varian data machines /a varian subsidiary
2722 michelson drive / irvine / california / 92664 / (714) 833-2400

additional routing

Salesman # 2491
D. Bryant
R. Douglas
M. Drees (2)
M. Peralta

Q.C.
Sales Admin. (2)
C. Stark (2)
Job File

Note: Please forward along with other documentation.

system memo V73 JM-1061-s.c.

customer: Sperry Systems Management

sales order: 64489

charge number: 64489

date: February 27, 1975

from: J. Merina

Please reference Systems Arrangement Drawing No. 93D0836X.

V-73

INDEX:

TEST DATA SHEET
V73 FINAL ACCEPTANCE

S. O. # 64489 Processor# _____ Date _____

Reference Test Procedure 98A0923

Para.	Test Description	Required Parameter	Actual	Stamp
4.0	Voltage checks V73 chassis and I/O expansion chassis	+5 VDC ± 1%	T19	
		+5 M ± 1%	T19	
		+20.6 VDC ± 1%		
		+20 VDC ± 1%	T19	
		-12 VDC ± 1%	T19	
		+22.5 VDC ± 1%		
		+12 VDC ± 1%	T19	
		-5 VDC ± 1%	T19	
	LFRTC+ Check	24 VRMS ± 20%	T19	
	SPFA- Check	High - Low	T19	
	SRST- Check	High - Low	T19	
5.0	Console Tests	No failures	T19	
6.1	Basic CPU Operation			
-6.5	Tests	No failures	T19	
6.6	Machine Cycle Check	655 ns ± 5	T19	
		325 ns ± 5		
6.7	Inst. Test Programs	No failures	T19	
	Memo Test Programs	No Failures		
	TTY Test Program	No Failures	T19	

TEST DATA SHEET
V73 FINAL ACCEPTANCE

Reference Test Procedure 98A0923

Para.	Test Description	Required Parameter	Actual	Stamp
7.0	I/O Test	No failures	T39	
8.0	Standard DMA Test	No failures	T39	
9.0	High Speed DMA Test	No failures		
10.0	Basic Interrupt Test	No failures	T125	
11.0	Memory Wrap Around	No failures	T125	
12.0	Power Fail/Restart	No failures	T19	
13.0	Real Time Clock	No failures	T39	
14.0	Memory Protect	No failures	T125	
15.0	Priority Memory Access	No failures	T39	
1	Processor/Option Margins	Inst. 1 4.75 VDC	T125	
		Inst. 2 5.25 VDC	T125	
16.2	Memory Margins	Step 1	T13	
		Step 2	T13	
		Step 3	T13	
		Step 4	T13	
		Step 5	T13	
		Step 6	T13	
		Step 7	T13	
		Step 8	T13	
17.0	High Temperature Burn-In	No failures 72 hrs.		

S. O. 64489 S/N _____ DATE 3/4

V73 ADD-ON OPTIONS	Final	Retest After Q. C.
1. EXPANSION CHASSIS (2EA)	T39	
2. POWER SUPPLY (2EA)	T39	
3. PIM 2EA		
4. BIC 2EA	T39	
5. READER CONTROLLER		
6. BUFFERED I/O 1EA	T39	
7. I/O EXPANDER 2EA	T39	
8. 9 TRACK M. T. U. AND CONTROLLERS M+S	T125	
9. 7 TRACK M. T. U. AND CONTROLLERS		
10. REMEX READER		
11. FACIT PUNCH		
12. ASR 33	T39	
13. ASR 35		
14. KSR 35		
15. MODEM ( )		
16. RELAY I/O		
17. CARD READER AND CONTROLLER		
18. DISC AND CONTROLLER (7510)	T13	
19. VRC DRUM AND CONTROLLER		
20. UASC 1EA	T125	
21. LINE PRINTER AND CONTROLLER ((CENT) E2200)	T125	
22. DAC		

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CODE IDENT NO. 21101

SH 2 OF 3 REV

96A0039-000B

V73 ADD-ON ORDERS	Final	Retest After Q. C.
23. ADC		
24. DIGITAL PLOTTER AND CONTROLLER		
25. CARD PUNCH AND CONTROLLER		
(26.) MEMORY MODULE (32 ~~24~~ K MOS)	T13	
(27) ABL (DISC)	T13	
28. DCM		
(29.) VORTEX 96K 32K	T13	
30. VTAM		
31. PROCESSOR		
32. OPTION BOARD ( )		
33. DISPLAY PANEL ( )		
34. MEMORY EXPANSION CHASSIS		
35. WCS + PS	T125	
36. BTC	T39	
37. FPP + PS	T13	
38. DATA SAVE PS	T13	
39. 24Hr Burn		
40.		
41		

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DOCUMENTATION RECORD

CUSTOMER SPERRY SYST. MANAGEMENT JOB ORDER NO. C4431

MODEL NO. V70

SYS. SERIAL NO. 620

UNIT	DOCUMENTATION NO	REV	S/N	DESCRIPTION
	98A0879	--	-----	Parts List
	98A0887	--	-----	Micro Word Flowcharts
	49A0195	--	-----	Control Store Code Listing
	81L1709-001	--	-----	Central Control Store Listing
	(44P0614) 91B0378	BJ	720	Processor Bd.
	(44P0619) 91B0401	BP	364	Option Bd.
	~~(44P0613) 91C0377~~	~~AC~~	~~1631~~	~~Core Memory~~
	(44P0613) 91B0377			Core Memory
	(44P0613) 91B0377			Core Memory
	(44P0645) 91B0406	P	522	Display Bd.
	(44P0625) 95D0940	A	1412	Term Shoe
	(44P0625) 95D0940	A	1374	Term Shoe
	(44P0664) 95D0970	A	1862	Term Shoe
	(44P0664) 95D0970	A	073	Term Shoe
	(44P0608) 95D0911			Back Plane
	(44P0609) 95D0912	L	500	Back Plane
	(01P1320) 95E0923	D	773	Power Supply
	(44P0610) 95C0918	E	750	Reg. Bd.
	(44P0611) 91D0388	H	1047	Reg. Bd.
	(44P0679) 91D0451	D	959	Reg. Bd.
	(44P0615) 95D0932	G	847	Heat Sink Bd.
	(44P0617) 95E0941	M	1005	Power Supply Bd.
	(44P0623) 91D0387	L	501	Power Fail Bd.
	83P0035	S	602	Exp. Power Supply
	(44P0618) 91C0397	AE	208	Semi Cond. Memory
	(44P0618) 91C0397	AE	207	Semi Cond. Memory
	(44P0618) 91C0397	AE	137	Semi Cond. Memory

PREPARED BY Ulla Rolle DATE 3-15-75 NOTE:

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DOCUMENTATION RECORD

CUSTOMER PARK SYST. MANAGEMENT JOB ORDER NO. 64454

MODEL NO. V-73

SYS. SERIAL NO. 620

UNIT	DOCUMENTATION NO	REV	S/N	DESCRIPTION
	44PC629	N	005	PMA / BIC
	44P0669	P	113	TERM SHCE
	44PC656	R	152	MCS BOARD
	83P0044	H	264	MCS POWER SUPPLY
	83P0044	H	265	MCS POWER SUPPLY
	44P0670	F	387	IC PARTY LINE COMMANDER
	44P0683	A	621	PIM
	44PC683	A	683	PIM
	44P0684	K	935	BIC
	44P0684	N	1176	BIC
	44P0684	N	1179	BIC
		—	036	ASR 33 TTY
		—	313	LINE PRINTER
	44P0568	G	~~288~~	LINE PRINTER CONTROLLER
		—	287	9 TRK MAG TAPE TRANSPORT
	44P0657	B	128	MAG TAPE CONTROLLER
	44P0658	C	151	MAG TAPE CONTROLLER
		—	1502	MAG TAPE SLAVE
		—	1040	DISC DRIVE
	44P0695	A	103	DISC CONTROLLER
	44P0700	B	105	DISC CONTROLLER
	44PC677	E	350	UNIV. SER. CONTROLLER
	44P0723	H	033	FLOATING POINT PROCESSOR
	44P0730	A	016	ABL
	83P0035	S	2947	EXP. POWER SUPPLY
	01P1373	C	0077	DATA SAVE POWER SUPPLY
	44P0628	G	087	DATA SAVE BOARD
	44P0674	B	174	BUFFERED IIC CONTROLLER

PREPARED BY Nella Rodda DATE 3-13-79 NOTE:

V70

MANUAL LISTING

V73 HANDBOOK	9809906-010
PROCESSOR	9809906-023
* CORE MEMORY	9809906-031
* SEMI CONDUCTOR MEMORY	9809906-040
OPTION BD.	9809906-051
POWER SUPPLY	9809906-063
TEST PROGRAMS	9809952-061
MICROPROGRAMMING	9809906-073
BIC	9809902-115
PIM	9809902-426
BUFFERED I/O	9809902-625
VORTEX INST.	9809952-250
VORTEX REF.	9809952-103
WCS	9809906-082
WCS POWER SUPPLY	9809910=000
FLOATING POINT PROC.	9809906-110

NOTE: * Manual shipped only for the type memory used.

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Log No. _____

Page of __

Test Date 3-28-75

P.O. No. _____

Pkg Slip No. 64489

Quantity _____

Account No. _____

TEST REPORT

Part or Material V-73

Manufacturer VDM

Ser. No. _____

TEST REQUIREMENTS:

Test Category: Rec. ☐ Mfg. ☒ Other _____

Perf. Spec.: Enclosed ☐ Reference _____

TEST RESULTS:

ACCEPT ☒ REJECT ☐

Did ☒ Did Not ☐ Meet Manufacturers or applicable purchase specs.

Comments: V73 w/ 32K SC Memory, 14" CHASSIS, POWER SUPPLY, CONSOLE, DMA, NA PFR, RTC, H M/D, TTY, MEM PROT, DATA SAVE, DISC ABC, WCS & PWR SUPPLY, F.P.P. & P.S., I/O CHASSIS, W/ P.S., I/O EXPANDER & CABLES, I/O CHASSIS, W/P.S. & CABLES, 1 EA. B.T.C., 2 EA P.I.M., 2 EA. BIC, 1 EA. UASC, 1 EA. TTY, ASR 33, 1 EA. EXT. BD., 1 EA L.P., 1 EA M.T. MASTER, 1 EA. M.T. SLAVE, 1 EA. DISC, 1 BUFF. I/O CONTROLLER, 1 EA DISC ABL, 1 EA. CABINETS, -3 BAY, VORTEX (MTG), MAINTAIN II

Disposition: _____

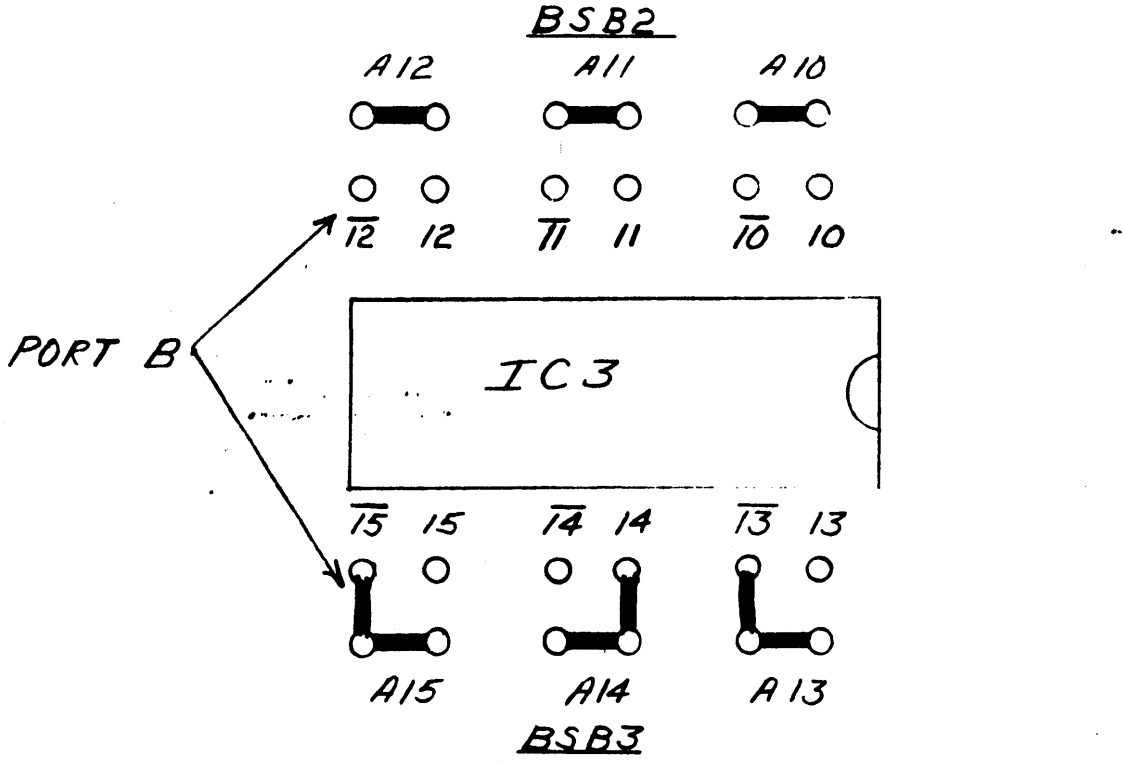
CONDUCTED BY:

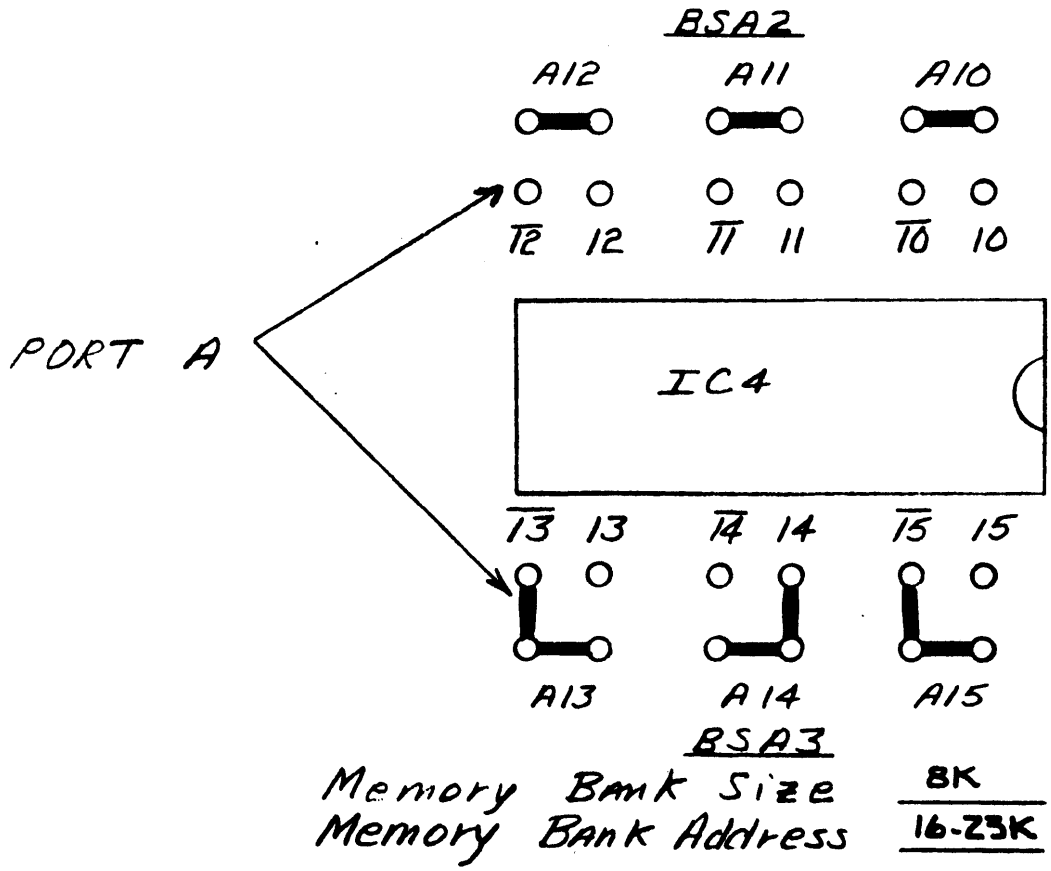
1. Signed James H Robinson
   Date 3-28-75 Stamp T13
2. Signed _____
   Title _____ Stamp _____
3. Signed _____
   Date _____ Stamp _____

APPROVAL:

A. Signed F. L. Ferguson Jr.
   Title V-70's Systems Lead
   Date 28 March 75 Stamp T58

B. Signed _____
   Title _____
   Date _____ Stamp _____



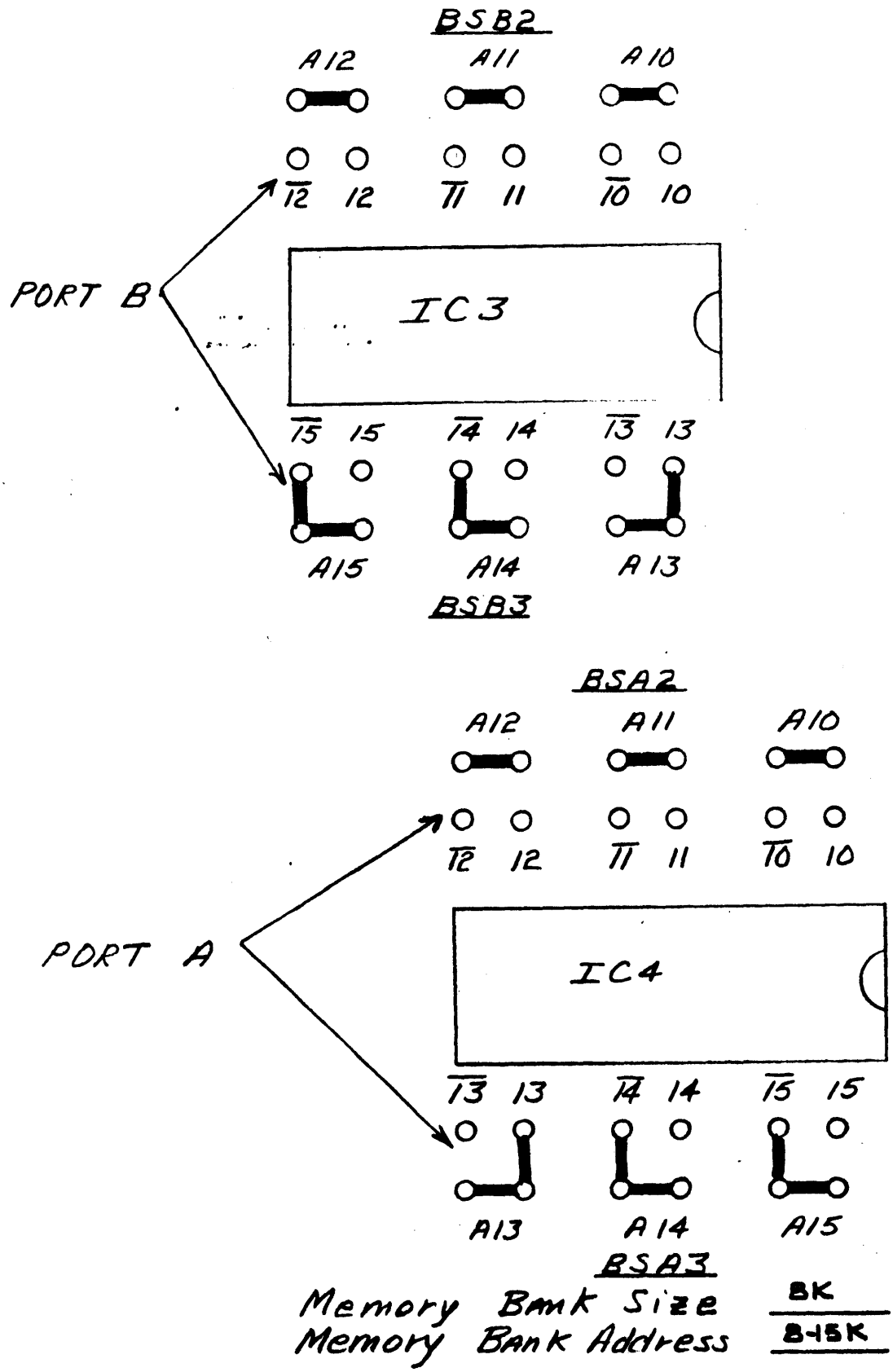


Memory Bank Size 8K

Memory Bank Address 16-23K

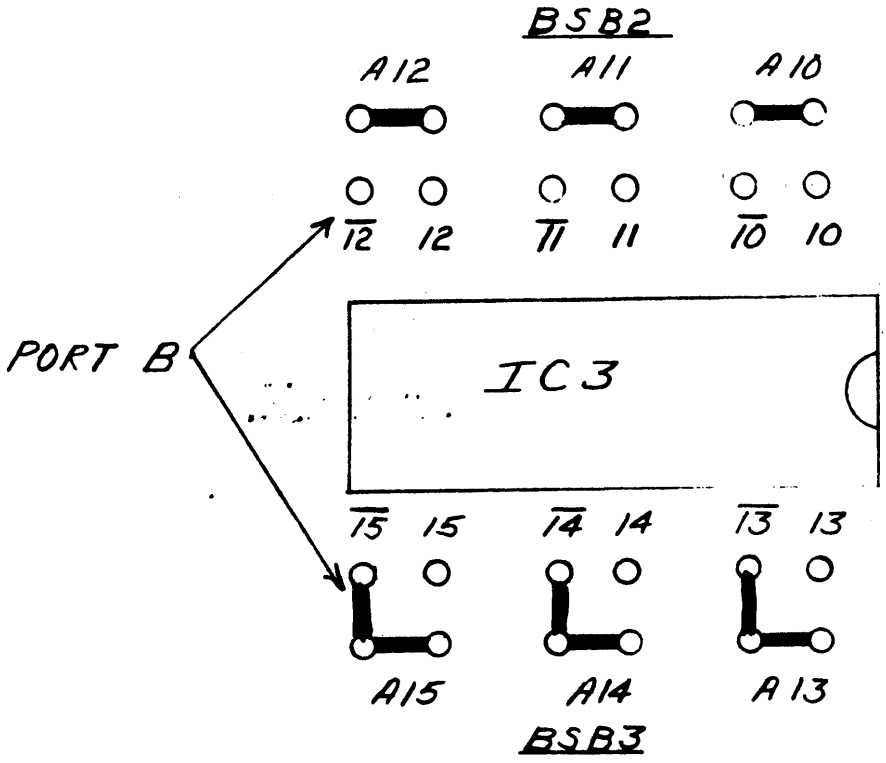
varian data machines a varian subsidiary	CODE IDENT NO. 21101	Semi-Conductor Memory Configuration	SH OF	REV

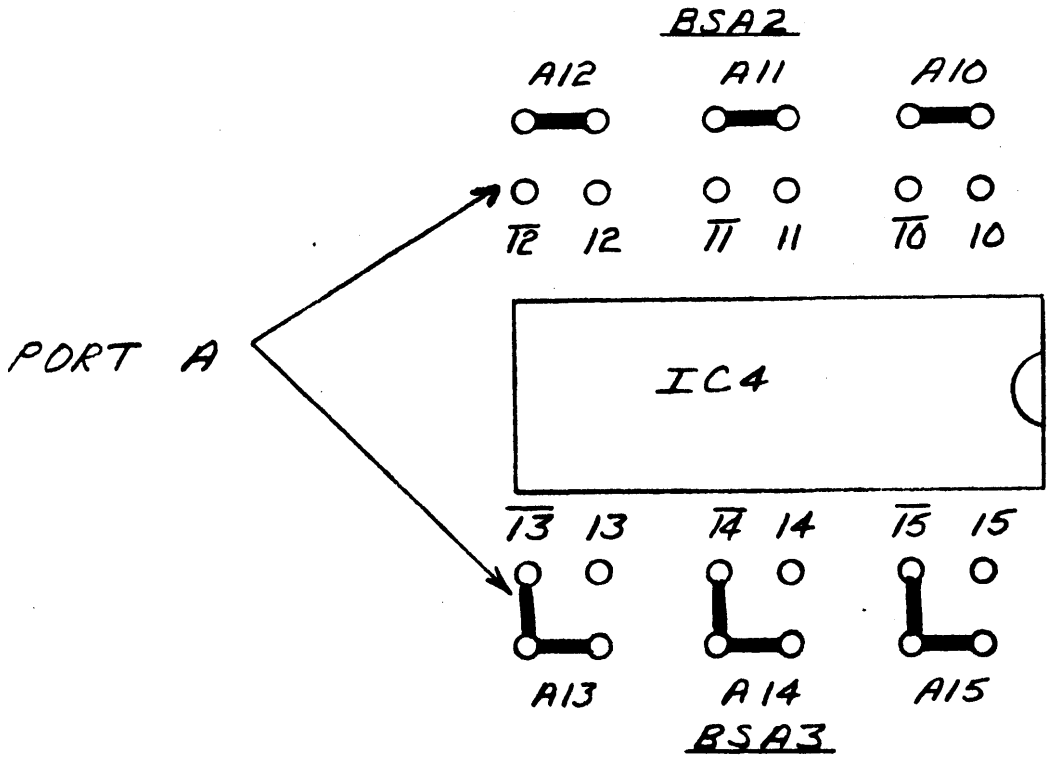
96A0039-000B



varian data machines a varian subsidiary	CODE IDENT NO. 21101	Semi-Conductor Memory Configuration	SH	OF	REV

96A0039-000B



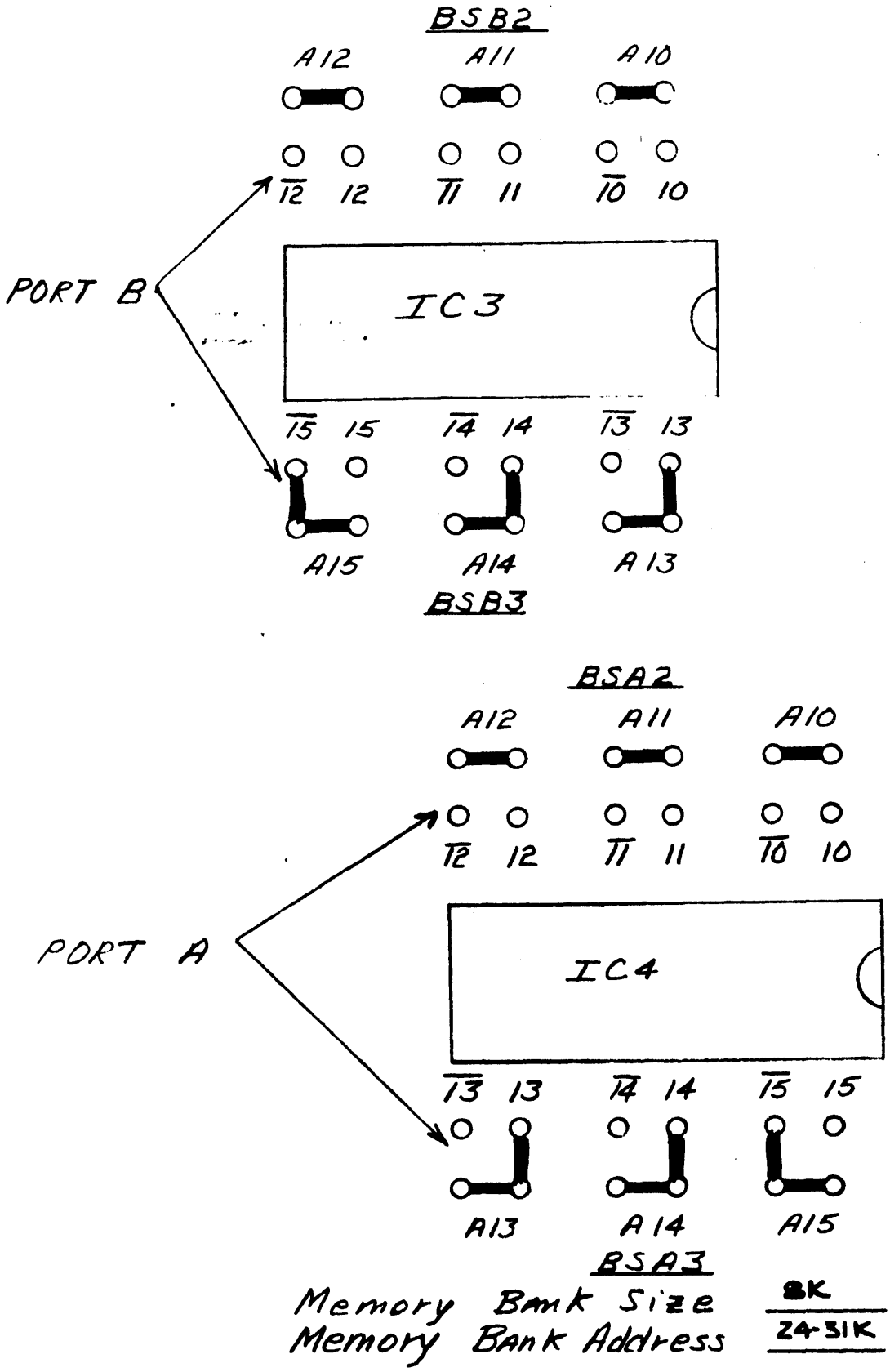


Memory Bank Size 8K

Memory Bank Address 0-7K

varian data machines a varian subsidiary	CODE IDENT NO. 21101	Semi-Conductor Memory Configuration	SH OF	REV

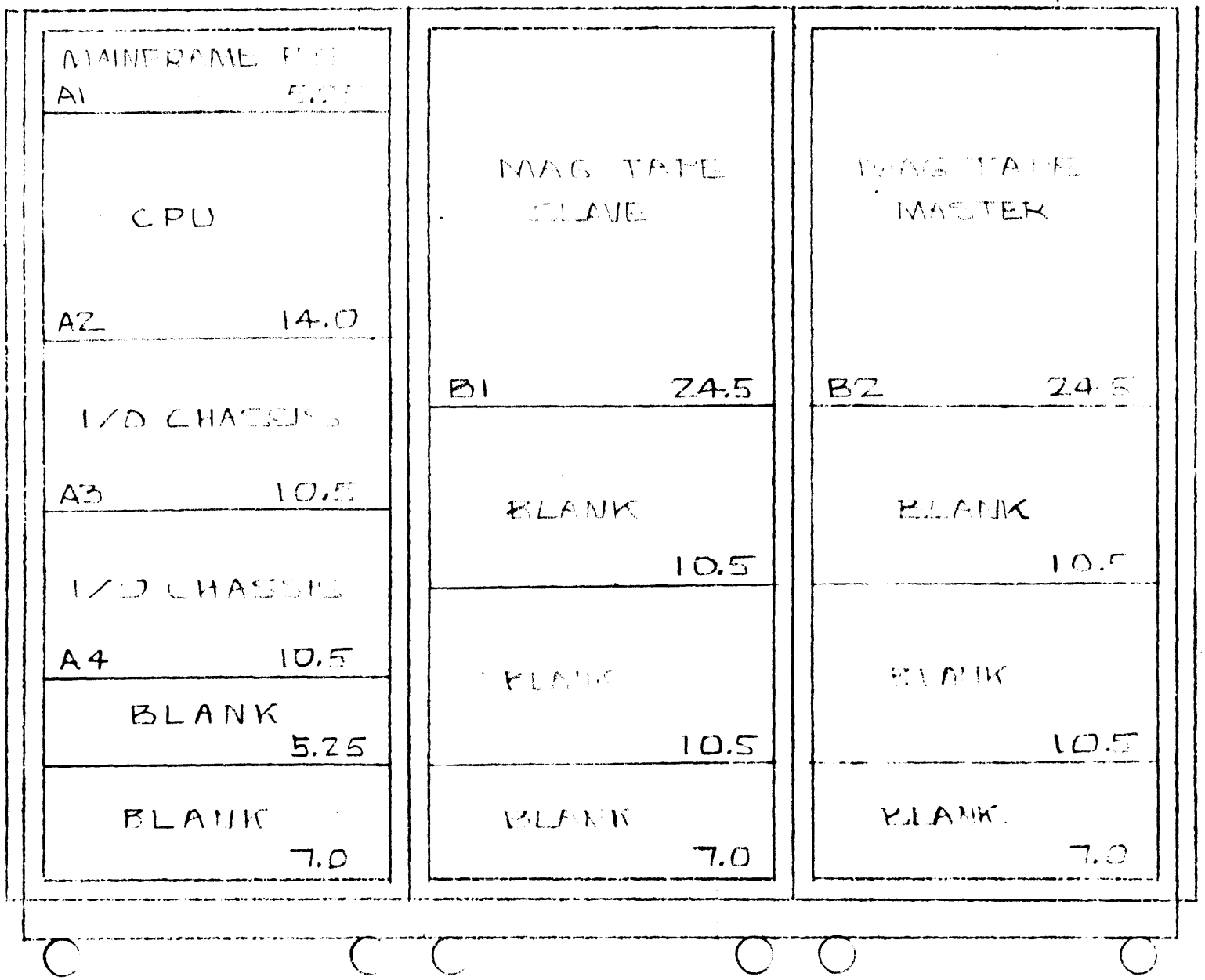
96A0039-000B



varian data machines a varian subsidiary	CODE IDENT NO. 21101	Semi - Conductor Memory Configuration	SH OF	REV

96A0039-000B

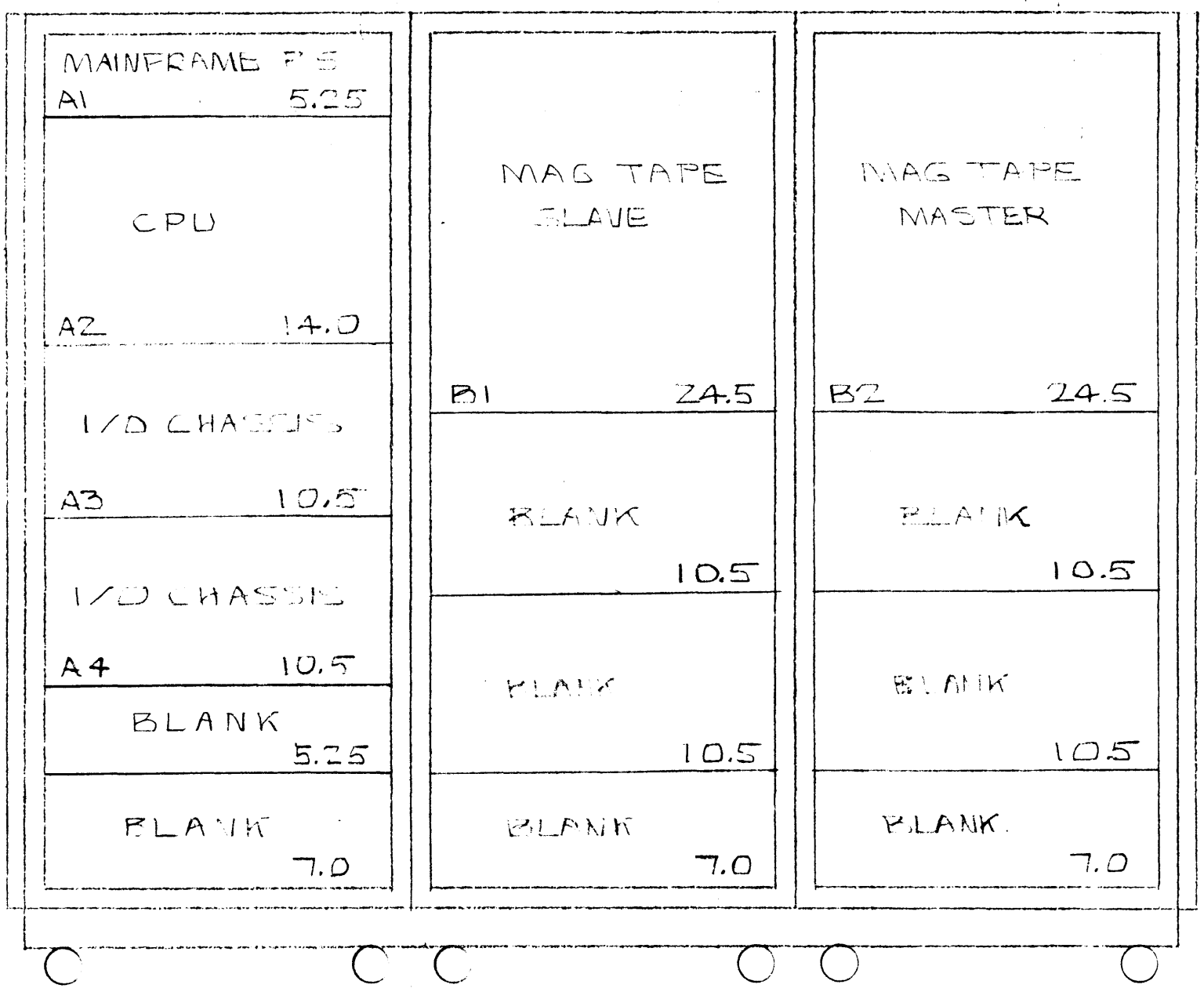
CABINET LAYOUT



CODE IDENT NO. 21104

varian data machines

CABINET LAYOUT



REV

SH OF

CODE IDENT NO. 21101

varian data machines

SSA0019-0003

The PIM (1 to 8 AC External Interrupts) are brought into PIM Board via Front Pins or via J1 or J2 "EDGE" connectors on the later model PIM Board.

FUNCTION	FRONT PINS (Both Models)	J1 or J2
IL00 -	108	3
R	107	4
IL01 -	114	13
R	113	14
IL02 -	104	9
R	103	10
IL03 -	110	15
R	109	16
IL04 -	102	11
R	101	12
IL05 -	88	5
R	87	6
IL06 -	112	1
R	111	2
IL07 -	86	7
R	85	8

NOTE: IL00 - is highest priority; IL07 - is lowest priority.

Input Levels	=	+5V	=	OFF	=	No Int.
	=	0V	=	ON	=	Int.

I/O jumpers for PIM Interrupt Addresses:

100-117 = 74-63, 80 & 106 = Open
120-137 = 74, 80 & 106 = Open
140-157 = 106-74, 74-63, 80 = Open
160-177 = 106-63, 74 & 80 = Open

varian data machines a varian subsidiary	CODE IDENT NO 21101	PIM EXTERNAL INTERRUPTS	SH OF	REV

SIGNAL NAME	FROM	TO	REMARKS
X063	A-063	B-063	Use 30 AWG
X064	A-064	B-064	Single Strand
X065	A-065	B-065	White Wire
X066	A-066	B-066	
X067	A-067	B-067	
X068	A-068	B-068	
X069	A-069	B-069	
X070	A-070	B-070	
X071	A-071	B-071	
X072	A-072	B-072	
X073	A-073	B-073	
X074	A-074	B-074	
X075	A-075	B-075	
X076	A-076	B-076	
X077	A-077	B-077	
X078	A-078	B-078	
X079	A-079	B-079	
X080	A-080	B-080	
X081	A-081	B-081	
X082	A-082	B-082	
X083	A-083	B-083	
X084	A-084	B-084	
X085	A-085	B-085	
X086	A-086	B-086	
X087	A-087	B-087	
X088	A-088	B-088	
X089	A-089	B-089	
X090	A-090	B-090	
X091	A-091	B-091	
X092	A-092	B-092	
X093	A-093	B-093	
X094	A-094	B-094	
X095	A-095	B-095	
X096	A-096	B-096	

WIRE LIST No. 001 | By

CODE IDENT 21101 | WL 95W0271 | REV A

varian data machines
a varian subsidiary
newport beach / california

SHEET 1 | DATE

SIGNAL NAME	FROM	TO	REMARKS
X097	A-097	B-097	
X098	A-098	B-098	
X099	A-099	B-099	
X101	A-101	B-101	
X102	A-102	B-102	
X103	A-103	B-103	
X104	A-104	B-104	
X105	A-105	B-105	
X106	A-106	B-106	
X107	A-107	B-107	
X108	A-108	B-108	
X109	A-109	B-109	
X110	A-110	B-110	
X111	A-111	B-111	
X112	A-112	B-112	
X113	A-113	B-113	
X114	A-114	B-114	
X115	A-115	B-115	

WIRE LIST No. 001	By	CODE IDENT	WL 95W0271	REV A
varian data machines a varian subsidiary newport beach / california		21101		
		SHEET 2	DATE	

DWG NO. 95W1131

REVISIONS

REV	EN	CHG CODE	DESCRIPTION	DR	APPD
A	83455	—	PRODUCTION RELEASE	[illegible]	[illegible]

NEXT ASSEMBLY
01P1564

DR	Mancarella	3-14-74
CHK	W. Brown	5-21-74
DSGN		
ENGR	A Jung	11/14/74
APPD	[illegible]	[illegible]
APPD		

CODE IDENT NO. 21101

varian data machines / a varian subsidiary
2722 michelson drive / irvine / california / 92664

TITLE
WIRE LIST, SPECIAL BACKPLANE
CDS DISC WITH PMA/BTC
CONFIGURATION

SIZE	DWG NO.	REV
A	95W1131	A

SHEET 1 OF 4

WIRING INSTRUCTIONS

1. Refer to systems memo for slot locations.

   Card slot J "X" = CDS Disc Cont. Board #1 3 = X
   Card slot J "Y" = CDS Disc Cont. Board #2 4 = Y
   Card slot J "Z" = PMA/BTC 9 = Z

2. Whenever possible, slot locations should be located at the end of the I/O bus to simplify deletions.

3. Delete the following wires: (Ref. Figure 1 below)

   At card slot J "X" - Delete all wires from the following pins:
   3, 5, 7, 9, 22, 23, 24, 25, 32 thru 42, 45, 46, 47, 51 and 63.

   Note: If breaking into a daisy-chain string, be sure to wire across to assure continuity of the I/O bus.

4. Add wires per wire list on pages 3 and 4.

I/O SLOTS

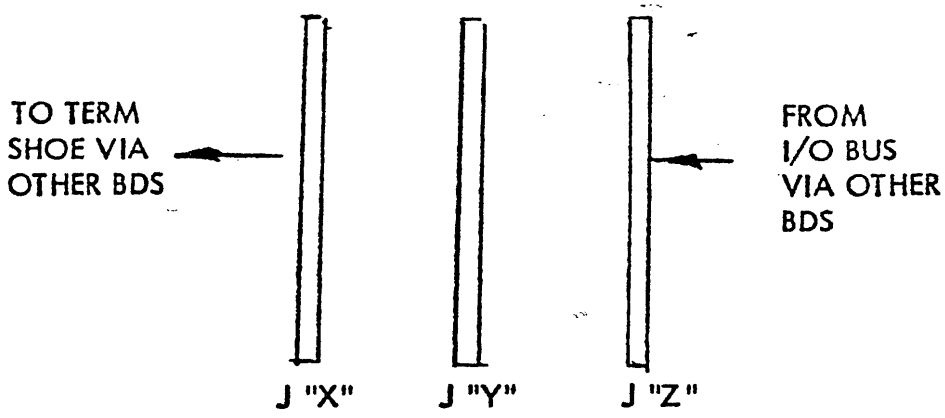


Figure 1

EXP CHASSIS FRONT VIEW

△5. Backplane wiring where (X) and (Y) are specified by Systems Memo.

SIGNAL NAME	FROM	TO	REMARKS
C00-	J "Z"-80	J "X"-32	
C01-	-81	-33	
C02-	-82	-34	
C03-	-83	-35	
C04-	-84	-36	
C05-	-85	-37	
C06-	-86	-38	
C07-	-87	-39	
C08-	-88	-40	DATA BUS
C09-	-89	-41	
C10-	-90	-42	
C11-	-91	-45	
C12-	-92	-46	
C13-	-93	-47	
C14-	-94	-51	
C15-	-95	-63	
CREQ-	-97	-03	
CGO-	-99	-07	
CREAD-	-102	-09	
CACK-	-104	-05	
BCDX-P	-106	-25	CONTROL SIGNALS
CDCX-P	-108	-22	
DCEX-P	-110	-23	
DESX-P	-112	-24	
RESHOG-	J "Z"-114	J "X" -74	
CYSEL +	JX-77	JY-77	5
CSEL+	JX-95	JY-95	

WIRE LIST No. 001	By	CODE IDENT 21101	WL 95W1131 REV A
varian data machines a varian subsidiary newport beach / california			SPECIAL BACKPLANE WIRING - PMA/BTC-CDS DISC
		SHEET 3 OF 4	DATE

SIGNAL NAME	FROM	TO	REMARKS
DDR+	J "X" -73	J "Y" -73	
SCCR-	-75	-75	
RCC1-	-76	-76	
WDAT-	-78	-78	
COMSEL+	-81	-81	
DIFSEL+	-82	-82	
HSEL+	-83	-83	
DA00+	-84	-84	
DA01+	-85	-85	
DA02+	-86	-86	
DA03+	-87	-87	
DA04+	-88	-88	
DA05+	-89	-89	
DA06+	-90	-90	
DA07+	-91	-91	
BCDXE1-	-92	-92	
CO-	-93	-93	
DO-	-94	-94	
BRDY-	-96	-96	
SRBR-	-97	-97	
BPSP-	-98	-98	
SSREN-	-99	-99	
SR15+	-101	-101	
CC15+	-102	-102	
SDET+	-103	-103	
PRCC-	-104	-104	
PRLD-	-105	-105	
SYBP-	-106	-106	
BRCLK+	-107	-107	
EX+	-109	-109	
OL+	-110	-110	
OCYL-	-111	-111	
SKER+	-112	-112	
RDONLY-	J"X" -108	J "Y" -108	

WIRE LIST No. 001	By	CODE IDENT 21101	WL 95W1131 REV A
varian data machines a varian subsidiary newport beach / california			DISC INTERBOARD WIRING
		SHEET 4 OF 4	DATE

96A0101-000A

DWG NO. 95W1100

REVISIONS					
REV	EN	CHG CODE	DESCRIPTION	DR	APPD
A	83179	—	PRODUCTION RELEASE	—	[illegible]

-005

NEXT ASSEMBLY: 01P1682	MODEL NO.: V70 SERIES	varian data machines / a varian subsidiary, 2722 michelson drive / irvine california 92664
DR — —	CODE IDENT NO. 21101	TITLE: WIRE LIST FLOATING POINT PROCESSOR OPTION
CHK [illegible] 7-24-74	THIS DOCUMENT MAY CONTAIN PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED TO PRODUCE THE ARTICLE OR SUBJECT, WITHOUT PERMISSION FROM VDM.	SIZE: A — DWG NO.: 95W1100 — REV: A
DSGN — —		
ENGR [illegible] 7-25-74		
APPD [illegible] 7/29/74		SHEET 1 OF 6
APPD		

96A0153 000D

NOTES: UNLESS OTHERWISE SPECIFIED

1. Reference Drawings

   01P1682 Floating Point Processor Option Parts List

   01A1682 Floating Point Processor Option

2. This wire list converts standard configuration F.P.P. for use with WCS (Port A).

SIGNAL NAME	FROM	TO	REMARKS
MYDB00-	C6V-001	PIB-048 ✓	DELETE
01-	003	049 ✓	
02-	005	050 ✓	
03-	C6V-010	051 ✓	
04-	C5V-001	052 ✓	
05-	003	053 ✓	
06-	005	054 ✓	
07-	010	055 ✓	
08-	012	056 ✓	
09-	C5V-014	057 ✓	
10-	C4V-001	058 ✓	
11-	003	059 ✓	
12-	005	060 ✓	
13-	010	061 ✓	
14-	012	062 ✓	
MYDB15-	C4V-014	063 ✓	
MYAB00+	C2U-003	011 ✓	
01+	006	012 ✓	
02+	008	013 ✓	
03+	C2U-011	014 ✓	
04+	C1V-003	015 ✓	
05+	006	016 ✓	
06+	008	017 ✓	
07+	C1V-011	018 ✓	
MYAB08+	C2V-003	PIB-019 ✓	
MWRYB+	B6V-006	PIB-045 ✓	
MWLYB+	B6V-008	PIB-046 ✓	
YDNMB+	B5V-009	PIB-042 ✓	DELETE

WIRE LIST No. 001	By	CODE IDENT 21101	WL 95W1100 REV A
varian data machines a varian subsidiary newport beach / california			
		SHEET 3 OF 6	DATE

96A0101-000A

SIGNAL NAME	FROM	TO	REMARKS
MYAB09+	C2V-006	PIB-020 ✓	DELETE
10+	C2V-008	022 ✓	
11+	C2V-011	024 ✓	
12+	C3V-003	026 ✓	
13+	C3V-006	028 ✓	
14+	C3V-008	030 ✓	
MYAB15+	C3V-011	032 ✓	
MRQYB-	B6V-003	PIB-039 ✓	DELETE

WIRE LIST No. 001	By	CODE IDENT 21101	WL 1 95W1100 REV A
varian data machines a varian subsidiary newport beach / california			SHEET 4 OF 6 DATE

SIGNAL NAME	FROM	TO	REMARKS
MYDA00-	C6V-001	P1A-048	ADD F/N 5 30 AWG WHT
01-	003	049	
02-	005	050	
03-	C6V-010	051	
04-	C5V-001	052	
05-	003	053	
06-	005	054 ✓	
07-	010	055 ✓	
08-	012	056 ✓	
09-	C5V-014	057 ✓	
10-	C4V-001	058	
11-	003	059	
12-	005	060	
13-	010	061	
14-	012	062	
MYDA15-	C4V-014	063 ✓	
MYAA00+	C2U-003	011 ✓	
01+	006	012	
02+	008	013	
03+	C2U-011	014	
04+	C1V-003	015 ✓	
05+	006	016	
06+	008	017	
07+	C1V-011	018	
MYAA08+	C2V-003	P1A-019	
MWRYA+	B6V-006	P1A-045	
MWLYA+	B6V-008	P1A-046	
YDNMA+	B5V-009	P1A-042	ADD F/N 5 30 AWG WHT

WIRE LIST No. 001	By	CODE IDENT 21101	WL 95W1100	REV A
varian data machines a varian subsidiary newport beach / california			SHEET 5 OF 6	DATE

SIGNAL NAME	FROM	TO	REMARKS
MYAA09+	C2V-006	P1A-020	ADD F/N 5 30 AWG WHT
10+	C2V-008	022	
11+	C2V-011	024	
12+	C3V-003	026	
13+	C3V-006	028	
14+	C3V-008	030	
MYAA15+	C3V-011	032	
MRQYA-	B6V-003	P1A-039	
CPCHEN+	C3A-005	C3A-007	ADD F/N 5 30 AWG WHT

WIRE LIST No. 001	By	CODE IDENT 21101	WL 95W1100 REV A
varian data machines a varian subsidiary newport beach / california			SHEET 6 OF 6 DATE

DEVICE ADDRESS WIRING TABLE A

Last Digit	Wire Pin 72 To	Wire Pin 69 To	Wire Pin 66 To
0	71	68	65
1	71	68	64
2	71	67	65
3	71	67	64
4	70	68	65
5	70	68	64
6	70	67	65
7	70	67	64

DEVICE ADDRESS WIRING TABLE B

Device	Address	Wire
BIC	20-21	65-69, 70-72, 115-118 (+5V), 73-93 (SPECIAL PULLUP)
BIC	22-23	65-68, 59-69, 70-72, 115-118 (+5V)
BIC	24-25	65-69, 59-72, 70-71, 115-118 (+5V)
BIC	26-27	65-68, 59-69, 69-72, 70-71, 115-118 (+5V)
L.P. Cont.	35	87-78, 82-76, 84-77, 64-66, 68-69, 70-72
PTR 150 CPS	37	64-66, 67-69, 70-72, 82-76, 84-77, 87-78
PIM	40 (IA 100-117)	64-66, 67-69, 70-72, 63-74
PIM	41 (IA 120-137)	63-66, 64-65, 67-69, 70-72
PIM	42 (IA 140-157)	63-69, 64-66, 67-68, 70-72, 63-74, 74-106
PIM	43 (IA 160-177)	63-66, 66-69, 64-65, 67-68, 70-72, 63-106
MUX, DIM	70	65-66, 68-69, 71-72, 73-75, 76-78
Relay I/O	70	65-66, 68-69, 71-72,

DIM 124 ONLY

PIM Device Address Wiring - Two Types

Type 1

Device Address	Wiring
40	64-66, 67-69, 70-72
41	63-66, 64-65, 67-69, 70-72
42	63-69, 64-66, 67-68, 70-72
43	63-66, 66-69, 64-65, 67-68, 70-72

Type 2 Board Assembly # 44D0683
DM 398

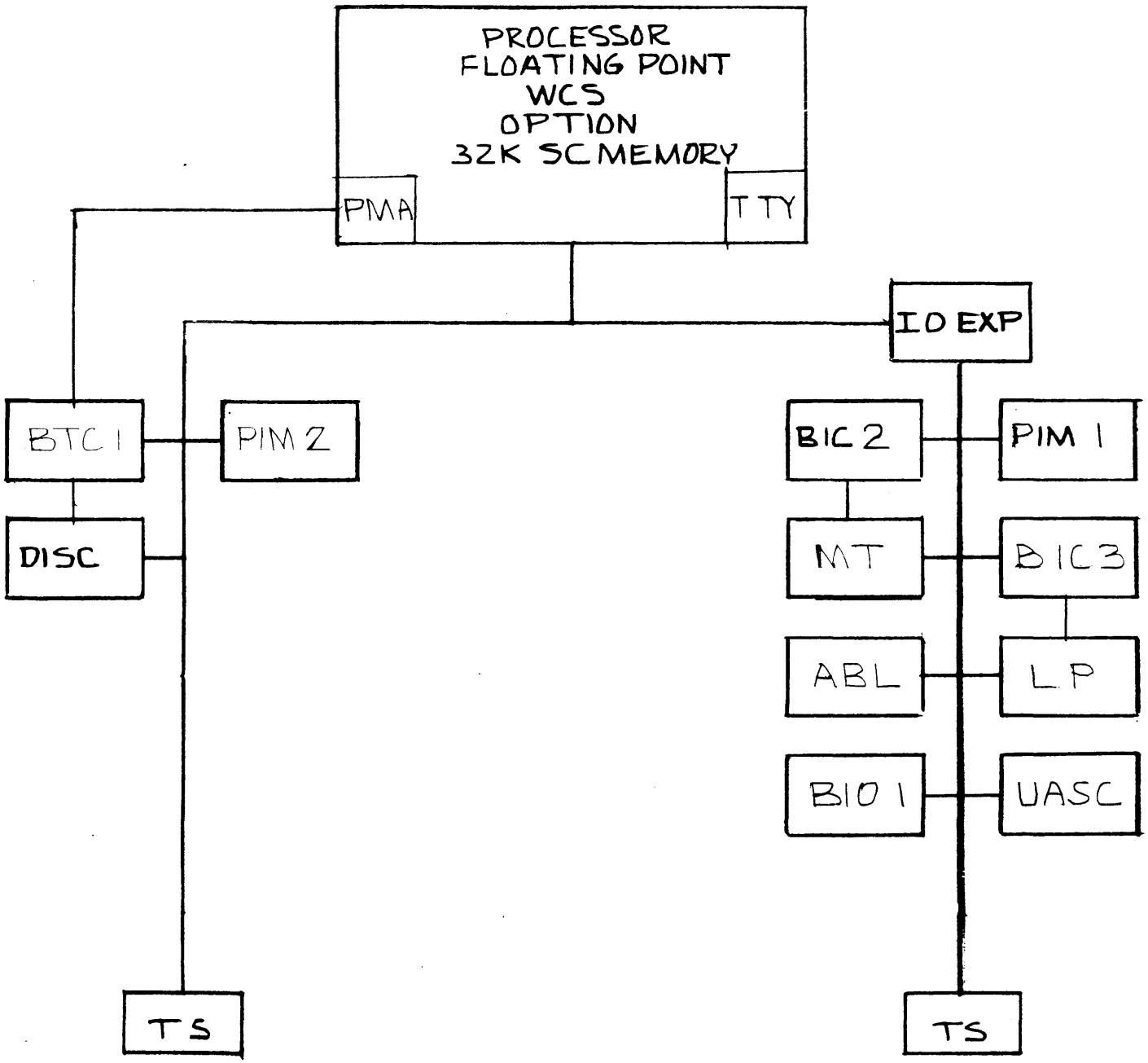
Device Address	Wiring
40	64-66, 67-69, 70-72
41	64-65, 67-69, 70-72
42	64-66, 67-68, 70-72
43	64-65, 67-68, 70-72

1.0 EQUIPMENT SUMMARY

This is 32K SC Memory V-73 Computer System.

- V-73, 14" Chassis, Power Supply, Console, DMA, PMA, PFR, RTC, HM/D, TTY, Memory Protect (E3520B)
- 32K SC Memory with Data Save (73-2500 - 73-3200)
- Disc ABL (73-3004)
- WCS and Power Supply (73-4004 + 73-4090)
- Floating Point Processor and Power Supply (73-3400 + 73-4090)
- 1 each - I/O Chassis (73-9004) includes Power Supply, I/O Expander and Cables
- 1 each - I/O Chassis (73-9005) includes Power Supply and Cables
- 1 each - BTC (73-3100)
- 2 each - PIM (73-3101)
- 2 each - BIC (73-3102)
- 1 each - UASC (70-5601)
- 1 each - TTY ASR33 (70-6100)
- 1 each - Extender Board (70-9951)
- 1 each - LP (E-2200)
- 1 each - MT Master (70-7102)
- 1 each - MT Slave (70-7103)
- 1 each - Disc (70-7510)
- 1 each - Buffered I/O Controller (70-8301)
- 1 each - Disc ABL (73-3004)
- 1 each - Cabinets - 3 Bay (70-9202)
- VORTEX (MT9) (70-9500)
- MAINTAIN II (70-9570)

2.0 SYSTEM BLOCK DIAGRAM



3.0 SYSTEM POWER REQUIREMENT

The system main power is 115VAC, 60HZ, 1 phase.

3.1 System Power

a. 1 each - 30 Amp circuits for cabinets - mating connector is Hubbell 2610

b. 1 each - 4 Amp circuit for TTY

c. 1 each - 7 Amp circuit for Line Printer

Mating connector for "b" and "c" is standard 3-wire "U" ground.

3.2 Disc Power

a. 1 each - 20 Amp, 208VAC, 3-phase circuit for disc; mating connector is Hubbell 3520.

4.0 CONTROLLER BOARD SLOT ASSIGNMENT

Refer to System Arrangement Drawing No. 93D0836X.

Chassis A2

Slot	
17	Processor
15	Floating Point
13	WCS
11	Option
7	24-31K SC Memory
5	16-23K SC Memory
3	8-16K SC Memory
1	0-7 K SC Memory

Chassis A3 RH

Slot	
13	I/O Cable
12	I/O Expander
9	BTC #1
6	Disc Board #2
3	Disc Board #1

Chassis A3 LH

Slot	
13	PIM #2
12	Term Shoe
11	I/O Expander
10	BIC #2
8	ABL
5	BIO #1
4	UASC
3	PIM #1
2	I/O Cable

Chassis A4 LH

Slot	
2	I/O Cable
5	M.T. Board #2
8	M.T. Board #1

Chassis A4 RH

Slot	
2	BIC #3
4	LP
13	Term Shoe

5.0 PIM /BIC ASSIGNMENTS

5.1 PIM PRIORITY ASSIGNMENTS

PIM # 1

Device Address 40
Interrupt Address 100-117
Priority Levels:

0. BTC #1 D
1. RESERVED D
2. BIC #2 D
3. BIC #3 D
4. RESERVED D
5. DISC0 SEEK COMP
6. SPARE D
7. MT MOTION COMPL

PIM #

Device Address
Interrupt Address
Priority Levels:

0.
1.
2.
3.
4.
5.
6.
7.

PIM # 2

Device Address 43
Interrupt Address 160-177
Priority Levels:

0.
1.
2.
3.
4. UASC REAL
5. UASC WRITE
6. TTY REAL
7. TTY WRITE

5.2 BIC ASSIGNMENTS

BIC # 1

Device Address 20, 21
Controller Assignments:

1. DISC DA = 15
2.
3.
4.
5.

BIC #

Device Address
Controller Assignments:

1.
2.
3.
4.
5.

BIC # 2

Device Address 24, 25
Controller Assignments:

1. MT DA = 10
2.
3.
4.
5.

BIC # 3

Device Address 26, 27
Controller Assignments:

1. LP DA = 35
2.
3.
4.
5.

BIC #

Device Address
Controller Assignments:

1.
2.
3.
4.
5.

BIC #

Device Address
Controller Assignments:

1.
2.
3.
4.
5.

6.0 System Wiring Requirements

6.1 System Priority

See Sections 6.1.1, 6.1.2, and 6.1.3.

6.1.1 SYSTEM PRIORITY ASSIGNMENTS

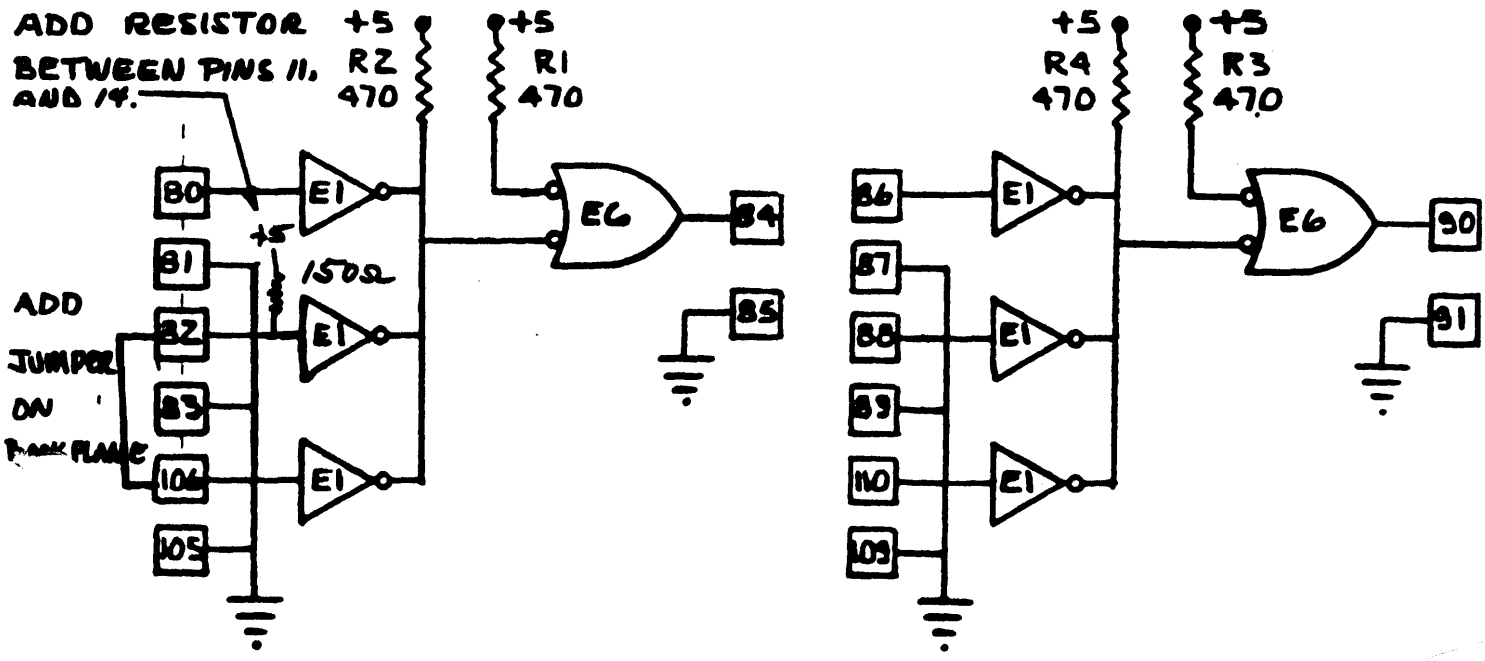
1.	MEM PROT	9.	ABL
2.	PFR	10.	CONSOLE
3.	BIC #2	11.	
4.	BIC #3	12.	
5.	RTC	13.	
6.	FPP	14.	
7.	PIM #1	15.	
8.	PIM #2		

Priority Look Ahead Required? X Yes ____ No

The system priority network is long enough to incorporate "priority look ahead". The look ahead feature insures that the end of the priority line is made aware of an interrupt at the beginning of the line without having to wait for propogation delays through the priority network.

The priority look ahead is installed on the I/O Expander slot 12 (R/H) view chassis A3.

The following components are on the I/O Exp. as indicated per 91C0435.



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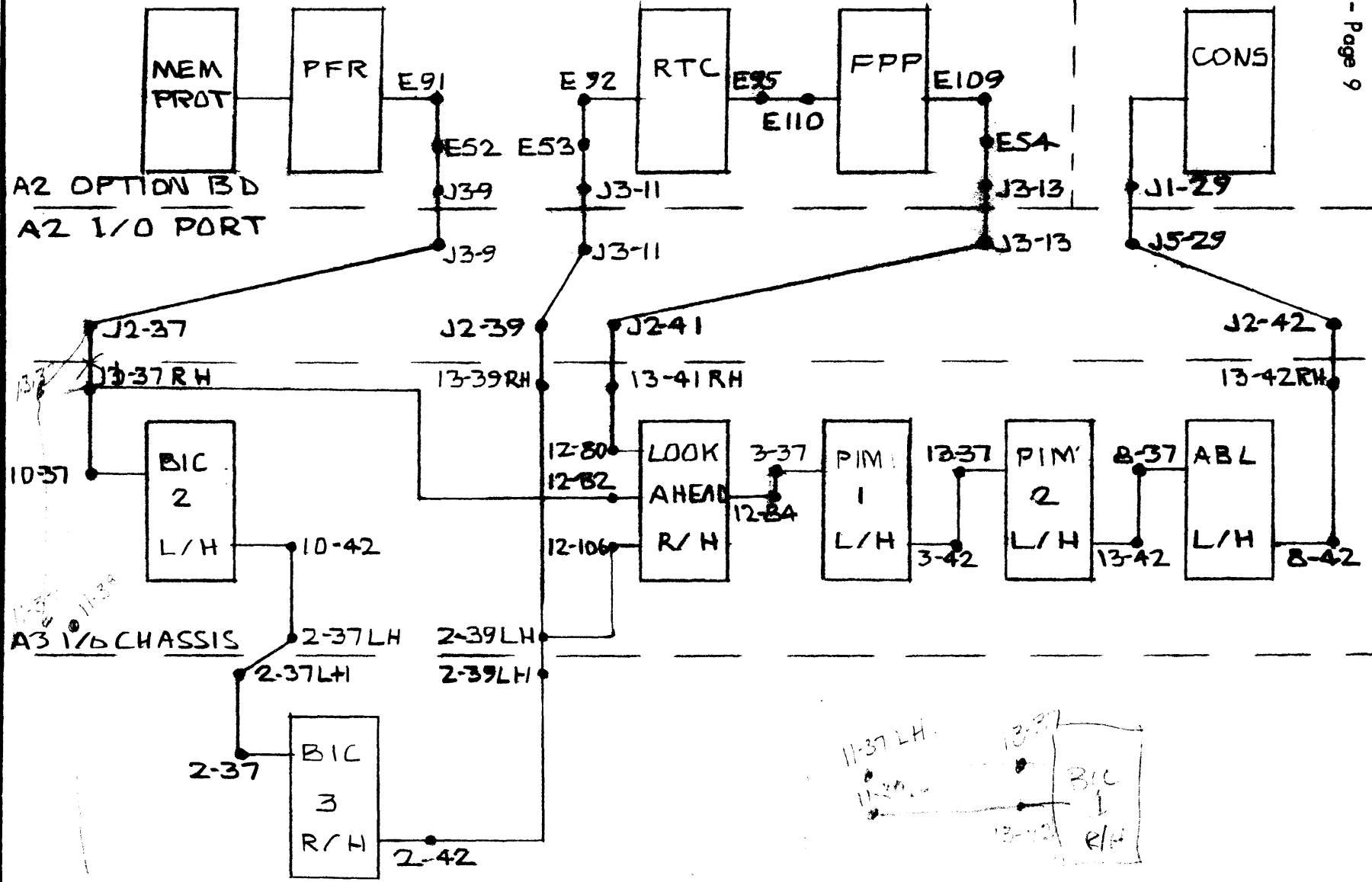
REV

6.1.2 SYSTEM PRIORITY WIRING DIAGRAM



6.1.3 Priority Wiring

Chassis A2 (Option Board)

From	To
E91	E52
E92	E53
E95	E110
E109	E54

NOTE: If E-109 and E-110 are not on Option Board, connect E95 to J4-12, and connect E54 to J6-11 (refer to 01A1682).

Chassis A2 (I/O Port)

From	To
J2-37	J3-9
J2-39	J3-11
J2-41	J3-13
J2-42	J5-29

Chassis A3 (Use 30 AWG Twisted Pair)

Signal

From	To
13-37 RH	10-37 LH
13-38 RH	10-38 LH
13-37 RH	12-82 RH
13-39 RH	2-39 LH
13-40 RH	2-40 LH
13-41 RH	12-80 RH
13-42 RH	8-42 LH
13-40 RH	8-40 LH

Signal

From	To
12-84 RH	3-37 LH
12-85 RH	3-38 LH
12-106 RH	2-39 LH
12-105 RH	2-40 LH
3-42 LH	13-37 LH
3-40 LH	13-38 LH
13-42 LH	8-37 LH
13-40 LH	8-38 LH
10-42 LH	2-37 LH
10-40 LH	2-38 LH

Chassis A4 (Use 30 AWG Twisted Pair)

From	To
2-37 LH	2-37 RH
2-34 LH	2-34 RH
2-39 LH	2-42 RH
2-36 LH	2-36 RH

6.2 Device Address Assignments

DA	DEVICE	DA	DEVICE
		040	PIM#1 (IA=100-117)
01	TTY	041	
02	UASC 1	042	
03	UASC 2	043	PIM #2 (IA=160-177)
04	UASC 3	044	All PIM Enable/Disable
05	UASC 4	045	MP
06	UASC 5	046	
07	UASC 6	047	RTC
010	MT	050	
011		051	
012		052	
013		053	
014		054	
015	DISC	055	
016	ABL (DISC)	056	
017		057	
020	BTC #1	060	
021	BTC #1	061	
022		062	
023		063	
024	BIC #2	064	BIO #1
025	BIC #2	065	
026	BIC #3	066	
027	BIC #3	067	
030		070	
031		071	
032		072	
033		073	
034		074	WCS
035	LP 1	075	WCS
036	LP 2	076	
037	HIGH SPEED PTR	077	CONSOLE

6.2.1 Device Address Wiring

Chassis A3 LH

PIM #1	Wiring	UASC	Wiring
Slot 3	64-66	Slot 4	76-83, 66-65
DA 40	67-69	DA = 02	77-85, 69-67
IA 100-117	63-74		78-87, 71-72
	70-72		

Buff I/O #1	Wiring
Slot 5	65-66
DA = 64	68-69
	71-72

Disc ABL	Wiring
Slot 8	65-66
DA = 16	67-69
	70-72

PIM #2	Wiring
Slot 13	65-64
DA 43	70-72
IA 160-177	63-106
	67-68

BIC #2	Wiring
Slot 10	65-69
DA 24,25	70-71
	59-72
	115-118

Chassis A4 RH

BIC #3	Wiring	LP	Wiring
Slot 2	65-68	Slot 4	64-66, 82-76
DA 26,27	70-71	DA = 35	68-69, 84-77
	59-72		70-72, 87-78
	69-72		
	115-118		

Chassis A3 RH

Disc (Board #1)	Wiring	BTC	Wiring
Slot 3	64-66	Slot 9	65-66
DA = 15	68-69	DA =20,21	68-69
	70-72		71-72

Mag Tape - DA = 10. Hardwired on Board #2

6.3 PIM Interrupt Wiring

(Use 30 AWG Twisted Pair)

PIM #1 DA = 40 IA = 100-117

Signal	From	To	Function
IL00	A3 RH 9-75	A3 LH 3-108	BTC #1 Complete
R	A3 RH 9-76	A3 LH 3-107	
IL01	Reserved		
IL02	A3 LH 10-75	A3 LH 3-104	BIC #2 Complete
R	A3 LH 10-76	A3 LH 3-103	
IL03	A4 RH 2-75	A4 LH 2-77	BIC #3 Complete
R	A4 RH 2-76	A4 LH 2-78	
	A3 LH 2-77	A3 LH 3-110	
R	A3 LH 2-78	A3 LH 3-109	
IL04	Reserved		
IL05	A3 RH 3-113	A3 LH 3-88	Disc "0" Seek Complete
R	A3 RH 3-114	A3 LH 3-87	
IL06	Spare		
IL07	A4 LH 8-104	A4 LH 2-63	MT Motion Complete
R	A4 LH 8-103	A4 LH 2-64	
R	A3 LH 2-63	A3 LH 3-86	
	A3 LH 2-64	A3 LH 3-85	

PIM #2 DA = 43 IA = 166-177

Signal	From	To	Function
IL00 thru IL03	Spares		
IL04	A3 LH 4-91	A3 LH 13-102	UASC Read Ready
R	A3 LH 4-94	A3 LH 13-101	
IL05	A3 LH 4-89	A3 LH 13-88	UASC Write Ready
R	A3 LH 4-90	A3 LH 13-87	
IL06	A2(I/O Port) J3-3	A2(I/O Port) J2-75	TTY Read Ready
R	A2(I/O Port) J3-4	A2(I/O Port) J2-76	
IL06	A3 RH Slot 13-75	A3 LH Slot 13-112	
R	A3 RH Slot 13-76	A3 LH Slot 13-111	
IL07	A2(I/O Port) J3-5	A2(I/O Port) J2-77	TTY Write Ready
R	A2(I/O Port) J3-6	A2(I/O Port) J2-78	
IL07	A3 RH Slot 13-77	A3 LH 13-86	
R	A3 RH Slot 13-78	A3 LH Slot 13-85	

6.4 BIC Delete Wiring

DELETE the BIC wiring Chassis A4, Slot 2 LH to Slot 13 RH, Pins 49, 50, 52, 54, 56, 58 and 60.

6.5 Mag Tape/Disc Interslot Wiring

6.5.1 Mag Tape Wiring

Install mag tape interboard wiring into Chassis A4 LH, Slots 5 to 8 per Wire List No. 95W0271 contained in the Appendix, Section 9.0.

6.5.2 Disc Interboard Wiring

Install the -7510 disc interboard wiring per attached Wire List No. 95W1131 in the specified Chassis -

A3 RH Slot 9 = PMA/BTC #1
A3 RH Slot 6 = Disc. Cont. Board #2
A3 RH Slot 3 = Disc. Cont. Board #1

NOTE: The E-Bus is to be continued across disc controllers. Re-install per Wire List No. 95W1131.

6.6 N/A

6.7 Mainframe Wiring

6.7.1 Central Processor Wiring - refer to 01A1331

1. Install "Processor to Memory A " Jumpers.
2. Memory protect is installed, so jumper Pins F to F.
3. Clock source is WCS clock, jumper Pins J2 to J3
4. Memory Wraparound is for 32K ADD JUMPERS 22C TO Z1B & A29 TO GND

6.7.2 Control Console - refer to 01A1335

1. Control Disable - to disable all switches, install jumpers between Pins C and E.
2. ABL - RMD ADD jumpers between A-A & B-B

6.7.3 Option Board Wiring - refer to 01A1332

1. PFR — Option to be enabled, remove jumpers between E7 and E8, E9 and E10.

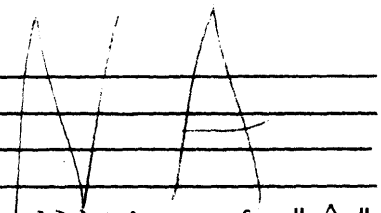
2. RTC — FRC=100μs, ADD jumper between E13 TO E18

   IIC =10KC, ADD jumper E13 TO E14

   Disable RTC interrupts on a J MARK instruction. Jumper between E11 and E12.

3. Memory Parity — DISable this option, ADD jumper clip between Pins E61 to E62.

   Interrupt Address=
   Jumper
   Parity Memory Bus
   Jumper



4. Memory Protect — Memory Bus Selection ADD jumpers for " A " bus selection. ENable this option, ADD jumper clips E98 to E99 and E100 and E101. Memory Map is NOT IN system.

5. Interrupt Clock — Setup for interrupt rate of 990. ADD jumpers between Pins E2 and E3, E4 and E5.

6. TTY — ENable TTY DELETE jumper E96 to E97. Setup TTY for BPS 110, 2 Stop Bits. Install jumpers as follows:

   DELETE: E44 to E45

   ADD: E20 to E21, E24 to E25, E28 to E29, E30 to E31, E32 to E33, E36 to E37, E38 to E39, E40 to E41, E42 to E43, E107 to E108

7. Memory Time Out Logic

Install JUMPERS B50 TO B51 A25 TO B49

8. PMA

Data Transfer Mode = 620 compatible mode.

ADD: Jumpers E73-E74, E75-E76, E77-E78, E79-E80.

Hog Mode: NOT USED will control Hog Mode: DELETE jumper A27 – B27.
PMA Memory Request - Jumper B25 - C25
B Port NOT shared between PMA and CPU
ADD E89-E90.

9. PMA Address Bits 9-15

ADD Jumpers

B11-C11	B13-C13
B15-C15	B17-C17
B19-C19	B21-C21
B23-C23	

6.7.4 WCS Wiring - refer to 01A1444

1. Device Address - 74, 75. Install jumper clips between E2 and E3, E4 and E5.
2. Page Address - 1. Install jumper clips between E9 and E10, E11 and E12.
3. Fine Clock Output - Install jumper clip between E34 and E35.
4. Memory Request Disable for Micro Step Mode - Install jumper clip between E36 and E37.
5. Page Select Signal - Install jumper clips between E15 and E16.
6. Module 1 Enable - Install jumper clip between E21 and E22.
7. Decoder RAM NOT Present ADD jumper clip between E23 and E24.
8. Control Store Data Driver NO jumper NOT enable interlock control.
9. BCS Entry Table - Setup for 32 words NO jumper clips between E31 and E32, E28 and E29, E25 and E26.
10. Memory Port Selection - Install jumper clips for " A " Port select.
11. Memory DONE YDNM - Install jumper clip between B3-C3
12. Address 15 MAY 15 - Install jumper clip between B1-C1
13. Memory Lockout Control ADD jumper C4-B4
14. Address 15 Control - Install jumper clip between E17 and E18.
15. WCAEN - True is Decoder ROM is Selected - Install jumper clip between E61 and E62.
16. WXCSEN - True if CCS ROM is Selected - Install jumper clip between E27 and E30.

6.7.5 MOS Memory - refer to 01A1323

For bank address selection wiring, refer to attached memory jumper configuration sheets (see Section 9.0, Appendix).

			Slot	
Memory Bank #1	=	0- 7K	1	Mainframe Chassis A2
Memory Bank #2	=	8-15K	3	
Memory Bank #3	=	16-23K	5	
Memory Bank #4	=	24-31K	7	

6.7.6 Floating Point Processor

Time Out Enable	-	Jumper B4C-10 to B5B-13
+5V Control	-	Jumper P1A-6 to J7-1
ADD Wire List 95W1100	-	Jumper B4C

6.8 Miscellaneous Special Wiring

1. DELETE all voltage wiring to Slot 2 LH (Front View) Chassis A4, Slot 13 RH (Front View) Chassis A3
2. DELETE all I/O wiring Slot 11 LH to Slot 12 LH, Chassis A3 Pins 1-60.
3. SPFA

   A2 (I/O Port) J3-7 — A3 RH Slot 13-115
   A2 (I/O Port) J2-115 — A3 LH Slot 12-115
4. Disable BIMES

   BIC #2 - Jumper A3 LH Slot 10-93 to Pin 73
   BIC #3 - Jumper A4 RH Slot 2-93 to Pin 73
5. Disable BTMES

   BTC - Jumper A3 RH Slot 9-96 to Pin 73

7.0 SPECIAL SYSTEM INFORMATION

1. Install Data Save on Power Supply.
2. Setup UASC as follows:

Baud Rate	9600	Install Jumpers	- E2, E3, E4
Parity	- None	DELETE	- E13
Stop Bits	- One	Install	- E14
Data Bits	- Eight	DELETE	- E15, E16

3. SETUP Buffered I/O as follows:

Pulse Width	10 usec	R10 = 3.9K C37 = .001 MFD
Bit Configuration	16 Bits	

8.0 CABLE IDENTIFICATION

CABLE DESIGN.	FROM	TO	PART NUMBER	CABLE LENGTH	FUNCTION
X1	A1 J1	A2 J1	53P0658	48"	Fan Power
X2	A1 J4	A2 J2	53P0659	48"	DC Power
X3	A1 J3	A2 J3	53P0780	48"	DC Power
X4	A1 J1	A4 PS	53P0685	60"	AC Sequence
X5	A6 PS	A5 PS	53P0696	60"	AC Sequence
X6	A5 Captive	A3 J30	53P0686	30"	I/O Exp. Power
X7	A6 Captive	A4 J30	53P0686	30"	I/O Exp. Power
X8	A2 P2 (CPU)	A2 P2 (Flt Pt) A2 P2 (WCS)	53P0674-004	Mod	WCS
X9	A2 P3 (DCA)	A2 P3 (Opt)	53P0675-007	Mod	Aux I/O
X10	A2 P3 (CPU)	A2 P3 (Flt Pt) A2 P3 (WCS)	53P0674-004	Mod	WCS
X11	A2 P4 (Flt Pt)	A2 P4 (Opt)	53P0674-006	Mod	Processor
X12	A2 P5 (DCA)	A2 P5 (Opt) A2 P5 (CPU) A2 P5 (WCS) A2 P5 (Flt Pt) A2 P1 (CONS)	53P0675-003	Mod	I/O
X13	A2 P6 (CPU)	A2 P6 (Flt Pt) A2 P6 (WCS) A2 P6 (Opt)	53P0674-006	Mod	WCS
X14	A2 J2 (DCA)	A3 RH Slot 13	53P0715	24"	I/O
X15	A2 P8 (Opt)	C1 (TTY)	53P0777	240"	TTY
X16	A7 P/S	A2 (WCS)	53P0703	72"	FPP Power
X17	A8 P/S	A2 (Flt Pt)	53P0703	72"	WCS Power
X18	A3 RH Slot 12	A3 LH Slot 11	53P0665	60"	I/O Expander Cable

9.0 APPENDIX

1. Board Layout
2. Cabinet Layout
3. Semiconductor Memory Configuration Sheets (4)
4. PIM Pin Assignment Sheet
5. W/L No. 95W0271 - REV. "A"
6. W/L No. 95W1131 "A"
7. W/L No. 95W1100 "A"
8. DA Wiring Tables
9. PIM DA Wiring Tables

mMc
Attachments