Address
VCO	Voltage Controlled Oscillator	uF	Microfarad
		us	Microsecond

**SECTION**

**1**

**DIAGRAMS**

## **1. DIAGRAMS**

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<b>Symbology</b>	<b>1-1</b>
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## INTRODUCTION

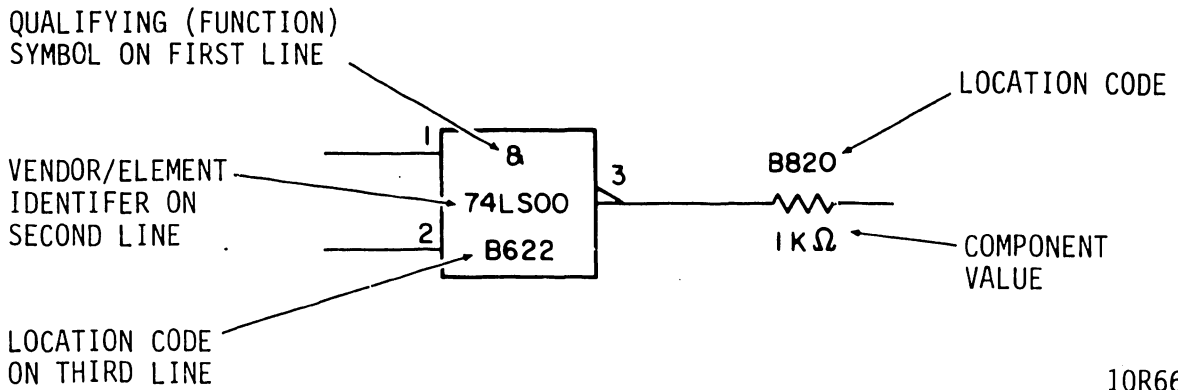
This section contains the logic diagrams and an explanation of the diagram conventions. The diagram conventions, along with the microcircuit manuals, provide the necessary information to understand and use the diagrams. The diagram conventions are:

- Symbology
- Abbreviations
- Logic Levels
- Signal Names
- Logic Arrangement
- Intersheet References

## SYMBOLOLOGY

### GENERAL

The diagrams contain a modified version of ANSI standard Y32.14 logic symbology (see figure 1-1). The logic symbols for integrated circuits contain a qualifying symbol, an element identifier, and a location code.



10R66

Figure 1-1. Logic Symbology

## QUALIFYING (FUNCTION) SYMBOL

The qualifying symbol denotes the basic operation being performed by the integrated circuit. Refer to the microcircuits manual for an explanation of the qualifying symbols used in the diagrams.

## ELEMENT IDENTIFIER

The second line of any symbol contains the vendor/element identifier. This number identifies the integrated circuit type. Refer to the microcircuits manuals for an explanation of the element identifiers used in the diagrams.

## LOCATION CODE

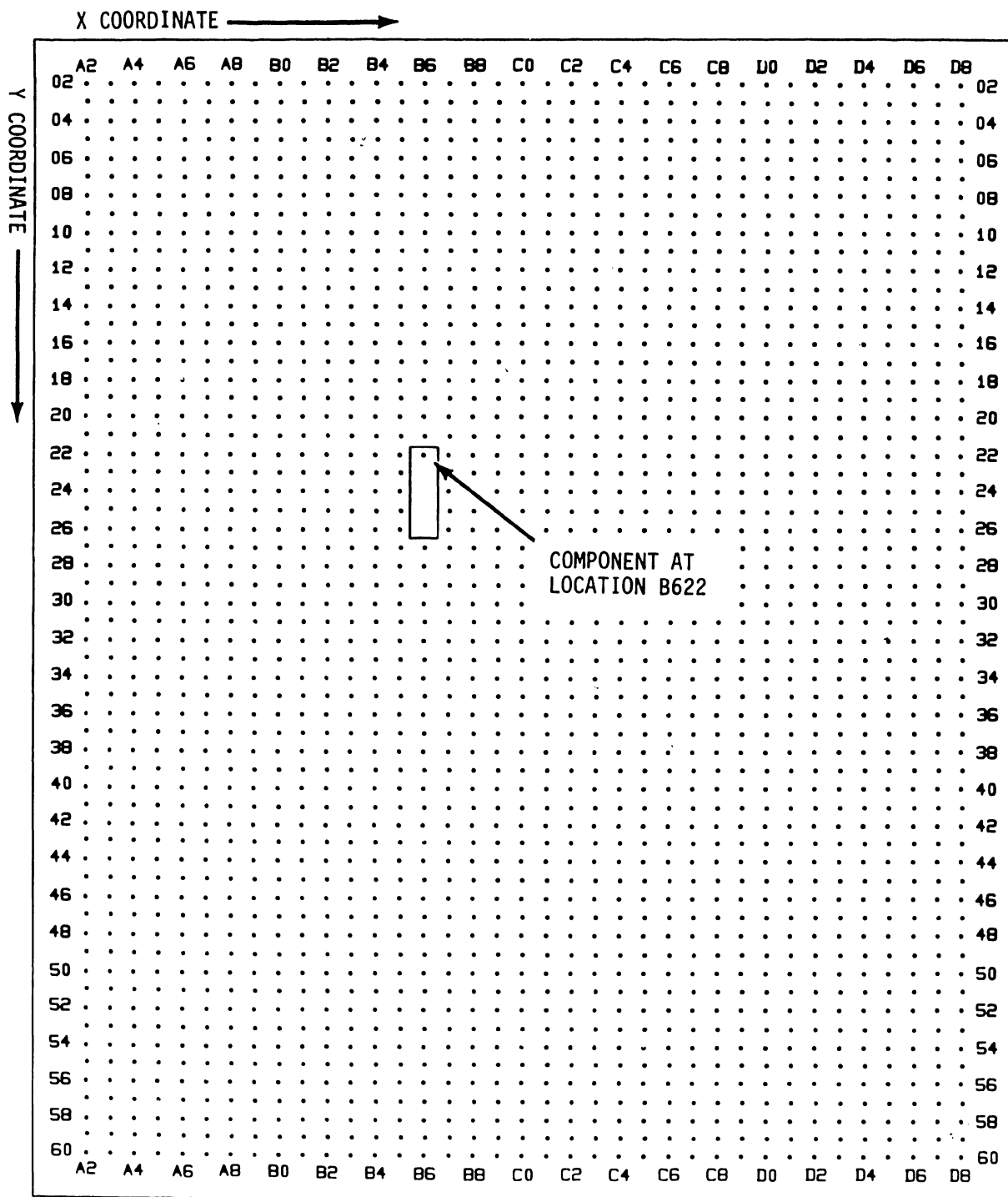
The location code identifies the location of each component on the circuit board. The location code is a four-character XXYY designation related to an X-Y grid defined on the edges of the circuit board. To avoid confusion, the "XX" characters are alpha-numeric and the "YY" characters are numeric. Figure 1-2 shows a circuit board with a component at location code B622, which is the intersection of grid lines B6 (X) and 22 (Y).

## ABBREVIATIONS

Standard abbreviations from ANSI Y1.1 are used whenever possible. Refer to the list of abbreviations contained in the front matter for a definition of all abbreviations used in the diagrams.

## LOGIC LEVELS

Three types of logic are used in the drives that this manual applies to: TTL logic, ECL logic, and CMOS logic. Logic levels for the three types are shown in table 1-1. Different circuit configurations and temperatures may result in legitimate readings that fall outside of the typical range. Such readings should be suspect only in the event of problems.



10R67

Figure 1-2. Location Code Example

TABLE 1-1. LOGIC VOLTAGE LEVELS

Logical State	Nominal Voltage	Typical Range
TTL "1"	3.3 V	2.0 V to 3.3 V*
TTL "0"	0.2 V	0.2 V to 0.8 V
ECL "1"	-0.924 V	-0.96 V to -0.81 V
ECL "0"	-1.75 V	-1.65 V to -1.85 V
CMOS "1"	5.0 V	3.5 V to 5.0 V
CMOS "0"	0 V	0 V to 1.5 V

\*Measuring a TTL open collector voltage may result in a reading that is close to the actual power supply voltage.

## SIGNAL NAMES

Input and output signals are labeled to reflect their particular function. If an output signal has no connection, and therefore no function, it is labelled "NC" to indicate no connection. The polarity (logical state) of a signal is identified by a plus or minus sign before the signal name. A plus sign before a signal name indicates that the signal is active when the logic level is high or in a logical "1" state. A minus sign before a signal name indicates that the signal is active when the logic level is low or in a logical "0" state. Refer to the discussion on logic levels.

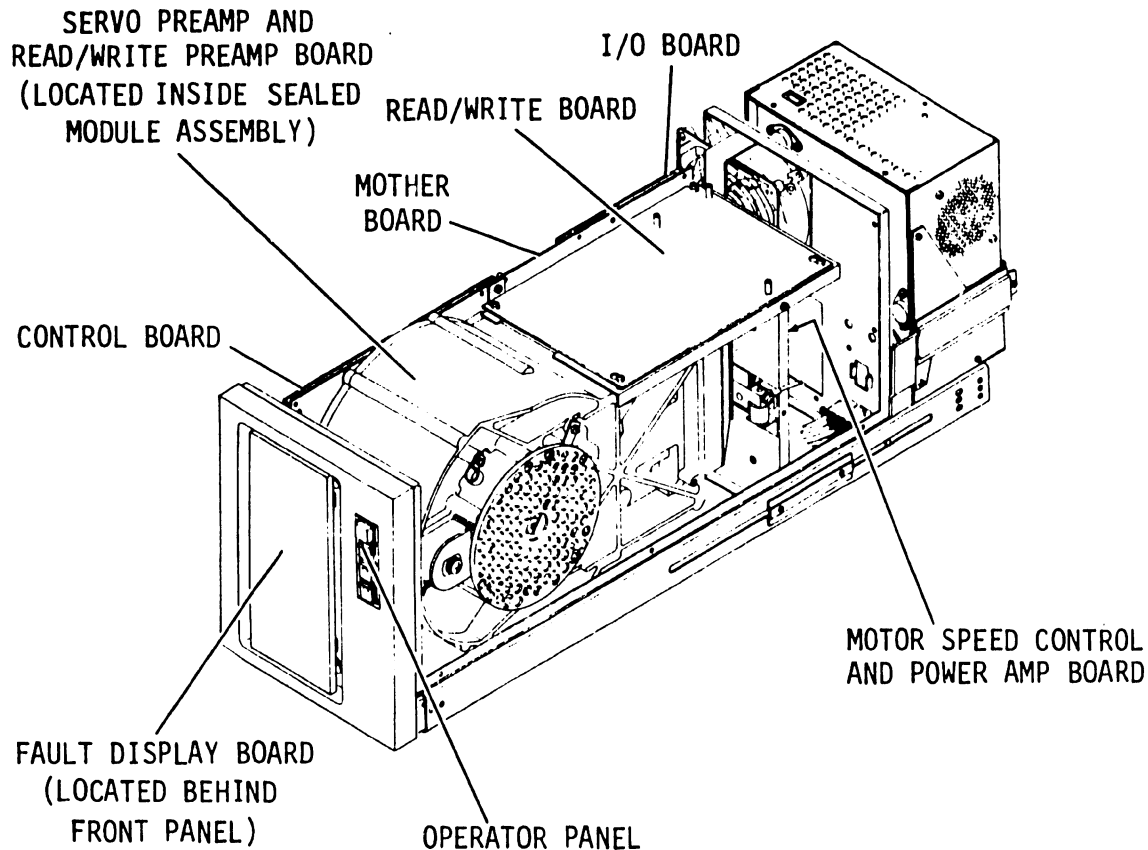
## LOGIC ARRANGEMENT

Logic diagrams for the drive consist of overall block diagrams and independent diagram sets for the interlocks, the detachable cables, and the circuit boards. The diagram sets are presented in the order given in table 1-2. Refer to figure 1-3 for the location of the circuit boards in the drive.

Each diagram set consists of one or more sheets with each sheet identified by the sheet number which appears in the lower right-hand corner of the page. The first sheet in each set, the cover sheet, is described in the following paragraph.

TABLE 1-2. CONTENTS OF DIAGRAMS

Circuit Board Type	Cross Ref. Number	Title
	0002	FSD Block Diagram
_PBX	01XX	Operator Panel
_SYX	02XX	Single Channel I/O
_TQX	02XX	Dual Channel I/O
_VCX (_SXX)	03XX	Control Board
_SWX	04XX	Motor Speed Control and Power AMP
_UGX	05XX	340 MB Read/Write
_VHX (_SUX)	05XX	515 MB Read/Write
_UQX	06XX	Fault Display
_STX	09XX	Arm Matrix (in module)
_SVX	10XX	Mother Board



11D24

Figure 1-3. Circuit Board Locations

### LOGIC DIAGRAM COVER SHEETS

The logic diagram cover sheet is the first sheet of each logic set. It contains power and ground connections, and lists unused logic elements.

### CIRCUIT BOARD TYPE

The board type designation is shown on sheet 1 in the title block.

## INTERSHEET REFERENCES

Each logic diagram is assigned a four-digit cross-reference number and a two-digit sheet number. The first two digits of the cross-reference number indicate the assigned set number, and the last two digits indicate the sheet number within that set. Table 1-2 lists the cross-reference number for each logic diagram set. The following paragraphs discuss how to trace signals from one point to another in the diagrams and refer to both the sheet numbers and the cross-reference numbers.

The procedure for tracing signals in the logic diagrams depends on whether the signal path continues on the same sheet, on another sheet in the same logic set, or on a sheet in a different logic set. These three cases are symbolized differently in the logic (see figure 1-4) and are discussed separately in the following paragraphs.

When a logic signal is continued on the same sheet but cannot be shown in series, "line of sight" arrows along with a letter within a circle are used to indicate signal origin and destination.

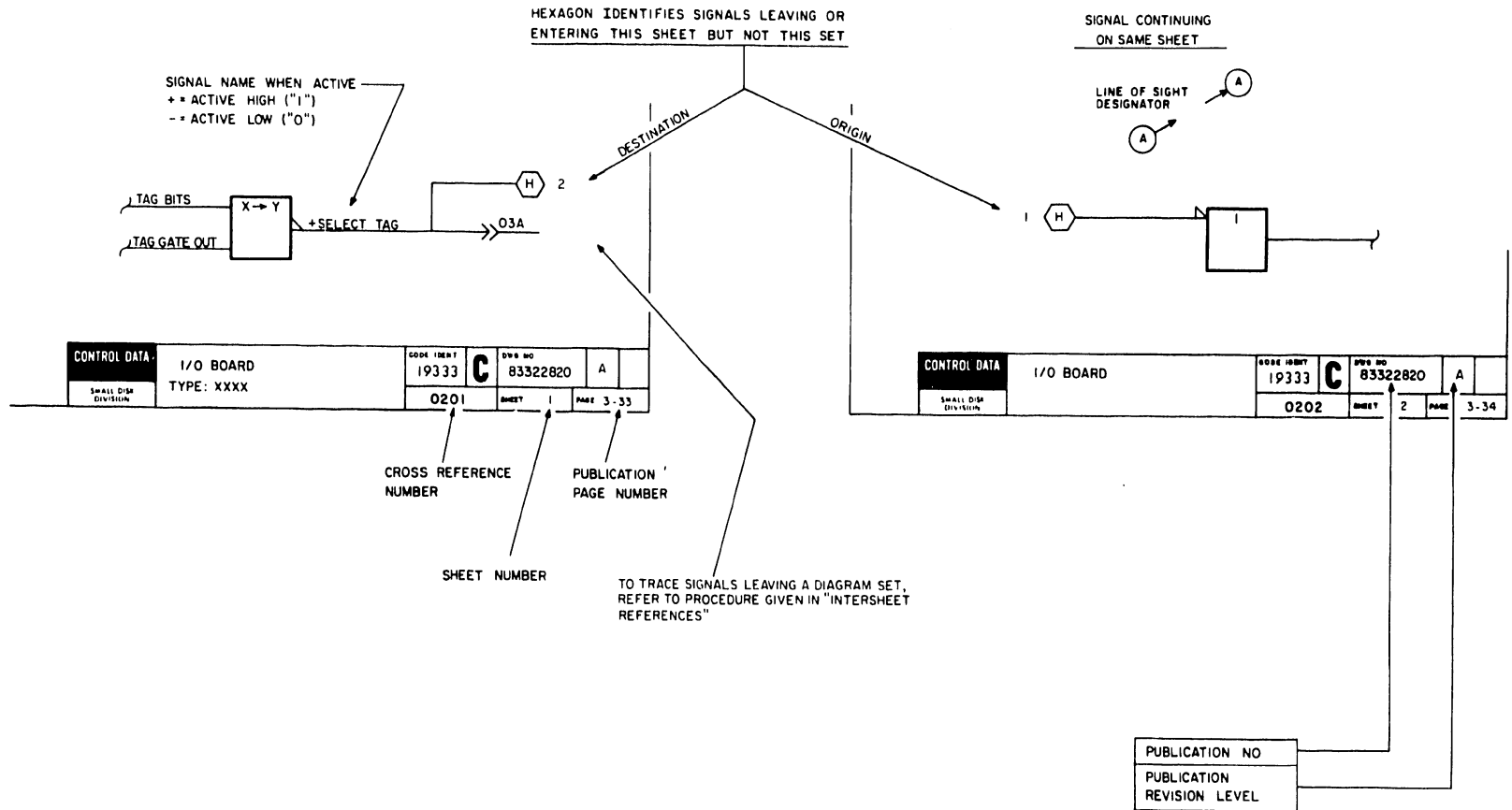
When a logic signal is continued on another sheet of the same logic set, that sheet number appears next to a hexagon containing a designating letter. This same letter is then shown where the signal is continued.

When a signal is continued on a sheet of another logic set, it follows a path through a cable from one circuit board to another. Each sheet of logic which has signals coming from or going to other circuit boards is accompanied by a Logic Cross Reference Information sheet, printed on the page facing the logic sheet. Logic Cross Reference Information lists all signal inputs and signal outputs in the order they appear on the logic sheet. Each signal input listing includes the cross-reference number of the logic sheet where the signal originates and the connector and pin number for the signal origin. Each signal output listing includes the crossreference number of the logic sheet where the signal goes and the connector and pin number for the signal destination.

Each logic sheet is linked to its associated Logic Cross Reference Information sheet by the connector and pin symbols that are duplicated on both sheets. For instance, if a logic sheet shows a signal entering the board on pin 1 of connector J14, then the Logic Cross Reference Information sheet has the following entry under Signal Inputs:

```
01    J14  
---->>----- |
```

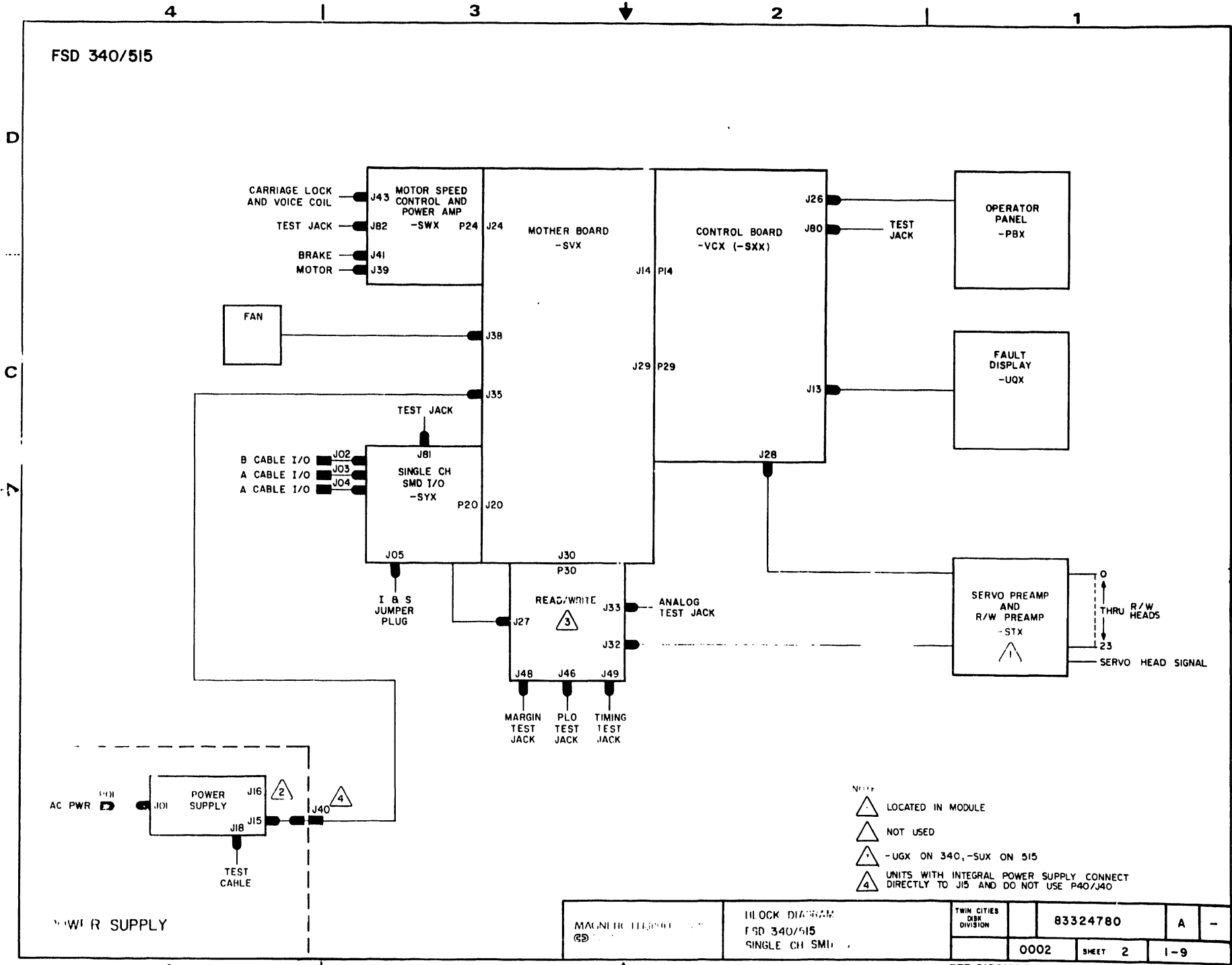
Figure 1-4. Key to Logic



I0R70B



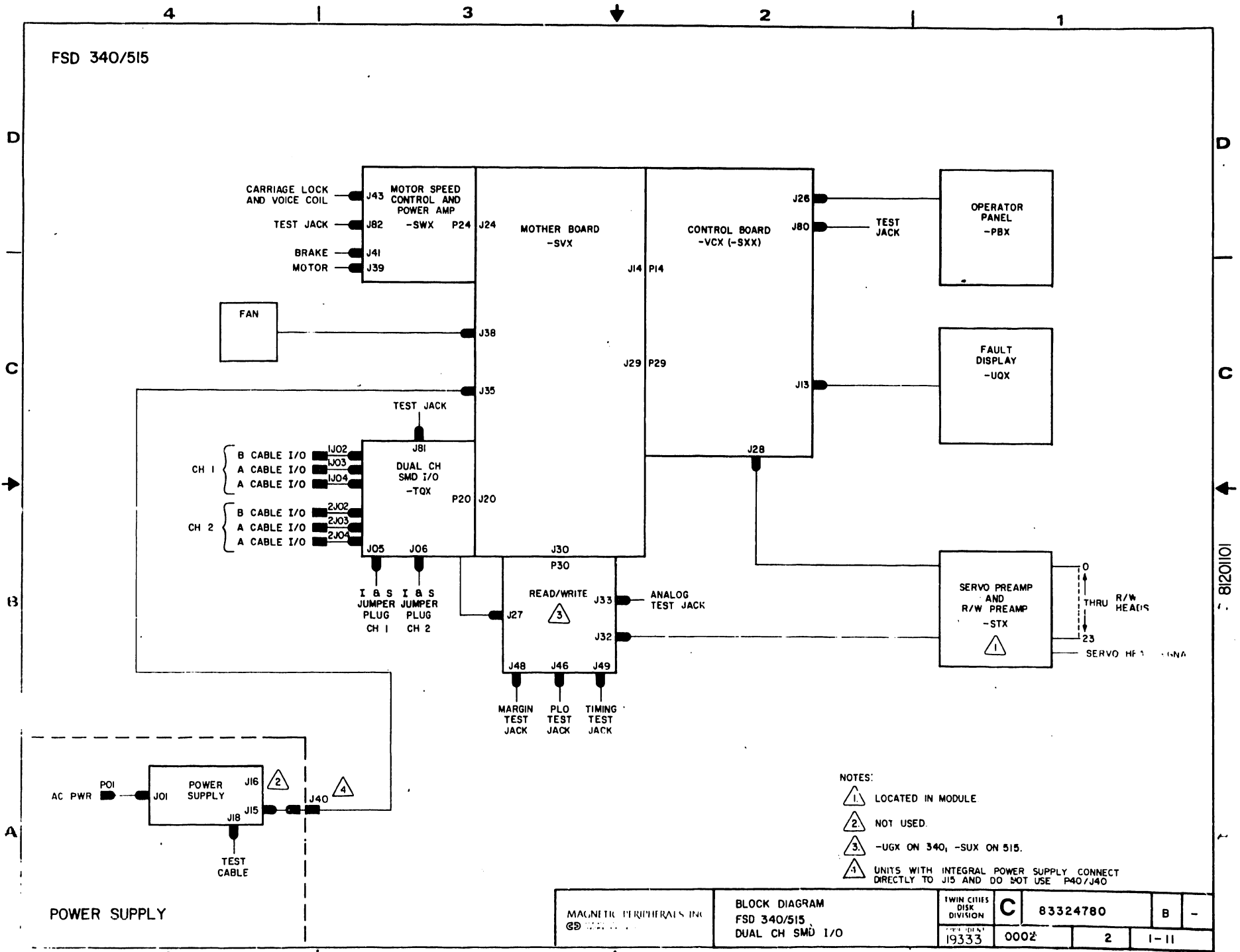
FSD 340/515



81201100

MAGNETIC HEADS UNIT (5D)	BLOCK DIAGRAM FSD 340/515 SINGLE CH SMD I/O		TWIN CITIES SERV. DIVISION	83324780	A	-
	REF: 81201100		0002	SHEET 2	1-9	

FSD 340/515



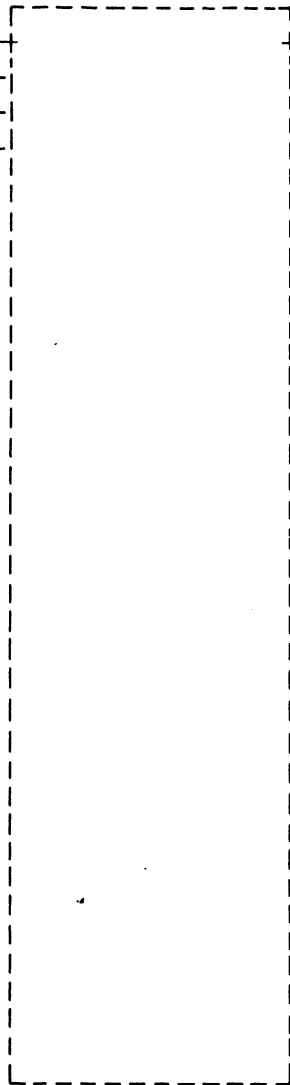
- NOTES:
- 1. LOCATED IN MODULE.
  - 2. NOT USED.
  - 3. -UGX ON 340, -SUX ON 515.
  - 4. UNITS WITH INTEGRAL POWER SUPPLY CONNECT DIRECTLY TO J15 AND DO NOT USE P40/J40.

POWER SUPPLY

MAGNETIC PERIPHERALS INC 65	BLOCK DIAGRAM FSD 340/515 DUAL CH SMD I/O		TWIN CITIES DISK DIVISION	C	83324780	B	-
	19333	0002	2	1-11			

**SIGNAL INPUTS**

0301	J26-02	02	>>	P26
0301	J26-04	04	>>	P26
0301	J26-01	01	>>	P26
0301	J26-06	06	>>	P26

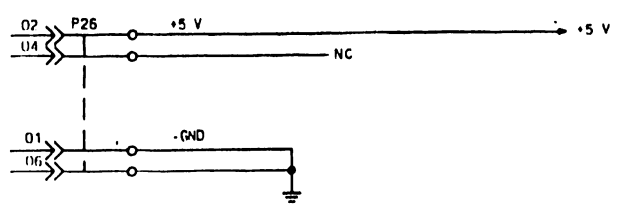


**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0101	PAGE	1-12

PART NO RANGE	REVISION RECORD						
	REV	ECO	DES. DESCRIPTION	UNIT	DATE	CHKD	APP
05 THRU 05	A	<i>(Signature)</i>	RELEASED				
	B	DJOSB91	FPBX TO HPBX	JKL	11-12-84		

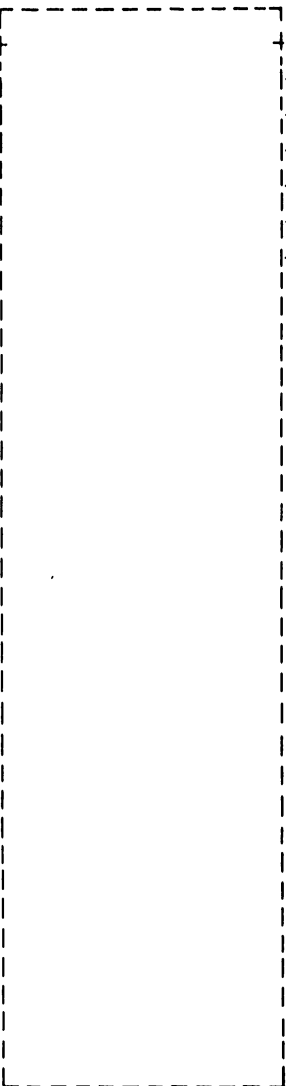


REFERENCE DRAWING				MAGNETIC PERIPHERALS INC		TITLE					
COMP ASSY. 54330905				CD		SCHEMATIC DIAGRAM					
CTR 54331105				FIRST USED ON		OPERATOR PANEL					
				PA5N1-A		TYPE FPBX/HPBX					
COMPONENTS EXCEPT AS NOTED				DWN	FAE AUDETTE	3/11/83	TWIN CITIES DISK DIVISION	C	83324780	C	-
RES	TOLERANCE	VALUE	RATING	CHKD	<i>(Signature)</i>	3/11/83					
CAP				ENGR	<i>(Signature)</i>	3/11/83					
				MFG	<i>(Signature)</i>						
				QA	<i>(Signature)</i>		PACW NO	0101	SHEET	OF 3	1-13
							19333				

P54330905 4

**SIGNAL INPUTS**

0305 J26-07 07 ->> P26  
0308 J26-13 13 ->> P26  
0305 J26-12 12 ->> P26



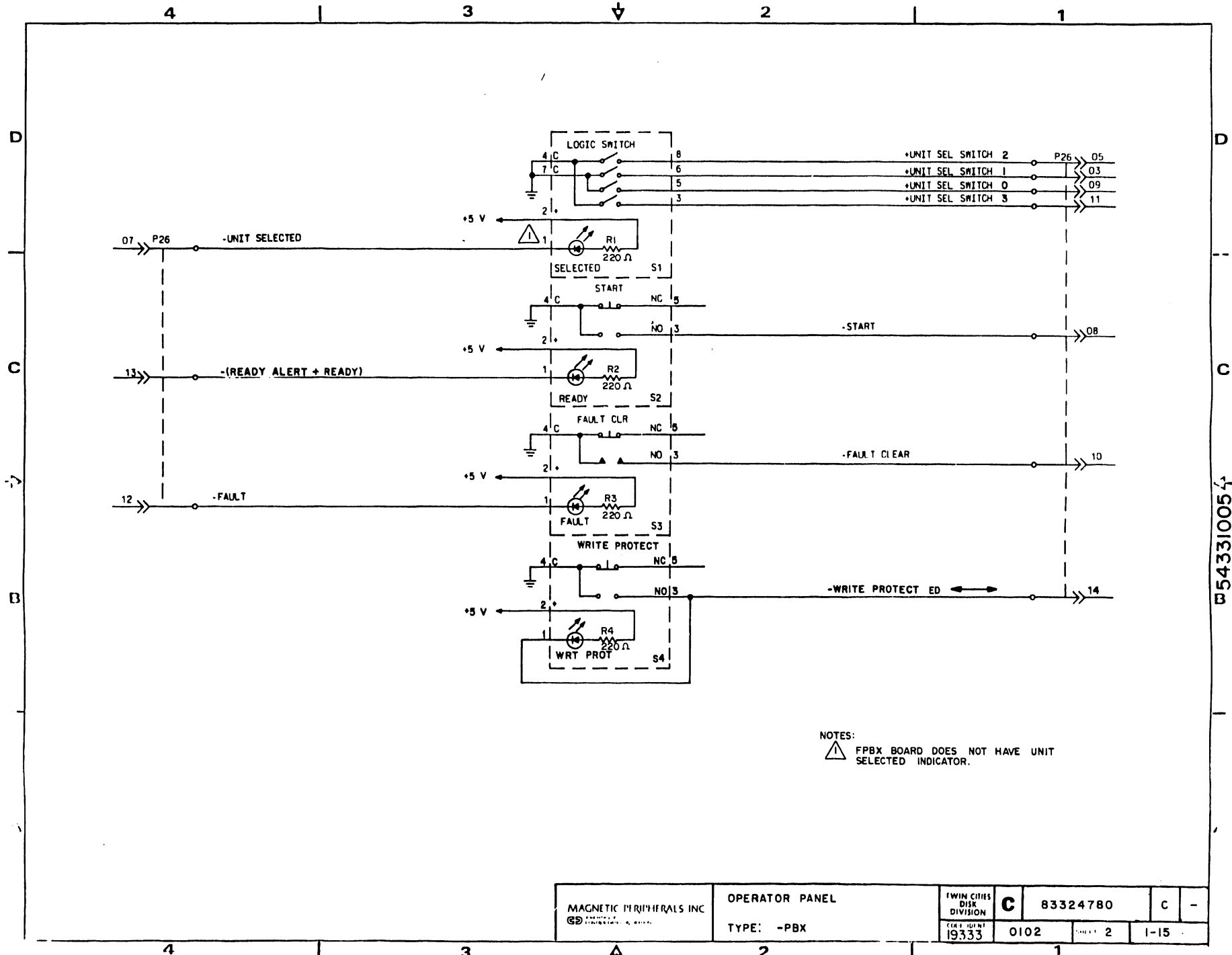
**SIGNAL OUTPUTS**

P26 ->> 05  
P26 ->> 03  
P26 ->> 09  
P26 ->> 11  
P26 ->> 08  
P26 ->> 10  
P26 ->> 14

0301 J26-05  
0301 J26-03  
0301 J26-09  
0301 J26-11  
0306 J26-08  
0307 J26-10  
0308 J26-14

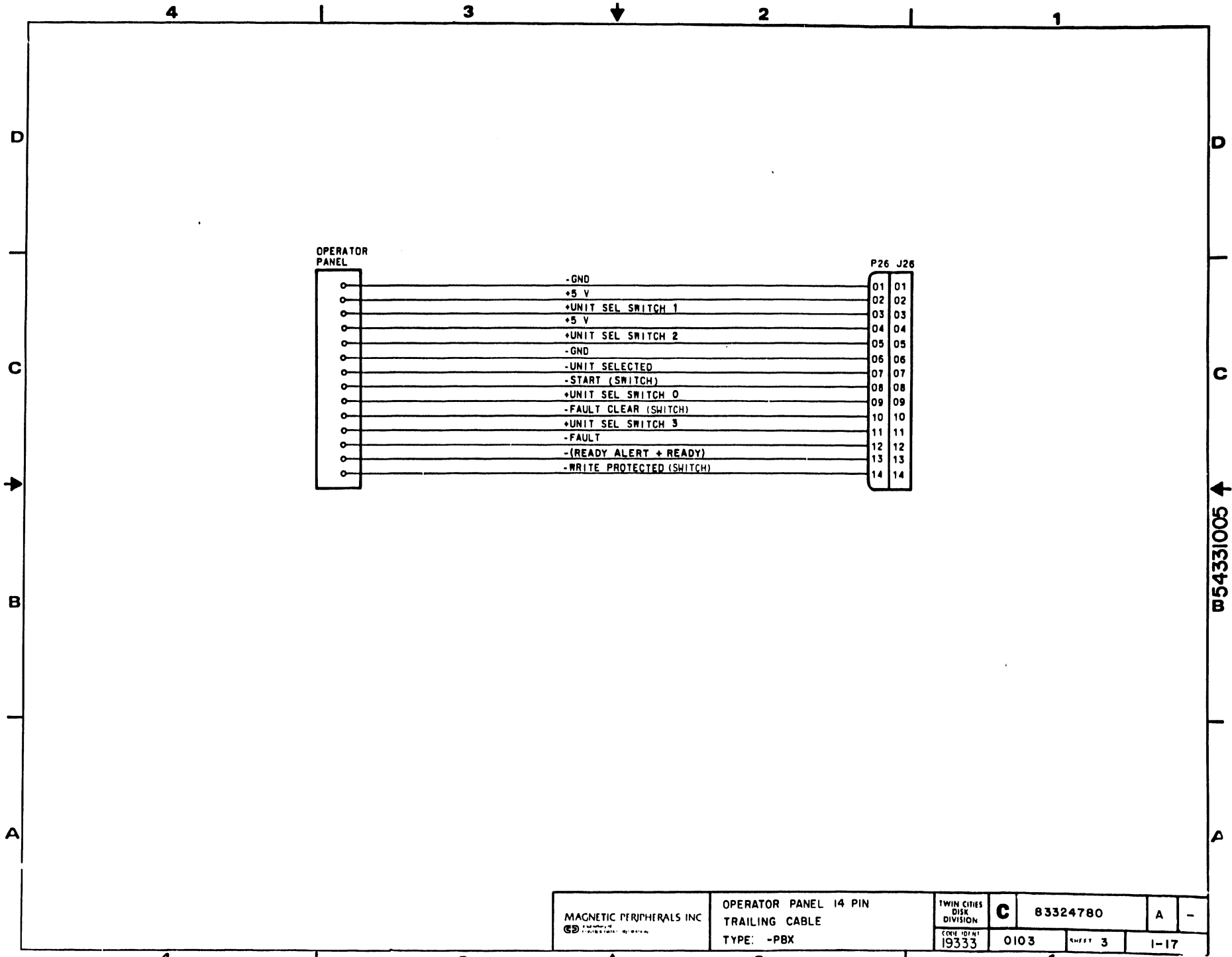
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PUB	83324780	REV	A
CROSS REF NO	0102	PAGE	1-14



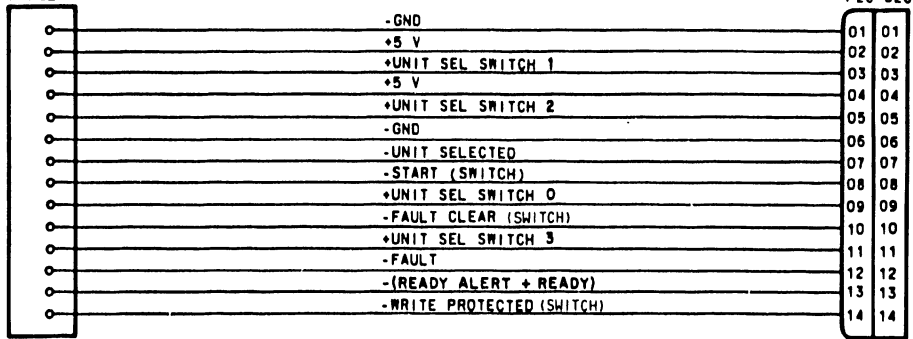
B543310054

MAGNETIC PERIPHERALS INC <small>AN IRVING-CLOUD COMPANY</small>	OPERATOR PANEL		TWIN CITIES DISK DIVISION <b>C</b>	83324780	C	-
	TYPE: -PBX	19333				



OPERATOR  
PANEL

P26 J26

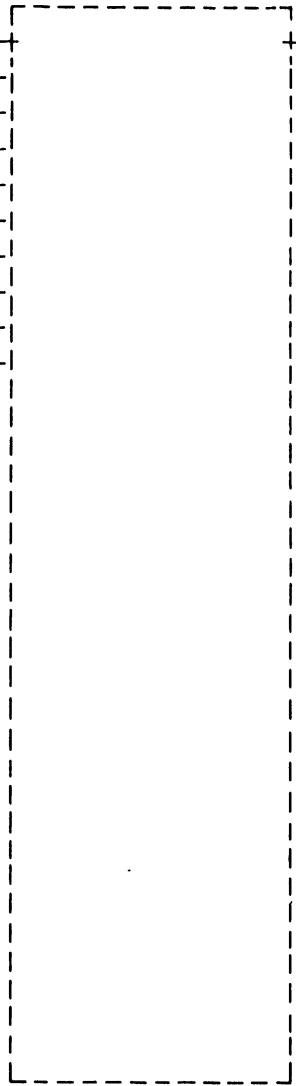


W54331005 ↑

MAGNETIC PERIPHERALS INC <small>ESTABLISHED 1964</small>	OPERATOR PANEL 14 PIN TRAILING CABLE		TWIN CITIES DISK DIVISION	<b>C</b>	83324780	A	-
	TYPE: -PBX	0103	SHEET 3	1-17			

**SIGNAL INPUTS**

--- P35-01 03 >> P20  
--- P35-01 04 >> P20  
--- P35-01 05 >> P20  
--- P35-02 09 >> P20  
--- P35-02 10 >> P20  
--- P35-02 12 >> P20  
--- P35-03 06 >> P20  
--- P35-03 07 >> P20  
--- P35-03 08 >> P20  
--- P35-10 02 >> P20



**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0201	PAGE	1-18



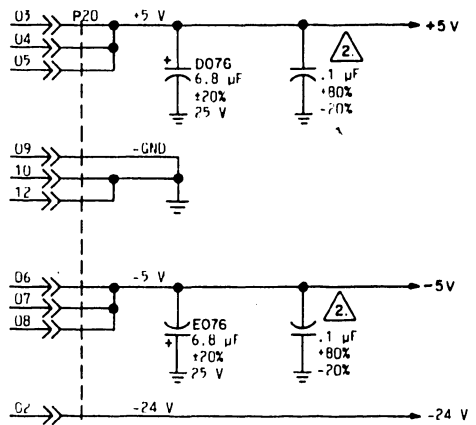
UNUSED LOGIC ELEMENTS		
TYPE	LOCATION	OUTPUT PINS
10125	C337	4
9602	E467	6,7
74LS74	D427	8,9

UNUSED RESISTOR PACKS		
VALUE	LOCATION	PINS
1 kΩ	C414	6,7,8
1 kΩ	E067	2,8
56 Ω	B827	6,7,8
470 Ω	C937	4
39k Ω	E057	2,7,8
47k Ω	D267	3,4,5,7
47k Ω	D367	2,4,5,6

FILTER CAPS. 2	
.1 μF	
+5 V	-5 V
E514	D937
DB14	CB39
C916	C237
C114	H637
A914	B037
A927	H027
B527	H627
DB27	C214
E527	H014
L627	D016
F627	D957
F637	D967
DB37	CB49
C739	D947
C137	C247
B537	H647
A937	
B547	
-C147	
C747	
DB47	
F146	
F657	
C427	
E369	
DB57	
DB67	
F614	

PART NO. RANGE	REVISION RECORD					
	REV	ECO	DESCRIPTION	DRFT	DATE	CHKD APP
01 THRU 01	A		RELEASED		8-29-83	JM
	B	DJ05570	BSYX MISC CHG	JAL	10-0-83	JH
	C	DJ05657	74LS74 TO 7474	JL	2-8-84	
	D	DJ05707	MOVE COMPONENTS	JMG	5-29-84	
	E	DJ05781	CORRECTIONS	JMG	5-29-84	
	F	DJ05835	BSYX TO DSYX	JMG	11-13-84	

- NOTES:
- 1 UNLESS OTHERWISE SPECIFIED:  
ALL 14 PIN IC'S HAVE PIN 7 TIED TO GROUND AND PIN 14 TIED TO +5 V.  
ALL 16 PIN IC'S HAVE PIN 8 TIED TO GROUND AND PIN 16 TIED TO +5 V.  
ALL DIODES, 50241403.
  - 2 ALL RESISTOR PACK RESISTORS 1/8 W. ±3%.
  - 3 SEE TABLE FOR FILTER CAP LOCATIONS.
  - 4 J05 IS JUMPER OPTION FOR SECTOR AND INDEX IN "A" OR "B" CABLE.
  - 5 DRAWINGS WHERE TAB NUMBERS CREATE NEW COVER SHEET, TABS 00-99 ARE RESERVED.
  - 6 DELAY TIME FOR REFERENCE ONLY.
  - 7 COMPONENT SOLDERED TO ADJACENT IC.



REFERENCE DRAWING				MAGNETIC PERIPHERALS INC. A Corvid Data Company		TITLE	
COMP ASSY 54368101				FIRST USED ON		SCHEMATIC DIAGRAM	
CTR 54368301				NEXT ASSEMBLY		SINGLE CH SMD I/O	
				PA5G-IA		TYPE BSYX/DSYX	
COMPONENTS EXCEPT AS NOTED				DWN	D. J. Niemi	8-15-83	
TOLERANCE	VALUE	RATING	CHKD	C. Semabauer	8-10-83	TWIN CITIES DISK DIVISION	
RES ±5%	OHMS	1/4 W	ENGR	R. J. McLean	8-8-83	C	83324780
CAP ±10%			MFG	J. P. ...	5-12-83		
				QA	M. ...	5-15-83	
				FSCM NO. 19333		SHEET 1 OF 7	
				REF: 54368201/03		1-19	

B54368201A

D  
C  
B  
A

4 | 3 | 2 | 1

REF: 54368201/03 1 FSD 340/500

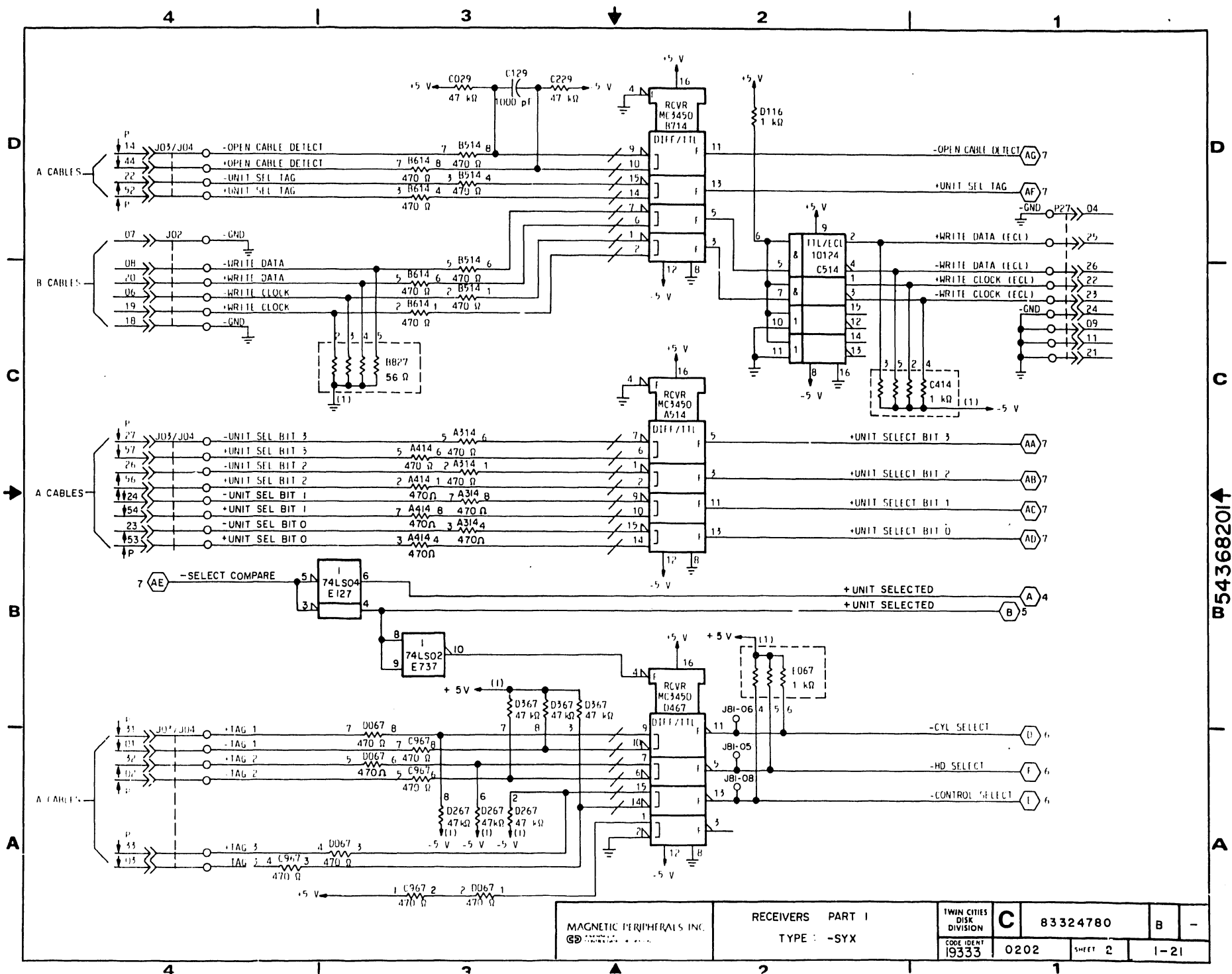
**SIGNAL INPUTS**

**SIGNAL OUTPUTS**

+	P27	>>	04	0501	J27-04
	P27	>>	25	0502	J27-25
	P27	>>	26	0502	J27-26
	P27	>>	22	0502	J27-22
	P27	>>	23	0502	J27-23
	P27	>>	24	0501	J27-24
	P27	>>	09	0501	J27-09
	P27	>>	11	0501	J27-11
	P27	>>	21	0501	J27-21

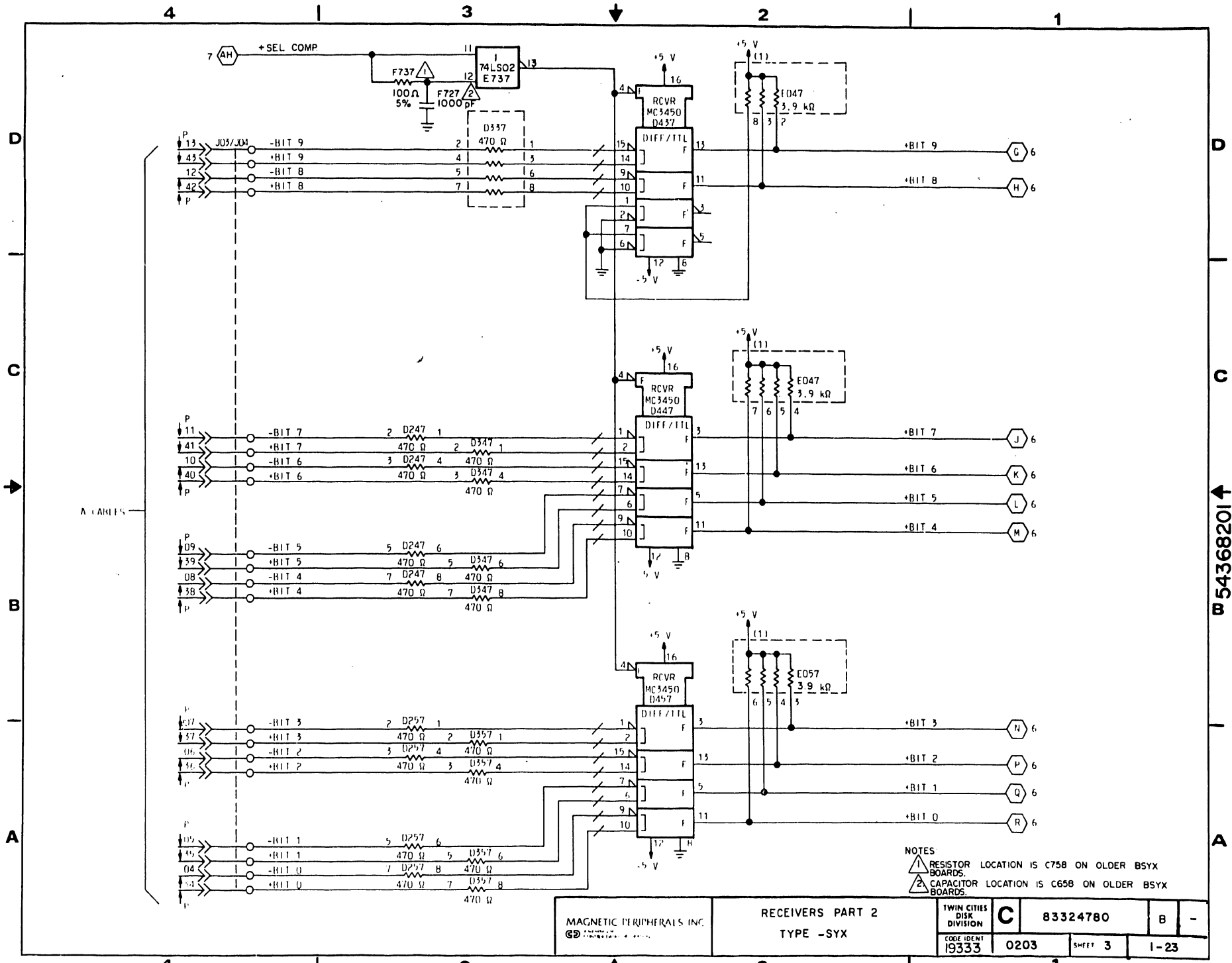
**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0202	PAGE	1-20



B54368201A

MAGNETIC PERIPHERALS INC. GD	RECEIVERS PART I		TWIN CITIES DISK DIVISION	C	83324780	B	-
	TYPE: -SYX		CODE IDENT 19333				



A CABLES

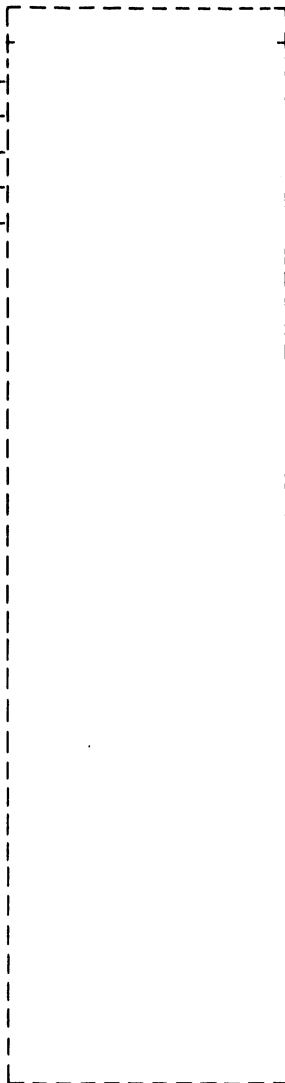
NOTES  
 ▲ RESISTOR LOCATION IS C758 ON OLDER BSYX BOARDS.  
 △ CAPACITOR LOCATION IS C658 ON OLDER BSYX BOARDS.

MAGNETIC PERIPHERALS INC. GD	RECEIVERS PART 2 TYPE -SYX		TWIN CITIES DISK DIVISION	C	83324780	B	-
	CODE IDENT 19333	0203	SHEET 3	1-23			

B 54368201

**SIGNAL INPUTS**

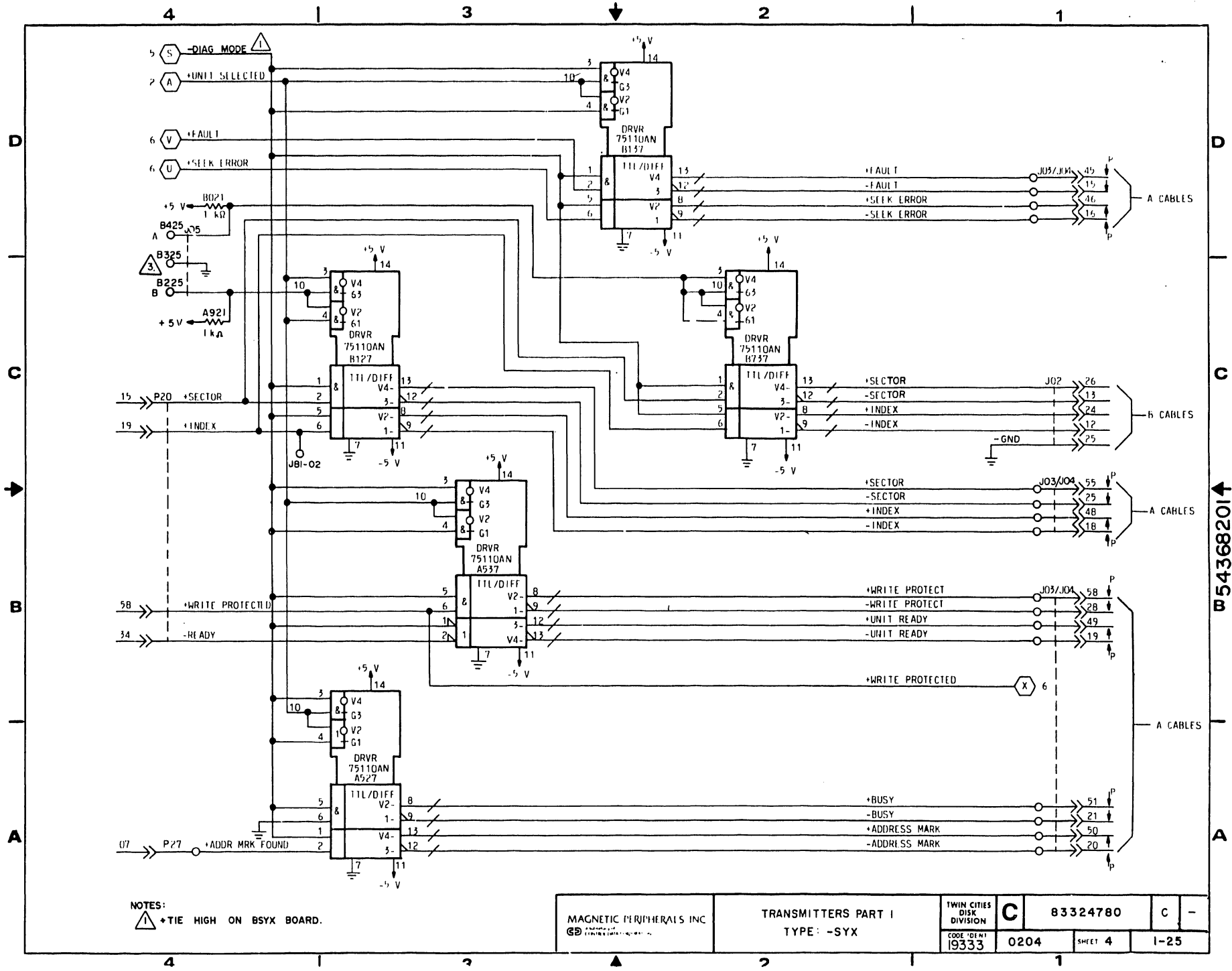
<u>340 MB</u>	<u>515 MB</u>			
0309	0309	P14-45	15	>> P20
0309	0309	P14-41	19	>> P20
0308	0308	P14-04	58	>> P20
0307	0307	P14-28	34	>> P20
0507	0509	J27-07	07	>> P27




**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0204	PAGE	1-24



NOTES:  
 +TIE HIGH ON BSX BOARD.

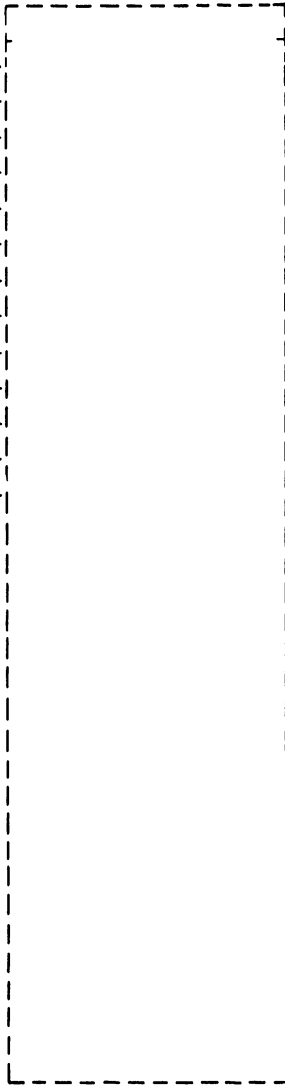
MAGNETIC PERIPHERALS INC 	TRANSMITTERS PART I TYPE: -SYX		TWIN CITIES DISK DIVISION	C	83324780	C	-
	CODE IDENT 19333	0204	SHEET 4				

B 54368201

**SIGNAL INPUTS**

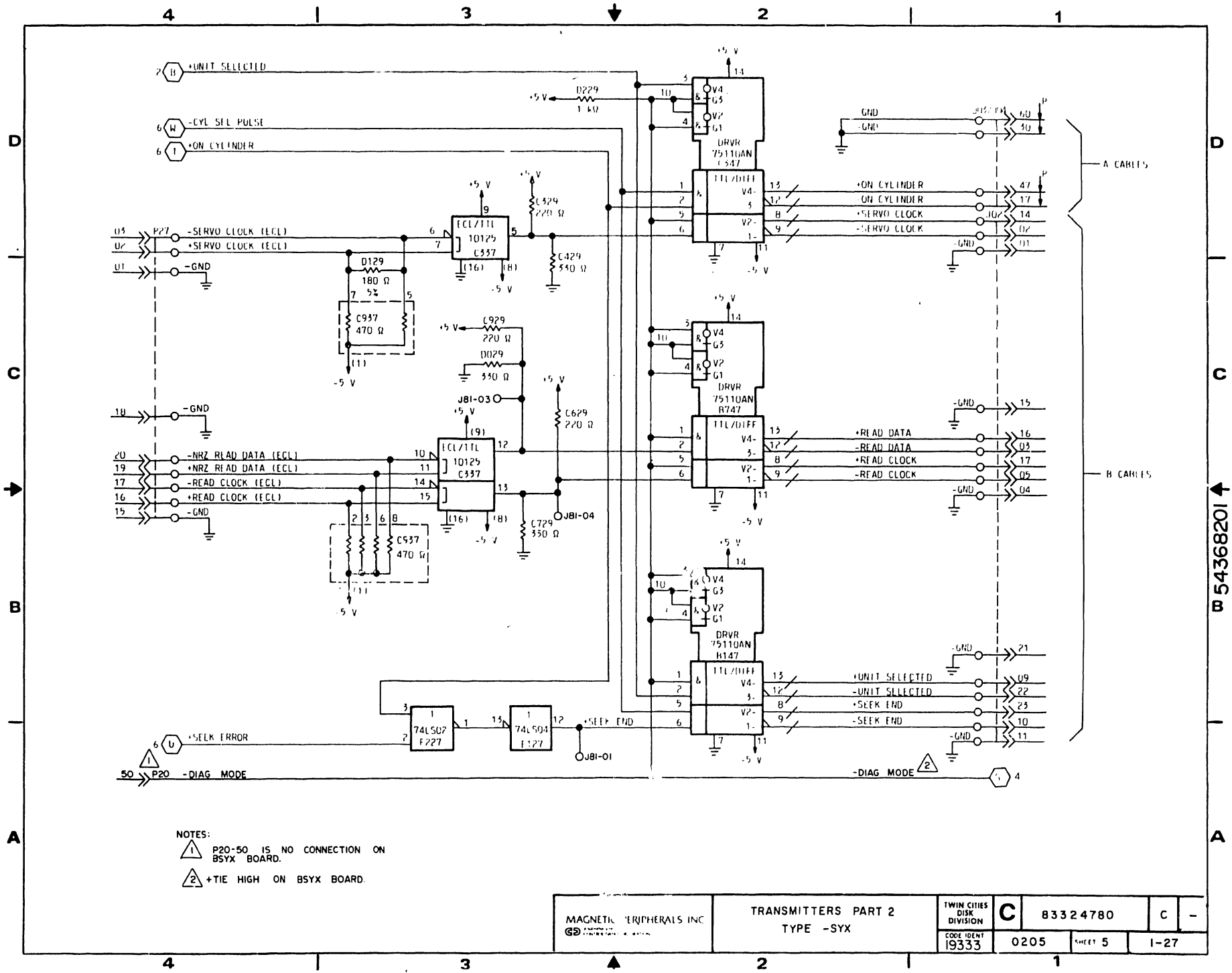
**SIGNAL OUTPUTS**

<u>340 MB</u>	<u>515 MB</u>			
0502	0503	J27-03	03	>> P27
0502	0503	J27-02	02	>> P27
0501	0501	J27-01	01	>> P27
0501	0501	J27-04	04	>> P27
0501	0501	J27-09	09	>> P27
0501	0501	J27-11	11	>> P27
0501	0501	J27-18	18	>> P27
0502	0502	J27-20	20	>> P27
0502	0502	J27-19	19	>> P27
0502	0502	J27-17	17	>> P27
0502	0502	J27-16	16	>> P27
0501	0501	J27-15	15	>> P27
0306	0306	P14-12	50	>> P20



**LOGIC CROSS REFERENCE INFORMATION**

PUB		83324780	REV	C
CROSS REF NO	0205	PAGE	1-26	



NOTES:  
 ⚠ P20-50 IS NO CONNECTION ON BSIX BOARD.  
 ⚡ +TIE HIGH ON BSIX BOARD.

MAGNETIC PERIPHERALS INC. G.D. COMPANY	TRANSMITTERS PART 2 TYPE -SYX		TWIN CITIES DISK DIVISION	C	83324780	C	-
	CODE IDENT 19333	0205	SHEET 5	1-27			

W 54368201



**SIGNAL INPUTS**

<u>340 MB</u>	<u>515 MB</u>		
Fan	Fan	P38-01	01 ->> P20
0305	0305	P14-11	49 ->> P20
0305	0305	P14-08	54 ->> P20
0302	0302	P14-48	14 ->> P20
0506	0508	J27-13	13 ->> P27
0505	0507	J27-12	12 ->> P27

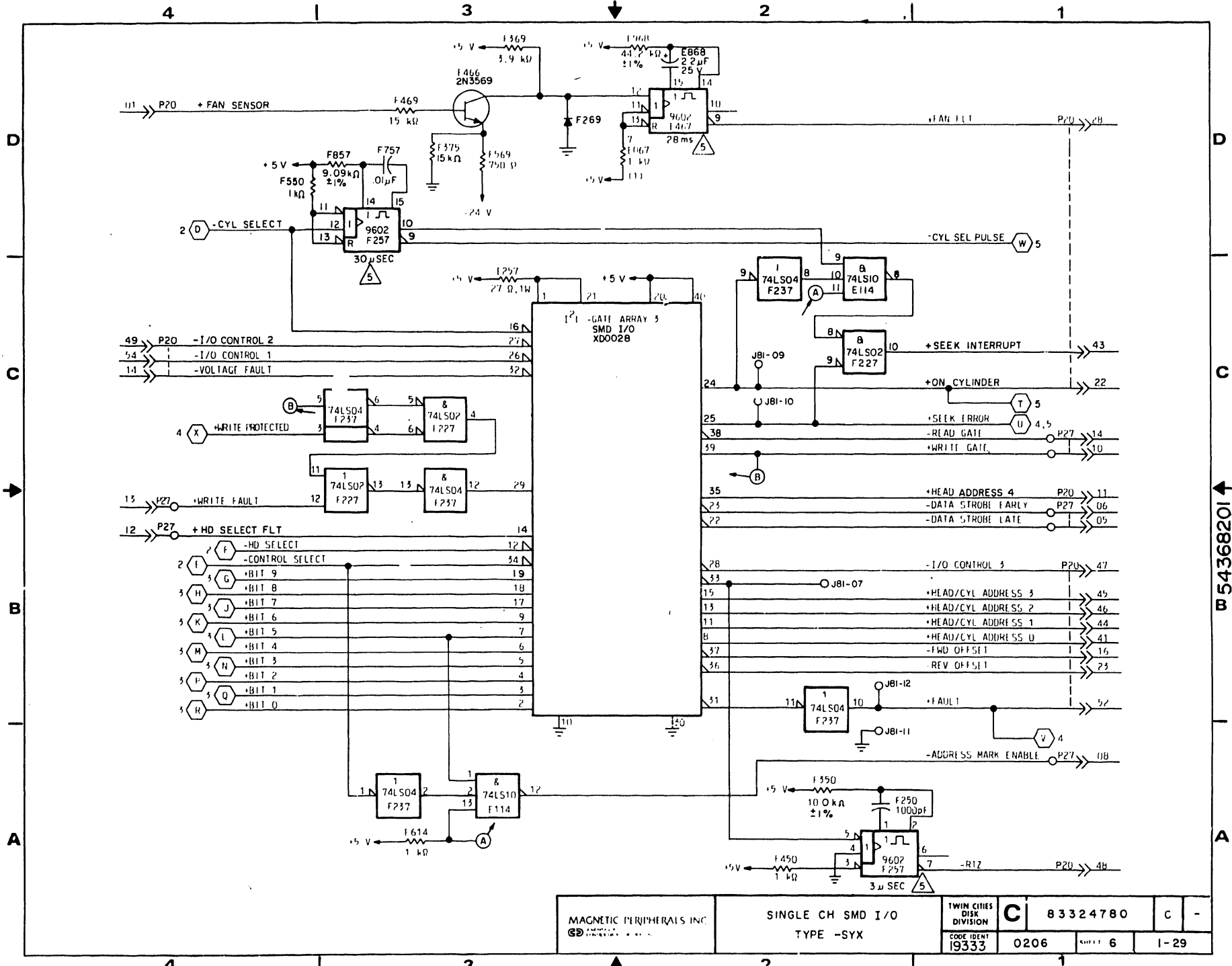


**SIGNAL OUTPUTS**

	<u>340 MB</u>	<u>515 MB</u>	
P20	28	0306	0306 P14-34
P20	43	0305	0305 P14-17
P20	22		P14-40
P27	14	0506	0508 J27-14
P27	10	0502	0502 J27-10
P20	11	0305	0305 P14-49
P27	06	0507	0509 J27-06
P27	05	0507	0509 J27-05
P20	47	0306	0306 P14-13
P20	45	0305	0305 P14-15
P20	46	0305	0305 P14-16
P20	44	0305	0305 P14-18
P20	41	0305	0305 P14-19
P20	16	0315	0315 P14-46
P20	23	0315	0315 P14-37
P20	52	0305	0305 P14-10
P27	08	0506	0508 J27-08
P20	48	0305	0305 P14-14

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0206	PAGE	1-28



MAGNETIC PERIPHERALS INC. G.D. INTERNATIONAL	SINGLE CH SMD I/O TYPE -SYX	TWIN CITIES DISK DIVISION	C	83324780	C	-
		CODE IDENT 19333				

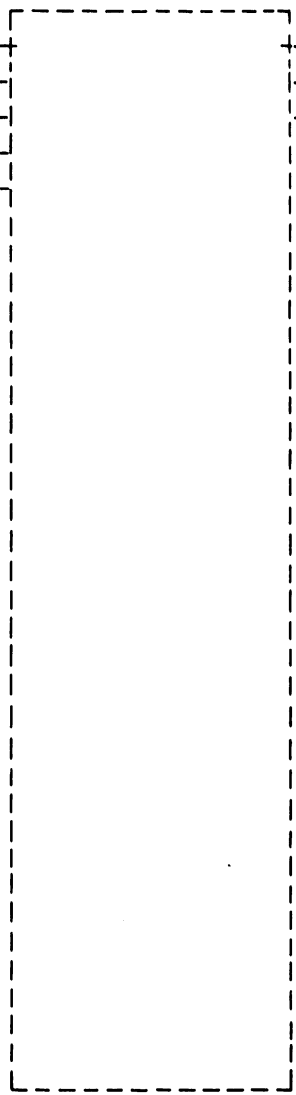
W 54368201

**SIGNAL INPUTS**

0309	P14-47	13	>>	P20
0301	P14-03	57	>>	P20
0301	P14-05	55	>>	P20
0301	P14-07	53	>>	P20
0301	P14-01	59	>>	P20

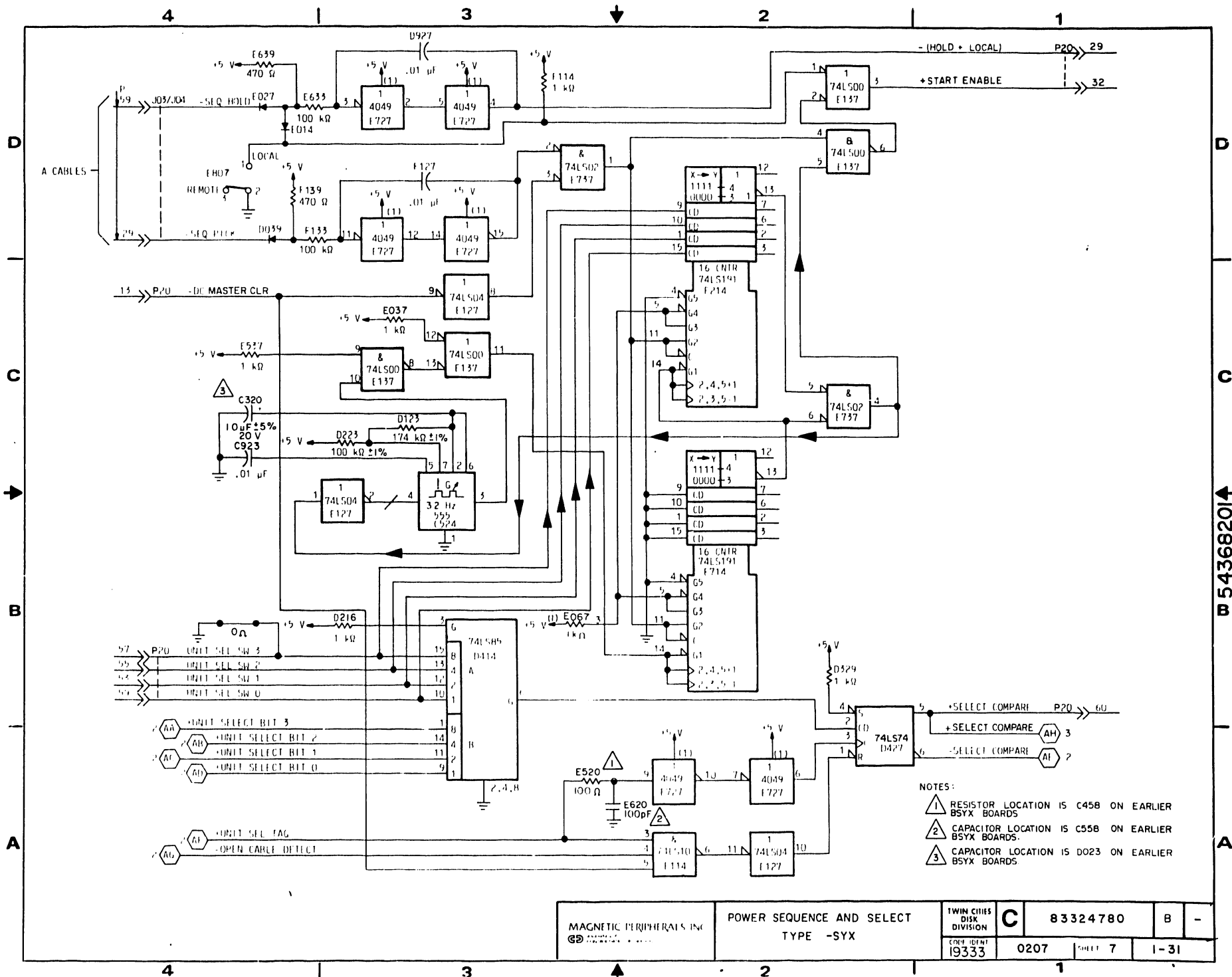
**SIGNAL OUTPUTS**

P20	>>	29	0306	P14-31
P20	>>	32	0306	P14-30
P20	>>	60	0305	P14-02



**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0207	PAGE	1-30



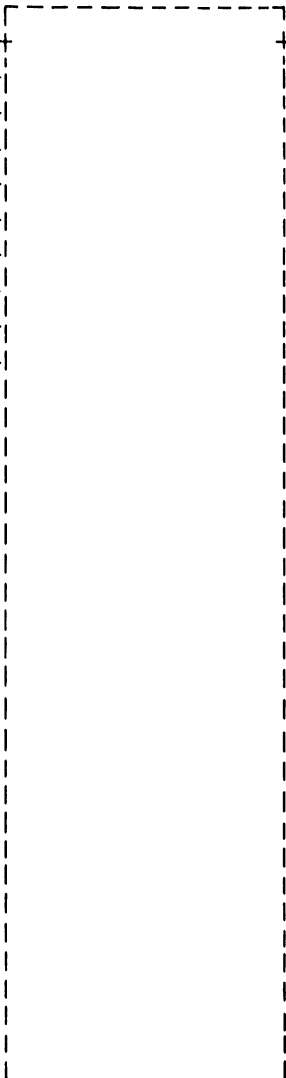
W 543682014

- NOTES:
- ⚠️ RESISTOR LOCATION IS C458 ON EARLIER BSX BOARDS
  - ⚠️ CAPACITOR LOCATION IS C558 ON EARLIER BSX BOARDS.
  - ⚠️ CAPACITOR LOCATION IS D023 ON EARLIER BSX BOARDS.

MAGNETIC PERIPHERALS INC 9000 ...	POWER SEQUENCE AND SELECT TYPE -SYX			TWIN CITIES DISK DIVISION	C	83324780	B	-
	CONF IDENT 19333	0207	UNIT 7	1-31				

**SIGNAL INPUTS**

--- P35-01 03 >> P20  
--- P35-01 04 >> P20  
--- P35-01 05 >> P20  
--- P35-02 09 >> P20  
--- P35-02 10 >> P20  
--- P35-02 12 >> P20  
--- P35-03 06 >> P20  
--- P35-03 07 >> P20  
--- P35-03 08 >> P20  
--- P35-10 02 >> P20



**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0201	PAGE	1-32

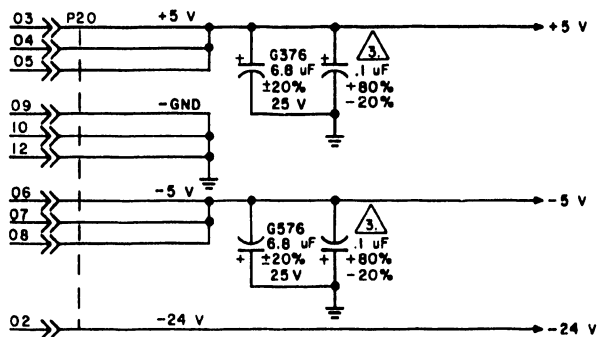
UNUSED LOGIC GATES		
TYPE	LOCATION	OUTPUT PINS
7406 10125	H716 E113	10, 12 4

UNUSED RESISTOR PACKS		
LOCATION	VALUE	PIN(S)
B535	56 Ω	2,3,4
D435	56 Ω	2,3,4
A909	47 kΩ	2,4,6,8
B509	47 kΩ	4,5,6,7
C813	1 kΩ	4,6,8
F113	47 kΩ	3,5,6
F713	47 kΩ	4,5,6
D356	1 kΩ	3,4,5,6

.1μF	
+5 V	-5 V
C835	C773
C864	E056
D324	E648
D973	F124
F135	G569
F146	H775
F274	
G369	
H516	
J146	

PART NO. RANGE	
01	THRU 01

REVISION RECORD						
REV	ECO	DESCRIPTION	DRFT	DATE	CHKD	APP
A	DJ2300D	RELEASED		12-21-83		LJR
B	DJ05717	CORRECTIONS	JMG	5-29-84		
C	DJ05808	BTQX TO DTQX	JMG	11-13-84		

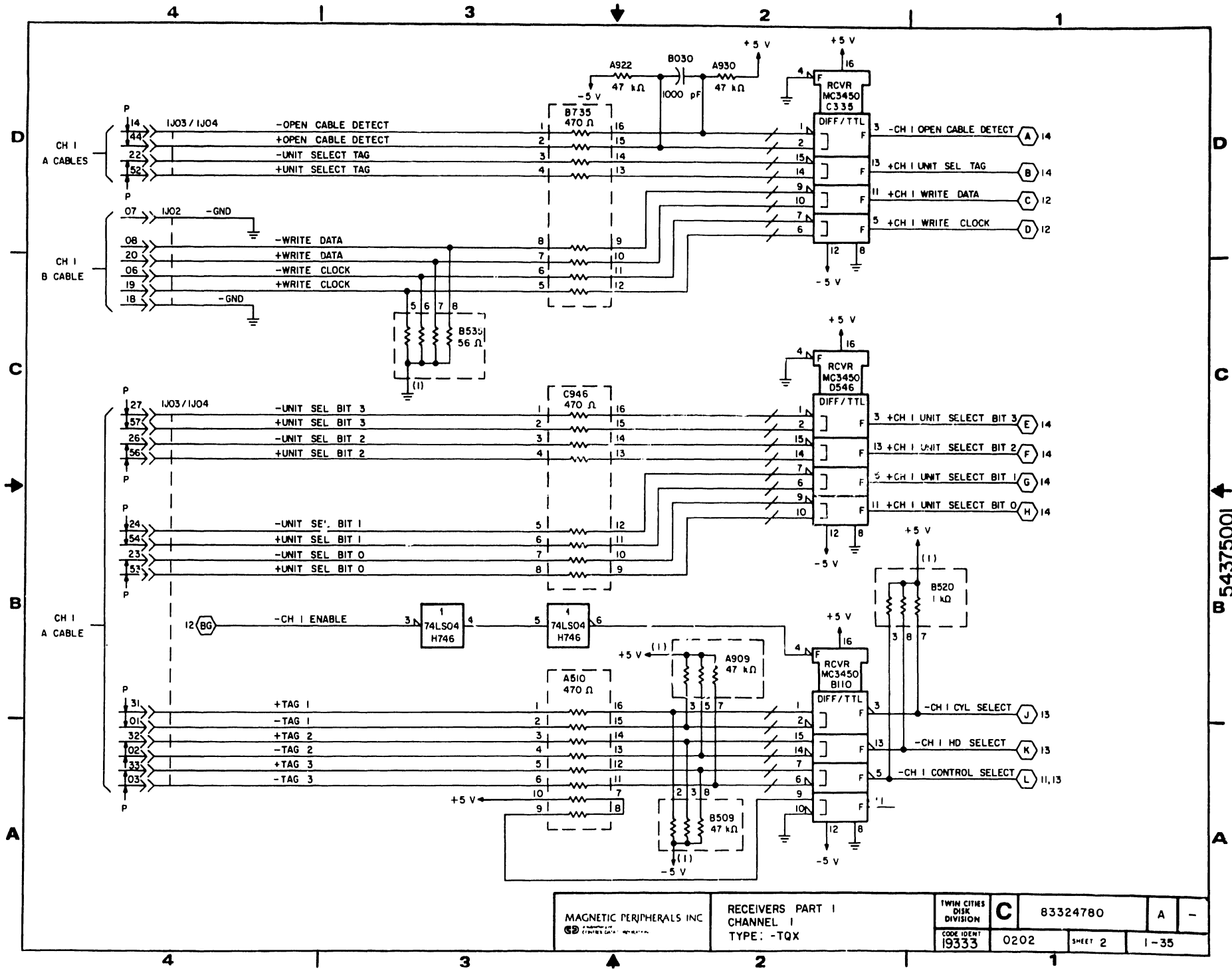


NOTES:

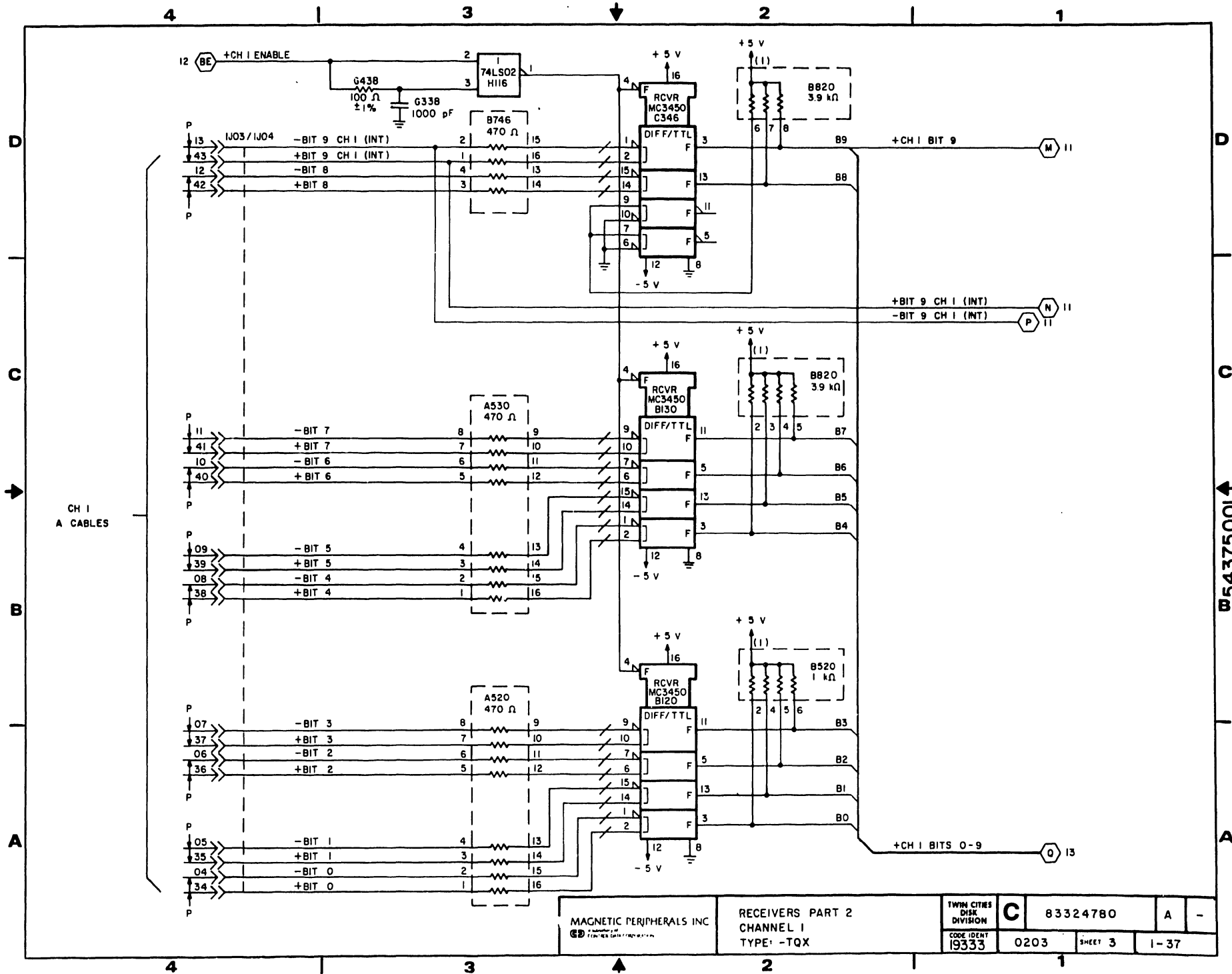
1. UNLESS OTHERWISE SPECIFIED:  
ALL 16 PIN IC'S HAVE PIN 8 CONNECTED TO GROUND  
AND PIN 16 CONNECTED TO +5 V.  
ALL 14 PIN IC'S HAVE PIN 7 CONNECTED TO GROUND  
AND PIN 14 CONNECTED TO +5 V.  
ALL RESISTOR PACK RESISTORS, 1/8 W, ±3%.
2. DELAY TIME FOR REFERENCE ONLY.
3. SEE TABLE FOR .1μF FILTER CAPACITOR LOCATIONS.
4. DRAWINGS WHERE TAB NUMBERS CREATE NEW COVER SHEET, TABS 00-99 ARE RESERVED

REFERENCE DRAWING			MAGNETIC PERIPHERALS, INC. a Control Data Company		TITLE	
COMP ASSY 54374901			FIRST USED ON		SCHEMATIC DIAGRAM	
CTR 54375101			PA5N2-A		DUAL CH SMD I/O	
			NEXT ASSEMBLY		TYPE: BTQX/DTQX	
			PA5G2-A			
COMPONENTS EXCEPT AS NOTED			DWN	K. JOHNSON	9/2/83	TWIN CITIES DISK DIVISION
TOLERANCE	VALUE	RATING	CHKD	<i>[Signature]</i>	6-27-83	C 83324780 C
RES	±5%	OHMS	ENGR	<i>[Signature]</i>	11/1/83	
CAP	±10%		MFG	<i>[Signature]</i>	12-9-83	
			QA	<i>[Signature]</i>	12-13-83	
			FORM NO.	19333	0201	SHEET 1 OF 14
			REF: 54375001/03		1	1-33

54375001



B 54375001



MAGNETIC PERIPHERALS INC  
a subsidiary of  
 GE

RECEIVERS PART 2  
 CHANNEL 1  
 TYPE: -TQX

TWIN CITIES DISK DIVISION	<b>C</b>	83324780	A	-
CODE IDENT 19333	0203	SHEET 3	1-37	

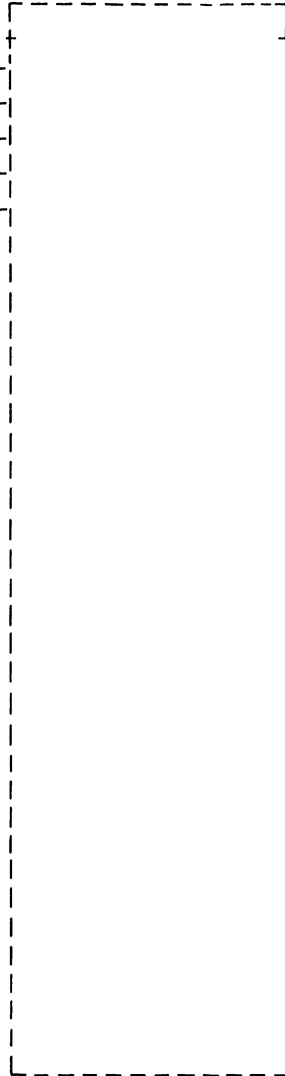
B54375001↑



### SIGNAL INPUTS

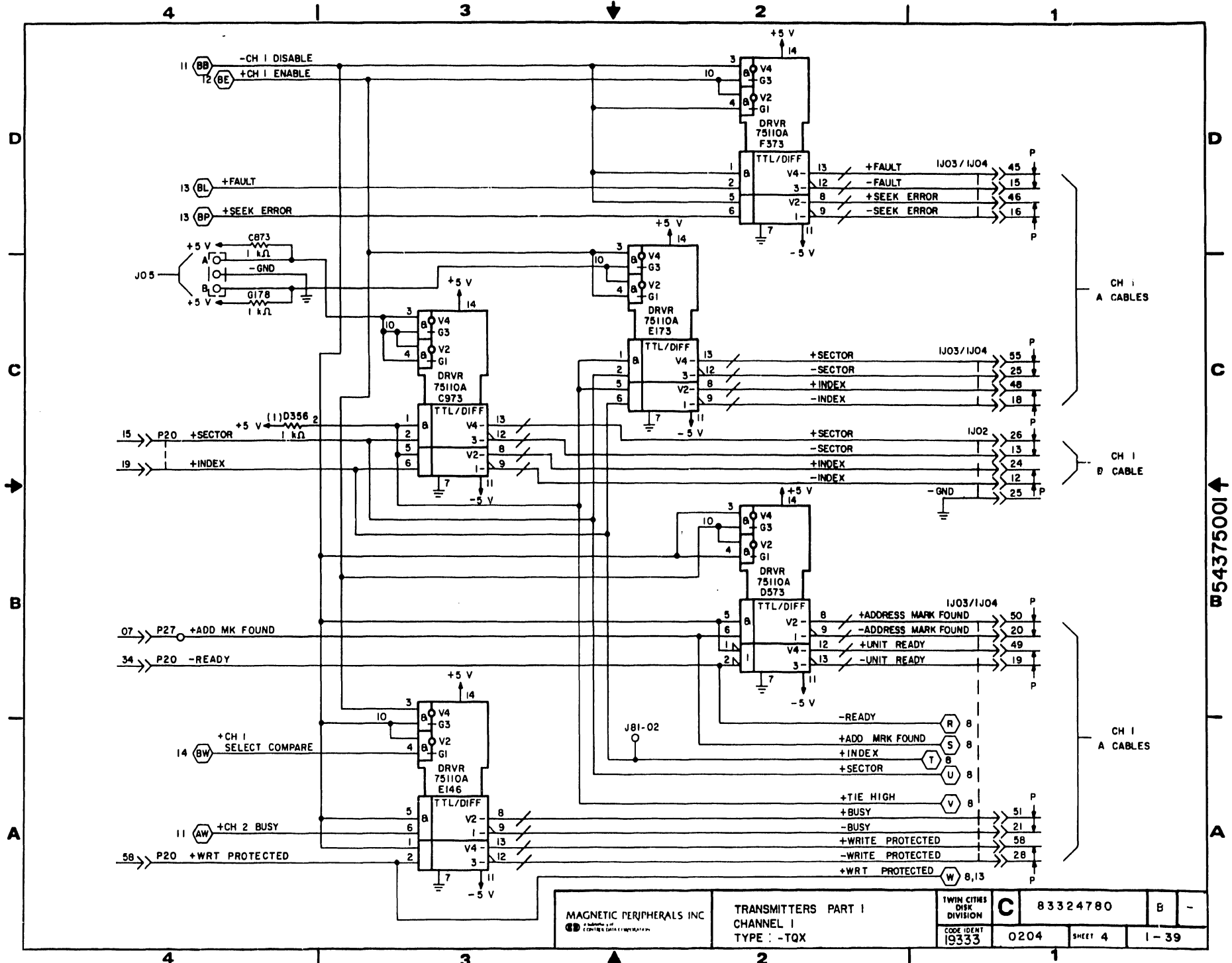
<u>340 MB</u>	<u>515 MB</u>			
0309	0309	P14-45	15	>> P20
0309	0309	P14-41	19	>> P20
0507	0509	J27-07	07	>> P27
0307	0307	P14-28	34	>> P20
0308	0308	P14-04	58	>> P20

### SIGNAL OUTPUTS



### LOGIC CROSS REFERENCE INFORMATION

PUB	83324780	REV	A
CROSS REF NO	0204	PAGE	1-38



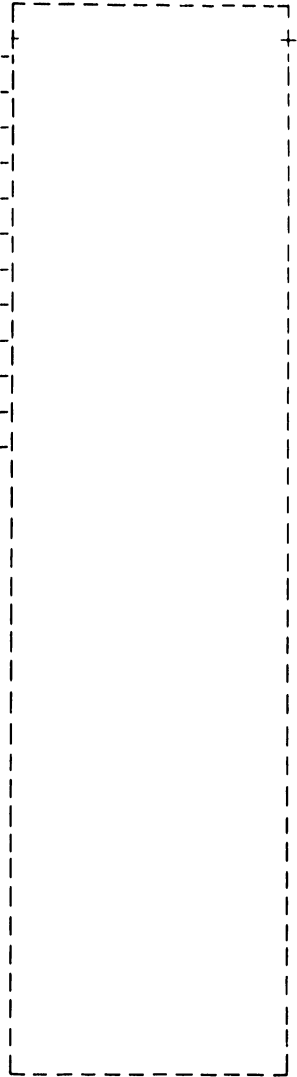
MAGNETIC PERIPHERALS INC <small>10000 1/2" DISK DRIVE</small>	TRANSMITTERS PART I CHANNEL 1 TYPE: -TXQ		TWIN CITIES DISK DIVISION	C	83324780	B	-
	CODE IDENT 19333	0204	SHEET 4	I-39			

W54375001

**SIGNAL INPUTS**

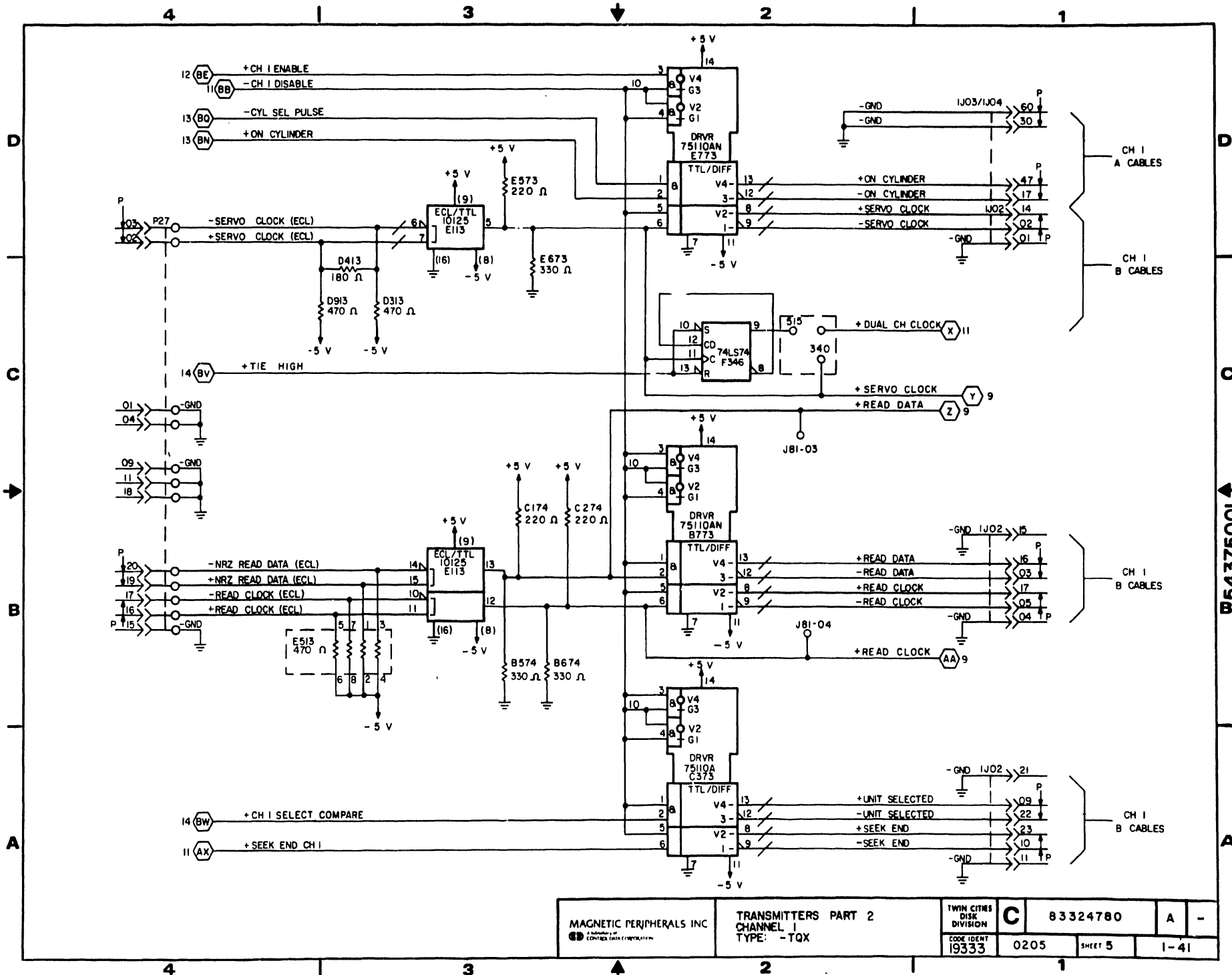
**SIGNAL OUTPUTS**

<u>340 MB</u>	<u>515 MB</u>		
0502	0503	J27-03	03 ->> P27
0502	0503	J27-02	02 ->> P27
0501	0501	J27-01	01 ->> P27
0501	0501	J27-04	04 ->> P27
0501	0501	J27-09	09 ->> P27
0501	0501	J27-11	11 ->> P27
0501	0501	J27-18	18 ->> P27
0502	0502	J27-20	20 ->> P27
0502	0502	J27-19	19 ->> P27
0502	0502	J27-17	17 ->> P27
0502	0502	J27-16	16 ->> P27
0501	0501	J27-15	15 ->> P27



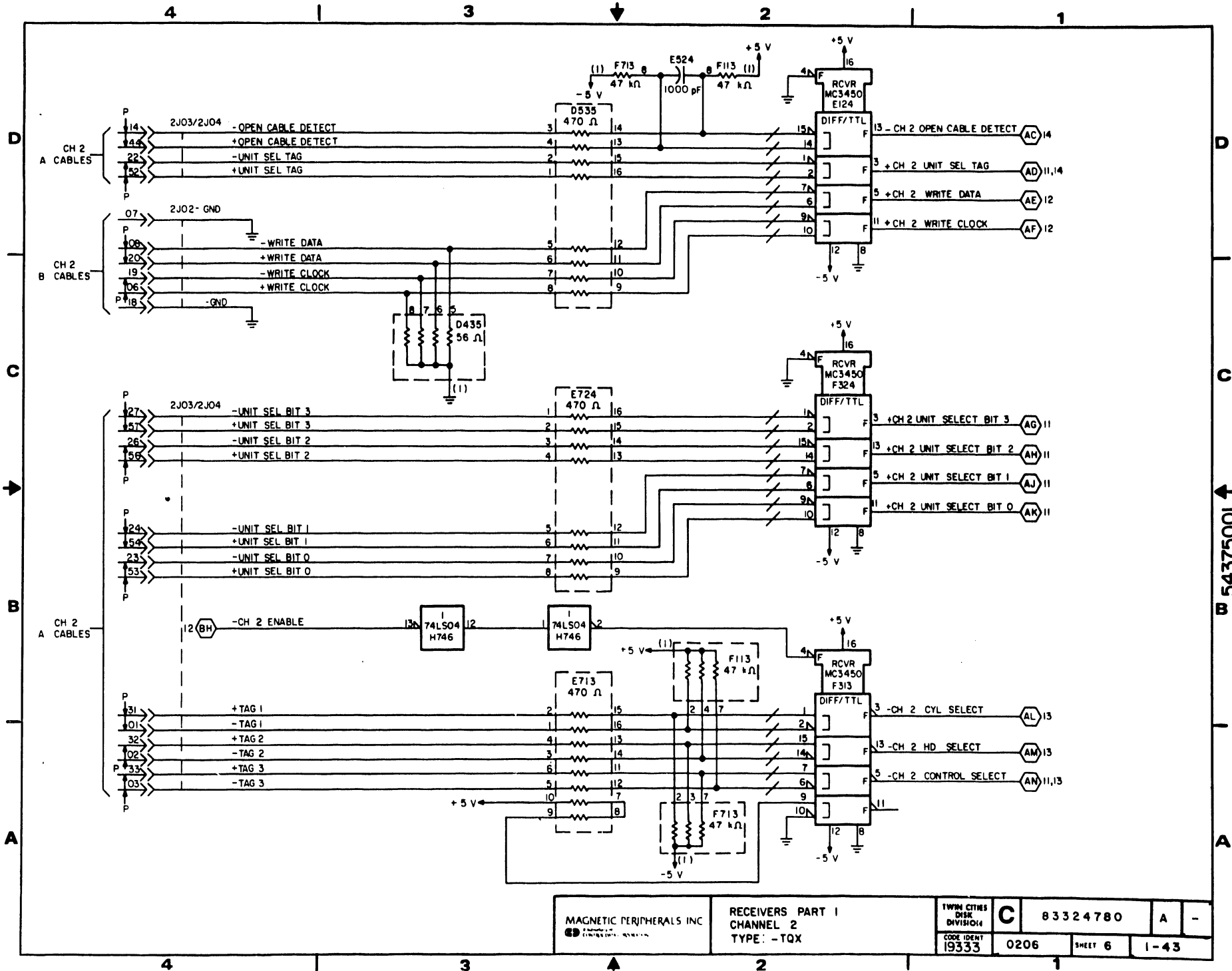
**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0205	PAGE	1-40



MAGNETIC PERIPHERALS INC A Subsidiary of GE CONVERSE CORP. (1933)	TRANSMITTERS PART 2 CHANNEL 1 TYPE: -TQX		TWIN CITIES DISK DIVISION	C	83324780	A	-
	CODE IDENT 19333	0205	SHEET 5	1-41			

P54375001

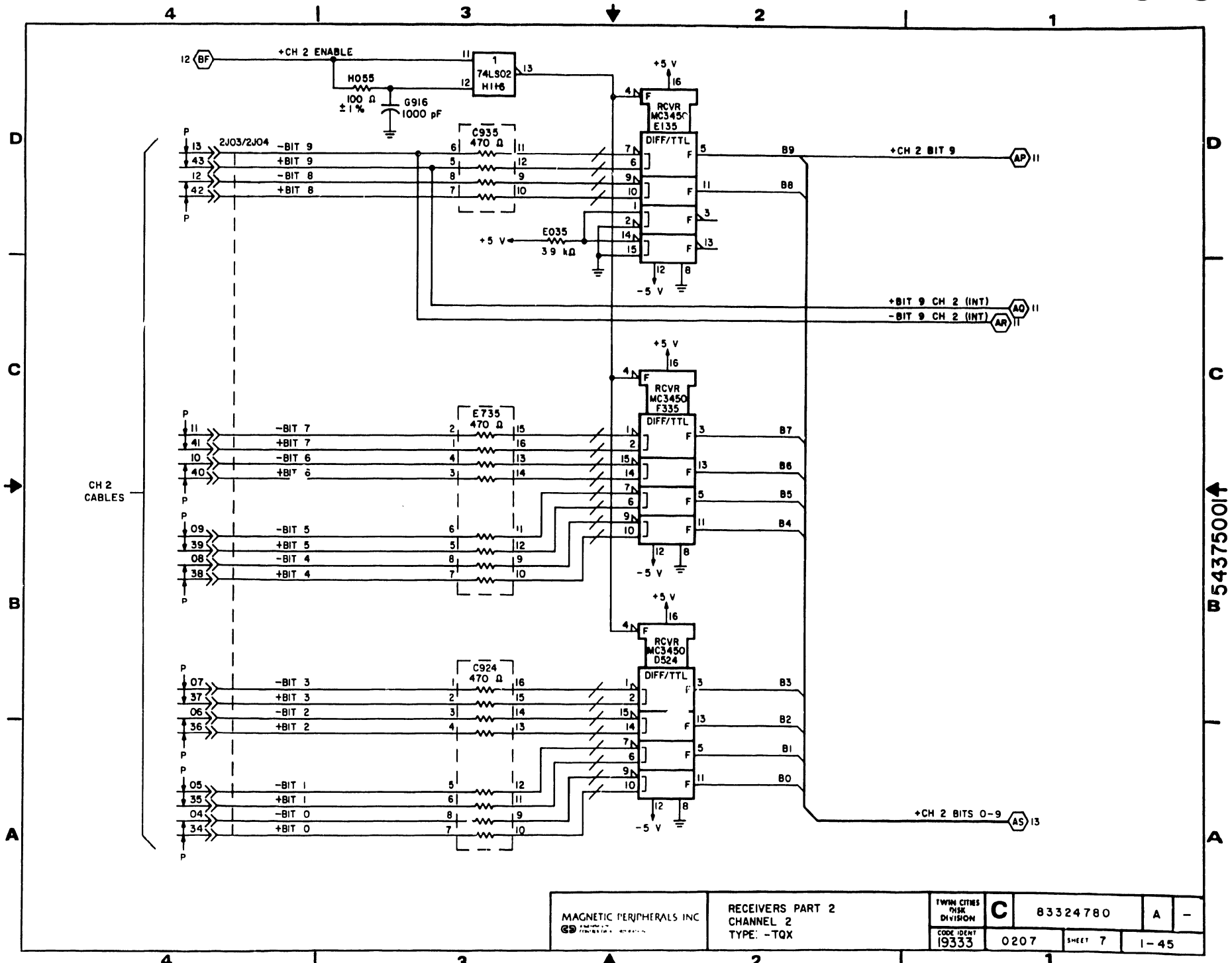


MAGNETIC PERIPHERALS INC  
 54375001

RECEIVERS PART 1  
 CHANNEL 2  
 TYPE: -TQX

TWIN CITIES DISK DIVISION	C	83324780	A	-
CODE IDENT 19333	0206	SHEET 6	1-43	

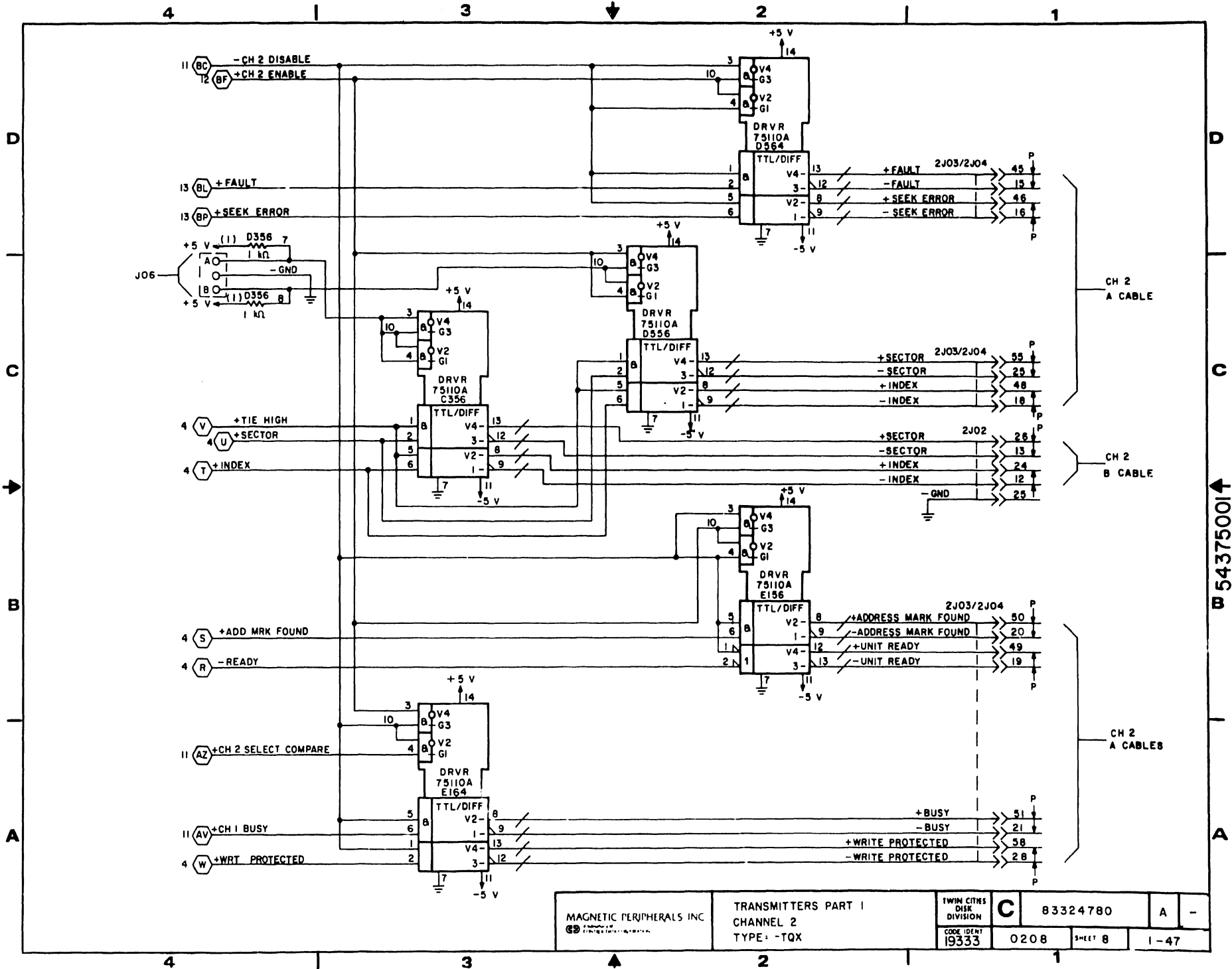
54375001



CH 2 CABLES

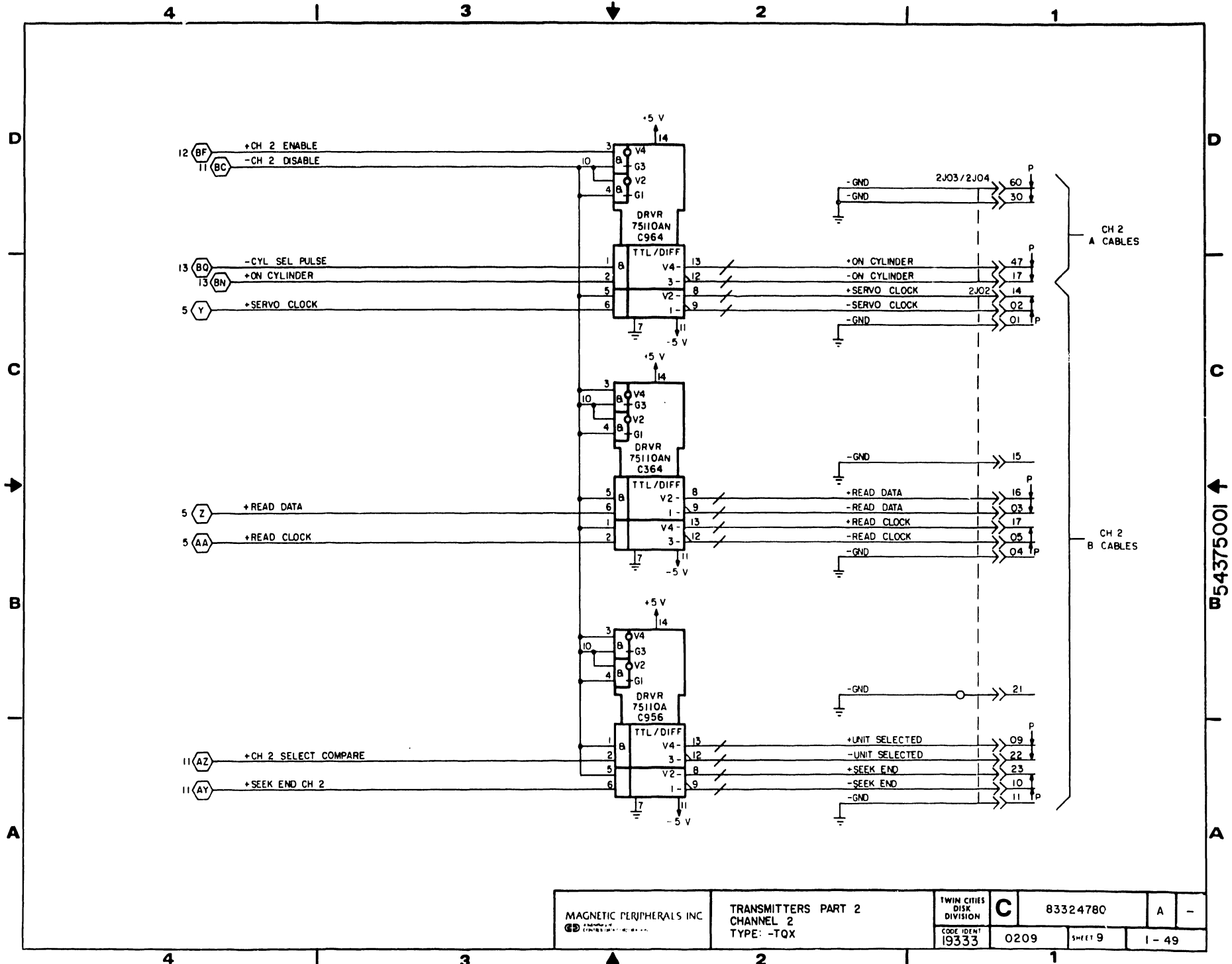
W 543750014

MAGNETIC PERIPHERALS INC GDS	RECEIVERS PART 2 CHANNEL 2 TYPE - TOX		TWIN CITIES RISK DIVISION	<b>C</b>	83324780	A	-
	CODE IDENT 19333	0207	SHEET 7	1-45			



MAGNETIC PERIPHERALS INC 80	TRANSMITTERS PART 1 CHANNEL 2 TYPE: -TQX	TWIN CITIES DISK DIVISION	C	83324780	A	-
		CODE IDENT 19333				

B 54375001



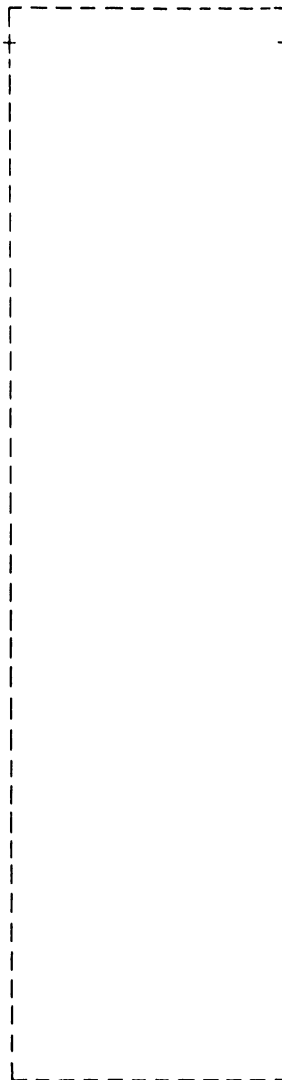
54375001

MAGNETIC PERIPHERALS INC GD	TRANSMITTERS PART 2 CHANNEL 2 TYPE: -TQX		TWIN CITIES DISK DIVISION	C	83324780	A	-
	CODE IDENT 19333	0209	SHEET 9	1-49			



**SIGNAL INPUTS**

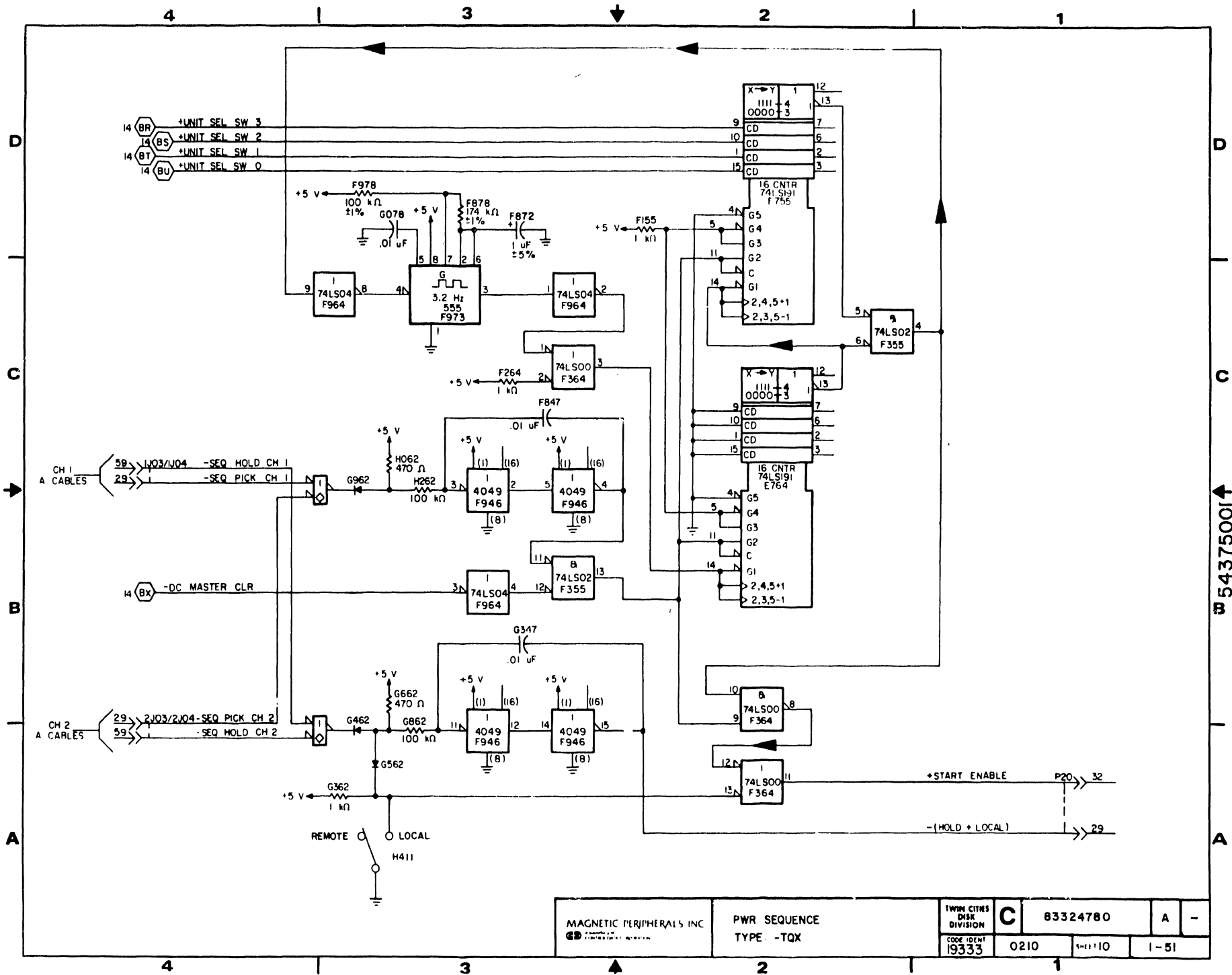
**SIGNAL OUTPUTS**



P20 --> 32 0306 P14-30  
P20 --> 29 0306 P14-31

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0210	PAGE	1-50



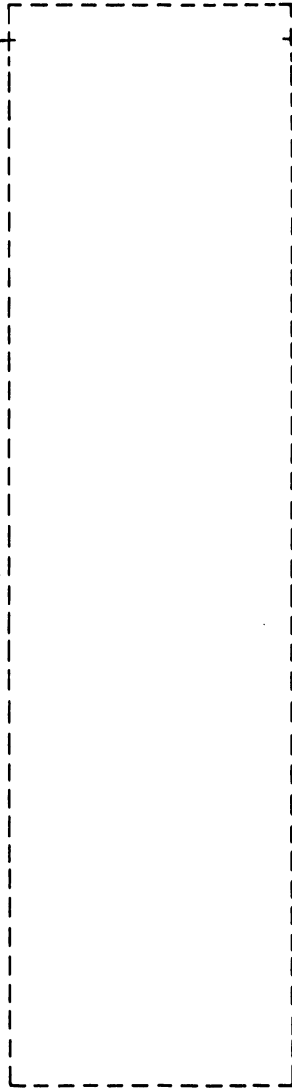
54375001

MAGNETIC PERIPHERALS INC 	PWR SEQUENCE TYPE: -TQX	TWIN CITIES DIER DIVISION	C	83324780	A	-
		CODE IDENT 19333				

**SIGNAL INPUTS**

**SIGNAL OUTPUTS**

0306 P14-12 -50-->> P20



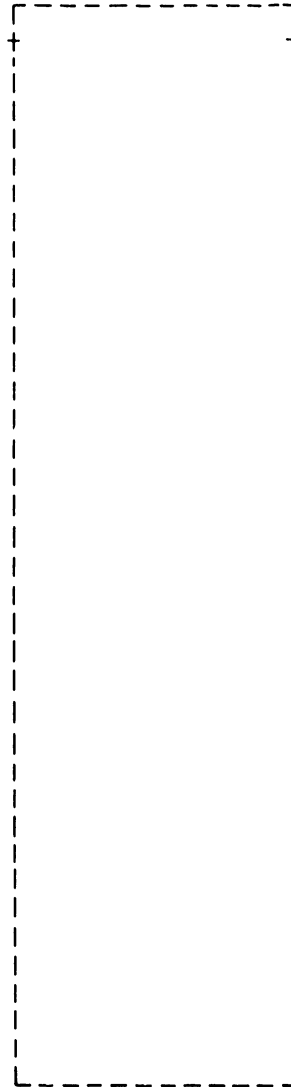
**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	C
CROSS REF NO	0211	PAGE	1-52



**SIGNAL INPUTS**

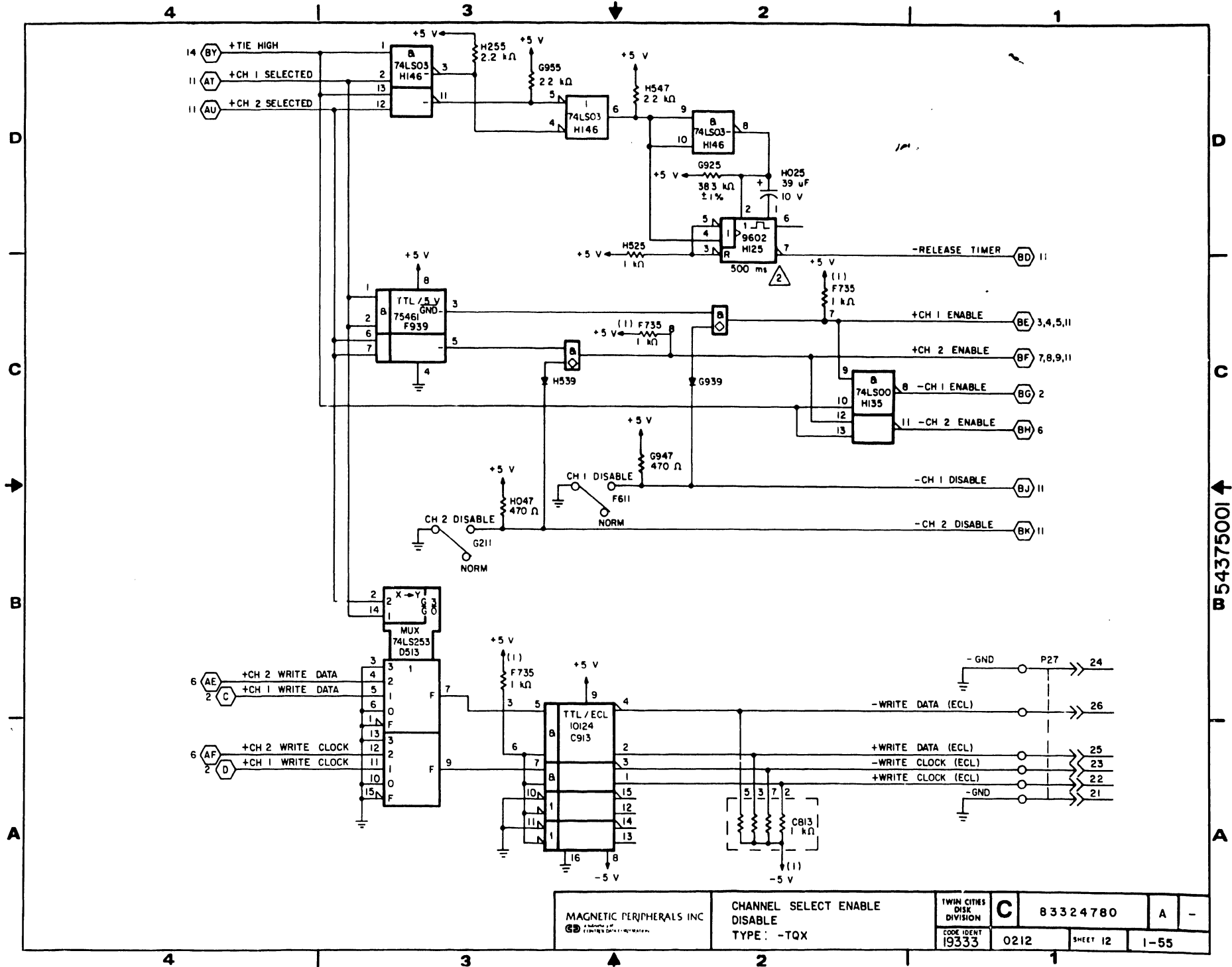
**SIGNAL OUTPUTS**



P27	>>	24	0501	J27-24
P27	>>	26	0502	J27-26
P27	>>	25	0502	J27-25
P27	>>	23	0502	J27-23
P27	>>	22	0502	J27-22
P27	>>	21	0501	J27-21

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0212	PAGE	1-54



MAGNETIC PERIPHERALS INC  
© 1973

CHANNEL SELECT ENABLE  
 DISABLE  
 TYPE: -TQX

TWIN CITIES  
 DISK  
 DIVISION  
CODE IDENT  
 19333

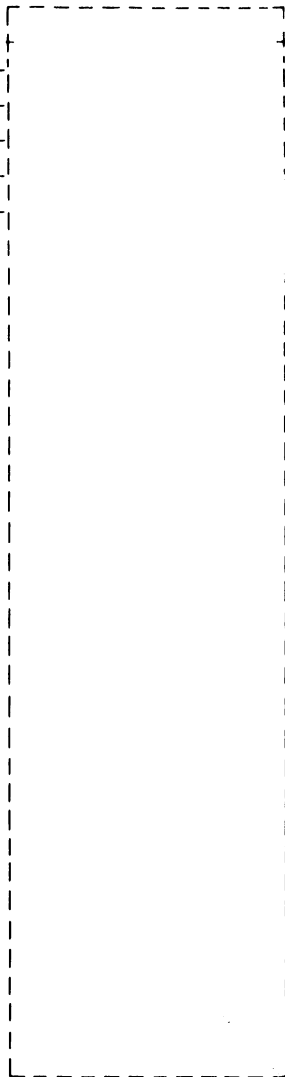
**C** 83324780  
 0212 SHEET 12

A -  
 1-55

B54375001

**SIGNAL INPUTS**

<u>340 MB</u>	<u>515 MB</u>			
0506	0508	J27-13	13	>> P27
0505	0507	J27-12	12	>> P27
0305	0305	P14-11	49	>> P20
0305	0305	P14-08	54	>> P20
0302	0302	P14-48	14	>> P20



**SIGNAL OUTPUTS**

		<u>340 MB</u>	<u>515 MB</u>	
P27	10	0502	0502	J27-10
P27	14	0506	0508	J27-14
P20	11	0305	0305	P14-49
P27	06	0507	0509	J27-06
P27	05	0507	0509	J27-05
P20	45	0305	0305	P14-15
P20	46	0305	0305	P14-16
P20	44	0305	0305	P14-18
P20	41	0305	0305	P14-19
P20	47	0306	0306	P14-13
P20	16	0315	0315	P14-46
P20	23	0315	0315	P14-37
P20	48	0305	0305	P14-14
P20	52	0305	0305	P14-10
P20	43	0305	0305	P14-17
P27	08	0506	0508	J27-08

**LOGIC CROSS REFERENCE INFORMATION**

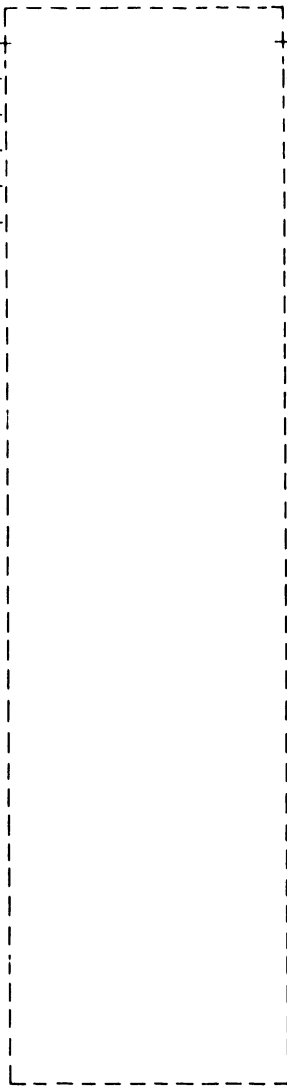
PUB	83324780	REV	A
CROSS REF NO	0213	PAGE	1-56





**SIGNAL INPUTS**

0301 P14-03 57 >> P20  
0301 P14-05 55 >> P20  
0301 P14-07 53 >> P20  
0301 P14-01 59 >> P20  
0309 P14-47 13 >> P20  
Fan P38-C1 01 >> P20

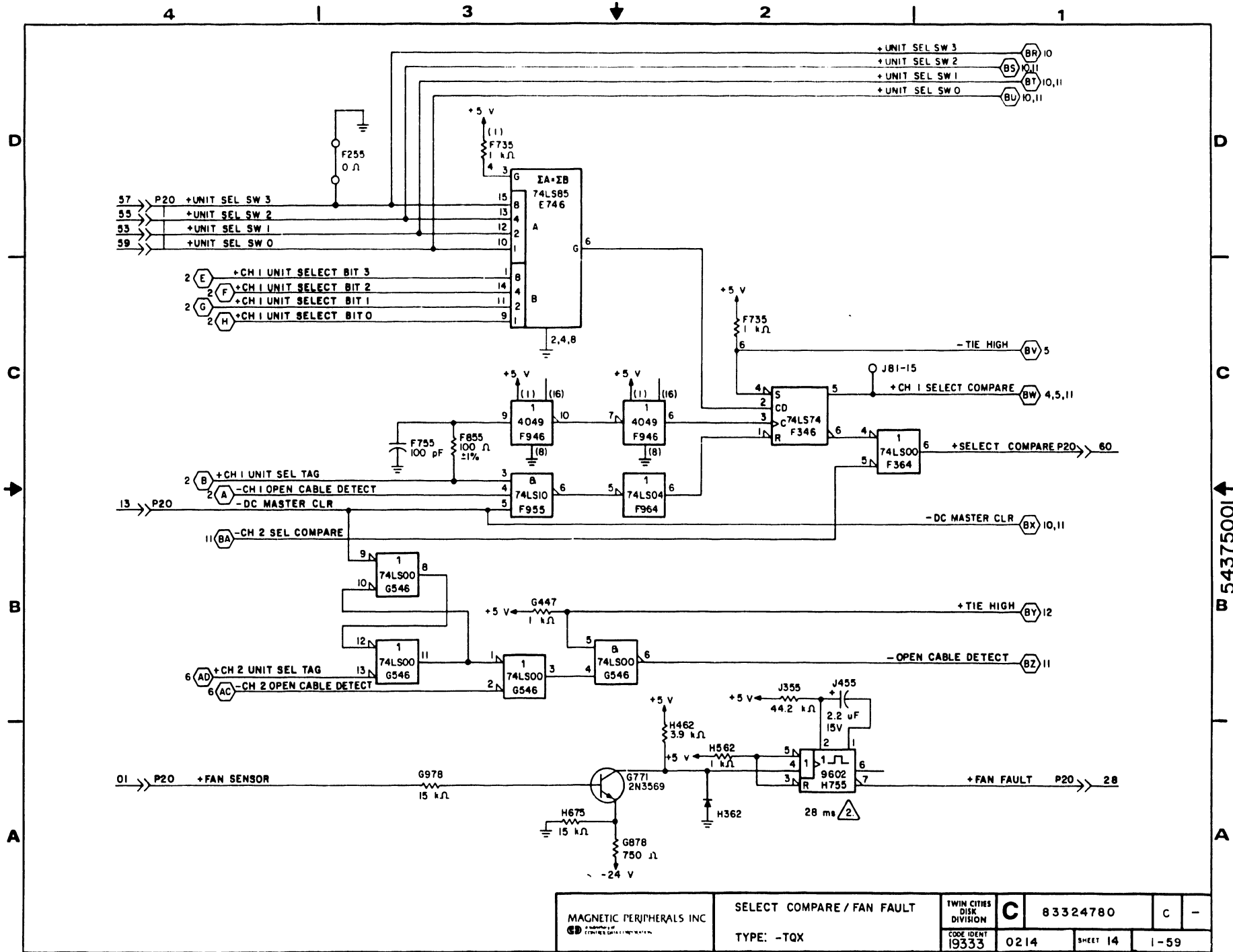


**SIGNAL OUTPUTS**

P20 >> 60 0305 P14-02  
P20 >> 28 0306 P14-34

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0214	PAGE	1-58



**SIGNAL INPUTS**

```

---- P35-02 50 --> P14 -----
---- P35-02 51 --> P14 -----
---- P35-02 52 --> P14 -----
---- P35-02 53 --> P14 -----
---- P35-02 54 --> P14 -----
---- P35-02 55 --> P14 -----
---- P35-02 56 --> P14 -----
---- P35-02 57 --> P14 -----
---- P35-02 58 --> P14 -----
---- P35-02 59 --> P14 -----
---- P35-02 60 --> P14 -----
---- P35-11 13 --> P29 -----
---- P35-11 14 --> P29 -----
0501 P30-10 31 --> P29 -----
0501 P30-13 36 --> P29 -----
0501 P30-18 39 --> P29 -----
0501 P30-20 41 --> P29 -----
---- P35-01 05 --> P29 -----
---- P35-01 06 --> P29 -----
---- P35-01 07 --> P29 -----
---- P35-01 08 --> P29 -----
---- P35-01 09 --> P29 -----
---- P35-01 10 --> P29 -----
---- P35-02 15 --> P29 -----
---- P35-02 16 --> P29 -----
---- P35-02 57 --> P29 -----
---- P35-02 58 --> P29 -----
---- P35-02 59 --> P29 -----
---- P35-02 60 --> P29 -----
---- P35-03 01 --> P29 -----
---- P35-03 02 --> P29 -----
---- P35-03 03 --> P29 -----
---- P35-03 04 --> P29 -----
---- P35-10 11 --> P29 -----
---- P35-10 12 --> P29 -----
0102 P26-05 05 --> J26 -----
0102 P26-03 03 --> J26 -----
0102 P26-09 09 --> J26 -----
0102 P26-11 11 --> J26 -----
    
```

**SIGNAL OUTPUTS**

	SINGLE CH	DUAL CH	
J26 --> 02	0101	0101	P26-02
J26 --> 04	0101	0101	P26-04
J26 --> 01	0101	0101	P26-01
J26 --> 06	0101	0101	P26-06
P14 --> 05	0207	0214	P20-55
P14 --> 07	0207	0214	P20-53
P14 --> 01	0207	0214	P20-59
P14 --> 03	0207	0214	P20-57

**LOGIC CROSS REFERENCE INFORMATION**

PUB		83324780		REV		A	
CROSS REF NO		0301		PAGE		1-60	

4

UNUSED TRANSISTOR PACKS		
TYPE	LOCATION	PIN(S)
MPQ2222	J068	5,6,7,12,13,14
CA3183	C722	6,7,8
CA3183	C713	1,15,16
CA3183	C705	12,13,14

3

UNUSED RESISTOR PACKS	
LOCATIONS	PIN(S)
G050	7
G069	2
J744	4
K207	6,7

3

UNUSED LOGIC ELEMENTS		
ELEMENT	LOCATIONS	OUTPUT PIN(S)
5012	J045	8,16
7406	G777	6,12
74LS02	H346	13
LM339	C747	13,14
LM393	E125	5
74LS00	E376	8,11
74LS10	G768	12
DS3613	G171	3

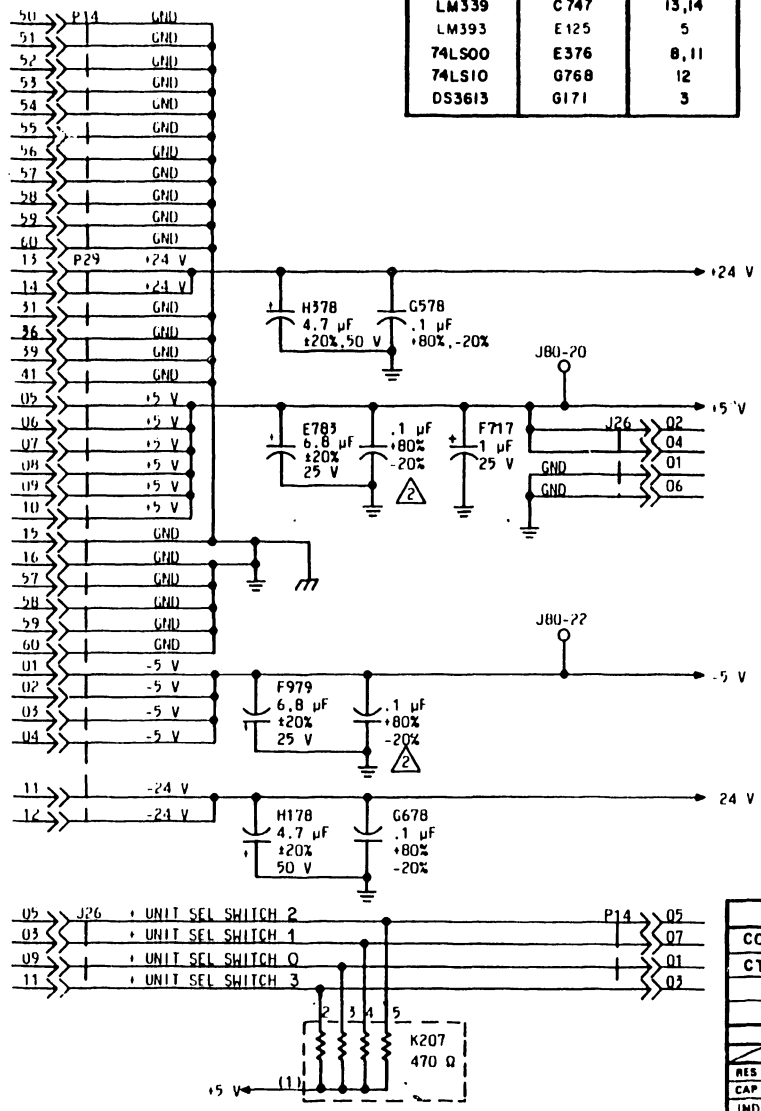
2

FILTER CAPS			
.1 $\mu$ F			
+5 V	-5 V	+15 V	-15 V
A638	E506	A212	A205
A661	JR30	D742	C442
B177		D830	D530
B438		E806	D705
C477		E842	D748
C977		G236	G130
L569		H012	G412
L776		H924	J754
F311		J630	K210
G454		J626	K666
G761		K654	
G824			
H148			
J624			
G566			

PART NO. RANGE  
02 THRU 02

1

REVISION RECORD						
REV	ECO	DESCRIPTION	DEPT	DATE	CHKD	APP
A	DJP/3000	RELEASED		10-28-83		
B	DJOSB79	AVCX TO BVCX	JG	11-13-84		
C	DJOSB40	CHG RES & CAP	JG	11-13-84		



NOTES:

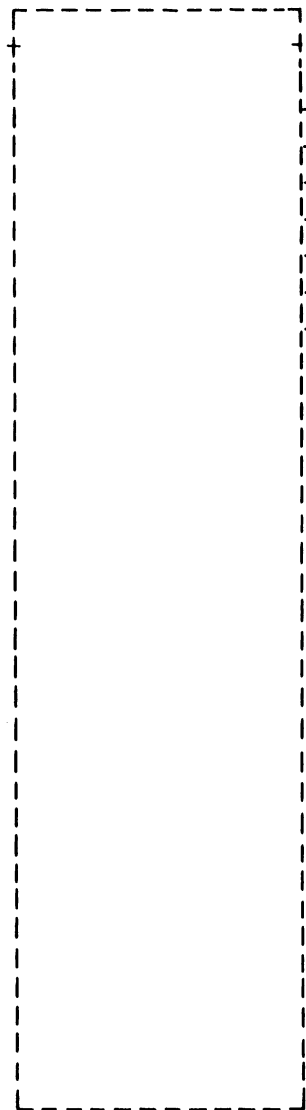
- UNLESS OTHERWISE SPECIFIED:  
ALL 8 PIN IC'S HAVE PIN 4 CONNECTED TO GROUND AND PIN 8 CONNECTED TO +5 V.  
ALL 14 PIN IC'S HAVE PIN 7 CONNECTED TO GROUND AND PIN 14 CONNECTED TO +5 V.  
ALL 16 PIN IC'S HAVE PIN 8 CONNECTED TO GROUND AND PIN 16 CONNECTED TO +5 V.  
ALL DIODE ARRAYS, 50241802.  
ALL DIODES, 50241403.  
ALL RESISTOR PACK RESISTORS,  $\pm 5\%$  1/4 W.  
ALL TRANSISTORS, SPNP, MM5007, 50122240c.  
ALL TRANSISTOR ARRAYS NPN, MPQ2369, 50213300.  
ALL  $\circ$ - $\circ$  INDICATE MOLDED JUMPER WIRES.

- $\triangle$  SEE TABLE FOR .1  $\mu$ F FILTER CAP LOCATIONS.
- $\triangle$  DIODE, SILICON, 24553500.
- $\triangle$  DIODE, SILICON, 1N4001, 95637301
- $\triangle$  DIODE, SILICON, 10 V ZENER, 50240113
- $\triangle$  DIODE, SILICON, 15 V ZENER, 50240117.
- $\triangle$  TEST SELECT RESISTORS TO BE SELECTED FROM DRAWING 94357500 AND INSERTED DURING CARD TEST PER CARD TEST REQUIREMENTS.
- $\triangle$  DELAY TIME FOR REFERENCE ONLY.
- $\triangle$  DRAWINGS WHERE TAB NUMBERS CREATE NEW COVER SHEET, TABS 00-99 ARE RESERVED.

REFERENCE DRAWING COMP ASSY 54367702 CTR 54367902		MAGNETIC PERIPHERALS INC. A General Data Company		TITLE SCHEMATIC DIAGRAM FSD II CONTROL BOARD TYPE: AVCX/BVCX (_SXX)	
COMPONENTS EXCEPT AS NOTED		FIRST USED ON PA5GI-A	NEXT ASSEMBLY -VCX 543893XX	TWIN CITIES DISK DIVISION	
RES $\pm 5\%$	OHMS	1/4 W	ENGR C. Bonniwell	C 83324780	
CAP $\pm 10\%$			MFG D. Nelson	19333 0301 SHEET 1 OF 20 1-61	
IND $\pm 3\%$			QA D. Nelson	REF 54367802/05 FSD 340/500	

**SIGNAL INPUTS**

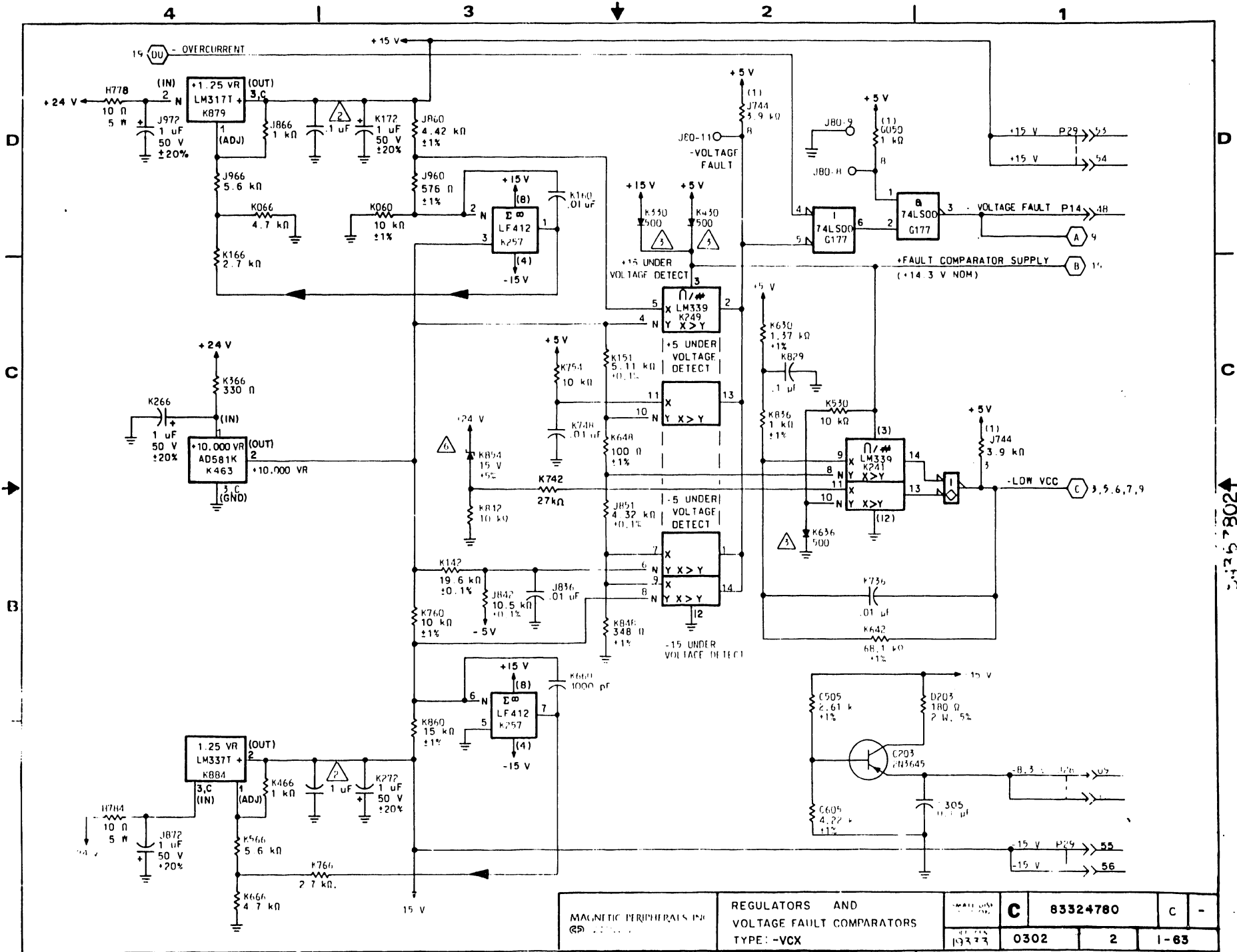
**SIGNAL OUTPUTS**



		<u>SINGLE</u>	<u>DUAL</u>	
		<u>CH</u>	<u>CH</u>	
P29	>> 53	0501	0501	P30-32
P29	>> 54	0501	0501	P30-31
P14	>> 48	0206	0213	P20-14
J28	>> 09	0901	0901	P28-09
J28	>> 10	0901	0901	P28-10
P29	>> 55	0501	0501	P30-34
P29	>> 56	0501	0501	P30-33

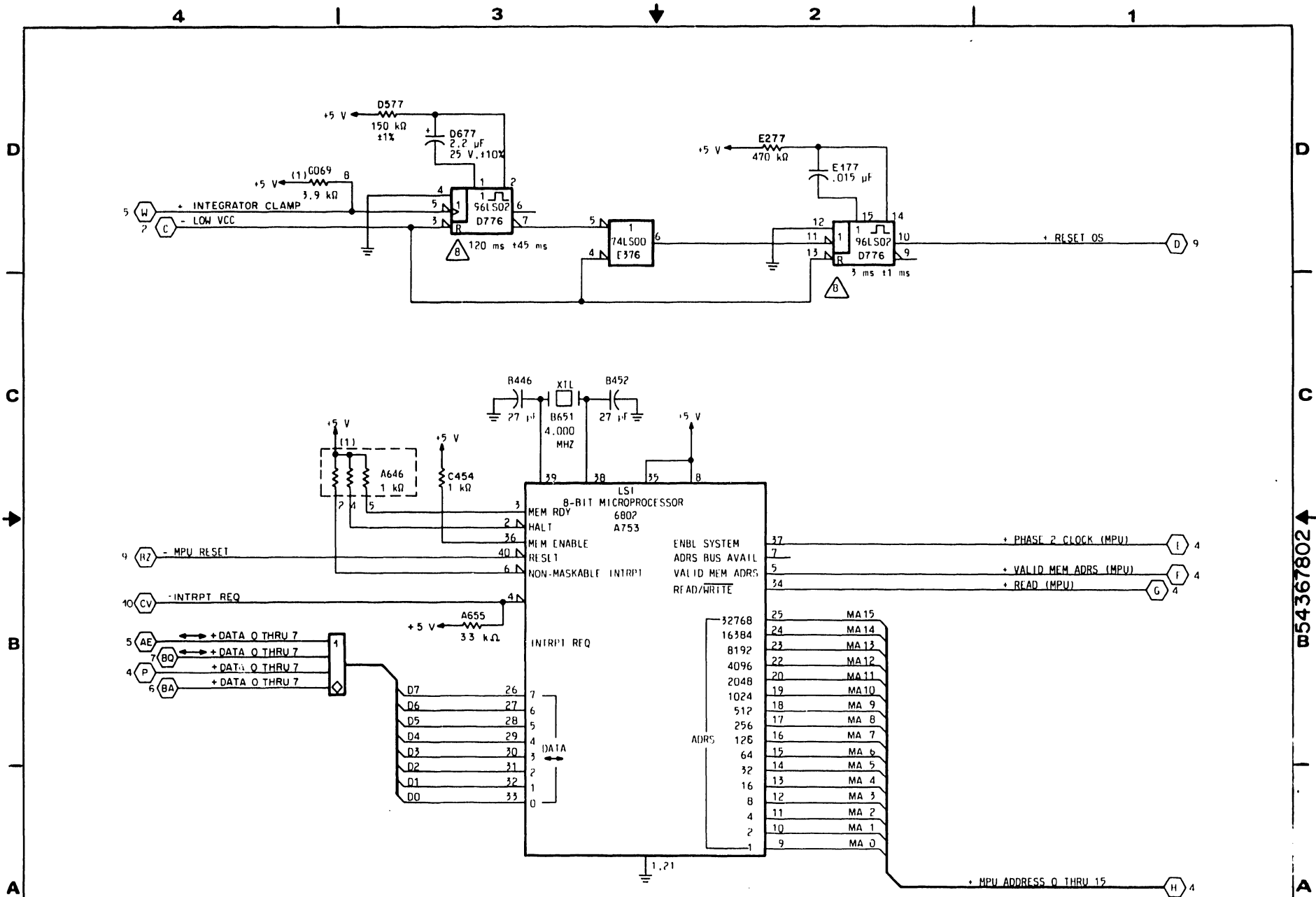
**LOGIC CROSS REFERENCE INFORMATION**

<b>PUB</b>	83324780	<b>REV</b>	A
<b>CROSS REF NO</b>	0302	<b>PAGE</b>	1-62



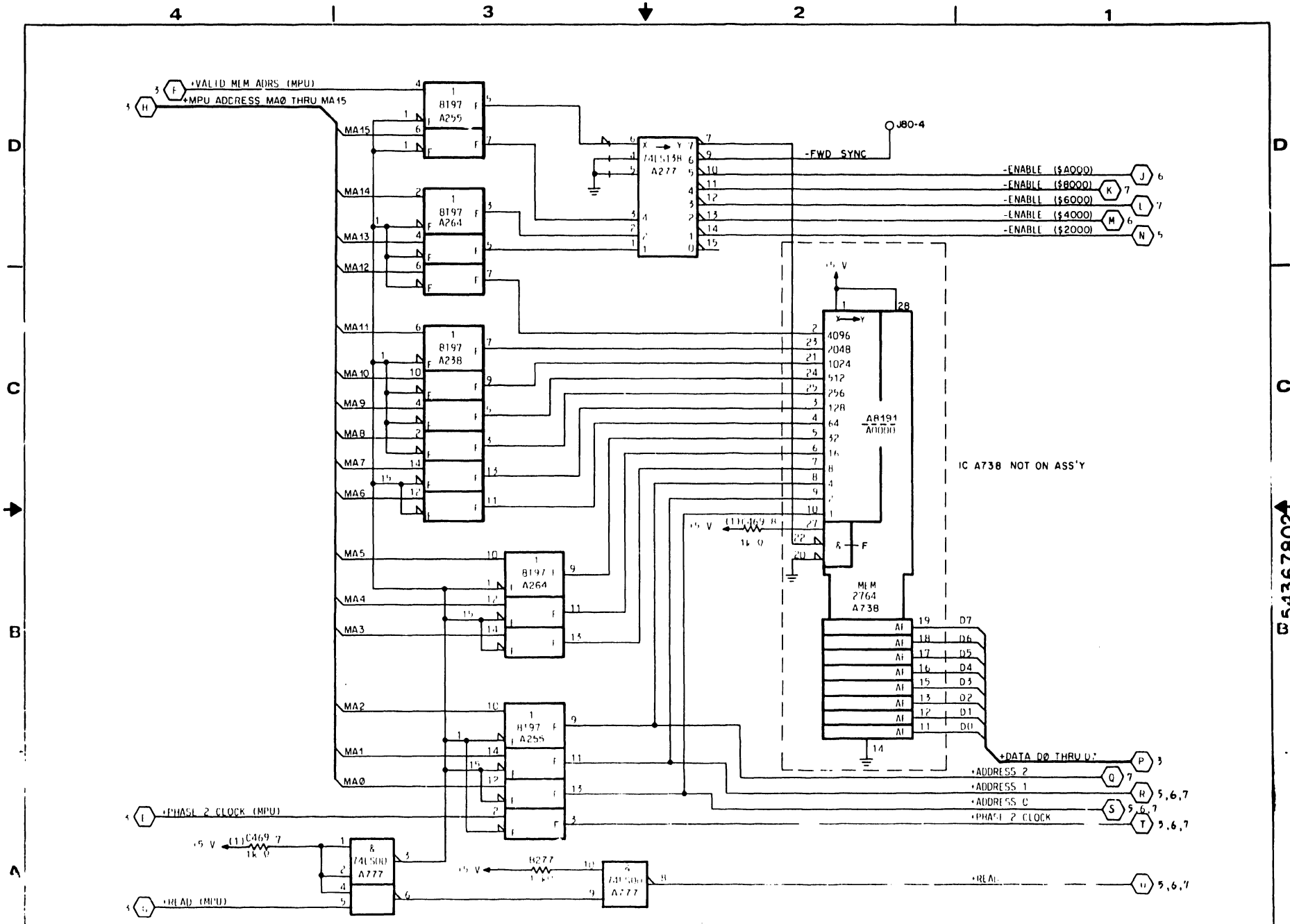
343578024

MAGNETIC PERIPHERALS (P)	REGULATORS AND VOLTAGE FAULT COMPARATORS		0302	2	1-63
	TYPE: -VCX		0302	2	1-63



W54367802

MAGNETIC PERIPHERALS INC DISK DIVISION	MICROPROCESSOR		TWIN CITIES DISK DIVISION	C	83324780	A	-
	TYPE =VCX		CODE IDENT 19333	0303	SHEET 3	1-65	



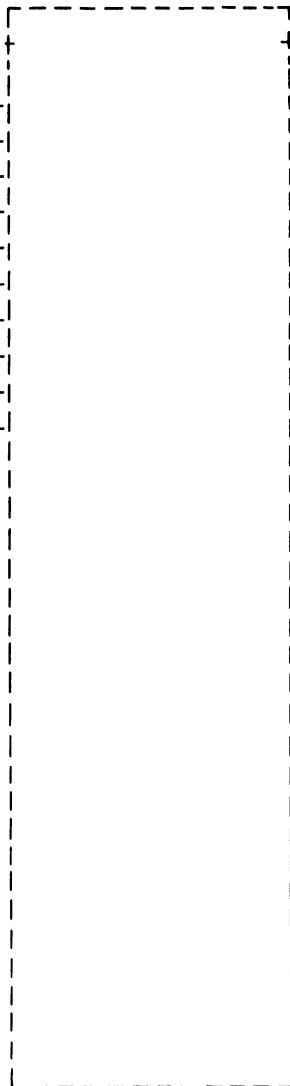
B 543678024

MAGNETIC PERIPHERALS, INC. © 1967	ADDRESS DECODE		TWIN CITIES DISK DIVISION 15333	C	83324780	C	-
	TYPE -VCX						



**SIGNAL INPUTS**

SINGLE CH	DUAL CH			
0206	0213	P20-43	17	>> P14
0206	0213	P20-48	14	>> P14
NC	NC	P20-21	39	>> P14
0206	0213	P20-45	15	>> P14
0206	0213	P20-46	16	>> P14
0206	0213	P20-44	18	>> P14
0206	0213	P20-41	19	>> P14
0206	0213	P20-11	49	>> P14
0206	0213	P20-52	10	>> P14
0207	0214	P20-60	02	>> P14



**SIGNAL OUTPUTS**

SINGLE CH		DUAL CH		
340	515	340	515	
MB	MB	MB	MB	
0602	0602	0602	0602	P13-14
0602	0602	0602	0602	P13-13
0206	0206	0213	0213	P20-49
0206	0206	0213	0213	P20-54
NC	NC	NC	NC	P20-25
0505	0507	0505	0507	P30-26
0505	0507	0505	0507	P30-28
0505	0507	0505	0507	P30-30
0505	0507	0505	0507	P30-24
0505	0507	0505	0507	P30-22
0102	0102	0102	0102	P26-12
0102	0102	0102	0102	P26-07

J13	14
J13	13
P14	11
P14	08
P14	35
P29	47
P29	49
P29	51
P29	45
P29	43
J26	12
J26	07

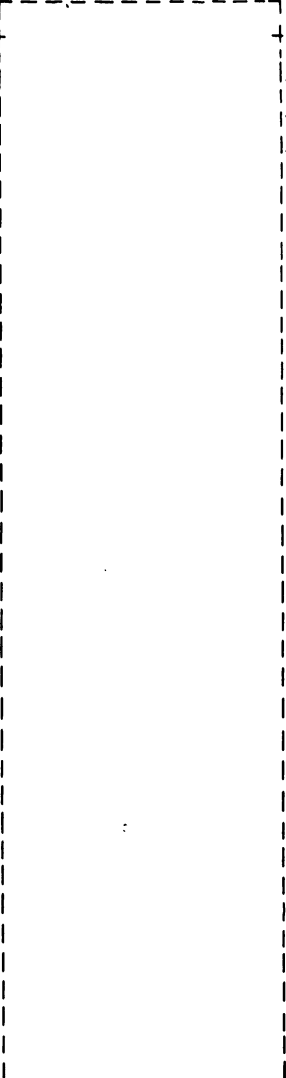
**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	C
CROSS REF NO	0305	PAGE	1-68



**SIGNAL INPUTS**

<u>SINGLE CH</u>	<u>DUAL CH</u>			
0206	0214	P20-28	34 >>	P14
0207	0210	P20-32	30 >>	P14
0102	0102	P26-08	08 >>	J26
0207	0210	P20-29	31 >>	P14
0206	0213	P20-47	13 >>	P14
0601	0601	P13-11	11 >>	J13
		P24-23	22 >>	P29
		P24-25	24 >>	P29
NC	NC	P20-27	33 >>	P14

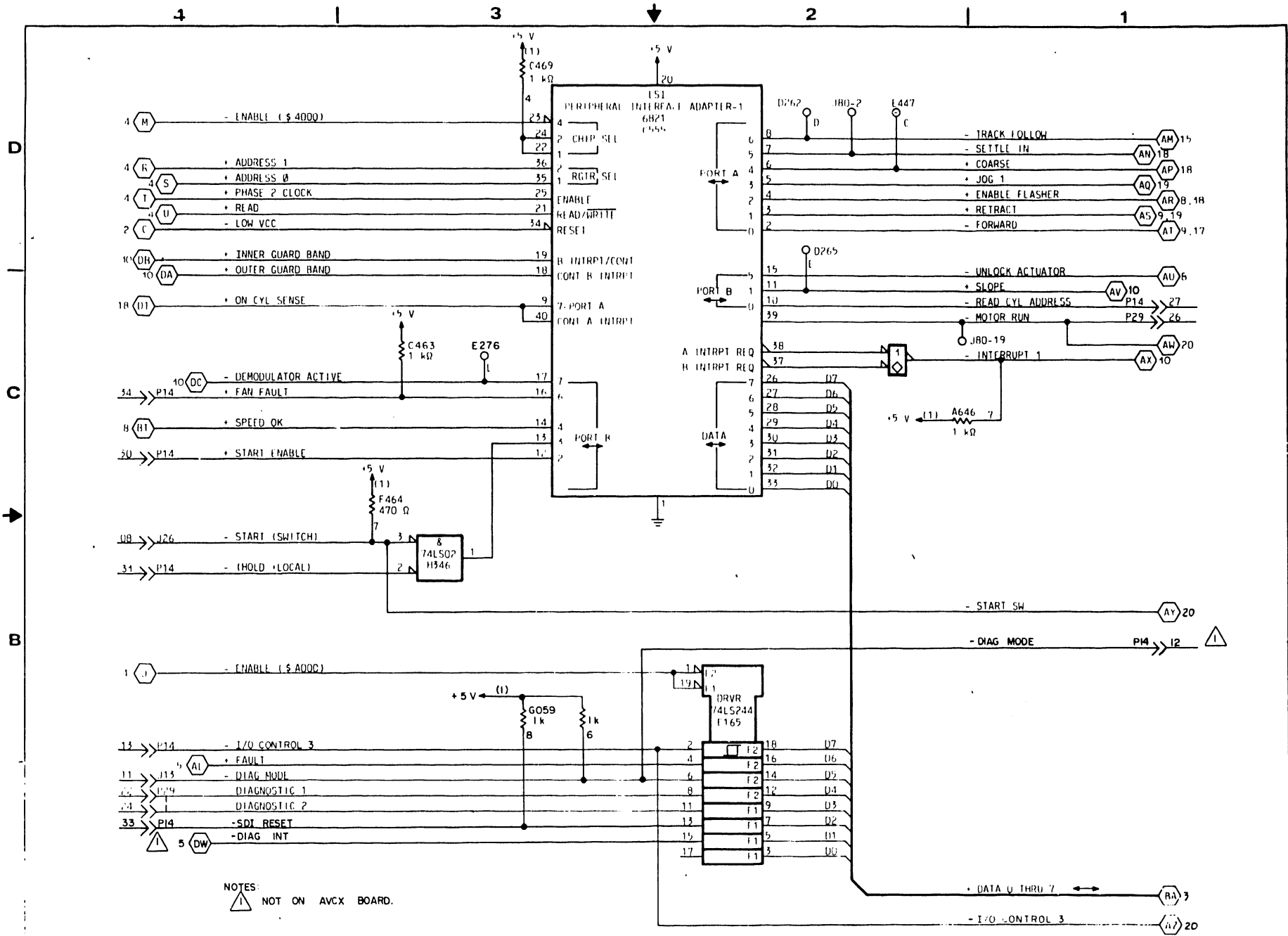


**SIGNAL OUTPUTS**

		<u>SINGLE CH</u>	<u>DUAL CH</u>	
P14	27	NC	NC	P20-33
P29	26	0403	0403	P24-27
P14	12	0205	0211	P20-50

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	C
CROSS REF NO	0306	PAGE	1-70



NOTES:  
 1 NOT ON AVCX BOARD.

MAGNETIC PERIPHERAL GROUP	PIA 1	TWIN CITIES DISK DIVISION	C	83324780	C	-
	TYPE -VCX					

M54367800A

**SIGNAL INPUTS**

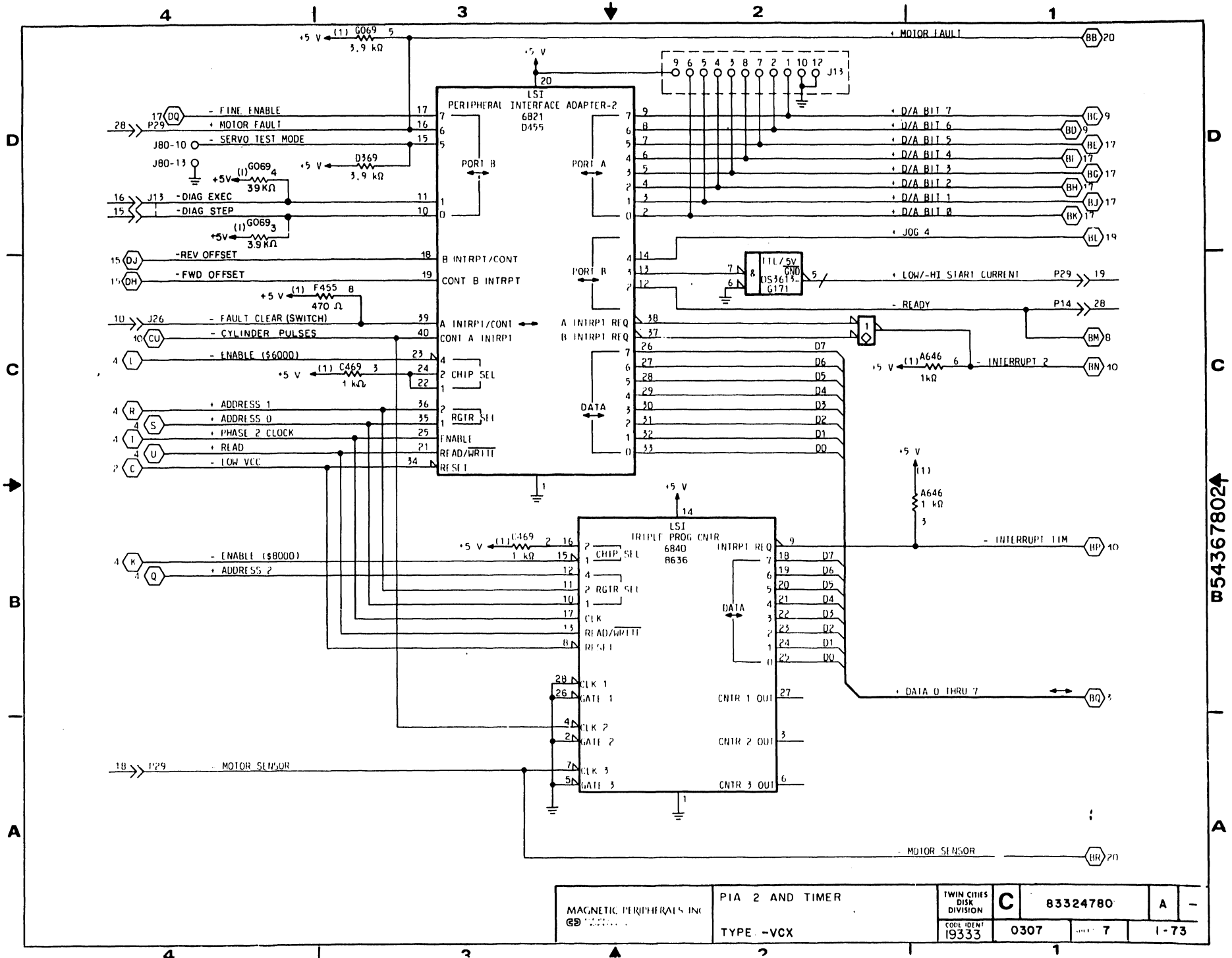
0403	P24-29	28	>>	P29
0601	P13-16	16	>>	J13
0601	P13-15	15	>>	J13
0102	P26-10	10	>>	J26
0403	P24-18	18	>>	P29

**SIGNAL OUTPUTS**

J13	>>	12	0601	P13-12
J13	>>	10	0601	P13-10
J13	>>	01	0602	P13-01
J13	>>	02	0602	P13-02
J13	>>	07	0602	P13-07
J13	>>	08	0602	P13-08
J13	>>	03	0602	P13-03
J13	>>	04	0602	P13-04
J13	>>	05	0602	P13-05
J13	>>	06	0602	P13-06
J13	>>	09	0601	P13-09
P29	>>	19	0403	P24-24
P14	>>	28	0204	P20-34

**LOGIC CROSS REFERENCE INFORMATION**

PUB		83324780	REV	A
CROSS REF NO	0307	PAGE	1-72	

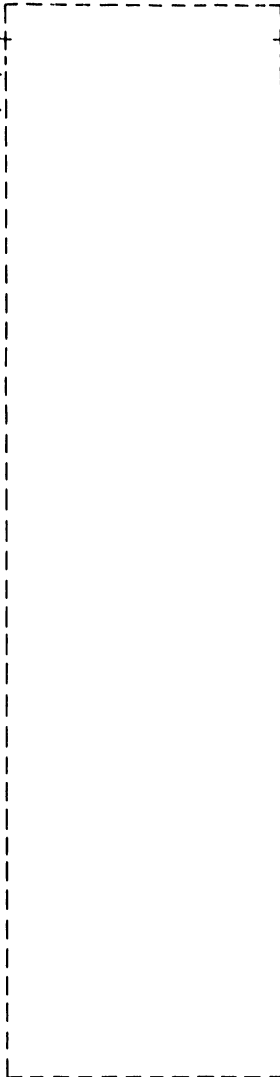


MAGNETIC PERIPHERALS INC GD	PIA 2 AND TIMER	TWIN CITIES DISK DIVISION	<b>C</b>	83324780	A	-
	TYPE -VCX	COOL IDENT 19333	0307	7	1-73	

W54367802A

**SIGNAL INPUTS**

0404 P24-21 20 -> P29  
 0403 P24-28 23 -> P29  
 0502 P30-15 38 -> P29

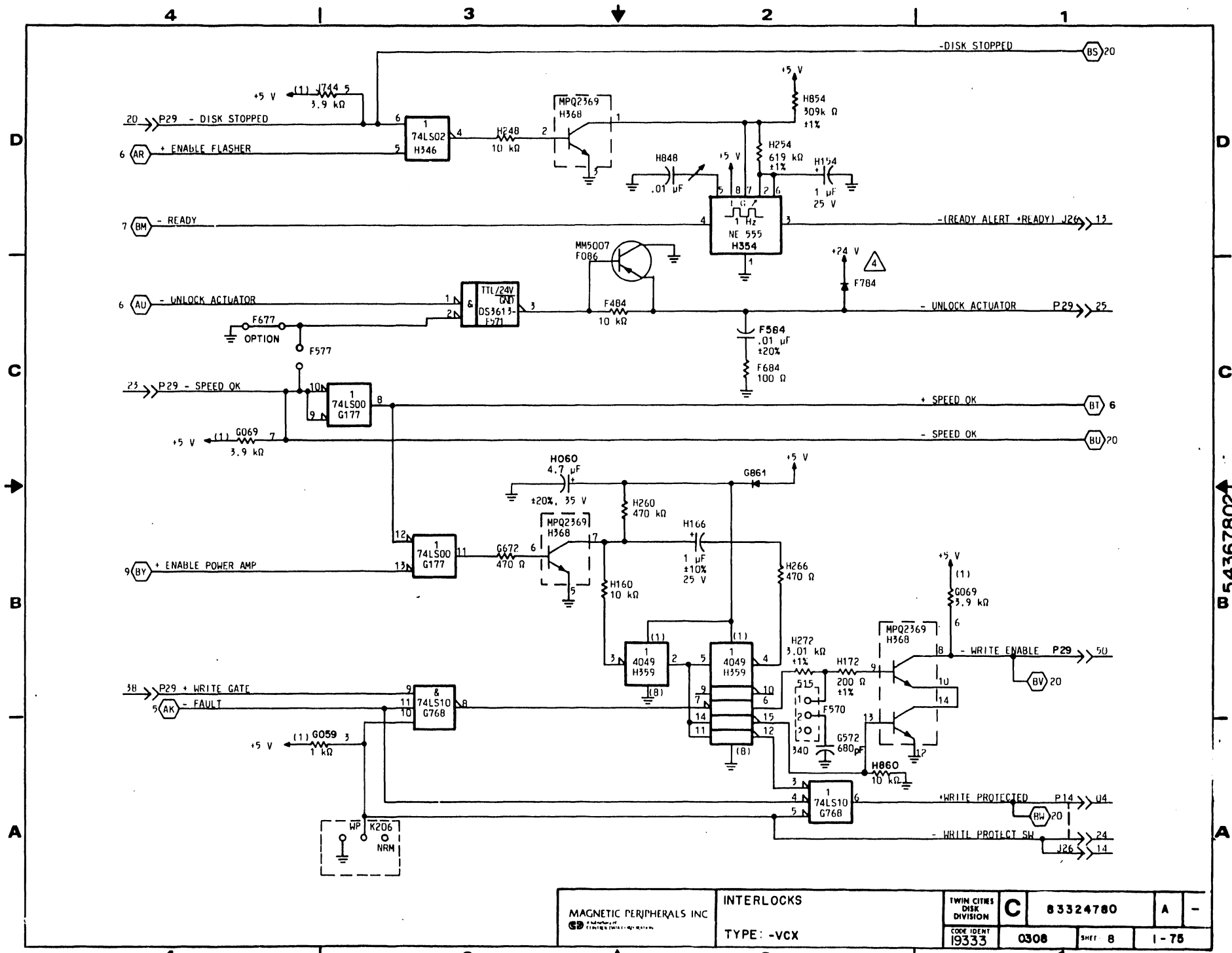


**SIGNAL OUTPUTS**

	<u>340 MB</u>	<u>515 MB</u>	
J26 >> 13	0102	0102	P26-13
P29 >> 25	0401	0401	P24-30
P29 >> 50	0503	0504	P30-27
P14 >> 04	0204	0204	P20-58
P14 >> 24	NC	NC	P20-38
J26 >> 14	0102	0102	P26-14

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0308	PAGE	1-74



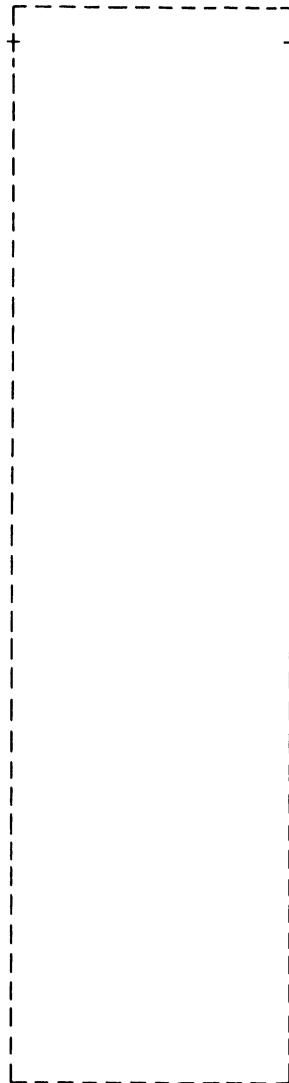
543678021

MAGNETIC PERIPHERALS INC A Division of General Electric	INTERLOCKS	TWIN CITIES DISK DIVISION	<b>C</b>	<b>83324780</b>	<b>A</b>	<b>-</b>
	TYPE: -VCX	CODE IDENT 19333	<b>0308</b>	SHEET 8	<b>1-75</b>	



**SIGNAL INPUTS**

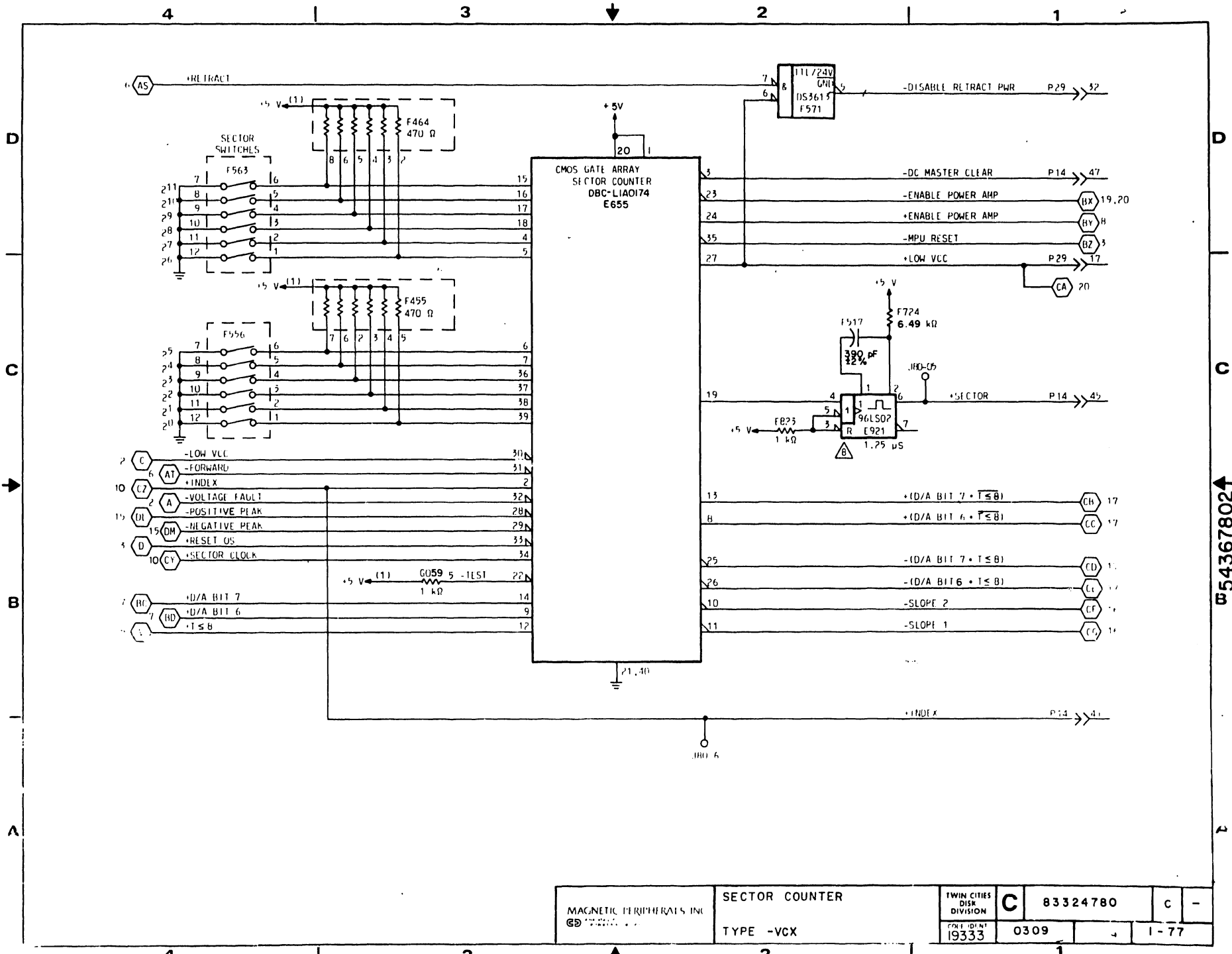
**SIGNAL OUTPUTS**



		<u>SINGLE</u>	<u>DUAL</u>	
		<u>CH</u>	<u>CH</u>	
P29	>> 32	0402	0402	P24-33
P14	>> 47	0207	0214	P20-13
P29	>> 17	0403	0403	P24-19
P14	>> 45	0204	0204	P20-15
P14	>> 41	0204	0204	P20-19

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0309	PAGE	1-76

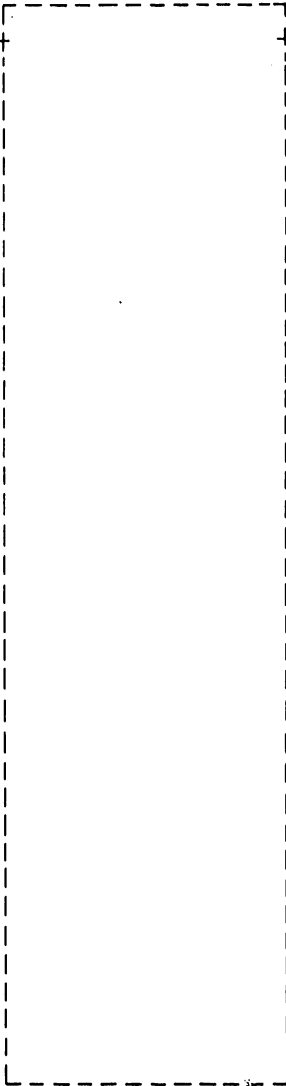


543678024

MAGNETIC PERIPHERALS, INC. G059	SECTOR COUNTER	TWIN CITIES DISK DIVISION	C	83324780	C	-
	TYPE -VCX	CNT IDENT 19333	0309	J	1-77	

**SIGNAL INPUTS**

P20-26 36 >> P14



**SIGNAL OUTPUTS**

340 MB 515 MB

P29 >> 33 0502 0503 P30-12  
P29 >> 34 0502 0503 P30-11

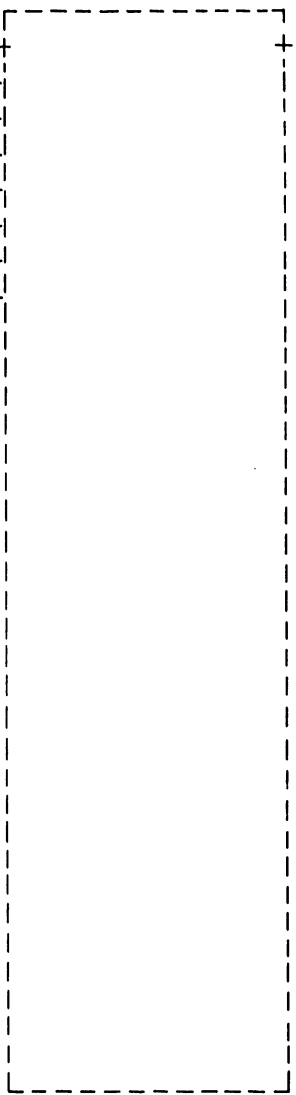
**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0310	PAGE	1-78



**SIGNAL INPUTS**

0901	P28-01	01	>>	J28
0901	P28-02	02	>>	J28
0901	P28-03	03	>>	J28
0901	P28-04	04	>>	J28
0901	P28-07	07	>>	J28
0901	P28-08	08	>>	J28
0902	P28-05	05	>>	J28
0902	P28-06	06	>>	J28

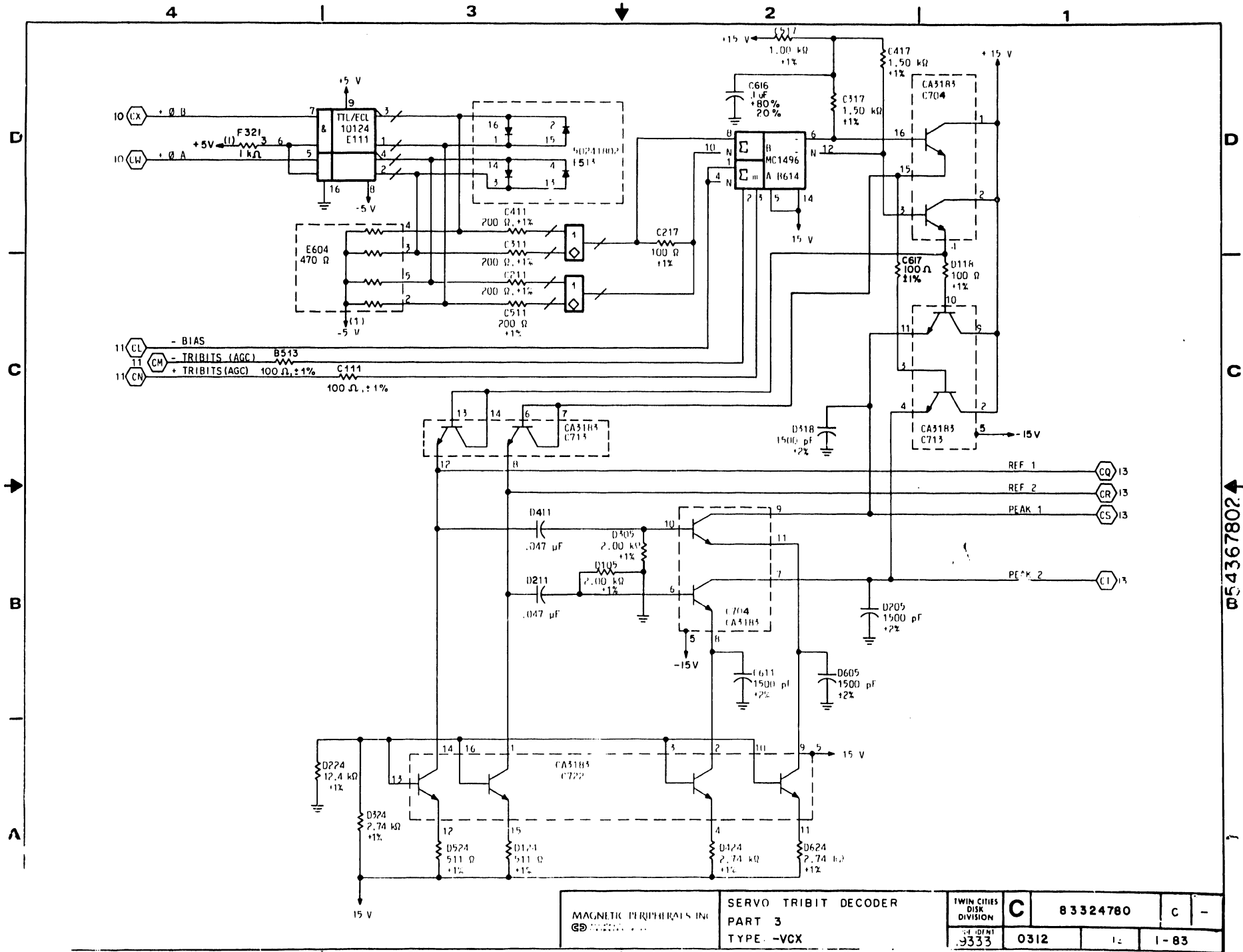


**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

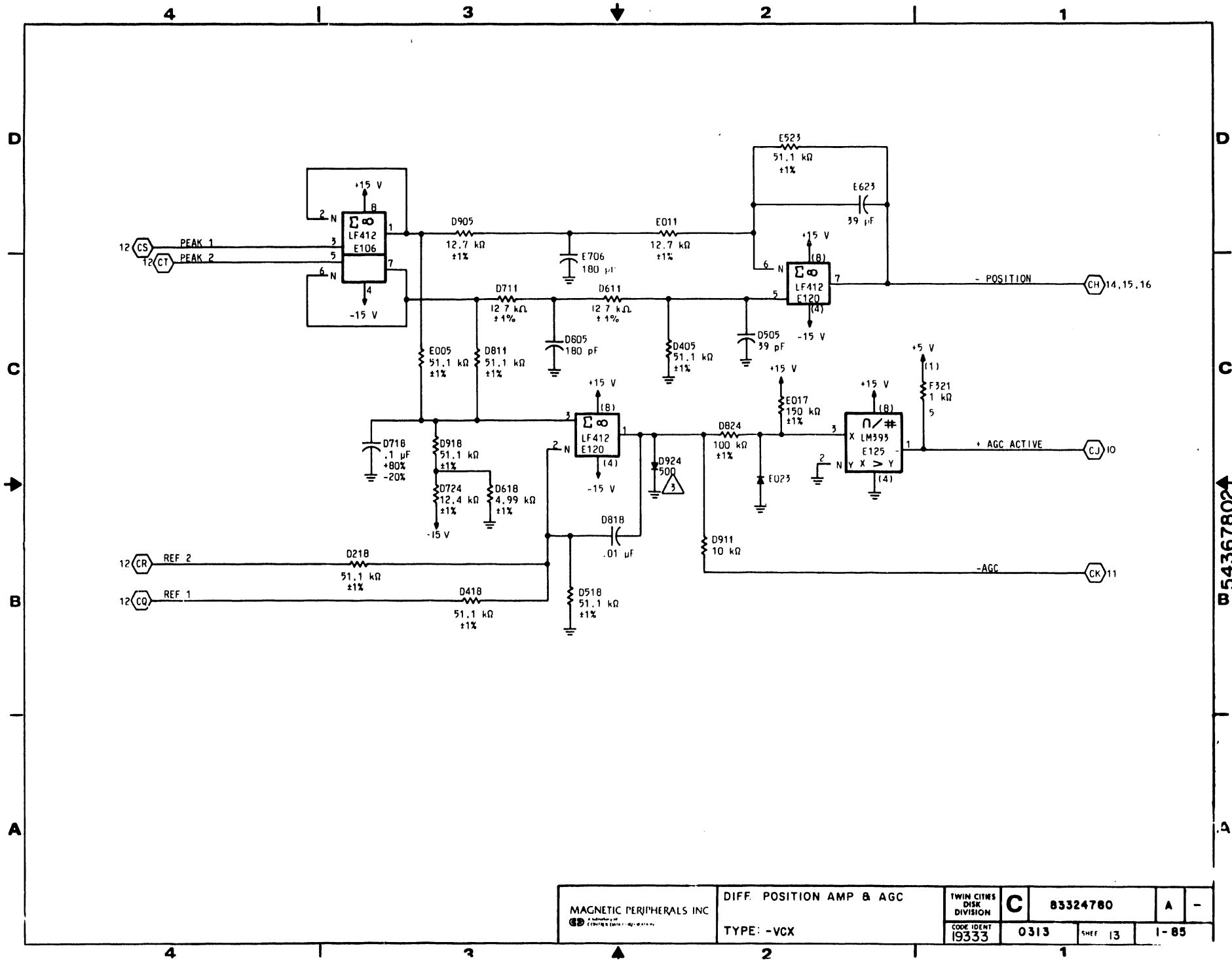
PUB		REV	
83324780		A	
CROSS REF NO	0311	PAGE	1-80





MAGNETIC PERIPHERALS INC. GD	SERVO TRIBIT DECODER PART 3 TYPE -VCX		TWIN CITIES DISK DIVISION	C	83324780	C	-
	3333	0312	12	1-83			

W54367802

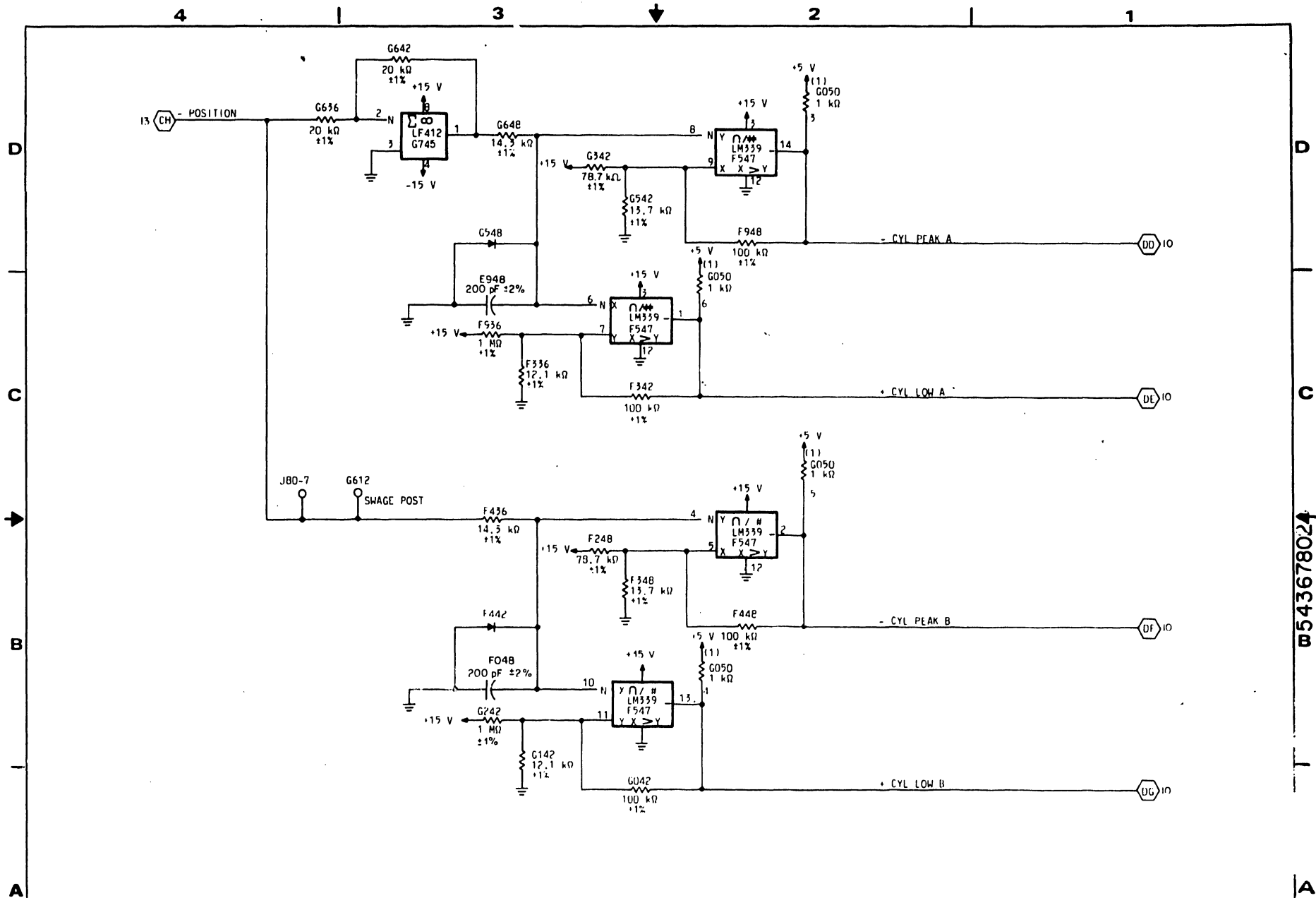


W 54367802

MAGNETIC PERIPHERALS INC <small>AN IRVING-CLOUD COMPANY</small>	DIFF. POSITION AMP & AGC		TWIN CITIES DISK DIVISION <b>C</b>	83324780		A -
	TYPE: -VCX			CODE IDENT I9333	0313	

I-85



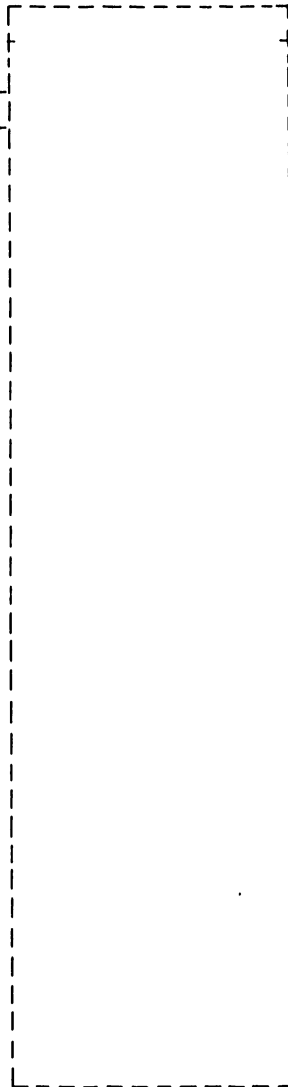


B543678024

MAGNETIC PERIPHERALS DIVISION	CYL CROSS CKTS		TWIN CITIES DISK DIVISION	C	83324780	A	-
	TYPE -VCX		ONE IDENT 19333	0314	SHEET 14	1-87	

**SIGNAL INPUTS**

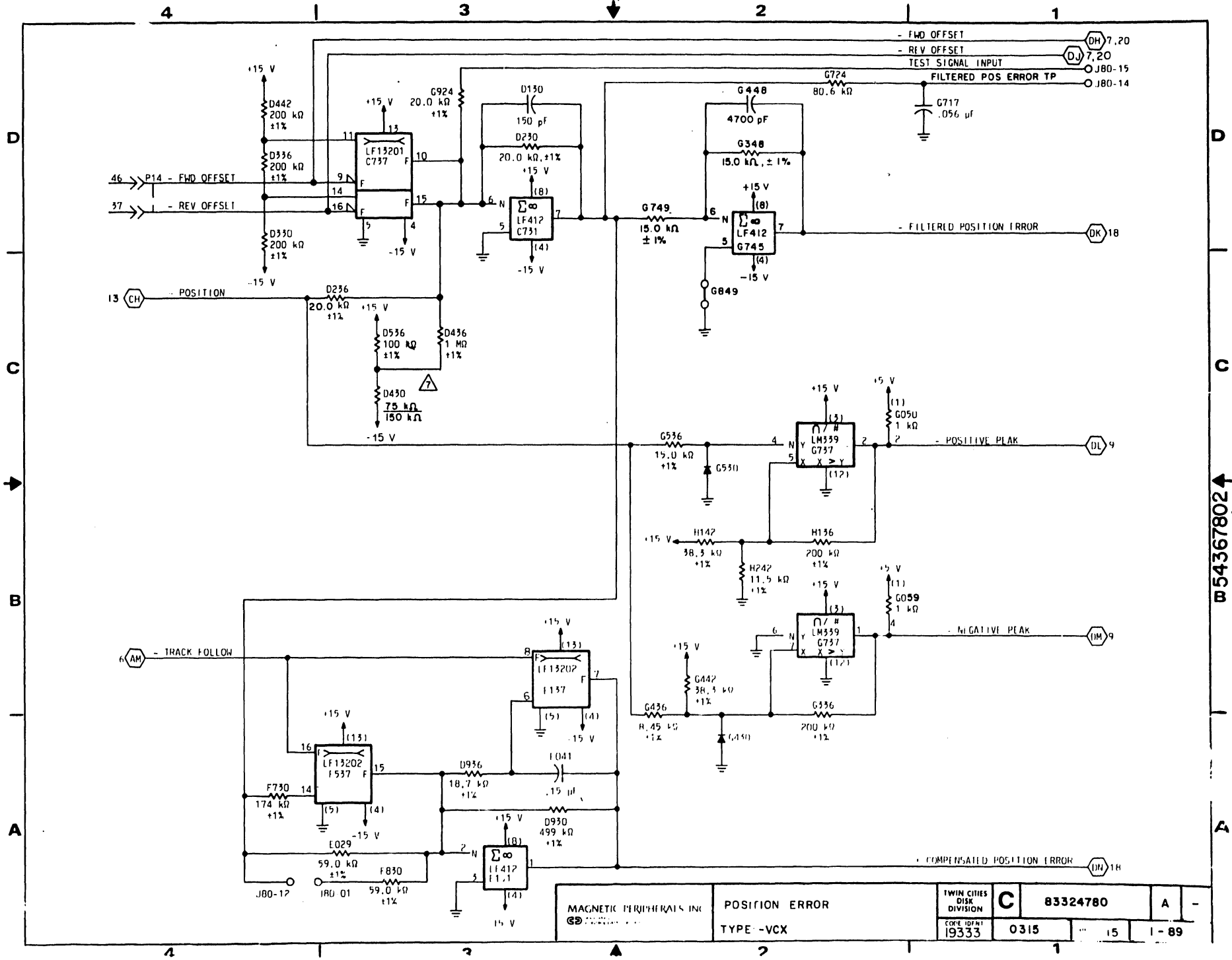
<u>SINGLE</u> <u>CH</u>	<u>DUAL</u> <u>CH</u>			
0206	0213	P20-16	46 >>	P14
0206	0213	P20-23	37 >>	P14



**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0315	PAGE	1-88

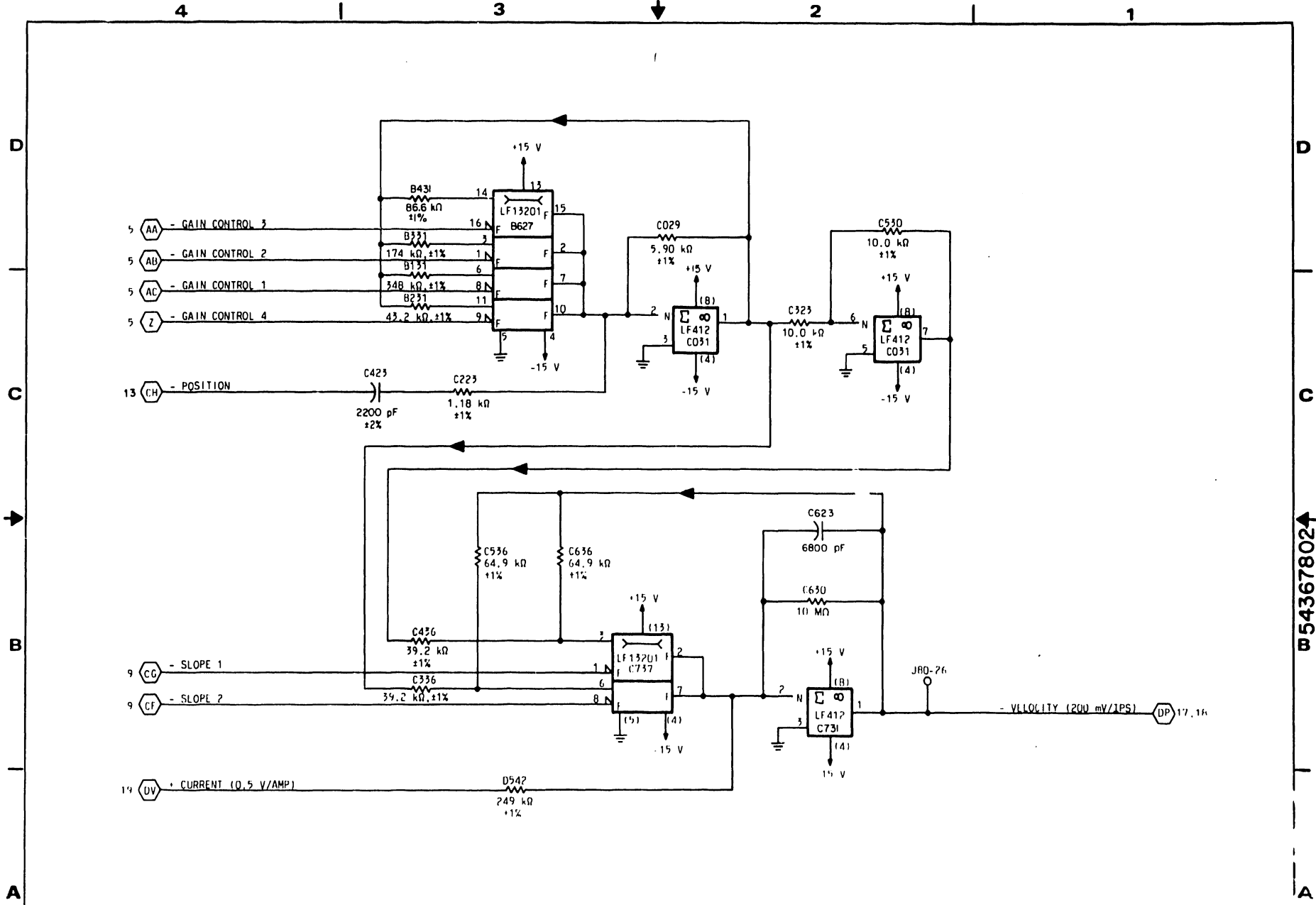


MAGNETIC PERIPHERALS INC  
GD

POSITION ERROR  
TYPE - VCX

TWIN CITIES DISK DIVISION	<b>C</b>	<b>83324780</b>	A	-
CORE IDENT 19333	0315	15	1-89	

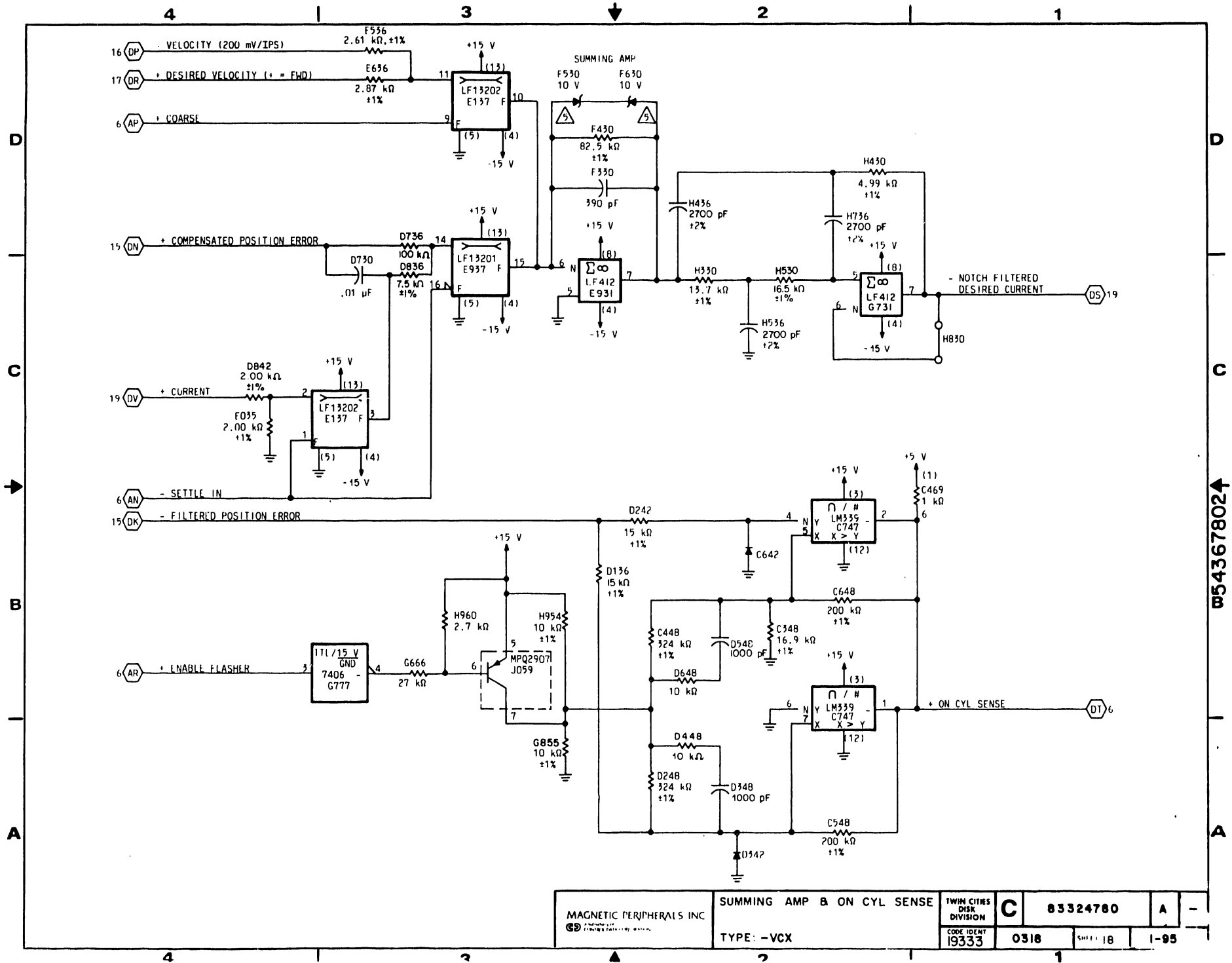
B 54367802



W543678024

MAGNETIC PERIPHERALS INC CD	VELOCITY	TWIN CITIES DISK DIVISION	C	83324780	A	-
	TYPE: -VCX	CODE IDENT 19333	0316	SHEET 16	1-91	



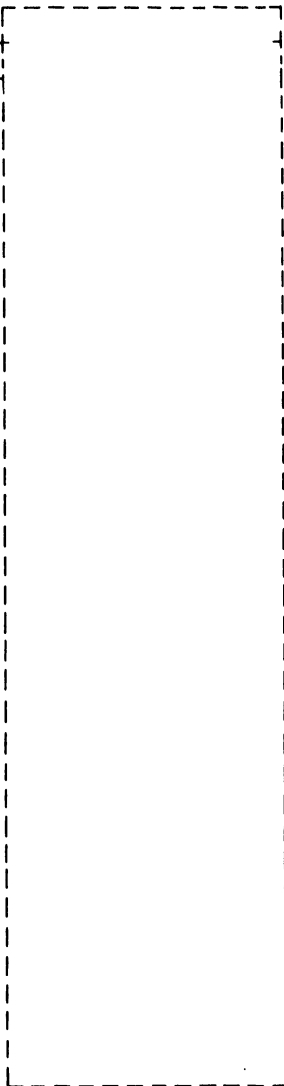


MAGNETIC PERIPHERALS INC G.D. INDUSTRIAL PRODUCTS	SUMMING AMP & ON CYL SENSE	TWIN CITIES DISK DIVISION	C	83324780	A	-
	TYPE: -VCX	CODE IDENT 19333	0318	SH1118	1-95	

W54367802A

**SIGNAL INPUTS**

0402 P24-26 21 >> P29  
0402 P24-31 30 >> P29

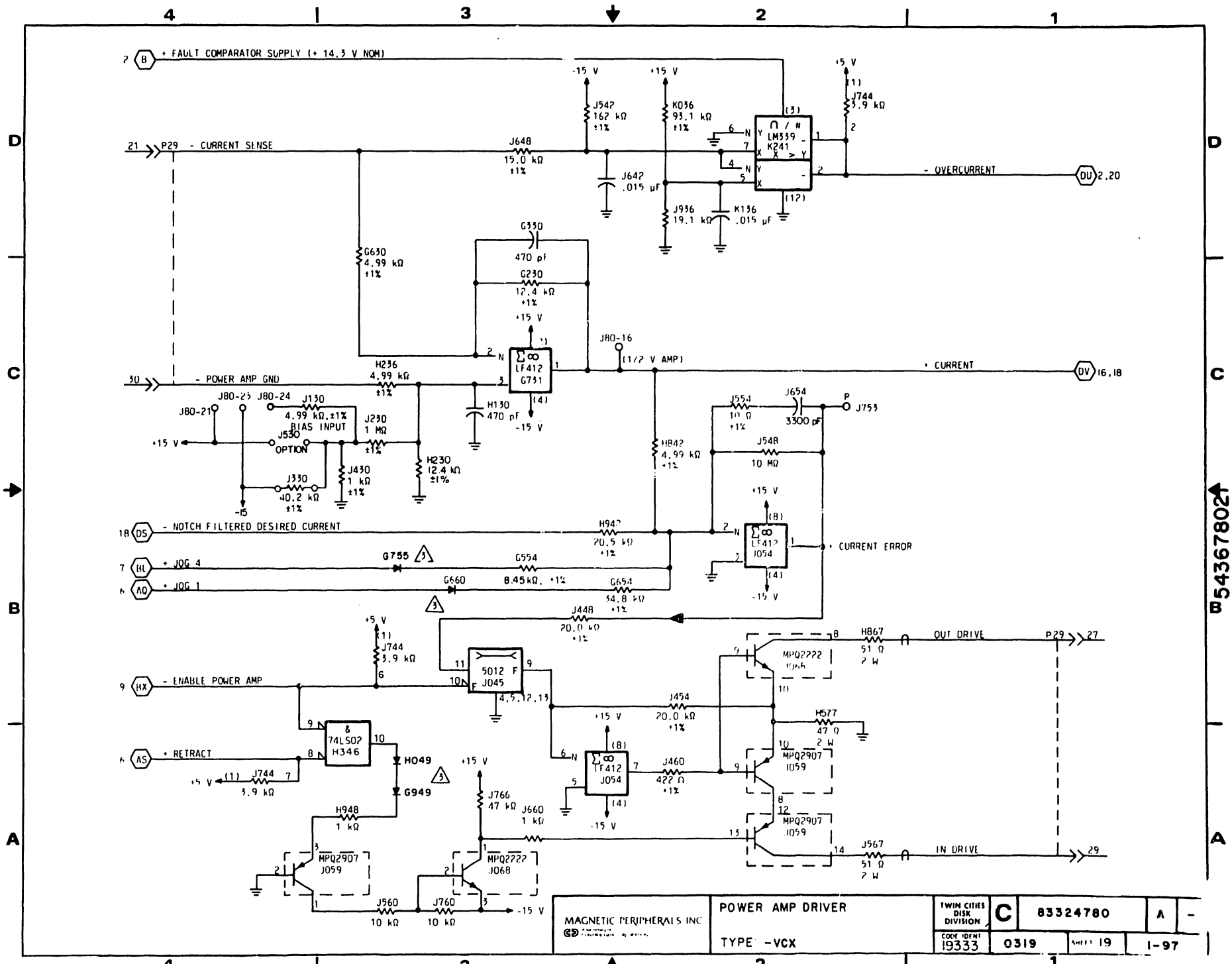


**SIGNAL OUTPUTS**

P29 >> 27 0402 P24-32  
P29 >> 29 0402 P24-33

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0319	PAGE	1-96



W54367802A

MAGNETIC PERIPHERALS INC. 55	POWER AMP DRIVER		TWIN CITIES DISK DIVISION	C	83324780	A	-
	TYPE - VCX		COPI IDENT 19333	0319	SHEET 19	1-97	



**SIGNAL INPUTS**

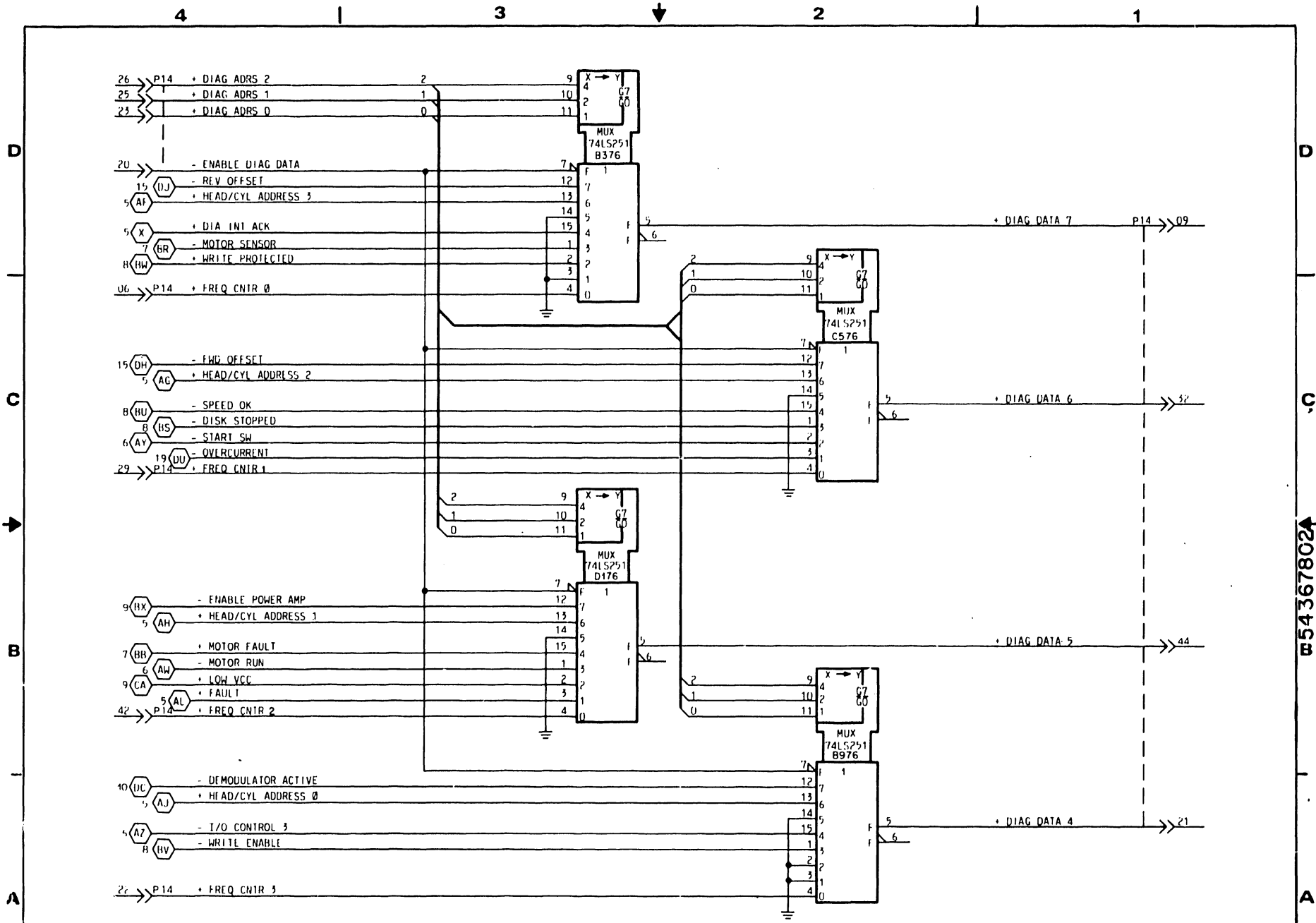
NC	P20-36	26	>>	P14
NC	P20-35	25	>>	P14
NC	P20-37	23	>>	P14
NC	P20-42	20	>>	P14
NC	P20-56	06	>>	P14
NC	P20-31	29	>>	P14
NC	P20-20	42	>>	P14
NC	P20-40	22	>>	P14

**SIGNAL OUTPUTS**

P14	>>	09	NC	P20-51
P14	>>	32	NC	P20-30
P14	>>	44	NC	P20-18
P14	>>	21	NC	P20-39

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0320	PAGE	1-98

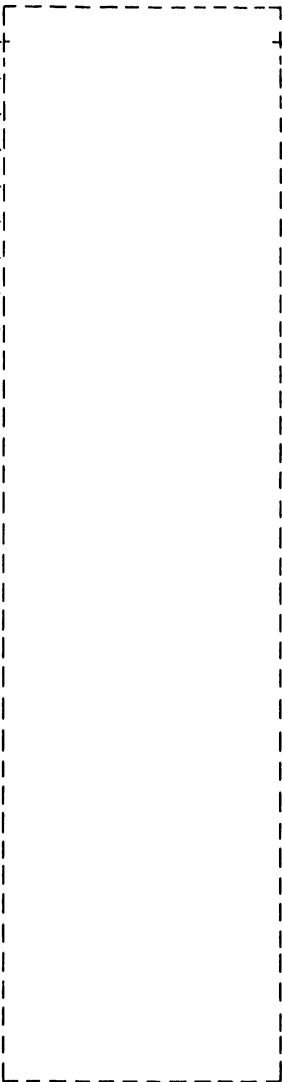


E54367802A

MAGNETIC PERIPHERALS INC GD	DIAGNOSTIC MUX	TWIN CITIES DISK DIVISION	C	83324780	B	-
	TYPE - VCX	CODE IDENT 19333	0320			1-99

**SIGNAL INPUTS**

----	P35-07	09	>>	P24
----	P35-07	11	>>	P24
----	P35-07	12	>>	P24
----	P35-14	14	>>	P24
----	P35-08	13	>>	P24
----	P35-08	15	>>	P24
----	P35-08	16	>>	P24
----	P35-08	17	>>	P24
----	P35-01	35	>>	P24
----	P35-01	36	>>	P24
----	P35-02	39	>>	P24
----	P35-02	40	>>	P24
----	P35-11	01	>>	P24
----	P35-11	02	>>	P24
----	P35-11	03	>>	P24
----	P35-14	07	>>	P24
----	P35-14	08	>>	P24
----	P35-14	10	>>	P24
----	P35-10	04	>>	P24
----	P35-10	05	>>	P24
----	P35-10	06	>>	P24
----	P35-03	38	>>	P24
0308	P29-25	30	>>	P24



**SIGNAL OUTPUTS**

----	J82	>>	04	NC	----
----	J39	>>	06	Motor	----
----	J39	>>	07	Motor	--
----	J82	>>	05	NC	----
----	J82	>>	06	NC	----
----	J39	>>	03	Motor	----
----	J82	>>	09	NC	----
----	J82	>>	10	NC	----
----	J82	>>	02	NC	----
----	J41	>>	01	Brake	----
----	J82	>>	03	NC	----
----	J82	>>	07	NC	----
----	J82	>>	08	NC	----
----	J43	>>	05	Carriage Lock	----
----	J43	>>	06	Carriage Lock	----

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	B
CROSS REF NO	0401	PAGE	1-100

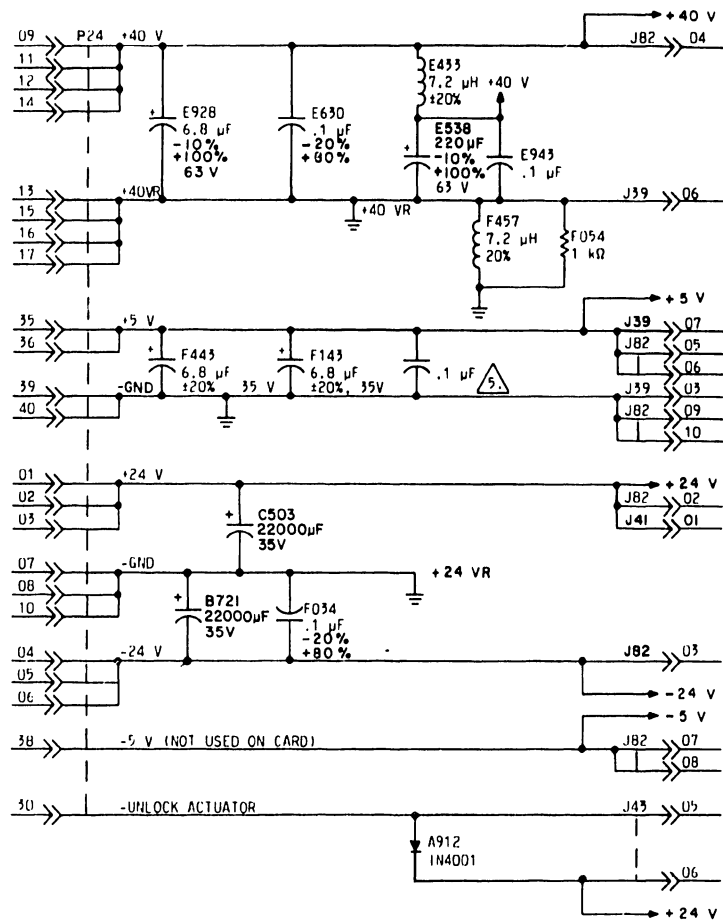
PART NO. RANGE		REVISION RECORD				
REV	ECO	DESCRIPTION	DRFT	DATE	CHKD	APP
01	THRU 01	A	DJ23000	RELEASED	JL	12-13
		B	DJ05655	BSWX TO CSWX	JL	2-9-84

FILTER CAPS

+5 V
.1 $\mu$ F
B532
C531
D744
C544
D144

UNUSED RESISTOR PACKS

VALUE	LOCATION	PIN(S)
1 k $\Omega$	B742	6



NOTES

- 1 UNLESS OTHERWISE SPECIFIED:  
ALL RECTIFIERS, 3A1, 95588200.  
ALL TRANSISTORS, SPNP, 2N3792, 50221401.  
ALL DARLINGTON TRANSISTORS, SPNP, 17K100, 52223603.  
ALL 16 PIN IC'S HAVE PIN 8 CONNECTED TO GND AND PIN 16 CONNECTED TO +5 V.  
ALL 14 PIN IC'S HAVE PIN 7 CONNECTED TO GND AND PIN 14 CONNECTED TO +5 V.  
ALL RESISTOR PACK RESISTORS  $\pm 5\%$ , 1/8 W.
- 2 TRANSISTOR, SPNP, 2N3716, 50221301.
- 3 GND, +24 VR, AND +40 VR ARE SEPARATE ON CARD. THEY ARE TIED TOGETHER AT CONNECTOR IN ONE SPOT. GROUND IS INDICATED BY  $\perp$ .
- 4 UNUSED LOGIC ELEMENT INPUT PINS ARE GROUND.
- 5 SEE TABLE FOR FILTER CAP LOCATIONS.
- 6 DRAWINGS WHERE TAB NUMBERS CREATE NEW COVER SHEET, TABS 00 99 ARE RESERVED.

REFERENCE DRAWING		MAGNETIC PERIPHERALS INC. <small>a General Electric Company</small>		TITLE	
COMP ASSY 54367301		FIRST USED ON		SCHEMATIC DIAGRAM	
CTR 54367501		NEXT ASSEMBLY		MTR CONT / PWR AMP	
		PA 5G-1A		TYPE: BSWX/CSWX	
COMPONENTS EXCEPT AS NOTED		DWN	NANCY PAULSON	7-16-83	
TOLERANCE	VALUE	RATING	CHKD	CMS	7-21-83
RES $\pm 5\%$	OHMS	1/4W	ENGR	M. J. ...	7-11-83
CAP $\pm 10\%$			MTG	D. ...	8-2-83
			QA	...	8-2-
		FSCM NO.		19333	
		TWIN CITIES DISK DIVISION		C 83324780 A	
		SHEET 1 OF 5		1-101	

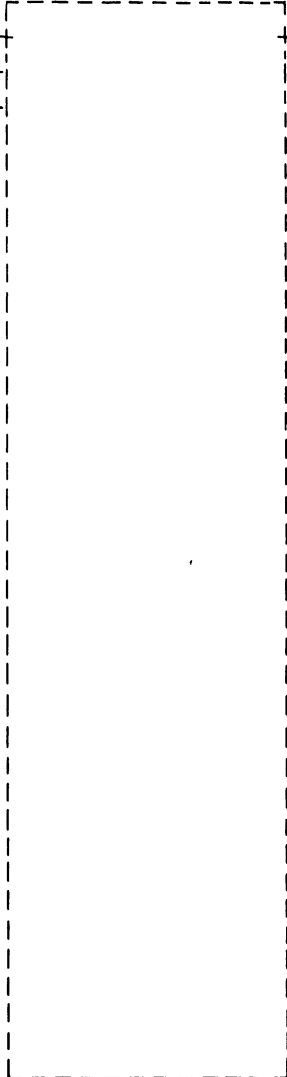
W54367401

**SIGNAL INPUTS**

0309 P29-32 33 >> P24  
0319 P29-27 32 >> P24  
0319 P29-29 34 >> P24

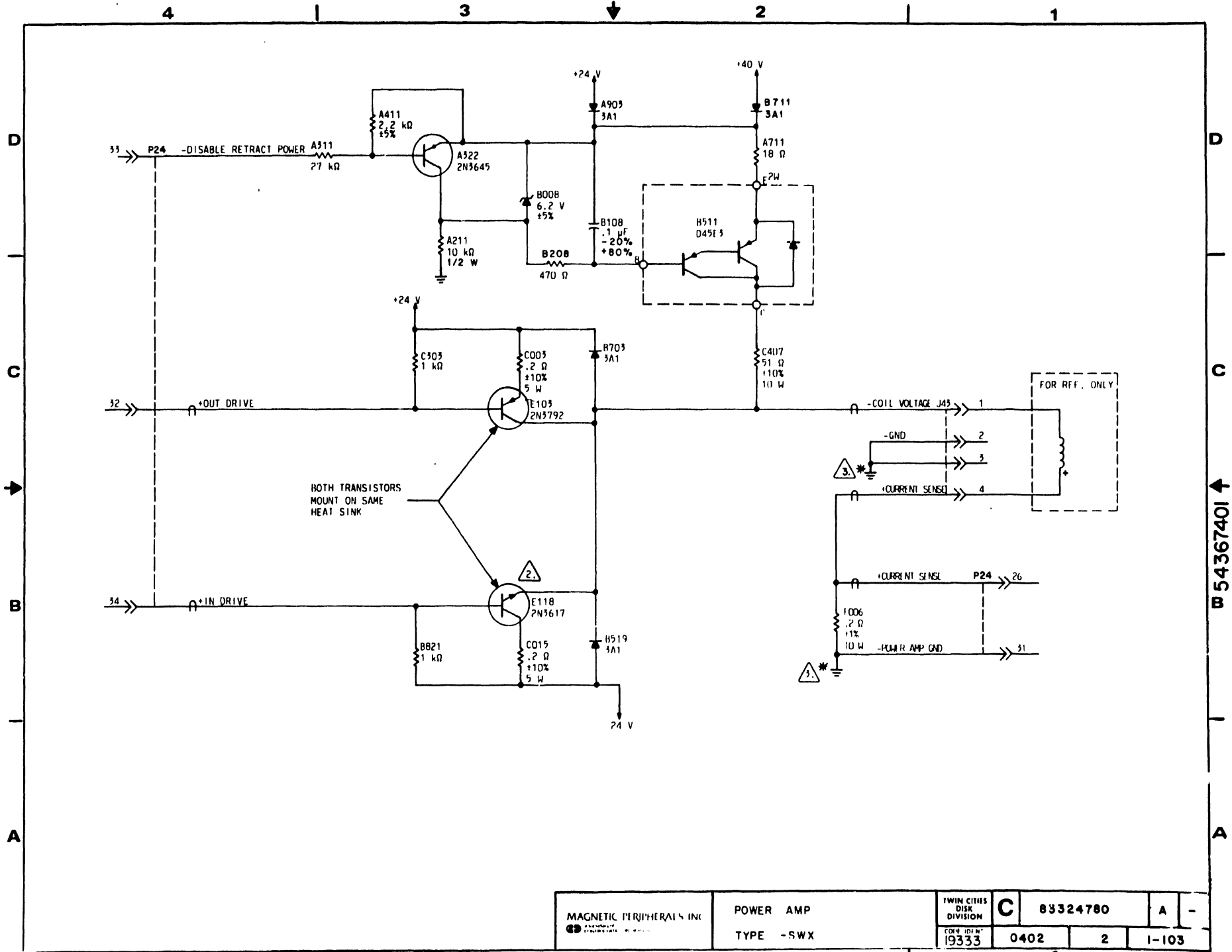
**SIGNAL OUTPUTS**

P24 >> 26 0319 P29-21  
P24 >> 31 0319 P29-30



**LOGIC CROSS REFERENCE INFORMATION**

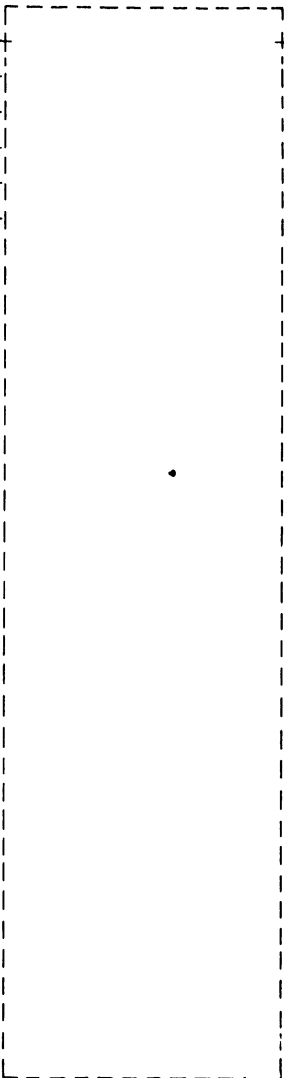
PUB	83324780	REV	A
CROSS REF NO	0402	PAGE	1-102



MAGNETIC PERIPHERALS INC A DIVISION OF GENERAL ELECTRIC	POWER AMP	TWIN CITIES DISK DIVISION C	83324780	A	-
	TYPE -SWX				

**SIGNAL INPUTS**

0309 P29-17 19 >> P24  
 0306 P29-26 27 >> P24  
 0307 P29-19 24 >> P24  
 Motor ----- 04 >> J39  
 Motor ----- 01 >> J39  
 Motor ----- 05 >> J39

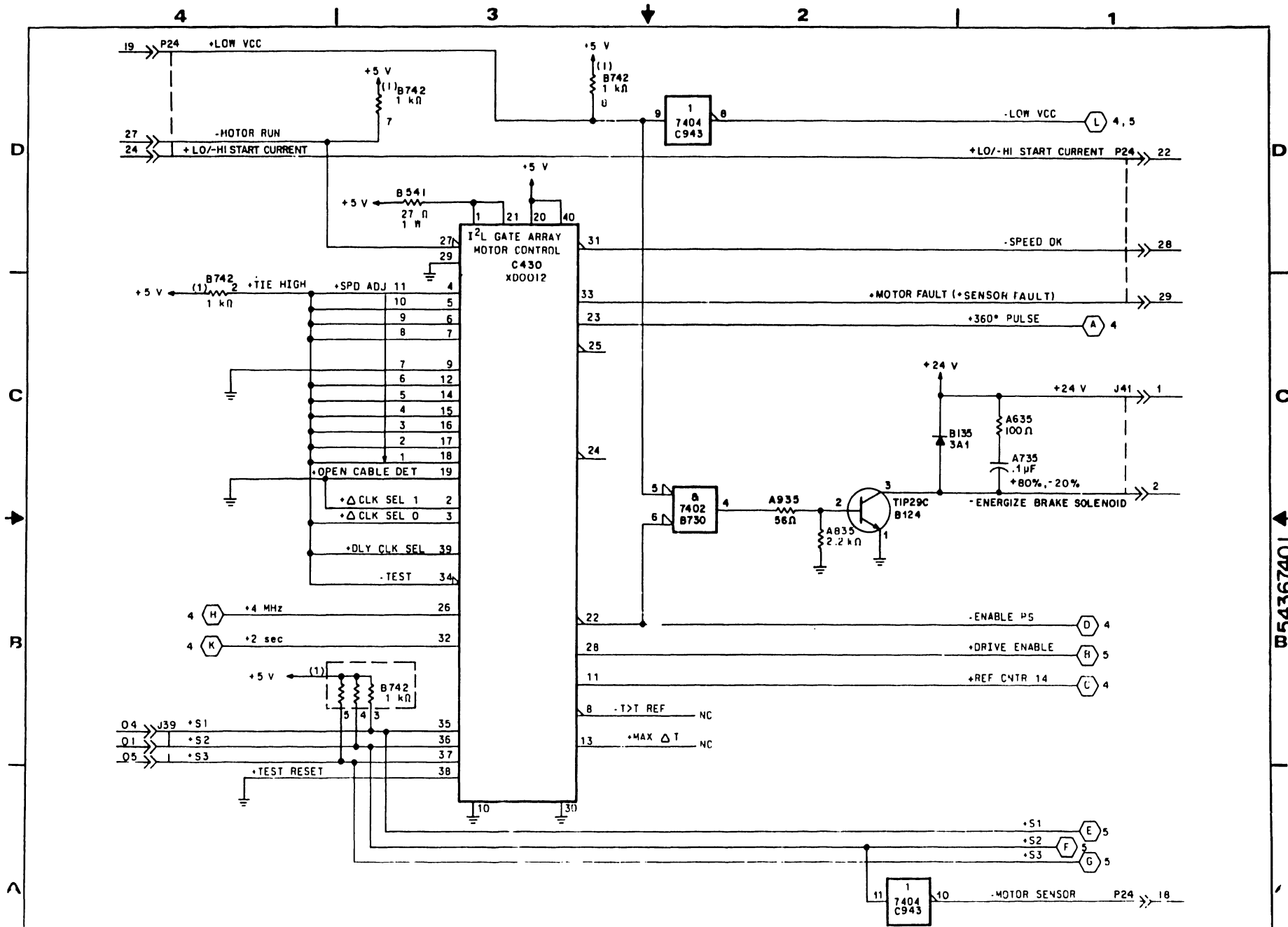


**SIGNAL OUTPUTS**

P24 >> 22 ----- P35-12  
 P24 >> 28 0308 P29-23  
 P24 >> 29 0307 P29-28  
 J41 >> 01 ----- P35-11  
 J41 >> 02 Brake -----  
 P24 >> 18 0307 P29-18

**LOGIC CROSS REFERENCE INFORMATION**

PUB 83324780		REV A
CROSS REF NO 0403	PAGE 1-104	



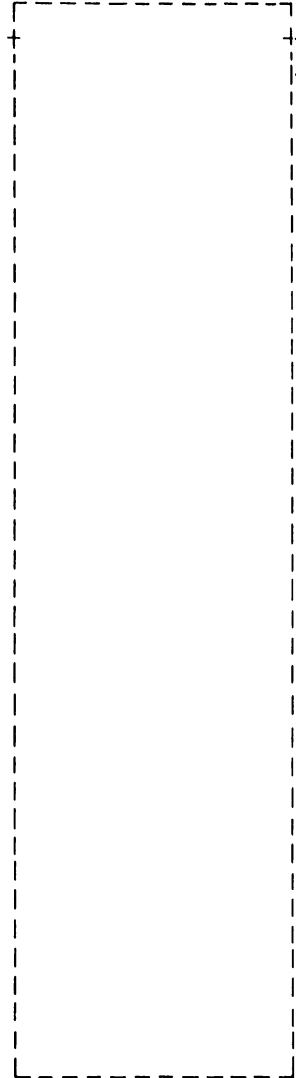
B54367401

MAGNETIC PERIPHERALS INC GRAND RAPIDS, MICHIGAN	MOTOR SPEED CONTROL	TWIN CITIES DISK DIVISION	<b>C</b>	83324780	A	-
	TYPE -SWX	19333	0403	3	1-105	



**SIGNAL INPUTS**

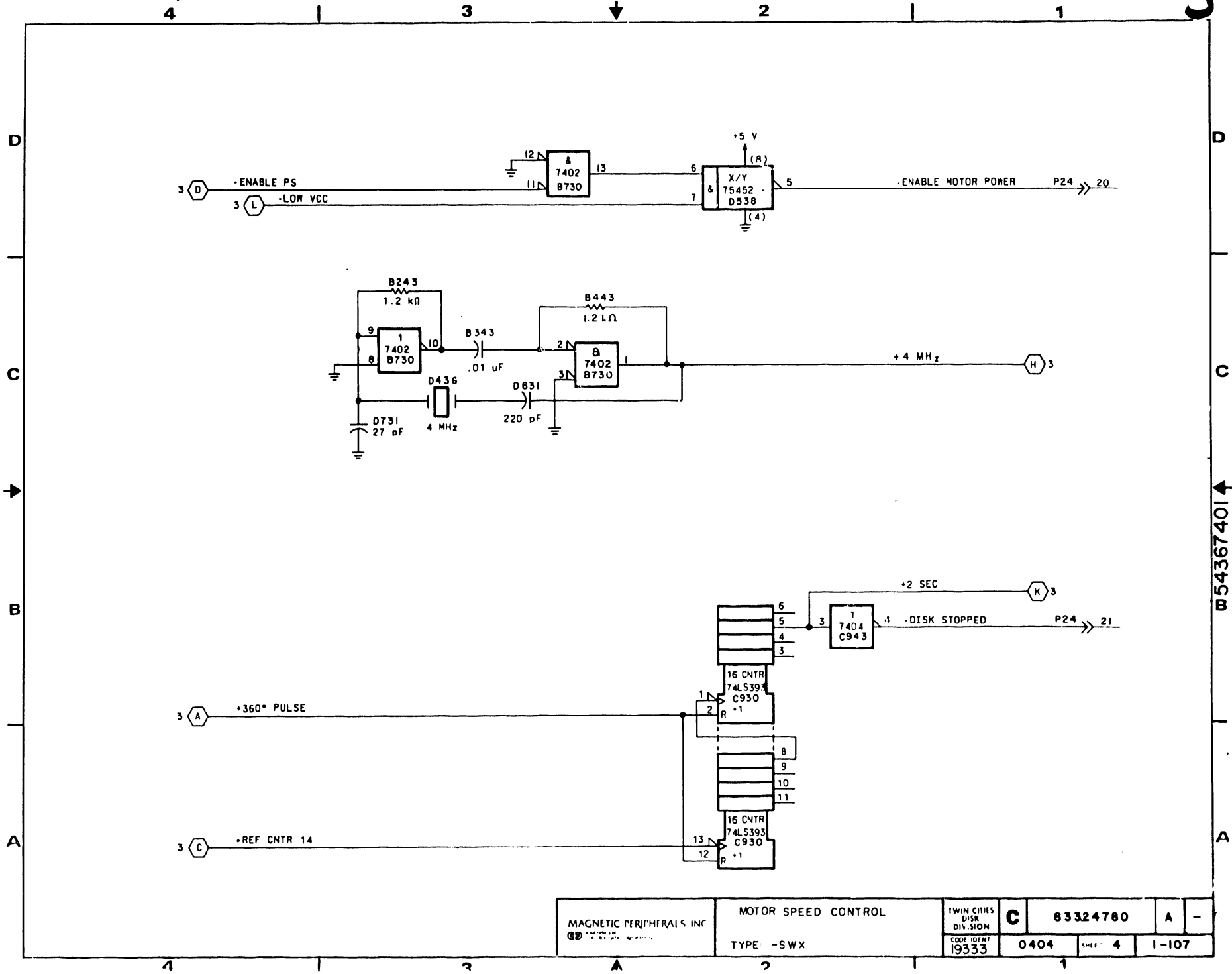
**SIGNAL OUTPUTS**



P24 -->> 20 --- P35-09  
P24 -->> 21 0308 P29-20

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0404	PAGE	1-106

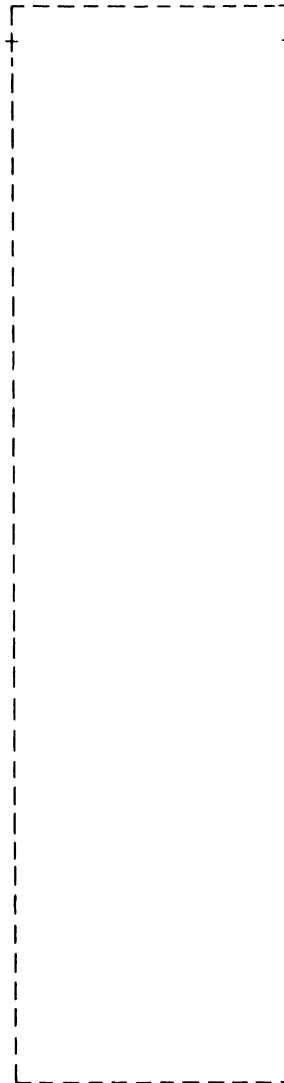


B54367401A

MAGNETIC PERIPHERALS INC DESIGN DIVISION	MOTOR SPEED CONTROL		TWIN CITIES DISK DIVISION CODE IDENT 19333	C	83324780	A	-
	TYPE: -SWX						

**SIGNAL INPUTS**

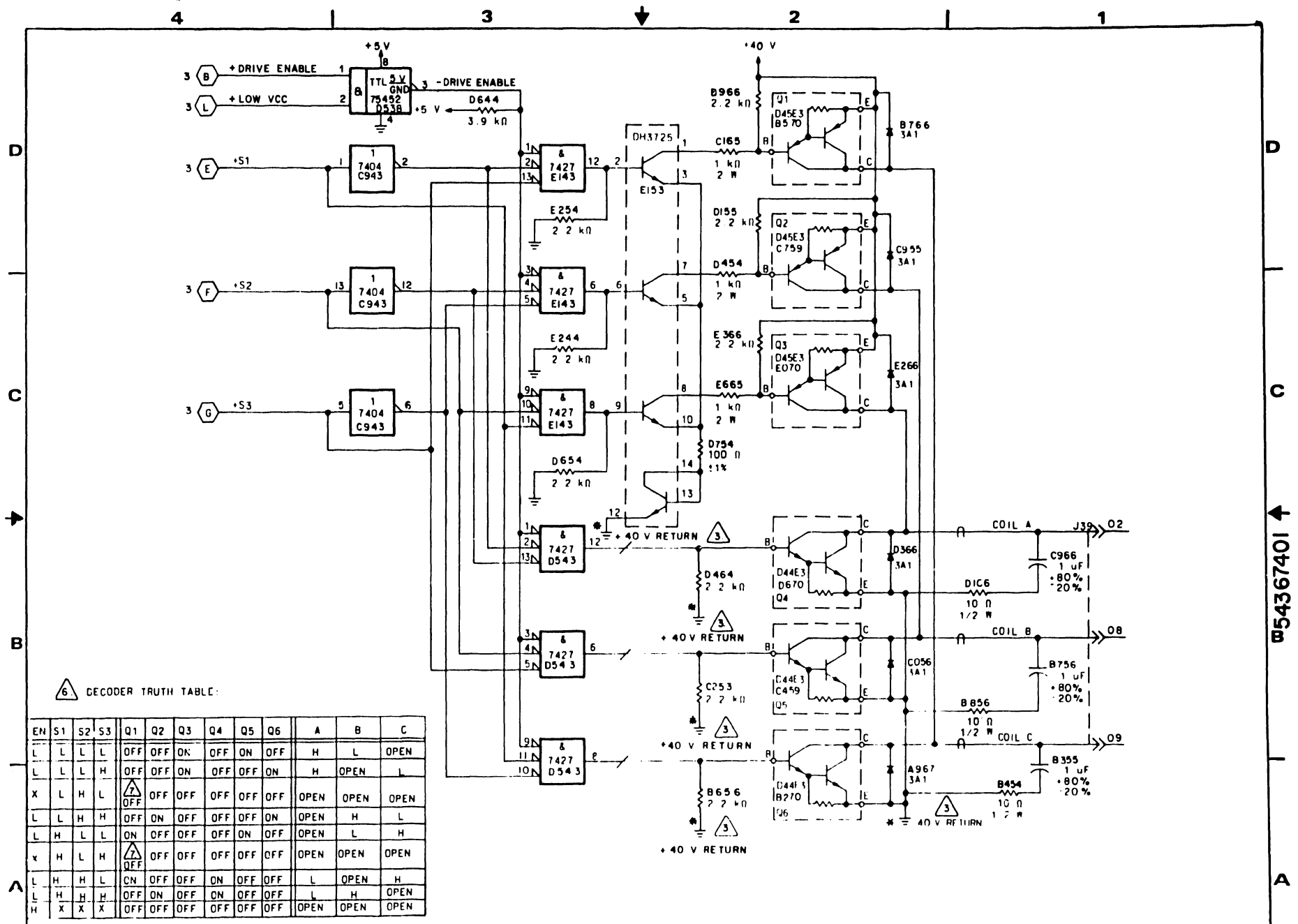
**SIGNAL OUTPUTS**



J39	>>	02	Motor	-----
J39	>>	08	Motor	-----
J39	>>	09	Motor	-----

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0405	PAGE	1-108



6 DECODER TRUTH TABLE:

EN	S1	S2	S3	Q1	Q2	Q3	Q4	Q5	Q6	A	B	C
L	L	L	L	OFF	OFF	ON	OFF	ON	OFF	H	L	OPEN
L	L	L	H	OFF	OFF	ON	OFF	OFF	ON	H	OPEN	L
X	L	H	L	OFF	OFF	OFF	OFF	OFF	OFF	OPEN	OPEN	OPEN
L	L	H	H	OFF	ON	OFF	OFF	OFF	ON	OPEN	H	L
L	H	L	L	ON	OFF	OFF	OFF	ON	OFF	OPEN	L	H
X	L	L	H	OFF	OFF	OFF	OFF	OFF	OFF	OPEN	OPEN	OPEN
L	H	H	L	ON	OFF	OFF	ON	OFF	OFF	L	OPEN	H
L	H	H	H	OFF	ON	OFF	ON	OFF	OFF	L	H	OPEN
H	X	X	X	OFF	OFF	OFF	OFF	OFF	OFF	OPEN	OPEN	OPEN

7 THESE ARE FAULT CONDITIONS DECODED IN THE LSI CHIP. THESE CONDITIONS DO NOT OCCUR DURING NORMAL OPERATION

54367401

### SIGNAL INPUTS

SINGLE CH	DUAL CH		
---	---	P35-01	01 >> P30
---	---	P35-01	02 >> P30
---	---	P35-01	04 >> P30
MC	MC	P29-35	14 >> P30
NC	NC	P29-37	16 >> P30
MC	NC	P29-40	17 >> P30
NC	NC	P29-44	21 >> P30
NC	NC	P29-46	23 >> P30
0302	0302	P29-54	31 >> P30
0302	0302	P29-53	32 >> P30
0205	0205	P27-01	01 >> J27
0202	0205	P27-04	04 >> J27
0202	0205	P27-09	09 >> J27
0202	0205	P27-11	11 >> J27
0205	0205	P27-15	15 >> J27
0205	0205	P27-18	18 >> J27
0202	0212	P27-21	21 >> J27
0202	0212	P27-24	24 >> J27
0301	0301	P29-31	10 >> P30
0301	0301	P29-36	13 >> P30
0301	0301	P29-39	18 >> P30
0301	0301	P29-41	20 >> P30
---	---	P35-02	35 >> P30
---	---	P35-02	36 >> P30
---	---	P35-02	37 >> P30
---	---	P35-02	38 >> P30
---	---	P35-02	39 >> P30
---	---	P35-02	40 >> P30
---	---	P35-03	03 >> P30
---	---	P35-05	05 >> P30
---	---	P35-05	06 >> P30
---	---	P35-05	07 >> P30
---	---	P35-05	08 >> P30
---	---	P35-05	09 >> P30
NC	NC	P29-48	25 >> P30
NC	NC	P29-52	29 >> P30
0302	0302	P29-56	33 >> P30
0302	0302	P29-55	34 >> P30
NC	NC	---	04 >> J49
NC	NC	---	05 >> J48
NC	NC	---	04 >> J33
NC	NC	---	05 >> J46

### SIGNAL OUTPUTS

J32	>> 13	0901	P32-13
J32	>> 14	0901	P32-14
J32	>> 04	0901	P32-04
J32	>> 07	0901	P32-07
J32	>> 08	0901	P32-08
J32	>> 11	0901	P32-11
J32	>> 12	0901	P32-12
J46	>> 04	NC	---
J33	>> 02	NC	---
J33	>> 05	NC	---
J48	>> 01	NC	---
J48	>> 06	NC	---
J48	>> 09	NC	---
J49	>> 05	NC	---
J46	>> 06	NC	---
J32	>> 15	0901	P32-15
J32	>> 16	0901	P32-16

### LOGIC CROSS REFERENCE INFORMATION

PUB	83324780	REV	A
CROSS REF NO	0501	PAGE	1-110

IC	DESCRIPTION	QUANTITY
7407	G459	2,8
10104	D206	3
10124	E449	12,15

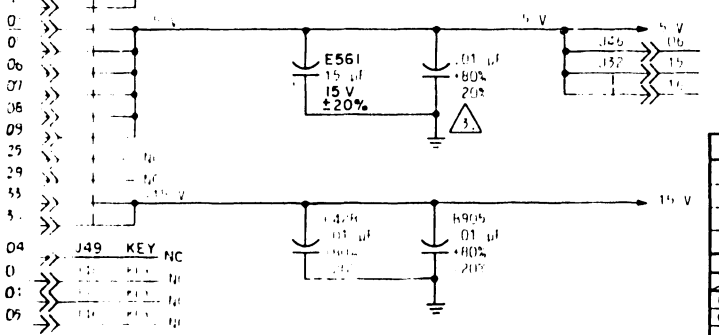
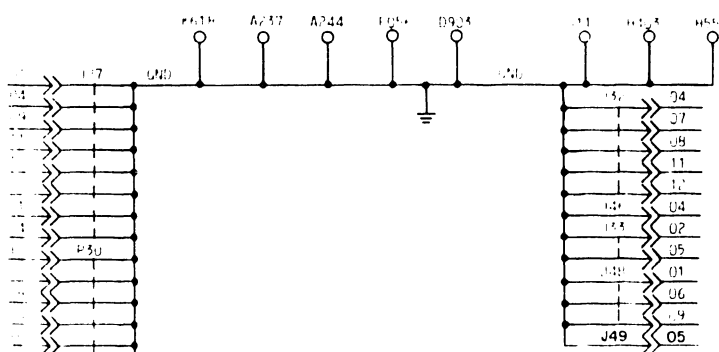
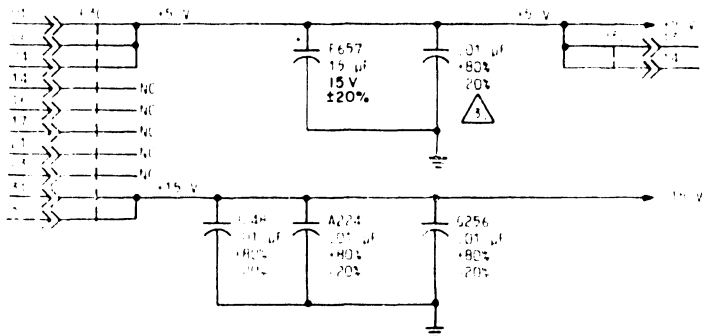
IC	DESCRIPTION	QUANTITY
7407	G459	2,8
10104	D206	3
10124	E449	12,15

PART NO. RANGE		REVISION RECORD						
01	THRU 01	REV	ECO	DESCRIPTION	DRFT	DATE	CHKD	APP
		A	DJ23000	RELEASED		11-1983		LJR
		B	DJ05674	CORRECTIONS		2-10-84		
		C	DJ05711	CHANGE COMPONENTS		5-29-84		
		D	DJ05754	BUGX TO CUGX		11-15-84		

IC	DESCRIPTION	QUANTITY
B734		1
B947		4
B913		7
D210		2,7,8
D520		6
H851		4

FILTER CAPACITORS	
+5 V	+15 V
A277	A604
A846	B213
A896	B840
B918	C450
D554	D506
G145	G720
G543	D240
H152	H447
H063	H610
H412	H890
H352	H538
	H651
	H606
	G111
	G112
	G457
	H123
	H925

- NOTE:
- UNLESS OTHERWISE SPECIFIED, ALL 14 PIN IC'S HAVE PIN 7 CONNECTED TO GROUND AND PIN 14 CONNECTED TO +5 V.
  - ALL 16 PIN IC'S HAVE PIN 1 AND 16 CONNECTED TO GROUND AND PIN 6 CONNECTED TO +5 V.
  - ALL DIODES SILICON, 24553500.
  - ALL TRANSISTOR ARRAY, MPQ2369, NPN 50213300
  - ALL RESISTOR ARRAY RESISTORS, 1/8 W, 333
  - ALL DELAY LINES 94393500.
2. TRANSISTOR ARRAY MFQ256, PNP, 15165543  
 3. SEE TABLE FOR .01 µF FILTER CAPACITOR LOCATION  
 4. DELAY TIME FOR REFERENCE ONLY.  
 5. DELAY LINE 94262302  
 6. DIODES 50211403  
 7. DRAWING NUMBER, TAB NUMBERS (AREA NEW COVER SHEET TABS 00-99 ARE RESERVED)



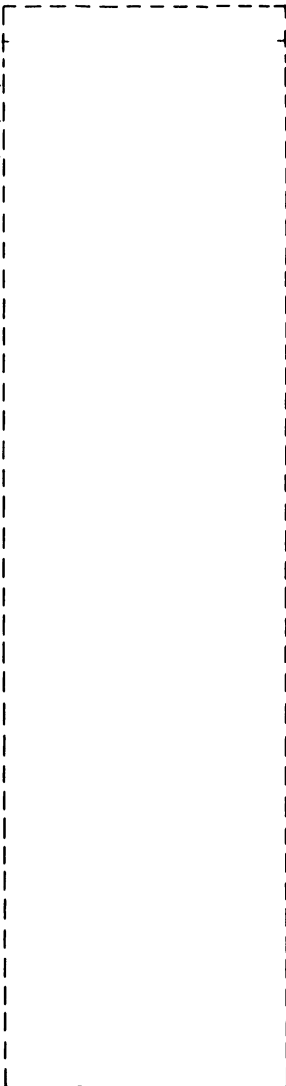
APPLIES TO 340 MB UNITS ONLY

REFERENCE DRAWING		MAGNETIC PERIPHERALS		TITLE	
COMP ASSY 54381301		FIRST USED IN PA3A1-A		SCHEMATIC DIAGRAM READ/WRITE PLOS DATA LATCH TYPE BUGX/CUGX	
CTR 54381501		NEW ASSEMBLY		TWIN CITIES DISK DIVISION	
COMPONENTS EXCEPT AS NOTED		DOWN	D. Niccoli	8 '85	
RES	± 5% OHMS 1/4 W	CHRD	A. J. Sch...	8 '83	
CAP	± 10%	ENGR	T. Bell	11 '83	
IND	± 3%	MFR			
		DA			
		19333		0501	SHEET 1 OF 8
		REF: 54381401/02		1-111	

54381401

**SIGNAL INPUTS**

SINGLE CH	DUAL CH			
0206	0213	P27-10	10	J27
0202	0212	P27-26	26	J27
0202	0212	P27-25	25	J27
0202	0212	P27-23	23	J27
0202	0212	P27-22	22	J27
0310	0310	P29-33	12	P30
0310	0310	P29-34	11	P30

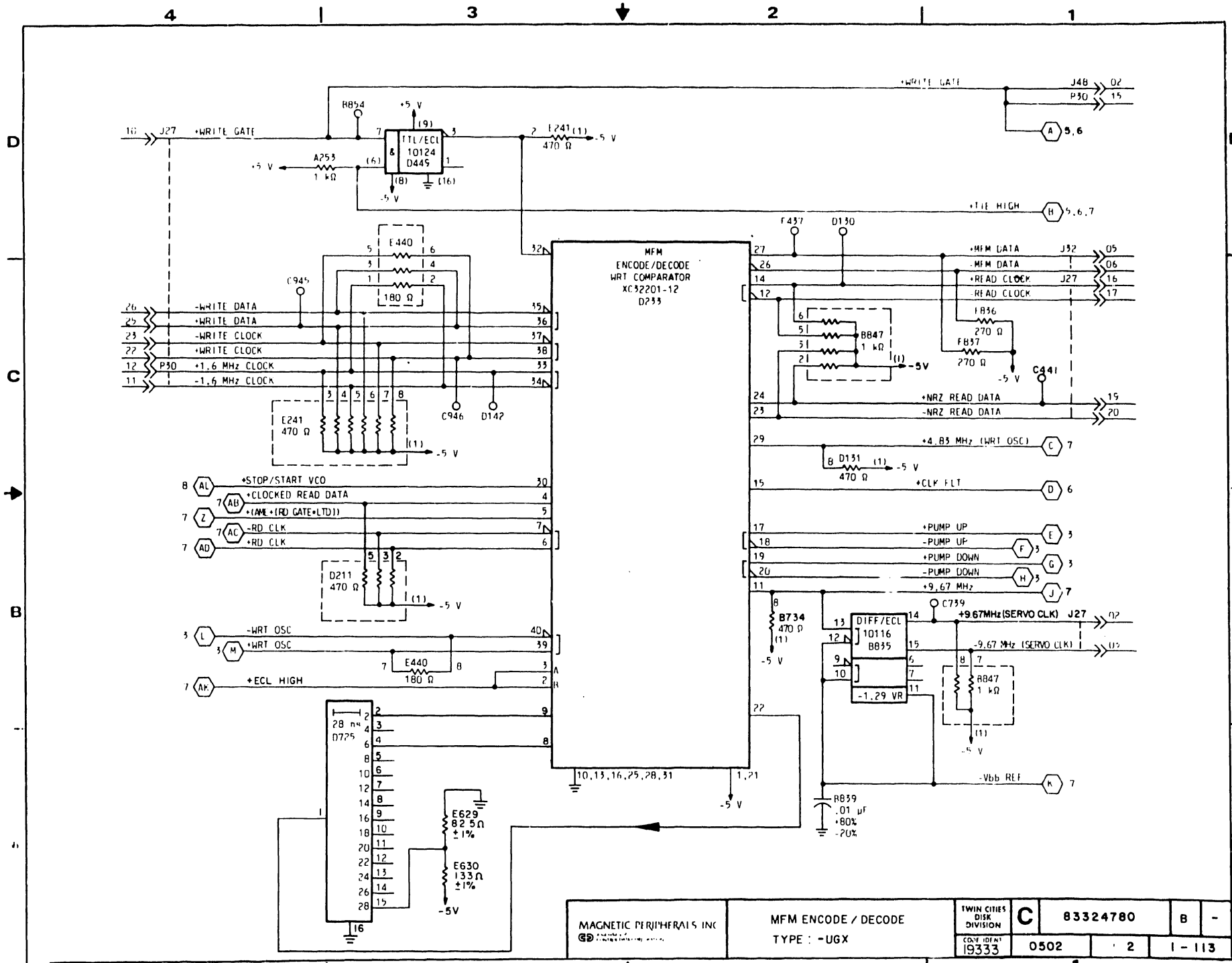


**SIGNAL OUTPUTS**

J48	>>	02	NC	-----
P30	>>	15	0308	P29-38
J32	>>	05	0902	P32-05
J32	>>	06	0902	P32-06
J27	>>	16	0205	P27-16
J27	>>	17	0205	P27-17
J27	>>	19	0205	P27-19
J27	>>	20	0205	P27-20
J27	>>	02	0205	P27-02
J27	>>	03	0205	P27-03

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0502	PAGE	1-112



MAGNETIC PERIPHERALS INC SERIALS DIVISION	MFM ENCODE / DECODE TYPE : -UGX		TWIN CITIES DISK DIVISION	C	83324780	B	-
			CONT. IDENT 19333	0502	2	1-113	

54381401 ↑

A

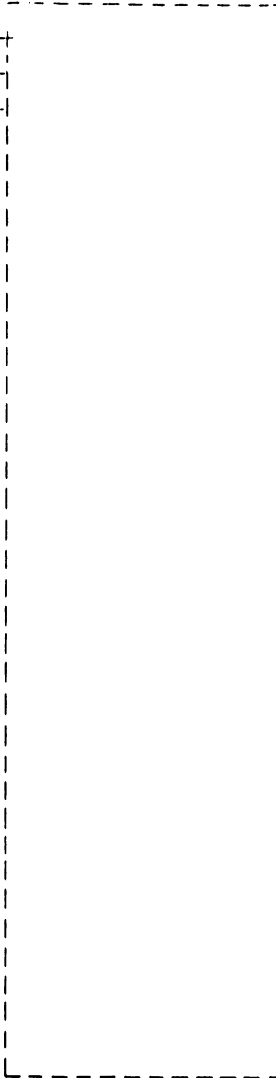


**SIGNAL INPUTS**

0308 P29-50 27 >> P30  
0902 P32-09 09 >> J32  
0902 P32-10 10 >> J32

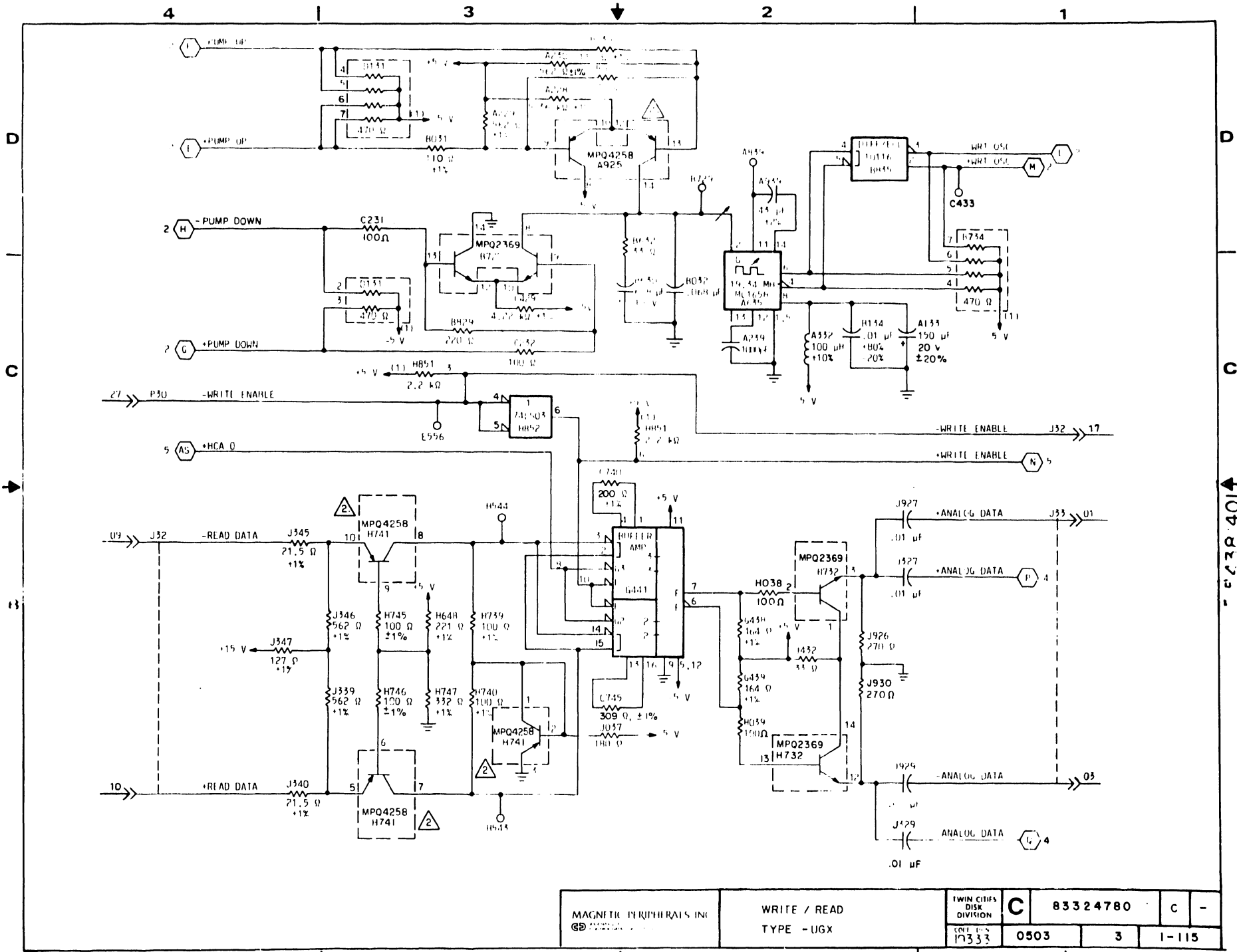
**SIGNAL OUTPUTS**

J32 >> 17 0902 P32-17  
J33 >> 01 NC  
J33 >> 05 NC



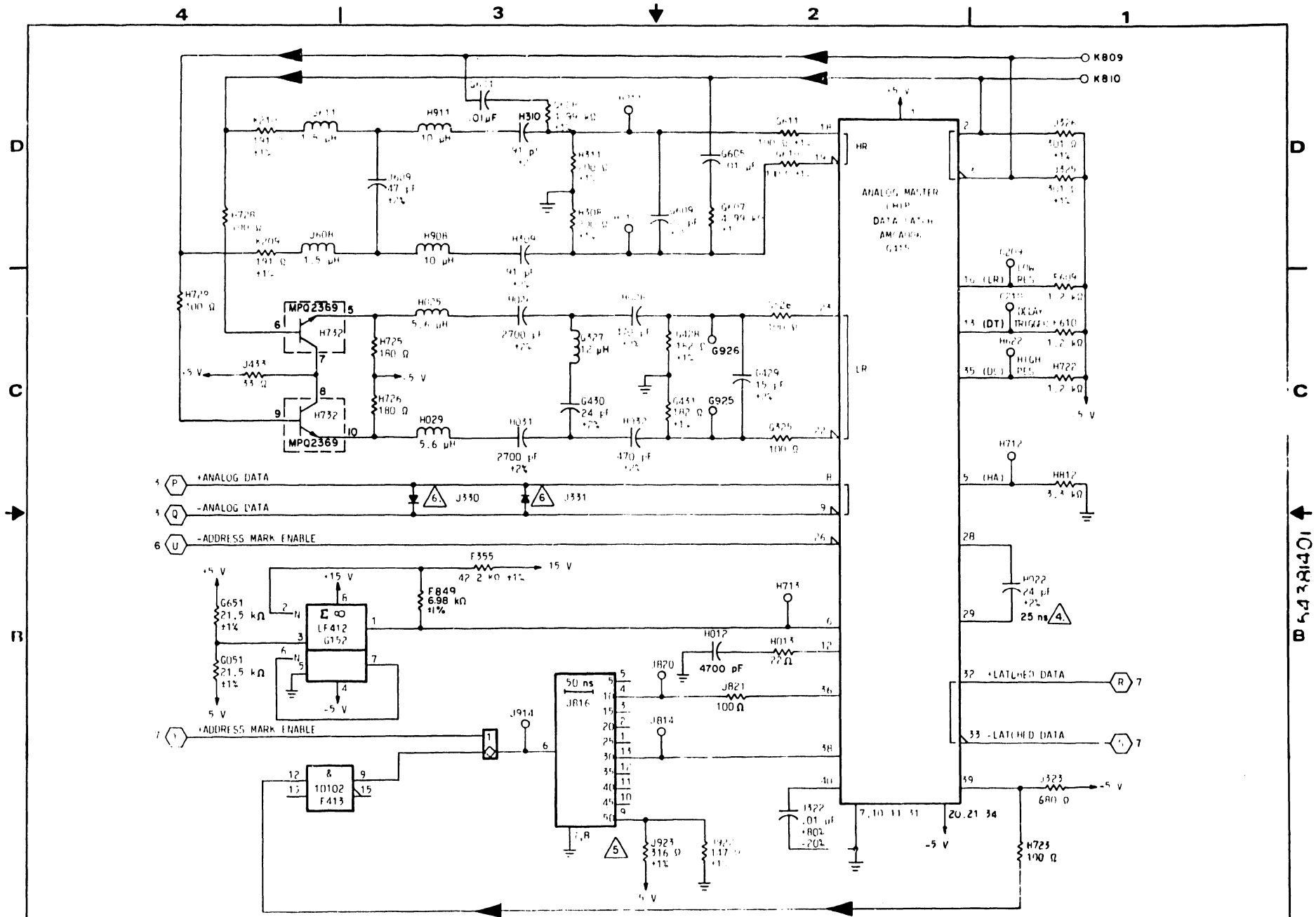
**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0503	PAGE	1-114



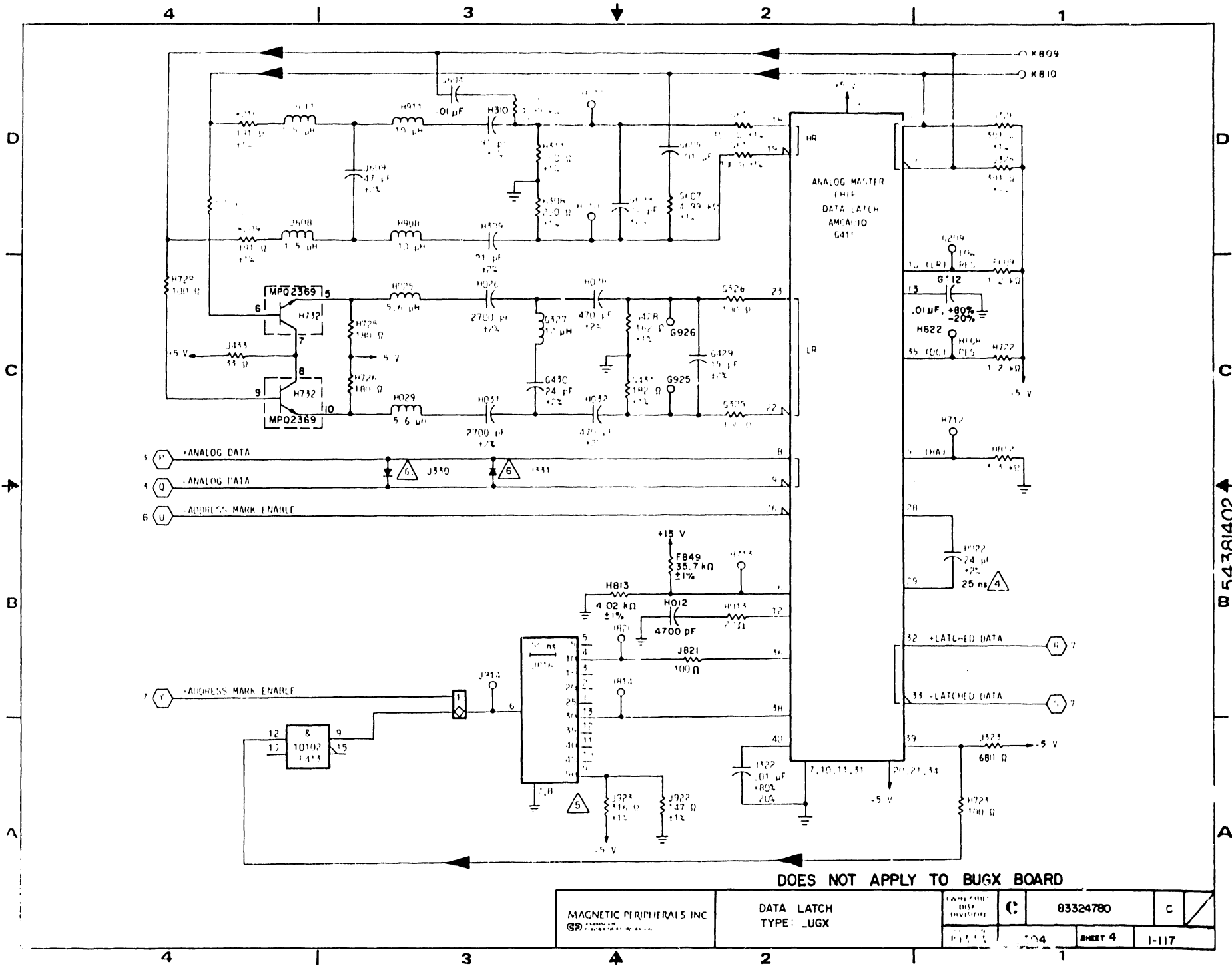
MAGNETIC PERIPHERALS INC GD	WRITE / READ TYPE - UGX		TWIN CITY DISK DIVISION	<b>C</b>	83324780	C	-
			DATE DES 17333	0503	3	1-115	

C 278 4014



APPLIES TO BUGX BOARD ONLY

MAGNETIC PERIPHERALS INC. GRAND CENTRAL STATION NEW YORK, N.Y.	DATA LATCH	83324780	C	-
	TYPE BUGX	0504	SHEET 4	1-116

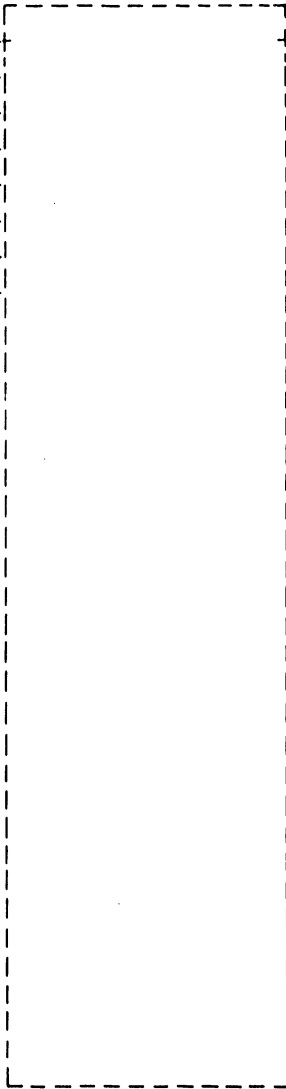


DOES NOT APPLY TO BUGX BOARD

MAGNETIC PERIPHERALS INC GP	DATA LATCH TYPE: LUGX	104	83324780	C
		SHEET 4	I-117	

**SIGNAL INPUTS**

0902	P32-03	03	J32
0902	P32-02	02	J32
0902	P32-01	01	J32
0305	P29-45	24	P30
0305	P29-51	30	P30
0305	P29-43	22	P30
0305	P29-47	26	P30
0305	P29-49	28	P30

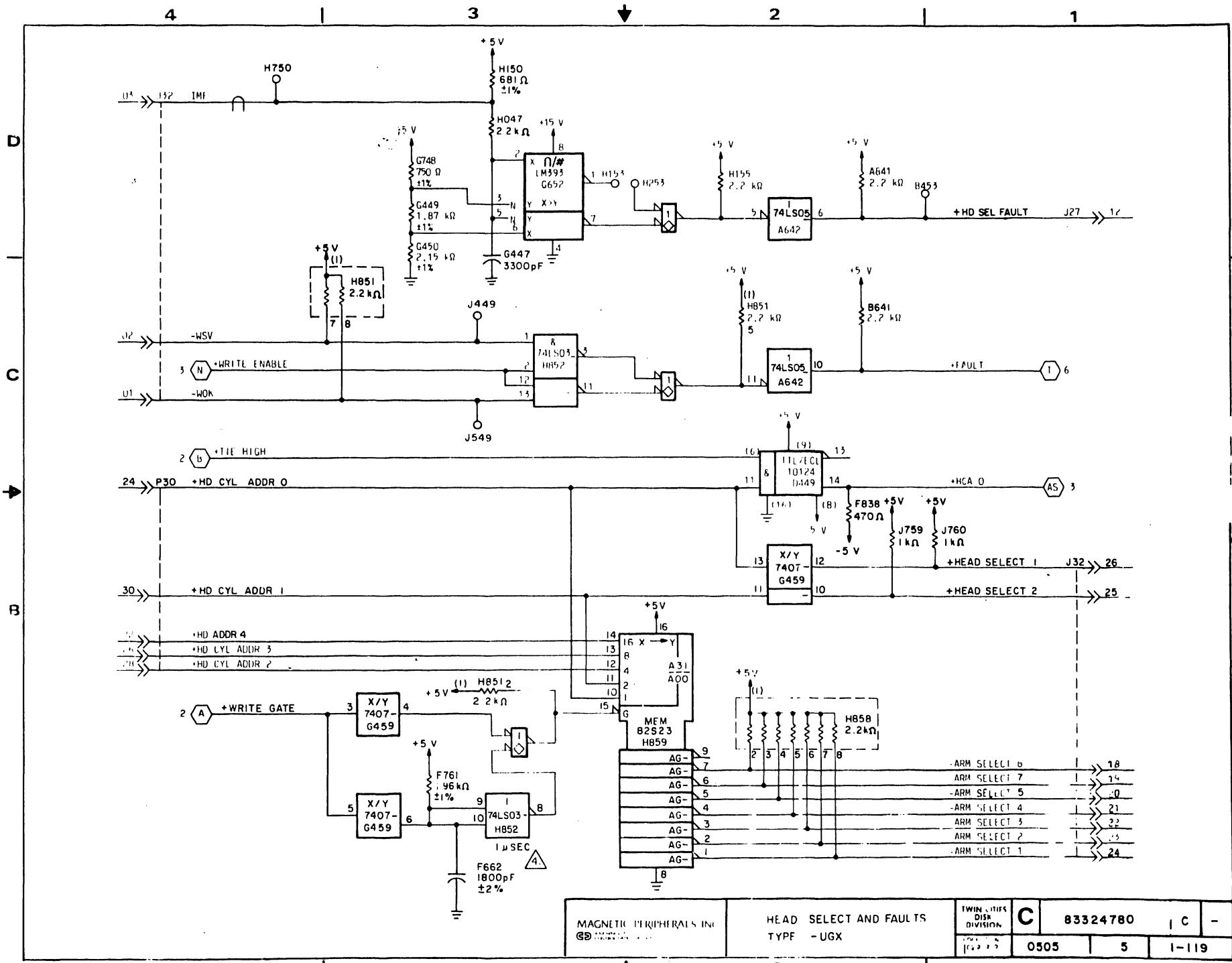


**SIGNAL OUTPUTS**

		SINGLE CH	DUAL CH	
	J27	>> 12	0206	0213 P27-12
	J32	>> 26	0902	0902 P32-26
	J32	>> 25	0902	0902 P32-25
	J32	>> 18	0902	0902 P32-18
	J32	>> 19	0902	0902 P32-19
	J32	>> 20	0902	0902 P32-20
	J32	>> 21	0902	0902 P32-21
	J32	>> 22	0902	0902 P32-22
	J32	>> 23	0902	0902 P32-23
	J32	>> 24	0902	0902 P32-24

**LOGIC CROSS REFERENCE INFORMATION**

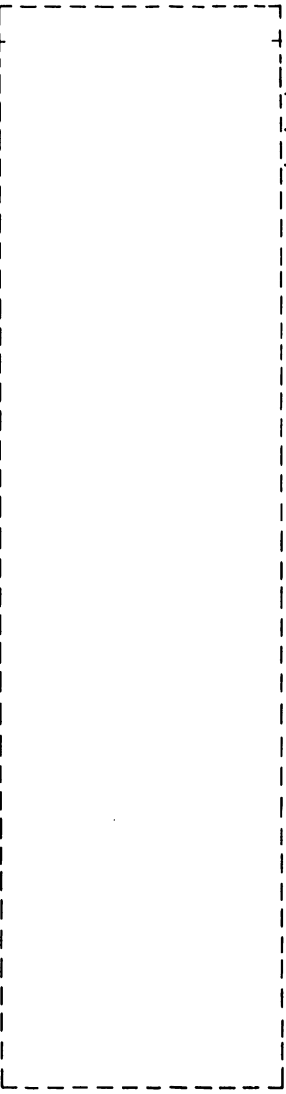
PUB	83324780	REV	A
CROSS REF NO	0505	PAGE	1-118



MAGNETIC PERIPHERALS INC GDS	HEAD SELECT AND FAULTS TYPE -UGX	TWIN CITIES DISC DIVISION	C	83324780	C	-
			0505	5	1-119	

**SIGNAL INPUTS**

<u>SINGLE CH</u>	<u>DUAL CH</u>			
0206	0213	P27-08	08	J27
0206	0213	P27-14	14	J27

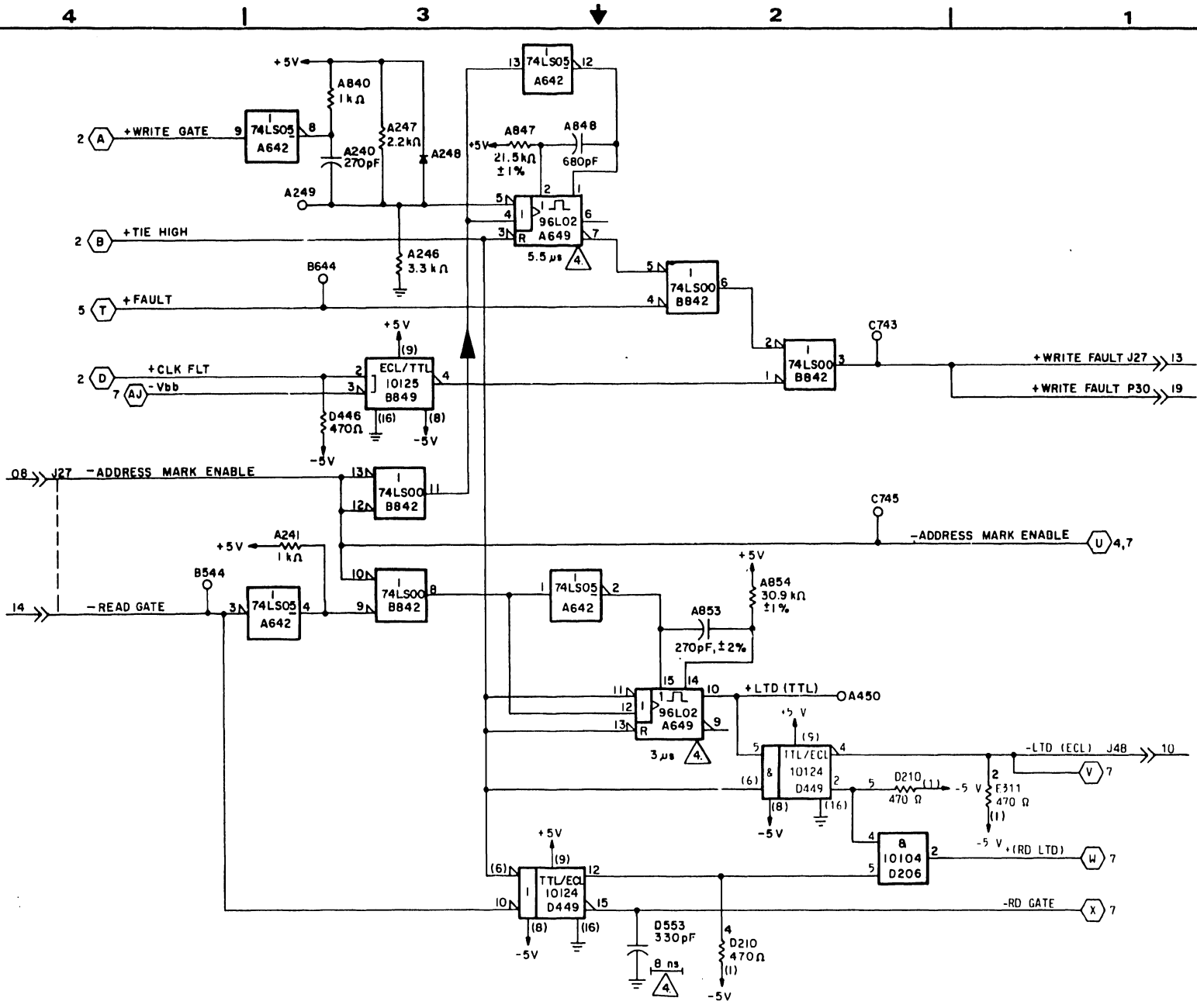


**SIGNAL OUTPUTS**

	<u>SINGLE CH</u>	<u>DUAL CH</u>	
J27	13	0206	P27-13
P30	19		P29-42
J48	10	Test	Test

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0506	PAGE	1-120



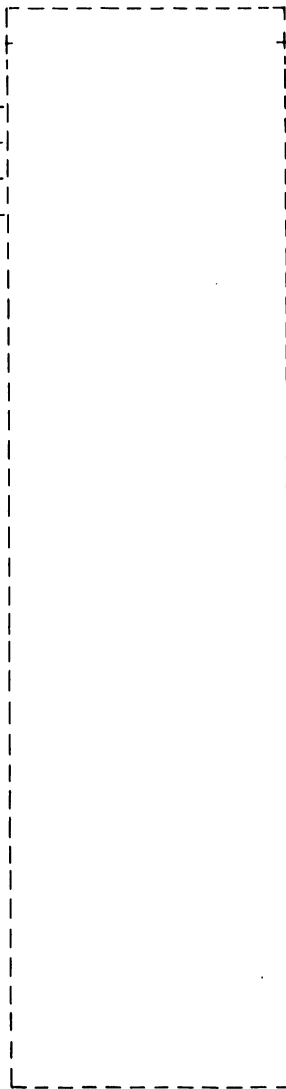
654381401

MAGNETIC PERIPHERALS INC. GD	ADDRESS MARK ENABLE	TWIN CITIES DISK DIVISION	C	83324780	A	-
	TYPE: -UGX	CODE IDENT 19333				



**SIGNAL INPUTS**

<u>SINGLE CH</u>	<u>DUAL CH</u>			
0206	0213	P27-05	05	>> J27
0206	0213	P27-06	06	>> J27
NC	NC	-----	03	>> J46
NC	NC	-----	02	>> J46

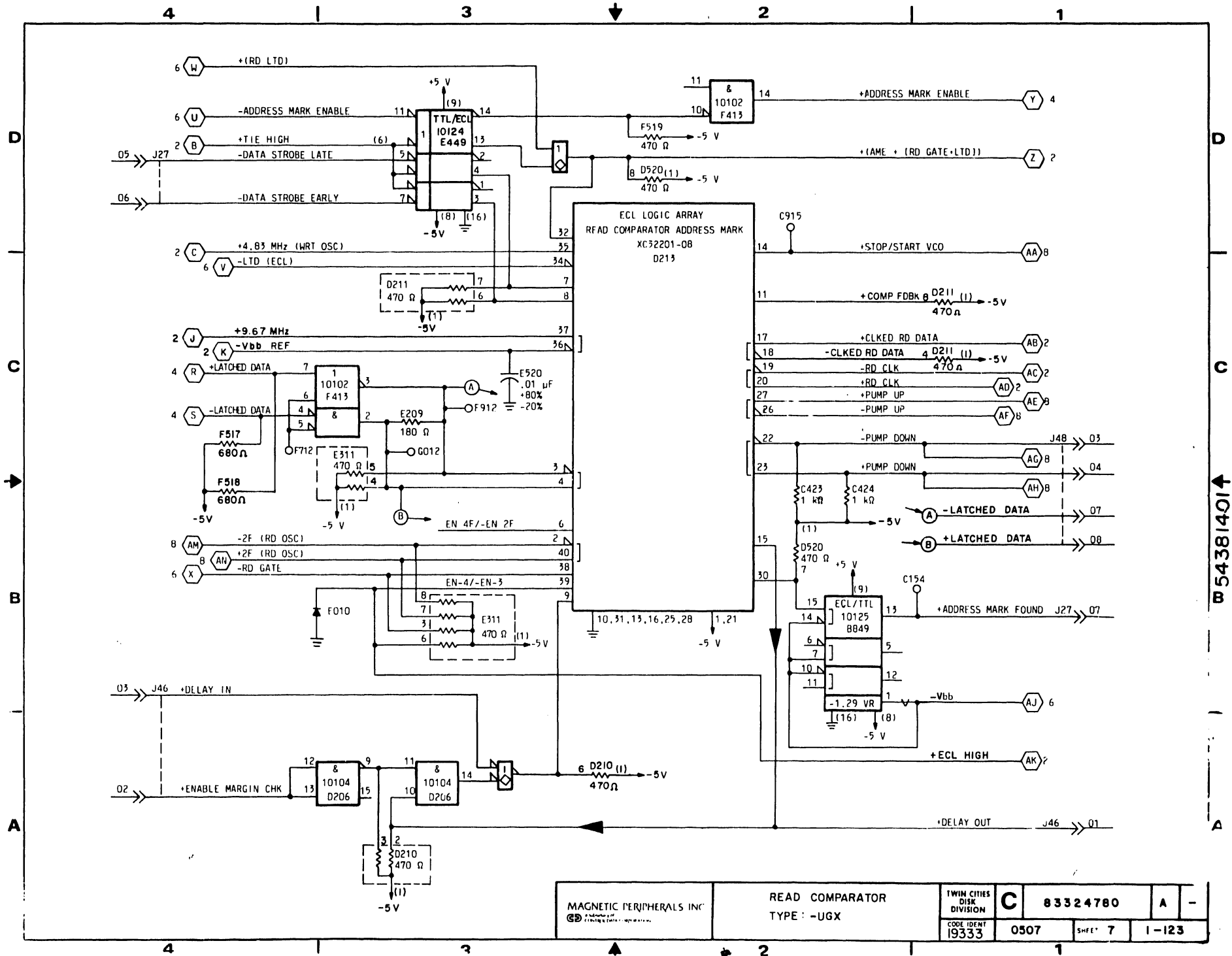


**SIGNAL OUTPUTS**

J48	>>	03	NC	-----
J48	>>	04	NC	-----
J48	>>	07	NC	-----
J48	>>	08	NC	-----
J27	>>	07	0204	P27-07
J46	>>	01	NC	-----

**LOGIC CROSS REFERENCE INFORMATION**

PUB		83324780	REV	A
CROSS REF NO	0507	PAGE	1-122	



MAGNETIC PERIPHERALS INC. GD	READ COMPARATOR TYPE: -UGX	TWIN CITIES DISK DIVISION	C	83324780	A	-
		CODE IDENT I9333				

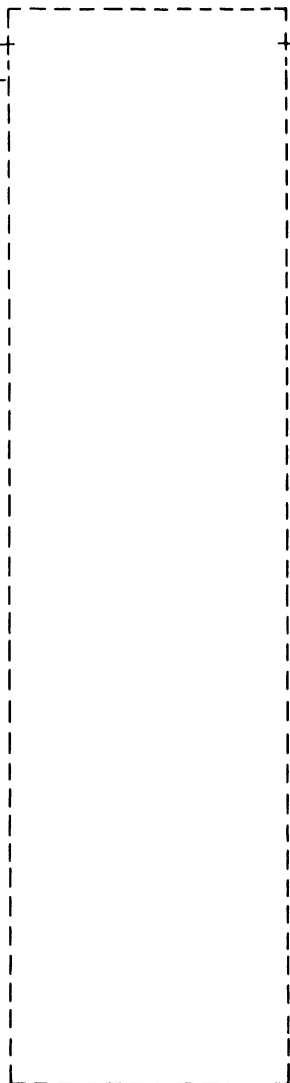
B543814014

**SIGNAL INPUTS**

NC ----- 01 --> J49  
NC ----- 03 --> J49

**SIGNAL OUTPUTS**

J49 ----- 02 NC -----  
J49 ----- 06 NC -----



**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0508	PAGE	1-124

4 | 3 | 2 | 1

D

C

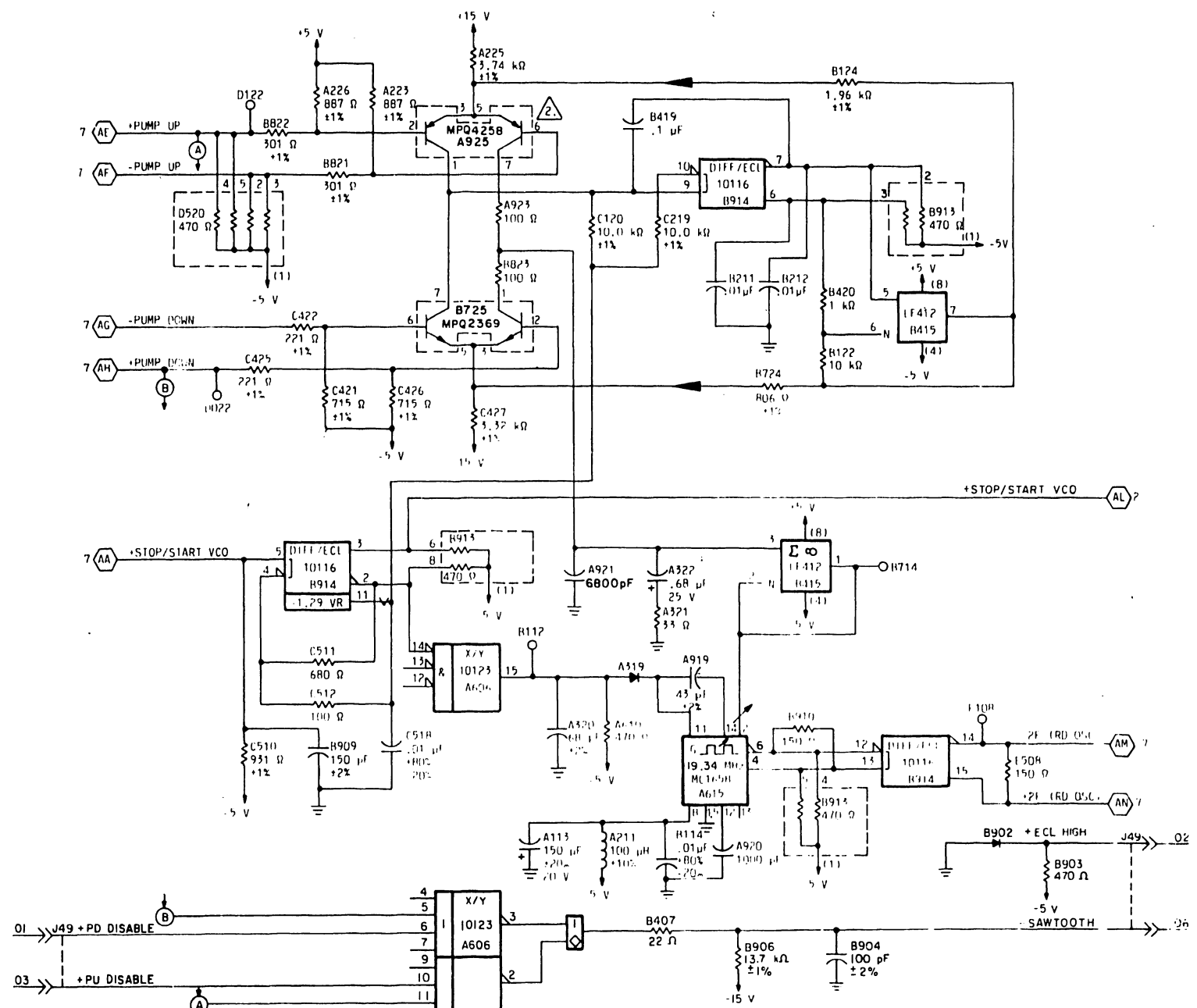
B

A

D

C

10116  
B914



MAGNETIC PERIPHERALS INC GD 20000	READ PLO AND TIMING TEST TYPE -UGX		TWIN CITIES DISK DIVISION REV. 10/77 19333	<b>C</b>	<b>83324780</b>	<b>A</b>	<b>-</b>
			0508	8	125		

4 | 3 | 2 | 1

### SIGNAL INPUTS

SINGLE CH	DUAL CH		
----	----	P35-01	01 >>> P30
----	----	P35-02	02 >>> P30
----	----	P35-04	04 >>> P30
NC	NC	P29-35	14 >>> P30
NC	NC	P29-37	16 >>> P30
NC	NC	P29-40	17 >>> P30
NC	NC	P29-44	21 >>> P30
NC	NC	P29-46	23 >>> P30
0302	0302	P29-54	31 >>> P30
0302	0302	P29-53	32 >>> P30
0205	0205	P27-01	01 >>> J27
0202	0205	P27-04	04 >>> J27
0202	0205	P27-09	09 >>> J27
0202	0205	P27-11	11 >>> J27
0205	0205	P27-15	15 >>> J27
0205	0205	P27-18	18 >>> J27
0202	0212	P27-21	21 >>> J27
0202	0212	P27-24	24 >>> J27
0301	0301	P29-31	10 >>> P30
0301	0301	P29-36	13 >>> P30
0301	0301	P29-39	18 >>> P30
0301	0301	P29-41	20 >>> P30
----	----	P35-02	35 >>> P30
----	----	P35-02	36 >>> P30
----	----	P35-02	37 >>> P30
----	----	P35-02	38 >>> P30
----	----	P35-02	39 >>> P30
----	----	P35-02	40 >>> P30
----	----	P35-03	03 >>> P30
----	----	P35-03	05 >>> P30
----	----	P35-03	06 >>> P30
----	----	P35-03	07 >>> P30
----	----	P35-03	08 >>> P30
----	----	P35-03	09 >>> P30
NC	NC	P29-48	25 >>> P30
NC	NC	P29-52	29 >>> P30
0302	0302	P29-56	33 >>> P30
0302	0302	P29-55	34 >>> P30
NC	NC	-----	04 >>> J49
NC	NC	-----	04 >>> J33
NC	NC	-----	05 >>> J46

### SIGNAL OUTPUTS

-----	J32 >>> 13	0901	P32-13
-----	J32 >>> 14	0901	P32-14
-----	J32 >>> 04	0901	P32-04
-----	J32 >>> 07	0901	P32-07
-----	J32 >>> 08	0901	P32-08
-----	J32 >>> 11	0901	P32-11
-----	J32 >>> 12	0901	P32-12
-----	J46 >>> 04	NC	-----
-----	J33 >>> 02	NC	-----
-----	J33 >>> 05	NC	-----
-----	J48 >>> 01	NC	-----
-----	J48 >>> 09	NC	-----
-----	J49 >>> 05	NC	-----
-----	J46 >>> 06	NC	-----
-----	J32 >>> 15	0901	P32-15
-----	J32 >>> 16	0901	P32-16

### LOGIC CROSS REFERENCE INFORMATION

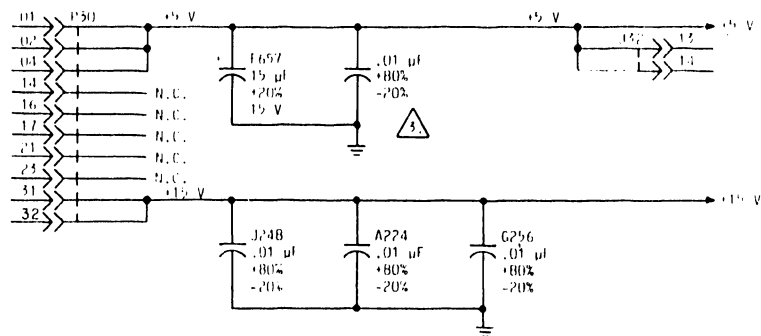
PUB	83324780	REV	A
CROSS REF NO	0501	PAGE	1-126

4 | 3 | 2 | 1

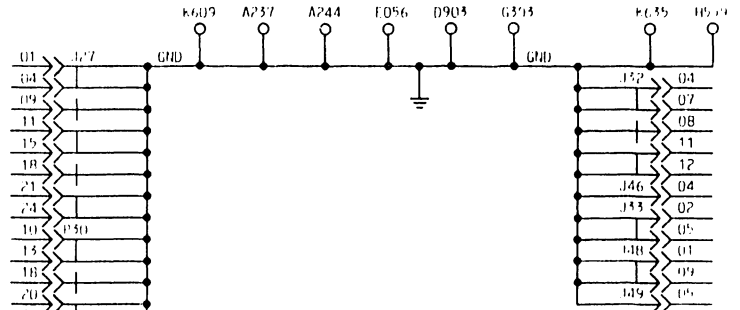
UNUSED LOGIC ELEMENTS		
TYPE	LOCATION	OUTPUT PIN(S)
7407	G459	2, 8
10131	F434	15, 14
10104	D206	3
10159	F406	15

PART NO. RANGE		REVISION RECORD						
REV	ECO	DESCRIPTION	DRFT	DATE	CHKD	APP		
02	THRU	02	A	UJ23000	RELEASED	JMG	11-2-84	1.30
			B	DJ05711	CHANGE COMPONENTS	JMG	5-29-84	
			C	DJ05755	CSUX TO AVHX	JG	11-13-84	

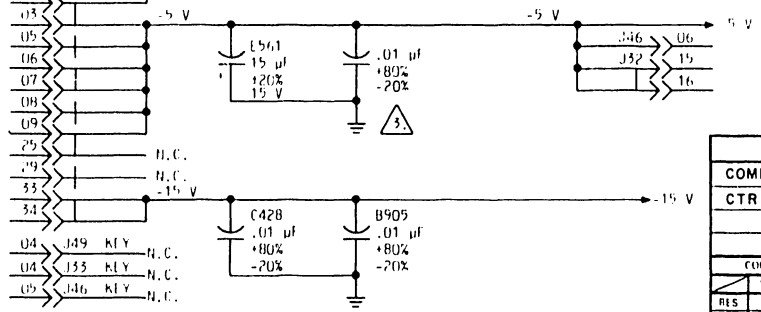
UNUSED RESISTOR PACKS	
LOCATION	PIN(S)
B734	2, 3
B847	4, 7, 8
B913	6, 7
D210	7, 8
D246	8
E430	1, 2, 7, 8
G505	2, 8
G414	4
G325	8
H851	4



3 FILTER CAPACITORS		
µF	V	V
A227	A694	F901
A846	B215	F924
A896	B846	G235
B918	C430	G413
D554	E596	G431
G146	G720	H410
G943	D140	J719
H152	D247	K521
J963	E610	
K510	E621	
K543	E641	
	F806	
	F413	
	F760	



UNUSED TRANSISTORS		
TYPE	LOCATION	PIN(S)
MPQ1258	H741	12, 13, 14



- NOTE:
1. UNLESS OTHERWISE SPECIFIED, ALL 14 PIN IC'S HAVE PIN 7 CONNECTED TO GROUND AND PIN 14 CONNECTED TO +5 V.
  2. ALL 16 PIN IC'S HAVE PINS 1 AND 16 CONNECTED TO GROUND AND PIN 8 CONNECTED TO +5 V.
  3. ALL DIODES: SILICON, 24V55500.
  4. ALL TRANSISTOR ARRAYS: MPQ2369, MPQ23500.
  5. ALL RESISTOR PACK RESISTORS: 1.0% ±.
  6. ALL DELAY LINES: 94593900.
  7. TRANSISTOR ARRAY: MPQ258, PNP, 15V/100mA.
  8. SEE TABLE FOR 0.01 µF FILTER CAPACITOR LOCATIONS.
  9. DELAY TIME FOR REFERENCE ONLY.
  10. DELAY TIME: 94262005.
  11. DIODE: 50M34005.
  12. DRAWING WHERE TAB NUMBERS GREAT THAN COVER SHEET, TABS 00-99 ARE RESERVED.

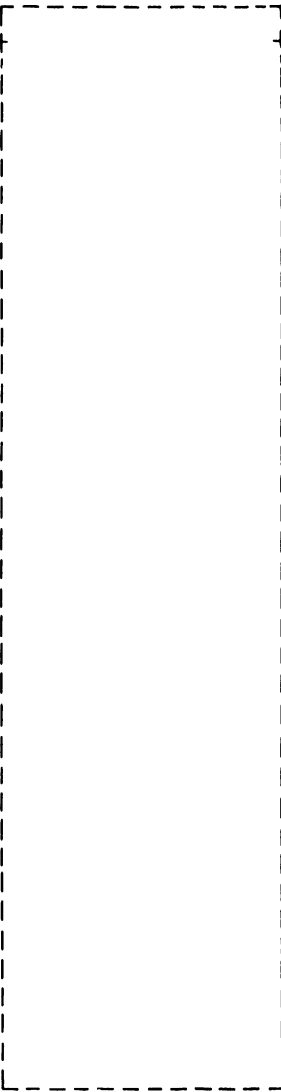
APPLIES TO 515 MB UNITS ONLY

REFERENCE DRAWING		MAGNETIC PERIPHERALS INC.		TITLE	
COMP ASSY	54366502	AT (Control Unit) - copy		SCHEMATIC DIAGRAM	
CTR	54366702	FIRST USED ON	NEXT ASSEMBLY	READ/WRITE PLOS	
		PA5N1 A		DATA LATCH	
				TYPE CSUX/AVHX	
COMPONENTS EXCEPT AS NOTED		DWN	KIM MALARKEY	9-19-83	
TOLERANCE	VALUE	RATING	CHKD	C. Semakula	10/26/83
RES	± 5 %	OHMS	1/4 W		
CAP	± 10 %				
IND	± 3 %				
		ENGR			
		MFG			
		QA			
				TWIN CITIES DISK DIVISION	C
				83324780	C
				19333	
				0501	
				SHEET 1 OF 10	
				1-127	

B 543666021

**SIGNAL INPUTS**

<u>SINGLE CH</u>	<u>DUAL CH</u>			
0206	0213	P27-10	10	>> J27
0202	0212	P27-26	26	>> J27
0202	0212	P27-25	25	>> J27
0202	0212	P27-23	23	>> J27
0202	0212	P27-22	22	>> J27

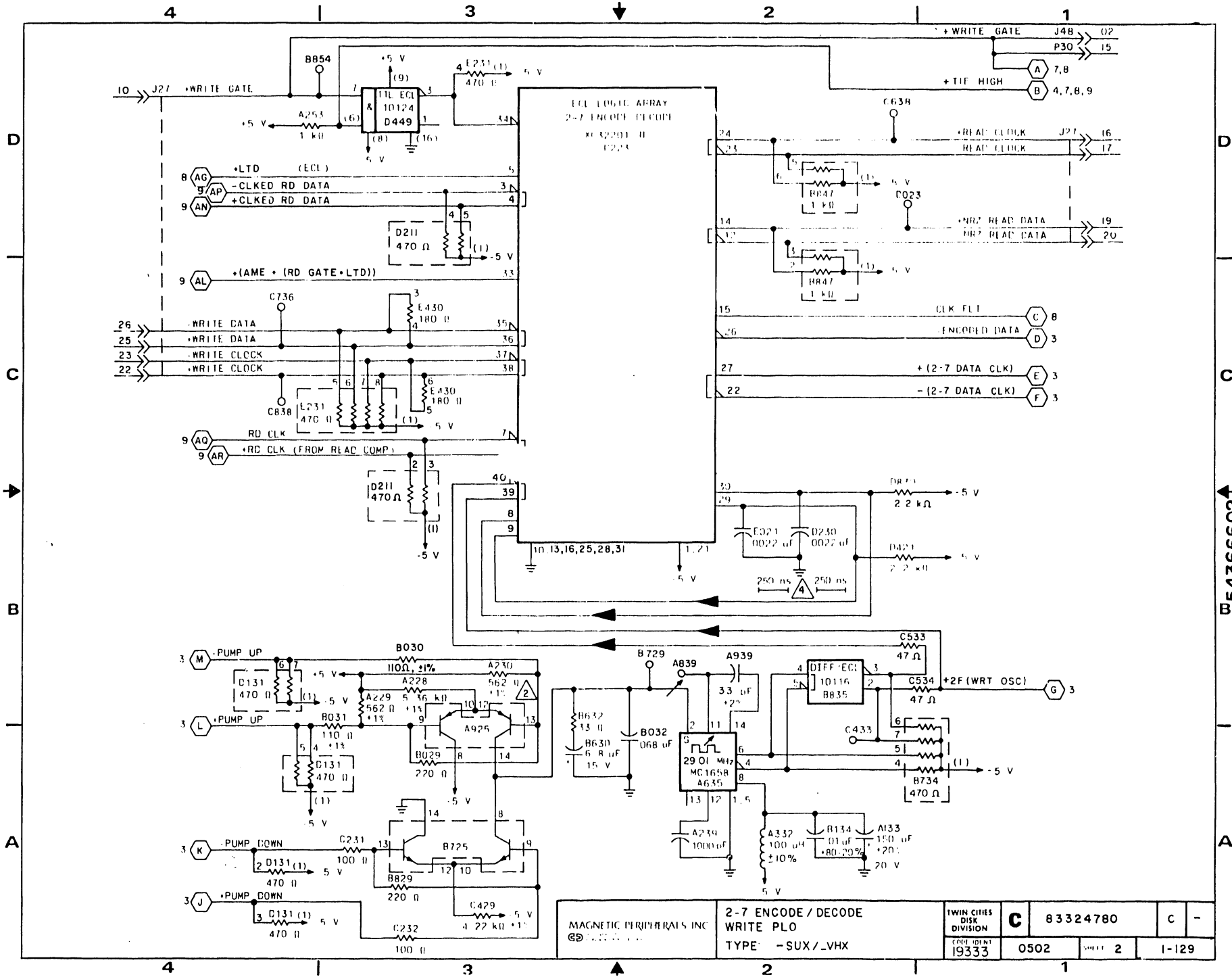


**SIGNAL OUTPUTS**

J48	>>	02	NC	-----
P30	>>	15	U308	P29-38
J27	>>	16	0205	P27-16
J27	>>	17	0205	P27-17
J27	>>	19	0205	P27-19
J27	>>	20	0205	P27-20

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83J24780	REV	A
CROSS REF NO	0502	PAGE	1-128



MAGNETIC PERIPHERALS INC 8000 13th St. N.E. Redmond, WA 98073	2-7 ENCODE / DECODE WRITE PLO		TWIN CITIES DISK DIVISION	C	83324780	C	-
	TYPE -SUX / -VHX		19333	0502	2	1-129	

B54366602

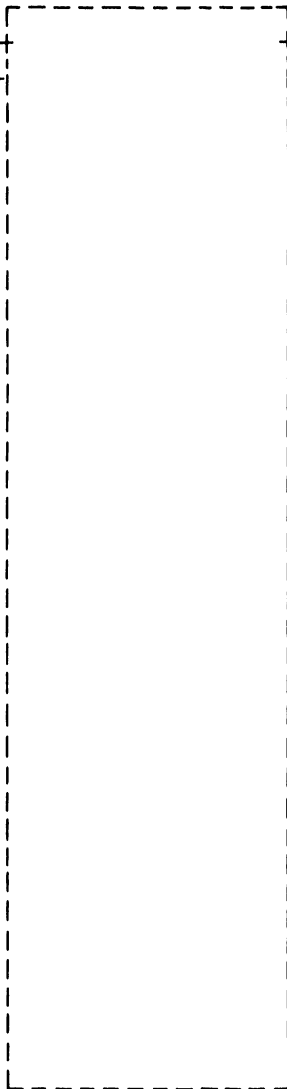


**SIGNAL INPUTS**

0310 P29-33 12 >> P30  
0310 P29-34 11 >> P30

**SIGNAL OUTPUTS**

J27 >> 02 0205 P27-02  
J27 >> 03 0205 P27-03



**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0503	PAGE	1-130



**SIGNAL INPUTS**

0308	P29-50	27	>>	P30	- - - - -
0902	P32-09	09	>>	J32	- - - - -
0902	P32-10	10	>>	J32	- - - - -



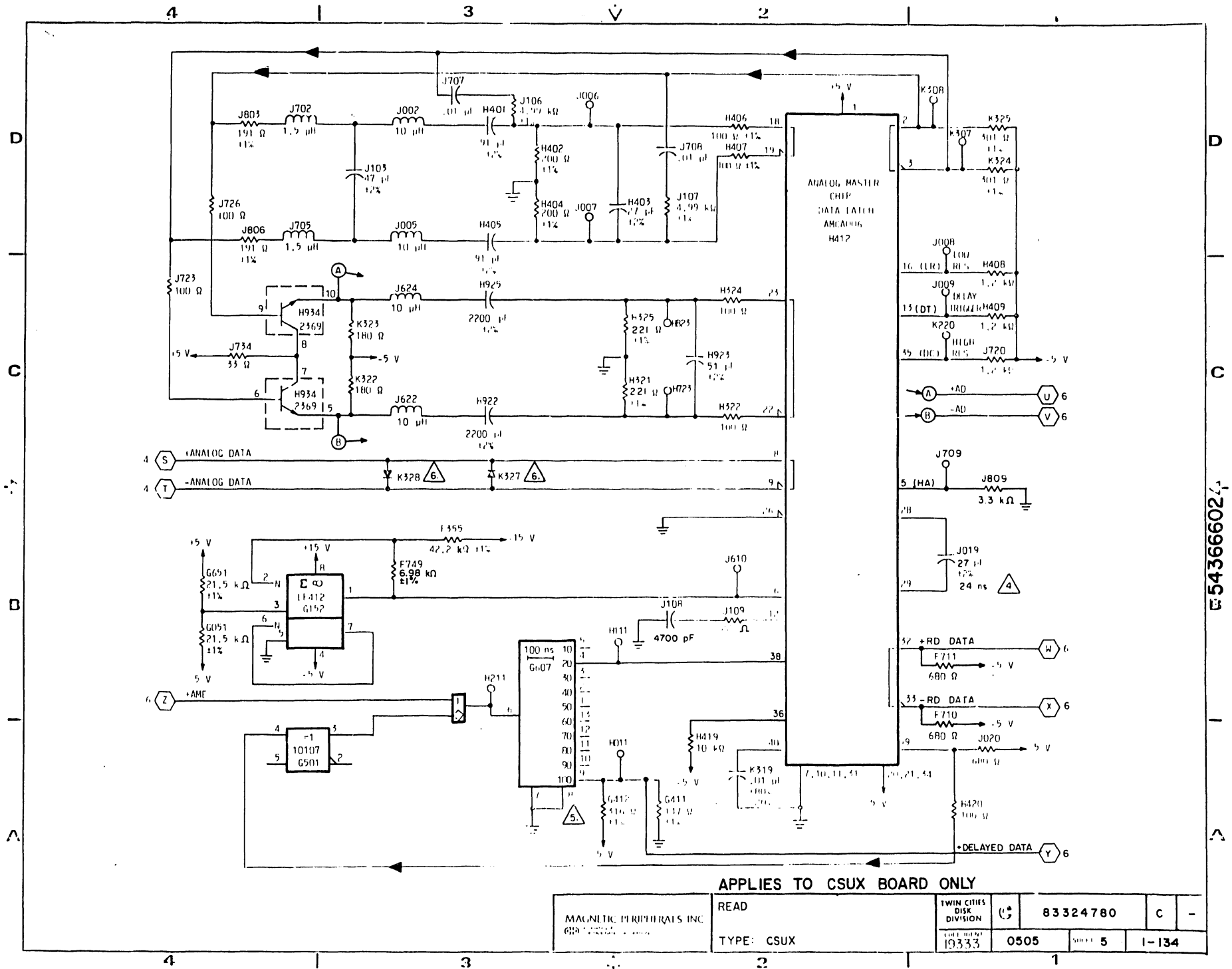
**SIGNAL OUTPUTS**

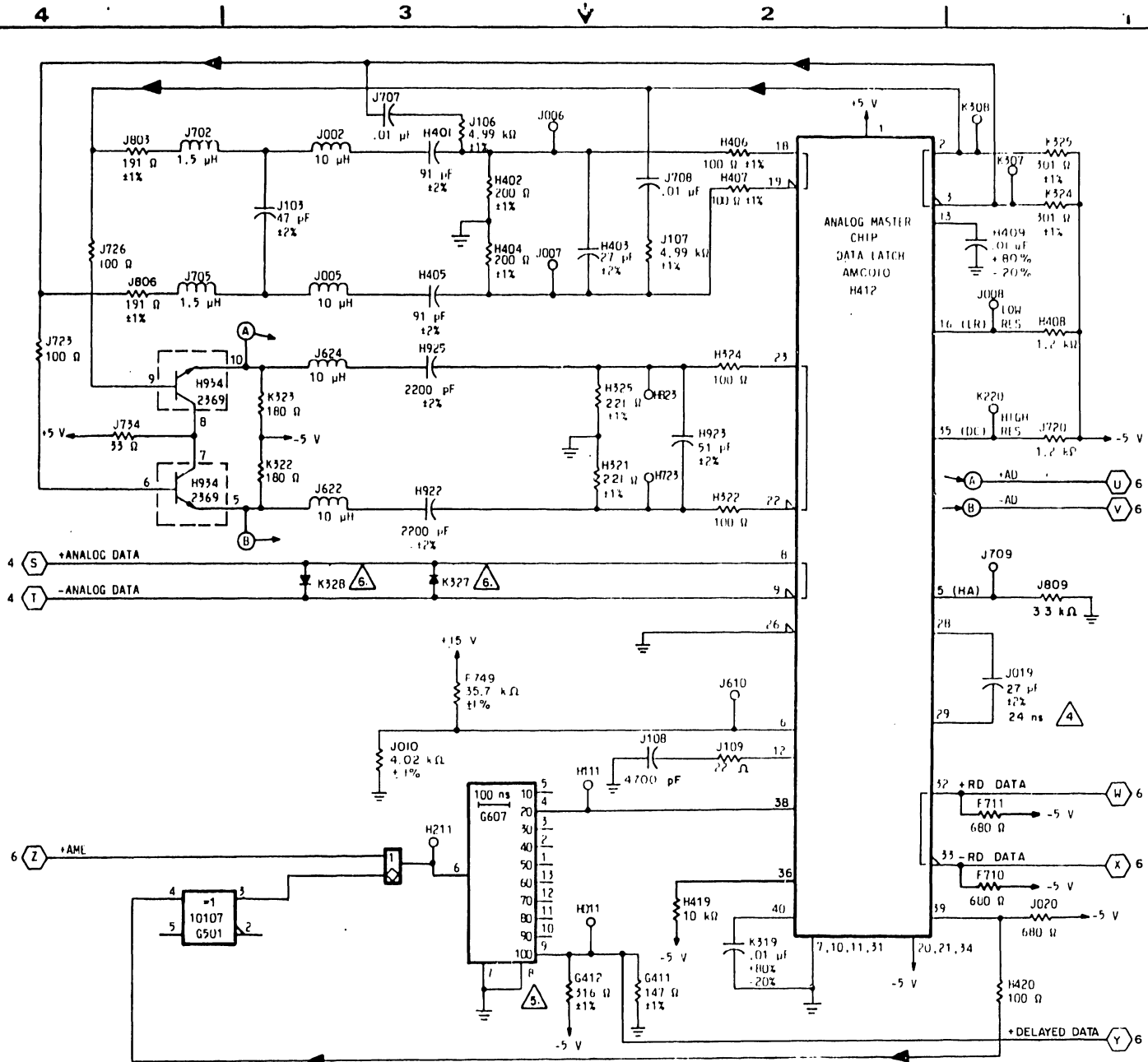
J32	>>	05	0902	P32-05
J32	>>	06	0902	P32-06
J32	>>	17	0902	P32-17
J33	>>	01	NC	- - - - -
J33	>>	03	NC	- - - - -

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0504	PAGE	1-132







DOES NOT APPLY TO CSUX BOARD

MAGNETIC PERIPHERALS INC GPO	READ	TWIN CITY'S DISK DIVISION	C	83324780	C
	TYPE: _VHX	19333	0505	SHEET 5	1-135

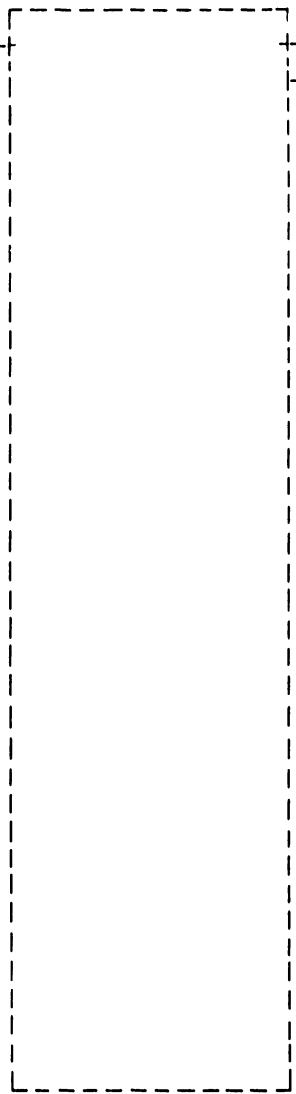
B 543914004

**SIGNAL INPUTS**

NC ----- 06 --> J48

**SIGNAL OUTPUTS**

J48 --> 08 NC -----  
J48 --> 07 NC -----



**LOGIC CROSS REFERENCE INFORMATION**

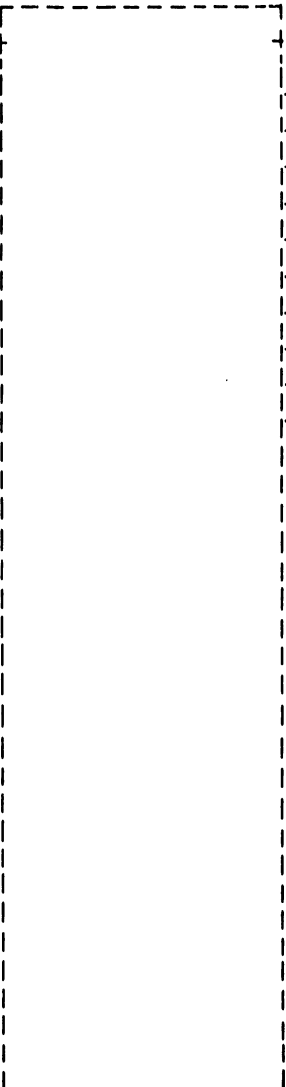
PUB	83324780	REV	A
CROSS REF NO	0506	PAGE	1-136





**SIGNAL INPUTS**

0902	P32-03	03	>>	J32	-----
0902	P32-02	02	>>	J32	-----
0902	P32-01	01	>>	J32	-----
0305	P29-45	24	>>	P30	-----
0305	P29-51	30	>>	P30	-----
0305	P29-43	22	>>	P30	-----
0305	P29-47	26	>>	P30	-----
0305	P29-49	28	>>	P30	-----

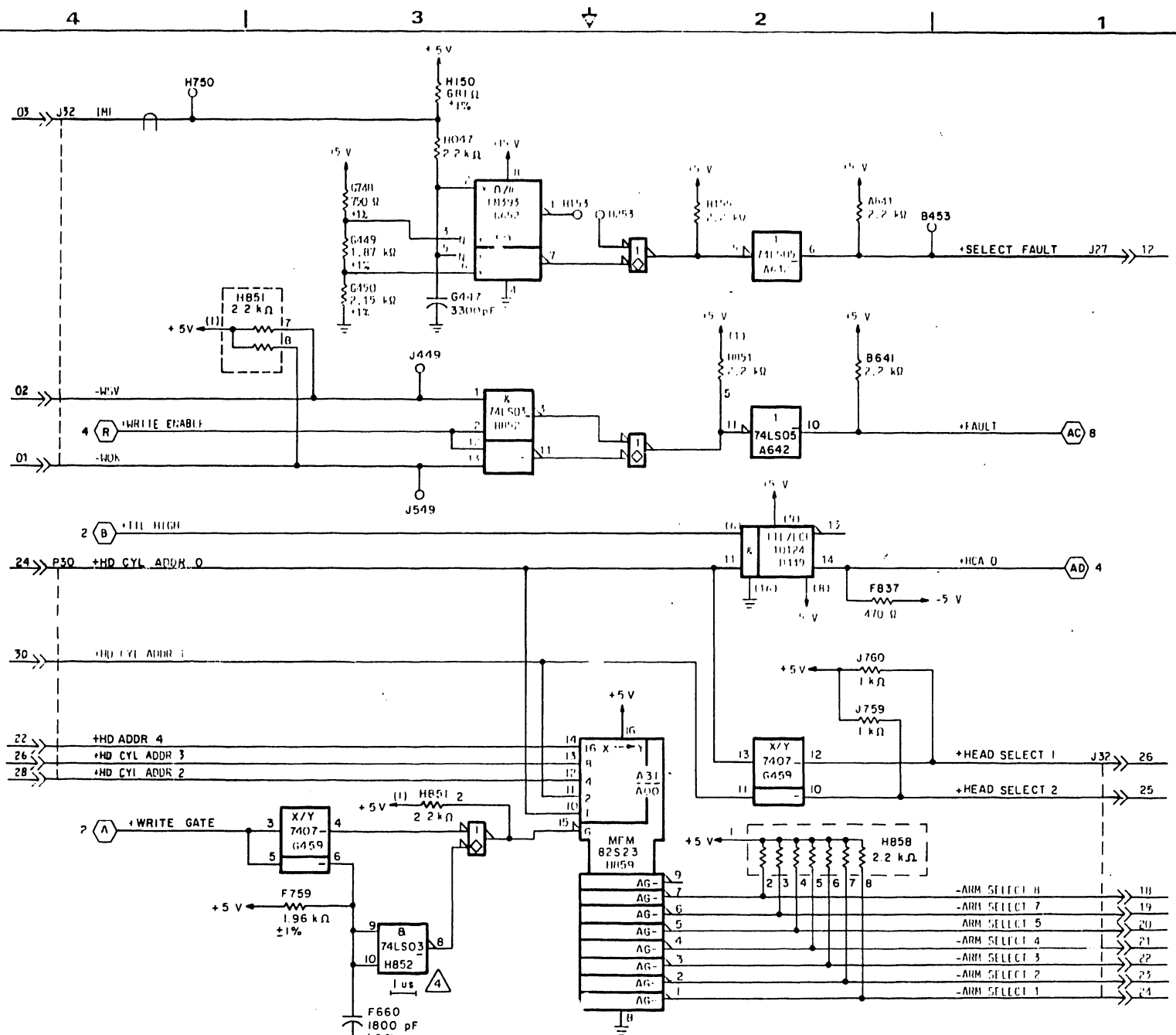


**SIGNAL OUTPUTS**

		<u>SINGLE</u>	<u>DUAL</u>	
		<u>CH</u>	<u>CH</u>	
-----	J27	>>	12	0206 0213 P27-12
-----	J32	>>	26	0902 0902 P32-26
-----	J32	>>	25	0902 0902 P32-25
-----	J32	>>	18	0902 0902 P32-18
-----	J32	>>	19	0902 0902 P32-19
-----	J32	>>	20	0902 0902 P32-20
-----	J32	>>	21	0902 0902 P32-21
-----	J32	>>	22	0902 0902 P32-22
-----	J32	>>	23	0902 0902 P32-23
-----	J32	>>	24	0902 0902 P32-24

**LOGIC CROSS REFERENCE INFORMATION**

PUB	63324780	REV	A
CROSS REF NO	0507	PAGE	1-138



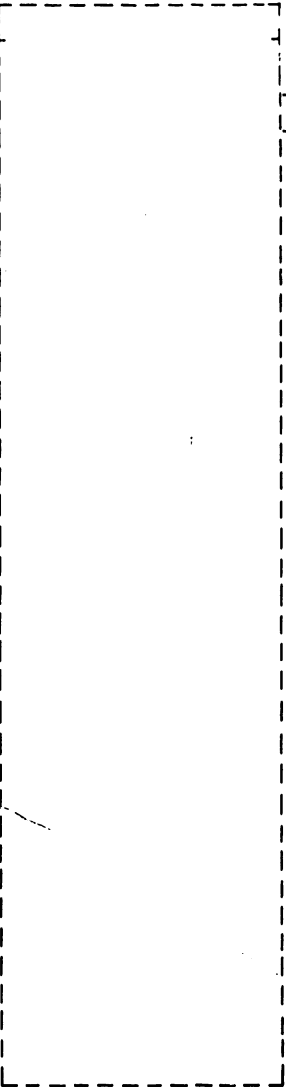
MAGNETIC PERIPHERALS INC GD 111111	HEAD SELECT AND FAULTS	TWIN CITIES DISK DIVISION	C	83324780	C	-
	TYPE: -SUX/_VHX	19333	0507	SHEET 7	1-139	

W543666024

A

**SIGNAL INPUTS**

<u>SINGLE CH</u>	<u>DUAL CH</u>			
0206	0213	P27-08	08	J27
0206	0213	P27-14	14	J27

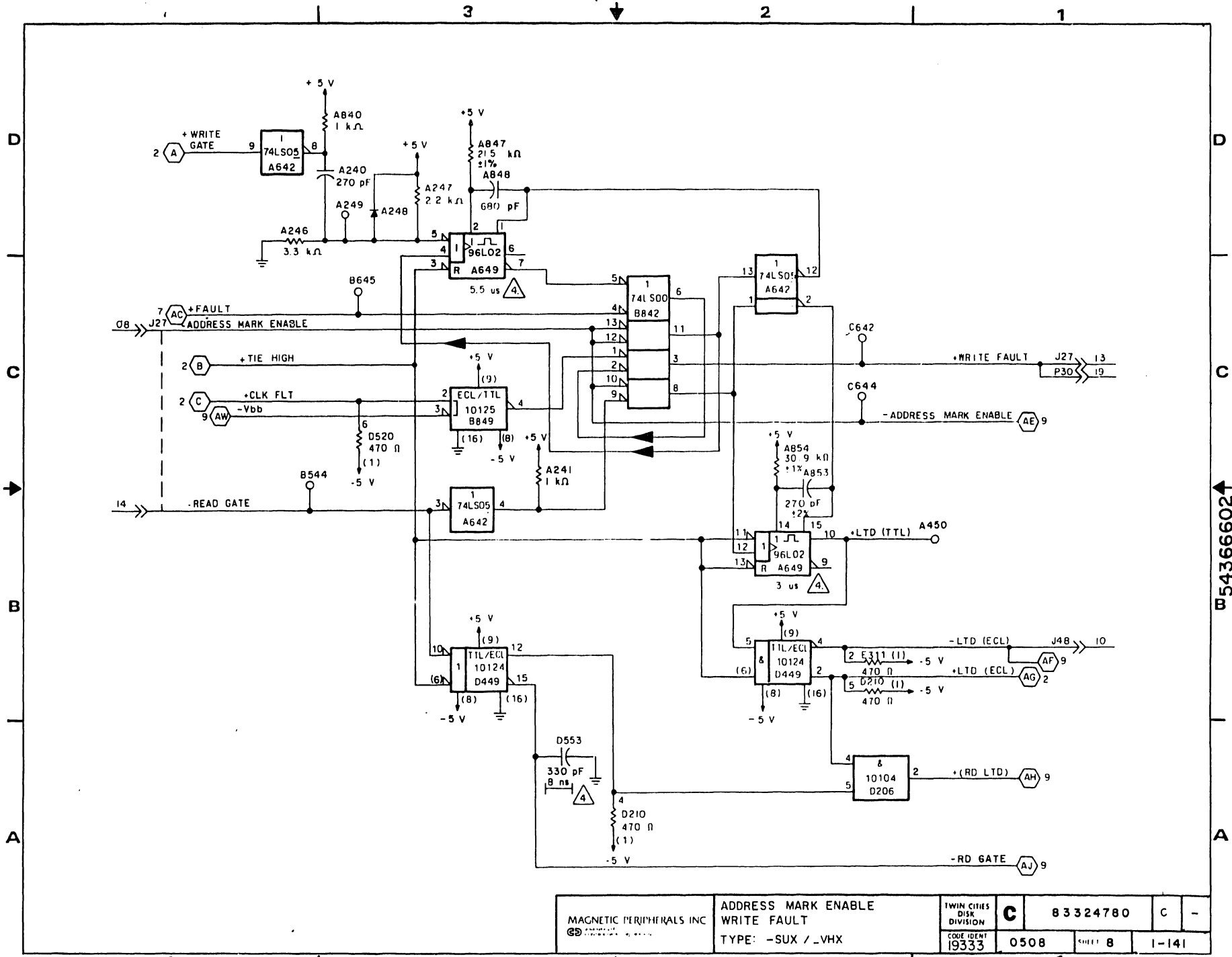


**SIGNAL OUTPUTS**

<u>SINGLE CH</u>	<u>DUAL CH</u>	
0206	0213	P27-13
		P29-42

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0508	PAGE	1-140

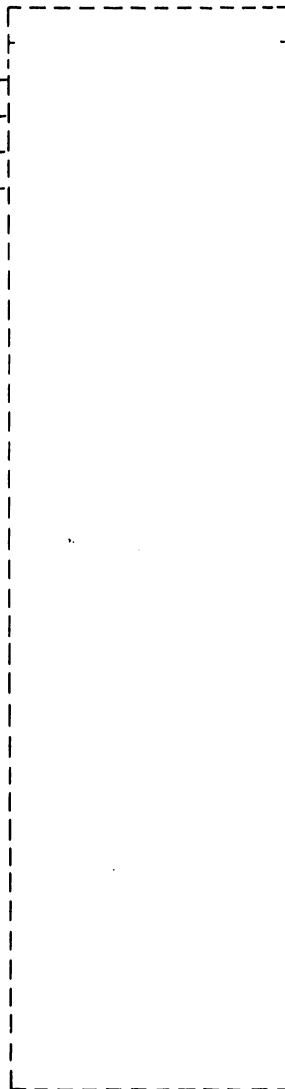


MAGNETIC PERIPHERALS INC GD	ADDRESS MARK ENABLE	TWIN CITIES DISK DIVISION C	83324780	C	-
	WRITE FAULT				
TYPE: -SUX / _VHX	CODE IDENT 19333	0508	8	1-141	

543666024

**SIGNAL INPUTS**

SINGLE CH	DUAL CH			
0206	0213	P27-05	05	>> J27
0206	0213	P27-06	06	>> J27
NC	NC	-----	03	>> J46
NC	NC	-----	02	>> J46

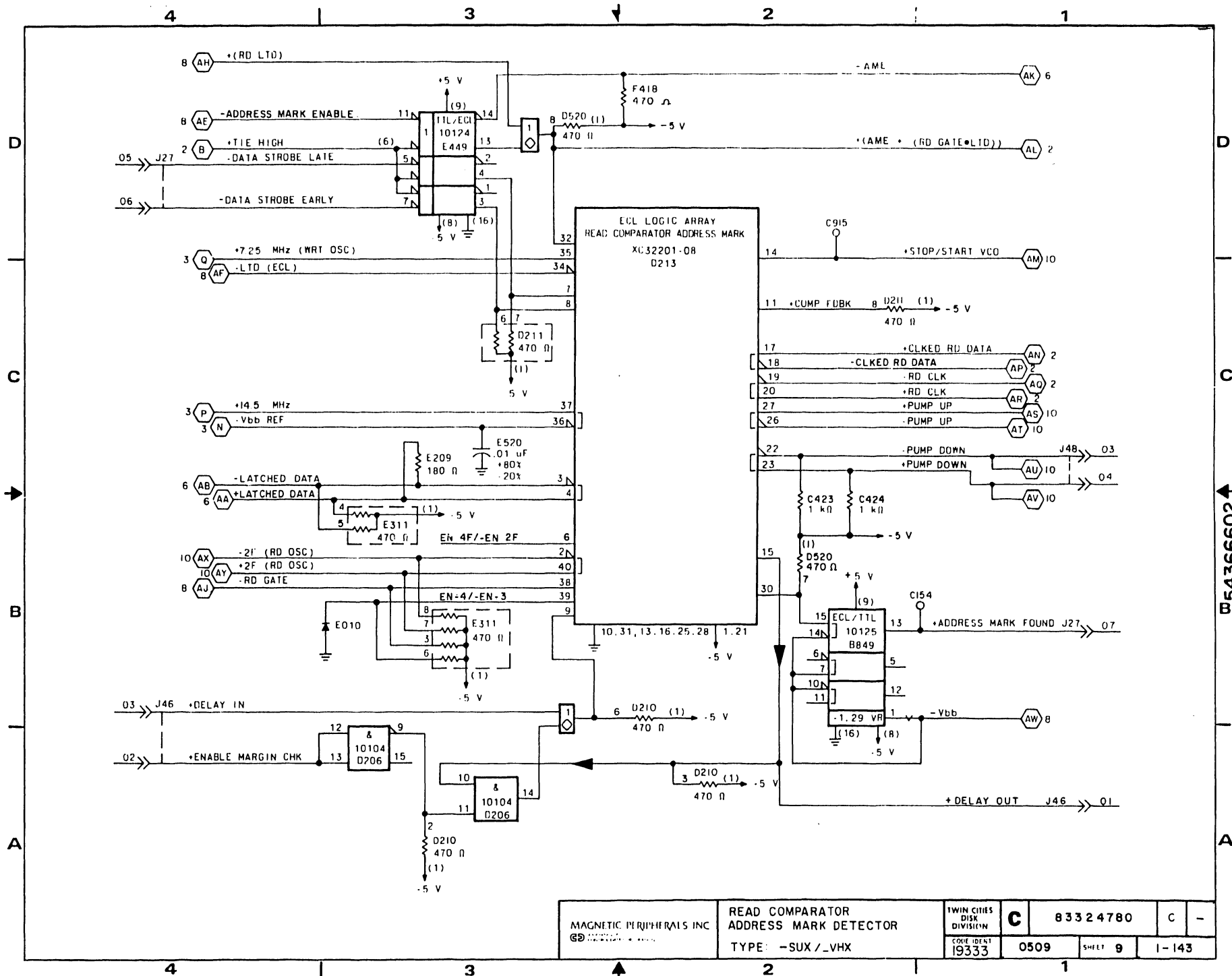


**SIGNAL OUTPUTS**

J48	>>	03	NC	-----
J48	>>	04	NC	-----
J27	>>	07	0204	P27-07
J46	>>	01	NC	-----

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0509	PAGE	1-142

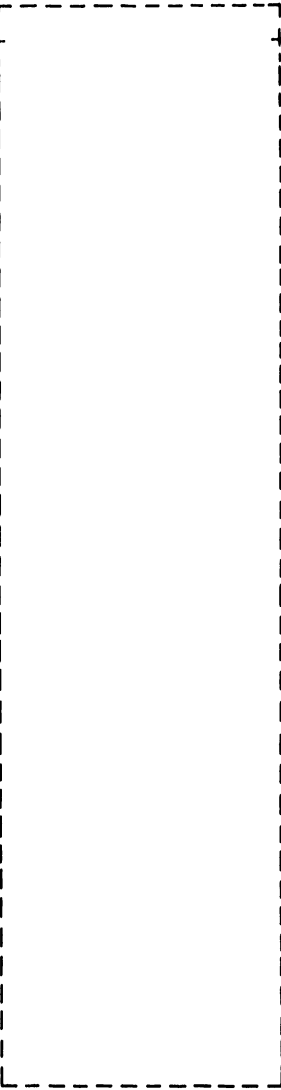


MAGNETIC PERIPHERALS INC GEORGETOWN, MD	READ COMPARATOR ADDRESS MARK DETECTOR	TWIN CITIES DISK DIVISION	<b>C</b>	83324780	C	-
	TYPE: -SUX/_VHX	CODE IDENT 19333	0509	SHEET 9	1-143	

54366602

**SIGNAL INPUTS**

NC ----- 01 >> J49  
NC ----- 03 >> J49

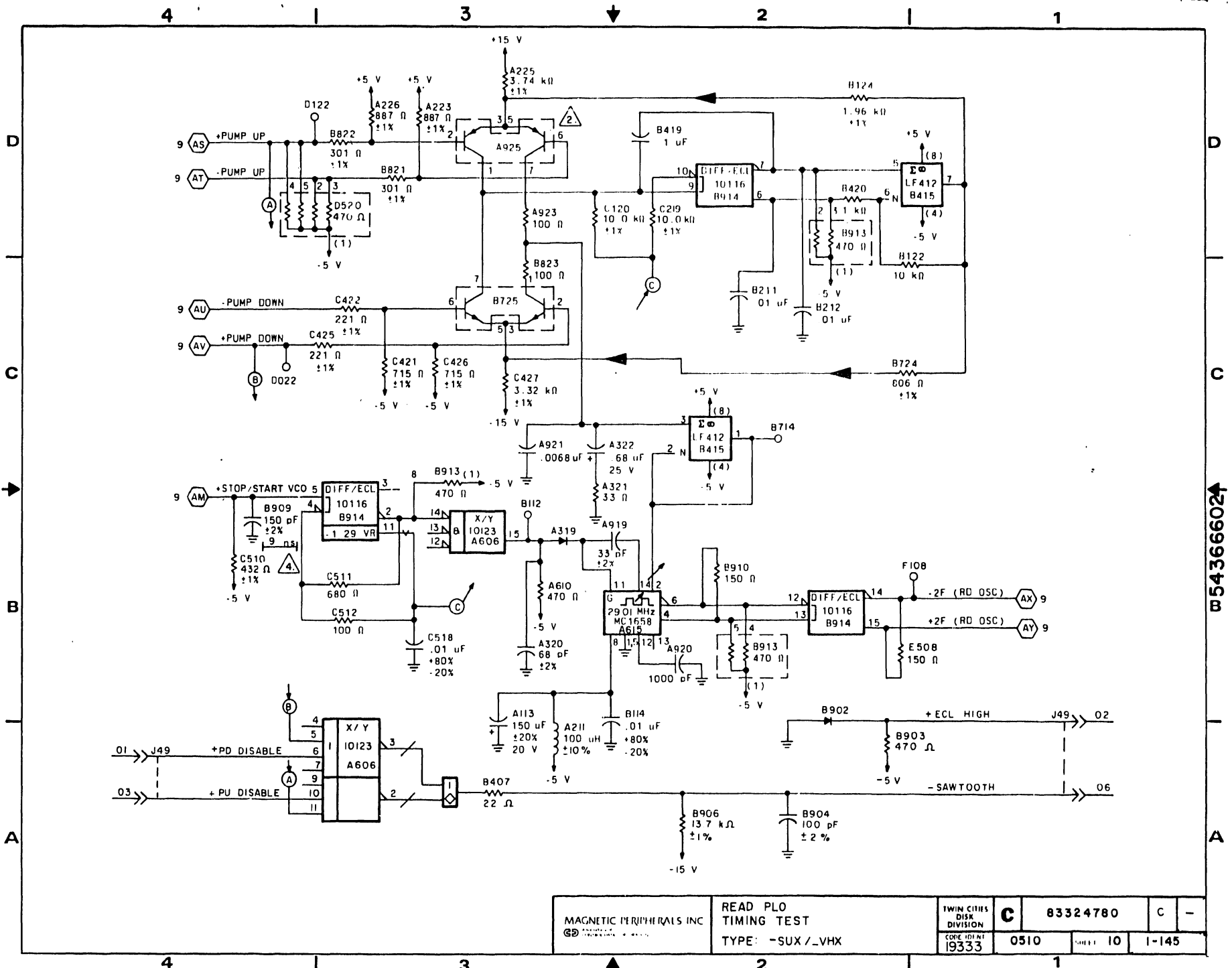


**SIGNAL OUTPUTS**

J49 >> 02 NC -----  
J49 >> 06 NC -----

**LOGIC CROSS REFERENCE INFORMATION**

PUB		83324780		REV		A	
CROSS REF NO		0510		PAGE		1-144	



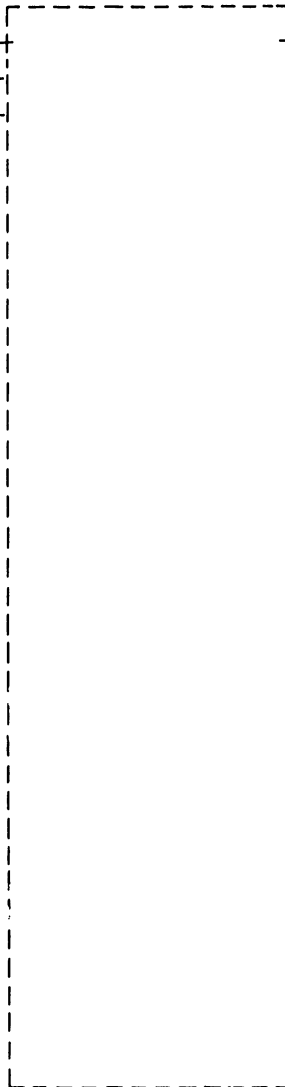
B54366602A

MAGNETIC PERIPHERALS INC 9800 ...	READ PLO TIMING TEST		TWIN CITIES DISK DIVISION	<b>C</b>	83324780	C	-
	TYPE: -SUX/_VHX		CODE IDENT 19333	0510	SHEET 10	1-145	



**SIGNAL INPUTS**

0307 J13-09 09 >> P13  
0307 J13-12 12 >> P13  
0307 J13-10 10 >> P13



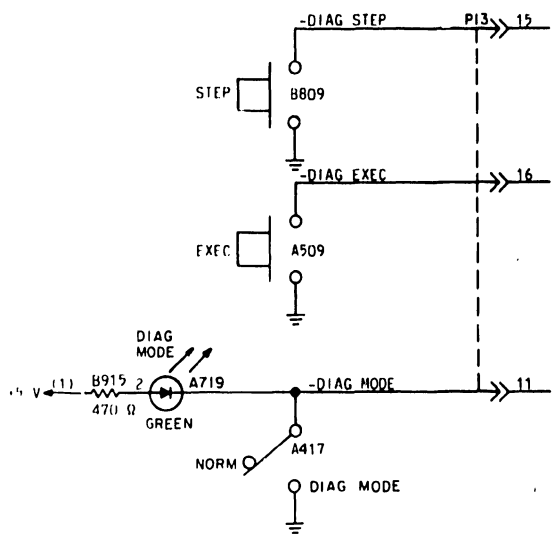
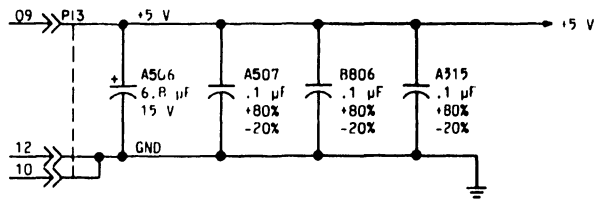
**SIGNAL OUTPUTS**

P13 15  
P13 16  
P13 11  
0307 J13-15  
0307 J13-16  
0306 J13-11

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0601	PAGE	1-146

PART NO. RANGE	REVISION RECORD						
	REV	ECO	DESCRIPTION	DRFT	DATE	CHKD	APT
01 THRU 01	A	D123000	RELEASED		10-11-83		234



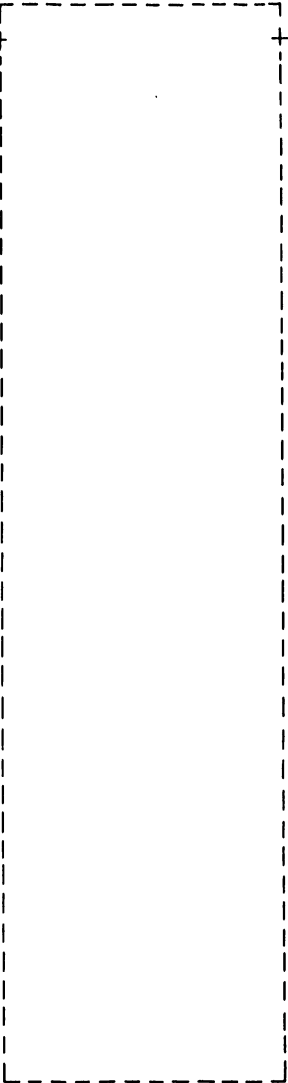
- NOTES:
- UNLESS OTHERWISE SPECIFIED:  
ALL 14 PIN IC'S HAVE PIN 7 CONNECTED TO GROUND AND PIN 14 CONNECTED TO +5 V.  
ALL 16 PIN IC'S HAVE PIN 8 CONNECTED TO GROUND AND PIN 16 CONNECTED TO +5 V.  
ALL RESISTOR PACK RESISTORS 1/8 W ±5%
- △ DRAWINGS WHERE TAB NUMBERS CREATE NEW COVER SHEET TABS 00-99 ARE RESERVED.

REFERENCE DRAWING COMP ASSY 54384501 CTR 54384701			MAGNETIC PERIPHERALS INC. A Control Data Company			TITLE SCHEMATIC DIAGRAM FAULT DISPLAY TYPE: BUQX			
COMPONENTS EXCEPT AS NOTED			DWN	KEVIN BARTSCH	8-18-83	TWIN CITIES DISK DIVISION	C	83324780	A
RES	±5%	OHMS	1/4 W	CHKD	<i>Kevin Bartsch</i>				
CAP	±10%			ENGR	<i>William S. Okey</i>	9-10-83			
			MFG	<i>John R. Bartsch</i>	11-6-83				
			QA	<i>John R. Bartsch</i>	11-1-83				
			FORM NO. 10 333			0601	SHEET 1 OF 2	1-147	

54384601

**SIGNAL INPUTS**

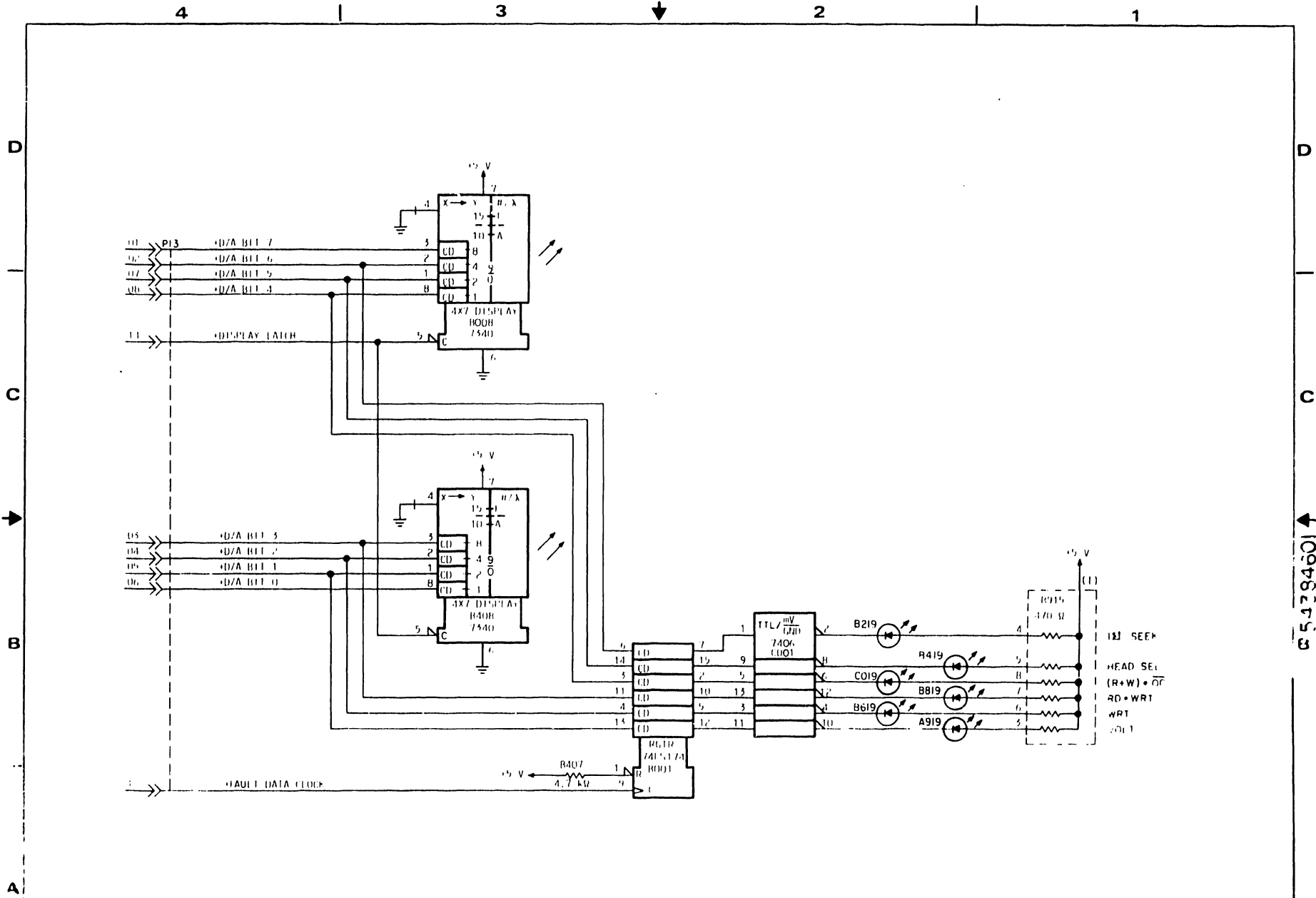
0307	J13-01	01	>>	P13
0307	J13-02	02	>>	P13
0307	J13-07	07	>>	P13
0307	J13-08	08	>>	P13
0305	J13-14	14	>>	P13
0307	J13-03	03	>>	P13
0307	J13-04	04	>>	P13
0307	J13-05	05	>>	P13
0307	J13-06	06	>>	P13
0305	J13-13	13	>>	P13



**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	A
CROSS REF NO	0602	PAGE	1-148

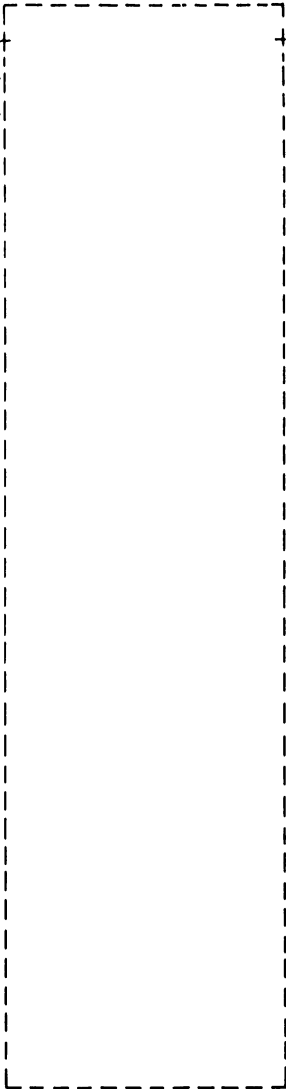


C 5-1394601

MAGNETIC PERIPHERALS DIV GE	FAULT DISPLAY		TWIN CITIES DISK DIVISION	C	83324780	C	-
	TYPE BUOX		DATE CHG 19333				

**SIGNAL INPUTS**

0307 J13-09 09 >> P13  
0307 J13-12 12 >> P13  
0307 J13-10 10 >> P13

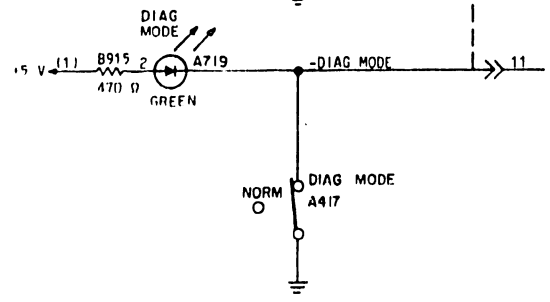
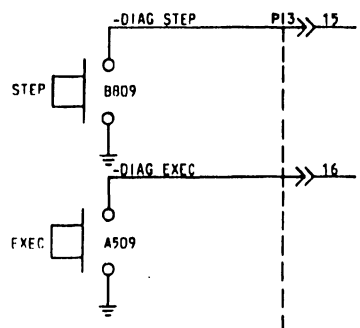
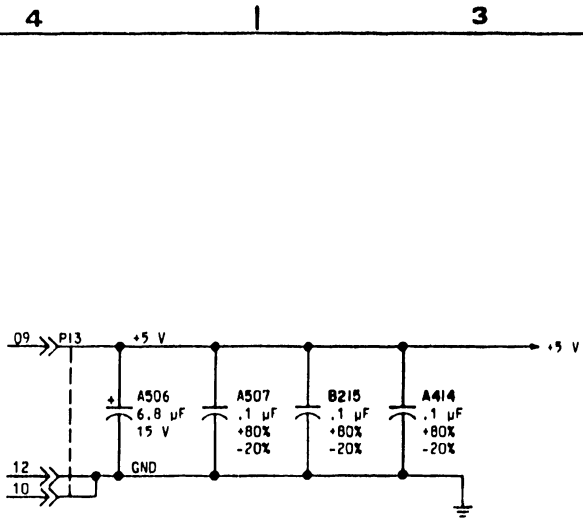


**SIGNAL OUTPUTS**

P13 >> 15 0307 J13-15  
P13 >> 16 0307 J13-16  
P13 >> 11 0306 J13-11

**LOGIC CROSS REFERENCE INFORMATION**

PUB 83324780		REV C
CROSS REF NO 0601	PAGE 1-150	



PART NO. RANGE	REVISION RECORD						
	REV	ECO	DESCRIPTION	DRFT	DATE	CHKD	APP
03 THRU 03	A	0111000	RELEASED		1389		

NOTES:

- UNLESS OTHERWISE SPECIFIED:  
 ALL 14 PIN IC'S HAVE PIN 7 CONNECTED TO GROUND AND PIN 14 CONNECTED TO +5 V.  
 ALL 16 PIN IC'S HAVE PIN 8 CONNECTED TO GROUND AND PIN 16 CONNECTED TO +5 V.  
 ALL RESISTOR PACK RESISTORS 1/8 W. 1%.

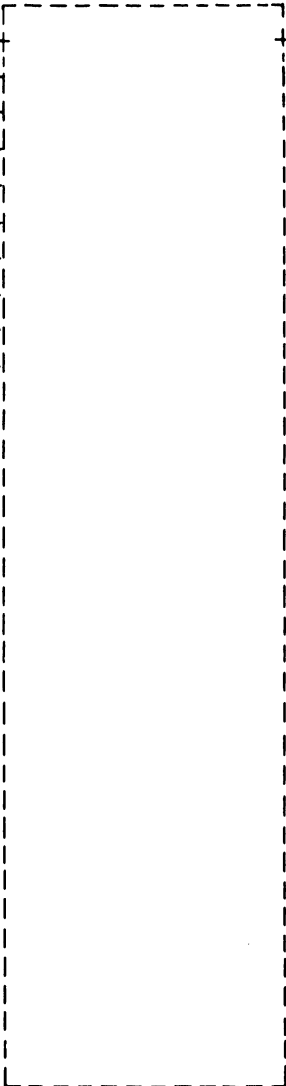
△ DRAWINGS WHERE TAB NUMBERS CREATE NEW COVER SHEET, TABS 00-99 ARE RESERVED.

REFERENCE DRAWING				MAGNETIC PERIPHERALS INC. A Control Data Company		SCHEMATIC DIAGRAM	
COMP ASSY 54384503				FIRST USED ON		DISK DIVISION	
CTR 54384703				PAIA2-A		NEXT ASSEMBLY	
COMPONENTS EXCEPT AS NOTED				DWN	D. J. NIEMI	2-4-84	
TOLERANCE	VALUE	RATING	CHKD				
RES ±5%	OHMS	1/4 W	ENGR	1/10/84	3/6/84		
CAP ±10%			MFO		3/21/84		
			QA				
				TWIN CITIES DISK DIVISION		C 83324780 C	
				FORM NO. 19333		O601 SHEET 1 OF 2 1-151	

W54384603A

**SIGNAL INPUTS**

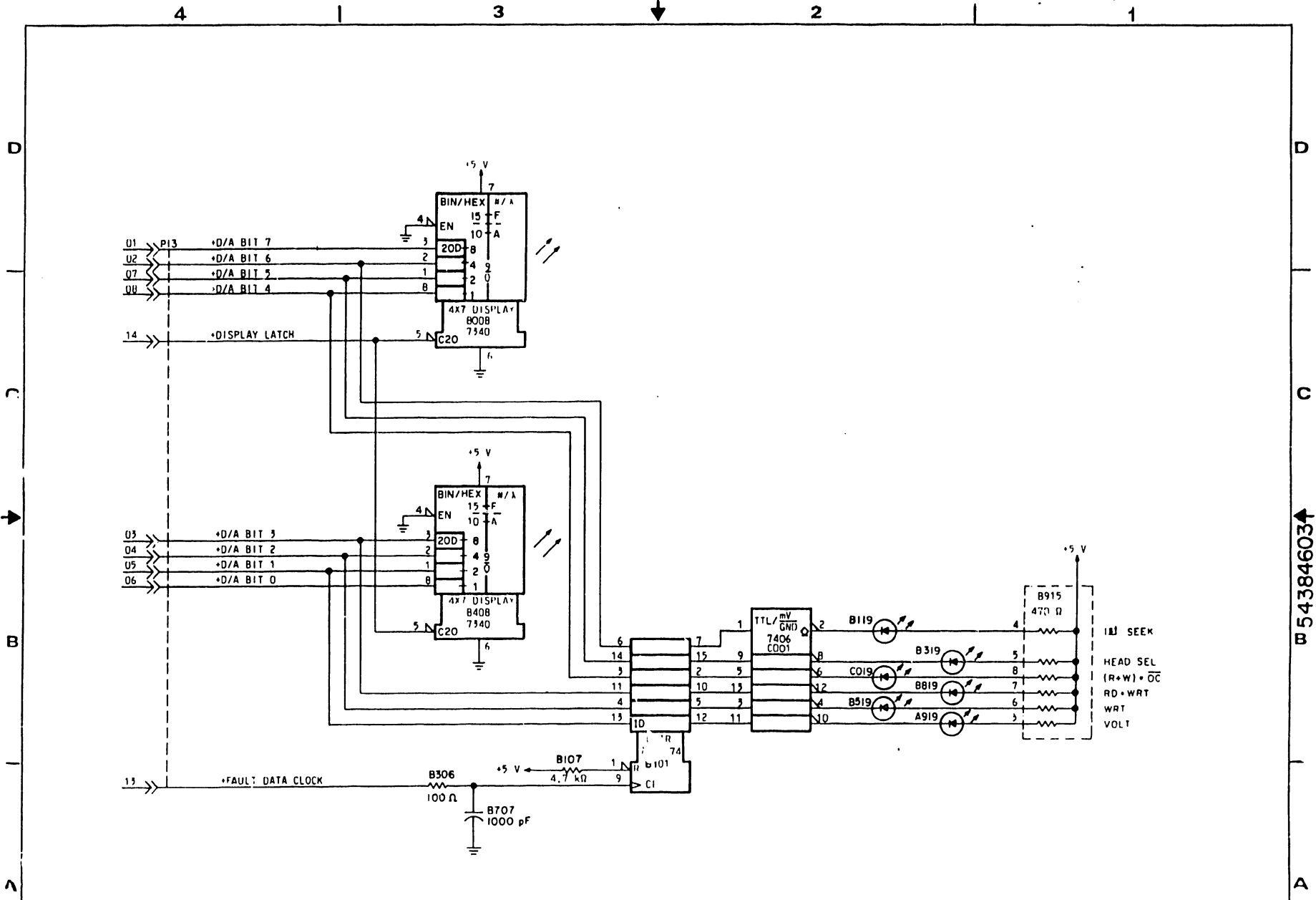
0307	J13-01	01	>>	P13
0307	J13-02	02	>>	P13
0307	J13-07	07	>>	P13
0307	J13-08	08	>>	P13
0305	J13-14	14	>>	P13
0307	J13-03	03	>>	P13
0307	J13-04	04	>>	P13
0307	J13-05	05	>>	P13
0307	J13-06	06	>>	P13
0305	J13-13	13	>>	P13



**SIGNAL OUTPUTS**

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	C
CROSS REF NO	0602	PAGE	1-152



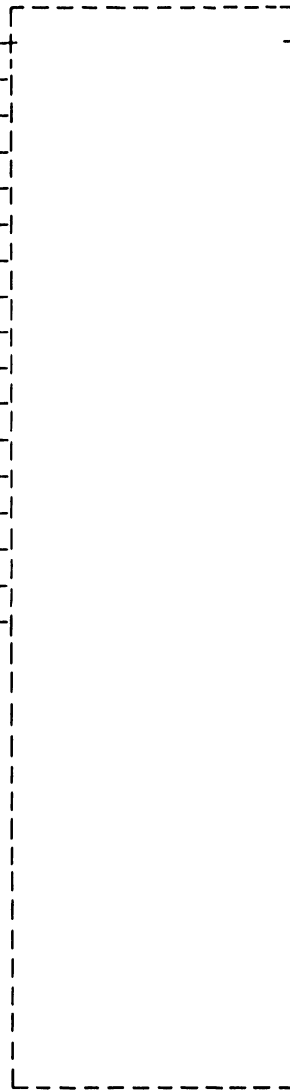
B 54384603↑

MAGNETIC PERIPHERALS INC 	FAULT DISPLAY	TWIN CITIES DISK DIVISION	C	83324780	C
	TYPE: DUQX	CODE IDENT 19333	0602	SHEET 2	1-153



**SIGNAL INPUTS**

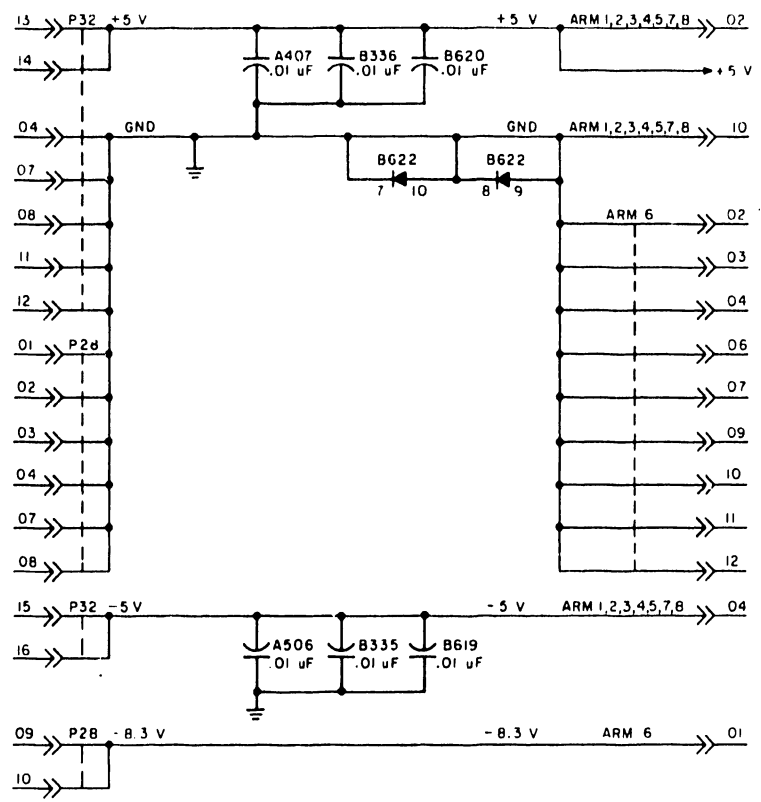
0501	J32-13	13	>>	P32
0501	J32-14	14	>>	P32
0501	J32-04	04	>>	P32
0501	J32-07	07	>>	P32
0501	J32-08	08	>>	P32
0501	J32-11	11	>>	P32
0501	J32-12	12	>>	P32
0311	J28-01	01	>>	P28
0311	J28-02	02	>>	P28
0311	J28-03	03	>>	P28
0311	J28-04	04	>>	P28
0311	J28-07	07	>>	P28
0311	J28-08	08	>>	P28
0501	J32-15	15	>>	P32
0501	J32-16	16	>>	P32
0302	J28-09	09	>>	P28
0302	J28-10	10	>>	P28

**SIGNAL OUTPUTS****LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	C
CROSS REF NO	0901	PAGE	1-154

PART NO. RANGE	REVISION RECORD						
	REV	ECO	DESCRIPTION	OFFT	DATE	CHKD	APP
01 THRU 01	A		RELEASED		8.2.83		MSH

NOTES:  
 1 UNLESS OTHERWISE SPECIFIED:  
 ALL DIODES, 5024F02  
 ALL RESISTOR PACK RESISTORS 1/8 W, ±3%  
 2 DRAWINGS WHERE TAB NUMBERS CREATE NEW COVER SHEET. TABS 00-99 ARE RESERVED.



REFERENCE DRAWING			MAGNETIC PERIPHERALS INC <small>an indirect IBM Corp. company</small>		TITLE		
COMP ASSY 54366101			FIRST USED ON PA5G-1A		NEXT ASSEMBLY		
CTR 54366301			DWN K. MALARKEY		8.1.83		
COMPONENTS EXCEPT AS NOTED			CHKD C. Semakula		5.18.83		
TOLERANCE	VALUE	RATING	FNGR	MFG		QA	
RIS ±5%	OHMS			P. J. ...		...	
CAP +80%/-20%				...		...	
			FSCM NO. 19333		0901		
			SHEET 1 OF 2		1-155		
			REF: 54366201		1 FSD 340/500		

54366201

**SIGNAL INPUTS**

<u>340 MB</u>	<u>515 MB</u>		
0502	0504	J32-05	05 >> P32
0502	0504	J32-06	06 >> P32
0503	0504	J32-17	17 >> P32
0505	0507	J32-26	26 >> P32
0505	0507	J32-25	25 >> P32
0505	0507	J32-24	24 >> P32
0505	0507	J32-23	23 >> P32
0505	0507	J32-22	22 >> P32
0505	0507	J32-21	21 >> P32
0505	0507	J32-20	20 >> P32
0505	0507	J32-19	19 >> P32
0505	0507	J32-18	18 >> P32

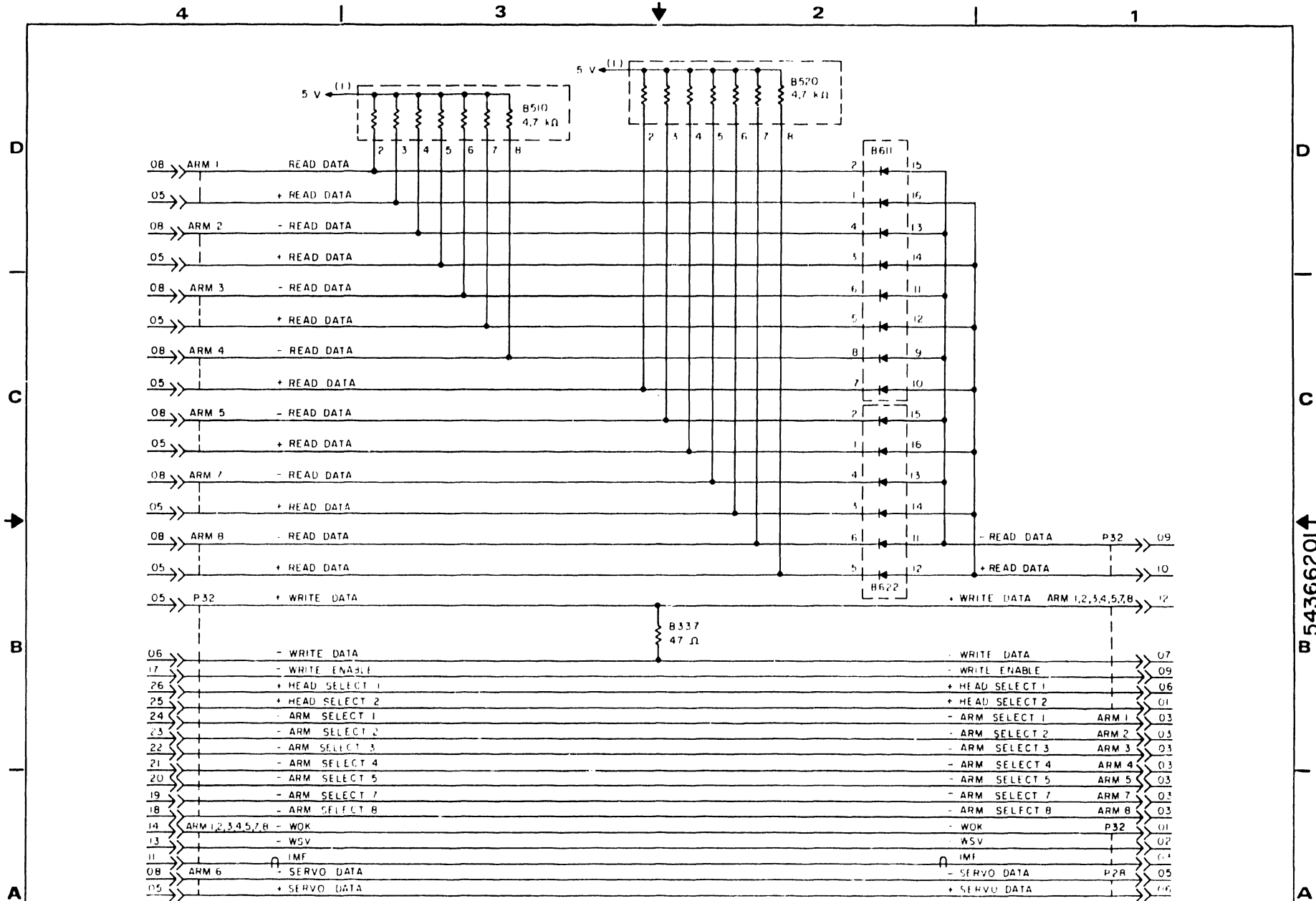


**SIGNAL OUTPUTS**

	<u>340 MB</u>	<u>515 MB</u>	
P32 >>	09	0503	0504 J32-09
P32 >>	10	0503	0504 J32-10
P32 >>	01	0505	0507 J32-01
P32 >>	02	0505	0507 J32-02
P32 >>	03	0505	0507 J32-03
P28 >>	05	0311	0311 J28-05
P28 >>	06	0311	0311 J28-06

**LOGIC CROSS REFERENCE INFORMATION**

PUB	83324780	REV	C
CROSS REF NO	0902	PAGE	1-156



543662014

MAGNETIC PERIPHERALS INC. GEORGETOWN, MD.	ARM MATRIX	TWIN CITIES DISK DIVISION	C	83324780	C	-
	TYPE -STX	CODE IDENT 19333	0902	2	1-157	

4

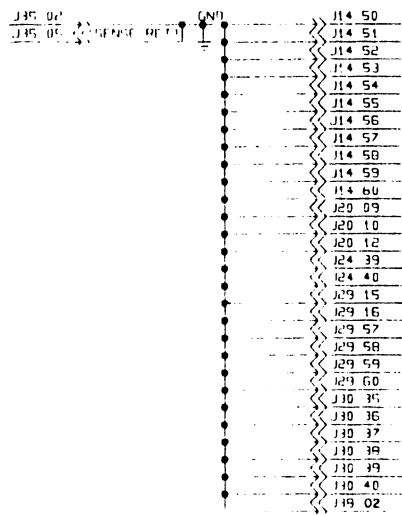
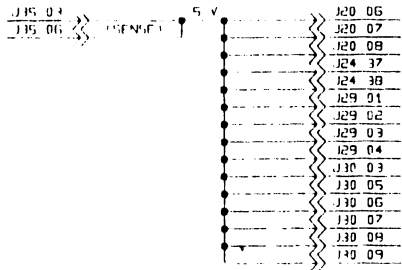
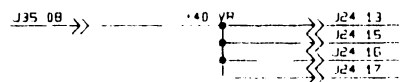
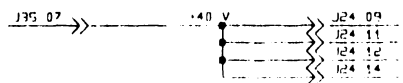
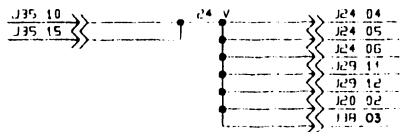
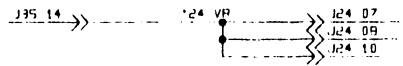
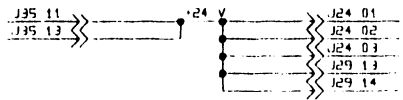
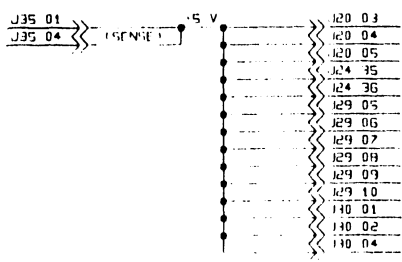
3

2

1

1

PART NO		REVISION RECORD						
PART NO		REV	FLD	DESCRIPTION	TYPE	DATE	CHKD	APP
01	1141J	01	A	DJ23000	RELEASED	11/11/84		
			B	DJ05684	BSVX TO CSVX	JMG 5-29-84		
			C	DJ05831	ADD DIAGNOSTICS	JG 11-13-84		



NOTES:

DRAWINGS WHERE TAB NUMBERS CREATE A NEW COVER SHEET TABS 00-99 ARE RESERVED.

054367001

DATE	BY	CHKD

REFERENCE DRAWING		MAGNETIC PERIPHERALS INC		SCHEMATIC DIAGRAM	
COMP ASSY. 54366901		FIRST USED ON		TYPE BSVX/CSVX	
LTP. 54367101		FSD 11			
COMPONENTS EXCEPT AS NOTED		OWN	CAF	AUDETTE	5/27/83
REV	TO FRAMF	VALUE	RATING	LIMIT	
REP					
CAP					
		OWN		CLASS	SIZE
		DIVISION		83324780	C -
		REV. NO		19333	1001
		SHEET		1 OF 2	1-158

D

D

C

C

B

B

A

A

J14 01	*UNIT SELECT SWITCH 0	J20 54
J14 03	*UNIT SELECT SWITCH 3	J20 57
J14 04	*WRITE PROTECTED	J20 58
J14 05	*UNIT SELECT SWITCH 2	J20 55
J14 07	*UNIT SELECT SWITCH 1	J20 53
J14 08	*I/O CONTROL 1	J20 54
J14 09	*DIAGNOSTIC DATA 7	J20 51
J14 11	*I/O CONTROL 2	J20 49
J14 12	*DIAG. MODE	J20 50
J14 21	*DIAGNOSTIC DATA 4	J20 39
J14 24	*WRITE PROTECT SWITCH	J20 38
J14 27	*HEAD CYLINDER ADDRESS	J20 33
J14 28	*READY	J20 34
J14 32	*DIAGNOSTIC DATA 6	J20 30
J14 35	*CLR SDI RESET	J20 25
J14 41	*INDEX	J20 19
J14 44	*DIAGNOSTIC DATA 5	J20 18
J14 45	*SECTOR	J20 15
J14 47	*D.C. MASTER CLEAR	J20 13
J14 48	*VOLTAGE FAULT	J20 14
J20 11	*HEAD CYLINDER ADDRESS 4	J14 49
J20 16	*FORWARD OFFSET	J14 46
J20 17	*NOT USED	J14 43
J20 20	*FREQUENCY COUNTER 2	J14 42
J20 21	*DIAGNOSTIC INTERRUPT	J14 39
J20 22	*ON CYLINDER	J14 40
J20 23	*REVERSE OFFSET	J14 37
J20 24	*OFFSET INT. REG.	J14 38
J20 26	*SMD/SDI	J14 36
J20 27	*SDI RESET	J14 33
J20 28	*FAN FAULT	J14 34
J20 29	*TR0/D LOCAL	J14 31
J20 31	*FREQUENCY COUNTER 1	J14 29
J20 32	*START ENABLE	J14 30
J20 35	*DIAGNOSTIC ADDRESS 1	J14 25
J20 36	*DIAGNOSTIC ADDRESS 2	J14 26
J20 37	*DIAGNOSTIC ADDRESS 0	J14 23
J20 40	*FREQUENCY COUNTER 3	J14 22
J20 41	*HEAD CYLINDER ADDRESS 0	J14 19
J20 42	*ENABLE DIAGNOSTIC DATA	J14 20
J20 43	*LINK INTERRUPT	J14 17
J20 44	*HEAD CYLINDER ADDRESS 1	J14 18
J20 45	*HEAD CYLINDER ADDRESS 3	J14 15
J20 46	*HEAD CYLINDER ADDRESS 2	J14 16
J20 47	*I/O CONTROL 3	J14 11
J20 48	*RTZ	J14 14
J20 52	*FAULT	J14 10
J20 56	*FREQUENCY COUNTER 0	J14 06
J20 60	*SELECT COMPARE	J14 02

J24 18	*MOTOR SENSOR	J29 18
J24 20	*ENABLE MOTOR POWER	J15 09
J24 21	*DISK STOPPED	J29 20
J24 22	*LOW/ HI START CURRENT	J15 12
J24 23	*NOT USED	J29 22
J24 25	*NOT USED	J29 24
J24 26	*CURRENT SENSE	J29 21
J24 28	*SPEED OK	J29 23
J24 29	*MOTOR FAULT	J29 24
J24 31	*POWER AMP GROUND	J29 30
J29 17	*LOW VOLT	J24 19
J29 19	*LOW/ HI START CURRENT	J24 24
J29 25	*UNLOCK ACTUATOR	J24 30
J29 26	*MOTOR RUN	J24 27
J29 27	*OUT DRIVE	J24 32
J29 29	*IN DRIVE	J24 34
J29 31	*SHIELD	J30 10
J29 32	*DISABLE RETRACT	J24 33
J29 33	*2.4/MHZ +/- 1.612 MHZ CLOCK	J30 12
J29 34	*2.4/MHZ +/- 1.612 MHZ CLOCK	J30 11
J29 35	*NOT USED	J30 14
J29 36	*SHIELD	J30 13
J29 37	*NOT USED	J30 16
J29 39	*SHIELD	J30 18
J29 40	*NOT USED	J30 17
J29 41	*SHIELD	J30 20
J29 43	*HEAD CYLINDER ADDRESS 4	J10 22
J29 44	*NOT USED	J30 21
J29 45	*HEAD CYLINDER ADDRESS 3	J30 24
J29 46	*NOT USED	J30 23
J29 47	*HEAD CYLINDER ADDRESS 1	J30 26
J29 48	*NOT USED	J10 25
J29 49	*HEAD CYLINDER ADDRESS 2	J30 28
J29 50	*WRITE ENABLE	J30 27
J29 51	*HEAD CYLINDER ADDRESS 1	J30 30
J29 52	*NOT USED	J30 29
J29 53	*15 VOLTS	J30 32
J29 54	*15 VOLTS	J30 31
J29 55	*15 VOLTS	J30 34
J29 56	*15 VOLTS	J30 33
J30 15	*WRITE GATE	J29 48
J30 19	*WRITE FAULT	J29 42
J30 1	*FAN SENSOR	J20 01

0054367002

MEDAL DUMP NAME	
CSVX4c	
ARCHIVE DISK NO	BALMUP
51	51B

**GD** MAGNETIC PERIPHERALS INC  
 A Corning Data Company

FILE SCHEMATIC DIAGRAM  
 TYPE CSVX

TWIN CITIES DIVISION	<b>C</b>	83324780	C
DRAWING NO. 19333	1002	SHEET 2	1-159