

XDS 902345B-1  
\$13.00

**ENGINEERING SUPPORT MANUAL**

**MEDIUM SPEED RAD  
CONTROLLER**

**MODEL 7201  
ASSEMBLY NO. 135743**

March 1970

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Prepared by  
Field Engineering Publications

**Xerox Data Systems** 701 South Aviation Blvd., El Segundo, California 90245 (213) 772-4511, 679-4511

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## PREFACE

The purpose of an Engineering Support Manual (ESM) is to provide, under one cover, all of the engineering-produced documentation which is relevant to the maintenance of XDS-designed products.

### ENGINEERING SUPPORT INDEX

The Engineering Support Index (ESI) begins on page i. The ESI is a table of contents for drawings in this manual and provides a cross-reference between the change level of the Top Assembly drawing and the change levels of related drawings.

### UPDATING

When Engineering Orders (EO) to Top Assemblies are released, documentation is updated and distributed to appropriate installations by XDS Field Engineering. If XDS is responsible for maintaining the affected equipment, the EO and the documentation Update Package is sent to the appropriate Customer Service District Office. The Customer Engineer is then responsible for prompt EO installation and manual updating. If the XDS customer is responsible for equipment maintenance, the EO and the documentation Update Package is sent to the customer address that the customer has provided.

The Update Package typically includes a revised title page, revised Engineering Support Index page, and all pages that have been revised.

Inquiries concerning Update Packages should be addressed to XDS Product Support.

### CHANGES

Changes to an ESM drawing can only be brought about by the submission of a Drawing Change Request (DCR). To effect a drawing change, field personnel should submit a Technical Action Request (TAR) per Customer Engineering Policy and Procedure, 65-03-04, and Field Reporting Operating Manual, 901714. A DCR may then be submitted by Product Support Engineering after the TAR is reviewed. Customers who wish to notify XDS of any discrepancies within the ESM may submit their comments on the Reader Survey sheet in the back of the manual to XDS Field Engineering Publications.

## ENGINEERING SUPPORT INDEX

MODEL 7201 TOP ASSEMBLY 135743 LEVEL U  
 NAME MEDIUM SPEED RAD CONTROLLER

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## RELATED PUBLICATIONS

The following XDS publications contain information not included within this manual. These publications must be available as part of Site Documentation in order for the user of this manual to learn, install, operate, and maintain the equipment.

<u>Publication Title</u>	<u>Document No.</u>
XDS Sigma RAD Storage System, Reference Manual	900979
Power Supply, Model PT16, Technical Manual	901080
Sigma Rapid Access Data Files, Models 7201/7202/7203/7204, Technical Manual	901081
Sigma 5 and 7 Medium Speed RAD System Test, Program No. 704351, Diagnostic Program Manual	901090
Sigma 5 and 7 Medium Speed RAD File Test, Program No. 704072, Diagnostic Program Manual	901130
Sigma 2 Medium Speed RAD System Test, Program No. 704705, Diagnostic Program Manual	901148
Sigma 2 Medium Speed RAD File Test, Program No. 704027, Diagnostic Program Manual	901167

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SECTION I  
DESIGN AUTOMATION DATA





CODE	LINE NO.	CHG	LOGIC EQUATIONS	PINS	REMARKS	C/L
1	2345678	9	10 123456789 20 23456789 30 23456789 40 23456789 50 23456789 60 23456789 70			
0	NFR		REPEATER FLIP-FLOP(RESET)			
0	-PET		SIGNAL DERIVED FROM SELF TEST UNIT, JT14			
0	-SC		OSCILLATOR			
0	-TO		TERMINATOR			
0	-VS		VOLTAGE SOURCE			





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CODE	LINE NO.	CHG	LOGIC EQUATIONS	PINS	REMARKS	C/L
I	23456789	9	10 123456789 20 23456789 30 23456789 40 23456789 50 23456789 60 23456789 70			
P	0001800		NAN0 = B .NANOR.DISC			A
P	0001800		25A36,37, 44,			A
*	0001850		ANOR-AN3R = DISC ANGLE RECEIVED FROM STORAGE UNIT			E
P	0001900		ANOR = -BCR			A
P	0001900		30A36,			A
P	0002000		NANOR = I .ANOR.			A
P	0002000		21A45,39, 33X,43X,			A
P	0002300		AN1R = -BCR			A
P	0002300		30A38,			A
P	0002400		NAN1R = I .AN1R.			A
P	0002400		21A46,40, 43X,44X,			A
P	0002700		AN2R = -BCR			A
P	0002700		30A40,			A
P	0002800		NAN2R = I .AN2R.			A
P	0002800		21A47,41, 10X,43X,			A
P	0003100		AN3R = -BCR			A
P	0003100		30A42,			A
P	0003200		NAN3R = I .AN3R.			A
P	0003200		21A50,42, 05X,43X,			A
*	0003250		ARR1-ARR2 = FAM CLOCK CYCLE FOR IOP			E
P	0003300		ARR1 = -BL * + .ARR1.			A
P	0003300		19B39,\$,\$,39, 36X,			A
P	0003325		+ .GND12.			A
P	0003325		19B\$,35, 37X,			A
P	0003350		+ .RSDC.			A
P	0003350		19B\$,34, 38X,			A
P	0003375		I .CFI0PL.T2			A
P	0003375		18B14,12X, 11,			A
P	0003400		ARR2 = B * + .J092.RSAU			A
P	0003400		16C20,\$,\$,21, 22,20-09B02T			A
P	0003425		+ .ARSET.FSCU			A
P	0003425		16C\$,24, 23,			A
P	0003450		+ .ARR2.DCB			A
P	0003450		16C\$,02, 01,			A
P	0003475		I .CFI0PL.T4			A
P	0003475		18B15,12X, 13,			A
P	0003480		NARR2 = I .ARR2 .			C
P	0003480		12B10,07, 09X,06X,10-10C15T			C
*	0003490		ARSET = SETTING TERM FOR ARR2			E



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L	
	1 2345678 9	10	1 23456789 20	23456789 30	23456789 40	23456789 50	23456789 60	23456789 70
P	0004500		NBA0 = I	* + .BA0.NT0			A	
P	0004500		11C29, \$, \$, 22, 23, 29	09B37T-09C25C			H	
P	0004533			+ .BAXUP.UP0			A	
P	0004533		11C\$, 20,	21,			A	
P	0004566			+ .BAXLP.LP0			A	
P	0004566		11C\$, 19,	24,			A	
P	0004600		BA1 = -BL	* + .BA1.NT0			A	
P	0004600		12C46, \$, \$, 46, 30X,	46-09B38T-09C30C			H	
P	0004633			+ .BAXUP.UP1			A	
P	0004633		12C\$, 13X,	47,			A	
P	0004666			+ .BAXLP.LP1			A	
P	0004666		12C\$, 05X,	50,			A	
P	0004700		BA2 = -BL	* + .BA2.NT0			A	
P	0004700		12C09, \$, \$, 09, 30X,	09-09B39T-09C29C			H	
P	0004733			+ .BAXUP.UP2			A	
P	0004733		12C\$, 13X,	08,			A	
P	0004766			+ .BAXLP.LP2			A	
P	0004766		12C\$, 05X,	06,			A	
P	0004800		BA3 = -BL	* + .BA3.NT0			A	
P	0004800		12C07, \$, \$, 07, 30X,	07-09B40T-09C18C			H	
P	0004833			+ .BAXUP.UP3			A	
P	0004833		12C\$, 13X,	04,			A	
P	0004866			+ .BAXLP.LP3			A	
P	0004866		12C\$, 05X,	03,			A	
*	0004875		BAXLP = FAM CLOCK CYCLE FOR DISC, LOWER POINTER DETERMINES				E	
*	0004880		FAM ADDRESS				E	
P	0004900		BAXLP = -BDS	*SENSEU60			G	
P	0004900		04C31, 45,	31-37T			G	
P	0004940			* .CFDISC			G	
P	0004940		04C\$,	33, 35, 38			G	
*	0004950		BAXUP = FAM CLOCK CYCLE FOR IOP, UPPER POINTER DETERMINES				E	
*	0004970		FAM ADDRESS				E	
P	0005000		BAXUP = -BDS	*SENSE060			G	
P	0005000		04C23, 47,	23-36T			G	
P	0005050			* .CFIOP			G	
P	0005050		04C\$,	24, 25, 26			G	
P	0005110		BCA = -CLK	* + .CLK .CD0 .SC2			G	
P	0005110		02C08, \$, \$, 34X,	24, 25,	08-24C40T		G	
P	0005111			+ .DSRZ .DCL			G	
P	0005111		02C\$, 30,	31, 33			G	
P	0005112			+ .GND16			G	
P	0005112		02C\$, 26,	27, 29			G	



CODE	LINE NO.	CHG	LOGIC EQUATIONS			PINS			REMARKS			C/L
			10	20	30	40	50	60	70			
P	0005560		E/BC1 = .BRE									A
P	0005560		01B18X.									A
P	0005580		C/BC1 = .BC2									A
P	0005580		01B33.									A
P	0005600		BC2 = FF									A
P	0005600		01B27.									A
R	0005700		NBC2 = NFF									A
R	0005700		01B44.									A
P	0005720		S/BC2 = .NBC2									A
P	0005720		01B45.									A
P	0005740		M/BC2 = .GND04									A
P	0005740		01B34.									A
P	0005760		E/BC2 = .BRE									A
P	0005760		01B18X.									A
P	0005780		C/BC2 = .BC3									A
P	0005780		01B30.									A
P	0005800		BC3 = FF									A
P	0005800		01B24.									A
P	0005900		NBC3 = NFF									A
P	0005900		01B46.									A
P	0005920		S/BC3 = .NBC3									A
P	0005920		01B50.									A
P	0005940		M/BC3 = .GND04									A
P	0005940		01B28.									A
P	0005960		E/BC3 = .BRE									A
P	0005960		01B18X.									A
P	0005980		C/BC3 = .BC4									A
P	0005980		01B26.									A
P	0006000		BC4 = FF									A
P	0006000		01B23.									A
P	0006100		NBC4 = NFF									A
P	0006100		01B20.									A
P	0006120		S/BC4 = .NBC4									A
P	0006120		01B22.									A

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L					
	1 2 3 4 5 6 7 8 9	10	11 12 13 14 15 16 17 18 19	20	21 22 23 24 25 26 27 28 29	30	31 32 33 34 35 36 37 38 39	40	41 42 43 44 45 46 47 48 49	50	51 52 53 54 55 56 57 58 59	60	61 62 63 64 65 66 67 68 69	70
P	0006140		M/BC4 = .GND04											A
P	0006140		01B03.											A
P	0006160		E/BC4 = .BRE											A
P	0006160		01B18X.											A
P	0006180		C/BC4 = .BC5											A
P	0006180		01B01.											A
P	0006200		BC5 = FF											A
P	0006200		01B17.											A
P	0006300		NBC5 = NFF											A
P	0006300		01B25.											A
P	0006320		S/BC5 = .NBC5											A
P	0006320		01B21.											A
P	0006340		M/BC5 = .GND04											A
P	0006340		01B04.											A
P	0006360		E/BC5 = .BRE											A
P	0006360		01B18X.											A
P	0006380		C/BC5 = .BC6											A
P	0006380		01B02.											A
P	0006400		BC6 = FF											A
P	0006400		01B11.											A
P	0006500		NBC6 = NFF											A
P	0006500		01B13.											A
P	0006520		S/BC6 = .NBC6.											A
P	0006520		01B15, 19.											A
P	0006540		M/BC6 = .GND04											A
P	0006540		01B08.											A
P	0006560		E/BC6 = .BRE											A
P	0006560		01B18X.											A
P	0006580		C/BC6 = .BC7											A
P	0006580		01B06.											A
P	0006600		BC7 = FF											A
P	0006600		01B07.											A
P	0006700		NBC7 = NFF											A
P	0006700		01B09.											A

CODE	LINE NO.	CHK	LOGIC	EQUATIONS	PINS	REMARKS	C/L									
1	23456789	0	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
P	0006720		S/BC7 = .NBC7.													A
P	0006720		01B12, 14.													A
P	0006740		M/BC7 = .GND04													A
P	0006740		01B05.													A
P	0006760		E/BC7 = .BRE													A
P	0006760		01B18X.													A
P	0006780		C/BC7 = .BC8													A
P	0006780		01B10.													A
P	0006800		BC8 = FF													A
P	0006800		02B23.													A
P	0006900		NBC8 = NFF													A
P	0006900		02B20.													A
P	0006910		S/BC8 = .NBC8													A
P	0006910		02B22.													A
P	0006920		M/BC8 = .GND05													A
P	0006920		02B03.													A
P	0006930		E/BC8 = .BRE													A
P	0006930		02B18X.													A
P	0006940		C/BC8 = .BC8CLK													A
P	0006940		02B01.													A
P	0006950		BC8CLK = B . .BIT7.NBYTE361													B
P	0006950		05B33,25, 26, 27.													A
*	0006975		BFE = BUFFER EMPTY (FAM)													E
P	0007000		BFE = B .NDP3.DPC0-1.NDPF													A
P	0007000		25B12,06, 05, 07.													A
P	0007100		NBFE = I .BFE.													A
P	0007100		23B15,12X,13,15-21B47T													A
*	0007150		BFR = BUFFER READY FOR IOP SERVICE (FAM)													E
P	0007200		BFR = B * + .LT4.REDA.													A
P	0007200		17A46,\$,\$,31, 27, 41X,													A
P	0007225		+ .GT12.WCH.													A
P	0007225		17A\$,25, 26, 35X,													A
P	0007226		B .PWC .													K
P	0007226		08B45,39, 42.													K
P	0007250		BFEPWC = B .BFE.PWC													A
P	0007250		15C24,23, 22.													A



CODE	LINE NO.	CHK	LOGIC	EQUATIONS	PINS	REMARKS	C/L			
	1 2345678	9	10 123456789	20 23456789	30 23456789	40 23456789	50 23456789	60 23456789	70	
P	0007300		BFS	D = B .FSD					A	
P	0007300			27C08X, 01X,					A	
P	0007400		BIT0	= FF					A	
P	0007400			02B11, 11-21B02T					A	
P	0007500		NBIT0	= NFF					A	
P	0007500			02B13,					A	
P	0007520		S/BIT0	= .BIT7.					A	
P	0007520			02B15, 19,					A	
P	0007540		M/BIT0	= .GND05					A	
P	0007540			02B08,					A	
P	0007560		E/BIT0	= .BRE					A	
P	0007560			02B18X,					A	
P	0007580		C/BIT0	= .BCC					A	
P	0007580			02B06,					A	
P	0007600		BIT1	= B .NBTC0.NBTC1.BTC2.IBIT0					A	
P	0007600			04B15, 30, 18, 31, 17,					A	
P	0007700		BIT6PRB	= I .BTC0.BTC1.PR					A	
P	0007700			20A12, 06, 07, 05,					A	
P	0007800		BIT7	= B .BTC0.BTC1.BTC2					A	
P	0007800			25A12, 05, 06, 07,					A	
*	0007850		BR0-BR7 = B REGISTER OUTPUTS (BUFFER BETWEEN CONTROLLER AND STORAGE UNIT)							E
*	0007860									E
P	0007900		BR0	= FF					A	
P	0007900			20C29,					A	
P	0008000		NBR0	= NFF					A	
P	0008000			20C31,					A	
P	0008006		S/BR0	= * + .SRBR.STRKBR0					A	
P	0008006			20CS, \$, 34X, 24,					A	
P	0008012			+ .BR0.GND23					A	
P	0008012			20CS, 28X, 36X,					A	
P	0008018			+ .BR1.GND23					A	
P	0008018			20CS, 25X, 38X,					A	
P	0008024			+ .BR0SET.LOBR					A	
P	0008024			20CS, 26, 40X,					A	
P	0008030			+ .DAIR.SDBR0					A	
P	0008030			20CS, 22, 23,					A	



CODE	LINE NO.	CHG	LOGIC			EQUATIONS			PINS			REMARKS			C/L
			1	2	3	4	5	6	7	8	9	10	11	12	
P	0008300					BR2 = FF									A
P	0008300					20C37.									A
P	0008400					NBR2 = NFF									A
P	0008400					20C39.									A
P	0008407					S/BR2 = * + .BR1.SRBR									A
P	0008407					20C\$, \$, 25X, 34X,									A
P	0008414					+ .BR2.GND23									A
P	0008414					20C\$, 10X, 36X,									A
P	0008421					+ .GND23.									A
P	0008421					20C\$, 38X, 45X,									A
P	0008428					+ .BR2SET.LDBR									A
P	0008428					20C\$, 44, 40X,									A
P	0008435					R/BR2 = .									A
P	0008435					20C42X,									A
P	0008442					C/BR2 = .BCB									A
P	0008442					20C01X,									A
P	0008450					BR2SET = -BL * + .BR2SET.SBRX0									A
P	0008450					19C34, \$, \$, 34, 27X,									A
P	0008460					+ .DT2.SBRXDT									A
P	0008460					19C\$, 41, 30X,									A
P	0008470					+ .LDRM.TRK4									A
P	0008470					19C\$, 31X, 40,									A
P	0008480					+ .LDISC.TRK3									A
P	0008480					19C\$, 29X, 43,									A
P	0008490					+ .PA1.SBRXPA									A
P	0008490					19C\$, 44, 28X,									A
P	0008500					BR3 = FF									A
P	0008500					20C41,									A
P	0008600					NBR3 = NFF									A
P	0008600					20C43,									A
P	0008607					S/BR3 = * + .BR2.SRBR									A
P	0008607					20C\$, \$, 10X, 34X,									A
P	0008614					+ .GND23.									A
P	0008614					20C\$, 36X, 45X,									A
P	0008621					+ .GND23.									A
P	0008621					20C\$, 38X, 47,									A
P	0008628					+ .BR3SET.LDBR									A
P	0008628					20C\$, 46, 40X,									A
P	0008635					R/BR3 = .									A
P	0008635					20C42X,									A

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CODE	LINE NO.	CHG	LOGIC EQUATIONS			PINS			REMARKS			C/L				
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
P	0008642			C/BR3 = .BCB												A
P	0008642			20C01X,												A
P	0008650			BR3SET = -BL * + .BR3SET.SBRX0												A
P	0008650			19C35,\$,\$.35,												A
P	0008660			+ .DT3.SBRXDT												A
P	0008660			19C\$,42,30X,												A
P	0008670			+ .LDRM.TRK5												A
P	0008670			19C\$,31X,39,												A
P	0008680			+ .LDISC.TRK4												A
P	0008680			19C\$,29X,36,												A
P	0008690			+ .PA2.SBRXPA												A
P	0008690			19C\$,38,28X,												A
P	0008700			BR4 = FF												A
P	0008700			20C21X,												A
P	0008800			NBR4 = NFF												A
P	0008800			20C27,												A
P	0008807			S/BR4 = * + .BR3.SRBR												A
P	0008807			20C\$,,\$.18,13X,												A
P	0008814			+ .BR5.WPRE												A
P	0008814			20C\$,17X,14X,												A
P	0008821			+ .BR4SET.LDBR												A
P	0008821			20C\$,20,11X,												A
P	0008828			+ .BRO.GND23												A
P	0008828			20C\$,28X,12X,												A
P	0008835			R/BR4 =												A
P	0008835			20C09X,												Δ
P	0008842			C/BR4 = .BCB												A
P	0008842			20C01X,												A
P	0008850			BR4SET = -BL * + .BR4SET.SBRX0												A
P	0008850			19C18,\$,\$.18,17X,												A
P	0008860			+ .DT4.SBRXDT												A
P	0008860			19C\$,19,30X,												A
P	0008870			+ .LDRM.TRK6												A
P	0008870			19C\$,31X,20,												A
P	0008880			+ .LDISC.TRK5												A
P	0008880			19C\$,29X,21,												A
P	0008890			+ .PA3.SBRXPA												A
P	0008890			19C\$,22,28X,												A
P	0008900			BR5 = FF												A
P	0008900			20C17X,												A

NS

CODE	LINE NO.	CHG	LOGIC EQUATIONS				PINS				REMARKS	C/L									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
P	0009000				NBR5 = NFF																A
P	0009000				20C19,																A
P	0009007				S/BR5 = * + .BR4.SRBR																A
P	0009007				20C\$. \$.21X, 13X,																A
P	0009014				+ .BR6.WPRE																A
P	0009014				20C\$.07X, 14X,																A
P	0009021				+ .BR5SET.LDBR																A
P	0009021				20C\$.02, 11X,																A
P	0009028				+ .BR1.GND23																A
P	0009028				20C\$.25X, 12X,																A
P	0009035				R/BR5 = .																A
P	0009035				20C09X,																A
P	0009042				C/BR5 = .BCB																A
P	0009042				20C01X,																A
P	0009050				BR5SET = -BL * + .BR5SET.SBRX0																A
P	0009050				19C13, \$. \$.13, 17X,																A
P	0009060				+ .DT5.SBRXDT																A
P	0009060				19C\$.04, 30X,																A
P	0009070				+ .LDRM.TRK7																A
P	0009070				19C\$.31X, 03,																A
P	0009080				+ .LDISC.TRK6																A
P	0009080				19C\$.29X, 02,																A
P	0009090				+ .PA4.SBRXPA																A
P	0009090				19C\$.01, 28X,																A
P	0009100				BR6 = FF																A
P	0009100				20C07X,																A
P	0009200				NBR6 = NFF																A
P	0009200				20C15,																A
P	0009207				S/BR6 = * + .BR5.SRBR																A
P	0009207				20C\$. \$.17X, 13X,																A
P	0009214				+ .BR7.WPRE																A
P	0009214				20C\$.03X, 14X,																A
P	0009221				+ .BR6SET.LDBR																A
P	0009221				20C\$.04, 11X,																A
P	0009228				+ .BR2.GND23																A
P	0009228				20C\$.10X, 12X,																A
P	0009235				R/BR6 = .																A
P	0009235				20C09X,																A
P	0009242				C/BR6 = .BCB																A
P	0009242				20C01X,																A

NS

NS

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L
	1	2	3	4	5	6	7
	2345678	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31	32	33	34	35
	36	37	38	39	40	41	42
	43	44	45	46	47	48	49
	50	51	52	53	54	55	56
	57	58	59	60	61	62	63
	64	65	66	67	68	69	70
P	0009250		BR6SET = -BL *	+ .BR6SET.SBRX0			A
	0009250		19C14,\$,\$,14,	17X,			A
P	0009260			+ .DT6.SBRXDT			A
	0009260		19C\$,07, 30X,				A
	0009270			+ .LDRM.TRK8			A
P	0009270		19C\$,31X, 08,				A
	0009280			+ .LDISC.TRK7			A
P	0009280		19C\$,29X, 12,				A
	0009290			+ .PA5.SBRXPA			A
P	0009290		19C\$,05, 28X,				A
P	0009300		BR7 = FF				A
	0009300		20C03X,03-32A35C				A
P	0009400		NBR7 = NFF				A
	0009400		20C05,				A
P	0009407		S/BR7 = * + .BR6:SRBR				A
	0009407		20C\$,\$,07X,13X,				A
	0009414			+ .NBR7.WPRE			A
P	0009414		20C\$,06, 14X,				A
	0009421			+ .BR7SET.LDBR			A
P	0009421		20C\$,08, 11X,				A
	0009428			+ .GND23.			A
P	0009428		20C\$,12X, 45X,				A
P	0009435		R/BR7 = .				A
	0009435		20C09X,				A
P	0009442		C/BR7 = .BCB				A
	0009442		20C01X,				A
P	0009450		BR7SET = -BL *	+ .BR7SET.SBRX0			A
	0009450		19C15,\$,\$,15,	17X,			A
P	0009460			+ .DT7.SBRXDT			A
	0009460		19C\$,06, 30X,				A
	0009470			+ .LDRM.S0			A
P	0009470		19C\$,31X, 10,				A
	0009480			+ .LDISC.TRK8			A
P	0009480		19C\$,29X, 11,				A
	0009490			+ .PA6.SBRXPA			A
P	0009490		19C\$,09, 28X,				A
*	0009495		BRE = BIT AND BYTE COUNTER RESET TERM				E
P	0009500		BRE = B * + .NDCB .				D
	0009500		08C45,\$,\$,40, 39,41X,				A
	0009600			+ .SYNC1.NSYNC2.			A
P	0009600		08C\$,37, 38, 35X,				A
*	0009650		BRR1-BRR2 = FAM CLOCK CYCLE FOR DISC				E

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L	
	1 2345678 9	10	1 23456789 20	23456789 30	23456789 40	23456789 50	23456789 60	23456789 70
P	0009700		BRR1 = B	* + .BIT1.J034.			A	
P	0009700			16B44,\$,\$.43, 42, 41X,			A	
P	0009733			+ .BRR1.CM001.			A	
P	0009733			16B\$,33, 34, 35X,			A	
P	0009766		I	.CFDISCL.T2			A	
P	0009766			18B27,30X, 31,			A	
P	0009800		BRR2 = B	* + .BTC1.J036			A	
P	0009800			11B20,\$,\$.22, 21,20-09B03T			A	
P	0009825			+ .IXBR.J035			A	
P	0009825			11B\$,24, 23,			A	
P	0009850			+ .BRR2.CM001			A	
P	0009850			11B\$,01, 02,			A	
P	0009875		I	.CFDISCL.T4			A	
P	0009875			18B28,30X, 29,			A	
P	0009900		BSYC = B	* + .ASCM.ASCR.AVIR.FSR			A	
P	0009900			31C21X,\$,\$.09, 07X, 11X, 15X,			A	
P	0009950			+ .AIOM.AIOR.AVIR.FSD			A	
P	0009950			31C\$,23X, 17X, 11X, 26X,			A	
*	0009975		BTC0-BTC2 = BIT COUNTER					E
P	0010000		BTC0 = FF				A	
P	0010000			02B07,			A	
P	0010100		NBTC0 = NFF				A	
P	0010100			02B09,			A	
P	0010120		S/BTC0 = .NBTC0.				A	
P	0010120			02B12, 14,			A	
P	0010140		M/BTC0 = .GND05				A	
P	0010140			02B05,			A	
P	0010160		E/BTC0 = .BRE				A	
P	0010160			02B18X,			A	
P	0010180		C/BTC0 = .BTC1				A	
P	0010180			02B10,			A	
P	0010200		BTC1 = FF				A	
P	0010200			02B27,			A	
P	0010300		NBTC1 = NFF				A	
P	0010300			02B44,			A	
P	0010320		S/BTC1 = .NBTC1				A	
P	0010320			02B45,			A	
P	0010340		M/BTC1 = .GND05				A	
P	0010340			02B34,			A	

CODE	LINE NO.	CHG	LOGIC			EQUATIONS			/	PINS			/	REMARKS	C/L
			1	2	3	4	5	6		7	8	9			
P	0010360					E/BTC1 = .BRE									A
P	0010360					02818X,									A
P	0010380					C/BTC1 = .BTC2									A
P	0010380					02830,									A
P	0010400					BTC2 = FF									A
P	0010400					15823,									A
P	0010500					NBTC2 = NFF									A
P	0010500					15825,									A
P	0010516					S/BTC2 = .NBTC2.									A
P	0010516					15829, 28,									A
P	0010532					R/BTC2 = .NSYNC1									A
P	0010532					15826,									A
P	0010548					M/BTC2 = .GND10									A
P	0010548					15824,									A
P	0010564					E/BTC2 = .MANRST									A
P	0010564					15822X,									A
P	0010580					C/BTC2 = .BCB.									A
P	0010580					15830, 46X,									A
*	0010590		BY0-359 = READ OR WRITE DATA BYTE 0 THRU 359												E
P	0010600					BY0-359 = B * + .RWCEN.SYNC1.									A
P	0010600					03802, \$, \$, 22, 17, 07X,									A
P	0010700					+ .BY0-359.CM001.J016									A
P	0010700					03B\$, 24, 12X, 23,									A
P	0011000					BYCLKEN = -PET									H
P	0011000					15A20									H
P	0011200					BYTE359 = B .BC6.BC7.BC8.CM003									A
P	0011200					08814, 20, 21, 29, 19,									A
*	0011225		BYT10 = BYTE 10												E
P	0011250					BYT10 = B * + .NDCB .									C
P	0011250					16847, \$, \$, 29, 30, 41X,									A
P	0011275					+ .BC5.BC7.									A
P	0011275					16B\$, 28, 36, 35X,									A
P	0011300					BYTE360 = B .BC5.NBC8.CM003									A
P	0011300					25A33, 25, 27, 26,									A
*	0011340		RBY1-360 = READ BYTE 1 THRU 360												E









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CODE	LINE NO.	CHG	LOGIC EQUATIONS			PINS			REMARKS			C/L
			10	20	30	40	50	60	70	80	90	
	0013700				CHW = B * + .DA57.NDA6U.OTS							A
P	0013700				11B41, 9, 38, 37, 39X, 41-09B21T							A
	0013716				+ .GND26.							A
P	0013716				11B\$, 44X, 45,							A
	0013732				+ .CHW.ORDRST							A
P	0013732				11B\$, 27, 28X,							A
	0013750				CHWCIL = -BL * + .CHWCIL.GND25							A
P	0013750				23A14, 9, 14, 23X, 14-15A04C							H
	0013766				+ .CHW.INDUP							A
P	0013766				23A\$, 15, 18X,							A
	0013782				+ .CIL.NINDUP							A
P	0013782				23A\$, 17, 22X,							A
*	0013790				CHWEN = CHECK WRITE ENABLE							E
	0013800				CHWEN = B .CHW.RWCEN							A
P	0013800				04B13, 08, 04,							A
*	0013850				CHWER = CHECK WRITE ERROR							E
	0013900				CHWER = FF							A
P	0013900				24A06,							A
	0014000				NCHWER = NFF							A
P	0014000				24A11,							A
	0014016				S/CHWER = .CHWERSET.							A
P	0014016				24A03, 02,							A
	0014032				R/CHWER = .GND03							A
P	0014032				24A04,							A
	0014048				M/CHWER = .CHWERM							A
P	0014048				24A01,							A
	0014064				E/CHWER = .RESA							A
P	0014064				24A22X,							A
	0014080				C/CHWER = .BCD.							A
P	0014080				24A05, 46X,							A
	0014100				CHWERM = B .CHW.PARER							A
P	0014100				24B02, 09, 03,							A
	0014200				CHWERSET = B .BY0-359.CHW.NCOMP.							A
P	0014200				25B15, 31, 17, 18, 30,							A
*	0014250				CIL = INTERRUPT CALL							E
	0014300				CIL = FF							A
P	0014300				15B06,							A

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CODE	LINE NO.	CHG	LOGIC EQUATIONS	PINS	REMARKS	C/L
1	2345678	9	10 1 2 3 4 5 6 7 8 9 20 23456789 30 23456789 40 23456789 50 23456789 60 23456789 70			
P	0014400		NCIL = NFF 15811.			A A
P	0014416		S/CIL = .DAOU.TOS 15802, 03.			A A
P	0014432		R/CIL = .CILR 15804.			A A
P	0014448		M/CIL = .GND10 15801.			A A
P	0014464		E/CIL = .MANRST 15822X.			A A
P	0014480		C/CIL = .RSFSC. 15805, 46X.			A A
P	0014500		CILR = -BL * + .CILR.GND18 12C39, \$, \$, 39, 38X.			A A
P	0014533		+ .HIORST. 12C\$, 35, 37X.			A A
P	0014566		+ .AIOCU. 12C\$, 34, 38X.			A
P	0014600		CLIR = -BCR 28C04.			A A
P	0014700		CLK = -SC 02C34.			A A
P	0014800		CLKB = B .CLK. 29A35, 38, 43, 35-10C50T			A A
*	0014900		CLP = CLOCK LOWER POINTER REGISTER			E
P	0015000		CLP = B .CFDISCL.T2 05B35, 38, 43, 35-21B40T			A A
P	0015100		CM001 = B .DCB-1.NSECP 04B02, 09, 03.			A A
P	0015200		CM002 = I .BTC0.BYTE361 21A25, 26, 27.			A A
P	0015300		CM003 = B .BC0.BC2.BC3.RWCEN 04B34, 28, 22, 24, 23.			A A

CODE	LINE NO.	CHG	LOGIC EQUATIONS /							PINS	REMARKS	C/L
			10	20	30	40	50	60	70			
P	0015400				CM005 = B * + .DISC. TRK0.							A
P	0015400				17A02,\$,\$,17, 22, 07X,							A
P	0015450				+ .DRM. TRK1.							A
P	0015450				17A\$,24, 23, 12X,							A
*	0015475				CNTRCL = COUNTER CLOCK TO PET							E
P	0015500				CNTRCL = B * + .TRKCLKEN. TRKCLRT.							A
P	0015500				17A45,\$,\$,39, 40, 41X,45-16A1HC							H
P	0015600				+ .BYCLKEN. RSAP.							A
P	0015600				17A\$,37, 38, 35X,							A
P	0015650				B .NSGLTRK.							E
P	0015650				20B20,14, 10X,17X							E
*	0015695				CNTRST = COUNTER RESET FROM PET							E
P	0015700				CNTRST = -PET							A
P	0015700				16A15							A
P	0015800				NCOMP = B * + .NBR7. DAIR.							A
P	0015800				16B02,\$,\$,22, 17, 07X,							A
P	0015850				+ .BR7. NDAIR.							H
P	0015850				16B\$,24, 23, 12X							H
P	0015900				NCONP = -PET							H
P	0015900				15A36							H
*	0015975				CONPA-CONPC = PET HAS CONTROL							E
P	0016000				CONPA = I .NCONP.							A
P	0016000				21A31,38, 33X,34X,							A
P	0016100				CONPAT = B .CONPC.DATAS							A
P	0016100				08B36,44, 37,							A
P	0016200				CONPB = I .NCONP.							A
P	0016200				21A30,37, 34X,44X,							A
P	0016300				CONPC = I .NCONP.							A
P	0016300				21A29,36, 10X,34X,							A
P	0016400				CONPORD = B .CONPC.005							A
P	0016400				08B35,38, 43,							A
*	0016600				CSL = LOW PRIORITY SERVICE CALL							E
P	0016700				CSL = B .DCB.NSERVCON							A
P	0016700				25B02,09, 03,							A
P	0016725				B * + .CSL.							K
P	0016725				23A02X,\$,\$,02X, 43X							K
P	0016750				+ .CSLSET.							K
P	0016750				23A\$,31 37X,							K
					+ .GND25							Δ
P	0016775				23A\$,33, 38X,							K
P	0016775											K





CODE	LINE NO.	DIG	LOGIC	EQUATIONS	PINS	REMARKS	C/L								
1	2345678	9	10	1123456789	20	2123456789	30	3123456789	40	4123456789	50	5123456789	60	6123456789	70
P	0018200			DA1D = -BL * + .DA1D.DARESET			A								
P	0018200			21C13,\$,\$,13, 17X,13-30C19C			A								
P	0018260			+ .DAXDT.DT1			A								
P	0018260			21C\$,30X, 04, ✓			A								
P	0018320			+ .GND24.SNSBYTE1			A								
P	0018320			21C\$,03, ✓ 31X, ✓			A								
P	0018380			+ .SNSBYTE2.TRK6			A								
P	0018380			21C\$,29X, ✓ 02, ✓			A								
P	0018440			+ .INLOIT.			A								
P	0018440			21C\$,01, ✓ 28X, ✓			A								
P	0018450			DA1P = -PET			A								
P	0018450			16A07			A								
P	0018500			DA1R = -BCR			A								
P	0018500			30C20,			A								
P	0018600			NDA1R = -IC .DA1R			A								
P	0018600			24C06X,08X,			A								
P	0018700			DA1U = -BL * + .DA1U.GND19			A								
P	0018700			13C01,\$,\$,01, 43X,01-21B06T			A								
P	0018733			+ .CONPC.DA1P			A								
P	0018733			13C\$,37X, 45,			A								
P	0018766			+ .NCONP.DA1R			A								
P	0018766			13C\$,38X, 44,			A								
P	0018800			DA2D = -BL * + .DA2D.DARESET			A								
P	0018800			21C14,\$,\$,14, 17X,14-30C15C			A								
P	0018860			+ .DAXDT.DT2			A								
P	0018860			21C\$,30X, 07,			A								
P	0018920			+ .GND24.SNSBYTE1			A								
P	0018920			21C\$,08, 31X,			A								
P	0018980			+ .SNSBYTE2.TRK7			A								
P	0018980			21C\$,29X, 12,			A								
P	0019040			+ .J032.			A								
P	0019040			21C\$,05, 28X,			A								
P	0019050			DA2P = -PET			A								
P	0019050			16A06			A								
P	0019100			DA2R = -BCR			A								
P	0019100			30C18,			A								
P	0019200			NDA2R = -IC .DA2R			A								
P	0019200			24C24X,23X,			A								



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L
	1	2345678	9	10	11	12	13
P	0019300			DA2U = -BL * + .DA2U.GND19			A
P	0019300			13C39.S.S.39. 36X.39-21B07T			A
P	0019333			+ .CONPC.DA2P			A
P	0019333			13C\$.37X. 35.			A
P	0019366			+ .NCONP.DA2R			A
P	0019366			13C\$.38X. 34.			A
P	0019400			DA3D = -BL * + .DA3D.DARESET			A
P	0019400			21C15.S.S.15. 17X.15-30C12C			A
P	0019460			+ .DAXDT.DT3			A
P	0019460			21C\$.30X. 06.			A
P	0019520			+ .SNSBYTE1.TRK0			A
P	0019520			21C\$.31X. 10.			A
P	0019580			+ .SNSBYTE2.TRK8			A
P	0019580			21C\$.29X. 11.			A
P	0019640			+ .J033.			A
P	0019640			21C\$.09. 28X.			A
P	0019650			DA3P = -PET			A
P	0019650			16A05			A
P	0019700			DA3R = -BCR			A
P	0019700			30C13.			A
P	0019800			NDA3R = -IC .DA3R			A
P	0019800			24C33X.29X.			A
P	0019900			DA3U = -BL * + .DA3U.GND19			A
P	0019900			13C42.S.S.42. 36X.42-21B08T			A
P	0019933			+ .CONPC.DA3P			A
P	0019933			13C\$.37X. 41.			A
P	0019966			+ .NCONP.DA3R			A
P	0019966			13C\$.38X. 40.			A
P	0020000			NDA3U = I .DA3U.			A
P	0020000			27A04.08. 06X.10X.			A
P	0020100			DA4D = -BL * + .DA4D.DARESET			A
P	0020100			21C37.S.S.37. 27X.37-30C03C			A
P	0020160			+ .DAXDT.DT4			A
P	0020160			21C\$.30X. 45.			A
P	0020220			+ .SNSBYTE1.TRK1			A
P	0020220			21C\$.31X. 46.			A
P	0020280			+ .S0.SNSBYTE2			A
P	0020280			21C\$.47.29X.			A
P	0020340			+ .J006.			A
P	0020340			21C\$.50. 28X.			A
P	0020350			DA4P = -PET			A
P	0020350			16A04			A



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L		
	1 2 3 4 5 6 7 8 9 10		10 1 2 3 4 5 6 7 8 9 20	20 2 3 4 5 6 7 8 9 30	30 2 3 4 5 6 7 8 9 40	40 2 3 4 5 6 7 8 9 50	50 2 3 4 5 6 7 8 9 60	60 2 3 4 5 6 7 8 9 70	
	0021500		DA6D = -BL * + .DA6D.DARESET				A		
P	0021500		21C34,\$,\$,34,	27X,34-30C01C			A		
	0021560		+ .DAXDT.DT6				A		
P	0021560		21C\$,30X, 41,				A		
	0021620		+ .SNSBYTE1.TRK3				A		
P	0021620		21C\$,31X, 40,				A		
	0021680		+ .S2.SNSBYTE2				A		
P	0021680		21C\$,43,29X,				A		
	0021740		+ .J008.				A		
P	0021740		21C\$,44, 28X,				A		
	0021750		DA6P = -PET				A		
P	0021750		16A02				A		
	0021800		DA6R = -BCR				A		
P	0021800		30C04,				A		
	0021900		NDA6R = -IC .DA6R				A		
P	0021900		24C25X,26X,				A		
	0022000		DA6U = B * + .CONPA .USOR-6				A		
P	0022000		16C31,\$,\$,39X,	35, 36,31-21B10T			A		
	0022033		+ .CONPAT.DA6P				A		
P	0022033		16C\$,44X, 47,				A		
	0022066		+ .NCONP.DA6R				A		
P	0022066		16C\$,28X, 25,				A		
	0022100		NDA6U = I .DA6U.				A		
P	0022100		12B26,22, 20X,21X,26-09B18T				A		
	0022200		DA7D = -BL * + .DA7D.DARESET				A		
P	0022200		21C35,\$,\$,35,	27X,35-30C02C			A		
	0022260		+ .DAXDT.DT7				A		
P	0022260		21C\$,30X, 42,				A		
	0022320		+ .SNSBYTE1.TRK4				A		
P	0022320		21C\$,31X, 39,				A		
	0022380		+ .S3.SNSBYTE2				A		
P	0022380		21C\$,36,29X,				A		
	0022440		+ .J012.				A		
P	0022440		21C\$,38, 28X,				A		
	0022450		DA7P = -PET				A		
P	0022450		16A01				A		
	0022500		DA7R = -BCR				A		
P	0022500		30C06,				A		
	0022600		NDA7R = -IC .DA7R				A		
P	0022600		24C42X,44X,				A		

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L
	1	2	3	4	5	6	7
	0022700		DA7U = B	* + .CONPA	.USOR-7		A
P	0022700		16C30,\$,\$,39X,	34,	33,30-22A12T		A
	0022733			+ .CONPAT.DA7P			A
P	0022733		16C\$,44X,	46,			A
	0022766			+ .NCONP.DA7R			A
P	0022766		16C\$,28X,	26,			A
	0022800		NDA7U = I	.DA7U.			A
P	0022800		12B25,19,	20X,21X,25-	09B19T		A
*	0022850		DAIR = READ DATA FROM STORAGE UNIT				E
	0022900		DAIR = -BCR				A
P	0022900		30A13,				A
	0022950		NDAIR = I	.DAIR.			A
P	0022950		27A19,13,	17X,44X,			A
*	0022975		DAM = WRITE DATA AS MANCHESTER TO STORAGE UNIT				E
	0023000		DAM = B	* + .BR7.CD0.			A
P	0023000		30B04,\$,\$,06,	05,	07X,04-32A12C		A
	0023100			+ .NBR7.NCD0.			A
P	0023100		30B\$,13,	14,	12X,		A
	0023200		DAPR = -BCR				A
P	0023200		30C27,				A
*	0023225		DARESET = IOP DATA LINES RESET SIGNAL				E
	0023250		DARESET = I	.TOS.			A
P	0023250		23B17,24,	20X,21X,17-	21B24T		A
	0023266			.NFSC.			A
P	0023266		23B18,23,	20X,21X,			A
	0023282			.CFIOPL.DIS.TI			A
P	0023282		23B46,41,	40,	50,		A
*	0023290		DATAS = CONTROLLER IS IN THE DATA STATE				E
	0023300		DATAS = B	* + .NDORF.	.IORF.		A
P	0023300		08C02,\$,\$,22,	17,	07X,		A
	0023400			+ .DORF.NIORF.			A
P	0023400		08C\$,23,	24,	12X,		A
*	0023450		DAXDT = TRANSFER DATA TO THE DATA LINES				G
	0023500		DAXDT = -BDS	*SENSE200			G
P	0023500		04C22,01,		22-21B34T		G
	0023550			* .CFIOPL.REDA.			H
P	0023550		04C\$,	20,	19,	21	G
*	0023600		DCO = LAST BYTE FOR SEEK OR SENSE				E
	0023700		DCO = FF				A
P	0023700		06B38,				A

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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L									
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
P	0023800			NDC0 = NFF												A
P	0023800			06B40,												A
P	0023816			S/DC0 = .SDC0.NTOS												A
P	0023816			06B44, 43,												A
P	0023832			R/DC0 = .NTOS												A
P	0023832			06B41,												A
P	0023848			M/DC0 = .GND06												A
P	0023848			06B39,												A
P	0023864			E/DC0 = .NDCB												A
P	0023864			06B22X,												A
P	0023880			C/DC0 = .RSDC.												A
P	0023880			06B45, 46X,												A
P	0023900			DCA = -ISC* + .DA3R.NSWA3												A
P	0023900			24C09, \$, \$, 29X, 28, 09-13T												A
P	0023911			+ .NDA3R.SWA3												A
P	0023911			24C\$, 33X, 43,												A
P	0023922			+ .DA2R.NSWA2												A
P	0023922			24C\$, 23X, 21,												A
P	0023933			+ .NDA2R.SWA2												A
P	0023933			24C\$, 24X, 02,												A
P	0023944			+ .DA1R.NSWA1												A
P	0023944			24C\$, 08X, 04,												A
P	0023955			+ .NDA1R.SWA1												A
P	0023955			24C\$, 06X, 01,												A
P	0023966			+ .DA0R.NSWA0												A
P	0023966			24C\$, 05X, 11,												A
P	0023977			+ .NDA0R.SWA0												A
P	0023977			24C\$, 07X, 10,												A
P	0023988			I .FSC												A
P	0023988			31C10, 03,												A
P	0024000			NDCA = I .DCA												A
P	0024000			31C34X, 18X,												A

CODE	LINE NO.	CHK	LOGIC EQUATIONS / PINS / REMARKS										C/L		
			1	2	3	4	5	6	7	8	9	10		20	30
	0024100		DCA47 = -ISC* + .DA7R.NSWA7										A		
P	0024100		24C37.\$\$.44X.47.										A		
	0024112		+ .NDA7R.SWA7										A		
P	0024112		24C\$.42X.45.										A		
	0024124		+ .DA6R.NSWA6										A		
P	0024124		24C\$.26X.27.										A		
	0024136		+ .NDA6R.SWA6										A		
P	0024136		24C\$.25X.46.										A		
	0024148		+ .DA5R.NSWA5										A		
P	0024148		24C\$.17X.19.										A		
	0024160		+ .NDA5R.SWA5										A		
P	0024160		24C\$.22X.03.										A		
	0024172		+ .DA4R.NSWA4										A		
P	0024172		24C\$.41X.35.										A		
	0024184		+ .NDA4R.SWA4										A		
P	0024184		24C\$.38X.39.										A		
	0024200		DCAU = B * + .DCA.										A		
P	0024200		17A01.\$\$.19.07X.18.										A		
	0024250		+ .CONPA.										A		
P	0024250		17A\$.20.12X.21.										A		
*	0024275		DCB = DEVICE CONTROLLER IS BUZY										E		
	0024300		DCB = FF										A		
P	0024300		15B38.										A		
	0024350		DCB-1 = B .DCB.										A		
P	0024350		20B19.13.17X.44X.										A		
	0024400		NDCB = NFF										A		
P	0024400		15B40.										A		
	0024408		S/DCB = .SIOSET.										A		
P	0024408		15B44.43.										A		
	0024416		R/DCB = .DCBR										A		
P	0024416		15B41.										A		
	0024424		M/DCB = .GND10										A		
P	0024424		15B39.										A		
	0024432		E/DCB = .MANRST										A		
P	0024432		15B22X.										A		
	0024440		C/DCB = .DCBC.										A		
P	0024440		15B45.46X.										A		
	0024450		DCBR = B * + .HIORST.										A		
P	0024450		08C01.\$\$.19.07X.18.										A		
	0024475		+ .NCCH.SEROIS.										A		
P	0024475		08C\$.21.20.12X.										A		



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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L									
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
	0025800			DORD = B	* + .A10C.FSU.											A
P	0025800			26B41, \$, \$, 37,	38, 39X, 41-30C37C											A
	0025833				+ .J025.											A
P	0025833			26B\$, 45,	44X,											A
	0025866				+ .J024.											A
P	0025866			26B\$, 27,	28X,											A
*	0025890			DORF = OPERATION STATE DETERMINATE											E	
	0025900			DORF = FF												A
P	0025900			06B06,												A
	0026000			NDORF = NFF												A
P	0026000			06B11,												A
	0026016			S/DORF = .DORFSET.												A
P	0026016			06B03,	02,											A
	0026032			R/DORF = .OIS												A
P	0026032			06B04,												A
	0026048			M/DORF = .OIC												A
P	0026048			06B01,												A
	0026064			E/DORF = .NDCB												A
P	0026064			06B22X,												A
	0026080			C/DORF = .SERVEX.												A
P	0026080			06B05,	46X,											A
	0026100			DORFSET = B	* + .OOS.WCHSK.											A
P	0026100			03B47, \$, \$, 30,	29, 41X,											A
	0026150				+ .NOIS.SEROIC.											A
P	0026150			03B\$, 28,	36,											A
*	0026190			DOS = CONTROLLER IS IN THE DATA OUT STATE											E	
	0026200			DOS = B	.DORF.NIORF											A
P	0026200			25B45, 39,	42,											A
	0026300			NDOS = I	.DORF.NIORF											A
P	0026300			27A25, 27,	26,											A
*	0026390			DPO-DP3 = DIFFERENCE POINTER OUTPUTS (AMOUNT OF DATA IN FAM)											E	
	0026400			DPO = FF												A
P	0026400			32B15X,												A
	0026500			NDPO = NFF												A
P	0026500			32B08X,												A



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L		
	1 2345678	9	10 123456789	20 23456789	30 23456789	40 23456789	50 23456789	60 23456789	70
P	0026514			S/DP0 = * + .NDP0. 32B\$, \$.08X, .09X,					A
P	0026528			+ .GND15. 32B\$, .03X, .13,					A
P	0026542			E/DP0 = .DLUPX0 32B02X,					A
P	0026556			C/DP0 = * + .GND15.T3-1 32B\$, \$.03X, .01X,					A
P	0026570			+ .T3-1.(Δ000)					A
P	0026584			32B\$, .01X, \$ + .T3-1.(Δ002)					A
P	0026584			32B\$, .01X, \$					A
P	0026600			DP1 = FF 32B06X,					A
P	0026700			NDP1 = NFF 32B07X,					A
P	0026714			S/DP1 = * + .NDP1. 32B\$, \$.07X, .09X,					A
P	0026728			+ .GND15. 32B\$, .03X, .11,					A
P	0026742			E/DP1 = .DLUPX0 32B02X,					A
P	0026756			C/DP1 = * + .GND15.T3-1 32B\$, \$.03X, .01X,					A
P	0026770			+ .DP2.T3-1.(Δ001)					A
P	0026784			32B\$, .10X, .01X, \$ + .NDP2.T3-1.(Δ003)					A
P	0026784			32B\$, .05X, .01X, \$					A
P	0026800			DP2 = FF 32B10X,					A
P	0026900			NDP2 = NFF 32B05X,					A
P	0026914			S/DP2 = * + .NDP2. 32B\$, \$.05X, .09X,					A
P	0026928			+ .GND15. 32B\$, .03X, .04,					A
P	0026942			E/DP2 = .DLUPX0 32B02X,					A

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L								
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70
P	0026956		C/DP2 = * + .GND15.T3-1				A								
P	0026956		32B\$.03X, 01X,				A								
P	0026970		+ .T3-1.(Δ001)				A								
P	0026970		32B\$.01X, \$				A								
P	0026984		+ .T3-1.(Δ003)				A								
P	0026984		32B\$.01X, \$				A								
P	0027000		DP3 = FF				A								
P	0027000		32B35X,				A								
P	0027100		NDP3 = NFF				A								
P	0027100		32B37X,				A								
P	0027114		S/DP3 = * + .NDP3.				A								
P	0027114		32B\$.037X, 09X,				A								
P	0027128		+ .GND15.				A								
P	0027128		32B\$.03X, 36.				A								
P	0027142		+ .GND15				A								
P	0027142		32B\$.42X,				A								
P	0027156		+ .GND15				A								
P	0027156		32B\$.33X,				A								
P	0027170		E/DP3 = .DLUPX0				A								
P	0027170		32B02X,				A								
P	0027184		C/DP3 = .T3-1				A								
P	0027184		32B01X,				A								
*	0027190		DPF = FAM HAS OVERFLOWED WITH DATA				E								
P	0027200		DPF = FF				A								
P	0027200		32B17X,				A								
P	0027300		NDPF = NFF				A								
P	0027300		32B20X,				A								
P	0027314		S/DPF = * + .NDPF.				A								
P	0027314		32B\$.020X, 09X,				A								
P	0027328		+ .GND15.				A								
P	0027328		32B\$.03X, 22,				A								
P	0027342		E/DPF = .DLUPX0				A								
P	0027342		32B02X,				A								
P	0027356		C/DPF = * + .GND15.T3-1				A								
P	0027356		32B\$.03X, 01X,				A								
P	0027370		+ .DPO.T3-1.(Δ000)				G								
P	0027370		32B\$.15X, 01X, \$				A								
P	0027384		+ .NDPO.T3-1.(Δ002)				A								
P	0027384		32B\$.08X, 01X, \$				A								

CODE	LINE NO.	CHG	LOGIC EQUATIONS / PINS / REMARKS										C/L						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
P	0027400		DPC0-1 = B .NDP0.NDP1.NDP2. 29A34,22, 23, 24, 28.										A A						
P	0027500		DPC14-15 = B .DP0.DP1.DP2. 08B15,18, 17, 30, 31.										A A						
P	0027700		DRM = B .TYP0R.TYPIR 26A45,39, 42.										A A						
P	0027800		DISC = I .DRM. 27A47,41, 10X,43X,										A A						
*	0028100		DSR = DATA STROBE RECEIVED FROM STORAGE UNIT										E						
P	0028200		DSR = -BCR 30A10,										A A						
P	0028250		DSRZ = -DL *DSR 22A01,42,										A A						
*	0028290		DT0-DT7 = DATA LINES OUT OF THE FAM										E						
P	0028300		DT0 = -FMO 09C43,43-40T										A H						
P	0028400		DT1 = -FMO 09C41,41-39T										A H						
P	0028500		DT2 = -FMO 09C09,09-08T										A H						
P	0028600		DT3 = -FMO 09C02,02-06T										A H						
P	0028700		DT4 = -FMO 09C45,45-42T										A H						
P	0028800		DT5 = -FMO 09C46,46-44T										A H						
P	0028900		DT6 = -FMO 09C04,04-07T										A H						
P	0029000		DT7 = -FMO 09C01,01-05T										A H						
*	0029290		DVBSY = DEVICE IS BUZY										E						
P	0029300		DVBSY = B .DCB-1.DVSEL 04B36,44, 37,										A A						
P	0029350		NDVBSY = I .DVBSY. 12B28,29, 30X,28-22A29T										A A						
*	0029590		DVOR = DEVICE IS OPERATIONAL (FROM STORAGE UNIT)										E						

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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L			
I	23456789	9	10	20	30	40	50	60	70	
P	0029600		DVOR = -BCR							A
P	0029600		30A22.							A
*	0029790		DVSEL = DEVICE IS SELECTED							E
P	0029800		DVSEL = B .DCAU.							A
P	0029800		04B35,38,43,							A
P	0029814		I * + .NDA5U.U0.							A
P	0029814		10C01,\$,\$,20,21,12X,							A
P	0029828		+ .DA5U.NU0.							A
P	0029828		10C\$.18,19,07X,							A
P	0029842		I * + .NDA6U.U1.							A
P	0029842		10C02,\$,\$,23,24,12X,							A
P	0029856		+ .DA6U.NU1.							A
P	0029856		10C\$.17,22,07X,							A
P	0029870		I * + .NDA7U.U2.							A
P	0029870		10C04,\$,\$,13,14,12X,							A
P	0029884		+ .DA7U.NU2.							A
P	0029884		10C\$.06,05,07X,							A
*	0029890		DVTR = STORAGE UNIT ADDRESSED IS OPERATIONAL							E
P	0029900		DVTR = -BCR							A
P	0029900		30A20,							A
P	0030000		NDVTR = I .DVTR.							A
P	0030000		27A31,38,33X,34X,							A
P	0030100		EDC = -BL * + .EDC.GND14							A
P	0030100		29B33,\$,\$,33,27X,							A
P	0030120		+ .GND14.							A
P	0030120		29B\$.26,30X,							A
P	0030140		+ .ORDER.							A
P	0030140		29B\$.25,31X,							A
P	0030160		+ .EDSL.							A
P	0030160		29B\$.24,29X,							A
P	0030180		+ .GND14.							A
P	0030180		29B\$.23,28X,							A
P	0030200		EDD = B .EDC.FSC							A
P	0030200		31B02,09,03,02-30C33C							A
*	0030290		EOR = END DATA RECEIVED FROM IOP							E
P	0030300		EOR = -BCR							A
P	0030300		30C34,							A
P	0030400		EDS = FF							A
P	0030400		15B21,							A
P	0030500		NEDS = NFF							A
P	0030500		15B27,							A





CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L	
1	2345678	9 10	1 2 3 4 5 6 7 8 9 20	2 3 4 5 6 7 8 9 30	2 3 4 5 6 7 8 9 40	2 3 4 5 6 7 8 9 50	2 3 4 5 6 7 8 9 60	2 3 4 5 6 7 8 9 70
	0031900		FR5D = B	* + .BSYC.U0			A	
P	0031900		27C05X,	\$. \$. 10X, 23, 05-32C09C			A	
	0031933			+ .BFSD.DCB.TSH			A	
P	0031933		27C\$,	.08X, 21, 15X,			A	
	0031966			+ .GND27C32.			A	
P	0031966		27C\$,	.22, .09X,			A	
	0032000		FR6D = B	* + .BSYC.U1			A	
P	0032000		27C42X,	\$. \$. 10X, 31, 42-32C01C			A	
	0032033			+ .BFSD.DCB.TSH			A	
P	0032033		27C\$,	.08X, 34, 15X,			A	
	0032066			+ .GND27C32.			A	
P	0032066		27C\$,	.33, .09X,			A	
	0032100		FR7D = B	* + .BSYC.U2			A	
P	0032100		27C46X,	\$. \$. 10X, 36, 46-32C02C			A	
	0032133			+ .BFSD.GND27C32.TSH			A	
P	0032133		27C\$,	.08X, 35, 15X,			A	
	0032166			+ .GND27C32.			A	
P	0032166		27C\$,	.37, .09X,			A	
*	0032190		FSC = SERVICE CONNECT FLIP-FLOP				E	
	0032200		FSC = FF				A	
P	0032200		29C28X,				A	
	0032300		NFSC = B	.NFSCP.			A	
P	0032300		26A36,	.44, 37,			A	
	0032312		NFF				A	
P	0032312		29C31X,				A	
	0032324		S/FSC = .ASCB				A	
P	0032324		29C27X,				A	
	0032336		R/FSC = .ESR .FSC				A	
P	0032336		29C43X,	.28X,			A	
	0032348		E/FSC = * + .RSTR				A	
P	0032348		29C\$,	\$. 45,			A	
	0032360			+ .NINI			A	
P	0032360		29C\$,	.46,			A	
	0032372		C/FSC = * + .NFSC.FSR				A	
P	0032372		29C\$,	\$. 31X, 42X,			A	
	0032384			+ .FSC.RSD			A	
P	0032384		29C\$,	.28X, 44,			A	
	0032390		FSC = B	* + .FSC .FSC			C	
P	0032390		29C\$,	\$. \$. \$. 28X			C	
	0032395			+ .RSAR.ESR.FSC			C	
P	0032395		29C\$,	.37X, 43X, 28X			C	





CODE	LINE NO.	CHG	LOGIC EQUATIONS			PINS			REMARKS	C/L
1	2	3	4	5	6	7	8	9	10	
	0033000		FSLD = B	* +	.BSYC					A
P	0033000		31C22X,	\$. \$,	21X, 22-32C35C					A
	0033075			+	.DCA.FSD.TTSH					A
P	0033075		31C\$.	18X, 26X, 30X,						A
	0033100		FSP = -PET							H
P	0033100		15A40							H
	0033150		FSP-1 = B	* +	.FSP.					H
P	0033150		27B19, \$. \$,	15, 06X, 19-24C14T						A
	0033175			+	.NDCB.NRSAP1.RUNCONT.					A
P	0033175		27B\$.	13, 17, 12,	14X, 18,					A
*	0033190		FSR = FUNCTION STROBE RECEIVED FROM IOP							E
	0033200		FSR = -BCR							A
P	0033200		28C36,							A
	0033300		FSRC = B	.	.FSR					A
P	0033300		27C47, 38,							A
	0033350		I	.	.FSC					A
P	0033350		23C23, 22,							A
	0033400		FSU = -BL	* +	.FSU.GND12					A
P	0033400		19B27, \$. \$,	27, 23X,						A
	0033405			+	.CONPC.FSP-1					C
P	0033405		19B\$.	18X, 28,						A
	0033410			+	.FNTEN.FSR					A
P	0033410		19B\$.	22X, 29,						A
	0033415		GND03 = -GND							A
P	0033415		24A16,							A
	0033420		GND04 = -GND							A
P	0033420		01B00,							A
	0033425		GND05 = -GND							A
P	0033425		02B00,							A
	0033430		GND06 = -GND							A
P	0033430		06B32,							A
	0033435		GND07 = -GND							A
P	0033435		07B32,							A
	0033440		GND08 = -GND							A
P	0033440		10B32,							A
	0033445		GND09 = -GND							A
P	0033445		14B16,							A



CODE	LINE NO.	CHK	LOGIC EQUATIONS										PINS										REMARKS	C/L																																			
			1	2	3	4	5	6	7	8	9	20	21	22	23	24	25	26	27	28	29	30			31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
P	0033700		GND26C00 = -GND																					A																																			
P	0033700		26C00,00-05G																					A																																			
P	0033800		GND26C16 = -GND																					A																																			
P	0033800		26C16,16-24G																					A																																			
P	0033900		GND26C32 = -GND																					A																																			
P	0033900		26C32,32-31C																					A																																			
P	0034000		GND26C48 = -GND																					A																																			
P	0034000		26C41,41-48G																					A																																			
P	0034100		GND27C16 = -GND																					A																																			
P	0034100		27C16,																					A																																			
P	0034200		GND27C32 = -GND																					A																																			
P	0034200		27C32,																					A																																			
P	0034300		GND28C00 = -GND																					A																																			
P	0034300		28C00,00-05G																					A																																			
P	0034400		GND28C16 = -GND																					A																																			
P	0034400		28C16,16-24G																					A																																			
P	0034500		GND28C48 = -GND																					A																																			
P	0034500		28C41,41-48G																					A																																			
P	0034600		GND30C00 = -GND																					A																																			
P	0034600		30C00,00-05G																					A																																			
P	0034700		GND30C16 = -GND																					A																																			
P	0034700		30C16,16-24G-25C																					A																																			
P	0034800		GND30C32 = -GND																					A																																			
P	0034800		30C32,32-41G-35C																					A																																			
P	0034900		GND30C48 = -GND																					A																																			
P	0034900		30C48,48-45C																					A																																			
P	0035000		GND31C48 = -GND																					A																																			
P	0035000		31C48,																					A																																			
P	0035100		GND32C00 = -GND																					A																																			
P	0035100		32C00,00-05G																					A																																			
P	0035200		GND32C16 = -GND																					A																																			
P	0035200		32C16,16-24G																					A																																			
P	0035300		GND32C32 = -GND																					A																																			
P	0035300		32C32,32-37C																					A																																			

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C7L		
	1	23456789	10	20	30	40	50	60	70
	0035400		GND32C48 = -GND						A
P	0035400		32C41,41-48G-45C						A
*	0035590		GT12 = GREATER THAN 12 BYTES OF DATA IN THE FAM						E
	0035600		GT12 = B .NDPF.						A
P	0035600		24B01,10, 11,						A
	0035700		I .DPO.DP1.						A
P	0035700		18B34,35, 36, 37.						A
	0035750		H1OP = -PET						A
P	0035750		15A24						A
*	0035790		H1OR = HALT I/O FUNCTION INDICATOR (FROM IOP)						E
	0035800		H1OR = -BCR						A
P	0035800		28C18,						A
	0035900		H1ORST = B .DVSEL.H1OU						A
P	0035900		25A01,11, 10,						A
	0036100		H1OU = -BL * + .GND18.H1OU						A
P	0036100		12C27,\$,\$,23X, 27,						A
	0036133		+ .CONPA.H1OP						A
P	0036133		12C\$,18X, 28,						A
	0036166		+ .FNTEN.H1OR						A
P	0036166		12C\$,22X, 29,						A
*	0036190		HPID = HIGH PRIORITY INTERRUPT DRIVER						E
	0036200		HPID = B .LIH						A
P	0036200		31C35X,01X,35-26C35C						A
	0036300		HPIL = I .NHPIL						A
P	0036300		23C13X,09X,						A
	0036400		NHPIL = I * + .NAIOR.HPIR						A
P	0036400		23C09X,\$,\$,19X, 17,						A
	0036450		+ .AIOR.HPIL						A
P	0036450		23C\$,15X, 13X,						A
	0036500		HPIR = -BCR						A
P	0036500		26C06,						A
*	0036590		HPSD = HIGH PRIORITY SERVICE DRIVER						E
	0036600		HPSD = B .LSH						A
P	0036600		23C36X,38X,36-26C33C						A
	0036700		HPSL = I .NHPSL						A
P	0036700		23C07X,12X,						A

CODE	LINE NO.	CHG	LOGIC EQUATIONS					PINS					REMARKS	C/L
			10	20	30	40	50	60	70					
P	0036800			NHPSL = I		* + .NASC		.HPSR						A
P	0036800			23C12X,		\$.44X,		06.						A
P	0036850					+ .ASC		.HPSL						A
P	0036850					23C\$,		.37X,						A
P	0036900			HPSR = -BCR										A
P	0036900			26C04,										A
*	0036990			10-17 = DATA INPUT LINES TO FAM										E
P	0037000			I0 = -BL * + .I0.IX0										A
P	0037000			13C21,		\$.21,		.30X,						A
P	0037066					+ .BR0.		.IXBR						A
P	0037066					13C\$,		.20,						A
P	0037132					+ .DA0U.		.IXDA						A
P	0037132					13C\$,		.19,						A
P	0037200			I1 = -BL * + .I1.IX0										A
P	0037200			13C46,		\$.46,		.30X,						A
P	0037233					+ .BR1.		.IXBR						A
P	0037233					13C\$,		.47,						A
P	0037266					+ .DA1U.		.IXDA						A
P	0037266					13C\$,		.50,						A
P	0037300			I2 = -BL * + .I2.IX0										A
P	0037300			13C09,		\$.09,		.30X,						A
P	0037333					+ .BR2.		.IXBR						A
P	0037333					13C\$,		.08,						A
P	0037366					+ .DA2U.		.IXDA						A
P	0037366					13C\$,		.06,						A
P	0037400			I3 = -BL * + .I3.IX0										A
P	0037400			13C07,		\$.07,		.30X,						A
P	0037433					+ .BR3.		.IXBR						A
P	0037433					13C\$,		.04,						A
P	0037466					+ .DA3U.		.IXDA						A
P	0037466					13C\$,		.03,						A
P	0037500			I4 = -BL * + .I4.IX0										A
P	0037500			13C26,		\$.26,		.23X,						A
P	0037533					+ .BR4.		.IXBR						A
P	0037533					13C\$,		.25,						A
P	0037566					+ .DA4U.		.IXDA						A
P	0037566					13C\$,		.24,						A
P	0037600			I5 = -BL * + .I5.IX0										A
P	0037600			13C27,		\$.27,		.23X,						A
P	0037633					+ .BR5.		.IXBR						A
P	0037633					13C\$,		.28,						A
P	0037666					+ .DA5U.		.IXDA						A
P	0037666					13C\$,		.29,						A

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L
1	2345678	9	10	11	12	13	14
P	0037700			16 = -BL * + .16.IX0			A
P	0037700			13C12.9, \$.12, 23X,			A
P	0037733			+ .BR6.IXBR			A
P	0037733			13C\$.11, 18X,			A
P	0037766			+ .DA6U.IXDA			A
P	0037766			13C\$.10, 22X,			A
P	0037800			17 = -BL * + .17.IX0			A
P	0037800			13C14.9, \$.14, 23X,			A
P	0037833			+ .BR7.IXBR			A
P	0037833			13C\$.15, 18X,			A
P	0037866			+ .DA7U.IXDA			A
P	0037866			13C\$.17, 22X,			A
P	0037900			IBIT0 = I .BIT0.			A
P	0037900			27A29.36, 10X, 34X,			A
P	0038000			ICD = B .LIL.			A
P	0038000			31C38X, 46X, 20, 38-32C39C			A
P	0038100			ICSO = I .CONPE.DRM.SGLTRK			A
P	0038100			28B09.05, 03, 04,			A
*	0038190			ID0-ID2 = IDENTIFICATION (ADDRESS) LINES TO STORAGE UNIT			E
P	0038200			ID0 = B .DA5U.TTSHU			C
P	0038200			25A45.42, 39, 45-32A37C			A
P	0038300			ID1 = B .DA6U.TTSHU			A
P	0038300			25A46.41, 40, 46-32A39C			A
P	0038400			ID2 = B .DA7U.TTSHU			A
P	0038400			25A02.09, 03, 02-32A45C			A
*	0038490			IDS = IDENTIFICATION STROBE TO STORAGE UNIT			E
P	0038500			IDS = B .FSU.			A
P	0038500			26A35.38, 43, 35-32A03C			A
P	0038533			B * + .IDS.			A
P	0038533			28A04.9, \$.07, 06X,			A
P	0038566			+ .FSU.SD2.TTSHU.			A
P	0038566			28A\$.09, 11, 08, 10, 14X,			A
*	0038590			ILO = ILLEGAL ORDER			E
P	0038600			ILO = I .REDA.			A
P	0038600			23B01.03, 05X, 06X, 01-21B36T			A
P	0038633			I .WCH.			A
P	0038633			23B02.08, 05X, 06X,			A
P	0038666			I .SKS.			A
P	0038666			23B10.07, 05X, 06X,			A
*	0038690			INC = INHIBIT NEW SERVICE CALLS			E

7201 RAD

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L
	1	2	3	4	5	6	7	8	9
	I	2	3	4	5	6	7	8	9
	10	1	2	3	4	5	6	7	8
	20	1	2	3	4	5	6	7	8
	30	1	2	3	4	5	6	7	8
	40	1	2	3	4	5	6	7	8
	50	1	2	3	4	5	6	7	8
	60	1	2	3	4	5	6	7	8
	70	1	2	3	4	5	6	7	8
	1	2	3	4	5	6	7	8	9
	10	1	2	3	4	5	6	7	8
	20	1	2	3	4	5	6	7	8
	30	1	2	3	4	5	6	7	8
	40	1	2	3	4	5	6	7	8
	50	1	2	3	4	5	6	7	8
	60	1	2	3	4	5	6	7	8
	70	1	2	3	4	5	6	7	8
	1	2	3	4	5	6	7	8	9
	10	1	2	3	4	5	6	7	8
	20	1	2	3	4	5	6	7	8
	30	1	2	3	4	5	6	7	8
	40	1	2	3	4	5	6	7	8
	50	1	2	3	4	5	6	7	8
	60	1	2	3	4	5	6	7	8
	70	1	2	3	4	5	6	7	8

P	0038700			INC = -K							A
P	0038700			26C11.							A
P	0038800			NINC = -K							A
P	0038800			26C09.							A
P	0038850			INDUP = -PET							A
P	0038850			15A18							A
P	0038875			NINDUP = I	INDUP.						A
P	0038875			27A03.07.	05X.06X.						A

7201 RAD

CODE	LINE NO.	CHK	LOGIC	EQUATIONS	PINS	REMARKS	C/L	
1	23456789	10	1012345678920	202345678930	2345678940	2345678950	2345678960	2345678970
	0038900		INI =	-GCL .FR7D				A
P	0038900		27C11X,	46X, 11-26C07K				A
	0038903			-GCL .FR6D				A
P	0038903		27C11X,	42X,				A
	0038906			-GCL .FR5D				A
P	0038906		27C11X,	05X,				A
	0038909			-GCL .FR4D				A
P	0038909		27C11X,	04X,				A
	0038912			-GCL .FR3D				A
P	0038912		27C39X,	45X,				A
	0038915			-GCL .FR2D				A
P	0038915		27C39X,	44X,				A
	0038918			-GCL .FR1D				A
P	0038918		27C39X,	06X,				A
	0038921			-GCL .FR0D				A
P	0038921		27C39X,	07X,				A
	0038924			-GCL .SCD				A
P	0038924		23C33X,	34X,				A
	0038927			-GCL .HPSD				A
P	0038927		23C33X,	36X,				A
	0038930			-GCL .				A
P	0038930		23C33X,	25,				Δ A
	0038933			-GCL .DCA				A
P	0038933		23C33X,	27,				A
	0038936			-GCL .				A
P	0038936		29C02X,	15X,				Δ A
	0038939			-GCL .DORD				A
P	0038939		29C02X,	14,				A
	0038942			-GCL .IORD				A
P	0038942		29C02X,	13,				A
	0038945			-GCL .				A
P	0038945		29C02X,	12,				Δ A
	0038948			-GCL .EDD				A
P	0038948		29C02X,	11,				A
	0038951			-GCL .				A
P	0038951		29C10X,	21,				Δ A
	0038954			-GCL .DA3D				A
P	0038954		29C10X,	20,				A
	0038957			-GCL .DA2D				A
P	0038957		29C10X,	19,				A
	0038960			-GCL .DA1D				A
P	0038960		29C10X,	18,				A
	0038963			-GCL .DA0D				A
P	0038963		29C10X,	17,				A
	0038966			-GCL .ICD				A
P	0038966		31C44,	38X,				A
EQUATION CONTINUED ON NEXT PAGE								

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NS



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L
	1 2345678 9 10		11 123456789 20	21 23456789 30		40 23456789 50		60 23456789 70	
	EQUATION CONTINUED FROM PREVIOUS PAGE								
P	0038969								A
	0038969								A
	0038972								A
P	0038972								A
	0038975								A
P	0038975								A
	0038978								A
P	0038978								A
	0038981								A
P	0038981								A
	0038984								A
P	0038984								A
	0038987								A
P	0038987								A
	0038990								A
P	0038990								A
	0038993								A
P	0038993								A
	0038996								A
P	0038996								A
	0039000								A
P	0039000								A
*	0039090								E
	0039100								A
P	0039100								A
	0039200								A
P	0039200								A
	0039233								A
P	0039233								A
	0039266								A
P	0039266								A
	0039299								A
P	0039299								A
	0039332								A
P	0039332								A
	0039365								C
P	0039365								C

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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L								
I	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70
P	0039400			INLM = B * + .INLM-1.											A
P	0039400			16C19,\$.\$,15.		06X,19-09B31T									A
P	0039450			+ .NBFE.CDN.REDA.											A
P	0039450			16C\$,13, 17, 12, 14X,18,											A
P	0039500			INLM-1 = B .CDN.											A
P	0039500			20B03,07, 05X,06X,											A
P	0039550			B .BFEPKC.WCPB-35B											A
P	0039550			20B25,26, 27,											A
P	0039600			INLOIT = B .INL.OIT											A
P	0039600			15C25,27, 26,											A
P	0039700			INLSET = -BL * + .GND08.INLSET											A
P	0039700			10B02,\$,\$,43X, 02,											A
P	0039733			+ .J080.											A
P	0039733			10B\$,31, 37X,											A
P	0039766			+ .J081.											A
P	0039766			10B\$,33, 38X,											A
*	0039790			IORD = INPUT/OUTPUT TO IOP (CC2)											E
P	0039800			IORD = B * + .FSU.J023.											A
P	0039800			27B42,\$,\$,50, 40, 39X,42-32C33C											A
P	0039833			+ .J057.											A
P	0039833			27B\$,43, 44X,											A
P	0039866			+ .FSU.J022											A
P	0039866			27B\$,28X,29,											A
*	0039890			IORF = INPUT/OUTPUT STATE DETERMINANT											E
P	0039900			IORF = FF											A
P	0039900			06B21,											A
P	0040000			NIORF = NFF											A
P	0040000			06B27,											A
P	0040016			S/IORF = .IORFSET.											A
P	0040016			06B18, 17,											A
P	0040032			R/IORF = .OIS											A
P	0040032			06B19,											A
P	0040048			M/IORF = .OIC											A
P	0040048			06B15,											A
P	0040064			E/IORF = .NDCB											A
P	0040064			06B22X,											A
P	0040080			C/IORF = .SERVEX.											A
P	0040080			06B20, 46X,											A
I	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70



CODE	LINE NO.	CHK	LOGIC			EQUATIONS			PINS			REMARKS			C/L	
			1	2	3	4	5	6	7	8	9	10	11	12		
P	0041200					J006 = B	*	+	J013.							A
P	0041200					27804.	S.	S.	07.	06X.	04-	21B29T				A
P	0041250								+	DP2.	J005.	SNST2.				A
P	0041250					27B5.	08.	11.	10.	09.	14X.					A
P	0041300					J007 = B	.	AN1R.	DP2.	SNST2.						A
P	0041300					05B14.	21.	20.	19.	29.	14-	21B30T				A
P	0041400					J008 = B	.	AN2R.	DP2.	SNST2.						A
P	0041400					05B15.	31.	18.	17.	30.	15-	21B31T				A
P	0041500					J009 = B	.	TRK0.	TYPIR							A
P	0041500					26A02.	09.	03.								A
P	0041600					J010 = B	.	TRK0.	NTYPO							A
P	0041600					26A13.	08.	04.								A
P	0041700					J011 = B	.	TRK1.	NTYPO.	NTYP1.						A
P	0041700					26A34.	24.	28.	23.	22.						A
P	0041800					J012 = B	.	AN3R.	DP2.	SNST2.						A
P	0041800					22B34.	22.	23.	24.	28.	34-	21B33T				A
P	0041850					J013 = B	.	OIT.	UNE							C
P	0041850					22B02.	09.	03.								A
P	0041900					J014 = I	.	CHW.	NPRI							A
P	0041900					20A46.	40.	41.								A
P	0042000					J015 = I	.	BC6.	BC7.	BRR2.	CM003				A	
P	0042000					28B08.	12.	13.	14.	11.						A
P	0042100					J016 = I	.	BC5.	CM003							A
P	0042100					27A24.	22.	23.								A
P	0042200					J017 = B	.	CM001							A	
P	0042200					16C05.	03.								A	
P	0042300					I	.	BC5.	BTC2.	CM003						A
P	0042300					28B07.	02.	06.	01.							A
P	0042600					J021 = B	.	DCAU.	NFAULT.	TDVU						A
P	0042600					24B12.	07.	05.	06.							A
P	0042700					J022 = I	.	J090.							A	
P	0042700					23B27.	31.	30X.	27-	21B11T						A

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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L
	1	2	3	4	5	6	7
	10	11	12	13	14	15	16
	20	21	22	23	24	25	26
	30	31	32	33	34	35	36
	40	41	42	43	44	45	46
	50	51	52	53	54	55	56
	60	61	62	63	64	65	66
	70	71	72	73	74	75	76
P	0042800		J023 = B	* + .AIOC.NFAULT.			A
P	0042800			27B41,\$,\$.37, 38,	39X,41-21B12T		A
P	0042833			+ .J021.			A
P	0042833			27B\$,45, 44X,			A
P	0042866			+ .FSU.SLN			A
P	0042866			27B\$,28X,27,			A
P	0042900		J024 = B	.FSCU.ORDER			A
P	0042900			24B13,04, 08,			A
P	0043000		J025 = B	.DVTR.FSD.TTSHU.			A
P	0043000			24B34,24, 23, 22,	28,		A
P	0043100		J026 = B	.BFE.DOS			A
P	0043100			25B36,37, 44,			A
P	0043200		J027 = B	.DIS.DP3.DPC14-15			A
P	0043200			25B33,26, 25, 27,			A
P	0043400		J029 = B	.PRB.WRI			A
P	0043400			08B46,41, 40,			A
P	0043600		J031 = B	* + .AIOFSU.RATER.			A
P	0043600			08C47,\$,\$.29, 30,	41X,		A
P	0043650			+ .OIT.TER.			A
P	0043650			08C\$,36, 28, 35X,			A
P	0043700		J032 = B	.AIOFSU.SUN			A
P	0043700			22B35,38, 43,			A
P	0043800		J033 = B	* + .CHE.OIT.			A
P	0043800			08C44,\$,\$.43, 42, 41X,			A
P	0043850			+ .AIOFSU.WPV.			A
P	0043850			08C\$,34, 33, 35X,			A
P	0043900		J034 = B	.J085.RWCEN			A
P	0043900			19A13,04, 08,			A
P	0044000		J035 = B	.BRR1.RBY1-360			A
P	0044000			08B02,09, 03,			A
P	0044100		J036 = B	.BRR1.NPRBBCB.WCPB-358			A
P	0044100			04B33,27, 26, 25,			A
P	0044200		J037 = B	.ARR1.DATAS.FSCU.NTOS			A
P	0044200			08B34,28, 23, 22, 24,			A
P	0044300		J038 = I	.NDOS.EDU.			A
P	0044300			23B33,44, 43, 45,33-22A09T			A









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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L
	1 2345678	9 10	1 23456789	20 23456789	30 23456789	40 23456789	50 23456789	60 23456789	70
P	0047580		C/LP1 =	.LP2					A
P	0047580			17C06.					A
P	0047600		LP2 =	FF					A
P	0047600			17C17.					A
P	0047700		NLP2 =	NFF					A
P	0047700			17C25.					A
P	0047720		S/LP2 =	.NLP2					A
P	0047720			17C21.					A
P	0047740		M/LP2 =	.GND21					A
P	0047740			17C04.					A
P	0047760		E/LP2 =	.DLUPX0					A
P	0047760			17C18X.					A
P	0047780		C/LP2 =	.LP3					A
P	0047780			17C02.					A
P	0047800		LP3 =	FF					A
P	0047800			17C23.					A
P	0047900		NLP3 =	NFF					A
P	0047900			17C20.					A
P	0047920		S/LP3 =	.NLP3					A
P	0047920			17C22.					A
P	0047940		M/LP3 =	.GND21					A
P	0047940			17C03.					A
P	0047960		E/LP3 =	.DLUPX0					A
P	0047960			17C18X.					A
P	0047980		C/LP3 =	.CLP					A
P	0047980			17C01.					A
P	0048000		LSB1 =	B .NDP3.SEK.T1					A
P	0048000			31B33,25, 26, 27,33-22A27T					A
P	0048100		LSB2 =	B .DP3.SEK.T1					A
P	0048100			31B12,05, 06, 07,12-21B37T					A
P	0048300		LSH =	B * + .NASCR.CSL.NFSC.GND23C32.INC					H
P	0048300			23C38X,\$,\$,44X, 41X,42X, 40, 43X,					A
P	0048350			+ .ASCR.NFSC.INI.LSH.NRSTR					A
P	0048350			23C\$,37X, 42X, 33X,38X,45X,					A

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L
	1 2345678 9	10	1 23456789 20	23456789 30	23456789 40	23456789 50	23456789 60	23456789 70	
P	0048400		LSL = B	* + .NASCR.CSL.NFSC.INC					A
P	0048400		23C39X.	\$. \$. 44X, 41X, 42X, 43X,					A
P	0048450			+ .ASCR.NFSC.INI.LSL.NRSTR					A
P	0048450			23C\$. 37X, 42X, 33X, 39X, 45X,					A
*	0048490		LT4 = LESS THAN 4 BYTES OF DATA IN FAM						E
P	0048500		LT4 = I	.NDP0.NDP1.					A
P	0048500		18B33, 44, 43, 45, 33-21B14T						A
P	0048600		MANRST = B	.NCONP.					A
P	0048600		19A02, 03, 09,						A
P	0048650		I	.INI.NRSTR					A
P	0048650		20A13, 04, 08,						A
*	0048690		OIC = ORDER IN CALL (TO IOP)						E
P	0048700		OIC = B	.NCSL.DATAS.NSERVCON.UNESTOP					A
P	0048700		31B14, 21, 20, 29, 19,						A
*	0048790		OIS = ORDER IN SERVICE (TO IOP)						E
P	0048800		OIS = B	.DORF.IORF					A
P	0048800		25B35, 38, 43,						A
P	0048900		NOIS = I	.DORF.IORF.					A
P	0048900		12B34, 37, 36, 35, 34-21B44T						A
P	0048910		OISSERV = B	* + .FSCU.OIS					A
P	0048910		30B46, \$. \$. 35X, 25, 26						A
P	0048920			+ .SD4.OISSERV					A
P	0048920		30B\$. 41X, 27, 31						A
P	0049000		OIT = B	.FSC.OIS.NTOS					A
P	0049000		22B12, 05, 06, 07,						A
*	0049090		OOS = ORDER OUT SERVICE (FROM IOP)						E
P	0049100		OOS = B	.DCB.NDORF.NIORF.					A
P	0049100		25B34, 23, 28, 24, 22,						A
P	0049200		NOOS = I	.NDORF.NIORF					A
P	0049200		12B14, 11, 12X, 14-22A18T						A
P	0049300		OR4P = -PET						H
P	0049300		15A26						H
P	0049400		OR5P = -PET						H
P	0049400		15A27						H
P	0049500		OR6P = -PET						H
P	0049500		15A28						H



CODE	LINE NO.	CHG	LOGIC EQUATIONS			PINS			REMARKS	C/L
			10	20	30	40	50	60		
P	0050540		M/PA1 = .PRE							A
P	0050540		18C34.							A
P	0050560		E/PA1 = .GND22							A
P	0050560		18C18X.							A
P	0050580		C/PA1 = .BCA							A
P	0050580		18C30.							A
P	0050600		PA2 = FF							A
P	0050600		18C38.							A
P	0050700		NPA2 = NFF							A
P	0050700		18C41.							A
P	0050720		S/PA2 = .PA1.							A
P	0050720		18C42,43.							A
P	0050740		M/PA2 = .PRE							A
P	0050740		18C31.							A
P	0050760		E/PA2 = .GND22							A
P	0050760		18C18X.							A
P	0050780		C/PA2 = .BCA							A
P	0050780		18C29.							A
P	0050800		PA3 = FF							A
P	0050800		18C36.							A
P	0050900		NPA3 = NFF							A
P	0050900		18C37.							A
P	0050920		S/PA3 = .PA2.							A
P	0050920		18C39,40.							A
P	0050940		M/PA3 = .PRE							A
P	0050940		18C35.							A
P	0050960		E/PA3 = .GND22							A
P	0050960		18C18X.							A
P	0050980		C/PA3 = .BCA							A
P	0050980		18C33.							A
P	0051000		PA4 = FF							A
P	0051000		18C23.							A
P	0051100		NPA4 = NFF							A
P	0051100		18C20.							A

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CODE	LINE NO.	CHG	LOGIC EQUATIONS /										PINS /										REMARKS	C/L																																													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
P	0051120		S/PA4 = .PA3																					A																																													
	0051120		18C22.																					A																																													
P	0051140		M/PA4 = .PRE																					A																																													
	0051140		18C03.																					A																																													
P	0051160		E/PA4 = .GND22																					A																																													
	0051160		18C18X.																					A																																													
P	0051180		C/PA4 = .BCA																					A																																													
	0051180		18C01.																					A																																													
P	0051200		PA5 = FF																					A																																													
	0051200		18C17.																					A																																													
P	0051300		NPA5 = NFF																					A																																													
	0051300		18C25.																					A																																													
P	0051320		S/PA5 = .PA4																					A																																													
	0051320		18C21.																					A																																													
P	0051340		M/PA5 = .PRE																					A																																													
	0051340		18C04.																					A																																													
P	0051360		E/PA5 = .GND22																					A																																													
	0051360		18C18X.																					A																																													
P	0051380		C/PA5 = .BCA																					A																																													
	0051380		18C02.																					A																																													
P	0051400		PA6 = FF																					A																																													
	0051400		18C11.																					A																																													
P	0051500		NPA6 = NFF																					A																																													
	0051500		18C13.																					A																																													
P	0051520		S/PA6 = .PA5.																					A																																													
	0051520		18C15, 19.																					A																																													
P	0051540		M/PA6 = .PRE																					A																																													
	0051540		18C08.																					A																																													
P	0051560		E/PA6 = .GND22																					A																																													
	0051560		18C18X.																					A																																													
P	0051580		C/PA6 = .BCA																					A																																													
	0051580		18C06.																					A																																													
P	0051600		PA7 = FF																					A																																													
	0051600		18C07.																					A																																													





CODE	LINE NO.	CHK	LOGIC	EQUATIONS	PINS	REMARKS	C/L									
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
	0053300		RATER = B	* + .RATER.NRESA												A
P	0053300		28A20,\$,\$.21,	22,20-09B26T												A
	0053333			+ .BAXLP.J026												A
P	0053333		28A\$,23,	24,												A
	0053366			+ .BAXLP.J027												A
P	0053366		28A\$,01,	02,												A
	0053400		NRATER = I	.RATER.												A
P	0053400		12B01,03,	05X,06X,01-22A17T												A
*	0053590		RCH = READ OR CHECK WRITE MODE OF OPERATION													E
	0053600		RCH = -BL * + .GND08.RCH													A
P	0053600		10B46,\$,\$.30X,	46,												A
	0053700			+ .RED.												A
P	0053700		10B\$,47,	13X,												A
	0053800			+ .CHW.												A
P	0053800		10B\$,50,	05X,												A
*	0053990		RED = READ MODE OF OPERATION													E
	0054000		RED = B	* + .DAGU.NDA7U.OTS												A
P	0054000		11B42,\$,\$.50,	40,	39X,42-22A13T											A
	0054016			+ .GND26.												A
P	0054016		11B\$,44X,	43,												A
	0054032			+ .ORDRST.RED												A
P	0054032		11B\$,28X,	29,												A
	0054050		REDA = B	.RED.												A
P	0054050		24B45,39,	42,												A
	0054100		NRED = I	.RED.												A
P	0054100		18B10,07,	05X,06X,10-09B43T												A
*	0054140		REDBC8 = READ DATA BYTE 1													E
	0054150		REDBC8 = B	.BC8.REDA												A
P	0054150		04B46,41,	40,												A
*	0054190		REDPAR = READ WITH IMMEDIATE ERROR REPORT													E
	0054200		REDPAR = B	* + .DA63.NDA7U.OTS												A
P	0054200		11B30,\$,\$.33,	34,	39X,30-09B22T											A
	0054233			+ .GND26.												A
P	0054233		11B\$,44X,	46,												A
	0054266			+ .ORDRST.REDPAR												A
P	0054266		11B\$,28X,	26,												A
	0054300		REDSN = -BL * + .GND08.REDSN													A
P	0054300		10B14,\$,\$.23X,	14,												A
	0054350			+ .RED.												A
P	0054350		10B\$,15,	18X,												A
	0054400			+ .SNS.												A
P	0054400		10B\$,17,	22X,												A



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L		
	1	9	10	20	30	40	50	60	70
P	0054450			REDSUN = -BL * + .GND25.REDSUN					A
	0054450			23A27,\$,23X, 27,					A
P	0054466			+ .INDUP.RED					A
	0054466			23A\$,18X, 28,					A
P	0054482			+ .NINDUP.SUN					A
	0054482			23A\$,22X, 29,					A
*	0054490			REN = READ ENABLE TO STORAGE UNIT					E
P	0054500			REN = B .RCH.RWCEN					A
	0054500			05B01,10, 11,01-32A19C					A
P	0054600			RENPRB = B .PRB.REN					A
	0054600			26A01,11, 10,					A
P	0054800			RESA = -BL * + .GND14.RESA					A
	0054800			29B18,\$,17X, 18,					A
P	0054820			+ .J004.					A
	0054820			29B\$,19, 30X,					A
P	0054840			+ .MANRST.					A
	0054840			29B\$,20, 31X,					A
P	0054860			+ .SLN.					A
	0054860			29B\$,21, 29X,					A
P	0054880			+ .J095.					E
	0054880			29B\$,22, 28X,					A
P	0054900			NRESA = I .RESA.					A
	0054900			18B17,24, 20X,21X,17-21B46T					A
P	0055200			RSAP = FF					A
	0055200			14C38,					A
P	0055300			NRSAP = NFF					A
	0055300			14C41,					A
P	0055305			S/RSAP = .CONPC.RSAPSET					A
	0055305			14C43, 42,					A
P	0055310			M/RSAP = .GND20					A
	0055310			14C31,					A
P	0055315			E/RSAP = .MANRST					A
	0055315			14C18X,					A
P	0055320			C/RSAP = .CLKB					A
	0055320			14C29,					A
P	0055325			RSAPSET = B * + .RSDC.RUN.					A
	0055325			03B45,\$,39, 40, 41X,					A
P	0055337			+ .FSD.RUNCONT.					A
	0055337			03B\$,37, 38, 35X,					A

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L								
I	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70
P	0055350			RSAP1 = B	.CLKB	.RSAP.		A							
P	0055350			24B33.25.	25.	27.		A							
P	0055375			NRSAP1 = I	.RSAP1			A							
P	0055375			23C26.30.				A							
*	0055490			RSAR = REQUEST STROBE ACKNOWLEDGE FROM IOP				E							
P	0055500			RSAR = -BCR				A							
P	0055500			28C08.				A							
P	0055600			RSARC = B	.NCSLI.			A							
P	0055600			20B01.11.	.06X.33X.			A							
P	0055625			B	* + .RSAR			A							
P	0055625			29C26.\$.\$.	.37X.			A							
P	0055650				+ .FSC			C							
P	0055650			29C\$. \$				C							
P	0055700			RSAU = B	* + .NCONP.	.RSARC		A							
P	0055700			27B20.\$.\$.	.22.	21.20-09B05T		A							
P	0055733				+ .CONPA.	.RSAP1		A							
P	0055733			27B\$.23.	24.			A							
P	0055766				+ .CONPA.	.J094		E							
P	0055766			27B\$.02.	01.			A							
P	0055800			RSAUZ = -DL *RSAU				A							
P	0055800			22A03.43.				A							
P	0056000			RSD = B	.RSDC.			A							
P	0056000			20B04.08.	.06X.10X.04-32C25C			A							
P	0056100			RSDC = B	.FSCU.			A							
P	0056100			20B02.09.	.06X.44X.			A							
P	0056116			-BL * + .RSDC.				A							
P	0056116			07B39.\$.\$.	.39.	36X.		A							
P	0056132				+ .NARR2.			C							
P	0056132			07B\$.35.	37X.			A							
P	0056148				+ .GND07.			A							
P	0056148			07B\$.34.	38X.			A							
P	0056164			I	.ARSET.			A							
P	0056164			12B27.31.	30X.			A							
P	0056180			I	.RSAUZ.			A							
P	0056180			18B18.23.	20X.21X.			A							
P	0056200			RSFSC = -BL * + .GND18.	.RSFSC			A							
P	0056200			12C01.\$.\$.	.43X.	01.01-21B18T		A							
P	0056233				+ .RSDC.			A							
P	0056233			12C\$.45.	37X.			A							
P	0056266				+ .FSD.			A							
P	0056266			12C\$.44.	38X.			A							
*	0056290			RSTR = I/O RESET RECEIVED FROM IOP				E							

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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L
1	2	3	4	5	6	7	8	9	10
P	0056300		RSTR = -BCR						A
P	0056300		28C06.						A
P	0056400		NRSTR = I	.RSTR					A
P	0056400		23C45X.	47.					A
*	0056490		RTR = RESET TRACK REGISTER						E
P	0056500		RTR = -BL * + .GND08	RTR					A
P	0056500		10B42.	\$.36X.	42.				A
P	0056516			+ .TRKRST.					A
P	0056516			10B\$.41.	37X.				A
P	0056532			+ .RTRSET.					A
P	0056532			10B\$.40.	38X.				A
P	0056550		RTRSET = B	.00S.SEK.SERVEX					A
P	0056550		08B33.	25, 26, 27.					A
P	0056600		RUN = I	.DATAS.SKS.					A
P	0056600		23B47.	38, 39, 42, 47-09B06T					A
P	0056650		RUNCONT --PET						C
P	0056650		15A41						C
P	0056800		RWC = -BL * + .GND08	RWC					A
P	0056800		10B12.	\$.23X.	12.				A
P	0056833			+ .RED.					A
P	0056833			10B\$.11.	18X.				A
P	0056866			+ .WCH.					A
P	0056866			10B\$.10.	22X.				A
*	0056890		RWCEN = READ, WRITE OR CHECK WRITE ENABLE						E
P	0056900		RWCEN = B	* + .PRE.NWPV.					A
P	0056900		03B04.	\$.05, 06, 07X.					A
P	0057000			+ .CM001.CM002.RWCEN					A
P	0057000			03B\$.12X.	13, 14.				A
*	0057090		S0-S3 = SECTOR REGISTER						E
P	0057100		S0 = FF						A
P	0057100		14B38.						A
P	0057200		NS0 = NFF						A
P	0057200		14B41.						A
P	0057220		S/S0 = .NS0.						A
P	0057220		14B42.	43.					A
P	0057240		M/S0 = .SOM						A
P	0057240		14B31.						A
P	0057260		E/S0 = .RTR						A
P	0057260		14B18X.						A



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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L
	1 2345678 9	10	123456789	20 23456789	30 23456789	40 23456789	50 23456789	60 23456789	70 23456789
P	0058000			S3 = FF					A
P	0058000			14B23.					A
P	0058100			NS3 = NFF					A
P	0058100			14B20.					A
P	0058120			S/S3 = .NS3					A
P	0058120			14B22.					A
P	0058140			M/S3 = .S3M					A
P	0058140			14B03.					A
P	0058160			E/S3 = .RTR					A
P	0058160			14B18X.					A
P	0058180			C/S3 = .S3CLK					C
P	0058180			14B01.					A
P	0058190			S3CLK = B * + .GND08 .S3CLK					C
P	0058190			10B07, \$, \$, 30X, 07					C
P	0058192			+ .PERSTP .					C
P	0058192			10B\$, 04, 13X					C
P	0058194			+ .RWCEN .					C
P	0058194			10B\$, 03, 05X					C
P	0058200			S3M = B .DA7U. LSB2.					A
P	0058200			15C45, 39, 43X, 33X,					A
*	0059190			SBRX0 = RESET SBR REGISTER LATCHES TO 0					E
P	0059200			SBRX0 = I .BIT1. NPRBBC8.					A
P	0059200			12B46, 40, 50, 41, 46-21B22T					A
P	0059250			I .SECP					C
P	0059250			23B09, 05X, 06X, 04					C
*	0059290			SBRXDT = SET FAM OUTPUT INTO SBR REGISTER LATCHES					E
P	0059300			SBRXDT = -BDS *SENSE200					G
P	0059300			04C27, 46, 27-21B23T					G
P	0059350			* .CFDISCL.WCH.					H
P	0059350			04C\$, 28, 29, 30					G
*	0059390			SBRXPA = SET PARITY INTO SBR REGISTER LATCHES					E
P	0059400			SBRXPA = B .BIT7. BYTE359					A
P	0059400			31B46, 41, 40,					A
P	0059600			SC2 = B * + .CDI.DRM.					A
P	0059600			16B45, \$, \$, 39, 40, 41X,					D
P	0059700			+ .CLK.DISC.					A
P	0059700			16B\$, 38, 37, 35X,					A
*	0059790			SCD = LOW PRIORITY SERVICE CALL DRIVER					E

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CODE	LINE NO.	CHG	LOGIC EQUATIONS / PINS / REMARKS												C/L																																																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
P	0059800		SCD = B .LSL												A																																																						
P	0059800		23C34X, 39X, 34-30C39C												A																																																						
P	0059900		SC1D = B .SC2 .NCD0												H																																																						
P	0059900		31B13, 04, 08, 13-32A25C												A																																																						
*	0059990		SD0-SD4 = SERVICE CONNECT TIMING PULSES												E																																																						
P	0060000		SD0 = B * + .J048.NSD4.												A																																																						
P	0060000		17A04, \$, \$, 05, 06, 07X, 04-22A0BT												A																																																						
P	0060050		+ .NCSLI.												A																																																						
P	0060050		17A\$, 13, 12X, 14.												A																																																						
P	0060075		SC2D = B .SC2 .WEN												D																																																						
P	0060075		31B36, 44, 37, 36-32A23C												D																																																						
P	0060100		SD1 = -DL *SD0												A																																																						
P	0060100		22A04, 47,												A																																																						
P	0060200		SD2 = -DL *SD1												A																																																						
P	0060200		22A05, 46,												A																																																						
P	0060300		SD3 = -DL *SD2												A																																																						
P	0060300		22A06, 45,												A																																																						
P	0060400		SD4 = -DL *SD3												A																																																						
P	0060400		22A02, 44,												A																																																						
P	0060500		NSD4 = I .SD4.												A																																																						
P	0060500		21A20, 14, 10X, 17X,												A																																																						
*	0060590		SDBRO = SET READ DATA FROM STORAGE UNIT INTO BRO												E																																																						
P	0060600		SDBRO = B .DCL.J014												A																																																						
P	0060600		25A13, 04, 08,												A																																																						
P	0060700		SDC0 = B * + .J052.												A																																																						
P	0060700		28A19, \$, \$, 15, 06X, 19-09B30T												A																																																						
P	0060750		+ .DATAS.DP2.DP3.SNS.												A																																																						
P	0060750		28A\$, 12, 17, 18, 13, 14X,												A																																																						

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CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L									
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
P	0060800		SEC = I	* + .NAN3R.S3.												A
P	0060800			10C45,\$,\$,38,	37,35X,	45-22A28T										A
P	0060806			+ .AN3R.NS3.												A
P	0060806			10C\$,39,	40, 41X,											A
P	0060812		I	* + .NAN2R.S2.												A
P	0060812			10C44,\$,\$,33,	34,35X,											A
P	0060818			+ .AN2R.NS2.												A
P	0060818			10C\$,43,	42, 41X,											A
P	0060824		I	* + .NAN1R.S1.												A
P	0060824			10C47,\$,\$,36,	28,35X,											A
P	0060830			+ .AN1R.NS1.												A
P	0060830			10C\$,29,	30, 41X,											A
P	0060836		I	* + .NANO.S0.												A
P	0060836			10C46,\$,\$,25,	26,35X,											A
P	0060842			+ .ANO.NS0.												A
P	0060842			10C\$,27,	31, 41X,											A
P	0060850		SECSL = B	* + .BFE.WCH.												C
P	0060850			26B30,\$,\$,34,	33, 39X,											A
P	0060862			+ .REDA.												A
P	0060862			26B\$,46,	44X,											A
P	0060874			+ .UNE												G
P	0060874			26B\$,26,	28X,											A
P	0060886		I	.RWCEN.												G
P	0060886			27A50,42,	05X,43X,											A
P	0060900		SECP = -BL	* + .GND07.SECP												A
P	0060900			07B07,\$,\$,30X,	07,											A
P	0060933			+ .IPR.												A
P	0060933			07B\$,04,	13X,											A
P	0060966			+ .SPR.												A
P	0060966			07B\$,03,	05X,											A
P	0061000		NSECP = I	.SECP.												A
P	0061000			27A30,37,	34X,44X,											A
*	0061190		SEEKCHE = SEEK	CHANNEL END												E
P	0061200		SEEKCHE = B	.SEEKEND.NTRN												A
P	0061200			04B01,10,	11,											A
*	0061290		SEEKEND = END OF SEEK													E
P	0061300		SEEKEND = FF													A
P	0061300			14B36,												A
P	0061350		NSEEKEND = NFF													A
P	0061350			14B37,												A
P	0061360		S/SEEKEND = .OTS.SEK													A
P	0061360			14B40,39,												A

CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L
	1 2 3 4 5 6 7 8 9 10		10 1 2 3 4 5 6 7 8 9 20 2 3 4 5 6 7 8 9 30 2 3 4 5 6 7 8 9 40 2 3 4 5 6 7 8 9 50 2 3 4 5 6 7 8 9 60 2 3 4 5 6 7 8 9 70				
P	0061370		M/SEEKEND =	.GND09 14B35.			A A
P	0061380		E/SEEKEND =	.RTR 14B18X.			A A
P	0061390		C/SEEKEND =	.SSP 14B33.			A A
*	0061395		SEK =	SEEK			E
P	0061400		SEK = B	* + .DAGU.DA7U.OTS 11B31,\$,\$,35, 36, 39X,31-22A14T			A
P	0061433			+ .GND26.			A
P	0061466			11B\$,44X, 47,			A
P	0061466			+ .ORDRST.SEK			A
*	0061490		SENSE0-7 =	TIMING FOR ALL FAM OPERATIONS 11B\$,28X, 25,			E
P	0061500		SENSE000 =	-DL * START-DL 05C46,\$			G G
P	0061600		SENSE060 =	-DL * START-DL 05C31,\$			G G
P	0061700		SENSE040 =	-DL * START-DL 05C47,\$			G G
P	0061725		SENSE100 =	-DL * START-DL 05C38,\$			G G
P	0061740		SENSE130 =	-DL * START-DL 05C23,\$			G G
P	0061750		SENSE170 =	-DL * START-DL 05C22,\$			G G
P	0061800		SENSE200 =	-DL * START-DL 05C25,\$			G G
P	0061900		SENSE230 =	-DL * START-DL 05C02,\$			G G
P	0062000		SENSE300 =	-DL * START-DL 05C11,\$			G G
P	0062100		SENSE180 =	-DL * START-DL 05C17,\$			G G



CODE	LINE NO.	CHK	LOGIC	EQUATIONS	PINS	REMARKS	C/L		
	1 2345678	9	10 123456789	20 23456789	30 23456789	40 23456789	50 23456789	60 23456789	70
P	0062200		SEROIC = -BL * + .GND14.SEROIC						A
P	0062200		29B13,\$,\$,17X, 13,						A
P	0062210		+ .UNE.						A
P	0062220		29B\$,04, 30X,						A
P	0062220		+ .ILO.						A
P	0062220		29B\$,03, 31X,						A
P	0062230		+ .DC0.						A
P	0062230		29B\$,02, 29X,						-A
P	0062240		+ .CDN.						A
P	0062240		29B\$,01, 28X,						A
P	0062250		SEROIS = B .OTS.SERVCON.						A
P	0062250		05B12,05, 06, 07,						A
P	0062300		SERVCON = B * + .FSCU.						A
P	0062300		16B01,\$,\$,18, 07X,19,						A
P	0062350		+ .SD4.SERVCON.						A
P	0062350		16B\$,20, 21, 12X,						A
P	0062400		NSERVCON = I .SERVCON.						A
P	0062400		23B25,19, 20X,21X,25-04C03T						A
*	0062490		SERVEX = SERVICE EXIT CLOCK						E
P	0062500		SERVEX = B .NCSLI.NFSC						A
P	0062500		31B35,43, 38,35-09B33T						A
P	0062600		NSERVEX = I .SERVEX.						A
P	0062600		18B02,08, 05X,06X,02-21B13T						A
P	0062700		SGLTRK = -PET						H
P	0062700		15A19						H
P	0062800		NSGLTRK = I .CONPB.SGLTRK.						A
P	0062800		28B10,19, 15, 18,						A
P	0062900		SIOP = -PET						H
P	0062900		15A25						H
*	0062990		SIOR = START I/O FROM IOP						E
P	0063000		SIOR = -BCR						A
P	0063000		28C13,						A
P	0063100		SIOSET = B .NCIL.NDCB.DVTR.SIOU						A
P	0063100		24B15,17, 18, 30, 31,						A
P	0063200		SIOU = -BL * + .GND18.SIOU						A
P	0063200		12C26,\$,\$,23X, 26,						A
P	0063233		+ .CONPA.SIOP						A
P	0063233		12C\$,18X, 25,						A
P	0063266		+ .FNTEN.SIOR						A
P	0063266		12C\$,22X, 24,						A





CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L										
I	1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
P	0065300		STRKBR0 = B	.CM005.TRN			A										
P	0065300		20824,23,	22,			A										
P	0065500		STSH02 = -BL * +	.GND07.STSH02			A										
P	0065500		07B46,\$,\$,30X,	46,			A										
P	0065533			+ .DVBSY.			A										
P	0065533		07B\$,47,	13X,			A										
P	0065566			+ .NDVTR.			A										
P	0065566		07B\$,50,	05X,			A										
*	0065590		SUN = SECTOR UNAVAILABLE				E										
P	0065600		SUN = FF				A										
P	0065600		24A21,				A										
P	0065700		NSUN = NFF				A										
P	0065700		24A27,				A										
P	0065733		S/SUN = .SRWC.SUNSET				A										
P	0065733		24A17, 18,				A										
P	0065766		R/SUN = .GND03				A										
P	0065766		24A19,				A										
P	0065799		M/SUN = .SUNM				H										
P	0065799		24A15,				A										
P	0065832		E/SUN = .RESA				A										
P	0065832		24A22X,				A										
P	0065865		C/SUN = .SECP.				G										
P	0065865		24A20,46X,				A										
P	0065875		SUNM = B .SUNSET	.SNSBYTE1			H										
P	0065875		22B45,42,	39			H										
P	0065900		SUNSET = -BL * +	.GND14.SUNSET			A										
P	0065900		29B15,\$,\$,17X,	15,			A										
P	0065915			+ .TRKOVF.			H										
P	0065915		29B\$,06,	30X,			H										
P	0065930			+ .J009			H										
P	0065930		29B\$,10,	31X,			H										
P	0065945			+ .J010			H										
P	0065945		29B\$,11,	29X,			H										
P	0065960			+ .J011			H										
P	0065960		29B\$,09,	28X,			H										
P	0065975		I .00S				H										
P	0065975		23C04,10,				H										
P	0066000		SWAD = -K				H										
P	0066000		24C10				H										



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L
	1	2	3	4	5	6	7
	2345678	9	10	11	12	13	14
	10	20	30	40	50	60	70
P	0067700		NSYNC1 = NFF				A
P	0067700		14C37,				A
P	0067720		S/SYNC1 = .SYNC1SET.NSYNC2				A
P	0067720		14C39, 40,				A
P	0067740		M/SYNC1 = .GND20				A
P	0067740		14C35,				A
P	0067760		E/SYNC1 = .MANRST				A
P	0067760		14C18X,				A
P	0067780		C/SYNC1 = .BCB				A
P	0067780		14C33,				A
P	0067800		SYNC1SET = B * + .BIT7.J029.				A
P	0067800		28A30,\$,\$,33, 34, 39X,30-09B46T				A
P	0067833		+ .PSPR.				A
P	0067833		28A\$,46, 44X,				A
P	0067866		+ .USECP.				A
P	0067866		28A\$,26, 28X,				A
P	0067900		SYNC2 = FF				A
P	0067900		15B07,				A
P	0068000		NSYNC2 = NFF				A
P	0068000		15B09,				A
P	0068033		S/SYNC2 = .SYNC1.USECP				A
P	0068033		15B12, 13,				A
P	0068066		R/SYNC2 = .BYT10				A
P	0068066		15B10,				A
P	0068099		M/SYNC2 = .GND10				A
P	0068099		15B08,				A
P	0068132		E/SYNC2 = .MANRST				A
P	0068132		15B22X,				A
P	0068165		C/SYNC2 = .SC2.				A
P	0068165		15B14,46X,				A
P	0068170		T0 = -BDS *SENSE000				G
P	0068170		06C28,45, 28-04C39T				G
P	0068200		NT0 = -IDS*SENSE000				G
P	0068200		06C03,46,03-09B10T				A
P	0068300		T1 = -BDS*SENSE060				G
P	0068300		06C29,47,29-22A11T				A

CODE	LINE NO.	CHG	LOGIC EQUATIONS /										PINS /										REMARKS	C/L						
1	2345678	9 10	10	12	34	56	789	20	23	45	6789	30	23	45	6789	40	23	45	6789	50	23	45	6789	60	23	45	6789	70		
P	0068400																													G
	0068400																													A
P	0068500																													G
	0068500																													A
P	0068600																													G
	0068600																													C
P	0068650																													G
	0068650																													A
P	0068700																													G
	0068700																													A
P	0068900																													G
	0068900																													A
P	0069000																													C
	0069000																													C
P	0069200																													H
	0069200																													H
*	0069290																													E
P	0069300																													A
	0069300																													A
P	0069400																													A
	0069400																													A
P	0069433																													A
	0069433																													A
P	0069466																													A
	0069466																													A
*	0069490																													E
P	0069500																													A
	0069500																													A
P	0069550																													A
	0069550																													A
P	0069600																													A
	0069600																													A
P	0069650																													A
	0069650																													A
P	0069675																													A
	0069675																													A
*	0069690																													E

CODE	LINE NO.	CHK	LOGIC			EQUATIONS			PINS			REMARKS	C/L
			1	2	3	4	5	6	7	8	9		
P	0069700												A
P	0069700												A
P	0069800												A
P	0069833												A
P	0069866												A
P	0069866												A
*	0069890												E
P	0069900												A
P	0069900												A
P	0070000												A
P	0070000												A
P	0070033												A
P	0070033												A
P	0070066												A
P	0070066												Δ
P	0070099												A
P	0070099												A
P	0070132												A
P	0070132												A
P	0070165												A
P	0070165												A
*	0070190												E
P	0070200												A
P	0070200												A
P	0070300												A
P	0070300												A
P	0070320												A
P	0070320												A
P	0070340												A
P	0070340												A
P	0070360												A
P	0070360												A
P	0070380												A
P	0070380												A

NS





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CODE	LINE NO.	CHG	LOGIC EQUATIONS /										PINS /										REMARKS	C/L
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
P	0071300		TRK2P = B .TRK2.																					A
P	0071300		20B47.41. 10X.43X.																					A
P	0071400		TRK3 = FF																					A
P	0071400		13B24.																					A
P	0071500		NTRK3 = NFF																					A
P	0071500		13B46.																					A
P	0071520		S/TRK3 = .NTRK3																					A
P	0071520		13B50.																					A
P	0071540		M/TRK3 = .TRK3M																					A
P	0071540		13B28.																					A
P	0071560		E/TRK3 = .RTR																					A
P	0071560		13B18X.																					A
P	0071580		C/TRK3 = .TRK4																					A
P	0071580		13B26.																					A
P	0071600		TRK3M = B .DA6U.LSB1.																					A
P	0071600		15C20.14. 17X. 10X.																					A
P	0071700		TRK3P = B .TRK3.																					A
P	0071700		20B50.42. 05X.43X.																					A
P	0071800		TRK4 = FF																					A
P	0071800		13B36.																					A
P	0071900		NTRK4 = NFF																					A
P	0071900		13B37.																					A
P	0071920		S/TRK4 = .NTRK4.																					A
P	0071920		13B39. 40.																					A
P	0071940		M/TRK4 = .TRK4M																					A
P	0071940		13B35.																					A
P	0071960		E/TRK4 = .RTR																					A
P	0071960		13B18X.																					A
P	0071980		C/TRK4 = .TRK5																					A
P	0071980		13B33.																					A
P	0072000		TRK4M = B .DA7U.LSB1.																					A
P	0072000		15C21.15. 17X. 05X.																					A
P	0072100		TRK4P = B .TRK4.																					A
P	0072100		20B31.38. 33X.34X.																					A



CODE	LINE NO.	CHG	LOGIC EQUATIONS /										PINS /					REMARKS	C/L																																																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
P	0073100		NTRK7 = NFF																A																																																		
P	0073100		13813,																A																																																		
P	0073120		S/TRK7 = .NTRK7.																A																																																		
P	0073120		13815, 19.																A																																																		
P	0073140		M/TRK7 = .TRK7M																A																																																		
P	0073140		13808,																A																																																		
P	0073160		E/TRK7 = .RTR																A																																																		
P	0073160		13818X.																A																																																		
P	0073180		C/TRK7 = .TRK8																A																																																		
P	0073180		13806,																A																																																		
P	0073200		TRK7M = B .DA2U.LSB2.																A																																																		
P	0073200		15C04,08, 06X, 10X,																A																																																		
P	0073300		TRK7P = B .TRK7.																A																																																		
P	0073300		20828,35, 05X,34X,																A																																																		
P	0073400		TRK8 = FF																A																																																		
P	0073400		14817,																A																																																		
P	0073500		NTRK8 = NFF																A																																																		
P	0073500		14825,																A																																																		
P	0073510		S/TRK8 = .NTRK8																A																																																		
P	0073510		14821,																A																																																		
P	0073520		M/TRK8 = .TRK8M																A																																																		
P	0073520		14804,																A																																																		
P	0073530		E/TRK8 = .RTR																A																																																		
P	0073530		14818X,																A																																																		
P	0073540		C/TRK8 = .TRK8C																A																																																		
P	0073540		14802,																A																																																		
P	0073550		TRK8C = B .S0.NSGLTRK																A																																																		
P	0073550		24835,43,38,																A																																																		
P	0073600		TRK8M = B .DA3U.LSB2.																A																																																		
P	0073600		15C03,07, 06X, 05X,																A																																																		
P	0073700		TRK8P = B .TRK8.																A																																																		
P	0073700		20818,12, 17X,33X,																A																																																		







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CODE	LINE NO.	CHK	LOGIC EQUATIONS /										PINS /					REMARKS	C/L	
			1	2	3	4	5	6	7	8	9	10	20	30	40	50	60	70		
P	0075720																		S/U1 = .DA6U 14C21,	A A
P	0075740																		M/U1 = .GND20 14C04,	A A
P	0075760																		E/U1 = .MANRST 14C18X,	A A
P	0075780																		C/U1 = .SLN 14C02,	A A
P	0075800																		U2 = FF 14C11,	A A
P	0075900																		NU2 = NFF 14C13,	A A
P	0075920																		S/U2 = .DA7U. 14C15, 19,	A A
P	0075940																		M/U2 = .GND20 14C08,	A A
P	0075960																		E/U2 = .MANRST 14C18X,	A A
P	0075980																		C/U2 = .SLN 14C06,	A A
*	0075990		UNE = UNUSUAL END																E	
P	0076000																		UNE = FF 15B37,	A A
P	0076100																		NUNE = NFF 15B42,	A A
P	0076116																		S/UNE = .DA3U.UNESET 15B33, 34,	A A
P	0076132																		R/UNE = .UNER 15B35,	A A
P	0076148																		M/UNE = .UNEM 15B31,	A A
P	0076164																		E/UNE = .MANRST 15B22X,	A A



CODE	LINE NO.	CHK	LOGIC	EQUATIONS	/	PINS	/	REMARKS	C/L
	1 2345678	9 10	11 12 13 14 15 16 17 18 19	20 21 22 23 24 25 26 27 28 29	30 31 32 33 34 35 36 37 38 39	40 41 42 43 44 45 46 47 48 49	50 51 52 53 54 55 56 57 58 59	60 61 62 63 64 65 66 67 68 69	70
	0076180		C/UNE	= .RSFSC .					C
P	0076180			15B36.46X					C
*	0076190		UNEIMM = UNUSUAL END IMMEDIATE						E
	0076200		UNEIMM = I	.DVOR.NPSPM.UNESET1.					A
P	0076200			28B36,27, 26, 25, 28,36-21B38T					A
	0076300		UNEM = B	.DCB-1.NOOS.NSERVEX					A
P	0076300			26A33,27, 25, 26,					A
	0076350		I	.OISSERV .					A
P	0076350			28B17,20, 21,					A
	0076400		I	.DVOR.NPSPM.UNESET1.UNESET2.UNESET3					A
P	0076400			28B38,43, 42, 41, 40, 44,					A
	0076420		I	.CONPE .ERSTOP					E
P	0076420			20A02,03, 09					E
	0076450		UNER = -BL * + .GND12.UNER						A
P	0076450			19B02,\$,\$,43X, 02,					A
	0076466			+ .SIOSET.					A
P	0076466			19B\$,31, 37X,					A
	0076482			+ .HIORST.					A
P	0076482			19B\$,33, 38X,					A
	0076500		UNESET = B	.NOIS.TOS					A
P	0076500			24B36,37, 44,					A
	0076600		UNESET1 = I * + .BFEPWC.RED.SUN						A
P	0076600			11C01,\$,\$,08, 10, 09,01-24C30T					A
	0076633			+ .SUN.WCHSK					H
P	0076633			11CS,07, 06,					A
	0076666			+ .ORDRST.WPV					A
P	0076666			11CS,11, 05,					A
	0076700		UNESET2 = I * + .GND17.						A
P	0076700			11C14,\$,\$,04, 12,14-21B50T					A
	0076733			+ .OIS.PARER.					A
P	0076733			11CS,13, 02, 03,					A
	0076766			+ .BFEPWC.PARER.REDPAR					A
P	0076766			11CS,17, 28, 27,					A
	0076800		UNESET3 = I	.NUNESET3.					A
P	0076800			18B26,22, 20X,21X,26-21B15T					A



CODE	LINE NO.	CHG	LOGIC EQUATIONS												PINS	REMARKS	C/L				
			1	2	3	4	5	6	7	8	9	10	11	12							
P	0077320																S/UP1 = .NUP1. 17C43, 42.			A	A
P	0077340																M/UP1 = .GND21 17C31.			A	A
P	0077360																E/UP1 = .DLUPX0 17C18X.			A	A
P	0077380																C/UP1 = .UP2 17C29.			A	A
P	0077400																UP2 = FF     w;			A	A
P	0077500																NUP2 = NFF 17C44.			A	A
P	0077520																S/UP2 = .NUP2 17C45.			A	A
P	0077540																M/UP2 = .GND21 17C34.			A	A
P	0077560																E/UP2 = .DLUPX0 17C18X.			A	A
P	0077580																C/UP2 = .UP3 17C30.			A	A
P	0077600																UP3 = FF     w;			A	A
P	0077700																NUP3 = NFF 17C46.			A	A
P	0077720																S/UP3 = .NUP3 17C50.			A	A
P	0077740																M/UP3 = .GND21 17C28.			A	A
P	0077760																E/UP3 = .DLUPX0 17C18X.			A	A
P	0077780																C/UP3 = .CUP 17C26.			A	A
*	0077790		UPCOUNT = DIFFERENCE POINTER ENABLE TO COUNT UP														E				

CODE	LINE NO.	CHG	LOGIC				EQUATIONS				PINS				REMARKS	C/L		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70			
P	0077800					UPCOUNT = -BL * + .NT0.UPCOUNT											A	
P	0077800					07826,\$,\$.23X,26,26-21842T											A	
P	0077805					+ .BAXUP.NRED											H	
P	0077805					078\$,18X,25,											H	
P	0077810					+ .BAXLP.REDA											H	
P	0077810					078\$,22X,24,											H	
P	0077815					US1P = -PET											H	
P	0077815					16A10											H	
P	0077830					US2P = -PET											H	
P	0077830					16A11											H	
P	0077845					US4P = -PET											H	
P	0077845					16A12											H	
P	0077850					USECP = B .DCB.SECP											A	
P	0077850					29A46,40,41,											A	
P	0077860					USOR-5 = B * + .NSERVCON .US4P											A	
P	0077860					08C03,\$,\$.11,10,12X											A	
P	0077861					+ .OR5P .CONPORD											A	
P	0077861					08C\$,08,09,07X											A	
P	0077870					USOR-6 = B * + .NSERVCON .US2P											A	
P	0077870					30B45,\$,\$.37,38,35X											A	
P	0077871					+ .OR6P .CONPORD											A	
P	0077871					30B\$,40,39,41X											A	
P	0077880					USOR-7 = B * + .NSERVCON .US1P											A	
P	0077880					03B44,\$,\$.33,34,35X											A	
P	0077881					+ .OR7P .CONPORD											A	
P	0077881					03B\$,42,43,41X											A	
P	0077900					WCH = -BL * + .GND08.WCH											A	
P	0077900					10B26,\$,\$.23X,26,											A	
P	0077933					+ .WR1.											A	
P	0077933					10B\$,25,18X,											A	
P	0077966					+ .CHW.											A	
P	0077966					10B\$,24,22X,											A	
P	0078000					WCHEN = B .RWCEN.WCH											A	
P	0078000					05B13,04,08,											A	
P	0078100					WCHSK = -BL * + .GND08.WCHSK											A	
P	0078100					10B21,\$,\$.30X,21,											A	
P	0078166					+ .WCH.											A	
P	0078166					10B\$,20,13X,											A	
P	0078232					+ .SEK.											A	
P	0078232					10B\$,19,05X,											A	
			1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70



CODE	LINE NO.	CHK	LOGIC	EQUATIONS	PINS	REMARKS	C/L	
	1 2345678 9 10		10 123456789 20	20 23456789 30	30 23456789 40	40 23456789 50	50 23456789 60	60 23456789 70
	0079250		WRIPV = -BL * + .GND25.WRIWPV				A	
P	0079250		23A12,\$,\$,23X, 12,				A	
	0079266		+ .INDUP.WRI				A	
P	0079266		23A\$,18X, 11,				A	
	0079282		+ .NINDUP.WPV				A	
P	0079282		23A\$,22X, 10,				A	
	0079300		WRIN = B .NTRN .WRI				C	
P	0079300		19A36,37, 44				C	
	0079400		B .BC7 .				C	
P	0079400		19A35,38, 43				C	
	0100000		(Δ000) = B . DP2.DP1.(Δ001)				G	
P	0100000		32B\$,10X,06X,\$				A	
	0100100		(Δ001) = B * + .DP3 .UPCOUNT				E	
P	0100100		32B\$,,\$,35X,38				A	
	0100200		+ .DP3.GND15				A	
P	0100200		32B\$,35X,42X				A	
	0100300		(Δ002) = B .NDP2.NDP1.(Δ003)				A	
P	0100300		32B\$,05X, 07X, \$				A	
	0100400		(Δ003) = B * + .NDP3 .DNCOUNT				E	
P	0100400		32B\$,,\$,37X,40				A	
	0100500		+ .GND15				A	
P	0100500		32B\$,33X				A	
END OF LIST								



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CODE	LINE NO.	CHG	LOGIC				EQUATIONS				PINS				REMARKS				C/L	
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
	0005520						S/BC1													
	0005540						M/BC1													
	0005560						E/BC1													
	0005580						C/BC1													
	0005600						BC2													
	0005700						NBC2													
	0005720						S/BC2													
	0005740						M/BC2													
	0005760						E/BC2													
	0005780						C/BC2													
	0005800						BC3													
	0005900						NBC3													
	0005920						S/BC3													
	0005940						M/BC3													
	0005960						E/BC3													
	0005980						C/BC3													
	0006000						BC4													
	0006100						NBC4													
	0006120						S/BC4													
	0006140						M/BC4													
	0006160						E/BC4													
	0006180						C/BC4													
	0006200						BC5													
	0006300						NBC5													
	0006320						S/BC5													
	0006340						M/BC5													
	0006360						E/BC5													
	0006380						C/BC5													
	0006400						BC6													
	0006500						NBC6													
	0006520						S/BC6													
	0006540						M/BC6													
	0006560						E/BC6													
	0006580						C/BC6													
	0006600						BC7													
	0006700						NBC7													
	0006720						S/BC7													
	0006740						M/BC7													
	0006760						E/BC7													
	0006780						C/BC7													
	0006800						BC8													
	0006900						NBC8													
	0006910						S/BC8													
	0006920						M/BC8													
	0006930						E/BC8													
	0006940						C/BC8													
	0006950						BC8CLK													
	0005110						BCA													
	0005120						BCB													
	0005130						BCC													
	0005140						BCD													





CODE	LINE NO.	CHK	LOGIC EQUATIONS			PINS			REMARKS	C/L
			10	20	30	40	50	60		
	2345678	9	10	20	30	40	50	60	70	
	0009200									NBR6
	0009207									S/BR6
	0009235									R/BR6
	0009242									C/BR6
	0009250									BR6SET
	0009300									BR7
	0009400									NBR7
	0009407									S/BR7
	0009435									R/BR7
	0009442									C/BR7
	0009450									BR7SET
	0009500									BRE
	0009700									BRR1
	0009800									BRR2
	0009900									BSYC
	0010000									BTC0
	0010100									NBTC0
	0010120									S/BTC0
	0010140									M/BTC0
	0010160									E/BTC0
	0010180									C/BTC0
	0010200									BTC1
	0010300									NBTC1
	0010320									S/BTC1
	0010340									M/BTC1
	0010360									E/BTC1
	0010380									C/BTC1
	0010400									BTC2
	0010500									NBTC2
	0010516									S/BTC2
	0010532									R/BTC2
	0010548									M/BTC2
	0010564									E/BTC2
	0010580									C/BTC2
	0010600									BY0-359
	0011000									BYCLKEN
	0011250									BYT10
	0011200									BYTE359
	0011300									BYTE360
	0011400									BYTE361
	0011450									NBYTE361
	0011700									CCH
	0011800									NCCH
	0011816									S/CCH
	0011832									R/CCH
	0011848									M/CCH
	0011864									E/CCH
	0011880									C/CCH
	0011900									CCHSET
	0012000									CCHSET 1
	0012200									CD0



CODE	LINE NO.	CHG	LOGIC	EQUATIONS	PINS	REMARKS	C/L									
1	2345678	9	10	123456789	20	23456789	30	23456789	40	23456789	50	23456789	60	23456789	70	
	0014700			CLK												
	0014800			CLKB												
	0015000			CLP												
	0015100			CM001												
	0015200			CM002												
	0015300			CM003												
	0015400			CM005												
	0015500			CNTRCL												
	0015700			CNTRST												
	0015800			NCOMP												
	0015900			NCONP												
	0016000			CONPA												
	0016100			CONPAT												
	0016200			CONPB												
	0016300			CONPC												
	0016400			CONPORD												
	0016700			CSL												
	0016800			NCSL												
	0016900			CSLI												
	0017000			NCSLI												
	0017100			CSLSET												
	0017300			CUP												
	0017600			DA0D												
	0017850			DA0P												
	0017900			DA0R												
	0018000			NDA0R												
	0018100			DA0U												
	0018200			DA1D												
	0018450			DA1P												
	0018500			DA1R												
	0018600			NDA1R												
	0018700			DA1U												
	0018800			DA2D												
	0019050			DA2P												
	0019100			DA2R												
	0019200			NDA2R												
	0019300			DA2U												
	0019400			DA3D												
	0019650			DA3P												
	0019700			DA3R												
	0019800			NDA3R												
	0019900			DA3U												
	0020000			NDA3U												
	0020100			DA4D												
	0020350			DA4P												
	0020400			DA4R												
	0020500			NDA4R												
	0020600			DA4U												
	0020700			NDA4U												
	0020750			DA57												
	0020800			DA5D												



CODE	LINE NO.	CHG	LOGIC			EQUATIONS			PINS			REMARKS			C/L
			1	2	3	4	5	6	7	8	9	10	11	12	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	0027800														
	0025450														
	0025500														
	0025600														
	0025800														
	0025900														
	0026000														
	0026016														
	0026032														
	0026048														
	0026064														
	0026080														
	0026100														
	0026200														
	0026300														
	0026400														
	0026500														
	0026514														
	0026542														
	0026556														
	0026600														
	0026700														
	0026714														
	0026742														
	0026756														
	0026800														
	0026900														
	0026914														
	0026942														
	0026956														
	0027000														
	0027100														
	0027114														
	0027170														
	0027184														
	0027400														
	0027500														
	0027200														
	0027300														
	0027314														
	0027342														
	0027356														
	0027700														
	0028200														
	0028250														
	0028300														
	0028400														
	0028500														
	0028600														
	0028700														
	0028800														



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CODE	LINE NO.	CHK	LOGIC	EQUATIONS	PINS	REMARKS	C/L				
1	2345678	9	10	10	20	30	40	50	60	70	80
	0032600		FSCPM								
	0032700		FSCU								
	0032800		FSD								
	0032900		NFSD								
	0033000		FSLD								
	0033100		FSP								
	0033150		FSP-1								
	0033200		FSR								
	0033300		FSRC								
	0033400		FSU								
	0033415		GND03								
	0033420		GND04								
	0033425		GND05								
	0033430		GND06								
	0033435		GND07								
	0033440		GND08								
	0033445		GND09								
	0033450		GND10								
	0033460		GND12								
	0033465		GND13								
	0033470		GND14								
	0033475		GND15								
	0033480		GND16								
	0033485		GND17								
	0033490		GND18								
	0033495		GND19								
	0033500		GND20								
	0033505		GND21								
	0033510		GND22								
	0033515		GND23								
	0033600		GND23C32								
	0033520		GND24								
	0033525		GND25								
	0033528		GND26								
	0033700		GND26C00								
	0033800		GND26C16								
	0033900		GND26C32								
	0034000		GND26C48								
	0034100		GND27C16								
	0034200		GND27C32								
	0034300		GND28C00								
	0034400		GND28C16								
	0034500		GND28C48								
	0034600		GND30C00								
	0034700		GND30C16								
	0034800		GND30C32								
	0034900		GND30C48								
	0035000		GND31C48								
	0035100		GND32C00								
	0035200		GND32C16								
	0035300		GND32C32								





CODE	LINE NO.	CHK	LOGIC		EQUATIONS		PINS		REMARKS		C7/L	
			1	2	3	4	5	6	7	8		9
	0040032		R/	I	O	R	F					
	0040048		M/	I	O	R	F					
	0040064		E/	I	O	R	F					
	0040080		C/	I	O	R	F					
	0040100		I	O	R	F	S	E	T			
	0040300		I	P	R							
	0040500		I	S	R	B	R					
	0040550		I	X	B	R						
	0040600		I	X	D	A						
	0040525		I	X	O							
	0040700		J	0	0	1						
	0040800		J	0	0	2						
	0040900		J	0	0	3						
	0041000		J	0	0	4						
	0041100		J	0	0	5						
	0041200		J	0	0	6						
	0041300		J	0	0	7						
	0041400		J	0	0	8						
	0041500		J	0	0	9						
	0041600		J	0	1	0						
	0041700		J	0	1	1						
	0041800		J	0	1	2						
	0041850		J	0	1	3						
	0041900		J	0	1	4						
	0042000		J	0	1	5						
	0042100		J	0	1	6						
	0042200		J	0	1	7						
	0042600		J	0	2	1						
	0042700		J	0	2	2						
	0042800		J	0	2	3						
	0042900		J	0	2	4						
	0043000		J	0	2	5						
	0043100		J	0	2	6						
	0043200		J	0	2	7						
	0043400		J	0	2	9						
	0043600		J	0	3	1						
	0043700		J	0	3	2						
	0043800		J	0	3	3						
	0043900		J	0	3	4						
	0044000		J	0	3	5						
	0044100		J	0	3	6						
	0044200		J	0	3	7						
	0044300		J	0	3	8						
	0044400		J	0	3	9						
	0044600		J	0	4	1						
	0044700		J	0	4	2						
	0044900		J	0	4	4						
	0045000		J	0	4	5						
	0045300		J	0	4	8						
	0045400		J	0	5	2						
	0045500		J	0	5	3						



7201 RAD

CODE	LINE NO.	CHG	LOGIC EQUATIONS / PINS / REMARKS								C/L													
			1	2	3	4	5	6	7	8														
1	2345678	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	
	0048900																							
	0048910																							
	0049000																							
	0049100																							
	0049200																							
	0049300																							
	0049400																							
	0049500																							
	0049600																							
	0049700																							
	0049800																							
	0049900																							
	0050000																							
	0050100																							
	0050140																							
	0050180																							
	0050220																							
	0050260																							
	0050300																							
	0050400																							
	0050500																							
	0050520																							
	0050540																							
	0050560																							
	0050580																							
	0050600																							
	0050700																							
	0050720																							
	0050740																							
	0050760																							
	0050780																							
	0050800																							
	0050900																							
	0050920																							
	0050940																							
	0050960																							
	0050980																							
	0051000																							
	0051100																							
	0051120																							
	0051140																							
	0051160																							
	0051180																							
	0051200																							
	0051300																							
	0051320																							
	0051340																							
	0051360																							
	0051380																							
	0051400																							
	0051500																							
1	2345678	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	



CODE	LINE NO.	CHG	LOGIC EQUATIONS				PINS				REMARKS	C/L	
			1	2	3	4	5	6	7	8			
	0055310		M/RSAP										
	0055315		E/RSAP										
	0055320		C/RSAP										
	0055350		RSAP1										
	0055375		NRSAP1										
	0055325		RSAPSET										
	0055500		RSAR										
	0055600		RSARC										
	0055700		RSAU										
	0055800		RSAUZ										
	0056000		RSD										
	0056100		RSDC										
	0056200		RSFSC										
	0056300		RSTR										
	0056400		NRSTR										
	0056500		RTR										
	0056550		RTRSET										
	0056600		RUN										
	0056650		RUNCONT										
	0056800		RWC										
	0056900		RWCEN										
	0057100		S0										
	0057200		NS0										
	0057220		S/S0										
	0057240		M/S0										
	0057260		E/S0										
	0057280		C/S0										
	0057350		S0CLK										
	0057300		S0M										
	0057400		S1										
	0057500		NS1										
	0057520		S/S1										
	0057540		M/S1										
	0057560		E/S1										
	0057580		C/S1										
	0057600		S1M										
	0057700		S2										
	0057800		NS2										
	0057820		S/S2										
	0057840		M/S2										
	0057860		E/S2										
	0057880		C/S2										
	0057900		S2M										
	0058000		S3										
	0058100		NS3										
	0058120		S/S3										
	0058140		M/S3										
	0058160		E/S3										
	0058180		C/S3										
	0058190		S3CLK										
	0058200		S3M										







CODE	LINE NO.	CHG	LOGIC EQUATIONS				PINS				REMARKS	C/L
			10	20	30	40	50	60	70			
	0067740		M/SYNC1									
	0067760		E/SYNC1									
	0067780		C/SYNC1									
	0067800		SYNC1SET									
	0067900		SYNC2									
	0068000		NSYNC2									
	0068033		S/SYNC2									
	0068066		R/SYNC2									
	0068099		M/SYNC2									
	0068132		E/SYNC2									
	0068165		C/SYNC2									
	0068170		T0									
	0068200		NT0									
	0068300		T1									
	0068500		T2									
	0068600		T3									
	0068650		T3-1									
	0068700		T4									
	0068900		NT5									
	0068400		T6									
	0069200		TDVP									
	0069300		TDVR									
	0069000		(TDVR.DCA.FSD)									
	0069400		TDVU									
	0069500		TER									
	0069550		TERUI									
	0069675		TIOP									
	0069700		TIOR									
	0069800		TIOU									
	0069900		TOS									
	0070000		NTOS									
	0070033		S/TOS									
	0070066		R/TOS									
	0070099		M/TOS									
	0070132		E/TOS									
	0070165		C/TOS									
	0070200		TRK0									
	0070300		NTRK0									
	0070320		S/TRK0									
	0070340		M/TRK0									
	0070360		E/TRK0									
	0070380		C/TRK0									
	0070400		TRK0M									
	0070500		TRK0P									
	0070600		TRK1									
	0070700		NTRK1									
	0070720		S/TRK1									
	0070740		M/TRK1									
	0070760		E/TRK1									
	0070780		C/TRK1									
	0070800		TRK1M									











SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
<b>NBV-1</b>									
600	30A50	4.0	010						C
	22A50	3.5	020						C
	15A50	7.5T	025						C
<b>NBV-2</b>									
700	32C50	1.0	010						C
	30C50	.5	020						C
	29C50	.5	030						C
	28C50	1.0	040						C
	26C50	8.5	050						C
	09C50	1.5	060						C
	06C50	.5	070						C
	05C50	.5	080						C
	04C50	1.0	090						C
	02C50	15.0T	095						C
<b>AIOC</b>									
800	07B41	8.0	010						A
	19B10	4.0	020						A
	22B44	2.8	030						A
	26B37	.5	040						A
	27B37	6.1	050						A
	31C24	21.4T	055	S					A
<b>NAIOC</b>									
900	31C06	.0T	005	S					A I
<b>AIOCP</b>									
1000	15A21	6.5	010	S					A
	19B11	6.5T	015						A
<b>AIOCU</b>									
1100	19B12	10.4	010	S					A
	12C34	10.4T	015						A
<b>AIOFSU</b>									
1200	22B36	.1	010	S					A
	22B38	11.3	020						A
	08C29	.6	030						A
	08C34	12.0T	035						A
<b>AIOM</b>									
1300	29C25	1.1	010	S					A
	31C23	1.1T	015	L					A
<b>NAIOM</b>									
1350	31C04	.0T	005	S					A I

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
AIOR									
1500	23C15	3.4	010	L				A	
	28C27	2.2	020	S				A	
	31C17	5.6T	025	L				A	
NAIOR									
1600	23C19	5.6	010	S				A	
	31C41	5.6T	015	L				A	
AND									
1700	10C27	17.4	010					A	
	25A35	17.4T	015	S				A	
NAND									
1800	10C25	16.9	010					A	
	25A36	16.9T	015	S				A	
ANOR									
1900	21A39	2.3	010					A	
	25A43	2.7	020					A	
	30A36	3.3	030	S				A	
	30B10	8.3T	035					A	
NANOR									
2000	25A37	2.6	010					A	
	21A45	2.6T	015	S				A	
AN1R									
2300	30A38	4.6	010	S				A	
	21A40	14.9	020					A	
	10C29	8.3	030					A	
	05B21	27.8T	035					A	
NAN1R									
2400	21A46	15.2	010	S				A	
	10C36	15.2T	015					A	
AN2R									
2700	30A40	4.3	010	S				A	
	21A41	16.1	020					A	
	10C43	8.6	030					A	
	05B31	29.0T	035					A	
NAN2R									
2800	21A47	14.9	010	S				A	
	10C33	14.9T	015					A	
AN3R									
3100	30A42	4.5	010	S				A	
	21A42	4.2	020					A	
	22B22	12.2	030					A	





SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8 15		21	28	33	37	41	77	
4000	23C44	.0T	005	S				A	I
AVIR									
4100	29C41	3.2	010	L				A	
	31C11	2.8	020	L				A	
	26C08	6.0T	025	L				A	
AVOD									
4200	31C36	2.9	010	S				A	
	26C29	2.9T	015	L				A	
BA0									
4400	09B36	4.4	010	R				A	
	09C23	.8	020					A	
	11C22	.8	030					A	
	12C21	6.0T	035	S				A	
NBA0									
4500	09B37	4.3	010	R				A	
	09C25	1.3	020					A	
	11C29	5.6T	025	S				A	
BA1									
4600	09B38	4.6	010	R				A	
	09C30	2.7	020					A	
	12C46	7.3T	025	S				A	
BA2									
4700	09B39	4.5	010	R				A	
	09C29	3.0	020					A	
	12C09	7.5T	025	S				A	
BA3									
4800	09B40	3.6	010	R				A	
	09C18	2.6	020					A	
	12C07	6.2T	025	S				A	
BAXLP									
4900	04C37	.4	010	R				A	
	04C31	7.1	020	S				A	
	07B22	7.1	030					A	
	11C19	1.5	040					A	
	12C05	17.1	050					A	
	28A23	1.6	060					A	
	28A01	34.8T	065					A	
BAXUP									
5000	04C36	1.2	010	R				A	
	04C23	6.8	020	S				A	
	07B18	7.4	030					A	
	11C20	1.3	040					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		12C13	12.3	045					A
		26B08	29.0T	055					F
BCA	5110	02C08	8.8	010	S				A
		18C01	.3	020					A
		18C02	.3	030					A
		18C06	.3	040					A
		18C10	1.2	050					A
		18C26	.3	060					A
		18C29	.3	070					A
		18C30	.3	080					A
		18C33	3.4	090					A
		24C40	15.2T	095	R				A
BCB	5120	02C09	7.8	010	S				A
		14C33	7.4	020					A
		14B06	2.3	025					D
		15B30	5.7	030					A
		20C01	23.2T	035					A
BCC	5130	02C10	5.5	010	S				A
		02B06	5.9	020					A
		04C02	11.4T	035	R				A
BCD	5140	02C11	21.9	010	S				A
		24A05	3.0	020					A
		24A45	2.5	040					A
		22A26	27.4T	045	R				A
BC0	5200	01B38	2.2	010	S				A
		04B28	2.2T	015					A
NBC0	5300	01B42	.3	010					A
		01B41	.3T	015	S				A
BC1	5400	01B29	.8	010					A
		01B36	.8T	015	S				A
NBC1	5500	01B39	.1	010					A
		01B37	.1T	015	S				A
BC2	5600	01B33	.4	010					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		01B27	1.6	020	S			A	
		04B22	2.0T	025				A	
NBC2	5700	01B44	.2	010	S			A	
		01B45	.2T	015				A	
BC3	5800	01B30	.4	010				A	
		01B24	1.5	020	S			A	
		04B24	1.9T	025				A	
NBC3	5900	01B50	.3	010				A	
		01B46	.3T	015	S			A	
BC4	6000	01B23	.5	010	S			A	
		01B26	9.7	020				A	
		18B41	10.2T	025				A	
NBC4	6100	01B22	.1	010				A	
		01B20	.1T	015	S			A	
BC5	6200	01B17	1.2	010	S			A	
		01B01	3.7	020				A	
		08B06	5.6	030				A	
		16B28	7.9	040				A	
		28B02	4.2	050				A	
		27A22	.9	060				A	
		25A25	23.5T	065				A	
NBC5	6300	01B21	.3	010				A	
		01B25	.3T	015	S			A	
BC6	6400	01B02	.8	010				A	
		01B11	2.2	020	S			A	
		04B21	1.8	030				A	
		08B20	10.6	040				A	
		28B12	15.4T	045				A	
NBC6	6500	01B13	.1	010	S			A	
		01B15	.1T	015				A	
BC7	6600	01B06	.2	010				A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		01B07	3.1	020	S			A	
		04B29	2.6	030				A	
		08B21	5.0	040				A	
		16B36	6.6	050				A	
		19A38	8.0	052				C	
		28B13	25.5T	055				A	
NBC7									
6700	01B12	.5	010					A	
	01B09	.5T	015	S				A	
BC8									
6800	08B07	4.0	010					A	
	01B10	1.6	020					A	
	02B23	2.3	030	S				A	
	04B41	2.9	040					A	
	08B29	2.5	050					A	
	12B38	13.3T	055					A	
NBC8									
6900	25A27	16.5	010					A	
	02B20	.1	020	S				A	
	02B22	1.7	030					A	
	02B43	18.3T	035					A	
BC8CLK									
6950	05B33	3.9	010	S				A	
	02B01	3.9T	015					A	
BFE									
7000	26B34	.4	010					A	
	25B37	2.0	020					A	
	25B12	1.0	030	S				A	
	23B12	9.8	040					A	
	15C23	13.2T	045					A	
NBFE									
7100	23B15	1.2	010	S				A	
	25B20	3.7	020					A	
	21B47	5.2	030	R				A	
	16C13	10.1T	035					A	
BFR									
7200	08B45	9.7	005					K	
	26B35	9.0	010					A	
	17A46	18.7T	015	S				K	
BFEPMC									
7250	11C08	.8	010					A	
	11C17	2.4	020					A	
	15C24	7.6	030	S				A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		20B26	10.8T	035				A	
BFS0	7300	27C08	.0T	005	S			A	I
BIT0	7400	02B11	10.4	010	S			A	
		22B18	6.4	020				A	
		27A36	5.7	030				A	
		21B02	22.5T	035	R			A	
NBIT0	7500	02B13	.0T	005	S			A	I
BIT1	7600	04B15	5.7	010	S			A	
		12B40	2.3	020				A	
		16B43	8.0T	025				A	
BIT6PRB	7700	24B29	8.6	010				A	
		20A12	8.6T	015	S			A	
BIT7	7800	28A33	3.2	010				A	
		25A12	10.5	020	S			A	
		31B41	14.2	030				A	
		05B26	2.2	040				A	
		02B15	11.5	050				A	
		11C39	.6	060				A	
		11C44	.2	070				A	
		11C45	42.4T	075				A	
BR0	7900	13C20	4.1	010				A	
		20C28	.2	020				A	
		20C29	4.3T	025	S			A	
NBR0	8000	20C31	14.0	010	S			A	
		26A20	14.0T	015				A	
BROSET	8050	19C37	1.0	010	S			A	
		20C26	1.0T	015				A	
BR1	8100	26A21	13.8	010				A	
		20C25	.6	020				A	
		20C33	4.5	030	S			A	
		13C47	18.9T	035				A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
NBR1	8200	20C35	.0T 005	S				A	I
BR1SET	8250	19C33	.4 010	S				A	
		20C30	.4T 015					A	
BR2	8300	13C08	3.6 010					A	
		20C10	2.1 020					A	
		20C37	5.7T 025	S				A	
NBR2	8400	20C39	.0T 005	S				A	I
BR2SET	8450	19C34	1.2 010	S				A	
		20C44	1.2T 015					A	
BR3	8500	13C04	4.5 010					A	
		20C18	1.8 020					A	
		20C41	6.3T 025	S				A	
NBR3	8600	20C43	.0T 005	S				A	I
BR3SET	8650	19C35	1.2 010	S				A	
		20C46	1.2T 015					A	
BR4	8700	20C21	3.8 010	S				A	
		13C25	3.8T 015					A	
NBR4	8800	20C27	.0T 005	S				A	I
BR4SET	8850	19C18	.6 010	S				A	
		20C20	.6T 015					A	
BR5	8900	20C17	4.6 010	S				A	
		13C28	4.6T 015					A	
NBR5	9000	20C19	.0T 005	S				A	I
BR5SET	9050	19C13	1.0 010	S				A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		20C02	1.0T	015					A
BR6	9100	20C07	3.8	010	S				A
		13C11	3.8T	015					A
NBR6	9200	20C15	.0T	005	S				A I
BR6SET	9250	19C14	1.2	010	S				A
		20C04	1.2T	015					A
BR7	9300	32A35	4.3	010					A
		30B06	7.1	020					A
		16B08	1.2	030					A
		16B24	5.8	040					A
		13C15	4.4	050					A
		20C03	22.8T	055	S				A
NBR7	9400	30B13	7.9	010					A
		16B22	6.1	020					A
		20C05	.3	030	S				A
		20C06	14.3T	035					A
BR7SET	9450	19C15	.7	010	S				A
		20C08	.7T	015					A
BRE	9500	01B18	.5	010					A
		02B18	10.4	020					A
		08C45	10.9T	025	S				A
BRR1	9700	04B27	3.3	010					A
		08B09	5.8	020					A
		16B33	1.4	030					A
		18B27	2.5	040	S				A
		16B44	13.0T	045	S				A
BRR2	9800	28B14	6.0	010					A
		18B28	4.1	020	S				A
		11B20	1.7	030	S				A
		11B01	6.5	040					A
		10C08	2.4	050					A
		08C31	6.6	060					A
		07B19	2.2	070					C



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
	09B03	29.5T	075	R				A	
BSYC									
9900	31C21	2.9	010	S				A	
	27C10	2.9T	015					A	
BTC0									
10000	02B07	13.0	010	S				A	
	21A26	2.0	020					A	
	20A06	2.8	030					A	
	25A05	17.8T	035					A	
NBTC0									
10100	02B09	.5	010	S				A	
	02B12	2.3	020					A	
	04B30	2.8T	025					A	
BTC1									
10200	25A06	2.3	010					A	
	20A07	11.1	020					A	
	11B22	4.6	030					A	
	02B27	1.4	040	S				A	
	02B10	19.4T	045					A	
NBTC1									
10300	02B44	.2	010	S				A	
	02B45	2.7	020					A	
	04B18	2.9T	025					A	
BTC2									
10400	02B30	.3	010					A	
	02B29	1.1	020					A	
	04B31	6.1	030					A	
	15B23	7.5	040	S				A	
	28B06	6.5	050					A	
	25A07	21.5T	055					A	
NBTC2									
10500	15B25	.3	010	S				A	
	15B29	.3T	015					A	
BY0-359									
10600	03B02	1.6	010	S				A	
	03B24	6.6	020					A	
	16B26	5.0	030					A	
	25B31	13.2T	035					A	
BYCLKEN									
11000	15A20	2.4	010	S				A	
	17A37	3.1	020					A	
	18B04	5.5T	025					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	ELEMENT TAG	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77
BYTE359 11200	08B14 31B40	13.4 13.4T	010 015	S				A A
BYT10 11250	16B47 15B10	3.4 3.4T	010 015	S				A A
BYTE360 11300	25A33 19A11	4.6 4.6T	010 015	S				A A
RBY1-360 11350	08B03 16B31 16B46 21A11	6.1 1.4 10.6 18.1T	010 020 025 035	S				A A A F
NRBY1-360 11380	21A01 25B29	9.3 9.3T	010 020	S				H H
BYTE361 11400	08B12 27A14 21A27	14.6 3.7 18.3T	010 030 035	S				A A A
NBYTE361 11450	05B27 27A20	16.5 16.5T	010 015	S				A A
CCH 11700	24A37	.0T	005	S				A I
NCCH 11800	08C21 24A42	16.6 16.6T	010 015	S				A A
CCHSET 11900	29A01 24A34	5.2 5.2T	010 015	S				A A
CCHSET1 12000	29A33 24A33	2.5 2.5T	010 015	S				A A
CDO 12200	02C24 14C07 30B05	7.5 13.4 20.9T	010 020 025	S				A A A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
NCD0									
12300	14C14	.6	010						A
	14C09	12.6	020	S					A
	30B14	.9	030						A
	31B08	14.1T	035						A
CD1									
12400	16B39	5.3	010						A
	14C27	5.3T	015	S					A
NCD1									
12500	14C45	.2	010						A
	14C44	.2T	015	S					A
CDN									
12600	24A07	4.0	010	S					A
	19A27	11.2	020						A
	16C17	8.0	030						A
	20B07	4.9	040						A
	29B01	28.1T	045						A
NCDN									
12700	19A07	2.6	010						A
	24A09	2.6T	015	S					A
CDNSET									
12900	24A13	4.1	010						A
	29A36	4.1T	015	S					A
CFDISC									
13000	08C46	2.8	010	S					A
	04C33	2.2	020						A
	08C26	2.2	030						A
	10C10	3.3	040						A
	09B42	10.5T	045	R					A
CFDISCL									
13100	09B45	5.3	010	R					A
	18B30	6.8	020						A
	07B12	5.9	030	S					A
	08C13	5.0	040						A
	05B38	5.0	050						A
	04C28	28.0T	055						A
CFIOP									
13200	04C06	1.3	010						A
	04C24	4.8	020						A
	10C03	6.1T	025	S					A
CFIOPL									
13300	04C20	4.2	010						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		05B40	4.2	020				A	
		08C05	5.2	030				A	
		07B14	5.6	040	S			A	
		18B12	4.8	050				A	
		23B41	1.0	060				A	
		21B41	25.0T	065	R			A	
CHE									
13500	08C43	8.9	010					A	
	06B07	8.9T	015	S				A	
NCHE									
13600	06B09	.0T	005	S				A	I
CHW									
13700	09B21	3.6	010	R				A	
	04B08	4.2	020					A	
	10B24	1.9	030					A	
	10B50	2.5	040					A	
	11B27	8.5	050					A	
	20A40	3.6	060					A	
	23A15	5.3	070					A	
	24B09	1.1	080					A	
	25B17	8.8	090					A	
	11B41	39.5T	095	S				A	
CHWCIL									
13750	23A14	4.7	010	S				A	
	15A04	4.7T	015					A	
CHWEN									
13800	04B13	10.4	010	S				A	
	11C35	.1	020					A	
	11C37	10.5T	025					A	
CHWER									
13900	24A06	7.9	010	S				A	
	29B07	7.9T	015					A	
NCHWER									
14000	24A11	3.5	010	S				A	
	20A31	3.5T	015					A	
CHWERM									
14100	24B02	5.6	010	S				A	
	24A01	5.6T	015					A	
CHWERSET									
14200	25B15	6.6	010	S				A	
	24A03	6.6T	015					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8 15		21	28	33	37	41	77	
CIL									
14300	23A17	8.7	010					A	
	15B06	11.7	020	S				A	
	27C12	3.7	030					A	
	31C33	24.1T	035	L				A	
NCIL									
14400	20A28	6.2	010					A	
	15B11	4.9	020	S				A	
	24B17	11.1T	025					A	
CILR									
14500	15B04	9.1	010					A	
	12C39	9.1T	015	S				A	
CLIR									
14600	28C04	.0T	005	S				A	I
CLK									
14700	29A38	11.7	010					A	
	16B38	11.9	020					A	
	02C34	23.6T	025	S				A	
CLKB									
14800	29A35	17.5	010	S				A	
	14C29	.3	020					A	
	14C30	3.5	030					A	
	10C50	14.0	040	R				A	
	24B26	35.3T	045					A	
CLP									
15000	05B35	8.7	010	S				A	
	17C01	4.0	020					A	
	21B40	12.7T	025	R				A	
CM001									
15100	03B12	1.2	010					A	
	04B02	3.5	020	S				A	
	11B02	4.9	030					A	
	16B34	3.0	040					A	
	16C03	12.6T	045					A	
CM002									
15200	21A25	13.2	010	S				A	
	03B11	.1	020					A	
	03B13	13.3T	025					A	
CM003									
15300	04B34	3.4	010	S				A	
	08B19	1.0	020					A	
	08B05	10.4	030					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		28B11	.7	040					A
		28B01	4.1	050					A
		27A23	1.5	060					A
		25A26	21.1T	065					A
CM005									
15400	20B23	8.4	010						A
	17A02	8.4T	015	S					A
CNTRCL									
15500	16A14	2.9	010						A
	17A45	4.7	015	S					A
	20B20	7.6T	025						E
CNTRST									
15700	16A15	1.3	010	S					H
	17A28	1.3T	020						H
NCOMP									
15800	25B18	5.7	010						A
	16B02	5.7T	015	S					A
NCONP									
15900	19A03	4.7	010						A
	15A36	1.4	020	S					A
	17A42	1.5	030						A
	19A39	1.6	040						A
	20A20	1.7	050						A
	21A36	.2	060						A
	21A37	.3	070						A
	21A38	3.5	080						A
	19B05	5.1	090						A
	27B22	11.2	100						A
	16C28	2.2	110						A
	13C38	33.4T	115						A
CONPA									
16000	16C39	3.7	010						A
	12C18	12.8	020						A
	17A20	2.9	030						A
	21A31	5.9	040	S					A
	27B02	1.7	050						A
	27B23	27.0T	055						A
CONPAT									
16100	08B36	9.8	010	S					A
	16C44	9.8T	015						A
CONPB									
16200	19A24	2.3	004						E
	20A03	6.5	008						E



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
17300	21A09	7.5	010					A	
	21B39	6.5	020	R				A	
	17C26	9.7	030					A	
	05B46	23.7T	035	S				A	
DA0D									
17600	21C18	4.3	010	S				A	
	29C17	.9	020	L				A	
	30C23	5.2T	025	L				A	
DA0P									
17800	16A08	13.4	010	S				A	
	13C31	13.4T	015					A	
DA0R									
17900	13C33	7.6	010					A	
	24C05	4.1	020	L				A	
	30C22	11.7T	025	S				A	
NDA0R									
18000	24C07	.0T	005	S				A	I
DA0U									
18100	29B43	6.8	005					H	
	21B05	3.3	010	R				A	
	15B02	6.0	020					A	
	15C11	1.6	030					A	
	13C19	1.4	040					A	
	13C02	19.1T	045	S				A	
DA1D									
18200	21C13	4.2	010	S				A	
	29C18	.7	020	L				A	
	30C19	4.9T	025	L				A	
DA1P									
18400	16A07	14.8	010	S				A	
	13C45	14.8T	015					A	
DA1R									
18500	30C20	3.9	010	S				A	
	24C08	8.2	020					A	
	13C44	12.1T	025					A	
NDA1R									
18600	24C06	.0T	005	S				A	I
DA1U									
18700	29B40	6.5	005					H	
	21B06	6.3	010	R				A	
	24A12	14.5	020					A	



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		15C09	4.3	030				A	
		13C50	3.9	040				A	
		13C01	35.5T	045	S			A	
DA2D									
18800	21C14	4.5	010	S				A	
	29C19	.8	020	L				A	
	30C15	5.3T	025	L				A	
DA2P									
19000	16A06	13.9	010	S				A	
	13C35	13.9T	015					A	
DA2R									
19100	13C34	6.6	010					A	
	24C23	3.1	020	L				A	
	30C18	9.7T	025	S				A	
NDA2R									
19200	24C24	.0T	005	S				A	I
DA2U									
19300	21B07	6.5	010	R				A	
	29B41	6.3	015					H	
	29A27	16.3	020					A	
	15C08	1.1	030					A	
	13C06	2.6	040					A	
	13C39	32.8T	045	S				A	
DA3D									
19400	21C15	4.2	010	S				A	
	29C20	1.1	020	L				A	
	30C12	5.3T	025	L				A	
DA3P									
19600	16A05	14.7	010	S				A	
	13C41	14.7T	015					A	
DA3R									
19700	13C40	6.6	010					A	
	24C29	4.2	020	L				A	
	30C13	10.8T	025	S				A	
NDA3R									
19800	24C33	.0T	005	S				A	I
DA3U									
19900	21B08	8.2	010	R				A	
	27A08	7.4	020					A	
	31B10	9.4	030					A	
	15B33	3.3	040					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		15C07	1.3	050				A	
		13C03	6.3	060				A	
		05B44	9.1	070				A	
		13C42	45.0T	075	S			A	
NDA3U									
20000	29A25	2.7	010					A	
	27A04	2.7T	015	S				A	
DA4D									
20100	21C37	5.6	010	S				A	
	31C29	2.4	020	L				A	
	30C03	8.0T	025	L				A	
DA4P									
20300	16A04	13.7	010	S				A	
	16C45	13.7T	015					A	
DA4R									
20400	30C08	5.2	010	S				A	
	24C41	5.0	020	L				A	
	16C27	10.2T	025	L				A	
NDA4R									
20500	24C38	.0T	005	S				A	I
DA4U									
20600	09B14	2.2	010	R				A	
	12B24	5.7	020					A	
	13C24	1.9	030					A	
	15C12	2.2	040					A	
	15C42	.8	050					A	
	16C41	12.8T	055	S				A	
NDA4U									
20700	12B17	.8	010	S				A	
	11B18	1.1	020					A	
	09B15	1.9T	025	R				A	
DA57									
20750	11B38	10.0	010					A	
	25B01	10.0T	015	S				A	
DA5D									
20800	21C33	6.3	010	S				A	
	30C09	2.1	020	L				A	
	31C31	8.4T	025	L				A	
DA5P									
21000	16A03	13.5	010	S				A	
	16C43	13.5T	015					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
DA5R 21100	16C29 24C17 30C10	4.9 3.2 8.1T	010 020 025						A A A
NDA5R 21200	24C22	.0T	005	S					A I
DA5U 21300	21B09 25A42 25B11 12B23 11B17 10C18 13C29 14C22 15C13 15C41 16C42	4.5 3.0 7.4 .9 6.1 2.4 .7 1.4 2.1 .4 28.9T	010 020 030 040 050 060 070 080 090 100 105		R				A A A A A A A A A A A
NDA5U 21400	09B17 11B09 10C20 12B18	1.6 6.8 6.4 14.8T	010 020 030 035		R				A A A A
DA63 21450	05B36 11B33	3.5 3.5T	010 015		S				A A
DA6D 21500	21C34 31C47 30C01	6.1 3.9 10.0T	010 020 025		S L L				A A A
DA6P 21700	16A02 16C47	14.0 14.0T	010 015		S				A A
DA6R 21800	16C25 24C26 30C04	3.9 4.6 8.5T	010 020 025			L S			A A A
NDA6R 21900	24C25	.0T	005	S					A I
DA6U 22000	21B10 25A41	5.2 10.6	010 020		R				A A



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	2J	28	33	37	41	77	
22800	12B25	1.6	010	S					A
	11B12	1.6	020						A
	11B34	.4	030						A
	11B40	3.4	040						A
	10C13	5.3	050						A
	09B19	12.3T	055	R					A
DAIR									
22900	30A13	1.5	010	S					A
	27A13	10.6	020						A
	16B11	.4	030						A
	16B17	7.5	040						A
	20C22	20.0T	045						A
NDAIR									
22950	27A19	1.2	010	S					A
	26A29	9.8	020						A
	16B23	11.0T	025						A
DAM									
23000	32A12	5.6	010						A
	30B04	5.6T	015	S					A
DAPR									
23200	30C27	.0T	005	S					A I
DARESET									
23250	23B17	.3	010	S					A
	23B18	2.1	020	S					A
	23B46	3.8	030	S					A
	21C17	.7	040						A
	21C27	5.6	050						A
	21B24	12.5T	055	R					A
DATAS									
23300	28A12	.9	010						A
	29A18	1.5	020						A
	29A37	.8	030						A
	28A38	5.4	035						F
	31B20	3.6	040						A
	26B03	.5	045						D
	26B06	1.2	050						A
	26B22	1.5	060						A
	23B22	1.2	070						A
	23B38	7.4	080						A
	08B37	1.0	090						A
	08B23	1.9	100						A
	06B12	1.7	110						A
	06B33	3.8	120						A
	08C02	32.4T	125	S					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
DAXDT 23500	04C22 21C30 21B34	9.1 4.9 14.0T	010 020 025	S				A A A	
DC0 23700	06B38 29B02 19A05	14.2 9.9 24.1T	010 020 025	S				A A A	
NDC0 23800	06B40 19A25	13.1 13.1T	010 015	S				A A	
DCA 23900	17A19 20A26 23C27 24C13 24C09 27C02 29C04 31C10 31C18	1.9 12.2 1.5 .3 1.7 1.1 1.4 .6 20.7T	010 015 020 030 040 050 060 070 075		T S L L			A C A A A A A A A	
NDCA 24000	31C34	.0T	005	S				A	I
DCA47 24100	24C37	.0T	005	S				A	I
DCAU 24200	04B38 24B07 29A03 17A01	12.6 8.0 6.1 26.7T	010 020 030 035			S		A A A A	
DCB 24300	20B13 15B38 16C01 20B15 25B09 25B23 27C21 27C34 29A40	4.6 3.1 .6.2 2.9 1.0 6.1 1.2 11.0 36.1T	010 020 030 040 050 060 070 080 085		S			A A A A A A A A A	
DCB-1 24350	26A27 23A25	1.6 4.2	010 020					A A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		17A10	7.5	030					A
		20B19	6.8	040	S				A
		08B10	1.9	050					A
		04B09	2.9	060					A
		04B44	24.9T	065					A
NDCB									
24400	20A24	8.0	010						A
	27B13	2.1	020						A
	24B18	4.5	030						A
	16B29	1.6	040						A
	15B40	3.9	050	S					A
	12B08	3.9	060						A
	07B31	1.3	070						A
	06B22	7.6	080						A
	08C40	32.9T	085						A
DCBR									
24450	08C01	5.7	010	S					A
	15B41	5.7T	015						A
DCBC									
24500	15B45	3.8	010						A
	12C02	3.8T	015	S					A
DCBDVO									
24550	15A01	5.7	010						A
	23A26	5.7T	015	S					A
DCBNT5									
24600	08B01	7.0	010	S					A
	10C11	2.0	020						A
	08C25	9.0T	025						A
DCL									
25000	25A04	2.3	010						A
	21A08	13.6	020						A
	03B03	.8	030	S					A
	03B10	7.0	040						A
	02C31	23.7T	045						A
NDCL									
25100	14C12	14.6	010						A
	21A04	14.6T	015	S					A
DIS									
25400	17A08	10.6	010						A
	25B26	1.5	020						A
	25B46	1.4	030	S					A
	23B40	13.5T	035						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
DLS									
25450	07821	5.5	010	S				C	
	05C08	5.5T	025					C	
DLUPX0									
25500	32B02	13.9	010					A	
	17C18	9.1	020					A	
	05B45	23.0T	025	S				A	
DNCOUNT									
25600	21B43	5.4	010	R				A	
	32B40	13.3	020					A	
	07B27	18.7T	025	S				A	
DORD									
25800	26B41	4.6	010	S				A	
	29C14	2.3	020	L				A	
	30C37	6.9T	025	L				A	
DORF									
25900	27A27	7.1	010					A	
	25B39	.2	020					A	
	25B38	6.4	030					A	
	12B37	5.4	040					A	
	06B06	7.6	050	S				A	
	08C23	26.7T	055					A	
NDORF									
26000	25B40	.9	010					A	
	25B28	7.6	020					A	
	12B11	3.0	030					A	
	06B11	6.9	040	S				A	
	08C22	18.4T	045					A	
DORFSET									
26100	06B03	4.8	010					A	
	03B47	4.8T	015	S				A	
DOS									
26200	25B44	.2	010					A	
	25B45	.2T	015	S				A	
NDOS									
26300	23B44	8.9	010					A	
	27A25	8.9T	015	S				A	
DPO									
26400	08B18	6.4	010					A	
	18B35	8.5	020					A	
	32B15	14.9T	025	S				A	



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
<b>NDP0</b>									
26500	18844	9.7	010					A	
	32808	5.7	020	S				A	
	29A22	15.4T	025					A	
<b>DP1</b>									
26500	08917	6.3	010					A	
	18835	9.2	020					A	
	32806	15.5T	025	S				A	
<b>NDP1</b>									
26700	18843	9.7	010					A	
	32807	5.5	020	S				A	
	29A23	15.2T	025					A	
<b>DP2</b>									
26800	05818	.1	010					A	
	05820	2.2	020					A	
	08830	7.8	030					A	
	22823	3.3	040					A	
	27808	2.6	050					A	
	32810	6.6	060	S				A	
	28A17	1.9	070					A	
	26A06	24.5T	075					A	
<b>NDP2</b>									
26900	22827	6.6	010					A	
	32805	5.4	020	S				A	
	29A24	12.0T	025					A	
<b>DP3</b>									
27000	28A18	.8	010					A	
	29A17	5.3	020					A	
	31805	2.7	030					A	
	32835	4.9	040	S				A	
	26809	1.7	050					A	
	25825	2.9	060					A	
	22808	18.3T	065					A	
<b>NDP3</b>									
27100	22826	3.0	010					A	
	25806	1.1	020					A	
	26813	3.4	030					A	
	31825	1.4	040					A	
	32837	8.9T	045	S				A	
<b>DPF</b>									
27200	32817	.0T	005	S				A	I
<b>NDPF</b>									
27300	24810	1.0	010					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		25B07	4.3	020					A
		32B20	5.3T	025	S				A
DPC0-1									
27400	29A34	4.8	010	S					A
	25B05	.7	020						A
	26B10	5.5T	025						A
DPC14-15									
27500	08B15	9.1	010	S					A
	26B18	.9	020						A
	25B27	10.0T	025						A
DRM									
27700	16B40	3.2	010						A
	22B41	5.0	020						A
	30B24	1.4	030						A
	30B09	1.4	040						A
	28B03	2.9	050						A
	27A41	.8	060						A
	26A45	6.2	070	S					A
	17A24	20.9T	075						A
DISC									
27800	17A17	5.4	010						A
	25A38	.4	020						A
	25A44	1.3	030						A
	27A47	4.0	040	S					A
	30B11	.4	050						A
	30B17	4.1	060						A
	22B19	4.3	070						A
	16B37	19.9T	075						A
DSR									
28200	30A10	6.4	010	S					A
	22A42	3.5	020						A
	22B17	9.9T	025						A
DSRZ									
28250	22A01	22.9	010	S					A
	02C30	22.9T	015						A
DT0									
28300	09C43	5.1	010	S					A
	19C45	2.9	020						A
	21C19	7.8	030						A
	09C40	15.8T	035	R					A
DT1									
28400	09C41	5.8	010	S					A
	19C26	2.6	020						A







SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
31300	19A45	3.8	010	S				A	
	19B22	8.7	020					A	
	12C22	12.5T	025					A	
FR0D									
31400	27C07	3.7	010	S				A	
	32C23	3.7T	015	L				A	
FR1D									
31500	27C06	3.6	010	S				A	
	32C19	3.6T	015	L				A	
FR2D									
31600	27C44	4.9	010	S				A	
	32C15	4.9T	015	L				A	
FR3D									
31700	27C45	4.7	010	S				A	
	32C12	4.7T	015	L				A	
FR4D									
31800	27C04	2.8	010	S				A	
	32C03	2.8T	015	L				A	
FR5D									
31900	27C05	2.8	010	S				A	
	32C09	2.8T	015	L				A	
FR6D									
32000	27C42	5.8	010	S				A	
	32C01	5.8T	015	L				A	
FR7D									
32100	27C46	5.8	010	S				A	
	32C02	5.8T	015	L				A	
FSC									
32200	31B03	4.6	010					A	
	22B05	5.1	020					A	
	19B50	5.1	030					A	
	23C22	3.4	040					A	
	29C28	3.1	050	S				A	
	31C03	21.3T	055					A	
NFSC									
32300	26A36	5.5	010	S				A	
	23B23	5.0	020					A	
	31B38	5.4	030					A	
	29C31	4.1	040	S				A	
	23C42	20.0T	045	L				A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
<b>FSCP</b>									
32400	06823	8.3	010		S				A
	19347	8.3T	015						A
<b>NFSCP</b>									
32500	26A44	13.5	010						A
	06825	13.5T	015		S				A
<b>FSCPM</b>									
32600	06824	7.0	010						A
	19821	9.2	015		S				A
	27A18	16.2T	025		S				E
<b>FSCU</b>									
32700	05842	3.0	010						A
	08822	4.3	020						A
	16918	5.7	030						A
	16C23	4.7	040						A
	19346	3.5	050						A
	20809	2.1	060						A
	24804	2.7	070						A
	24840	3.8	080						A
	30833	.6	090						A
	30825	30.4T	095						A
<b>FSD</b>									
32800	03837	2.2	010						A
	07842	5.0	020		S				A
	11805	7.8	030		S				A
	12C33	1.1	040						A
	12C44	11.6	050						A
	18803	4.5	060						A
	24823	8.9	070						A
	29A07	8.7	080						A
	31842	3.9	090						A
	27C01	3.7	100		L				A
	31C26	57.4T	105		L				A
<b>NFSD</b>									
32900	09847	12.0	010		R				A
	31830	8.5	020						A
	18801	20.5T	025		S				A
<b>FSLD</b>									
33000	31C22	1.6	010		S				A
	32C35	1.6T	015		L				A
<b>FSP</b>									
33100	15A40	9.5	010		S				A
	27B15	9.5T	015						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
FSP-1 33150	27B19 19B25 19B28 24C14	4.4 .5 6.7 11.6T	010 015 020 025	S   R				A C A A	
FSR 33200	19B24 19B29 27C38 28C36 29C42 31C15	.5 9.8 .6 .9 3.3 15.1T	005 010 020 030 040 045	 L  S L L				C A A A A A	
FSRC 33300	23C23 27C47	3.8 3.8T	010 015	S				A A	
FSU 33400	26A38 28A09 31B31 27B28 27B50 26B38 22B37 19B27 11B03 11C26	3.4 8.4 2.3 1.6 1.4 1.9 2.2 5.8 7.2 34.2T	010 020 030 040 050 060 070 080 090 095	       S				A A A A A A A A A A	
GND01 33405	15A32 15A37	.5 .5T	010 015	S				A A	
GND02 33410	16A16 16A17 16A42	.2 2.1 2.3T	010 020 025	S				A A A	
GND03 33415	24A04 24A16 24A19 24A24 24A31 24A39 24A41	.9 .3 .6 .6 .6 .1 3.1T	010 030 040 050 060 070 075	 S				A A A A A A A	
GND04 33420	01B00 01B03	.3 .3	010 020	S				A A	



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	ELEMENT TAG TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28 33	37	41	77	
		01B04	.2	030				A
		01B05	.5	040				A
		01B08	1.5	050				A
		01B28	.3	060				A
		01B31	.5	070				A
		01B34	.2	080				A
		01B35	3.8T	085				A
GND05 33425		02B00	.3	010	S			A
		02B03	.1	020				A
		02B05	.5	030				A
		02B08	1.9	040				A
		02B34	.2	050				A
		02B35	3.0T	055				A
GND06 33430		06B08	1.7	010				A
		06B29	.5	020				A
		06B32	.6	030	S			A
		06B39	2.8T	035				A
GND07 33435		07B11	.4	010				A
		07B17	1.2	020				A
		07B30	.1	030				A
		07B32	.1	040	S			A
		07B34	.7	045				A
		07B44	2.5T	055				E
GND08 33440		10B23	.8	010				A
		10B30	.1	020				A
		10B32	.3	030	S			A
		10B36	.6	040				A
		10B43	1.8T	045				A
GND09 33445		14B08	.6	015				D
		14B16	1.5	020	S			A
		14B35	2.1T	025				A
GND10 33450		15B01	.8	010				A
		15B08	.6	020				A
		15B16	.6	040	S			A
		15B24	1.2	050				A
		15B39	3.2T	055				A
GND12 33460		19B06	.7	010				A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		19816	.3	020	S				A
		19819	.3	030					A
		19823	.8	040					A
		19830	.5	050					A
		19835	.6	060					A
		19843	3.2T	065					A
GND13									
33465	26807	2.1	005						F
	26832	2.1T	015	S					A
GND14									
33470	29805	1.1	010						A
	29816	.2	020	S					A
	29817	.4	030						A
	29823	.5	050						A
	29826	.2	060						A
	29827	1.5	065						A
	29844	3.9T	075						H
GND15									
33475	32803	2.4	010						A
	32832	.2	020	S					A
	32833	.9	030						A
	32842	3.5T	035						A
GND16									
33480	02C26	.4	010	S					A
	02C32	.4T	015						A
GND17									
33485	11C00	.3	010	S					A
	11C04	.3T	015						A
GND18									
33490	12C23	.9	010						A
	12C32	.3	020	S					A
	12C36	.6	030						A
	12C43	1.8T	035						A
GND19									
33495	13C32	.3	010	S					A
	13C36	.6	020						A
	13C43	.9T	025						A
GND20									
33500	14C03	.3	010						A
	14C04	.2	020						A
	14C05	.5	030						A
	14C08	1.8	040						A
	14C31	.3	050						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		14C32	.3	060	S				A
		14C35	.2	070					A
		14C34	1.2	080					A
		14C50	4.8T	085					A
GND21 33505		17C03	.3	010					A
		17C04	.2	020					A
		17C05	.5	030					A
		17C08	1.5	040					A
		17C28	.3	050					A
		17C31	.3	060					A
		17C32	.1	070	S				A
		17C34	.2	080					A
		17C35	3.4T	085					A
GND22 33510		18C16	.1	010	S				A
		18C18	.1T	015					A
GND23 33515		20C12	1.5	010					A
		20C32	.3	020	S				A
		20C36	.1	030					A
		20C38	1.9T	035					A
GND24 33520		21C03	.6	010					A
		21C08	.6	020					A
		21C16	1.2T	025	S				A
GND25 33525		23A23	.8	010					A
		23A30	.1	020					A
		23A32	.2	025	S				A
		23A33	1.1T	030					K
GND26 33528		11B44	.3	010					A
		11B48	.3T	015	S				A
GND23C32 33600		23C40	.6	010	L				A
		23C32	.6T	015	S				A
GND26C00 33700		26C00	.5	010	S				A
		26C05	.5T	015					A
GND26C16 33800		26C16	.6	010	S				A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		26C24	.6T	015				A	
GND26C32 33900	26C31 26C32	.3 .3T	010 015	L S				A A	
GND26C48 34000	26C41 26C48	.8 .8T	010 015	S				A A	
GND27C16 34100	27C16 27C18 27C19 27C25	.1 .2 .4 .7T	010 020 030 035	S				A A A A	
GND27C32 34200	27C22 27C32 27C33 27C35 27C37	.7 .2 .1 .1 1.1T	010 020 030 040 045	S				A A A A A	
GND28C00 34300	28C05 28C00	.5 .5T	010 015	S				A A	
GND28C16 34400	28C16 28C24	.6 .6T	010 015	S				A A	
GND28C48 34500	28C41 28C48	.8 .8T	010 015	S				A A	
GND30C00 34600	30C00 30C05	.5 .5T	010 015					A A	
GND30C16 34700	30C16 30C24 30C25	.6 .2 .8T	010 020 025	L				A A A	
GND30C32 34800	30C32 30C35 30C41	.3 .4 .7T	010 020 025	L				A A A	
GND30C48 34900	30C45	.5	010	L				A	





SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
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1	8	15	21	28	33	37	41	77	
37600	09C28	2.3	010						A
	13C27	2.3T	015	S					A
16									
37700	09C17	2.1	010						A
	13C12	2.1T	015	S					A
17									
37800	09C11	2.1	010						A
	13C14	2.1T	015	S					A
IBIT0									
37900	04B17	15.8	010						A
	27A29	15.8T	015	S					A
ICD									
38000	31C38	.7	010	S					A
	32C39	.7T	015	L					A
ICS0									
38100	28B09	5.8	010	S					A
	29A04	5.8T	015						A
ID0									
38200	32A37	4.1	010						A
	25A45	4.1T	015	S					A
ID1									
38300	32A39	4.3	010						A
	25A46	4.3T	015	S					A
ID2									
38400	32A45	6.8	010						A
	25A02	6.8T	015	S					A
IDS									
38500	20A44	3.9	010						A
	26A35	3.0	020	S					A
	28A04	.3	030	S					A
	28A07	2.3	040						A
	32A03	9.5T	045						A
ILO									
38600	21B36	3.1	010	R					A
	26B43	3.8	020						A
	29B08	.6	030						A
	29B03	3.1	040						A
	23B01	.3	050	S					A
	23B02	.6	060	S					A
	23B10	11.5T	065	S					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
<b>INC</b>									
38700	26C11	3.9	010		S				A
	23C43	3.8	020		L				A
	31C42	7.7T	025		L				A
<b>NINC</b>									
38800	26C09	.0T	005		S				A I
<b>INDUP</b>									
38850	15A18	4.0	010		S				A
	23A18	.6	020						A
	23A13	2.4	030						A
	27A07	7.0T	035						A
<b>NINDUP</b>									
38875	27A03	2.1	010		S				A
	23A05	1.5	020						A
	23A22	3.6T	025						A
<b>INI</b>									
38900	20A04	14.3	010						A
	23C33	2.4	020		L				A
	27C39	2.1	030		L				A
	27C11	.8	040		L				A
	26C07	1.6	050		S				A
	29C02	.6	060		L				A
	29C10	2.2	070		L				A
	29C40	1.7	080		L				A
	31C50	.4	090		L				A
	31C44	1.2	100		L				A
	31C28	27.3T	105		L				A
<b>NINI</b>									
39000	26C15	3.7	010		S				A
	29C46	3.7T	015		L				A
<b>INL</b>									
39100	15C27	9.0	010						A
	06B37	9.0T	015		S				A
<b>NINL</b>									
39200	06B42	.0T	005		S				A I
<b>INLM</b>									
39400	09B31	1.5	010		R				A
	06B31	9.3	020						A
	16C19	10.8T	025		S				A
<b>INLM-1</b>									
39500	16C15	6.5	010						A
	20B25	1.6	020		S				A





SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		13C13	.6	020					A
		13C18	5.8	030					A
		11B24	2.1	040					A
		09B07	18.1T	045	R				A
IXDA									
40600	30B47	10.6	010	S					A
	13C05	1.5	020						A
	13C22	6.8	030						A
	09B28	18.9T	035	R					A
J001									
40700	28A45	3.6	010						A
	26A12	3.6T	015	S					A
J002									
40800	26B04	6.0	010	S					A
	15B15	4.0	020						F
	09B01	10.0T	025	R					A
J003									
40900	26B19	5.6	010	S					A
	28A27	13.3	020						A
	09B04	18.9T	025	R					A
J004									
41000	29B19	5.9	010						A
	29A12	5.9T	015	S					A
J005									
41100	27B11	2.1	010						A
	30B03	2.1T	015	S					A
J006									
41200	21B29	7.1	010	R					A
	21C50	11.7	020						A
	27B04	18.8T	025	S					A
J007									
41300	21B30	4.8	010	R					A
	21C23	14.0	020						A
	05B14	18.8T	025	S					A
J008									
41400	21B31	6.5	010	R					A
	21C44	15.3	020						A
	05B15	21.8T	025	S					A
J009									
41500	26A02	7.3	010	S					A
	29B10	7.3T	015						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
J010									
41600	26A13	6.6	010	S				A	
	29B11	6.6T	015					A	
J011									
41700	26A34	5.0	010	S				A	
	29B09	5.0T	015					A	
J012									
41800	21B33	5.9	010	R				A	
	21C38	6.0	020					A	
	22B34	11.9T	025	S				A	
J013									
41850	22B02	3.0	010	S				A	
	27B07	3.0T	015					A	
J014									
41900	25A08	5.3	010					A	
	20A46	5.3T	015	S				A	
J015									
42000	03B21	13.2	010					A	
	28B08	13.2T	015	S				A	
J016									
42100	27A24	16.9	010	S				A	
	03B23	16.9T	015					A	
J017									
42200	28B07	7.5	010	S				A	
	16B27	3.6	020					A	
	16C05	11.1T	025	S				A	
J021									
42600	24B12	4.1	010	S				A	
	27B45	4.1T	015					A	
J022									
42700	23B27	2.1	010	S				A	
	27B29	4.3	020					A	
	21B11	6.4T	025	R				A	
J023									
42800	27B41	.2	010	S				A	
	27B40	5.1	020					A	
	21B12	5.3T	025	R				A	
J024									
42900	24B13	2.0	010	S				A	
	26B27	2.0T	015					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
J025 43000	24834 26845	1.9 1.9T	010 015	S				A A	
J026 43100	25836 28A24	7.6 7.6T	010 015	S				A A	
J027 43200	25833 28A02	8.8 8.8T	010 015	S				A A	
J029 43400	08B46 28A34	16.1 16.1T	010 015	S				A A	
J031 43600	21C22 08C47	8.1 8.1T	010 015	S				A A	
J032 43700	21C05 22B35	3.5 3.5T	010 015	S				A A	
J033 43800	21C09 08C44	9.4 9.4T	010 015	S				A A	
J034 43900	16B42 19A13	9.2 9.2T	010 015	S				A A	
J035 44000	11B23 08B02	3.2 3.2T	010 015	S				A A	
J036 44100	04B33 11B21	4.4 4.4T	010 015	S				A A	
J037 44200	08B34 29A39	15.6 15.6T	010 015	S				A A	
J038 44300	23B33 29A42 22A09	7.3 5.8 13.1T	010 020 025	S  R				A A A	
J039 44400	26B42	6.4	010	S				A	





SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
46400	26A41	5.8	010						A
	28B35	14.6	020	S					A
	11C47	20.4T	025	S					A
LDRM									
46500	19C31	5.3	010						A
	22B46	5.3T	015	S					A
LIH									
46800	31C01	1.3	010	S					A
	29C05	1.3T	015	L					A
LIL									
46900	31C46	4.0	010	S					A
	29C06	4.0T	015	L					A
LDISC									
47000	19C29	7.6	010						A
	22B14	7.6T	015	S					A
LP0									
47200	11C24	1.1	010						A
	12C19	3.4	020						A
	17C07	4.5T	025	S					A
NLP0									
47300	17C14	.6	010						A
	17C09	.6T	015	S					A
LPI									
47400	12C50	5.5	010						A
	17C10	.2	020						A
	17C11	5.7T	025	S					A
NLP1									
47500	17C19	.4	010						A
	17C13	.4T	015	S					A
LP2									
47600	12C06	2.5	010						A
	17C06	.9	020						A
	17C17	3.4T	025	S					A
NLP2									
47700	17C21	.3	010						A
	17C25	.3T	015	S					A
LP3									
47800	17C23	1.7	010	S					A
	17C02	2.3	020						A
	12C03	4.0T	025						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
NLP3 47900	17C22 17C20	.1 .1T	010 015						A A
LSB1 48000	22A27 15C17 22B11 31B11 31B33	13.2 9.2 4.5 1.6 28.5T	010 020 025 030 035		R    S				A A H A A
LSB2 48100	31B12 15C06 15C43 21B37	12.8 2.9 8.7 24.4T	010 020 030 035		S   R				A A A A
LSH 48300	23C38 29C07	5.6 5.6T	010 015		S L				A A
LSL 48400	23C39 29C09	5.2 5.2T	010 015		S L				A A
LT4 48500	18B33 17A31 21B14	5.9 5.8 11.7T	010 020 025		S  R				A A A
MANRST 48600	19A02 20A13 29B20 15B22 16C07 14C18	1.4 10.1 7.1 4.7 2.1 25.4T	010 020 030 040 050 055		S S    				A A A A A A
OIC 48700	06B01 06B15 31B14	1.0 12.3 13.3T	010 020 025						A A A
OIS 48800	29A11 26B01 30B26 25B35 22B06 14B40 06B04	6.0 3.7 2.9 3.8 6.5 6.7 .3	010 020 030 040 060 070 080			S			A A A A A A A





SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
49400	15A27	12.8	010		S			A	
	08C08	12.8T	015					A	
OR6P									
49500	30B40	13.6	010					A	
	15A28	13.6T	015		S			A	
OR7P									
49600	15A29	12.5	010		S			A	
	03B42	12.5T	015					A	
ORDER									
49700	20B21	1.7	010		S			A	
	23B26	1.4	020		S			A	
	23B11	.4	030					A	
	24B08	3.9	040					A	
	29B25	7.4T	045					A	
ORDRST									
49800	12B02	2.4	010		S			A	
	12B33	2.6	020		S			A	
	11B06	1.6	030					A	
	11B28	4.1	040					A	
	11C11	5.4	050					A	
	09B24	16.1T	055		R			A	
OTS									
49900	05B34	4.5	010		S			A	
	11B14	2.0	020					A	
	11B39	2.2	030					A	
	09B23	8.7T	035		R			A	
PA0									
50000	18C45	1.7	010					A	
	18C24	.8	020		S			A	
	19C23	2.5T	025					A	
NPA0									
50100	18C46	.0T	005		S			A	I
PA0SET									
50300	16B04	6.6	010		S			A	
	24A43	14.3	020					A	
	18C50	.5	030					A	
	19C50	7.6	040					A	
	21B35	29.0T	045		R			A	
PA1									
50400	18C27	1.4	010		S			A	
	18C42	.6	020					A	
	19C44	2.0T	025					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	8	15	21	28	33	37	41	77	
NPA1									
50500	18C44	.0T	005	S				A	I
PA2									
50600	18C38	.2	010	S				A	
	18C39	.3	020					A	
	19C38	.5T	025					A	
NPA2									
50700	18C41	.0T	005	S				A	I
PA3									
50800	18C36	1.0	010	S				A	
	18C22	.5	020					A	
	19C22	1.5T	025					A	
NPA3									
50900	18C37	.0T	005	S				A	I
PA4									
51000	18C23	.1	010	S				A	
	18C21	2.0	020					A	
	19C01	2.1T	025					A	
NPA4									
51100	18C20	.0T	005	S				A	I
PA5									
51200	18C17	.1	010	S				A	
	18C15	1.2	020					A	
	19C05	1.3T	025					A	
NPA5									
51300	18C25	.0T	005	S				A	I
PA6									
51400	18C12	.3	010					A	
	18C11	.6	020	S				A	
	19C09	.9T	025					A	
NPA6									
51500	18C13	.0T	005	S				A	I
PA7									
51600	18C07	5.8	010	S				A	
	16B14	5.8T	015					A	
NPA7									
51700	18C09	6.5	010	S				A	
	16B05	6.5T	015					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
PARER 51800	24A38 24B03 11C02 11C28	2.7 11.9 1.9 16.5T	010 020 030 035		S				A A A A
NPARER 51900	24A40 20A18	3.6 3.6T	010 015		S				A A
PARERSET 52000	19A01 24A44	5.6 5.6T	010 015		S				A A
PERSTP 52050	04B12 07B01 10B04	2.6 1.6 4.2T	010 012 015		S				C E C
PRB 52100	26A11 20A05 12B39 08B41 03B19 04B14	3.4 11.8 2.1 4.1 .6 22.0T	010 020 030 040 050 055		S				A A A A A A
NPRBBC8 52200	09B29 04B26 12B50 12B47	2.8 5.8 .5 9.1T	010 020 030 035		R				A A A A
PRE 52300	02B36 03B05 04B19 24B21 18B39 18B40 18C35 18C34 18C31 18C28 18C08 18C05 18C04 18C03	3.1 1.5 10.1 4.3 .3 5.0 .2 .5 .3 1.5 .5 .2 .3 27.8T	010 020 030 040 050 060 070 080 090 100 110 120 130 135		S				A A A A A A A A A A A A A A
NPRE 52400	20A41	13.9	010						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		02B37	9.7	020	S			A	
		11C38	23.6T	025				A	
PRESET									
52500	02B39	19.0	010					A	
	26A15	19.0T	015	S				A	
NPSPM									
52650	21B17	5.7	010	R				A	
	20A17	9.8	020					A	
	28B26	1.2	030					A	
	28B42	5.3	040					A	
	18B46	22.0T	045	S				A	
PSPR									
52900	28A46	3.4	010					A	
	26A14	19.1	020	S				A	
	11C33	22.5T	025					A	
PT18S									
53100	23C03	2.5	010					A	
	26C17	2.5T	015					A	
PWC									
53200	08B39	3.4	008					K	
	07B02	6.7	010	S				A	
	06C19	4.6	020	S				A	
	15C22	6.2	030					A	
	05C06	.4	040					A	
	05C12	7.4	050					A	
	09B13	28.7T	055	R				A	
RATER									
53300	08C30	11.0	010					A	
	27C13	6.0	020					A	
	29B12	5.1	030					A	
	28A20	.2	040	S				A	
	28A21	11.9	050					A	
	12B03	3.5	060					A	
	09B26	37.7T	065	R				A	
NRATER									
53400	22A17	2.4	010	R				A	
	25A29	2.8	020					A	
	20A30	6.8	030					A	
	12B01	12.0T	035	S				A	
RCH									
53600	19A10	6.7	010					A	
	16B10	5.5	020					A	
	05B10	5.2	030					A	



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
54450	15A02	6.0	010						A
	23A27	6.0T	015	S					A
REN									
54500	32A19	3.8	010						A
	26A10	14.8	020						A
	05B01	18.6T	025	S					A
RENPRB									
54600	26A01	1.3	010	S					A
	26A19	16.2	020						A
	03B08	17.5T	025						A
RESA									
54800	24A22	7.4	010						A
	29B18	5.9	020	S					A
	18B24	13.3T	025						A
NRESA									
54900	18B17	3.5	010	S					A
	21B46	6.6	020	R					A
	30B21	6.3	030						A
	28A22	16.4T	035						A
RSAP									
55200	14C38	12.0	010	S					A
	17A38	7.9	020						A
	24B25	19.9T	025						A
NRSAP									
55300	14C41	.0T	005	S					A
RSAPSET									
55325	03B45	10.4	010	S					A
	14C42	10.4T	015						A
RSAP1									
55350	23C30	5.8	010						A
	24B33	1.9	020	S					A
	27B24	7.7T	025						A
NRSAP1									
55375	27B17	8.2	010						A
	23C26	8.2T	015	S					A
RSAR									
55500	28C08	2.8	010	S					A
	29C37	2.8T	015	L					A
RSARC									
55600	20B01	5.0	010	S					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
	27B21	6.5	020						A
	29C26	11.5T	025	S					A
<b>RSAU</b> 55700	30B36	2.7	010						A
	27B20	6.0	020	S					A
	24A30	1.7	030						A
	22A43	12.2	040						A
	16C22	4.6	050						A
	11C50	10.2	060						A
	05B24	3.7	070						A
	09B05	41.1T	075	R					A
<b>RSAUZ</b> 55800	27A12	3.0	005						E
	22A03	8.7	010	S					A
	18B23	6.4	020						A
	30B30	18.1T	025						A
<b>RSD</b> 56000	20B04	12.7	010	S					A
	29C44	1.8	020	L					A
	31C37	1.4	030	L					A
	32C25	15.9T	035	L					A
<b>RSDC</b> 56100	24A14	1.6	010						A
	24A36	8.7	020						A
	30B42	7.5	030						A
	20B08	.4	040						A
	20B02	2.9	050						A
	19B34	1.7	060						A
	18B18	1.6	070						A
	15B20	1.7	080						A
	12B27	3.4	090	S					A
	07B39	1.3	100						A
	06B30	1.2	110						A
	06B45	1.9	120						A
	03B39	10.2	130						A
	12C45	44.1T	135						A
<b>RSFSC</b> 56200	21B18	3.8	010	R					A
	15B05	2.6	020						A
	15B36	3.8	030						A
	12C01	10.2T	035	S					A
<b>RSTR</b> 56300	28C06	3.5	010	S					A
	29C45	3.1	020	L					A
	23C47	6.6T	025	L					A



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
NRSTR 56400	20A08 23C45 29C39 31C45	14.9 3.4 1.4 19.7T	010 020 030 035						A A A A
RTR 56500	10B42 13B18 14B18	3.3 .5 3.8T	010 020 025	S					A A A
RTRSET 56550	08B33 10B40	1.4 1.4T	010 015	S					A A
RUN 56600	03B40 09B06 23B47	5.5 10.2 15.7T	010 020 025						A A A
RUNCONT 56650	03B38 15A41 27B12 25B04 16C11	11.3 8.9 1.6 10.0 31.8T	010 020 030 033 035		S				A A A E A
RWC 56800	26A30 26B50 19B08 10B06 10B12	6.7 6.6 4.6 .4 18.3T	010 020 040 050 055						A A A A A
RWCEN 56900	03B22 03B14 03B04 04B04 04B23 05B04 05B09 05B11 10B03 19A08 26B36 27A42	.6 .7 .5 1.5 1.6 .5 .1 3.1 9.1 10.8 5.3 33.8T	010 020 030 040 050 060 070 080 090 100 110 115		S				A A A A A A A A C A A A
S0 57100	30B08 30B22	1.0 4.3	010 020						A A







SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
60850	27A50	4.2	010	S				A	
	26B30	.3	020	S				A	
	26B29	4.5T	025					A	
SECP									
60900	29A41	1.3	010					A	
	27A37	2.9	020					A	
	24A20	4.5	021					C	
	23B04	7.9	022					C	
	07B07	16.6T	025	S				A	
NSECP									
61000	04B03	14.4	010					A	
	27A30	14.4T	015	S				A	
SEEKCHE									
61200	28A50	13.3	010					A	
	04B01	13.3T	015	S				A	
SEEKEND									
61300	04B10	6.9	010					A	
	14B36	6.9T	015	S				A	
NSEEKEND									
61350	14B37	.0T	005	S				A	I
SEK									
61400	22A14	4.7	010	R				A	
	29A30	1.2	020					A	
	28A40	.6	030					A	
	28A47	.7	035					D	
	28A37	4.3	040					F	
	31B06	1.5	050					A	
	31B26	9.9	060					A	
	11B25	.9	070					A	
	10B19	.9	080					A	
	10B08	1.5	090					A	
	10B28	1.1	100					A	
	08B26	2.0	110					A	
	11B31	2.1	120	S				A	
	14B39	31.4T	125					A	
SENSE000									
61500	05C46	.5	010	S				A	
	06C46	.3	015					A	
	06C45	.8T	025					C	
SENSE060									
61600	04C45	.1	010					A	
	04C47	1.7	020					A	
	05C31	1.7	030	S				A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	8	15	21	28	33	37	41	77	
		06C47	3.5T	035					A
SENSE040		06C21	2.4	010					A
61700		05C47	2.4T	015	S				A
SENSE100		04C12	2.4	010					A
61725		05C38	1.6	020	S				A
		06C27	4.0T	025					A
SENSE130		05C23	.4	010	S				A
61740		06C24	.4T	015					A
SENSE170		05C22	.5	010	S				A
61750		06C22	.5T	015					A
SENSE200		04C46	2.3	010					A
61800		05C25	2.3	020	S				A
		04C01	4.6T	025					A
SENSE230		05C02	1.8	010	S				A
61900		06C20	1.8T	015					A
SENSE300		06C25	1.5	010					A
62000		05C11	1.5T	015	S				A
SENSE180		06C23	.9	010					A
62100		05C17	.9T	015	S				A
SEROIC		03B36	1.1	010					A
62200		03B25	2.4	020					A
		06B13	11.5	030					A
		29B13	15.0T	035	S				A
SEROIS		05B12	7.3	010	S				A
62250		08C20	7.3T	015					A
SERVCON		05B22	1.2	005					E
62300		05B06	6.1	010					A
		16B01	1.5	020	S				A
		16B21	3.6	030					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
	23B19	12.4T	035						A
NSERVCON 62400	31B29	1.1	010						A
	30B37	4.4	020						A
	23B25	2.6	030	S					A
	25B03	5.4	040						A
	19A42	12.3	050						A
	03B33	8.0	060						A
	11C18	1.9	070						A
	08C11	2.6	080						A
	04C03	38.3T	085	T					A
SERVEX 62500	31B35	8.6	010	S					A
	18B08	6.1	020						A
	06B05	.9	030						A
	06B14	.4	040						A
	06B20	1.2	050						A
	06B36	1.9	060						A
	08B27	3.1	070						A
	12B44	4.4	080						A
	12C31	3.4	090						A
	16C08	6.7	100						A
	09B33	36.7T	105	R					A
NSERVEX 62600	26A26	7.4	010						A
	18B02	2.4	020	S					A
	21B13	9.8T	025	T					A
SGLTRK 62700	15A19	10.5	010	S					A
	28B04	.9	020						A
	28B15	11.4T	025						A
NSGLTRK 62800	20B14	4.3	005						E
	28B10	4.1	010	S					A
	24B38	8.9	020						A
	17A36	17.3T	025						A
SIOP 62900	15A25	12.0	010	S					A
	12C25	12.0T	015						A
SIOR 63000	12C24	9.1	010						A
	28C13	2.0	020	S					A
	29C33	11.1T	025	L					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
<b>SIOSET</b>									
63100	15B44	3.2	010						A
	19B31	3.7	020						A
	24B15	5.3	030	S					A
	31B39	12.2T	035						A
<b>SIOU</b>									
63200	29B47	3.7	010						A
	24B31	11.1	020						A
	12C26	14.8T	025	S					A
<b>SKS</b>									
63300	10B27	7.4	010	S					A
	23B39	2.4	030						A
	23B07	4.4	040						A
	23A20	2.4	050						A
	19A26	1.5	060						A
	19A06	18.1T	065						A
<b>SKSU0</b>									
63350	15A05	5.2	010						A
	23A21	5.2T	015	S					A
<b>SLN</b>									
63500	32A09	8.4	010						A
	31B45	2.8	020	S					A
	29B21	1.4	030						A
	27B27	4.2	040						A
	19B26	5.6	045						C
	14C01	.3	050						A
	14C02	.3	060						A
	14C06	23.0T	065						A
<b>SNS</b>									
63600	22A15	2.7	010	R					A
	26A05	1.6	020						A
	28A13	1.2	030						A
	28A29	11.5	040						A
	14B19	2.7	045						D
	10B29	.9	050						A
	10B17	.6	060						A
	11B15	.3	070						A
	11B19	8.6	080	S					A
	04C14	30.1T	085						A
<b>SNSD</b>									
63650	14B11	10.1	010	S					D
	28A36	10.1T	015						D
<b>SNSBYTE1</b>									
63700	21B25	1.5	010	R					A





SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
65100	15A39	1.4	010	S				A	
	17A30	1.4T	015					A	
STOPPET									
65200	24A08	6.1	010					A	
	17A47	3.4	020					A	
	19B09	11.1	030	S				A	
	12C41	20.6T	035					A	
STRKBRO									
65300	20C24	5.2	010					A	
	20B24	5.2T	015	S				A	
STSH02									
65500	27C27	13.9	010					A	
	07B46	13.9T	015	S				A	
SUN									
65600	24A21	1.1	010	S				A	
	23A29	6.8	020					A	
	22B43	6.5	030					A	
	27C28	9.3	040					A	
	11C09	.1	050					A	
	11C07	23.8T	055					A	
NSUN									
65700	24A27	.9	010	S				A	
	25A21	.9T	020					A	
SUNM									
65875	22B45	8.5	010	S				H	
	24A15	8.5T	020					H	
SUNSET									
65900	24A18	7.6	010					A	
	29B15	5.8	030	S				A	
	22B42	2.9	032					H	
	23C04	.3	035	S				C	
	23C08	16.6T	040					H	
SWA0									
66000	24C10	1.8	010	S				A	
	27C14	1.8T	015	L				A	
NSWA0									
66100	24C11	.0T	005					A	I
SWA1									
66200	24C01	3.1	010	S				A	
	27C24	3.1T	015	L				A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
NSWA1 66300	24C04	.0T	005					A	I
SWA2 66400	24C02 27C29	3.6 3.6T	010 015	S L				A A	
NSWA2 66500	24C21	.0T	005					A	I
NSUNSET 66550	23C02 26A31	10.1 10.1T	010 020	S				H H	
SWA3 66600	24C43 27C43	1.5 1.5T	010 015	S L				A A	
NSWA3 66700	24C28	.0T	005					A	I
SWA4 66800	24C39	.0T	005	S				A	I
NSWA4 66900	24C35	.0T	005					A	I
SWA5 67000	24C03	.0T	005	S				A	I
NSWA5 67100	24C19	.0T	005					A	I
SWA6 67200	24C46	.0T	005	S				A	I
NSWA6 67300	24C27	.0T	005					A	I
SWA7 67400	24C45	.0T	005	S				A	I
NSWA7 67500	24C47	.0T	005					A	I
SYNC1 67600	03B17 08B04 08C37 14C36 15B12	3.2 7.8 2.8 7.5 21.3T	010 020 030 040 045	S				A A A A A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
I	8	15	21	28	33	37	41	77	
NSYNC1 67700	14C37 15B26	6.3 6.3T	010 015		S			A A	
SYNC1SET 67800	09B46 14C39 28A30	7.3 17.9 25.2T	010 020 025		R  S			A A A	
SYNC2 67900	02B33 08B08 14B15 15B07	4.6 3.6 1.1 9.3T	010 020 022 025		   S			A A D A	
NSYNC2 68000	14C40 15B09 08C38	8.3 11.2 19.5T	010 020 025		 S			A A A	
T0 68100	06C28 05C10 04C39	1.8 2.4 4.2T	010 020 025		S  T			C C C	
NT0 68200	07B23 06C03 11C23 12C30 09B10	4.2 4.0 .9 8.2 17.3T	010 020 030 040 045		 S   R			A A A A A	
T1 68300	22A11 31B07 31B27 23B50 06C29	9.4 1.5 6.0 11.9 28.8T	010 020 030 040 045		R    S			A A A A A	
T6 68400	09B11 07B33 06C05	2.6 3.6 6.2T	010 020 025		R  S			A A A	
T2 68500	21B01 18B11 18B31 05B41 05B43 06C06	2.2 1.5 7.2 .1 2.8 13.8T	010 020 030 040 050 055		R    S			A A A A A A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
T3									
68600	04C08	3.0	005	T					C
	09C13	.3	010						A
	09C14	1.4	020	R					A
	06C17	4.7T	025	S					A
T3-1									
68650	06C04	18.7	010	S					A
	32B01	6.0	020						A
	21B04	24.7T	025	R					A
T4									
68700	21B03	2.2	010	R					A
	18B13	1.2	020						A
	18B29	9.6	030						A
	06C07	13.0T	035	S					A
NT5									
68900	06C18	7.0	010	S					A
	08B11	.4	020						A
	09B12	7.4T	025	R					A
(TDVR.DCA.FSD)									
69000	27C09	.0T	010	S					H I
TDVP									
69200	15A22	11.2	010	S					A
	12C15	11.2T	015						A
TDVR									
69300	12C17	8.5	010						A
	27C03	1.8	020	L					A
	28C22	1.5	030	S					A
	29C36	11.8T	035	L					A
TDVU									
69400	24B06	5.5	010						A
	29B45	11.7	020						A
	12C14	17.2T	025	S					A
TER									
69500	08C28	4.3	010						A
	07B45	14.0	015						E
	20A15	3.9	020	S					A
	23A47	22.2T	025						A
TERU1									
69550	15A06	7.0	010						A
	23A46	7.0T	015	S					A
TIOP									

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
69600	15A23	11.1	010	S					A
	12C11	11.1T	015						A
TIOR									
69700	12C10	8.7	010						A
	28C20	1.7	020	S					A
	29C35	10.4T	025	L					A
TIOU									
69800	20A22	11.8	010						A
	29B50	10.9	020						A
	12C12	22.7T	025	S					A
TOS									
69900	29A44	2.5	010						A
	29A10	3.2	020						A
	24A23	7.1	030	S					A
	24B44	2.0	040						A
	23B24	5.4	050						A
	15B03	20.2T	055						A
NTOS									
70000	28A03	3.6	010						A
	24A25	4.9	020	S					A
	22B07	4.4	030						A
	15B19	4.1	040						A
	08B24	1.4	050						A
	05B23	1.8	060						A
	06B41	.1	070						A
	06B43	20.3T	075						A
TRK0									
70200	26A09	.2	010						A
	26A08	5.5	020						A
	17A22	5.8	030						A
	14B10	.7	040						A
	13B17	5.1	050	S					A
	20B39	3.4	060						A
	21C10	20.7T	065						A
NTRK0									
70300	13B21	.3	010						A
	13B25	.3T	015	S					A
TRKOM									
70400	09B35	4.0	010	R					A
	13B04	9.5	020						A
	31B01	13.5T	025	S					A
TRKOP									
70500	20B45	10.6	010	S					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
	15A08	10.6T	015						A
TRK1	70600	26A24	4.4	010					A
	17A23	5.9	020						A
	13B02	1.7	030						A
	13B23	4.6	040	S					A
	20B40	6.0	050						A
	19C47	.8	060						A
	21C46	23.4T	065						A
NTRK1	70700	13B22	.1	010					A
	13B20	.1T	015	S					A
TRK1M	70800	13B03	7.2	010					A
	15C18	7.2T	015	S					A
TRK1P	70900	20B46	10.4	010					A
	15A09	10.4T	015	S					A
TRK2	71000	13B01	1.9	010					A
	13B27	4.5	020	S					A
	20B41	4.5	030						A
	21C25	1.2	040						A
	19C24	1.6	050						A
	19C46	13.7T	055						A
NTRK2	71100	13B45	.2	010					A
	13B44	.2T	015	S					A
TRK2M	71200	13B34	5.2	010					A
	15C19	5.2T	015	S					A
TRK2P	71300	20B47	10.6	010					A
	15A10	10.6T	015	S					A
TRK3	71400	13B24	.4	010					A
	13B30	4.4	020	S					A
	20B42	4.2	030						A
	19C25	1.3	040						A
	19C43	.9	050						A
	21C40	11.2T	055						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
<b>NTRK3</b>									
71500	13B50	.3	010						A
	13B46	.3T	015	S					A
<b>TRK3M</b>									
71600	13B28	5.6	010						A
	15C20	5.6T	015	S					A
<b>TRK3P</b>									
71700	20B50	10.5	010						A
	15A11	10.5T	015	S					A
<b>TRK4</b>									
71800	13B26	.7	010						A
	13B36	3.6	020	S					A
	20B38	5.9	030						A
	19C40	.3	040						A
	19C36	1.3	050						A
	21C39	11.8T	055						A
<b>NTRK4</b>									
71900	13B39	.1	010						A
	13B37	.1T	015	S					A
<b>TRK4M</b>									
72000	13B35	5.2	010						A
	15C21	5.2T	015	S					A
<b>TRK4P</b>									
72100	20B31	9.3	010						A
	15A12	9.3T	015	S					A
<b>TRK5</b>									
72200	13B38	.6	010	S					A
	13B33	3.8	020						A
	20B37	4.5	030						A
	21C21	1.0	040						A
	19C21	1.3	050						A
	19C39	11.2T	055						A
<b>NTRK5</b>									
72300	13B42	.3	010						A
	13B41	.3T	015	S					A
<b>TRK5M</b>									
72400	13B31	4.0	010						A
	15C01	4.0T	015	S					A
<b>TRK5P</b>									
72500	20B30	8.9	010						A
	15A13	8.9T	015	S					A



SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
TRK6									
72600	13807	1.6	010	S					A
	13829	3.9	020						A
	20836	3.2	030						A
	21C02	1.0	040						A
	19C02	1.3	050						A
	19C20	11.0T	055						A
NTRK6									
72700	13809	.5	010	S					A
	13812	.5T	015						A
TRK6M									
72800	13805	5.9	010						A
	15C02	5.9T	015	S					A
TRK6P									
72900	20829	9.0	010	S					A
	15A14	9.0T	015						A
TRK7									
73000	13810	.2	010						A
	13811	5.3	020	S					A
	20835	3.3	030						A
	19C03	.9	040						A
	19C12	1.0	050						A
	21C12	10.7T	055						A
NTRK7									
73100	13815	.1	010						A
	13813	.1T	015	S					A
TRK7M									
73200	13808	5.9	010						A
	15C04	5.9T	015	S					A
TRK7P									
73300	20828	8.6	010	S					A
	15A15	8.6T	015						A
TRK8									
73400	13806	1.4	010						A
	14B17	3.1	020	S					A
	20812	5.4	030						A
	19C08	.3	040						A
	19C11	1.0	050						A
	21C11	11.2T	055						A
NTRK8									
73500	14B21	.3	010						A
	14B25	.3T	015	S					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8 15		21	28	33	37	41	77	
TRK8C 73550	14802 24835	7.6 7.6T	010 015						A A
TRK8M 73600	14804 15C03	5.8 5.8T	010 015						A A
TRK8P 73700	20B18 15A17	7.7 7.7T	010 015						A A
TRKCLK 73800	30B02 19B45	8.4 8.4T	010 015						A A
TRKCLKEN 73900	18B09 17A39 22A25	3.5 3.5 7.0T	010 020 025						A A A
TRKCLRT 73950	19B01 17A40	3.4 3.4T	010 015						A A
TRKOVF 74000	14B07 29B06	7.3 7.3T	010 015						A A
NTRKOVF 74100	14B12 14B09	.5 .5T	010 015						A A
TRKOVFM 74142	22B01 14B05 09B08	4.3 3.0 7.3T	010 020 030						H H H
TRKOVFM1 74145	29B34 22B10	5.3 5.3T	010 020						H H
TRKRST 74150	10B41 16C04 25B08 24C20	5.3 9.4 6.6 21.3T	010 020 030 035						A A E A
TRN 74200	32A33 20B22	10.7 10.2	010 020						A A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		02B38	.3	030	S			A	
		02B42	21.2T	035				A	
NTRN									
74300	28A35	4.6	005					D	
	19A37	10.8	010					A	
	04B11	3.2	020					A	
	02B41	18.6T	025	S				A	
TRPR									
74400	30A18	5.4	010	S				A	
	30B19	10.1	020					A	
	21C20	15.5T	025					A	
TSH									
74500	27C15	1.4	010	L				A	
	29C22	1.4T	015	S				A	
TTSH									
74700	29C24	1.4	010	S				A	
	31C30	1.4T	015	L				A	
TTSHU									
74800	25A03	2.7	010					A	
	25A39	.3	020					E	
	25A40	3.9	030					A	
	28A08	.9	040					A	
	29A02	7.5	050	S				A	
	31B17	2.5	060					A	
	29B37	3.7	070	S				A	
	24B22	11.7	080					A	
	11C25	33.2T	085					A	
NTYP0									
74900	27A45	3.7	010	S				A	
	26A04	1.8	020					A	
	26A28	5.5T	025					A	
TYP0R									
75000	26A39	.5	010					A	
	27A39	2.4	020					A	
	30A27	2.9T	025	S				A	
NTYP1									
75200	27A46	2.1	010	S				A	
	26A23	2.1T	015					A	
TYP1R									
75300	26A03	3.2	010					A	
	26A42	.6	020					A	
	27A40	1.9	030					A	

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8 15		21	28	33	37	41	77	
	30A34	5.7T	035	S					A
U0	75400								
	10C21	2.1	010						A
	14C23	6.5	020	S					A
	27C23	12.8	030						A
	23A19	21.4T	035						A
NU0	75500								
	10C19	1.9	010						A
	14C20	1.9T	015	S					A
U1	75600								
	10C24	2.8	010						A
	14C17	7.5	020	S					A
	27C31	11.2	030						A
	23A50	21.5T	035						A
NU1	75700								
	10C22	2.3	010						A
	14C25	2.3T	015	S					A
U2	75800								
	10C14	2.5	010						A
	14C11	8.2	020	S					A
	27C36	14.7	030						A
	23A06	25.4T	035						A
NU2	75900								
	10C05	2.6	010						A
	14C13	2.6T	015	S					A
UNE	76000								
	23A08	7.9	010						A
	29B04	7.4	020						A
	27C20	9.0	030						A
	12C40	7.2	040						A
	15B37	6.0	050	S					A
	22B03	3.6	055						A
	26B26	41.1T	065						G
NUNE	76100								
	15B42	12.2	010	S					A
	25A19	.3	011						J
	26A18	2.1	012						C
	29A26	14.6T	015						A
UNEIMM	76200								
	21B38	2.6	010	R					A
	26B40	1.3	020						A
	28B36	3.9T	025	S					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
UNEM 76300	15B31	6.9	010						A
	28B38	1.8	020	S					A
	28B17	5.0	030	S					A
	26A33	5.4	035	S					A
	20A02	19.1T	045						E
UNER 76450	15B35	4.2	010						A
	19B02	4.2T	015	S					A
UNES2T 76500	15B34	4.6	010						A
	24B36	4.6T	015	S					A
UNES2T1 76600	24C30	7.9	010	T					A
	28B25	1.2	020						A
	28B41	10.7	030						A
	11C01	19.8T	035	S					A
UNES2T2 76700	21B50	4.2	010	T					A
	28B40	11.8	020						A
	11C14	16.0T	025	S					A
UNES2T3 76800	18B26	6.3	010	S					A
	28B44	5.5	020						A
	21B15	11.8T	025	T					A
NUNES2T3 76900	18B22	6.1	010						A
	29B14	6.1T	015	S					A
UNESTOP 76950	12C42	14.5	010	S					A
	26B15	2.8	020						A
	31B19	17.3T	025						A
UNEU2 76975	15A07	4.1	010						A
	23A09	4.1T	015	S					A
UP0 77000	11C21	.3	010						A
	12C20	3.7	020						A
	17C36	4.0T	025	S					A
NUPO 77100	17C40	.5	010						A

XDS  
XEROX DATA SYSTEMSDRAWING NO.- 135745-001 K  
PROG-PNFRM LINE NO.- 77100  
TYPE-PINLIST

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		17C37	.5T 015		S				A
UP1									
77200	12C47	2.9	010						A
	17C38	.6	020	S					A
	17C33	3.5T	025						A
NUP1									
77300	17C41	.1	010	S					A
	17C43	.1T	015						A
UP2									
77400	12C08	4.0	010						A
	17C27	.1	020	S					A
	17C29	4.1T	025						A
NUP2									
77500	17C44	.2	010	S					A
	17C45	.2T	015						A
UP3									
77600	12C04	4.0	010						A
	17C24	.4	020	S					A
	17C30	4.4T	025						A
NUP3									
77700	17C46	.3	010	S					A
	17C50	.3T	015						A
UPCOUNT									
77800	21B42	5.8	010	R					A
	32B38	13.4	020						A
	07B26	19.2T	025	S					A
US1P									
77815	16A10	13.5	010	S					A
	03B34	13.5T	015						A
US2P									
77830	16A11	14.1	010	S					A
	30B38	14.1T	015						A
US4P									
77845	16A12	14.3	010	S					A
	08C10	14.3T	015						A
USECP									
77850	29A46	2.0	010	S					A
	28A26	10.5	020						A
	15B13	12.5T	025						A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
USOR-5 77865	08C03 16C50	7.4 7.4T	010 015	S					A A
USOR-6 77880	30B45 16C35	11.5 11.5T	010 015	S					A A
USOR-7 77895	03B44 16C34	11.0 11.0T	010 015	S					A A
WCH 77900	30B29 30B28 26B33 26B12 23B08 17A26 05B08 10B10 10B20 10B26 11C41 08C06 04C29	.2 2.1 1.7 1.8 6.9 9.9 2.6 .7 .4 7.0 4.2 3.4 40.9T	010 020 030 040 050 060 070 080 090 100 110 130 135						A A A A A A A A A A A A A A
WCHEN 78000	05B13 03B18	1.6 1.6T	010 015	S					A A
WCHSK 78100	11C06 10B21 03B29	4.5 4.1 8.6T	005 010 015		S				C A A
WCPB-358 78300	03B01 03B20 04B25 20B27	1.7 1.0 8.1 10.8T	010 020 030 035	S					A A A A
WDT 78400	14C24	.0T	005	S					A I
NWDT 78500	14C46 20A11	16.4 16.4T	010 015	S					A A
WDTM 78600	11C15	2.3	010	S					A

SOURCE SIGNAL	PIN NO.	LENGTH	SEQ.	TAG	ELEMENT TYPE	WIRE TYPE	LOAD LINE	C/L	ERROR FLAGS
1	8	15	21	28	33	37	41	77	
		14C28	5.4	020					A
		24C34	7.7T	025					A
WEN									
78700	32A15	7.4	010						A
	31B37	4.9	015						D
	24B20	4.3	020						A
	18B38	8.4	030						A
	11C34	10.6	040						A
	05B02	35.6T	045	S					A
WPRE									
78800	20C14	7.2	010						A
	24B14	7.2T	015	S					A
WPV									
78900	23A10	8.2	010						A
	30B01	1.7	020	S					A
	30B20	5.9	030						A
	18B19	11.3	040						A
	08C33	3.6	050						A
	11C05	10.7	060						A
	27C41	41.4T	065						A
NWPV									
79000	04C04	5.6	010	R					A
	03B06	9.0	020						A
	18B25	8.8	030	S					A
	25A20	23.4T	035						A
WRI									
79200	11B04	11.0	010	S					A
	23A11	4.7	020						A
	19A44	3.8	030						A
	16B09	2.6	040						A
	11B07	1.8	050						A
	10B25	2.4	060						A
	08B40	4.1	070						A
	05B03	3.6	080						A
	09B25	34.0T	085	R					A
WRIWPV									
79250	15A03	4.5	010						A
	23A12	4.5T	015	S					A
WRINTRN									
79300	19A35	.3	005	S					C
	19A36	9.4	010	S					A
	30B18	9.7T	015						A



STATISTICAL SUMMARY

PINS-2624  
LINE NO.S-784  
LINKS-1840

ERROR FLAG DICTIONARY

TABLE OF CONTENTS

I = NO INTERCONNECTION  
P = ILLEGAL PIN FIELD

54	LINE NO.S	HAVE	1	PINS
312	LINE NO.S	HAVE	2	PINS
182	LINE NO.S	HAVE	3	PINS
87	LINE NO.S	HAVE	4	PINS
45	LINE NO.S	HAVE	5	PINS
41	LINE NO.S	HAVE	6	PINS
20	LINE NO.S	HAVE	7	PINS
10	LINE NO.S	HAVE	8	PINS
10	LINE NO.S	HAVE	9	PINS
6	LINE NO.S	HAVE	10	PINS
5	LINE NO.S	HAVE	11	PINS
5	LINE NO.S	HAVE	12	PINS
3	LINE NO.S	HAVE	13	PINS
3	LINE NO.S	HAVE	14	PINS
1	LINE NO.S	HAVE	15	PINS



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	23A26	0024550		DCBDVO	
	02(1)	23A27	0054450		REDSUN	
	03(1)	23A12	0079250		WRIWPV	
23A14	04(1)		0013750		CHWCIL	
	05(1)	23A21	0063350		SKSU0	
	06(1)	23A46	0069550		TERUI	
	07(1)	23A09	0076975		UNEU2	
20B45	08(1)		0070500		TRK0P	
20B46	09(1)		0070900		TRK1P	
20B47	10(1)		0071300		TRK2P	
20B50	11(1)		0071700		TRK3P	
20B31	12(1)		0072100		TRK4P	
20B30	13(1)		0072500		TRK5P	
20B29	14(1)		0072900		TRK6P	
20B28	15(1)		0073300		TRK7P	
	16(0)					
20B18	17(1)		0073700		TRK8P	
	18(1)	23A18	0038850		INDUP	
	19(1)	28B04	0062700		SGLTRK	
	20(1)	17A37	0011000		BYCLKEN	
	21(1)	19B11	0001000		AIOCP	
	22(1)	12C15	0069200		TDVP	
	23(1)	12C11	0069600		TIOP	
	24(1)	12C28	0035700		HIOP	
	25(1)	12C25	0062900		SIOP	
	26(1)	16C38	0049300		OR4P	
	27(1)	08C08	0049400		OR5P	
30B40	28(1)		0049500		OR6P	
	29(1)	03B42	0049600		OR7P	
	30(0)					
	31(0)					
	32(1)	15A37	0033405		GND01	
	33(0)					
	34(0)					
	35(0)					
19A03	36(2)	17A42	0015900		NCONP	
15A32	37(1)		0033405		GND01	
	38(0)					
	39(1)	17A30	0065100		STOPP	
	40(1)	27B15	0033100		FSP	
03B38	41(2)	27B12	0056650		RUNCONT	
20A09	42(2)	04B05	0030750		ERSTOP	
	43(1)	19A41	0064900		STEP	
	44(0)					
	45(0)					
	46(0)					
	47(0)					
	48(0)					
	49(0)					
22A50	50(1)		0000600		N8V-1	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	16C46	0022400	DA7P		
	02(1)	16C47	0021700	DA6P		
	03(1)	16C43	0021000	DA5P		
	04(1)	16C45	0020300	DA4P		
	05(1)	13C41	0019600	DA3P		
	06(1)	13C35	0019000	DA2P		
	07(1)	13C45	0018400	DA1P		
	08(1)	13C31	0017800	DA0P		
	09(0)					
	10(1)	03B34	0077815	US1P		
	11(1)	30B38	0077830	US2P		
	12(1)	08C10	0077845	US4P		
	13(0)					
	14(1)	17A45	0015500	CNTRCL		
	15(1)	17A28	0015700	CNTRST		
	16(1)	16A17	0033410	GND02		
16A16	17(2)	16A42	0033410	GND02		
	18(0)					
	19(0)					
	20(0)					
	21(0)					
	22(0)					
	23(0)					
	24(0)					
	25(0)					
	26(0)					
	27(0)					
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(0)					
	33(0)					
	34(0)					
	35(0)					
	36(0)					
	37(0)					
	38(0)					
	39(0)					
	40(0)					
16A17	41(0)					
	42(1)		0033410	GND02		
	43(0)					
	44(0)					
	45(0)					
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
29A03	01(1)		0024200	DCAU		
20B23	02(1)		0015400	CM005		
16C24	03(2)	17A11	0003500	ARSET		
	04(1)	22A08	0060000	SD0		
	05(1)	31B15	0045300	J048		
	06(1)	21A20	0060500	NSD4		
	07(0)					
	08(1)	25B26	0025400	DIS		
25B02	09(2)	23A02	0016700	CSL		
23A25	10(2)	20B19	0024350	DCB-1		
17A03	11(2)	21A02	0003500	ARSET		
	12(0)					
	13(1)	21A28	0017000	NCSLI		
	14(0)					
	15(0)					
	16(0)					
	17(1)	25A38	0027800	DISC		
	18(0)					
	19(1)	20A26	0023900	DCA		
12C18	20(2)	21A31	0016000	CONPA		
	21(0)					
26A08	22(2)	14B10	0070200	TRK0		
26A24	23(2)	13B02	0070600	TRK1		
26A45	24(1)		0027700	DRM		
	25(1)	18B34	0035600	GT12		
23B08	26(2)	05B08	0077900	WCH		
07B24	27(2)	22B30	0054050	REDA		
16A15	28(1)		0015700	CNTRST		
	29(0)					
15A39	30(1)		0065100	STOPP		
18B33	31(2)	21B14	0048500	LT4		
	32(0)					
21A29	33(2)	19B18	0016300	CONPC		
	34(1)	19B04	0030100	EDC		
	35(0)					
24B38	36(1)		0062800	NSGLTRK		
15A20	37(2)	18B04	0011000	BYCLKEN		
14C38	38(2)	24B25	0055200	RSAP		
18B09	39(2)	22A25	0073900	TRKCLKEN.		
19B01	40(1)		0073950	TRKCLRT		
	41(0)					
15A36	42(2)	19A39	0015900	NCONP		
30C34	43(2)	20A21	0030300	EDR		
	44(1)	24A28	0030700	EDU		
16A14	45(2)	20B20	0015500	CNTRCL		
26B35	46(1)		0007200	BFR		
24A08	47(2)	19B09	0065200	STOPPET		
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	24A44	0052000		PARERSET	
	02(1)	20A13	0048600		MANRST	
	03(1)	15A36	0015900		NCONP	
23B14	04(2)	22A10	0046200		J085	
29B02	05(1)		0023700		DC0	
19A26	06(1)		0063300		SKS	
	07(1)	24A09	0012700		NCDN	
10B03	08(2)	26B36	0056900		RWCEN	
	09(0)					
	10(1)	16B10	0053600		RCH	
25A33	11(1)		0011300		BYTE360	
	12(1)	10B33	0046100		J081	
16B42	13(1)		0043900		J034	
	14(0)					
	15(0)					
	16(0)					
	17(0)					
	18(0)					
	19(0)					
	20(0)					
	21(0)					
19A41	22(2)	20A42	0064900		STEP	
	23(0)					
	24(1)	20A03	0016200		CONPB	
06B40	25(1)		0023800		NDC0	
23A20	26(2)	19A06	0063300		SKS	
24A07	27(2)	16C17	0012600		CDN	
	28(1)	20A38	0030750		ERSTOP	
	29(0)					
	30(0)					
	31(0)					
	32(0)					
	33(1)	10B31	0046000		J080	
	34(1)	29B22	0046285		J095	
	35(1)	19A36	0079300		WRINTRN	
19A35	36(2)	30B18	0079300		WRINTRN	
28A35	37(2)	04B11	0074300		NTRN	
16B36	38(2)	28B13	0006600		BC7	
17A42	39(2)	20A20	0015900		NCONP	
20A35	40(1)		0030770		NERSTOP	
15A43	41(2)	19A22	0064900		STEP	
25B03	42(2)	03B33	0062400		NSERVCON	
	43(0)					
23A11	44(2)	16B09	0079200		WRI	
	45(1)	19B22	0031300		FNTEN	
	46(1)	27B01	0046280		J094	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
21A12	01(1)		0045600	J054		
26A33	02(1)		0076300	UNEM		
19A24	03(2)	19B13	0016200	CONPB		
	04(1)	23C33	0038900	INI		
26A11	05(2)	12B39	0052100	PRB		
21A26	06(2)	25A05	0010000	BTC0		
25A06	07(2)	11B22	0010200	BTC1		
	08(1)	23C45	0056400	NRSTR		
20A38	09(2)	15A42	0030750	ERSTOP		
	10(1)	22A06	0060300	SD3		
14C46	11(1)		0078500	NWDT		
24B29	12(1)		0007700	BIT6PRB		
19A02	13(2)	29B20	0048600	MANRST		
	14(1)	28A05	0030600	EDSSET		
07B45	15(2)	23A47	0069500	TER		
	16(0)					
21B17	17(2)	28B26	0052650	NPSPM		
24A40	18(1)		0051900	NPARER		
	19(0)					
19A39	20(2)	21A36	0015900	NCONP		
17A43	21(1)		0030300	EDR		
	22(1)	29B50	0069800	TIOU		
20A37	23(2)	24B24	0029900	DVTR		
	24(1)	27B13	0024400	NDCB		
22A29	25(2)	12B28	0029350	NDVBSY		
17A19	26(2)	23C27	0023900	DCA		
	27(1)	25A10	0036100	HIOU		
	28(1)	15B11	0014400	NCIL		
	29(0)					
25A29	30(2)	12B01	0053400	NRATER		
24A11	31(1)		0014000	NCHWER		
	32(0)					
	33(1)	20A34	0046250	J090		
20A33	34(2)	23B31	0046250	J090		
	35(1)	19A40	0030770	NERSTOP		
	36(1)	21A12	0045600	J054		
27A38	37(2)	20A23	0029900	DVTR		
19A28	38(2)	20A09	0030750	ERSTOP		
	39(0)					
11B27	40(2)	23A15	0013700	CHW		
	41(1)	02B37	0052400	NPRE		
19A22	42(1)		0064900	STEP		
	43(0)					
	44(1)	26A35	0038500	IDS		
	45(1)	04B07	0065000	NSTEP		
25A08	46(1)		0041900	J014		
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
17A11	01(1)	25B29	0011380		NRBY1-360	
	02(1)		0003500		ARSET	
14C12	03(0)					
	04(1)		0025100		NDCL	
	05(0)					
	06(0)					
	07(0)					
25A04	08(2)	03B03	0025000		DCL	
	09(1)	21B39	0017300		CUP	
	10(0)					
16B46	11(1)		0011350		RBY1-360	
20A36	12(2)	20A01	0045600		J054	
	13(0)					
22A02	14(2)	16B20	0060400		SD4	
	15(1)	16B03	0044900		J044	
	16(0)					
	17(0)					
	18(1)	07B40	0045500		J053	
	19(0)					
17A06	20(1)		0060500		NSD4	
	21(1)	12B09	0045000		J045	
	22(0)					
	23(0)					
	24(0)					
	25(1)	03B11	0015200		CM002	
02B07	26(2)	20A06	0010000		BTC0	
27A14	27(1)		0011400		BYTE361	
17A13	28(2)	20B11	0017000		NCSLI	
	29(1)	17A33	0016300		CONPC	
19B13	30(2)	28B05	0016200		CONPB	
17A20	31(2)	27B02	0016000		CONPA	
	32(0)					
	33(0)					
	34(0)					
	35(1)	29C23	0016900		CSLI	
20A20	36(2)	21A37	0015900		NCONP	
21A36	37(2)	21A38	0015900		NCONP	
21A37	38(2)	19B05	0015900		NCONP	
	39(1)	25A43	0001900		AN0R	
30A38	40(2)	10C29	0002300		AN1R	
30A40	41(2)	10C43	0002700		AN2R	
30A42	42(2)	22B22	0003100		AN3R	
	43(0)					
	44(0)					
25A37	45(1)		0002000		NAN0R	
	46(1)	10C36	0002400		NAN1R	
	47(1)	10C33	0002800		NAN2R	
	48(0)					
	49(0)					
	50(1)	10C38	0003200		NAN3R	
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	02C30	0028250		DSRZ	
	02(1)	21A14	0060400		SD4	
27A12	03(2)	18B23	0055800		RSAUZ	
22A46	04(1)		0060100		SD1	
22A45	05(2)	28A11	0060200		SD2	
20A10	06(2)	22A44	0060300		SD3	
	07(0)					
17A04	08(2)	22A47	0060000		SD0	
29A42	09(1)		0044300		J038	
19A04	10(1)		0046200		J085	
	11(1)	31B07	0068300		T1	
	12(1)	25A09	0022700		DA7U	
	13(1)	23A28	0054000		RED	
	14(1)	29A30	0061400		SEK	
	15(1)	26A05	0063600		SNS	
	16(0)					
	17(1)	25A29	0053400		NRATER	
	18(1)	26A25	0049200		NOOS	
	19(0)					
	20(0)					
	21(0)					
	22(0)					
	23(0)					
	24(0)					
17A39	25(1)		0073900		TRKCLKEN	
24A45	26(1)		0005140		BCD	
	27(1)	15C17	0048000		LSB1	
	28(1)	26A17	0060800		SEC	
	29(1)	20A25	0029350		NDVBSY	
	30(0)					
	31(0)					
	32(0)					
	33(0)					
	34(0)					
	35(0)					
	36(0)					
	37(0)					
	38(0)					
	39(0)					
	40(0)					
	41(0)					
30A10	42(2)	22B17	0028200		DSR	
24A30	43(2)	16C22	0055700		RSAU	
22A06	44(1)		0060300		SD3	
	45(1)	22A05	0060200		SD2	
	46(1)	22A04	0060100		SD1	
22A08	47(1)		0060000		SD0	
	48(0)					
	49(0)					
30A50	50(2)	15A50	0000600		NBV-1	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(0)					
17A09	02(2)	19B20	0016700	CSL		
	03(0)					
	04(0)					
27A03	05(2)	23A22	0038875	NINDUP		
27C36	06(1)		0075800	U2		
	07(0)					
	08(1)	29B04	0076000	UNE		
15A07	09(1)		0076975	UNEU2		
	10(1)	30B01	0078900	WPV		
11B04	11(2)	19A44	0079200	WRI		
15A03	12(1)		0079250	WRIWPV		
23A18	13(2)	27A07	0038850	INDUP		
	14(1)	15A04	0013750	CHWCIL		
20A40	15(2)	24B09	0013700	CHW		
	16(0)					
	17(1)	15B06	0014300	CIL		
15A18	18(2)	23A13	0038850	INDUP		
27C23	19(1)		0075400	U0		
23B07	20(2)	19A26	0063300	SKS		
15A05	21(1)		0063350	SKSU0		
23A05	22(1)		0038875	NINDUP		
	23(1)	23A30	0033525	GND25		
28B43	24(1)		0029600	DVOR		
26A27	25(2)	17A10	0024350	DCB-1		
15A01	26(1)		0024550	DCBDV0		
15A02	27(1)		0054450	REDSUN		
22A13	28(2)	25B19	0054000	RED		
24A21	29(2)	22B43	0065600	SUN		
23A23	30(2)	23A32	0033525	GND25		
	31(1)	26B20	0017100	CSLSET		
23A30	32(2)	23A33	0033525	GND25		
23A32	33(1)		0033525	GND25		
	34(0)					
	35(0)					
	36(0)					
	37(0)					
	38(0)					
	39(0)					
	40(0)					
	41(0)					
	42(0)					
	43(0)					
	44(0)					
	45(0)					
15A06	46(1)		0069550	TERU1		
20A15	47(1)		0069500	TER		
	48(0)					
	49(0)					
27C31	50(1)		0075600	U1		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
24B02	01(1)		0014100		CHWERM	
	02(0)					
25B15	03(1)		0014200		CHWERSET	
	04(1)	24A16	0033415		GND03	
02C11	05(2)	24A45	0005140		BCD	
	06(1)	29B07	0013900		CHWER	
	07(1)	19A27	0012600		CDN	
	08(1)	17A47	0065200		STOPPET	
19A07	09(1)		0012700		NCDN	
24A35	10(1)		0049100		OOS	
	11(1)	20A31	0014000		NCHWER	
21B06	12(2)	15C09	0018700		DAIU	
	13(1)	29A36	0012900		CDNSET	
	14(1)	24A36	0056100		RSDC	
22B45	15(1)		0065875		SUNM	
24A04	16(2)	24A19	0033415		GND03	
	17(1)	10B09	0064500		SRWC	
	18(1)	29B15	0065900		SUNSET	
24A16	19(2)	24A24	0033415		GND03	
27A37	20(2)	23B04	0060900		SECP	
	21(1)	23A29	0065600		SUN	
	22(1)	29B18	0054800		RESA	
29A10	23(2)	24B44	0069900		TOS	
24A19	24(2)	24A31	0033415		GND03	
28A03	25(2)	22B07	0070000		NTOS	
	26(0)					
	27(1)	25A21	0065700		NSUN	
17A44	28(2)	23B43	0030700		EDU	
	29(1)	27A21	0031000		NESU	
27B20	30(2)	22A43	0055700		RSAU	
24A24	31(2)	24A39	0033415		GND03	
	32(0)					
29A33	33(1)		0012000		CCHSET1	
29A01	34(1)		0011900		CCHSET	
23C10	35(2)	24A10	0049100		OOS	
24A14	36(2)	30B42	0056100		RSDC	
	37(0)		0011700		CCH	
	38(1)	24B03	0051800		PARER	
24A31	39(2)	24A41	0033415		GND03	
	40(1)	20A18	0051900		NPARER	
24A39	41(1)		0033415		GND03	
08C21	42(1)		0011800		NCCH	
16B04	43(2)	18C50	0050300		PA0SET	
19A01	44(1)		0052000		PARERSET	
24A05	45(2)	22A26	0005140		BCD	
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
32A45	01(1)	19B33	0035900		HIORST	
	02(1)		0038400		ID2	
	03(1)	25A39	0074800		TTSHU	
	04(1)	21A08	0025000		DCL	
20A06	05(1)		0010000		BTC0	
	06(1)	20A07	0010200		BTC1	
28B06	07(1)		0010400		BTC2	
	08(1)	20A46	0041900		J014	
22A12	09(2)	25B10	0022700		DA7U	
20A27	10(2)	29A05	0036100		H10U	
29A06	11(2)	04B35	0029800		DVSEL	
28A33	12(2)	31B41	0007800		BIT7	
20C23	13(1)		0060600		SDBRO	
	14(1)	24B05	0031200		NFAULT	
	15(0)					
	16(0)					
	17(0)					
	18(0)					
15B42	19(2)	26A18	0076100		NUNE	
18B25	20(1)		0079000		NWPV	
24A27	21(1)		0065700		NSUN	
	22(0)					
	23(0)					
	24(0)					
27A22	25(1)		0006200		BC5	
27A23	26(1)		0015300		CM003	
	27(1)	02B20	0006900		NBC8	
	28(0)					
22A17	29(2)	20A30	0053400		NRATER	
	30(0)					
	31(0)					
	32(0)					
	33(1)	19A11	0011300		BYTE360	
	34(0)					
10C27	35(1)		0001700		AND	
10C25	36(1)		0001800		NAND	
	37(1)	21A45	0002000		NANOR	
17A17	38(2)	25A44	0027800		DISC	
25A03	39(2)	25A40	0074800		TTSHU	
25A39	40(2)	28A08	0074800		TTSHU	
21B10	41(2)	12B22	0022000		DA6U	
21B09	42(2)	25B11	0021300		DA5U	
21A39	43(2)	30A36	0001900		ANOR	
25A38	44(2)	27A47	0027800		DISC	
32A37	45(1)		0038200		ID0	
32A39	46(1)		0038300		ID1	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	26A19	0054600		RENPRB	
	02(1)	29B10	0041500		J009	
	03(1)	26A42	0075300		TYP1R	
27A45	04(2)	26A28	0074900		NTYP0	
22A15	05(2)	28A13	0063600		SNS	
28A17	06(1)		0026800		DP2	
	07(0)					
26A09	08(2)	17A22	0070200		TRK0	
	09(1)	26A08	0070200		TRK0	
32A19	10(2)	05B01	0054500		REN	
	11(1)	20A05	0052100		PRB	
28A45	12(1)		0040700		J001	
	13(1)	29B11	0041600		J010	
28A46	14(2)	11C33	0052900		PSPR	
02B39	15(1)		0052500		PRESET	
	16(0)					
22A28	17(2)	10C45	0060800		SEC	
25A19	18(2)	29A26	0076100		NUNE	
26A01	19(2)	03B08	0054600		RENPRB	
20C31	20(1)		0008000		NBR0	
	21(1)	20C25	0008100		BR1	
	22(0)					
27A46	23(1)		0075200		NTYP1	
	24(1)	17A23	0070600		TRK1	
22A18	25(2)	12B14	0049200		NOOS	
	26(1)	18B02	0062600		NSERVEX	
	27(1)	23A25	0024350		DCB-1	
26A04	28(1)		0074900		NTYP0	
27A19	29(2)	16B23	0022950		NDAIR	
	30(1)	26B50	0056800		RWC	
23C02	31(1)		0066550		NSUNSET	
	32(0)					
28B17	33(2)	20A02	0076300		UNEM	
	34(1)	29B09	0041700		J011	
20A44	35(2)	28A04	0038500		IDS	
	36(1)	23B23	0032300		NFSC	
	37(0)					
	38(1)	28A09	0033400		FSU	
	39(1)	27A39	0075000		TYP0R	
09B41	40(2)	18B47	0040500		ISRBR	
	41(1)	28B35	0046400		NLDBR	
26A03	42(2)	27A40	0075300		TYP1R	
	43(0)					
	44(1)	06B25	0032500		NFSCP	
27A41	45(2)	17A24	0027700		DRM	
	46(1)	20C13	0064300		SRBR	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
31B21	00(0) 01(1) 02(0)		0016800	NCSL		
29A25	03(1) 04(1) 05(0) 06(0)	23A05	0038875 0020000	NINDUP NDA3U		
23A13 21B08	07(1) 08(2) 09(0) 10(0)	31B10	0038850 0019900	INDUP DA3U		
30A13 08B12	11(1) 12(1) 13(2) 14(2) 15(1) 16(0) 17(0)	25B02 22A03 16B11 21A27 19B07	0016700 0055800 0022900 0011400 0030900	CSL RSAUZ DAIR BYTE361 ESU		
19B21	18(1) 19(1)	26A29	0032600 0022950	FSCPM NDAIR		
05B27 24A29 28B02 28B01	20(1) 21(1) 22(2) 23(2) 24(1)	25A25 25A26 03B23	0011450 0031000 0006200 0015300 0042100	NBYTE361 NESU BC5 CM003 J016		
23B44	25(1) 26(1) 27(1) 28(0)	25B24 25B39	0026300 0040000 0025900	NDOS NIORF DORF		
04B17 04B03	29(1) 30(1) 31(1) 32(0) 33(0) 34(0) 35(0)	07B50	0037900 0061000 0030000	IBIT0 NSECP NDVTR		
22B18 29A41 30A20 26A39 26A42 28B03 26B36	36(2) 37(2) 38(2) 39(2) 40(2) 41(2) 42(1) 43(0) 44(0)	21B02 24A20 20A37 30A27 30A34 26A45	0007400 0060900 0029900 0075000 0075300 0027700 0056900	BIT0 SECP DVTR TYP0R TYP1R DRM RWCEN		
25A44	45(1) 46(1) 47(2) 48(0) 49(0) 50(1) 51(0)	26A04 26A23 30B11 26B30	0074900 0075200 0027800 0060850	NTYP0 NTYP1 DISC SECEL		

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
28A23	01(1)		0004900	BAXLP		
25B33	02(1)		0043200	J027		
	03(1)	24A25	0070000	NTOS		
26A35	04(2)	28A07	0038500	IDS		
20A14	05(2)	28A41	0030600	EDSSET		
	06(0)					
28A04	07(2)	32A03	0038500	IDS		
25A40	08(2)	29A02	0074800	TTSHU		
26A38	09(2)	31B31	0033400	FSU		
	10(0)					
22A05	11(1)		0060200	SD2		
	12(1)	29A18	0023300	DATAS		
26A05	13(2)	28A29	0063600	SNS		
	14(0)					
29A15	15(1)		0045400	J052		
	16(0)					
32B10	17(2)	26A06	0026800	DP2		
	18(1)	29A17	0027000	DP3		
06B44	19(1)		0060700	SDCO		
29B12	20(2)	28A21	0053300	RATER		
28A20	21(2)	12B03	0053300	RATER		
30B21	22(1)		0054900	NRESA		
12C05	23(2)	28A01	0004900	BAXLP		
25B36	24(1)		0043100	J026		
	25(1)	28A31	0046275	J093		
29A46	26(2)	15B13	0077850	USECP		
26B19	27(2)	09B04	0040900	J003		
	28(0)					
28A13	29(2)	14B19	0063600	SNS		
14C39	30(1)		0067800	SYNCSET		
28A25	31(2)	26B05	0046275	J093		
	32(0)					
	33(1)	25A12	0007800	BIT7		
08B46	34(1)		0043400	J029		
	35(1)	19A37	0074300	NTRN		
14B11	36(1)		0063650	SNSD		
28A47	37(2)	31B06	0061400	SEK		
29A37	38(2)	31B20	0023300	DATAS		
	39(0)					
29A30	40(2)	28A47	0061400	SEK		
28A05	41(2)	15B18	0030600	EDSSET		
	42(1)	26B02	0044600	J041		
26B42	43(2)	09B44	0044400	J039		
	44(0)					
	45(1)	26A12	0040700	J001		
	46(1)	26A14	0052900	PSPR		
28A40	47(2)	28A37	0061400	SEK		
	48(0)					
	49(0)					
	50(1)	04B01	0061200	SEEKCHE		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	24A34	0011900		CCHSET	
28A08	02(2)	31B17	0074800		TTSHU	
24B07	03(2)	17A01	0024200		DCAU	
28B09	04(1)		0038100		ICSO	
25A10	05(2)	29B46	0036100		HIOU	
	06(1)	25A11	0029800		DVSEL	
24B23	07(2)	31B42	0032800		FSD	
	08(1)	30B23	0057400		SI	
	09(0)					
29A44	10(2)	24A23	0069900		TOS	
	11(1)	26B01	0048800		OIS	
29B19	12(1)		0041000		J004	
14B29	13(1)		0057350		SOCLK	
	14(0)					
	15(1)	28A15	0045400		J052	
	16(0)					
28A18	17(2)	31B05	0027000		DP3	
28A12	18(2)	29A37	0023300		DATAS	
	19(0)					
	20(0)					
	21(0)					
32B08	22(1)		0026500		NDP0	
32B07	23(1)		0026700		NDP1	
32B05	24(1)		0026900		NDP2	
	25(1)	27A04	0020000		NDA3U	
26A18	26(1)		0076100		NUNE	
29B41	27(2)	15C08	0019300		DA2U	
	28(0)					
	29(0)					
22A14	30(2)	28A40	0061400		SEK	
	31(0)					
	32(0)					
	33(1)	24A33	0012000		CCHSET1	
	34(1)	25B05	0027400		DPC0-1	
	35(1)	14C29	0014800		CLKB	
24A13	36(1)		0012900		CDNSET	
29A18	37(2)	28A38	0023300		DATAS	
	38(1)	16B38	0014700		CLK	
08B34	39(1)		0044200		J037	
27C34	40(1)		0024300		DCB	
	41(1)	27A37	0060900		SECP	
23B33	42(2)	22A09	0044300		J038	
	43(0)					
	44(1)	29A10	0069900		TOS	
	45(1)	16C21	0046270		J092	
	46(1)	28A26	0077850		USECP	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(0)					
	02(0)					
	03(0)					
	04(0)					
	05(0)					
	06(1)	07B04	0040300	IPR		
	07(0)					
	08(1)	07B03	0064200	SPR		
	09(0)					
	10(1)	22A42	0028200	DSR		
	11(0)					
	12(0)					
	13(1)	27A13	0022900	DAIR		
	14(0)					
	15(0)					
	16(0)					
	17(0)					
	18(1)	30B19	0074400	TRPR		
	19(0)					
	20(1)	27A38	0029900	DVTR		
	21(0)					
	22(1)	28B27	0029600	DVOR		
	23(0)					
	24(0)					
	25(0)					
	26(0)					
27A39	27(1)		0075000	TYPOR		
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(0)					
	33(0)					
27A40	34(1)		0075300	TYP1R		
	35(0)					
25A43	36(2)	30B10	0001900	ANOR		
	37(0)					
	38(1)	21A40	0002300	AN1R		
	39(0)					
	40(1)	21A41	0002700	AN2R		
	41(0)					
	42(1)	21A42	0003100	AN3R		
	43(0)					
	44(0)					
	45(0)					
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(1)	22A50	0000600	NBV-1		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(0)					
	02(0)					
28A07	03(1)		0038500	IDS		
	04(0)					
	05(0)					
	06(0)					
	07(0)					
	08(0)					
	09(1)	31B45	0063500	SLN		
	10(0)					
	11(0)					
	12(1)	30B04	0023000	DAM		
	13(0)					
	14(0)					
	15(1)	31B37	0078700	WEN		
	16(0)					
	17(0)					
	18(0)					
	19(1)	26A10	0054500	REN		
	20(0)					
	21(0)					
	22(0)					
	23(1)	31B36	0059700	SC2D		
	24(0)					
31B13	25(1)		0059500	SC1D		
	26(0)					
	27(0)					
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(0)					
	33(1)	20B22	0074200	TRN		
	34(0)					
	35(1)	30B06	0009300	BR7		
	36(0)					
	37(1)	25A45	0038200	ID0		
	38(0)					
	39(1)	25A46	0038300	ID1		
	40(0)					
	41(0)					
	42(0)					
	43(0)					
	44(0)					
	45(1)	25A02	0038400	ID2		
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(1)	01B03	0033420		GND04	
01B17	01(2)	08B06	0006200		BC5	
	02(1)	01B11	0006400		BC6	
01B00	03(2)	01B04	0033420		GND04	
01B03	04(2)	01B05	0033420		GND04	
01B04	05(2)	01B08	0033420		GND04	
	06(1)	01B07	0006600		BC7	
01B06	07(2)	04B29	0006600		BC7	
01B05	08(2)	01B28	0033420		GND04	
01B12	09(1)		0006700		NBC7	
08B07	10(2)	02B23	0006800		BC8	
01B02	11(2)	04B21	0006400		BC6	
	12(1)	01B09	0006700		NBC7	
	13(1)	01B15	0006500		NBC6	
	14(0)					
01B13	15(1)		0006500		NBC6	
	16(0)					
	17(1)	01B01	0006200		BC5	
	18(1)	02B18	0009500		BRE	
	19(0)					
01B22	20(1)		0006100		NBC4	
	21(1)	01B25	0006300		NBC5	
	22(1)	01B20	0006100		NBC4	
	23(1)	01B26	0006000		BC4	
01B30	24(2)	04B24	0005800		BC3	
01B21	25(1)		0006300		NBC5	
01B23	26(2)	18B41	0006000		BC4	
01B33	27(2)	04B22	0005600		BC2	
01B08	28(2)	01B31	0033420		GND04	
	29(1)	01B36	0005400		BC1	
	30(1)	01B24	0005800		BC3	
01B28	31(2)	01B34	0033420		GND04	
	32(0)					
	33(1)	01B27	0005600		BC2	
01B31	34(2)	01B35	0033420		GND04	
01B34	35(1)		0033420		GND04	
01B29	36(1)		0005400		BC1	
01B39	37(1)		0005500		NBC1	
	38(1)	04B28	0005200		BC0	
	39(1)	01B37	0005500		NBC1	
	40(0)					
01B42	41(1)		0005300		NBC0	
	42(1)	01B41	0005300		NBC0	
	43(0)					
	44(1)	01B45	0005700		NBC2	
01B44	45(1)		0005700		NBC2	
01B50	46(1)		0005900		NBC3	
	47(0)					
	48(0)					
	49(0)					
	50(1)	01B46	0005900		NBC3	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
05B33	00(1) 01(1) 02(0)	02B03	0033425 0006950		GND05 BC8CLK	
02B00	03(2) 04(0)	02B05	0033425		GND05	
02B03	05(2)	02B08	0033425		GND05	
02C10	06(2)	04C02	0005130		BCC	
	07(1)	21A26	0010000		BTC0	
02B05	08(2)	02B34	0033425		GND05	
	09(1)	02B12	0010100		NBTC0	
02B27	10(1)		0010200		BTC1	
	11(1)	22B18	0007400		BIT0	
02B09	12(2)	04B30	0010100		NBTC0	
	13(0)		0007500		NBIT0	
	14(0)					
05B26	15(2)	11C39	0007800		BIT7	
	16(0)					
	17(0)					
01B18	18(2)	08C45	0009500		BRE	
	19(0)					
25A27	20(2)	02B22	0006900		NBC8	
	21(0)					
02B20	22(2)	02B43	0006900		NBC8	
01B10	23(2)	04B41	0006800		BC8	
	24(0)					
	25(0)					
	26(0)					
11B22	27(2)	02B10	0010200		BTC1	
	28(0)					
02B30	29(2)	04B31	0010400		BTC2	
	30(1)	02B29	0010400		BTC2	
	31(1)	08B13	0064550		SSP	
	32(0)					
	33(1)	08B08	0067900		SYNC2	
02B08	34(2)	02B35	0033425		GND05	
02B34	35(1)		0033425		GND05	
	36(1)	03B05	0052300		PRE	
20A41	37(2)	11C38	0052400		NPRE	
20B22	38(2)	02B42	0074200		TRN	
	39(1)	26A15	0052500		PRESET	
12B14	40(1)		0049200		NOOS	
04B11	41(1)		0074300		NTRN	
02B38	42(1)		0074200		TRN	
02B22	43(1)		0006900		NBC8	
	44(1)	02B45	0010300		NBTC1	
02B44	45(2)	04B18	0010300		NBTC1	
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	03B20	0078300		WCPB-358	
	02(1)	03B24	0010600		BY0-359	
21A08	03(2)	03B10	0025000		DCL	
03B14	04(2)	04B04	0056900		RWCEN	
02B36	05(2)	04B19	0052300		PRE	
04C04	06(2)	18B25	0079000		NWPV	
	07(0)					
26A19	08(1)		0054600		RENPRB	
	09(0)					
03B03	10(2)	02C31	0025000		DCL	
21A25	11(2)	03B13	0015200		CM002	
	12(1)	04B02	0015100		CM001	
03B11	13(1)		0015200		CM002	
03B22	14(2)	03B04	0056900		RWCEN	
	15(0)					
	16(0)					
	17(1)	08B04	0067600		SYNC1	
05B13	18(1)		0078000		WCHEN	
08B41	19(2)	04B14	0052100		PRB	
03B01	20(2)	04B25	0078300		WCPB-358	
	21(1)	28B08	0042000		J015	
	22(1)	03B14	0056900		RWCEN	
27A24	23(1)		0042100		J016	
03B02	24(2)	16B26	0010600		BY0-359	
03B36	25(2)	06B13	0062200		SEROIC	
12B34	26(2)	03B28	0048900		NOIS	
10B14	27(1)		0054300		REDSN	
03B26	28(2)	24B37	0048900		NOIS	
10B21	29(1)		0078100		WCHSK	
05B28	30(2)	03B31	0049100		OOS	
03B30	31(2)	05B39	0049100		OOS	
	32(0)					
19A42	33(2)	11C18	0062400		NSERVCON	
16A10	34(1)		0077815		USIP	
	35(0)					
	36(1)	03B25	0062200		SEROIC	
	37(1)	07B42	0032800		FSD	
	38(1)	15A41	0056650		RUNCONT	
06B45	39(2)	12C45	0056100		RSDC	
	40(1)	09B06	0056600		RUN	
	41(0)					
15A29	42(1)		0049600		OR7P	
	43(1)	08B35	0016400		CONPORD	
	44(1)	16C34	0077895		USOR-7	
	45(1)	14C42	0055325		RSAPSET	
06B18	46(1)		0040100		IORFSET	
06B03	47(1)		0026100		DORFSET	
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
28A50	01(1)		0061200	SEEKCHE		
03B12	02(2)	11B02	0015100	CM001		
	03(1)	27A30	0061000	NSECP		
03B04	04(2)	04B23	0056900	RWCEN		
15A42	05(1)		0030750	ERSTOP		
08B44	06(2)	13C37	0016300	CONPC		
20A45	07(1)		0065000	NSTEP		
09B21	08(2)	10B24	0013700	CHW		
08B10	09(2)	04B44	0024350	DCB-1		
	10(1)	14B36	0061300	SEEKEND		
19A37	11(2)	02B41	0074300	NTRN		
	12(1)	07B01	0052050	PERSTP		
	13(1)	11C35	0013800	CHWEN		
03B19	14(1)		0052100	PRB		
	15(1)	12B40	0007600	BIT1		
	16(0)					
	17(1)	27A29	0037900	IBIT0		
02B45	18(1)		0010300	NBTC1		
03B05	19(2)	24B21	0052300	PRE		
	20(0)					
01B11	21(2)	08B20	0006400	BC6		
01B27	22(1)		0005600	BC2		
04B04	23(2)	05B04	0056900	RWCEN		
01B24	24(1)		0005800	BC3		
03B20	25(2)	20B27	0078300	WCPB-358		
09B29	26(2)	12B50	0052200	NPRBBC8		
	27(1)	08B09	0009700	BRR1		
01B38	28(1)		0005200	BC0		
01B07	29(2)	08B21	0006600	BC7		
02B12	30(1)		0010100	NBTC0		
02B29	31(2)	15B23	0010400	BTC2		
	32(0)					
	33(1)	11B21	0044100	J036		
	34(1)	08B19	0015300	CM003		
25A11	35(2)	04B37	0029800	DVSEL		
	36(1)	07B47	0029300	DVBSY		
04B35	37(2)	10C01	0029800	DVSEL		
	38(1)	24B07	0024200	DCAU		
	39(0)					
04C19	40(2)	07B28	0054050	REDA		
02B23	41(2)	08B29	0006800	BC8		
	42(0)					
	43(0)					
04B09	44(1)		0024350	DCB-1		
	45(0)					
	46(1)	16B25	0054150	REDBCB		
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
26A10	01(1)		0054500	REN		
11C34	02(1)		0078700	WEN		
08B40	03(2)	09B25	0079200	WRI		
04B23	04(2)	05B09	0056900	RWCEN		
06B04	05(2)	06B19	0048800	OIS		
05B22	06(2)	16B01	0062300	SERVCON		
	07(0)					
17A26	08(2)	10B10	0077900	WCH		
05B04	09(2)	05B11	0056900	RWCEN		
16B10	10(2)	10B46	0053600	RCH		
05B09	11(2)	10B03	0056900	RWCEN		
	12(1)	08C20	0062250	SEROIS		
	13(1)	03B18	0078000	WCHEN		
21C23	14(1)		0041300	J007		
21C44	15(1)		0041400	J008		
	16(0)					
05B19	17(2)	04C18	0064000	SNST2		
	18(1)	05B20	0026800	DP2		
22B24	19(2)	05B17	0064000	SNST2		
05B18	20(2)	08B30	0026800	DP2		
10C29	21(1)		0002300	AN1R		
	22(1)	05B06	0062300	SERVCON		
08B24	23(2)	06B41	0070000	NTOS		
11C50	24(2)	09B05	0055700	RSAU		
	25(0)					
31B41	26(2)	02B15	0007800	BIT7		
	27(1)	27A20	0011450	NBYTE361		
06B10	28(2)	03B30	0049100	OOS		
	29(0)					
	30(0)					
10C43	31(1)		0002700	AN2R		
	32(0)					
	33(1)	02B01	0006950	BC8CLK		
	34(1)	11B14	0049900	OTS		
	35(1)	17C01	0015000	CLP		
	36(1)	11B33	0021450	DA63		
11B35	37(2)	11B50	0022000	DA6U		
08C13	38(2)	04C28	0013100	CFDISCL		
03B31	39(2)	06B35	0049100	OOS		
04C20	40(2)	08C05	0013300	CFIOP1		
18B31	41(2)	05B43	0068500	T2		
	42(1)	08B22	0032700	FSCU		
05B41	43(2)	06C06	0068500	T2		
13C03	44(2)	13C42	0019900	DA3U		
17C18	45(1)		0025500	DLUPX0		
17C26	46(1)		0017300	CUP		
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PJN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	06B15	0048700	OIC		
	02(0)					
	03(1)	03B47	0026100	DORFSET		
14B40	04(2)	05B05	0048800	OIS		
18B08	05(2)	06B14	0062500	SERVEX		
12B37	06(2)	08C23	0025900	DORF		
08C43	07(1)		0013500	CHE		
	08(1)	06B29	0033430	GND06		
	09(0)		0013600	NCHE		
	10(1)	05B28	0049100	OOS		
12B11	11(2)	08C22	0026000	NDORF		
08B23	12(2)	06B33	0023300	DATAS		
03B25	13(2)	29B13	0062200	SEROIC		
06B05	14(2)	06B20	0062500	SERVEX		
06B01	15(2)	31B14	0048700	OIC		
	16(0)					
	17(0)					
	18(1)	03B46	0040100	IORFSET		
05B05	19(2)	12B43	0048800	OIS		
06B14	20(2)	06B36	0062500	SERVEX		
12B36	21(2)	08C17	0039900	IORF		
07B31	22(2)	08C40	0024400	NDCB		
	23(1)	19B47	0032400	FSCP		
	24(1)	19B21	0032600	FSCPM		
26A44	25(1)		0032500	NFSCP		
19B07	26(1)		0030900	ESU		
12B12	27(2)	08C24	0040000	NIORF		
	28(0)					
06B08	29(2)	06B32	0033430	GND06		
07B39	30(2)	06B45	0056100	RSDC		
09B31	31(2)	16C19	0039400	INLM		
06B29	32(2)	06B39	0033430	GND06		
06B12	33(2)	08C02	0023300	DATAS		
10B02	34(1)		0039700	INLSET		
05B39	35(2)	08B43	0049100	OOS		
06B20	36(2)	08B27	0062500	SERVEX		
15C27	37(1)		0039100	INL		
	38(1)	29B02	0023700	DC0		
06B32	39(1)		0033430	GND06		
	40(1)	19A25	0023800	NDC0		
05B23	41(2)	06B43	0070000	NTOS		
	42(0)		0039200	NINL		
06B41	43(1)		0070000	NTOS		
09B30	44(2)	28A19	0060700	SDC0		
06B30	45(2)	03B39	0056100	RSDC		
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
04B12	01(2)	10B04	0052050		PERSTP	
08B39	02(2)	06C19	0053200		PWC	
30A08	03(1)		0054200		SPR	
30A06	04(1)		0040300		IPR	
	05(0)					
	06(0)					
23B04	07(1)		0060900		SECP	
	08(0)					
	09(0)					
	10(0)					
	11(1)	07B17	0033435		GND07	
18B30	12(2)	08C13	0013100		CFDISCL	
	13(0)					
08C05	14(2)	18B12	0013300		CF1OPL	
	15(0)					
	16(0)					
07B11	17(2)	07B30	0033435		GND07	
04C23	18(2)	11C20	0005000		BAXUP	
08C31	19(2)	09B03	0009800		BRR2	
12B07	20(2)	09B02	0003400		ARR2	
	21(1)	05C08	0025450		DLS	
04C31	22(2)	11C19	0004900		BAXLP	
	23(1)	06C03	0068200		NT0	
07B28	24(2)	17A27	0054050		REDA	
09B43	25(2)	07B29	0054100		NRED	
32B38	26(1)		0077800		UPCOUNT	
32B40	27(1)		0025600		DNCOUNT	
04B40	28(2)	07B24	0054050		REDA	
07B25	29(2)	18B10	0054100		NRED	
07B17	30(2)	07B32	0033435		GND07	
12B08	31(2)	06B22	0024400		NDCB	
07B30	32(2)	07B34	0033435		GND07	
09B11	33(2)	06C05	0068400		T6	
07B32	34(2)	07B44	0033435		GND07	
	35(1)	12B10	0003480		NARR2	
	36(0)					
	37(0)					
	38(0)					
12B27	39(2)	06B30	0056100		RSDC	
21A18	40(1)		0045500		J053	
	41(1)	19B10	0000800		A10C	
03B37	42(2)	11B05	0032800		FSD	
	43(0)					
07B34	44(1)		0033435		GND07	
08C28	45(2)	20A15	0069500		TER	
27C27	46(1)		0065500		STSH02	
04B36	47(2)	12B29	0029300		DVBSY	
	48(0)					
	49(0)					
27A31	50(1)		0030000		NDVTR	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
11823	01(1)	10C11	0024600		DCBNT5	
	02(1)		0044000		J035	
	03(1)	16B31	0011350		RBV1-360	
03B17	04(2)	08C37	0067600		SYNC1	
08B19	05(2)	28B11	0015300		CM003	
01B01	06(2)	16B28	0006200		BC5	
	07(1)	01B10	0006800		BC8	
02B33	08(2)	14B15	0067900		SYNC2	
04B27	09(2)	16B33	0009700		BRR1	
20B19	10(2)	04B09	0024350		DCB-1	
06C18	11(2)	09B12	0068900		NT5	
	12(1)	27A14	0011400		BYTE361	
02B31	13(2)	14B33	0064550		SSP	
	14(1)	31B40	0011200		BYTE359	
	15(1)	26B18	0027500		DPC14-15	
	16(0)					
	17(1)	18B36	0026600		DP1	
	18(1)	18B35	0026400		DP0	
04B34	19(2)	08B05	0015300		CM003	
04B21	20(2)	28B12	0006400		BC6	
04B29	21(2)	16B36	0006600		BC7	
05B42	22(2)	16B18	0032700		FSCU	
08B37	23(2)	06B12	0023300		DATAS	
15B19	24(2)	05B23	0070000		NTOS	
08B43	25(2)	26B24	0049100		OOS	
10B28	26(2)	11B31	0061400		SEK	
06B36	27(2)	12B44	0062500		SERVEX	
	28(1)	18B14	0003300		ARR1	
04B41	29(2)	12B38	0006800		BC8	
05B20	30(2)	22B23	0026800		DP2	
	31(0)					
	32(0)					
	33(1)	10B40	0056550		RTRSET	
	34(1)	29A39	0044200		J037	
03B43	35(2)	08C09	0016400		CONPORO	
	36(1)	16C44	0016100		CONPAT	
23B38	37(2)	08B23	0023300		DATAS	
19B18	38(2)	08B44	0016300		CONPC	
	39(1)	07B02	0053200		PWC	
10B25	40(2)	05B03	0079200		WRI	
12B39	41(2)	03B19	0052100		PRB	
	42(0)					
06B35	43(2)	08B25	0049100		OOS	
08B38	44(2)	04B06	0016300		CONPC	
	45(1)	26B35	0007200		BFR	
	46(1)	28A34	0043400		J029	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
15B15	01(1)		0040800	J002		
07B20	02(1)		0003400	ARR2		
07B19	03(1)		0009800	BRR2		
28A27	04(1)		0040900	J003		
05B24	05(1)		0055700	RSAU		
03B40	06(2)	23B47	0056600	RUN		
11B24	07(1)		0040550	IXBR		
14B05	08(1)		0074142	TRKOVFM		
	09(0)					
12C30	10(1)		0068200	NT0		
	11(1)	07B33	0068400	T6		
08B11	12(1)		0068900	NT5		
05C12	13(1)		0053200	PWC		
	14(1)	12B24	0020600	DA4U		
11B18	15(1)		0020700	NDA4U		
	16(0)					
	17(1)	11B09	0021400	NDA5U		
	18(1)	11B08	0022100	NDA6U		
10C13	19(1)		0022800	NDA7U		
	20(0)					
	21(1)	04B08	0013700	CHW		
	22(1)	11B26	0054200	REDPAR		
11B39	23(1)		0049900	OTS		
11C11	24(1)		0049800	ORDRST		
05B03	25(1)		0079200	WRI		
12B03	26(1)		0053300	RATER		
	27(0)					
13C22	28(1)		0040600	IXDA		
	29(1)	04B26	0052200	NPRBBC8		
	30(1)	06B44	0060700	SDCO		
	31(1)	06B31	0039400	INLM		
	32(0)					
16C08	33(1)		0062500	SERVEX		
16B13	34(1)		0045000	J045		
	35(1)	13B04	0070400	TRKOM		
	36(1)	09C23	0004400	BA0		
	37(1)	09C25	0004500	NBA0		
	38(1)	09C30	0004600	BA1		
	39(1)	09C29	0004700	BA2		
	40(1)	09C18	0004800	BA3		
	41(1)	26A40	0040500	ISRBR		
10C10	42(1)		0013000	CFDISC		
	43(1)	07B25	0054100	NRED		
28A43	44(1)		0044400	J039		
	45(1)	18B30	0013100	CFDISCL		
	46(1)	14C39	0067800	SYNCSSET		
	47(1)	31B30	0032900	NFSD		
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(0)					
	02(1)	06B34	0039700		INLSET	
05B11	03(2)	19A08	0056900		RWCEN	
07B01	04(1)		0052050		PERSTP	
	05(0)					
19B08	06(2)	10B12	0056800		RWC	
	07(1)	14B01	0058190		S3CLK	
10B19	08(2)	10B28	0061400		SEK	
24A17	09(1)		0064500		SRWC	
05B08	10(2)	10B20	0077900		WCH	
10B15	11(2)	11B42	0054000		RED	
10B06	12(1)		0056800		RWC	
	13(0)					
	14(1)	03B27	0054300		REDSN	
10B47	15(2)	10B11	0054000		RED	
	16(0)					
10B29	17(2)	11B15	0063600		SNS	
	18(0)					
11B25	19(2)	10B08	0061400		SEK	
10B10	20(2)	10B26	0077900		WCH	
11C06	21(2)	03B29	0078100		WCHSK	
	22(0)					
	23(1)	10B30	0033440		GND08	
04B08	24(2)	10B50	0013700		CHW	
11B07	25(2)	08B40	0079200		WRI	
10B20	26(2)	11C41	0077900		WCH	
	27(1)	23B39	0063300		SKS	
10B08	28(2)	08B26	0061400		SEK	
14B19	29(2)	10B17	0063600		SNS	
10B23	30(2)	10B32	0033440		GND08	
19A33	31(1)		0046000		J080	
10B30	32(2)	10B36	0033440		GND08	
19A12	33(1)		0046100		J081	
	34(0)					
	35(0)					
10B32	36(2)	10B43	0033440		GND08	
	37(0)					
	38(0)					
	39(0)					
08B33	40(1)		0056550		RTRSET	
	41(1)	16C04	0074150		TRKRST	
	42(1)	13B18	0056500		RTR	
10B36	43(1)		0033440		GND08	
	44(0)					
	45(0)					
05B10	46(1)		0053600		RCH	
11B29	47(2)	10B15	0054000		RED	
	48(0)					
	49(0)					
10B24	50(2)	11B27	0013700		CHW	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
11B20	01(2)	10C08	0009800	BRR2		
04B02	02(2)	16B34	0015100	CM001		
19B27	03(2)	11C26	0033400	FSU		
	04(1)	23A11	0079200	WRI		
07B42	05(2)	12C33	0032800	FSD		
12B33	06(2)	11B28	0049800	ORDRST		
16B09	07(2)	10B25	0079200	WRI		
09B18	08(2)	11B13	0022100	NDA6U		
09B17	09(2)	10C20	0021400	NDA5U		
12B19	10(2)	11B36	0022700	DA7U		
	11(0)					
12B25	12(2)	11B34	0022800	NDA7U		
11B08	13(2)	11B37	0022100	NDA6U		
05B34	14(2)	11B39	0049900	OTS		
10B17	15(2)	11B19	0063600	SNS		
	16(0)					
12B23	17(2)	10C18	0021300	DA5U		
12B17	18(2)	09B15	0020700	NDA4U		
11B15	19(2)	04C14	0063600	SNS		
18B28	20(2)	11B01	0009800	BRR2		
04B33	21(1)		0044100	J036		
20A07	22(2)	02B27	0010200	BTC1		
	23(1)	08B02	0044000	J035		
13C18	24(2)	09B07	0040550	IXBR		
31B26	25(2)	10B19	0061400	SEK		
09B22	26(2)	11C27	0054200	REDPAR		
10B50	27(2)	20A40	0013700	CHW		
11B06	28(2)	11C11	0049800	ORDRST		
18B07	29(2)	10B47	0054000	RED		
11C27	30(1)		0054200	REDPAR		
08B26	31(2)	14B39	0061400	SEK		
	32(0)					
05B36	33(1)		0021450	DA63		
11B12	34(2)	11B40	0022800	NDA7U		
12B22	35(2)	05B37	0022000	DA6U		
11B10	36(2)	10C06	0022700	DA7U		
11B13	37(2)	10C23	0022100	NDA6U		
	38(1)	25B01	0020750	DA57		
11B14	39(2)	09B23	0049900	OTS		
11B34	40(2)	10C13	0022800	NDA7U		
25B17	41(1)		0013700	CHW		
10B11	42(2)	11C10	0054000	RED		
	43(0)					
	44(1)	11B48	0033528	GND26		
	45(0)					
	46(0)					
	47(0)					
11B44	48(1)		0033528	GND26		
	49(0)					
05B37	50(2)	10C17	0022000	DA6U		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
20A30	01(1)		0053400		NRATER	
	02(1)	12B33	0049800		ORDRST	
28A21	03(2)	09B26	0053300		RATER	
16B06	04(1)		0044900		J044	
	05(0)					
	06(0)					
16C02	07(2)	07B20	0003400		ARR2	
15B40	08(2)	07B31	0024400		NDCB	
21A21	09(2)	16B13	0045000		J045	
07B35	10(2)	08C27	0003480		NARR2	
25B28	11(2)	06B11	0026000		NDORF	
24B41	12(2)	06B27	0040000		NIORF	
	13(0)					
26A25	14(2)	02B40	0049200		NOOS	
	15(0)					
	16(0)					
	17(1)	11B18	0020700		NDA4U	
10C20	18(1)		0021400		NDA5U	
25B10	19(2)	11B10	0022700		DA7U	
	20(0)					
	21(0)					
25A41	22(2)	11B35	0022000		DA6U	
25B11	23(2)	11B17	0021300		DA5U	
09B14	24(2)	13C24	0020600		DA4U	
	25(1)	11B12	0022800		NDA7U	
10C23	26(1)		0022100		NDA6U	
15B20	27(2)	07B39	0056100		RSDC	
20A25	28(1)		0029350		NDVBSY	
07B47	29(2)	27C26	0029300		DVBSY	
	30(0)					
	31(1)	16C24	0003500		ARSET	
	32(0)					
12B02	33(2)	11B06	0049800		ORDRST	
	34(1)	03B26	0048900		NOIS	
	35(0)					
25B41	36(2)	06B21	0039900		IORF	
25B38	37(2)	06B06	0025900		DORF	
08B29	38(1)		0006800		BC8	
20A05	39(2)	08B41	0052100		PRB	
04B15	40(2)	16B43	0007600		BIT1	
	41(0)					
	42(0)					
06B19	43(2)	11C13	0048800		OIS	
08B27	44(2)	12C31	0062500		SERVEX	
	45(0)					
	46(1)	19C17	0059200		SBRX0	
12B50	47(1)		0052200		NPRBBC8	
	48(0)					
	49(0)					
04B26	50(2)	12B47	0052200		NPRBBC8	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	13B27	0071000		TRK2	
17A23	02(2)	13B23	0070600		TRK1	
	03(1)	15C18	0070800		TRK1M	
09B35	04(2)	31B01	0070400		TRK0M	
	05(1)	15C02	0072800		TRK6M	
	06(1)	14B17	0073400		TRK8	
	07(1)	13B29	0072600		TRK6	
	08(1)	15C04	0073200		TRK7M	
	09(1)	13B12	0072700		NTRK6	
	10(1)	13B11	0073000		TRK7	
13B10	11(2)	20B35	0073000		TRK7	
13B09	12(1)		0072700		NTRK6	
13B15	13(1)		0073100		NTRK7	
	14(0)					
	15(1)	13B13	0073100		NTRK7	
	16(0)					
14B10	17(2)	20B39	0070200		TRK0	
10B42	18(2)	14B18	0056500		RTR	
	19(0)					
13B22	20(1)		0070700		NTRK1	
	21(1)	13B25	0070300		NTRK0	
	22(1)	13B20	0070700		NTRK1	
13B02	23(2)	20B40	0070600		TRK1	
	24(1)	13B30	0071400		TRK3	
13B21	25(1)		0070300		NTRK0	
	26(1)	13B36	0071800		TRK4	
13B01	27(2)	20B41	0071000		TRK2	
	28(1)	15C20	0071600		TRK3M	
13B07	29(2)	20B36	0072600		TRK6	
13B24	30(2)	20B42	0071400		TRK3	
	31(1)	15C01	0072400		TRK5M	
	32(0)					
13B38	33(2)	20B37	0072200		TRK5	
	34(1)	15C19	0071200		TRK2M	
	35(1)	15C21	0072000		TRK4M	
13B26	36(2)	20B38	0071800		TRK4	
13B39	37(1)		0071900		NTRK4	
	38(1)	13B33	0072200		TRK5	
	39(1)	13B37	0071900		NTRK4	
	40(0)					
13B42	41(1)		0072300		NTRK5	
	42(1)	13B41	0072300		NTRK5	
	43(0)					
13B45	44(1)		0071100		NTRK2	
	45(1)	13B44	0071100		NTRK2	
13B50	46(1)		0071500		NTRK3	
	47(0)					
	48(0)					
	49(0)					
	50(1)	13B46	0071500		NTRK3	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
10B07	01(1)		0058190	S3CLK		
	02(1)	24B35	0073550	TRK8C		
	03(1)	15C45	0058200	S3M		
	04(1)	15C03	0073600	TRK8M		
22B01	05(2)	09B08	0074142	TRKOVFM		
14C33	06(2)	15B30	0005120	BCB		
	07(1)	29B06	0074000	TRKOVF		
	08(1)	14B16	0033445	GND09		
14B12	09(1)		0074100	NTRKOVF		
17A22	10(2)	13B17	0070200	TRK0		
	11(1)	28A36	0063650	SNSD		
	12(1)	14B09	0074100	NTRKOVF		
	13(0)					
	14(0)					
08B08	15(2)	15B07	0067900	SYNC2		
14B08	16(2)	14B35	0033445	GND09		
13B06	17(2)	20B12	0073400	TRK8		
13B18	18(1)		0056500	RTR		
28A29	19(2)	10B29	0063600	SNS		
	20(1)	14B22	0058100	NS3		
	21(1)	14B25	0073500	NTRK8		
14B20	22(2)	10C40	0058100	NS3		
	23(1)	14B26	0058000	S3		
	24(1)	14B30	0057700	S2		
14B21	25(1)		0073500	NTRK8		
14B23	26(2)	10C37	0058000	S3		
30B23	27(2)	10C28	0057400	S1		
	28(1)	15C46	0057900	S2M		
	29(1)	29A13	0057350	S0CLK		
14B24	30(2)	10C34	0057700	S2		
	31(1)	15C50	0057300	S0M		
	32(0)					
08B13	33(2)	22B40	0064550	SSP		
	34(1)	15C47	0057600	S1M		
14B16	35(1)		0033445	GND09		
04B10	36(1)		0061300	SEEKEND		
	37(0)		0061350	NSEEKEND		
24B43	38(2)	10C26	0057100	S0		
11B31	39(1)		0061400	SEK		
22B06	40(2)	06B04	0048800	OIS		
	41(1)	14B42	0057200	NS0		
14B41	42(2)	10C31	0057200	NS0		
	43(0)					
14B45	44(2)	10C30	0057500	NS1		
	45(1)	14B44	0057500	NS1		
	46(1)	14B50	0057800	NS2		
	47(0)					
	48(0)					
	49(0)					
14B46	50(2)	10C42	0057800	NS2		
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	15B08	0033450		GND10	
21B05	02(2)	15C11	0018100		DA0U	
23B24	03(1)		0069900		TOS	
	04(1)	12C39	0014500		CILR	
21B18	05(2)	15B36	0056200		RSFSC	
23A17	06(2)	27C12	0014300		CIL	
14B15	07(1)		0067900		SYNC2	
15B01	08(2)	15B16	0033450		GND10	
14C40	09(2)	08C38	0068000		NSYNC2	
16B47	10(1)		0011250		BYT10	
20A28	11(2)	24B17	0014400		NCIL	
14C36	12(1)		0067600		SYNC1	
28A26	13(1)		0077850		USECP	
14C10	14(2)	16B45	0059600		SC2	
26B04	15(2)	09B01	0040800		J002	
15B08	16(2)	15B24	0033450		GND10	
15B27	17(1)		0030500		NEDS	
28A41	18(2)	21B45	0030600		EDSSET	
22B07	19(2)	08B24	0070000		NTOS	
18B18	20(2)	12B27	0056100		RSDC	
	21(1)	30B43	0030400		EDS	
29B20	22(2)	16C07	0048600		MANRST	
04B31	23(2)	28B06	0010400		BTC2	
15B16	24(2)	15B39	0033450		GND10	
	25(1)	15B29	0010500		NBTC2	
14C37	26(1)		0067700		NSYNC1	
	27(1)	15B17	0030500		NEDS	
	28(0)					
15B25	29(1)		0010500		NBTC2	
14B06	30(2)	20C01	0005120		BCB	
	31(1)	28B38	0076300		UNEM	
	32(0)					
31B10	33(2)	15C07	0019900		DA3U	
	34(1)	24B36	0076500		UNESET	
	35(1)	19B02	0076450		UNER	
15B05	36(2)	12C01	0056200		RSFSC	
12C40	37(2)	22B03	0076000		UNE	
20B13	38(2)	16C01	0024300		DCB	
15B24	39(1)		0033450		GND10	
16B29	40(2)	12B08	0024400		NDCB	
08C01	41(1)		0024450		DCBR	
	42(1)	25A19	0076100		NUNE	
	43(0)					
	44(1)	19B31	0063100		SIOSET	
	45(1)	12C02	0024500		DCBC	
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
05B06	01(2)	16B21	0062300		SERVCON	
25B18	02(1)		0015800		NCOMP	
21A15	03(2)	16B06	0044900		J044	
	04(1)	24A43	0050300		PA0SET	
18C09	05(1)		0051700		NPA7	
16B03	06(2)	12B04	0044900		J044	
	07(0)					
30B06	08(2)	16B24	0009300		BR7	
19A44	09(2)	11B07	0079200		WRI	
19A10	10(2)	05B10	0053600		RCH	
27A13	11(2)	16B17	0022900		DAIR	
	12(0)					
12B09	13(2)	09B34	0045000		J045	
18C07	14(1)		0051600		PA7	
	15(0)					
	16(0)					
16B11	17(2)	20C22	0022900		DAIR	
08B22	18(2)	16C23	0032700		FSCU	
	19(0)					
21A14	20(2)	14C26	0060400		SD4	
16B01	21(2)	23B19	0062300		SERVCON	
30B13	22(2)	20C05	0009400		NBR7	
26A29	23(1)		0022950		NDAIR	
16B08	24(2)	13C15	0009300		BR7	
04B46	25(1)		0054150		REDBC8	
03B24	26(2)	25B31	0010600		BY0-359	
28B07	27(2)	16C05	0042200		J017	
08B06	28(2)	28B02	0006200		BC5	
24B18	29(2)	15B40	0024400		NDCB	
	30(0)					
08B03	31(2)	16B46	0011350		RBV1-360	
	32(0)					
08B09	33(2)	18B27	0009700		BRR1	
11B02	34(2)	16C03	0015100		CM001	
	35(0)					
08B21	36(2)	19A38	0006600		BC7	
22B19	37(1)		0027800		DISC	
29A38	38(2)	02C34	0014700		CLK	
	39(1)	14C27	0012400		CD1	
	40(1)	22B41	0027700		DRM	
	41(0)					
	42(1)	19A13	0043900		J034	
12B40	43(1)		0007600		BIT1	
18B27	44(1)		0009700		BRR1	
15B14	45(2)	02C25	0059600		SC2	
16B31	46(2)	21A11	0011350		RBV1-360	
	47(1)	15B10	0011250		BYT10	
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
31B30	01(1)		0032900		NFSD	
26A26	02(2)	21B13	0062600		NSERVEX	
12C44	03(2)	24B23	0032800		FSD	
17A37	04(1)		0011000		BYCLKEN	
	05(0)					
	06(0)					
24B39	07(2)	11B29	0054000		RED	
31B35	08(2)	06B05	0062500		SERVEX	
	09(1)	17A39	0073900		TRKCLKEN	
07B29	10(1)		0054100		NRED	
21B01	11(2)	18B31	0068500		T2	
07B14	12(2)	23B41	0013300		CFIOPPL	
21B03	13(2)	18B29	0068700		T4	
08B28	14(2)	19B39	0003300		ARR1	
	15(1)	16C20	0003400		ARR2	
	16(0)					
	17(1)	21B46	0054900		NRESA	
19B34	18(2)	15B20	0056100		RSDC	
30B20	19(2)	08C33	0078900		WPV	
	20(0)					
	21(0)					
	22(1)	29B14	0076900		NUNESSET3	
22A03	23(2)	30B30	0055800		RSAUZ	
29B18	24(1)		0054800		RESA	
03B06	25(2)	25A20	0079000		NWPV	
	26(1)	28B44	0076800		UNESSET3	
16B33	27(2)	16B44	0009700		BRR1	
28B14	28(2)	11B20	0009800		BRR2	
18B13	29(2)	06C07	0068700		T4	
09B45	30(2)	07B12	0013100		CFDISCL	
18B11	31(2)	05B41	0068500		T2	
	32(0)					
	33(1)	17A31	0048500		LT4	
17A25	34(2)	24B01	0035600		GT12	
08B18	35(2)	32B15	0026400		DPO	
08B17	36(2)	32B06	0026600		DPI	
	37(0)					
24B20	38(2)	11C34	0078700		WEN	
24B21	39(2)	18B40	0052300		PRE	
18B39	40(2)	18C35	0052300		PRE	
01B26	41(1)		0006000		BC4	
	42(0)					
	43(1)	32B07	0026700		NDP1	
	44(1)	32B08	0026500		NDP0	
	45(0)					
28B42	46(1)		0052650		NPSPM	
26A40	47(1)		0040500		ISRBR	
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	17A40	0073950	TRKCLRT		
15B35	02(1)		0076450	UNER		
	03(1)	28C10	0030800	ESR		
17A34	04(2)	31B09	0030100	EDC		
21A38	05(2)	27B22	0015900	NCONP		
	06(1)	19B16	0033460	GND12		
27A15	07(2)	06B26	0030900	ESU		
26B50	08(2)	10B06	0056800	RWC		
17A47	09(2)	12C41	0065200	STOPPET		
07B41	10(2)	22B44	0000800	AIOC		
15A21	11(1)		0001000	AIOCP		
	12(1)	12C34	0001100	AIOCU		
20A03	13(2)	21A30	0016200	CONPB		
	14(0)					
	15(0)					
19B06	16(2)	19B19	0033460	GND12		
	17(0)					
17A33	18(2)	08B38	0016300	CONPC		
19B16	19(2)	19B23	0033460	GND12		
23A02	20(2)	23C41	0016700	CSL		
06B24	21(2)	27A18	0032600	FSCPM		
19A45	22(2)	12C22	0031300	FNTEN		
19B19	23(2)	19B30	0033460	GND12		
	24(1)	19B29	0033200	FSR		
27B19	25(2)	19B28	0033150	FSP-1		
27B27	26(2)	14C01	0063500	SLN		
22B37	27(2)	11B03	0033400	FSU		
19B25	28(2)	24C14	0033150	FSP-1		
19B24	29(2)	27C38	0033200	FSR		
19B23	30(2)	19B35	0033460	GND12		
15B44	31(2)	24B15	0063100	SIOSET		
	32(0)					
25A01	33(2)	12C35	0035900	HIORST		
20B02	34(2)	18B18	0056100	RSDC		
19B30	35(2)	19B43	0033460	GND12		
	36(0)					
	37(0)					
	38(0)					
18B14	39(1)		0003300	ARR1		
	40(0)					
	41(0)					
	42(0)					
19B35	43(1)		0033460	GND12		
25B13	44(1)		0046290	J096		
30B02	45(1)		0073800	TRKCLK		
16C23	46(2)	20B09	0032700	FSCU		
06B23	47(1)		0032400	FSCP		
	48(0)					
	49(0)					
22B05	50(2)	23C22	0032200	FSC		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
20B08	01(1)	27B21	0055600		RSARC	
20B25	02(2)	19B34	0056100		RSDC	
	03(1)		0039500		INLM-1	
	04(1)	29C44	0056000		RSD	
	05(0)					
	06(0)					
16C17	07(2)	29B01	0012600		CDN	
30B42	08(2)	20B02	0056100		RSDC	
19B46	09(2)	24B04	0032700		FSCU	
	10(0)					
21A28	11(2)	31B43	0017000		NCSLI	
14B17	12(2)	19C08	0073400		TRK8	
	13(1)	15B38	0024300		DCB	
	14(1)	28B10	0062800		NSGLTRK	
16C01	15(2)	25B09	0024300		DCB	
	16(0)					
	17(0)					
	18(1)	15A17	0073700		TRK8P	
17A10	19(2)	08B10	0024350		DCB-1	
17A45	20(1)		0015500		CNTRCL	
	21(1)	23B26	0049700		ORDER	
32A33	22(2)	02B38	0074200		TRN	
	23(1)	17A02	0015400		CM005	
20C24	24(1)		0065300		STRKBRO	
16C15	25(2)	20B03	0039500		INLM-1	
15C24	26(1)		0007250		BFEPWC	
04B25	27(1)		0078300		WCPB-358	
	28(1)	15A15	0073300		TRK7P	
	29(1)	15A14	0072900		TRK6P	
	30(1)	15A13	0072500		TRK5P	
	31(1)	15A12	0072100		TRK4P	
	32(0)					
	33(0)					
	34(0)					
13B11	35(2)	19C03	0073000		TRK7	
13B29	36(2)	21C02	0072600		TRK6	
13B33	37(2)	21C21	0072200		TRK5	
13B36	38(2)	19C40	0071800		TRK4	
13B17	39(2)	21C10	0070200		TRK0	
13B23	40(2)	19C47	0070600		TRK1	
13B27	41(2)	21C25	0071000		TRK2	
13B30	42(2)	19C25	0071400		TRK3	
	43(0)					
	44(0)					
	45(1)	15A08	0070500		TRK0P	
	46(1)	15A09	0070900		TRK1P	
	47(1)	15A10	0071300		TRK2P	
	48(0)					
	49(0)					
	50(1)	15A11	0071700		TRK3P	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
27A36	01(1)	18B11	0068500	T2		
	02(1)		0007400	BIT0		
	03(1)	18B13	0068700	T4		
32B01	04(1)		0068650	T3-1		
29B43	05(2)	15B02	0018100	DA0U		
29B40	06(2)	24A12	0018700	DA1U		
	07(1)	29B41	0019300	DA2U		
	08(1)	27A08	0019900	DA3U		
	09(1)	25A42	0021300	DA5U		
	10(1)	25A41	0022000	DA6U		
27B29	11(1)		0042700	J022		
27B40	12(1)		0042800	J023		
18B02	13(1)		0062600	NSERVEX		
17A31	14(1)		0048500	LT4		
28B44	15(1)		0076800	UNESET3		
	16(0)					
	17(1)	20A17	0052650	NPSPM		
	18(1)	15B05	0056200	RSFSC		
26B02	19(1)		0044600	J041		
26B20	20(1)		0017100	CSLSET		
	21(1)	26B21	0044700	J042		
19C27	22(2)	23B09	0059200	SBRX0		
19C30	23(1)		0059300	SBRXDT		
21C27	24(1)		0023250	DARESET		
	25(1)	22B39	0063700	SNSBYTE1		
	26(1)	21C29	0063800	SNSBYTE2		
26B47	27(1)		0046275	J093		
	28(1)	27B10	0064000	SNST2		
	29(1)	21C50	0041200	J006		
	30(1)	21C23	0041300	J007		
	31(1)	21C44	0041400	J008		
	32(0)					
	33(1)	21C38	0041800	J012		
21C30	34(1)		0023500	DAXDT		
19C50	35(1)		0050300	PA0SET		
	36(1)	26B43	0038600	ILO		
15C43	37(1)		0048100	LSB2		
	38(1)	26B40	0076200	UNEIMM		
21A09	39(2)	17C26	0017300	CUP		
17C01	40(1)		0015000	CLP		
23B41	41(1)		0013300	CFIOPL		
	42(1)	32B38	0077800	UPCOUNT		
	43(1)	32B40	0025600	DNCOUNT		
24B37	44(1)		0048900	NOIS		
15B18	45(1)		0030600	EDSSET		
18B17	46(2)	30B21	0054900	NRESA		
25B20	47(2)	16C13	0007100	NBFE		
	48(0)					
	49(0)					
	50(1)	28B40	0076700	UNESET2		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	14B05	0074142		TRKOVFM	
	02(1)	27B07	0041850		J013	
15B37	03(2)	26B26	0076000		UNE	
27B10	04(2)	22B25	0064000		SNST2	
31B03	05(2)	19B50	0032200		FSC	
25B35	06(2)	14B40	0048800		OIS	
24A25	07(2)	15B19	0070000		NTOS	
25B25	08(1)		0027000		DP3	
	09(1)	22B12	0049000		OIT	
29B34	10(1)		0074145		TRKOVFM1	
15C17	11(2)	31B11	0048000		LSB1	
22B09	12(2)	15C26	0049000		OIT	
21C29	13(1)		0063800		SNSBYTE2	
19C29	14(1)		0047000		LDISC	
	15(1)	13C13	0040550		IXBR	
	16(0)					
22A42	17(1)		0028200		DSR	
02B11	18(2)	27A36	0007400		BIT0	
30B17	19(2)	16B37	0027800		DISC	
22B40	20(2)	28B23	0064550		SSP	
	21(0)					
21A42	22(2)	10C39	0003100		AN3R	
08B30	23(2)	27B08	0026800		DP2	
22B25	24(2)	05B19	0064000		SNST2	
22B04	25(2)	22B24	0064000		SNST2	
	26(1)	25B06	0027100		NDP3	
	27(1)	32B05	0026900		NDP2	
	28(0)					
	29(0)					
17A27	30(2)	23B03	0054050		REDA	
	31(0)					
	32(0)					
21C31	33(1)		0063700		SNSBYTE1	
21C38	34(1)		0041800		J012	
21C05	35(1)		0043700		J032	
	36(1)	22B38	0001200		AIOFSU	
26B38	37(2)	19B27	0033400		FSU	
22B36	38(2)	08C29	0001200		AIOFSU	
21B25	39(2)	21C31	0063700		SNSBYTE1	
14B33	40(2)	22B20	0064550		SSP	
16B40	41(2)	30B24	0027700		DRM	
29B15	42(2)	23C04	0065900		SUNSET	
23A29	43(2)	27C28	0065600		SUN	
19B10	44(2)	26B37	0000800		AIOC	
	45(1)	24A15	0065875		SUNM	
19C31	46(1)		0046500		LDRM	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
29B03	01(2)	23B02	0038600	ILO		
23B01	02(2)	23B10	0038600	ILO		
22B30	03(2)	26B11	0054050	REDA		
24A20	04(2)	07B07	0060900	SECP		
	05(0)					
	06(0)					
23B39	07(2)	23A20	0063300	SKS		
26B12	08(2)	17A26	0077900	WCH		
21B22	09(1)		0059200	SBRX0		
23B02	10(1)		0038600	ILO		
23B26	11(2)	24B08	0049700	ORDER		
25B12	12(2)	15C23	0007000	BFE		
	13(0)					
	14(1)	19A04	0046200	J085		
	15(1)	25B20	0007100	NBFE		
	16(0)					
	17(1)	23B18	0023250	DARESET		
23B17	18(2)	23B46	0023250	DARESET		
16B21	19(1)		0062300	SERVCON		
	20(0)					
	21(0)					
26B22	22(2)	23B38	0023300	DATAS		
26A36	23(2)	31B38	0032300	NFSC		
24B44	24(2)	15B03	0069900	TOS		
30B37	25(2)	25B03	0062400	NSERVCON		
20B21	26(2)	23B11	0049700	ORDER		
	27(1)	27B29	0042700	J022		
	28(0)					
	29(0)					
	30(0)					
20A34	31(1)		0046250	J090		
	32(0)					
	33(1)	29A42	0044300	J038		
	34(0)					
	35(0)					
	36(0)					
	37(0)					
23B22	38(2)	08B37	0023300	DATAS		
10B27	39(2)	23B07	0063300	SKS		
25B46	40(1)		0025400	DIS		
18B12	41(2)	21B41	0013300	CFIOPL		
	42(0)					
24A28	43(1)		0030700	EDU		
	44(1)	27A25	0026300	NDOS		
	45(0)					
23B18	46(2)	21C17	0023250	DARESET		
09B06	47(1)		0056600	RUN		
	48(0)					
	49(0)					
31B27	50(2)	06C29	0068300	T1		
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
18B34	01(1)		0035600		GT12	
	02(1)	24A01	0014100		CHWERM	
24A38	03(2)	11C02	0051800		PARER	
20B09	04(2)	24B40	0032700		FSCU	
25A14	05(2)	27B38	0031200		NFAULT	
	06(1)	29B45	0069400		TDVU	
04B38	07(2)	29A03	0024200		DCAU	
23B11	08(2)	29B25	0049700		ORDER	
23A15	09(2)	25B17	0013700		CHW	
	10(1)	25B07	0027300		NDPF	
	11(0)					
	12(1)	27B45	0042600		J021	
	13(1)	26B27	0042900		J024	
20C14	14(1)		0078800		WPRE	
19B31	15(2)	31B39	0063100		SIOSET	
	16(0)					
15B11	17(1)		0014400		NCIL	
27B13	18(2)	16B29	0024400		NDCB	
	19(0)					
31B37	20(2)	18B38	0078700		WEN	
04B19	21(2)	18B39	0052300		PRE	
29B37	22(2)	11C25	0074800		TTSHU	
18B03	23(2)	29A07	0032800		FSD	
20A23	24(2)	24B30	0029900		DVTR	
17A38	25(1)		0055200		RSAP	
10C50	26(1)		0014800		CLKB	
	27(0)					
	28(0)					
	29(1)	20A12	0007700		BIT6PRB	
24B24	30(1)		0029900		DVTR	
29B47	31(2)	12C26	0063200		SIOU	
	32(0)					
23C30	33(2)	27B24	0055350		RSAP1	
	34(1)	26B45	0043000		J025	
14B02	35(1)		0073550		TRK8C	
15B34	36(1)		0076500		UNESET	
03B28	37(2)	21B44	0048900		NOIS	
28B10	38(2)	17A36	0062800		NSGLTRK	
25B19	39(2)	18B07	0054000		RED	
24B04	40(2)	30B33	0032700		FSCU	
25B42	41(2)	12B12	0040000		NIORF	
	42(0)					
30B22	43(2)	14B38	0057100		S0	
24A23	44(2)	23B24	0069900		TOS	
26B46	45(1)		0054050		REDA	
	46(1)	27B43	0045900		J057	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
11B38	01(1)		0020750		DA57	
27A11	02(2)	17A09	0016700		CSL	
23B25	03(2)	19A42	0062400		NSERVCON	
27B12	04(2)	16C11	0056650		RUNCONT	
29A34	05(2)	26B10	0027400		DPC0-1	
22B26	06(2)	26B13	0027100		NDP3	
24B10	07(2)	32B20	0027300		NDPF	
16C04	08(2)	24C20	0074150		TRKRST	
20B15	09(2)	25B23	0024300		DCB	
25A09	10(2)	12B19	0022700		DA7U	
25A42	11(2)	12B23	0021300		DA5U	
25B37	12(2)	23B12	0007000		BFE	
	13(1)	19B44	0046290		J096	
	14(1)	26B25	0045950		J058	
	15(1)	24A03	0014200		CHWRESET	
	16(0)					
24B09	17(2)	11B41	0013700		CHW	
	18(1)	16B02	0015800		NCOMP	
23A28	19(2)	24B39	0054000		RED	
23B15	20(2)	21B47	0007100		NBFE	
	21(0)					
	22(0)					
25B09	23(2)	27C21	0024300		DCB	
27A26	24(2)	25B42	0040000		NIORF	
26B09	25(2)	22B08	0027000		DP3	
17A08	26(2)	25B46	0025400		DIS	
26B18	27(1)		0027500		DPC14-15	
25B40	28(2)	12B11	0026000		NDORF	
21A01	29(1)		0011380		NRBY1-360	
	30(0)					
16B26	31(1)		0010600		BY0-359	
	32(0)					
	33(1)	28A02	0043200		J027	
26B24	34(2)	23C10	0049100		OOS	
30B26	35(2)	22B06	0048800		OIS	
	36(1)	28A24	0043100		J026	
26B34	37(2)	25B12	0007000		BFE	
25B39	38(2)	12B37	0025900		DORF	
27A27	39(2)	25B38	0025900		DORF	
	40(1)	25B28	0026000		NDORF	
25B43	41(2)	12B36	0039900		IORF	
25B24	42(2)	24B41	0040000		NIORF	
	43(1)	25B41	0039900		IORF	
	44(1)	25B45	0026200		DOS	
25B44	45(1)		0026200		DOS	
25B26	46(2)	23B40	0025400		DIS	
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
29A11	01(2)	30B26	0048800		OIS	
28A42	02(2)	21B19	0044600		J041	
31B20	03(2)	26B06	0023300		DATAS	
	04(1)	15B15	0040800		J002	
28A31	05(2)	26B47	0046275		J093	
26B03	06(2)	26B22	0023300		DATAS	
	07(1)	26B32	0033465		GND13	
12C13	08(1)		0005000		BAXUP	
32B35	09(2)	25B25	0027000		DP3	
25B05	10(1)		0027400		DPC0-1	
23B03	11(2)	26B46	0054050		REDA	
26B33	12(2)	23B08	0077900		WCH	
25B06	13(2)	31B25	0027100		NDP3	
	14(0)					
12C42	15(2)	31B19	0076950		UNESTOP	
	16(0)					
	17(0)					
08B15	18(2)	25B27	0027500		DPC14-15	
	19(1)	28A27	0040900		J003	
23A31	20(2)	21B20	0017100		CSLSET	
21B21	21(2)	26B31	0044700		J042	
26B06	22(2)	23B22	0023300		DATAS	
	23(0)					
08B25	24(2)	25B34	0049100		OOS	
25B14	25(1)		0045950		J058	
22B03	26(1)		0076000		UNE	
24B13	27(1)		0042900		J024	
	28(0)					
26B30	29(1)		0060850		SECEL	
27A50	30(2)	26B29	0060850		SECEL	
26B21	31(1)		0044700		J042	
26B07	32(1)		0033465		GND13	
30B28	33(2)	26B12	0077900		WCH	
	34(1)	25B37	0007000		BFE	
08B45	35(2)	17A46	0007200		BFR	
19A08	36(2)	27A42	0056900		RWCEN	
22B44	37(2)	27B37	0000800		AIOC	
27B50	38(2)	22B37	0033400		FSU	
	39(0)					
21B38	40(2)	28B36	0076200		UNEIMM	
	41(1)	29C14	0025800		DORD	
	42(1)	28A43	0044400		J039	
21B36	43(2)	29B08	0038600		ILO	
	44(0)					
24B34	45(1)		0043000		J025	
26B11	46(2)	24B45	0054050		REDA	
26B05	47(2)	21B27	0046275		J093	
	48(0)					
	49(0)					
26A30	50(2)	19B08	0056800		RWC	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
19A46	01(1)		0046280	J094		
21A31	02(2)	27B23	0016000	CONPA		
	03(0)					
21C50	04(1)		0041200	J006		
	05(0)					
	06(0)					
22B02	07(1)		0041850	J013		
22B23	08(2)	32B10	0026800	DP2		
	09(0)					
21B28	10(2)	22B04	0064000	SNST2		
	11(1)	30B03	0041100	J005		
15A41	12(2)	25B04	0056650	RUNCONT		
20A24	13(2)	24B18	0024400	NDCB		
	14(0)					
15A40	15(1)		0033100	FSP		
	16(0)					
	17(1)	23C26	0055375	NRSAP1		
	18(0)					
	19(1)	19B25	0033150	FSP-1		
30B36	20(2)	24A30	0055700	RSAU		
20B01	21(2)	29C26	0055600	RSARC		
19B05	22(2)	16C28	0015900	NCONP		
27B02	23(1)		0016000	CONPA		
24B33	24(1)		0055350	RSAP1		
	25(0)					
	26(0)					
29B21	27(2)	19B26	0063500	SLN		
31B31	28(2)	27B50	0033400	FSU		
23B27	29(2)	21B11	0042700	J022		
	30(0)					
	31(0)					
	32(0)					
	33(0)					
	34(0)					
	35(0)					
	36(0)					
26B37	37(2)	31C24	0000800	AIOC		
24B05	38(1)		0031200	NFAULT		
	39(0)					
27B41	40(2)	21B12	0042800	J023		
	41(1)	27B40	0042800	J023		
	42(1)	29C13	0039800	IORD		
24B46	43(1)		0045900	J057		
	44(0)					
24B12	45(1)		0042600	J021		
	46(0)					
	47(0)					
	48(0)					
	49(0)					
27B28	50(2)	26B38	0033400	FSU		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
28B11	01(2)	27A23	0015300		CM003	
16B28	02(2)	27A22	0006200		BC5	
30B09	03(2)	27A41	0027700		DRM	
15A19	04(2)	28B15	0062700		SGLTRK	
21A30	05(2)	28B19	0016200		CONPB	
15B23	06(2)	25A07	0010400		BTC2	
	07(1)	16B27	0042200		J017	
03B21	08(1)		0042000		J015	
	09(1)	29A04	0038100		ICS0	
20B14	10(2)	24B38	0062800		NSGLTRK	
08B05	11(2)	28B01	0015300		CM003	
08B20	12(1)		0006400		BC6	
19A38	13(1)		0006600		BC7	
	14(1)	18B28	0009800		BRR2	
28B04	15(1)		0062700		SGLTRK	
	16(0)					
28B38	17(2)	26A33	0076300		UNEM	
	18(0)					
28B05	19(1)		0016200		CONPB	
30B31	20(1)		0048950		OISSERV	
	21(0)					
	22(0)					
22B20	23(1)		0064550		SSP	
	24(0)					
24C30	25(2)	28B41	0076600		UNESET1	
20A17	26(2)	28B42	0052650		NPSPM	
30A22	27(2)	28B43	0029600		DVOR	
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(0)					
	33(0)					
	34(0)					
26A41	35(2)	11C47	0046400		NLDBR	
26B40	36(1)		0076200		UNEIMM	
	37(0)					
15B31	38(2)	28B17	0076300		UNEM	
	39(0)					
21B50	40(2)	11C14	0076700		UNESET2	
28B25	41(2)	11C01	0076600		UNESET1	
28B26	42(2)	18B46	0052650		NPSPM	
28B27	43(2)	23A24	0029600		DVOR	
18B26	44(2)	21B15	0076800		UNESET3	
	45(0)					
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
20B07	01(1)		0012600	CDN		
06B38	02(2)	19A05	0023700	DC0		
29B08	03(2)	23B01	0038600	ILO		
23A08	04(2)	27C20	0076000	UNE		
	05(1)	29B16	0033470	GND14		
14B07	06(1)		0074000	TRKOVF		
24A06	07(1)		0013900	CHWER		
26B43	08(2)	29B03	0038600	ILO		
26A34	09(1)		0041700	J011		
26A02	10(1)		0041500	J009		
26A13	11(1)		0041600	J010		
27C13	12(2)	28A20	0053300	RATER		
06B13	13(1)		0062200	SEROIC		
18B22	14(1)		0076900	NUNES3		
24A18	15(2)	22B42	0065900	SUNSET		
29B05	16(2)	29B17	0033470	GND14		
29B16	17(2)	29B23	0033470	GND14		
24A22	18(2)	18B24	0054800	RESA		
	19(1)	29A12	0041000	J004		
20A13	20(2)	15B22	0048600	MANRST		
31B45	21(2)	27B27	0063500	SLN		
19A34	22(1)		0046285	J095		
29B17	23(2)	29B26	0033470	GND14		
30B34	24(1)		0030550	EDSL		
24B08	25(1)		0049700	ORDER		
29B23	26(2)	29B27	0033470	GND14		
29B26	27(2)	29B44	0033470	GND14		
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(0)					
31B09	33(1)		0030100	EDC		
	34(1)	22B10	0074145	TRKOVFM1		
	35(0)					
	36(0)					
31B17	37(2)	24B22	0074800	TTSHU		
	38(0)					
	39(0)					
	40(1)	21B06	0018700	DA1U		
21B07	41(2)	29A27	0019300	DA2U		
	42(0)					
	43(1)	21B05	0018100	DA0U		
29B27	44(1)		0033470	GND14		
24B06	45(2)	12C14	0069400	TDVU		
29A05	46(2)	12C27	0036100	HIOU		
	47(1)	24B31	0063200	SIOU		
	48(0)					
	49(0)					
20A22	50(2)	12C12	0069800	TIOU		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
23A10	01(2)	30B20	0078900	WPV		
	02(1)	19B45	0073800	TRKCLK		
27B11	03(1)		0041100	J005		
32A12	04(1)		0023000	DAM		
14C07	05(1)		0012200	CD0		
32A35	06(2)	16B08	0009300	BR7		
	07(0)					
	08(1)	30B22	0057100	S0		
30B24	09(2)	28B03	0027700	DRM		
30A36	10(1)		0001900	ANOR		
27A47	11(2)	30B17	0027800	DISC		
	12(0)					
	13(1)	16B22	0009400	NBR7		
14C09	14(2)	31B08	0012300	NCDO		
	15(0)					
	16(0)					
30B11	17(2)	22B19	0027800	DISC		
19A36	18(1)		0079300	WRINTRN		
30A18	19(2)	21C20	0074400	TRPR		
30B01	20(2)	18B19	0078900	WPV		
21B46	21(2)	28A22	0054900	NRESA		
30B08	22(2)	24B43	0057100	S0		
29A08	23(2)	14B27	0057400	S1		
22B41	24(2)	30B09	0027700	DRM		
30B33	25(1)		0032700	FSCU		
26B01	26(2)	25B35	0048800	OIS		
14C26	27(1)		0060400	SD4		
30B29	28(2)	26B33	0077900	WCH		
	29(1)	30B28	0077900	WCH		
18B23	30(1)		0055800	RSAUZ		
30B46	31(2)	28B20	0048950	OISSERV		
	32(0)					
24B40	33(2)	30B25	0032700	FSCU		
30B44	34(2)	29B24	0030550	EDSL		
	35(0)					
	36(1)	27B20	0055700	RSAU		
31B29	37(2)	23B25	0062400	NSERVCON		
16A11	38(1)		0077830	US2P		
16C37	39(1)		0016400	CONPORD		
	40(1)	15A28	0049500	OR6P		
	41(0)					
24A36	42(2)	20B08	0056100	RSDC		
15B21	43(1)		0030400	EDS		
	44(1)	30B34	0030550	EDSL		
	45(1)	16C35	0077880	USOR-6		
	46(1)	30B31	0048950	OISSERV		
	47(1)	13C05	0040600	IXDA		
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
13B04	01(1)		0070400	TRKOM		
	02(1)	29C11	0030200	EDD		
	03(1)	22B05	0032200	FSC		
31B44	04(2)	14C10	0059600	SC2		
29A17	05(2)	32B35	0027000	DP3		
28A37	06(2)	31B26	0061400	SEK		
22A11	07(2)	31B27	0068300	T1		
30B14	08(1)		0012300	NCDO		
19B04	09(2)	29B33	0030100	EDC		
27A08	10(2)	15B33	0019900	DA3U		
22B11	11(2)	31B33	0048000	LSB1		
	12(1)	15C06	0048100	LSB2		
	13(1)	32A25	0059500	SC1D		
06B15	14(1)		0048700	OIC		
17A05	15(1)		0045300	J048		
	16(0)					
29A02	17(2)	29B37	0074800	TTSHU		
	18(0)					
26B15	19(1)		0076950	UNESTOP		
28A38	20(2)	26B03	0023300	DATAS		
	21(1)	27A01	0016800	NCSL		
	22(0)					
	23(0)					
	24(0)					
26B13	25(2)	32B37	0027100	NDP3		
31B06	26(2)	11B25	0061400	SEK		
31B07	27(2)	23B50	0068300	T1		
	28(0)					
	29(1)	30B37	0062400	NSERVCON		
09B47	30(2)	18B01	0032900	NFSD		
28A09	31(2)	27B28	0033400	FSU		
	32(0)					
31B11	33(1)		0048000	LSB1		
	34(0)					
	35(1)	18B08	0062500	SERVEX		
32A23	36(1)		0059700	SC2D		
32A15	37(2)	24B20	0078700	WEN		
23B23	38(2)	29C31	0032300	NFSC		
24B15	39(1)		0063100	SIOSET		
08B14	40(1)		0011200	BYTE359		
25A12	41(2)	05B26	0007800	BIT7		
29A07	42(2)	27C01	0032800	FSD		
20B11	43(1)		0017000	NCSLI		
	44(1)	31B04	0059600	SC2		
32A09	45(2)	29B21	0063500	SLN		
19C28	46(1)		0059400	SBRXPA		
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
06C04	00(0)					
	01(2)	21B04	0068650	T3-1		
	02(1)	17C18	0025500	DLUPX0		
	03(1)	32B32	0033475	GND15		
	04(0)					
22B27	05(2)	29A24	0026900	NDP2		
18B36	06(1)		0026600	DP1		
18B43	07(2)	29A23	0026700	NDP1		
18B44	08(2)	29A22	0026500	NDP0		
	09(0)					
27B08	10(2)	28A17	0026800	DP2		
	11(0)					
	12(0)					
	13(0)					
	14(0)					
18B35	15(1)		0026400	DP0		
	16(0)					
	17(0)		0027200	DPF		
	18(0)					
	19(0)					
25B07	20(1)		0027300	NDPF		
	21(0)					
	22(0)					
	23(0)					
	24(0)					
	25(0)					
	26(0)					
	27(0)					
	28(0)					
	29(0)					
	30(0)					
	31(0)					
32B03	32(2)	32B33	0033475	GND15		
32B32	33(2)	32B42	0033475	GND15		
	34(0)					
31B05	35(2)	26B09	0027000	DP3		
	36(0)					
31B25	37(1)		0027100	NDP3		
21B42	38(2)	07B26	0077800	UPCOUNT		
	39(0)					
21B43	40(2)	07B27	0025600	DNCOUNT		
	41(0)					
32B33	42(1)		0033475	GND15		
	43(0)					
	44(0)					
	45(0)					
	46(0)					
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(0)					
	02(0)					
	03(0)					
	04(0)					
	05(0)					
	06(0)					
	07(0)					
	08(1)	18C01	0005110	BCA		
	09(1)	14C33	0005120	BCB		
	10(1)	02B06	0005130	BCC		
	11(1)	24A05	0005140	BCD		
	12(0)					
	13(0)					
	14(0)					
	15(0)					
	16(0)					
	17(0)					
	18(0)					
	19(0)					
	20(0)					
	21(0)					
	22(0)					
	23(0)					
16B45	24(1)	14C07	0012200	CD0		
	25(1)		0059600	SC2		
	26(1)	02C32	0033480	GND16		
	27(0)					
	28(0)					
	29(0)					
22A01	30(1)		0028250	DSRZ		
03B10	31(1)		0025000	DCL		
02C26	32(1)		0033480	GND16		
	33(0)					
16B38	34(1)		0014700	CLK		
	35(0)					
	36(0)					
	37(0)					
	38(0)					
	39(0)					
02C44	40(1)		0045800	J056		
	41(0)					
	42(0)					
	43(0)					
	44(1)	02C40	0045800	J056		
	45(0)					
	46(0)					
	47(0)					
	48(0)					
	49(0)					
04C50	50(1)		0000700	N8V-2		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
05C25	01(1)		0061800		SENSE200	
02B06	02(1)		0005130		BCC	
08C11	03(1)		0062400		NSERVCON	
	04(1)	03B06	0079000		NWPV	
	05(0)					
	06(1)	04C24	0013200		CF10P	
	07(0)					
	08(1)	09C13	0068600		T3	
	09(0)					
	10(0)					
	11(0)					
	12(1)	05C38	0061725		SENSE100	
	13(0)					
11B19	14(1)		0063600		SNS	
	15(0)					
	16(0)					
	17(0)					
05B17	18(1)		0064000		SNST2	
08C14	19(2)	04B40	0054050		REDA	
	20(1)	05B40	0013300		CF10PL	
	21(0)					
	22(1)	21C30	0023500		DAXDT	
04C36	23(2)	07B18	0005000		BAXUP	
04C06	24(2)	10C03	0013200		CF10P	
	25(0)					
	26(0)					
	27(1)	19C30	0059300		SBRXDT	
05B38	28(1)		0013100		CFDISCL	
08C06	29(1)		0077900		WCH	
	30(0)					
04C37	31(2)	07B22	0004900		BAXLP	
	32(0)					
08C46	33(2)	08C26	0013000		CFDISC	
	34(0)					
	35(0)					
	36(1)	04C23	0005000		BAXUP	
	37(1)	04C31	0004900		BAXLP	
	38(0)					
05C10	39(1)		0068100		T0	
	40(0)					
	41(0)					
	42(0)					
	43(0)					
	44(0)					
	45(1)	04C47	0061600		SENSE060	
	46(1)	05C25	0061800		SENSE200	
04C45	47(2)	05C31	0061600		SENSE060	
	48(0)					
	49(0)					
05C50	50(2)	02C50	0000700		N8V-2	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(0)					
	02(1)	06C20	0061900		SENSE230	
	03(0)					
	04(0)					
	05(0)					
15C22	06(2)	05C12	0053200		PWC	
	07(0)					
07B21	08(1)		0025450		DLS	
	09(0)					
06C28	10(2)	04C39	0068100		TO	
06C25	11(1)		0062000		SENSE300	
05C06	12(2)	09B13	0053200		PWC	
	13(0)					
	14(0)					
	15(0)					
	16(0)					
06C23	17(1)		0062100		SENSE180	
	18(0)					
	19(0)					
	20(0)					
	21(0)					
	22(1)	06C22	0061750		SENSE170	
	23(1)	06C24	0061740		SENSE130	
	24(0)					
04C46	25(2)	04C01	0061800		SENSE200	
	26(0)					
	27(0)					
	28(0)					
	29(0)					
	30(0)					
04C47	31(2)	06C47	0061600		SENSE060	
	32(0)					
	33(0)					
	34(0)					
	35(0)					
	36(0)					
	37(0)					
04C12	38(2)	06C27	0061725		SENSE100	
	39(0)					
	40(0)					
	41(0)					
	42(0)					
	43(0)					
	44(0)					
	45(0)					
	46(1)	06C46	0061500		SENSE000	
06C21	47(1)		0061700		SENSE040	
	48(0)					
	49(0)					
06C50	50(2)	04C50	0000700		N8V-2	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(0)					
	02(0)					
07B23	03(2)	11C23	0068200	NT0		
	04(1)	32B01	0068650	T3-1		
07B33	05(1)		0068400	T6		
05B43	06(1)		0068500	T2		
18B29	07(1)		0068700	T4		
	08(0)					
	09(0)					
	10(0)					
	11(0)					
	12(0)					
	13(0)					
	14(0)					
	15(0)					
	16(0)					
09C14	17(1)		0068600	T3		
	18(1)	08B11	0068900	NT5		
07B02	19(2)	15C22	0053200	PWC		
05C02	20(1)		0061900	SENSE230		
	21(1)	05C47	0061700	SENSE040		
05C22	22(1)		0061750	SENSE170		
	23(1)	05C17	0062100	SENSE180		
05C23	24(1)		0061740	SENSE130		
	25(1)	05C11	0062000	SENSE300		
	26(0)					
05C38	27(1)		0061725	SENSE100		
	28(1)	05C10	0068100	T0		
23B50	29(1)		0068300	T1		
	30(0)					
	31(0)					
	32(0)					
	33(0)					
	34(0)					
	35(0)					
	36(0)					
	37(0)					
	38(0)					
	39(0)					
	40(0)					
	41(0)					
	42(0)					
	43(0)					
	44(0)					
06C46	45(1)		0061500	SENSE000		
05C46	46(2)	06C45	0061500	SENSE000		
05C31	47(1)		0061600	SENSE060		
	48(0)					
	49(0)					
09C50	50(2)	05C50	0000700	N8V-2		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
06B33	01(1)	15B41	0024450		DCBR	
	02(1)		0023300		DATAS	
	03(1)	16C50	0077865		USOR-5	
	04(1)	09C31	0031100		FAMCI	
05B40	05(2)	07B14	0013300		CFIOPL	
11C41	06(2)	04C29	0077900		WCH	
	07(0)					
15A27	08(1)		0049400		OR5P	
08B35	09(2)	16C37	0016400		CONPORD	
16A12	10(1)		0077845		US4P	
11C18	11(2)	04C03	0062400		NSERVCON	
	12(0)					
07B12	13(2)	05B38	0013100		CFDISCL	
11C42	14(2)	04C19	0054050		REDA	
	15(0)					
	16(0)					
06B21	17(1)		0039900		IORF	
	18(0)					
12C35	19(1)		0035900		HIORST	
05B12	20(1)		0062250		SEROIS	
	21(1)	24A42	0011800		NCCH	
06B11	22(1)		0026000		NDORF	
06B06	23(1)		0025900		DORF	
06B27	24(1)		0040000		NIORF	
10C11	25(1)		0024600		DCBNT5	
04C33	26(2)	10C10	0013000		CFDISC	
12B10	27(2)	10C09	0003480		NARR2	
	28(1)	07B45	0069500		TER	
22B38	29(2)	08C34	0001200		AIOFSU	
	30(1)	27C13	0053300		RATER	
10C08	31(2)	07B19	0009800		BRR2	
	32(0)					
18B19	33(2)	11C05	0078900		WPV	
08C29	34(1)		0001200		AIOFSU	
	35(0)					
15C26	36(2)	08C42	0049000		OIT	
08B04	37(2)	14C36	0067600		SYNC1	
15B09	38(1)		0068000		NSYNC2	
	39(0)					
06B22	40(1)		0024400		NDCB	
	41(0)					
08C36	42(1)		0049000		OIT	
	43(1)	06B07	0013500		CHE	
21C09	44(1)		0043800		J033	
02B18	45(1)		0005500		BRE	
	46(1)	04C33	0013000		CFDISC	
21C22	47(1)		0043600		J031	
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	19C06	0029000	DT7		
	02(1)	21C06	0028600	DT3		
	03(0)					
	04(1)	19C07	0028900	DT6		
21C42	05(1)		0029000	DT7		
19C42	06(1)		0028600	DT3		
21C41	07(1)		0028900	DT6		
19C41	08(1)		0028500	DT2		
	09(1)	21C07	0028500	DT2		
	10(0)					
	11(1)	13C14	0037800	I7		
	12(1)	13C07	0037400	I3		
04C08	13(2)	09C14	0068600	T3		
09C13	14(2)	06C17	0068600	T3		
	15(0)					
	16(0)					
	17(1)	13C12	0037700	I6		
09B40	18(2)	12C07	0004800	BA3		
	19(1)	13C09	0037300	I2		
	20(0)					
	21(0)					
	22(0)					
09B36	23(2)	11C22	0004400	BA0		
	24(0)					
09B37	25(2)	11C29	0004500	NBA0		
	26(0)					
	27(0)					
	28(1)	13C27	0037600	I5		
09B39	29(2)	12C09	0004700	BA2		
09B38	30(2)	12C46	0004600	BA1		
08C04	31(1)		0031100	FAMCI		
	32(0)					
	33(1)	13C26	0037500	I4		
	34(1)	13C46	0037200	I1		
	35(1)	13C21	0037000	I0		
	36(0)					
	37(0)					
	38(0)					
21C04	39(1)		0028400	DT1		
21C19	40(1)		0028300	DT0		
	41(1)	19C26	0028400	DT1		
19C19	42(1)		0028700	DT4		
	43(1)	19C45	0028300	DT0		
19C04	44(1)		0028800	DT5		
	45(1)	21C45	0028700	DT4		
	46(1)	21C26	0028800	DT5		
	47(0)					
	48(0)					
	49(0)					
26C50	50(2)	06C50	0000700	NBV-2		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
04B37	01(2)	10C02	0029800	DVSEL		
10C01	02(2)	10C04	0029800	DVSEL		
04C24	03(1)		0013200	CFIOP		
10C02	04(1)		0029800	DVSEL		
	05(1)	14C13	0075900	NU2		
11B36	06(2)	13C17	0022700	DA7U		
	07(0)					
11B01	08(2)	08C31	0009800	BRR2		
08C27	09(2)	10C15	0003480	NARR2		
08C26	10(2)	09B42	0013000	CFDISC		
08B01	11(2)	08C25	0024600	DCBNT5		
	12(0)					
11B40	13(2)	09B19	0022800	NDA7U		
	14(1)	14C11	0075800	U2		
10C09	15(1)		0003480	NARR2		
	16(0)					
11B50	17(2)	13C10	0022000	DA6U		
11B17	18(2)	13C29	0021300	DA5U		
	19(1)	14C20	0075500	NU0		
11B09	20(2)	12B18	0021400	NDA5U		
	21(1)	14C23	0075400	U0		
	22(1)	14C25	0075700	NU1		
11B37	23(2)	12B26	0022100	NDA6U		
	24(1)	14C17	0075600	U1		
	25(1)	25A36	0001800	NAN0		
14B38	26(2)	19C10	0057100	S0		
	27(1)	25A35	0001700	AN0		
14B27	28(2)	21C24	0057400	S1		
21A40	29(2)	05B21	0002300	AN1R		
14B44	30(1)		0057500	NS1		
14B42	31(1)		0057200	NS0		
	32(0)					
21A47	33(1)		0002800	NAN2R		
14B30	34(2)	21C43	0057700	S2		
	35(0)					
21A46	36(1)		0002400	NAN1R		
14B26	37(2)	21C36	0058000	S3		
21A50	38(1)		0003200	NAN3R		
22B22	39(1)		0003100	AN3R		
14B22	40(1)		0058100	NS3		
	41(0)					
14B50	42(1)		0057800	NS2		
21A41	43(2)	05B31	0002700	AN2R		
10C46	44(1)		0060800	SEC		
26A17	45(2)	10C47	0060800	SEC		
10C47	46(2)	10C44	0060800	SEC		
10C45	47(2)	10C46	0060800	SEC		
	48(0)					
	49(0)					
14C30	50(2)	24B26	0014800	CLKB		
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(1)	11C04	0033485		GND17	
28B41	01(1)		0076600		UNESSET1	
24B03	02(2)	11C28	0051800		PARER	
	03(0)					
11C00	04(1)		0033485		GND17	
08C33	05(2)	27C41	0078900		WPV	
	06(1)	10B21	0078100		WCHSK	
11C09	07(1)		0065600		SUN	
	08(1)	11C17	0007250		BFEPWC	
27C28	09(2)	11C07	0065600		SUN	
11B42	10(1)		0054000		RED	
11B28	11(2)	09B24	0049800		ORDRST	
	12(0)					
12B43	13(2)	16C09	0048800		OIS	
28B40	14(1)		0076700		UNESSET2	
	15(1)	14C28	0078600		WDTM	
	16(0)					
11C08	17(2)	15C24	0007250		BFEPWC	
03B33	18(2)	08C11	0062400		NSERVCON	
07B22	19(2)	12C05	0004900		BAXLP	
07B18	20(2)	12C13	0005000		BAXUP	
	21(1)	12C20	0077000		UP0	
09C23	22(2)	12C21	0004400		BA0	
06C03	23(2)	12C30	0068200		NT0	
	24(1)	12C19	0047200		LPO	
24B22	25(1)		0074800		TTSHU	
11B03	26(1)		0033400		FSU	
11B26	27(2)	11B30	0054200		REDPAR	
11C02	28(1)		0051800		PARER	
09C25	29(1)		0004500		NBA0	
	30(1)	13C30	0040525		IX0	
	31(0)					
	32(0)					
26A14	33(1)		0052900		PSPR	
18B38	34(2)	05B02	0078700		WEN	
04B13	35(2)	11C37	0013800		CHWEN	
	36(0)					
11C35	37(1)		0013800		CHWEN	
02B37	38(1)		0052400		NPRE	
02B15	39(2)	11C44	0007800		BIT7	
	40(0)					
10B26	41(2)	08C06	0077900		WCH	
16C12	42(2)	08C14	0054050		REDA	
	43(0)					
11C39	44(2)	11C45	0007800		BIT7	
11C44	45(1)		0007800		BIT7	
	46(1)	20C40	0046300		LDBR	
28B35	47(1)		0046400		NLDBR	
	48(0)					
	49(0)					
16C22	50(2)	05B24	0055700		RSAU	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
15B36	01(1)		0056200	RSFSC		
15B45	02(1)		0024500	DCBC		
17C02	03(1)		0047800	LP3		
	04(1)	17C24	0077600	UP3		
11C19	05(2)	28A23	0004900	BAXLP		
	06(1)	17C06	0047600	LP2		
09C18	07(1)		0004800	BA3		
	08(1)	17C27	0077400	UP2		
09C29	09(1)		0004700	BA2		
	10(1)	28C20	0069700	T1OR		
15A23	11(1)		0069600	T1OP		
29B50	12(1)		0069800	T1OU		
11C20	13(2)	26B08	0005000	BAXUP		
29B45	14(1)		0069400	TDVU		
15A22	15(1)		0069200	TDVP		
	16(0)					
	17(1)	27C03	0069300	TDVR		
16C39	18(2)	17A20	0016000	CONPA		
11C24	19(2)	17C07	0047200	LPO		
11C21	20(2)	17C36	0077000	UP0		
11C22	21(1)		0004400	BA0		
19B22	22(1)		0031300	FNTEN		
	23(1)	12C32	0033490	GND18		
	24(1)	28C13	0063000	SIOR		
15A25	25(1)		0062900	SIOP		
24B31	26(1)		0063200	SIOU		
29B46	27(1)		0036100	HIOU		
15A24	28(1)		0035700	H1OP		
	29(1)	28C18	0035800	H1OR		
11C23	30(2)	09B10	0068200	NT0		
12B44	31(2)	16C08	0062500	SERVEX		
12C23	32(2)	12C36	0033490	GND18		
11B05	33(2)	12C44	0032800	FSD		
19B12	34(1)		0001100	A1OCU		
19B33	35(2)	08C19	0035900	H1ORST		
12C32	36(2)	12C43	0033490	GND18		
	37(0)					
	38(0)					
15B04	39(1)		0014500	CILR		
27C20	40(2)	15B37	0076000	UNE		
19B09	41(1)		0065200	STOPPET		
	42(1)	26B15	0076950	UNESTOP		
12C36	43(1)		0033490	GND18		
12C33	44(2)	18B03	0032800	FSD		
03B39	45(1)		0056100	RSDC		
09C30	46(1)		0004600	BA1		
	47(1)	17C38	0077200	UP1		
	48(0)					
	49(0)					
	50(1)	17C10	0047400	LP1		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
13C50	01(1)		0018700	DA1U		
13C19	02(1)		0018100	DA0U		
15C07	03(2)	05B44	0019900	DA3U		
	04(1)	20C18	0008500	BR3		
30B47	05(2)	13C22	0040600	IXDA		
15C08	06(2)	13C39	0019300	DA2U		
09C12	07(1)		0037400	I3		
	08(1)	20C10	0008300	BR2		
09C19	09(1)		0037300	I2		
10C17	10(2)	15C14	0022000	DA6U		
20C07	11(1)		0009100	BR6		
09C17	12(1)		0037700	I6		
22B15	13(2)	13C18	0040550	IXBR		
09C11	14(1)		0037800	I7		
16B24	15(2)	20C03	0009300	BR7		
	16(0)					
10C06	17(2)	14C15	0022700	DA7U		
13C13	18(2)	11B24	0040550	IXBR		
15C11	19(2)	13C02	0018100	DA0U		
	20(1)	20C28	0007900	BR0		
09C35	21(1)		0037000	I0		
13C05	22(2)	09B28	0040600	IXDA		
13C30	23(1)		0040525	IX0		
12B24	24(2)	15C12	0020600	DA4U		
20C21	25(1)		0008700	BR4		
09C33	26(1)		0037500	I4		
09C28	27(1)		0037600	I5		
20C17	28(1)		0008900	BR5		
10C18	29(2)	14C22	0021300	DA5U		
11C30	30(2)	13C23	0040525	IX0		
16A08	31(1)		0017800	DA0P		
	32(1)	13C36	0033495	GND19		
	33(1)	24C05	0017900	DA0R		
	34(1)	24C23	0019100	DA2R		
16A06	35(1)		0019000	DA2P		
13C32	36(2)	13C43	0033495	GND19		
04B06	37(2)	14C43	0016300	CONPC		
16C28	38(1)		0015900	NCONP		
13C06	39(1)		0019300	DA2U		
	40(1)	24C29	0019700	DA3R		
16A05	41(1)		0019600	DA3P		
05B44	42(1)		0019900	DA3U		
13C36	43(1)		0033495	GND19		
24C08	44(1)		0018500	DA1R		
16A07	45(1)		0018400	DA1P		
09C34	46(1)		0037200	I1		
20C33	47(1)		0008100	BR1		
	48(0)					
	49(0)					
15C09	50(2)	13C01	0018700	DA1U		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
19326	01(2)	14C02	0063500	SLN		
14C01	02(2)	14C06	0063500	SLN		
	03(1)	14C04	0033500	GND20		
14C03	04(2)	14C05	0033500	GND20		
14C04	05(2)	14C08	0033500	GND20		
14C02	06(1)		0063500	SLN		
02C24	07(2)	30B05	0012200	CD0		
14C05	08(2)	14C31	0033500	GND20		
14C14	09(2)	30B14	0012300	NCD0		
31B04	10(2)	15B14	0059600	SC2		
10C14	11(2)	27C36	0075800	U2		
	12(1)	21A04	0025100	NDCL		
18C05	13(1)		0075900	NU2		
	14(1)	14C09	0012300	NCD0		
13C17	15(2)	15C15	0022700	DA7U		
	16(0)					
10C24	17(2)	27C31	0075600	U1		
16C07	18(1)		0048600	MANRST		
	19(0)					
10C19	20(1)		0075500	NU0		
15C14	21(2)	15C40	0022000	DA6U		
13C29	22(2)	15C13	0021300	DA5U		
10C21	23(2)	27C23	0075400	U0		
	24(0)		0078400	WDT		
10C22	25(1)		0075700	NU1		
16B20	26(2)	30B27	0060400	SD4		
16B39	27(1)		0012400	CD1		
11C15	28(2)	24C34	0078600	WDTM		
29A35	29(2)	14C30	0014800	CLKB		
14C29	30(2)	10C50	0014800	CLKB		
14C08	31(2)	14C32	0033500	GND20		
14C31	32(2)	14C35	0033500	GND20		
02C09	33(2)	14B06	0005120	BCB		
14C35	34(2)	14C50	0033500	GND20		
14C32	35(2)	14C34	0033500	GND20		
08C37	36(2)	15B12	0067600	SYNC1		
	37(1)	15B26	0067700	NSYNC1		
	38(1)	17A38	0055200	RSAP		
09B46	39(2)	28A30	0067800	SYNC1SET		
	40(1)	15B09	0068000	NSYNC2		
	41(0)		0055300	NRSAP		
03B45	42(1)		0055325	RSAPSET		
13C37	43(2)	16C10	0016300	CONPC		
14C45	44(1)		0012500	NCD1		
	45(1)	14C44	0012500	NCD1		
	46(1)	20A11	0078500	NWDT		
	47(0)					
	48(0)					
	49(0)					
14C34	50(1)		0033500	GND20		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
13B31	01(1)		0072400		TRK5M	
13B05	02(1)		0072800		TRK6M	
14B04	03(1)		0073600		TRK8M	
13B08	04(1)		0073200		TRK7M	
	05(0)					
31B12	06(2)	15C43	0048100		LSB2	
15B33	07(2)	13C03	0019900		DA3U	
29A27	08(2)	13C06	0019300		DA2U	
24A12	09(2)	13C50	0018700		DA1U	
	10(0)					
15B02	11(2)	13C19	0018100		DA0U	
13C24	12(2)	15C42	0020600		DA4U	
14C22	13(2)	15C41	0021300		DA5U	
13C10	14(2)	14C21	0022000		DA6U	
14C15	15(2)	15C39	0022700		DA7U	
	16(0)					
22A27	17(2)	22B11	0048000		LSB1	
13B03	18(1)		0070800		TRK1M	
13B34	19(1)		0071200		TRK2M	
13B28	20(1)		0071600		TRK3M	
13B35	21(1)		0072000		TRK4M	
06C19	22(2)	05C06	0053200		PWC	
23B12	23(1)		0007000		BFE	
11C17	24(2)	20B26	0007250		BFEPWC	
	25(1)	21C01	0039600		INLOIT	
22B12	26(2)	08C36	0049000		OIT	
	27(1)	06B37	0039100		INL	
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(0)					
	33(0)					
	34(0)					
	35(0)					
	36(0)					
	37(0)					
	38(0)					
15C15	39(2)	16C30	0022700		DA7U	
14C21	40(2)	16C31	0022000		DA6U	
15C13	41(2)	16C42	0021300		DA5U	
15C12	42(2)	16C41	0020600		DA4U	
15C06	43(2)	21B37	0048100		LSB2	
	44(0)					
14B03	45(1)		0058200		S3M	
14B28	46(1)		0057900		S2M	
14B34	47(1)		0057600		S1M	
	48(0)					
	49(0)					
14B31	50(1)		0057300		S0M	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
15B38	01(2)	20B15	0024300		DCB	
16C20	02(2)	12B07	0003400		ARR2	
16B34	03(1)		0015100		CM001	
10B41	04(2)	25B08	0074150		TRKRST	
16B27	05(1)		0042200		J017	
	06(0)					
15B22	07(2)	14C18	0048600		MANRST	
12C31	08(2)	09B33	0062500		SERVEX	
11C13	09(1)		0048800		OIS	
14C43	10(1)		0016300		CONPC	
25B04	11(1)		0056650		RUNCONT	
	12(1)	11C42	0054050		REDA	
21B47	13(1)		0007100		NBFE	
	14(0)					
	15(1)	20B25	0039500		INLM-1	
	16(0)					
19A27	17(2)	20B07	0012600		CDN	
	18(0)					
06B31	19(1)		0039400		INLM	
18B15	20(2)	16C02	0003400		ARR2	
29A45	21(1)		0046270		J092	
22A43	22(2)	11C50	0055700		RSAU	
16B18	23(2)	19B46	0032700		FSCU	
12B31	24(2)	17A03	0003500		ARSET	
	25(1)	24C26	0021800		DA6R	
	26(1)	24C44	0022500		DA7R	
24C41	27(1)		0020400		DA4R	
27B22	28(2)	13C38	0015900		NCONP	
	29(1)	24C17	0021100		DA5R	
15C39	30(1)		0022700		DA7U	
15C40	31(1)		0022000		DA6U	
	32(0)					
	33(0)					
03B44	34(1)		0077895		USOR-7	
30B45	35(1)		0077880		USOR-6	
	36(0)					
08C09	37(2)	30B39	0016400		CONPORD	
15A26	38(1)		0049300		OR4P	
	39(1)	12C18	0016000		CONPA	
	40(0)					
15C42	41(1)		0020600		DA4U	
15C41	42(1)		0021300		DA5U	
16A03	43(1)		0021000		DA5P	
08B36	44(1)		0016100		CONPAT	
16A04	45(1)		0020300		DA4P	
16A01	46(1)		0022400		DA7P	
16A02	47(1)		0021700		DA6P	
	48(0)					
	49(0)					
08C03	50(1)		0077865		USOR-5	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
05B35	01(2)	21B40	0015000	CLP		
17C23	02(2)	12C03	0047800	LP3		
	03(1)	17C04	0033505	GND21		
17C03	04(2)	17C05	0033505	GND21		
17C04	05(2)	17C08	0033505	GND21		
12C06	06(2)	17C17	0047600	LP2		
12C19	07(1)		0047200	LP0		
17C05	08(2)	17C28	0033505	GND21		
17C14	09(1)		0047300	NLP0		
12C50	10(2)	17C11	0047400	LP1		
17C10	11(1)		0047400	LP1		
	12(0)					
17C19	13(1)		0047500	NLP1		
	14(1)	17C09	0047300	NLP0		
	15(0)					
	16(0)					
17C06	17(1)		0047600	LP2		
32B02	18(2)	05B45	0025500	DLUPX0		
	19(1)	17C13	0047500	NLP1		
17C22	20(1)		0047900	NLP3		
	21(1)	17C25	0047700	NLP2		
	22(1)	17C20	0047900	NLP3		
	23(1)	17C02	0047800	LP3		
12C04	24(2)	17C30	0077600	UP3		
17C21	25(1)		0047700	NLP2		
21B39	26(2)	05B46	0017300	CUP		
12C08	27(2)	17C29	0077400	UP2		
17C08	28(2)	17C31	0033505	GND21		
17C27	29(1)		0077400	UP2		
17C24	30(1)		0077600	UP3		
17C28	31(2)	17C32	0033505	GND21		
17C31	32(2)	17C34	0033505	GND21		
17C38	33(1)		0077200	UP1		
17C32	34(2)	17C35	0033505	GND21		
17C34	35(1)		0033505	GND21		
12C20	36(1)		0077000	UP0		
17C40	37(1)		0077100	NUP0		
12C47	38(2)	17C33	0077200	UP1		
	39(0)					
	40(1)	17C37	0077100	NUP0		
	41(1)	17C43	0077300	NUP1		
	42(0)					
17C41	43(1)		0077300	NUP1		
	44(1)	17C45	0077500	NUP2		
17C44	45(1)		0077500	NUP2		
	46(1)	17C50	0077700	NUP3		
	47(0)					
	48(0)					
	49(0)					
17C46	50(1)		0077700	NUP3		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
02C08	01(2)	18C02	0005110	BCA		
18C01	02(2)	18C06	0005110	BCA		
18C04	03(1)		0052300	PRE		
18C05	04(2)	18C03	0052300	PRE		
18C08	05(2)	18C04	0052300	PRE		
18C02	06(2)	18C10	0005110	BCA		
	07(1)	16B14	0051600	PA7		
18C28	08(2)	18C05	0052300	PRE		
	09(1)	16B05	0051700	NPA7		
18C06	10(2)	18C26	0005110	BCA		
18C12	11(2)	19C09	0051400	PA6		
	12(1)	18C11	0051400	PA6		
	13(0)		0051500	NPA6		
	14(0)					
18C17	15(2)	19C05	0051200	PA5		
	16(1)	18C18	0033510	GND22		
	17(1)	18C15	0051200	PA5		
18C16	18(1)		0033510	GND22		
	19(0)					
	20(0)		0051100	NPA4		
18C23	21(2)	19C01	0051000	PA4		
18C36	22(2)	19C22	0050800	PA3		
	23(1)	18C21	0051000	PA4		
18C45	24(2)	19C23	0050000	PA0		
	25(0)		0051300	NPA5		
18C10	26(2)	18C29	0005110	BCA		
	27(1)	18C42	0050400	PA1		
18C31	28(2)	18C08	0052300	PRE		
18C26	29(2)	18C30	0005110	BCA		
18C29	30(2)	18C33	0005110	BCA		
18C34	31(2)	18C28	0052300	PRE		
	32(0)					
18C30	33(2)	24C40	0005110	BCA		
18C35	34(2)	18C31	0052300	PRE		
18B40	35(2)	18C34	0052300	PRE		
	36(1)	18C22	0050800	PA3		
	37(0)		0050900	NPA3		
	38(1)	18C39	0050600	PA2		
18C38	39(2)	19C38	0050600	PA2		
	40(0)					
	41(0)		0050700	NPA2		
18C27	42(2)	19C44	0050400	PA1		
	43(0)					
	44(0)		0050500	NPA1		
	45(1)	18C24	0050000	PA0		
	46(0)		0050100	NPA0		
	47(0)					
	48(0)					
	49(0)					
24A43	50(2)	19C50	0050300	PA0SET		
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
18C21	01(1)		0051000	PA4		
21C02	02(2)	19C20	0072600	TRK6		
20B35	03(2)	19C12	0073000	TRK7		
21C26	04(2)	09C44	0028800	DT5		
18C15	05(1)		0051200	PA5		
09C01	06(2)	21C42	0029000	DT7		
09C04	07(2)	21C41	0028900	DT6		
20B12	08(2)	19C11	0073400	TRK8		
18C11	09(1)		0051400	PA6		
10C26	10(2)	21C47	0057100	S0		
19C08	11(2)	21C11	0073400	TRK8		
19C03	12(2)	21C12	0073000	TRK7		
	13(1)	20C02	0009050	BR5SET		
	14(1)	20C04	0009250	BR6SET		
	15(1)	20C08	0009450	BR7SET		
	16(0)					
12B46	17(2)	19C27	0059200	SBRX0		
	18(1)	20C20	0008850	BR4SET		
21C45	19(2)	09C42	0028700	DT4		
19C02	20(1)		0072600	TRK6		
21C21	21(2)	19C39	0072200	TRK5		
18C22	22(1)		0050800	PA3		
18C24	23(1)		0050000	PA0		
21C25	24(2)	19C46	0071000	TRK2		
20B42	25(2)	19C43	0071400	TRK3		
09C41	26(2)	21C04	0028400	DT1		
19C17	27(2)	21B22	0059200	SBRX0		
	28(1)	31B46	0059400	SBRXPA		
	29(1)	22B14	0047000	LDISC		
04C27	30(2)	21B23	0059300	SBRXDT		
	31(1)	22B46	0046500	LDRM		
	32(0)					
	33(1)	20C30	0008250	BR1SET		
	34(1)	20C44	0008450	BR2SET		
	35(1)	20C46	0008650	BR3SET		
19C40	36(2)	21C39	0071800	TRK4		
	37(1)	20C26	0008050	BR0SET		
18C39	38(1)		0050600	PA2		
19C21	39(1)		0072200	TRK5		
20B38	40(2)	19C36	0071800	TRK4		
21C07	41(2)	09C08	0028500	DT2		
21C06	42(2)	09C06	0028600	DT3		
19C25	43(2)	21C40	0071400	TRK3		
18C42	44(1)		0050400	PA1		
09C43	45(2)	21C19	0028300	DT0		
19C24	46(1)		0071000	TRK2		
20B40	47(2)	21C46	0070600	TRK1		
	48(0)					
	49(0)					
18C50	50(2)	21B35	0050300	PA0SET		
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
15B30	01(1)		0005120	BCB		
19C13	02(1)		0009050	BR5SET		
13C15	03(1)		0009300	BR7		
19C14	04(1)		0009250	BR6SET		
16B22	05(2)	20C06	0009400	NBR7		
20C05	06(1)		0009400	NBR7		
	07(1)	13C11	0009100	BR6		
19C15	08(1)		0009450	BR7SET		
	09(0)					
13C08	10(2)	20C37	0008300	BR2		
20C40	11(2)	24C36	0046300	LDBR		
	12(1)	20C32	0033515	GND23		
26A46	13(2)	20C34	0064300	SRBR		
	14(1)	24B14	0078800	WPRE		
	15(0)		0009200	NBR6		
	16(0)					
	17(1)	13C28	0008900	BR5		
13C04	18(2)	20C41	0008500	BR3		
	19(0)		0009000	NBR5		
19C18	20(1)		0008850	BR4SET		
	21(1)	13C25	0008700	BR4		
16B17	22(1)		0022900	DAIR		
	23(1)	25A13	0060600	SDBR0		
	24(1)	20B24	0065300	STRKBRO		
26A21	25(2)	20C33	0008100	BR1		
19C37	26(1)		0008050	BROSET		
	27(0)		0008800	NBR4		
13C20	28(2)	20C29	0007900	BR0		
20C28	29(1)		0007900	BR0		
19C33	30(1)		0008250	BR1SET		
	31(1)	26A20	0008000	NBR0		
20C12	32(2)	20C36	0033515	GND23		
20C25	33(2)	13C47	0008100	BR1		
20C13	34(1)		0064300	SRBR		
	35(0)		0008200	NBR1		
20C32	36(2)	20C38	0033515	GND23		
20C10	37(1)		0008300	BR2		
20C36	38(1)		0033515	GND23		
	39(0)		0008400	NBR2		
11C46	40(2)	20C11	0046300	LDBR		
20C18	41(1)		0008500	BR3		
	42(0)					
	43(0)		0008600	NBR3		
19C34	44(1)		0008450	BR2SET		
	45(0)					
19C35	46(1)		0008650	BR3SET		
	47(0)					
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
15C25	01(1)		0039600		INLOIT	
20B36	02(2)	19C02	0072600		TRK6	
	03(1)	21C08	0033520		GND24	
19C26	04(2)	09C39	0028400		DT1	
	05(1)	22B35	0043700		J032	
09C02	06(2)	19C42	0028600		DT3	
09C09	07(2)	19C41	0028500		DT2	
21C03	08(2)	21C16	0033520		GND24	
	09(1)	08C44	0043800		J033	
20B39	10(1)		0070200		TRK0	
19C11	11(1)		0073400		TRK8	
19C12	12(1)		0073000		TRK7	
	13(1)	29C18	0018200		DA1D	
	14(1)	29C19	0018800		DA2D	
	15(1)	29C20	0019400		DA3D	
21C08	16(1)		0033520		GND24	
23B46	17(2)	21C27	0023250		DARESET	
	18(1)	29C17	0017600		DA0D	
19C45	19(2)	09C40	0028300		DT0	
30B19	20(1)		0074400		TRPR	
20B37	21(2)	19C21	0072200		TRK5	
	22(1)	08C47	0043600		J031	
21B30	23(2)	05B14	0041300		J007	
10C28	24(1)		0057400		S1	
20B41	25(2)	19C24	0071000		TRK2	
09C46	26(2)	19C04	0028800		DT5	
21C17	27(2)	21B24	0023250		DARESET	
	28(0)					
21B26	29(2)	22B13	0063800		SNSBYTE2	
04C22	30(2)	21B34	0023500		DAXDT	
22B39	31(2)	22B33	0063700		SNSBYTE1	
	32(0)					
	33(1)	30C09	0020800		DA5D	
	34(1)	31C47	0021500		DA6D	
	35(1)	31C39	0022200		DA7D	
10C37	36(1)		0058000		S3	
	37(1)	31C29	0020100		DA4D	
21B33	38(2)	22B34	0041800		J012	
19C36	39(1)		0071800		TRK4	
19C43	40(1)		0071400		TRK3	
19C07	41(2)	09C07	0028900		DT6	
19C06	42(2)	09C05	0029000		DT7	
10C34	43(1)		0057700		S2	
21B31	44(2)	05B15	0041400		J008	
09C45	45(2)	19C19	0028700		DT4	
19C47	46(1)		0070600		TRK1	
19C10	47(1)		0057100		S0	
	48(0)					
	49(0)					
21B29	50(2)	27B04	0041200		J006	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	31C05	0003800		NASCM	
	02(1)	26A31	0066550		NSUNSET	
	03(1)	26C17	0053100		PT18S	
22B42	04(2)	23C08	0065900		SUNSET	
	05(0)					
26C04	06(1)		0036900		HPSR	
	07(0)		0036700		HPSL	
23C04	08(1)		0065900		SUNSET	
	09(1)	29C01	0036400		NHPIL	
25B34	10(2)	24A35	0049100		OOS	
	11(0)					
	12(1)	29C08	0036800		NHPSL	
	13(0)		0036300		HPIL	
	14(0)					
	15(1)	28C27	0001500		AIOR	
	16(0)					
26C06	17(1)		0036500		HPIR	
	18(0)					
	19(1)	31C41	0001600		NAIOR	
	20(0)					
19B50	21(0)					
	22(2)	29C28	0032200		FSC	
	23(1)	27C47	0033300		FSRC	
	24(0)					
	25(0)					
27B17	26(1)		0055375		NRSAP1	
20A26	27(2)	24C13	0023900		DCA	
	28(0)					
	29(0)					
	30(1)	24B33	0055350		RSAP1	
	31(0)					
23C40	32(1)		0033600		GND23C32	
20A04	33(2)	27C39	0038900		INI	
	34(1)	30C39	0059800		SCD	
	35(0)					
	36(1)	26C33	0036600		HPSD	
	37(1)	28C34	0003900		ASCR	
	38(1)	29C07	0048300		LSH	
	39(1)	29C09	0048400		LSL	
	40(1)	23C32	0033600		GND23C32	
19B20	41(1)		0016700		CSL	
29C31	42(1)		0032300		NFSC	
26C11	43(2)	31C42	0038700		INC	
	44(0)		0004000		NASCR	
20A08	45(2)	29C39	0056400		NRSTR	
	46(0)					
29C45	47(1)		0056300		RSTR	
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	27C24	0066200	SWA1		
	02(1)	27C29	0066400	SWA2		
	03(0)		0067000	SWA5		
	04(0)		0066300	NSWA1		
13C33	05(2)	30C22	0017900	DA0R		
	06(0)		0018600	NDA1R		
	07(0)		0018000	NDA0R		
30C20	08(2)	13C44	0018500	DA1R		
24C13	09(2)	27C02	0023900	DCA		
	10(1)	27C14	0066000	SWA0		
	11(0)		0066100	NSWA0		
	12(0)					
23C27	13(2)	24C09	0023900	DCA		
19B28	14(1)		0033150	FSP-1		
	15(0)					
	16(0)					
16C29	17(2)	30C10	0021100	DA5R		
	18(0)					
	19(0)		0067100	NSWA5		
25B08	20(1)		0074150	TRKRST		
	21(0)		0066500	NSWA2		
	22(0)		0021200	NDA5R		
13C34	23(2)	30C18	0019100	DA2R		
	24(0)		0019200	NDA2R		
	25(0)		0021900	NDA6R		
16C25	26(2)	30C04	0021800	DA6R		
	27(0)		0067300	NSWA6		
	28(0)		0066700	NSWA3		
13C40	29(2)	30C13	0019700	DA3R		
	30(1)	28B25	0076600	UNESET1		
	31(0)					
	32(0)					
	33(0)		0019800	NDA3R		
14C28	34(1)		0078600	WDTM		
	35(0)		0066900	NSWA4		
20C11	36(1)		0046300	LDBR		
	37(0)		0024100	DCA47		
	38(0)		0020500	NDA4R		
	39(0)		0066800	SWA4		
18C33	40(1)		0005110	BCA		
30C08	41(2)	16C27	0020400	DA4R		
	42(0)		0022600	NDA7R		
	43(1)	27C43	0066600	SWA3		
16C26	44(2)	30C06	0022500	DA7R		
	45(0)		0067400	SWA7		
	46(0)		0067200	SWA6		
	47(0)		0067500	NSWA7		
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(1)	26C05	0033700		GND26C00	
	01(0)					
	02(0)					
	03(0)					
	04(1)	23C06	0036900		HPSR	
26C00	05(1)		0033700		GND26C00	
	06(1)	23C17	0036500		HPIR	
27C11	07(2)	29C02	0038900		INI	
31C11	08(1)		0004100		AVIR	
	09(0)		0038800		NINC	
	10(0)					
	11(1)	23C43	0038700		INC	
	12(0)					
	13(0)					
	14(0)					
	15(1)	29C46	0039000		NINI	
	16(1)	26C24	0033800		GND26C16	
23C03	17(1)		0053100		PT18S	
	18(0)					
	19(0)					
	20(0)					
	21(0)					
	22(0)					
	23(0)					
26C16	24(1)		0033800		GND26C16	
	25(0)					
	26(0)					
	27(0)					
	28(0)					
31C36	29(1)		0004200		AVOD	
	30(0)					
	31(1)	26C32	0033900		GND26C32	
26C31	32(1)		0033900		GND26C32	
23C36	33(1)		0036600		HPSD	
	34(0)					
31C35	35(1)		0036200		HPID	
	36(0)					
	37(0)					
	38(0)					
	39(0)					
	40(0)					
	41(1)	26C48	0034000		GND26C48	
	42(0)					
	43(0)					
	44(0)					
	45(0)					
	46(0)					
	47(0)					
26C41	48(1)		0034000		GND26C48	
	49(0)					
28C50	50(2)	09C50	0000700		N8V-2	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
31B42	01(2)	31C26	0032800	FSD		
24C09	02(2)	29C04	0023900	DCA		
12C17	03(2)	28C22	0069300	TDVR		
	04(1)	32C03	0031800	FR4D		
	05(1)	32C09	0031900	FR5D		
	06(1)	32C19	0031500	FR1D		
	07(1)	32C23	0031400	FR0D		
	08(0)		0007300	BFSD		
	09(0)		0069000	(TDVR.DCA.FSD)		
31C21	10(1)		0009900	BSYC		
27C39	11(2)	26C07	0038900	INI		
15B06	12(2)	31C33	0014300	CIL		
08C30	13(2)	29B12	0053300	RATER		
24C10	14(1)		0066000	SWA0		
	15(1)	29C22	0074500	TSH		
	16(1)	27C18	0034100	GND27C16		
	17(0)					
27C16	18(2)	27C19	0034100	GND27C16		
27C18	19(2)	27C25	0034100	GND27C16		
29B04	20(2)	12C40	0076000	UNE		
25B23	21(2)	27C34	0024300	DCB		
	22(1)	27C32	0034200	GND27C32		
14C23	23(2)	23A19	0075400	U0		
24C01	24(1)		0066200	SWA1		
27C19	25(1)		0034100	GND27C16		
12B29	26(1)		0029300	DVBSY		
	27(1)	07B46	0065500	STSH02		
22B43	28(2)	11C09	0065600	SUN		
24C02	29(1)		0066400	SWA2		
	30(0)					
14C17	31(2)	23A50	0075600	U1		
27C22	32(2)	27C33	0034200	GND27C32		
27C32	33(2)	27C35	0034200	GND27C32		
27C21	34(2)	29A40	0024300	DCB		
27C33	35(2)	27C37	0034200	GND27C32		
14C11	36(2)	23A06	0075800	U2		
27C35	37(1)		0034200	GND27C32		
19B29	38(2)	28C36	0033200	FSR		
23C33	39(2)	27C11	0038900	INI		
	40(0)					
11C05	41(1)		0078900	WPV		
	42(1)	32C01	0032000	FR6D		
24C43	43(1)		0066600	SWA3		
	44(1)	32C15	0031600	FR2D		
	45(1)	32C12	0031700	FR3D		
	46(1)	32C02	0032100	FR7D		
23C23	47(1)		0033300	FSRC		
	48(0)					
	49(0)					
	50(0)					
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
28C05	00(1)		0034300		GND28C00	
	01(0)					
	02(0)					
	03(0)					
	04(0)		0014600		CL1R	
	05(1)	28C00	0034300		GND28C00	
	06(1)	29C45	0056300		RSTR	
	07(0)					
	08(1)	29C37	0055500		RSAR	
	09(0)					
19B03	10(2)	29C43	0030800		ESR	
	11(0)					
	12(0)					
12C24	13(2)	29C33	0063000		SIOR	
	14(0)					
	15(0)					
	16(1)	28C24	0034400		GND28C16	
	17(0)					
12C29	18(2)	29C34	0035800		HIOR	
	19(0)					
12C10	20(2)	29C35	0069700		TIOR	
	21(0)					
27C03	22(2)	29C36	0069300		TDVR	
	23(0)					
28C16	24(1)		0034400		GND28C16	
	25(0)					
	26(0)					
23C15	27(2)	31C17	0001500		AIOR	
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(0)					
	33(0)					
23C37	34(2)	29C38	0003900		ASCR	
	35(0)					
27C38	36(2)	29C42	0033200		FSR	
	37(0)					
	38(0)					
	39(0)					
	40(0)					
	41(1)	28C48	0034500		GND28C48	
	42(0)					
	43(0)					
	44(0)					
	45(0)					
	46(0)					
	47(0)					
28C41	48(1)		0034500		GND28C48	
	49(0)					
29C50	50(2)	26C50	0000700		N8V-2	
	51(0)					



FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
23C09	01(2)	31C12	0036400		NHPIL	
26C07	02(2)	29C10	0038900		INI	
	03(0)					
27C02	04(2)	31C10	0023900		DCA	
31C01	05(1)		0046800		LIH	
31C46	06(1)		0046900		LIL	
23C38	07(1)		0048300		LSH	
23C12	08(1)		0036800		NHPSL	
23C39	09(1)		0048400		LSL	
29C02	10(2)	29C40	0038900		INI	
31B02	11(2)	30C33	0030200		EDD	
	12(0)					
27B42	13(2)	32C33	0039800		IORD	
26B41	14(2)	30C37	0025800		DORD	
	15(0)					
	16(0)					
21C18	17(2)	30C23	0017600		DA0D	
21C13	18(2)	30C19	0018200		DA1D	
21C14	19(2)	30C15	0018800		DA2D	
21C15	20(2)	30C12	0019400		DA3D	
	21(0)					
27C15	22(1)		0074500		TSH	
21A35	23(1)		0016900		CSLI	
	24(1)	31C30	0074700		TTSH	
	25(1)	31C23	0001300		AIOM	
27B21	26(1)		0055600		RSARC	
	27(0)		0003600		ASCB	
23C22	28(2)	31C03	0032200		FSC	
	29(1)	31C09	0003700		ASCM	
	30(0)					
31B38	31(2)	23C42	0032300		NFSC	
	32(0)					
28C13	33(1)		0063000		SIOR	
28C18	34(1)		0035800		HIOR	
28C20	35(1)		0069700		TIOR	
28C22	36(1)		0069300		TDVR	
28C08	37(1)		0055500		RSAR	
28C34	38(2)	31C07	0003900		ASCR	
23C45	39(2)	31C45	0056400		NRSTR	
29C10	40(2)	31C50	0038900		INI	
	41(1)	31C11	0004100		AVIR	
28C36	42(2)	31C15	0033200		FSR	
28C10	43(1)		0030800		ESR	
20B04	44(2)	31C37	0056000		RSD	
28C06	45(2)	23C47	0056300		RSTR	
26C15	46(1)		0039000		NINI	
	47(0)					
	48(0)					
	49(0)					
30C50	50(2)	28C50	0000700		N8V-2	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(1)	30C05	0034600		GND30C00	
31C47	01(1)		0021500		DA6D	
31C39	02(1)		0022200		DA7D	
31C29	03(1)		0020100		DA4D	
24C26	04(1)		0021800		DA6R	
30C00	05(1)		0034600		GND30C00	
24C44	06(1)		0022500		DA7R	
	07(0)					
	08(1)	24C41	0020400		DA4R	
21C33	09(2)	31C31	0020800		DA5D	
24C17	10(1)		0021100		DA5R	
	11(0)					
29C20	12(1)		0019400		DA3D	
24C29	13(1)		0019700		DA3R	
	14(0)					
29C19	15(1)		0018800		DA2D	
	16(1)	30C24	0034700		GND30C16	
	17(0)					
24C23	18(1)		0019100		DA2R	
29C18	19(1)		0018200		DA1D	
	20(1)	24C08	0018500		DA1R	
	21(0)					
24C05	22(1)		0017900		DA0R	
29C17	23(1)		0017600		DA0D	
30C16	24(2)	30C25	0034700		GND30C16	
30C24	25(1)		0034700		GND30C16	
	26(0)					
	27(0)		0023200		DAPR	
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(1)	30C35	0034800		GND30C32	
29C11	33(1)		0030200		EDD	
	34(1)	17A43	0030300		EDR	
30C32	35(2)	30C41	0034800		GND30C32	
	36(0)					
29C14	37(1)		0025800		DORD	
	38(0)					
23C34	39(1)		0059800		SCD	
	40(0)					
30C35	41(1)		0034800		GND30C32	
	42(0)					
	43(0)					
	44(0)					
	45(1)	30C48	0034900		GND30C48	
	46(0)					
	47(0)					
30C45	48(1)		0034900		GND30C48	
	49(0)					
32C50	50(2)	29C50	0000700		NBV-2	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
	00(0)					
	01(1)	29C05	0046800		LIH	
	02(0)					
29C28	03(1)		0032200		FSC	
	04(0)		0001350		NAIOM	
23C01	05(1)		0003800		NASCM	
	06(0)		0000900		NAIOC	
29C38	07(1)		0003900		ASCR	
	08(0)					
29C29	09(1)		0003700		ASCM	
29C04	10(2)	31C18	0023900		DCA	
29C41	11(2)	26C08	0004100		AVIR	
29C01	12(1)		0036400		NHPIL	
	13(0)					
	14(0)					
29C42	15(1)		0033200		FSR	
	16(0)					
28C27	17(1)		0001500		AIOR	
31C10	18(1)		0023900		DCA	
	19(0)					
	20(0)					
	21(1)	27C10	0009900		BSYC	
	22(1)	32C35	0033000		FSLD	
29C25	23(1)		0001300		AIOM	
27B37	24(1)		0000800		AIOC	
	25(0)					
27C01	26(1)		0032800		FSD	
	27(0)					
31C44	28(1)		0038900		INI	
21C37	29(2)	30C03	0020100		DA4D	
29C24	30(1)		0074700		TTSH	
30C09	31(1)		0020800		DA5D	
	32(0)					
27C12	33(1)		0014300		CIL	
	34(0)		0024000		NDCA	
	35(1)	26C35	0036200		HPID	
	36(1)	26C29	0004200		AVOD	
29C44	37(2)	32C25	0056000		RSD	
	38(1)	32C39	0038000		ICD	
21C35	39(2)	30C02	0022200		DA7D	
	40(0)					
23C19	41(1)		0001600		NAIOR	
23C43	42(1)		0038700		INC	
31C48	43(1)		0035000		GND31C48	
31C50	44(2)	31C28	0038900		INI	
29C39	45(1)		0056400		NRSTR	
	46(1)	29C06	0046900		LIL	
21C34	47(2)	30C01	0021500		DA6D	
	48(1)	31C43	0035000		GND31C48	
	49(0)					
29C40	50(2)	31C44	0038900		INI	
	51(0)					

FROM	PIN (COUNT)	TO	SOURCE LINE NO.	ELEM. TYPE	SOURCE SIGNAL NAME	REFERENCE LINE NO.
32C05	00(1)		0035100		GND32C00	
27C42	01(1)		0032000		FR6D	
27C46	02(1)		0032100		FR7D	
27C04	03(1)		0031800		FR4D	
	04(0)					
	05(1)	32C00	0035100		GND32C00	
	06(0)					
	07(0)					
	08(0)					
27C05	09(1)		0031900		FR5D	
	10(0)					
	11(0)					
27C45	12(1)		0031700		FR3D	
	13(0)					
	14(0)					
27C44	15(1)		0031600		FR2D	
	16(1)	32C24	0035200		GND32C16	
	17(0)					
	18(0)					
27C06	19(1)		0031500		FR1D	
	20(0)					
	21(0)					
	22(0)					
27C07	23(1)		0031400		FR0D	
32C16	24(1)		0035200		GND32C16	
31C37	25(1)		0056000		RSD	
	26(0)					
	27(0)					
	28(0)					
	29(0)					
	30(0)					
	31(0)					
	32(1)	32C37	0035300		GND32C32	
29C13	33(1)		0039800		IORD	
	34(0)					
31C22	35(1)		0033000		FSLD	
	36(0)					
32C32	37(1)		0035300		GND32C32	
	38(0)					
31C38	39(1)		0038000		ICD	
	40(0)					
	41(1)	32C45	0035400		GND32C48	
	42(0)					
	43(0)					
	44(0)					
32C41	45(2)	32C48	0035400		GND32C48	
	46(0)					
	47(0)					
32C45	48(1)		0035400		GND32C48	
	49(0)					
	50(1)	30C50	0000700		N8V-2	
	51(0)					

XDS 902345

SECTION II  
ENGINEERING TECHNICAL INFORMATION



NOTES: UNLESS OTHERWISE SPECIFIED

- 1. Modules in locations C26, C28, C30 and C32 are furnished in Kit #152498.

MSF-02771-001

2-1

TITLE CHART, MODULE LOCATION RAD CONTROLLER	SDS	
	135748	C
	SHEET 2	OF 5

XDS 902345

## CONNECTOR LOCATION

	8	7	6	5	4	3	2	1
Type								
Key Loc								

## CONNECTOR LOCATION

	16	15	14	13	12	11	10	9
Type								
Key Loc								

## CONNECTOR LOCATION

	24	23	22	21	20	19	18	17
Type	FT10 /	FT27 /	DT16	IT13 /	IT11	BT11 /		BT10 /
Key Loc	2-15	6-20	9-13	2-12	2-11	2-11		2-9

## CONNECTOR LOCATION

	32	31	30	29	28	27	26	25
Type	AT12		AT10	BT11 /	BT17 /	IT13 /	BT11 /	BT11 /
Key Loc	7-20		2-23	2-11	5-16	2-12	2-11	2-11

	LTR
CHASSIS	A

TITLE

CHART,  
MODULE LOCATION

SCIENTIFIC DATA SYSTEMS	
135748	C
SHEET 3	OF 5



**CONNECTOR LOCATION**

	8	7	6	5	4	3	2	1
<b>Type</b>	BT11 /	FT27 /	FT10 /	BT11 /	BT11 /	BT10 /	FT12 /	FT12 /
<b>Key Loc</b>	2-11	6-20	2-15	2-11	2-11	2-9	2-13	2-13

**CONNECTOR LOCATION**

	16	15	14	13	12	11	10	9
<b>Type</b>	BT10 /	FT10 /	FT12 /	FT12 /	IT15 /	BT17 /	FT27 /	XT10 /
<b>Key Loc</b>	2-9	2-15	2-13	2-13	2-6	5-16	6-20	2-8

**CONNECTOR LOCATION**

	24	23	22	21	20	19	18	17
<b>Type</b>	BT11 /	IT15 /	BT11 /	XT10 /	BT13 /	FT27 /	IT15 /	
<b>Key Loc</b>	2-11	2-6	2-11	2-8	2-12	5-16	2-6	

**CONNECTOR LOCATION**

	32	31	30	29	28	27	26	25
<b>Type</b>	LT58	BT11 /	BT10 /	FT26 /	IT18	BT17 /	BT17 /	BT11 /
<b>Key Loc</b>	11-21	2-11	2-9	6-13	5-14	5-16	5-16	2-11

	LTR
<b>CHASSIS</b>	B

TITLE

CHART,  
MODULE LOCATION



SCIENTIFIC DATA SYSTEMS

135748

C

SHEET 4 OF 5

MSL-02373-00

2-3

XDS 902345

MSE-02374.00

2-4

CONNECTOR LOCATION

	8	7	6	5	4	3	2	1
Type	BT10		HT15	DT14	HT16		CT10	
Key Loc	2-9		8-10	6-17	7-21		2-19	

CONNECTOR LOCATION

	16	15	14	13	12	11	10	9
Type	BT17	BT13	FT12	FT27	FT27	LT14	IT24	FT25
Key Loc	5-16	2-12	2-13	6-20	6-20	2-10	9-17	5-22

CONNECTOR LOCATION

	24	23	22	21	20	19	18	17
Type	LT26	LT25		FT26	FT41	FT26	FT12	FT12
Key Loc	6-23	6-11		6-13	17-22	6-13	2-13	2-13

CONNECTOR LOCATION

	32	31	30	29	28	27	26	25
Type	AT12	LT43	AT11	LT41	AT10	LT24	AT17	
Key Loc	7-20	6-9	2-23 7-20	6-10	2-23	6-8	8-15	

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	LTR
CHASSIS	C

TITLE  
**CHART,  
 MODULE LOCATION**

<b>SDS</b> SCIENTIFIC DATA SYSTEMS	
135748	C
SHEET 5 OF 5	

XDS 902345

XDS 902345

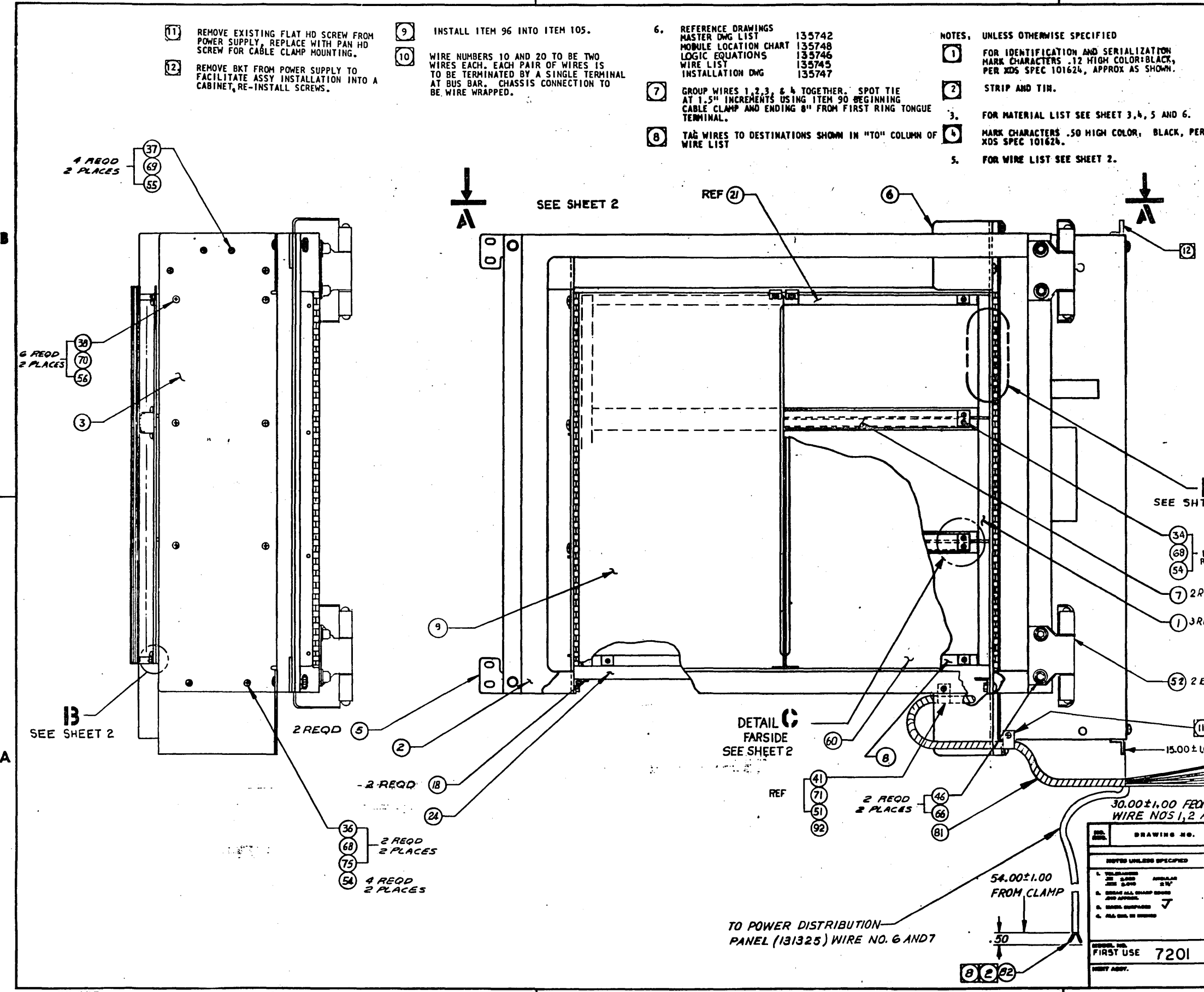
SECTION III  
ADDITIONAL ENGINEERING DOCUMENTS



- 11. REMOVE EXISTING FLAT HD SCREW FROM POWER SUPPLY, REPLACE WITH PAN HD SCREW FOR CABLE CLAMP MOUNTING.
- 12. REMOVE BKT FROM POWER SUPPLY TO FACILITATE ASSY INSTALLATION INTO A CABINET, RE-INSTALL SCREWS.
- 9. INSTALL ITEM 96 INTO ITEM 105.
- 10. WIRE NUMBERS 10 AND 20 TO BE TWO WIRES EACH. EACH PAIR OF WIRES IS TO BE TERMINATED BY A SINGLE TERMINAL AT BUS BAR. CHASSIS CONNECTION TO BE WIRE WRAPPED.
- 6. REFERENCE DRAWINGS  
 MASTER DWG LIST 135742  
 MODULE LOCATION CHART 135748  
 LOGIC EQUATIONS 135746  
 WIRE LIST 135745  
 INSTALLATION DWG 135747
- 7. GROUP WIRES 1, 2, 3, & 4 TOGETHER. SPOT TIE AT 1.5" INCREMENTS USING ITEM 90 BEGINNING CABLE CLAMP AND ENDING 8" FROM FIRST RING TONGUE TERMINAL.
- 8. TAG WIRES TO DESTINATIONS SHOWN IN "TO" COLUMN OF WIRE LIST

- NOTES, UNLESS OTHERWISE SPECIFIED
- 1. FOR IDENTIFICATION AND SERIALIZATION MARK CHARACTERS .12 HIGH COLOR: BLACK, PER XDS SPEC 101624, APPROX AS SHOWN.
  - 2. STRIP AND TIN.
  - 3. FOR MATERIAL LIST SEE SHEET 3, 4, 5 AND 6.
  - 4. MARK CHARACTERS .50 HIGH COLOR, BLACK, PER XDS SPEC 101624.
  - 5. FOR WIRE LIST SEE SHEET 2.

REVISIONS		135743 U	
REV.	DESCRIPTION	DATE	APPROVED
X A	MFG RELEASE		
B	SEE REV. E.O.		
C	SEE REV. E.O.		
X D	SEE REV. E.O.		
E	SEE REV. E.O.		
F	SEE REV. E.O.		
G	SEE REV. E.O.		
X H	SEE REV. E.O. SHT. 1 REVISED AND RELOCATED CABLE HARNESS (ZONE A2). DELETED CABLE WIRE NO. 5, DIM 15.00 ± 1.00 FROM CLAMP TO CABINET GRD WIRE NO. 5. CALL-OUT (1) & (2) FARSIDE - ADDED NOTE (1) CALL-OUTS, (2) (3) (8) & REF. (1) (2) (3) & (8) SHT. 1 - CHG WIRE LIST ITEMS WIRE NO. 1 WAS, TERM (1) WIRE TYP (1) WIRE NO. 2 WAS, TERM (2) WIRE TYP (2) WIRE NO. 3 WAS, TERM (3) WIRE TYP (3) WIRE NO. 4 WAS, TERM (4) WIRE TYP (4) WIRES NO. 6 & 7 WAS, WIRE TYP (6) WIRE NO. 10 WAS, TERM (10) WIRE TYP (10) WIRE NO. 20 WAS, TERM (20) WIRE TYP (20) CHG CALL-OUT (1), (2), (3) WAS, (8) RECD. & ADDED CALL-OUT (4), (7), (6) & DETAIL C. CHG MATL LIST ITEMS: 25-WAS DWG. NO. 106620-428, 38- NO. REQD. WAS, 12, 40-NO REQD. WAS, 14, 41 - NO REQD WAS, 14, 55- NO REQD. WAS, 64, 85- WAS, NO REQD (12) (2) SHIPPED WITH ASSY, & 88 - WAS (1), SHIPPED WITH ASSY. DELETED ITEM 89, & ADDED ITEMS 78, 79, 81, & 92 THRU 95.		
J	SEE E.O. 135745G, ITEMS 26, 27 W/REV. NO. E.O.		
K	SEE E.O. 135745H, ITEMS 26, 27 W/REV. NO. E.O.		
L	SEE E.O. 126535D, ADDED REV. LTR. TO ITEM 48		
M	SEE REV. E.O. M/L; DELETED ITEMS 98 & 100. ITEMS 97 & 99 WERE 2 REQD. ADDED ITEM 80. SEE RES. E.O. 135745J & RES E.O. 135746J. ITEM 26 & 27 WAS REV "H".		
N	SEE DCR 38288 M/L; ITEM 29 REV LTR WAS "B" ITEM 48 REV LTR WAS "D". INCORP. HMI 145712M 46 PM WAS 188605-708. INCORP. HMI 147; DELETED ITEM 67. INCORP. ABOVE CHANGES ON FID. 14.		
P	SEE REV. E.O. ADDED NOTE 1, 12 & ITEM #24 ON M/L		
X R	SEE E.O.'S 135745 K & 135746 K ITEMS 26 & 27 REV. LTR WAS "J". DELETED REV LTR FROM ITEMS 29 & 48.		
S	SEE REV. E.O. ADDED ITEM 52; DELETED ITEMS 13, 14, 25 & 44		
T	SEE REV. E.O. M/L ITEM 9 WAS 123943		
U	SEE REV. E.O. ITEM 9 WAS 131958, 2 REQD. DELETED ITEMS 11 & 12, ADDED ITEM 60		

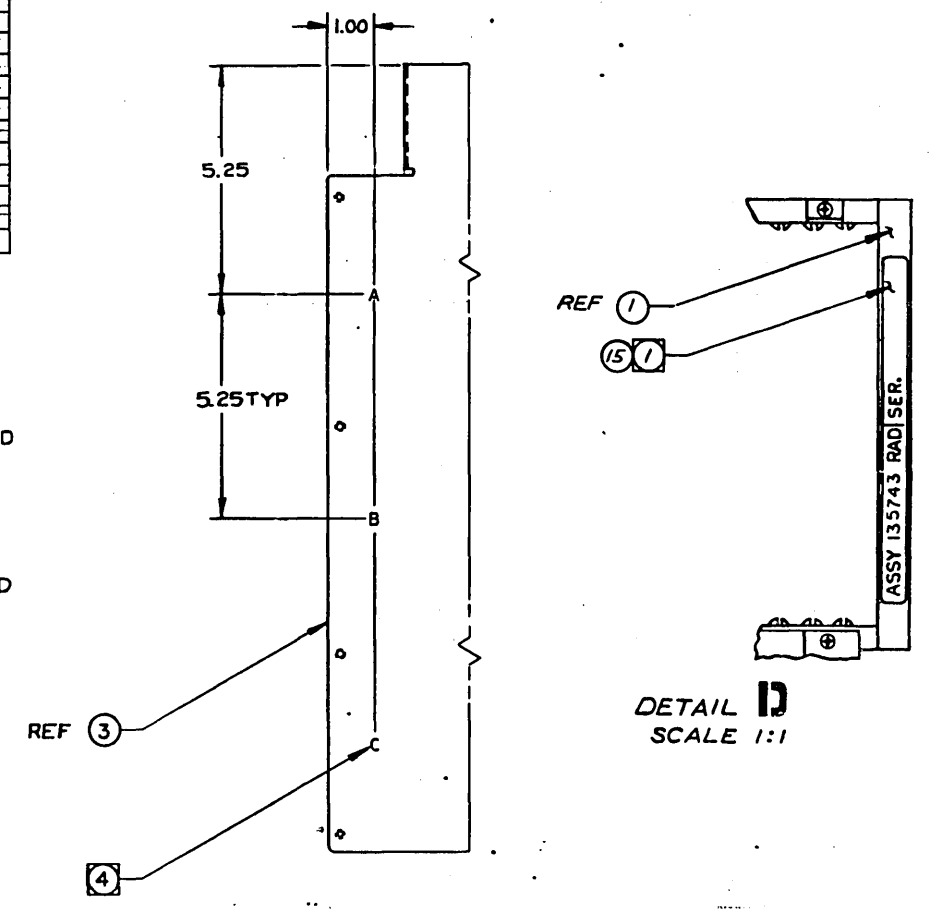
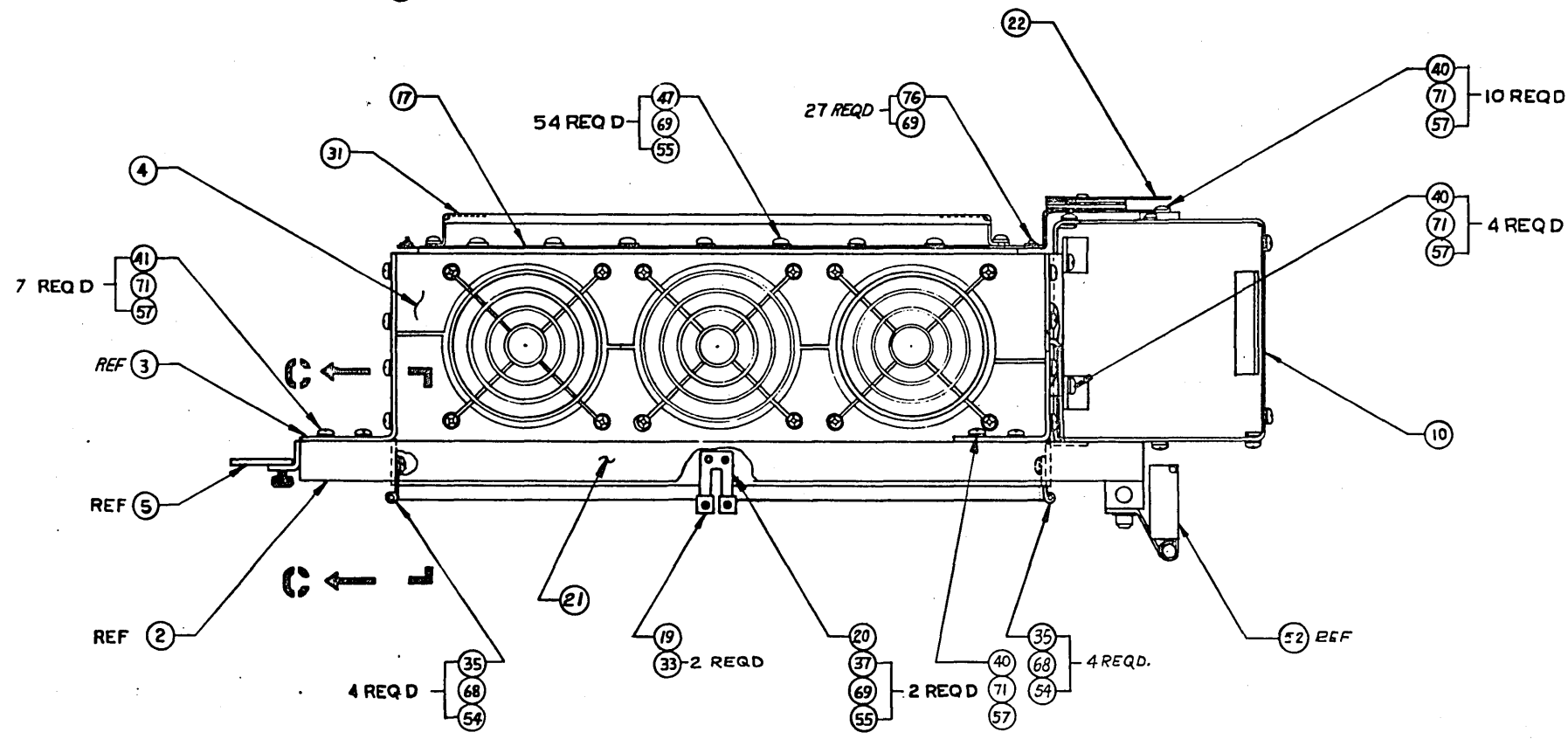
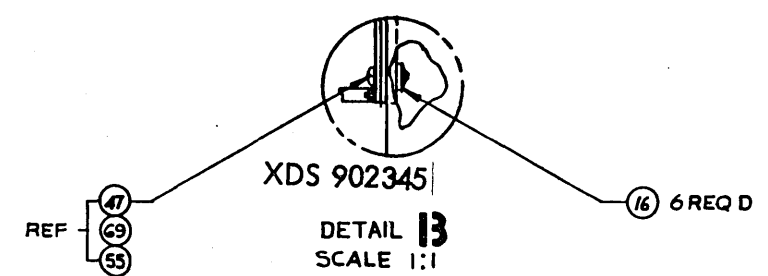
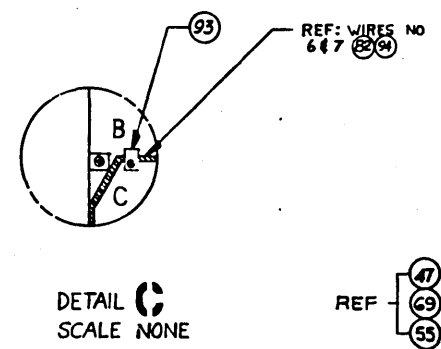


DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
12-6-66	ASSY, RAD CONTROLLER		
12-6-67			
12-7-66			
7201			
135743			

135743 U

REVISIONS				135743
REV.	DESCRIPTION	CHK.	DATE	APPROVED
1	SEE SHEET ONE			

WIRE LIST							
WIRE NO.	TERM	FROM	TO	TERM	WIRE TYP	NOTES	SIGNAL
1	78	-8V BUS	-8V BUS	78	64	(7) (8)	-8V
2	79	0V BUS	0V BUS	79	63		0V
3	78	+4V BUS	+4V BUS	78	64		+4V
4	78	+8V BUS	+8V BUS	78	64	(7)	+8V
5	65	PT 16 GRD	CABINET GRD	65	63		0V
6	87	23C00	TB2-3	MECH	64(82)		0V
7	87	23C05	TB2-4	MECH	64(82)	(8)	INT
8	87	30A50	22A50	87	64		-8V
9	87	22A50	15A50	87	64		-8V
10	MECH	15A50	8V BUS	65	65	(10)	8V
11	87	32C50	30C50	87			-8V
12	87	30C50	29C50	87			-8V
13	87	29C50	28C50	87			-8V
14	87	28C50	26C50	87			-8V
15	87	26C50	09C50	87			-8V
16	87	09C50	06C50	87			-8V
17	87	06C50	05C50	87			-8V
18	87	05C50	04C50	87			-8V
19	87	04C50	02C50	87			-8V
20	MECH	02C50	-8V BUS	65	65	(10)	-8V



VIEW A-A

SECTION C-C  
ROTATED 90° CLOCKWISE

REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
		MATERIAL LIST		
NOTES UNLESS SPECIFIED		DRAWN: <i>[Signature]</i> 12-6-66	 SCIENTIFIC DATA SYSTEMS SANTA MONICA, CALIFORNIA	
1. TOLERANCES UNLESS SPECIFIED		CHECK: <i>[Signature]</i> 1-6-67		
2. BREAK ALL SHARP EDGES AND SPICES		APPR: <i>[Signature]</i> 12-6-66		
3. MARK DIMENSIONS		TITLE <b>ASSY, RAD CONTROLLER</b>		
4. ALL DIM IN INCHES				
MODEL NO.	FIRST USE	7201	REV. NO.	D
NEXT ASSY.			135743	U
		SCALE 1/2	DO NOT SCALE DRAWING	SHEET 2 OF 6

135743 U

REV. U  
 DRAWING NO. 135743  
 ML

**305**

MATERIAL LIST

**ML**

DRAWING NO. 135743	REV. U
-----------------------	-----------

XDS 902345

DRAWING TITLE ASSY, RAD CONTROLLER MODEL NO. 7201 DATE 12/3/66 SHEET 3 OF 6

ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
1	Chassis, 32 Module	116231	3	
2	Frame, Swing	127821	1	
3	Angle Chassis Mtg.	128207	1	
4	Assy, Fan-Top	159520	1	
5	Brkt, Locking	111097	2	
6	Brkt, Chassis & PT16 Mtg.	128208	1	
7	Channel, Cable Routing	116522	2	
8	Channel, Cable Routing	123940-001	1	
9	Door, Chassis	131958-002	1	
10	Assy, Power Supply	117264	1	PT16 MDL 123509
<del>11</del>	<del>Hinge, Chassis Door</del>	<del>131959</del>	<del>1</del>	
<del>12</del>	<del>Hinge, Chassis Door</del>	<del>131950</del>	<del>1</del>	
<del>13</del>	<del>Block, Swing Frame Hinge</del>	<del>117137</del>	<del>2</del>	
<del>14</del>	<del>Pivot, Hinge Swing</del>	<del>117136</del>	<del>2</del>	
15	Strip, Marker	135171	1	
16	Nut, Strip Speed	129567-001	6	
17	Assy, Controller Backwiring Board	135744	1	
18	Angle, Filter Mtg.	135641	2	
19	Trigger, Door Latch	129554	2	
20	Spring, Door Latch	129540	1	
21	Brkt, Door Latch Mtg. Support	129940	1	
22	Assy, Busbar-Controller	132173	1	
23	Nut, Unistrut	124631-005	4	Shipped with assy
24	Filter, Air Panel	117427	1	
<del>25</del>	<del>Pin, Prec. Dowel</del>	<del>134897</del>	<del>2</del>	
26	List, Wire Controller	135745 K	x	ref.
27	Logic Equations	135746 K	x	ref.
28	Installation Dwg. Controller	135747	x	ref.
29	Chart, Module Location	135748	x	ref.
30	List, Master Dwg.	135742	x	ref.
31	Bracket, Pin Protect	132165-001	1	
32	SCR'W PAN HD.	100012-306	1	

**SOS**

**MATERIAL LIST**

**ML**

DRAWING NO.

REV.

135743

U

XDS 902345

DRAWING TITLE ASSY RAD CONTROLLER

MODEL NO. 7201

DATE 12/3/66 SHEET 4 OF 6

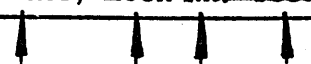
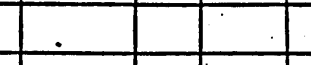


135743

ML

ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
33	Screw, Pan Hd	100012-106	2	
34	↑ ↑ ↑	100012-203	18	
35	↑ ↑ ↑	100012-205	8	
36	↑ ↑ ↑	100012-206	4	
37	↑ ↑ ↑	100012-304	10	
38	↑ ↑ ↑	100012-405	14	
39	↑ ↑ ↑	100012-410	2	Shipped with assy
40	↓ ↓ ↓	100012-505	15	
41	Screw, Pan Hd	100012-508	13	3 Shipped with assy
42	Screw, Cap, Stl. Hex Hd.	101441-102	6	Shipped with assy
43	Screw, Cap, Stl, Hex Hd.	101441-103	1	Shipped with assy
44	Screw, Set Socket	107151-304	2	
45	Screw, Cap, Stl Socket Hd.	108505-510	8	Shipped with assy
46	Screw, Cap Stl, Socket Hd.	108505-710	4	
47	Screw, Sheet Metal Pan Hd.	114538-212	54	
48	Spec. Test & Acceptance	126555	ref.	
49	<del>Logic Equations</del>	<del>135746</del>	ref.	
50	Spec Diagnostic	704072	ref.	(Sigma 7)
51	Spec Diagnostic	704027	ref.	(Sigma 2)
52	Hinge Assy	149219	2	
53				
54	Washer, Flat	100018-200	34	
55	↑ ↑	100018-300	65	
56	↑ ↑	100018-400	14	2 Shipped with assy
57	↓ ↓	100018-500	28	3 Shipped with assy
58	Washer, Flat	100018-600	8	Shipped with assy
59				
60	Door, Chassis	131958-001	1	
61				
62				
63				
64				



DRAWING TITLE **ASSY, RAD CONTROLLER** MODEL NO. **7201** DATE **12/3/66** SHEET **5** OF **6**

ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
65	Washer, Lock Spring	100023-500	8	Shipped with assy
66	Washer, Lock Spring	100023-700	4	
<b>ML</b> 67	<del>Washer, Lock Int. Tooth</del>	<del>100024-100</del>	<del>2</del>	<del>_____</del>
68		100024-200	30	
69		100024-300	91	
70		100024-400	14	2 Shipped with assy
71		100024-500	28	6 Shipped with assy
72	Washer, Lock Int. Tooth	100024-600	1	Shipped with assy
73				
74				
75	Nut, Hex Machine	100008-200	4	
76	Nut, Hex Machine	100008-300	27	
77	Nut, Hex Machine	100008-600	1	Shipped with assy
78	Terminal, Ring Tongue	132570-003	6	
79	Terminal, Ring Tongue	132570-004	2	
80	Assy, Cable-Module Kit	152498	REF.	
81	Spyrap	101625-003	A/R	
82	Wire Stranded Twisted Pair	133559-026	A/R	
83	Wire, Stranded Ins.	131436-910	A/R	
84	Wire, Stranded Ins.	131436-914	A/R	
85	Terminal Ring Tongue	132570-001	2	<del>2 Shipped with assy</del>
86	<del>Terminal, Ring Tongue</del>	<del>132570-004</del>	<del>1</del>	<del>_____</del>
87	Terminal, Inverted Crimp	123879	2	
88	Clamp, Cable	100657-002	2	<del>1 Shipped with assy</del>
89	<del>Clamp, Cable</del>	<del>130815</del>	<del>1</del>	<del>Shipped with assy</del>
90	Cord, Lacing	102066-001	A/R	
91	Assv, Maint. <sup>Disc Memory</sup> Doc. Controller	136360	1	ref.
92	Clamp'	100657-007	2	
93	Clamp, Cable	100657-001	1	
94	Tubing	100744-107	A/R	
95	Wire, Solid	116741-928	A/R	
<b>138</b> 96	Crystal Quartz	128131-008	1	Install in Item 105

REV.

U

SDS

## MATERIAL LIST

ML

DRAWING NO.

REV.

135743

U

XDS 902345

DRAWING  
TITLE

ASSY, RAD CONTROLLER

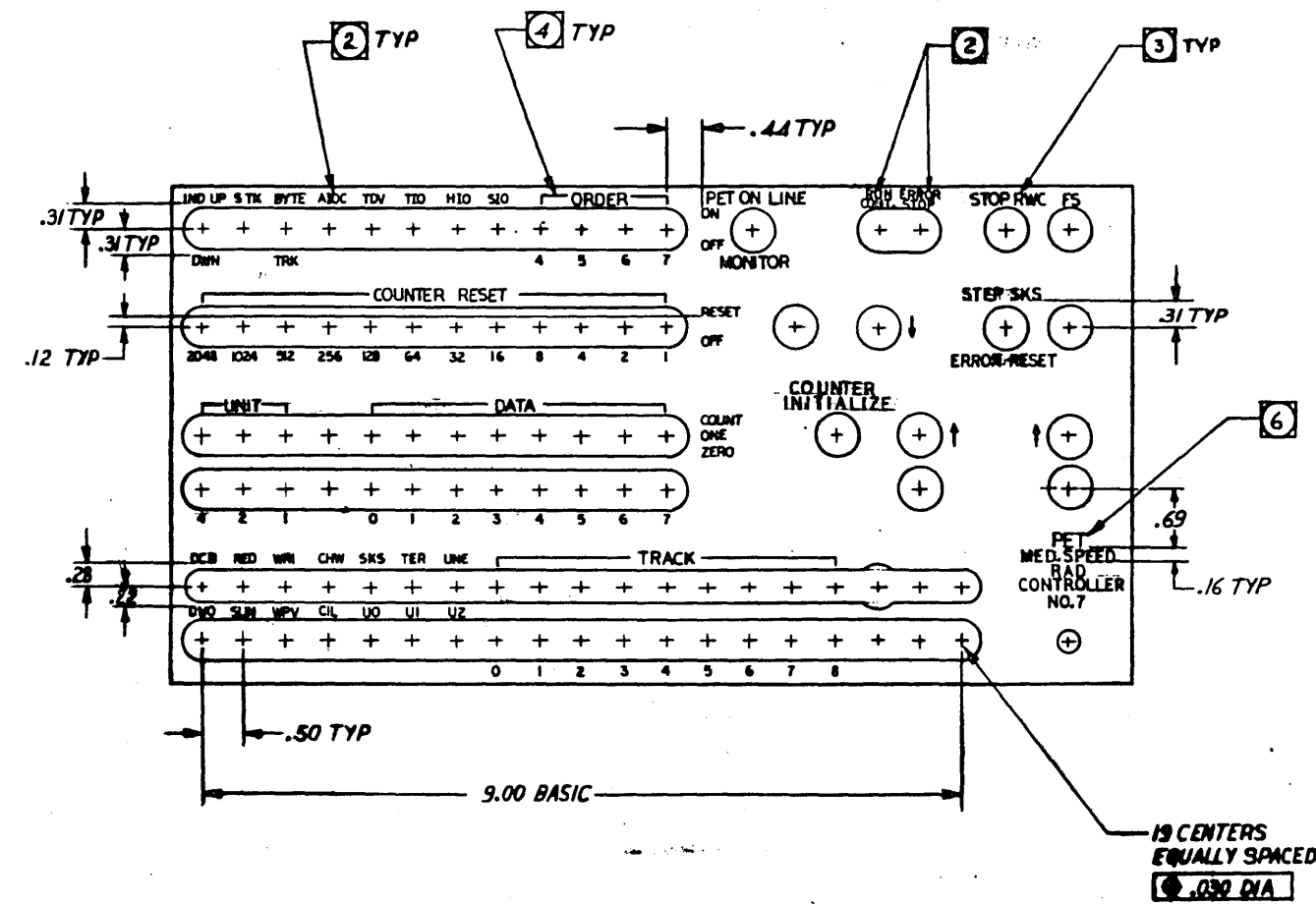
MODEL NO. 7201

DATE 12/3/66 SHEET 6 OF 6

ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS CN CKT. DESIG.
97	Assy, FW, Cable Receiver	123018	1	XT10 See MDL 123756
<del>98</del>	<del>Cable Driver Recvr.</del>	<del>123019</del>	<del>1</del>	<del>AT11 116530</del>
99	Cable Driver	124629	1	AT12 124665
<del>100</del>	<del>Cable Driver Recvr.</del>	<del>126714</del>	<del>1</del>	<del>AT17 126715</del>
101	Buffered And/Or Gate	116056	5	BT10 116057
102	Band Gate	116029	11	BT11 116030
103	Buffered Matrix	116407	2	BT13 116409
104	Gated Buffer	126330	5	BT17 126486
105	Clock Oscillator	123491	1	CT10 123863 (9)
106	Delay Line	127319	1	DT14 127320
107	Delay Element	128172	1	DT16 128173
108	Basic Flip Flop	116380	3	FT10 116382
109	Gated Flip Flop	117028	7	FT12 117029
110	Fast Access <sup>16 x 8</sup> Memory	126743	1	FT25 126744
111	Buffered Latch #3	126856	3	FT26 126857
112	Buffered Latch #2	126986	6	FT27 126987
113	Register Flip Flop	133251	1	FT41 133250
114	Delay Line Sensors	127391	1	HT15 127392
115	Gated Delay <sup>sensor</sup> Line	128011	1	HT16 127397
116	Nand Gate	116994	1	IT11 116995
117	Inverter Matrix	117000	2	IT13 117001
118	Gated Inverter	117375	3	IT15 117376
119	Nand Gate	126372	1	IT18 126421
120	Nand-Nor Gate	128188	1	IT24 128189
121	Buffer Inverter #2	123017	1	LT14 123354
122	Logic Element	126710	1	LT24 126711
123	Logic Element	126712	1	LT25 126713
124	Switch Comparator	126982	1	LT26 129983
125	Logic Element	133392	1	LT41 133391
126	Logic Element	133657	1	LT43 133656
127	Keyboard Display	134278	1	LT58 134277
128	Assy, FW, Terminator Module	116257	2	XT10 See MDL 116271

REVISIONS		DATE	BY
A	MFG RELEASE		
B	MARKINGS CHANGED: RUN CONT. WAS: RUN; ERROR STOP WAS: CONT; STEP SKS WAS: STEP; ERROR RESET WAS: SKS; COUNTER INITIALIZE WAS: INITIALIZE; MODEL NO. WAS: 8904; NEXT ASSY WAS: 130775; PET MED. SPEED RAD WAS: PET RAD; NOTE WAS: 8 POINT NOTE; NOTE WAS: 10 POINT NOTE; NOTE WAS: 12 POINT.	1/17	
C	STOP E.O.		
D	SEE REV. E.O. CORRECTED "B" REV. AS FOLLOWS: MARKINGS: COUNTER INITIALIZE WAS: COUNTER ANALYZE; PET MED. SPEED RAD CONTROLLER NO. 7 WAS: PET RAD CONTROLLER NO. 7 (ZONE A2, B2). THE NOTES: NOTE WAS: 8 POINT, NOTE WAS: 10 POINTS, & NOTE WAS 78 POINTS.	4/13	

- NOTES: UNLESS OTHERWISE SPECIFIED
- IDENTIFY PER SDS SPEC 100198, FAR SIDE.
  - SILKSCREEN CHARACTERS 6 POINT NEWS GOTHIC COLOR, DARK GRAY PER SDS SPEC 126405.
  - SILKSCREEN CHARACTERS 8 POINT NEWS GOTHIC COLOR, DARK GRAY PER SDS SPEC 126405.
  - LINE WIDTH .030, COLOR, DARK GRAY PER SDS SPEC 126405.
  - LOCATE ALL CHARACTERS SYMMETRICALLY ABOUT INDICATED CENTERLINES.
  - SILKSCREEN CHARACTERS 10 POINT NEWS GOTHIC COLOR, DARK GRAY PER SDS SPEC 126405.

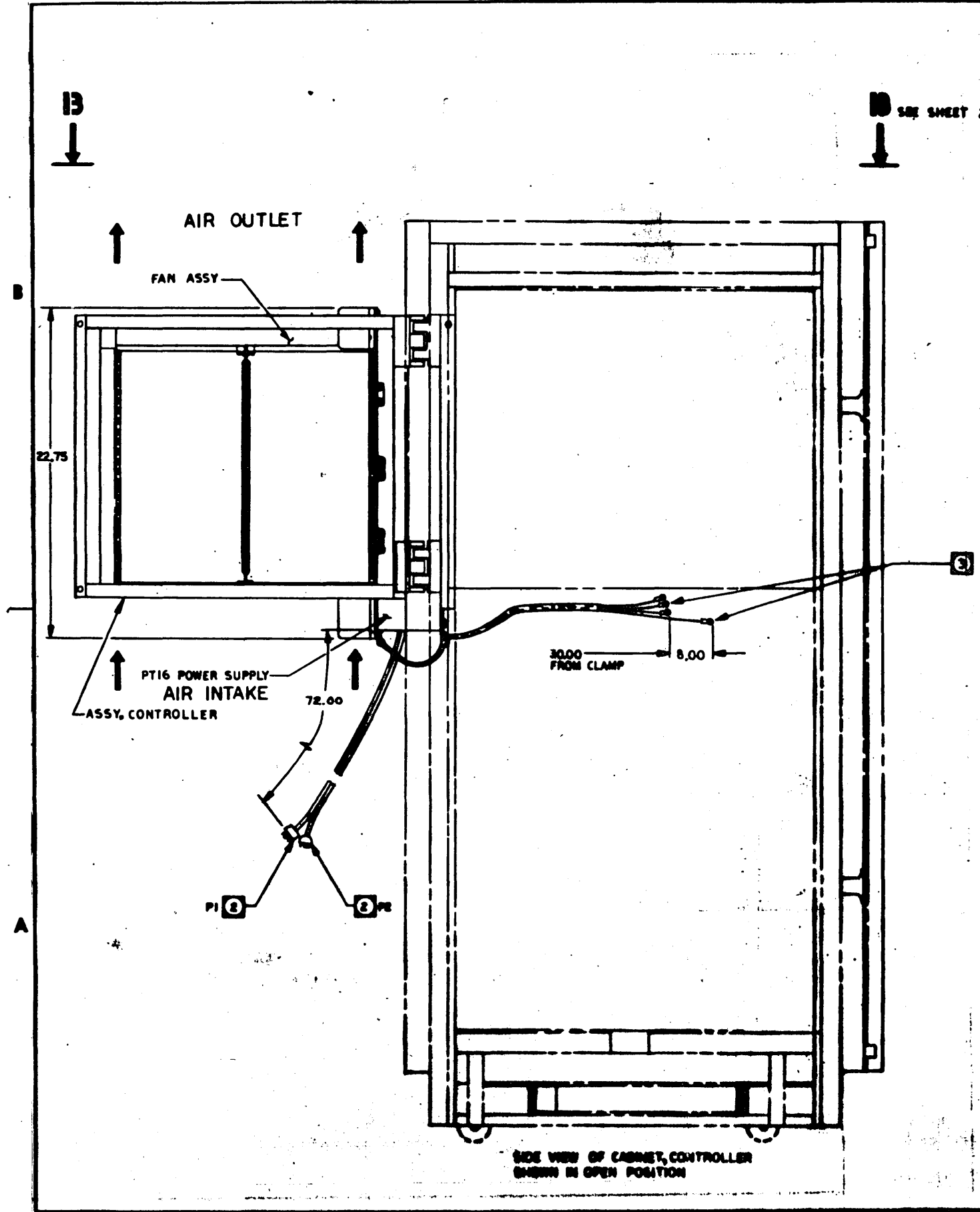


DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
MATERIAL LIST		
DESIGNED BY: [Signature] CHECKED BY: [Signature] APPROVED BY: [Signature] DATE: 1-20-67	DRAWN: [Signature] 1-17-66 CHECKED: [Signature] 2/16/67 APPROVED: [Signature] 1-20-67 MATERIAL: MAKE FROM SDS PART NO. 126575	TITLE: PANEL, OVERLAY, RAD CONTROLLER SHEET: D DATE: 136431 SCALE: 1/1
FIRST USE: 7201 PRINT USE: 136743		



REV	DESCRIPTION	DATE	BY	APPROVED
A	W6 RELEASE			

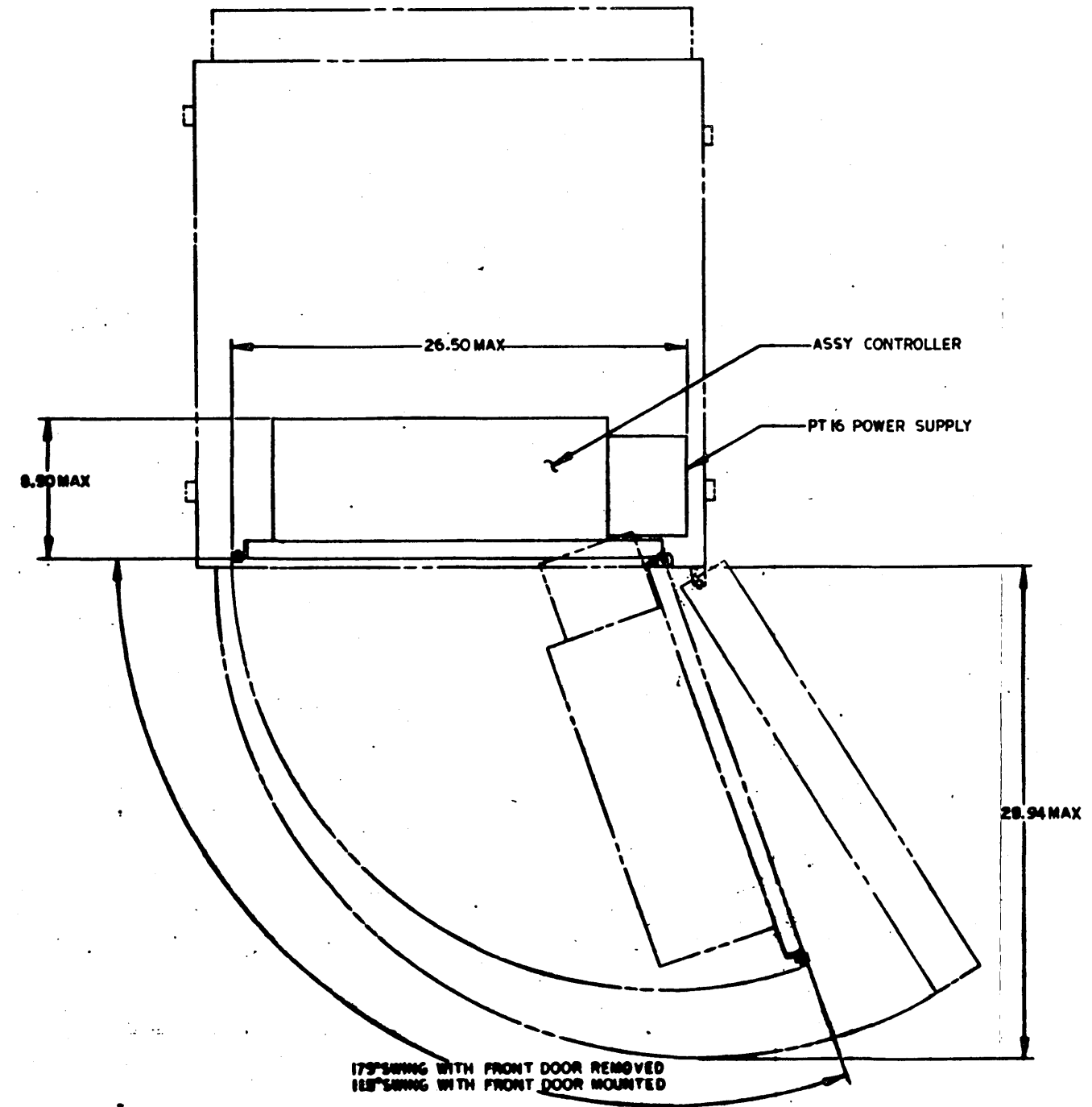
- NOTES, UNLESS OTHERWISE SPECIFIED
- SEE THE SPECIFIC SIGMA 7 COMPUTER SYSTEM ASSEMBLY DWG. FOR POWER SUPPLY REQUIREMENTS.
  - PT16 POWER SUPPLY IS PROVIDED WITH ONE 2 CONDUCTOR SHIELDED CABLE TERMINATING WITH A MALE CONNECTOR, P1 (120V 2400 CPS) AND ONE 3 CONDUCTOR CABLE TERMINATING WITH A MALE CONNECTOR, P2 (120V 50/60 CPS).
  - WIRES FROM CONTROLLER ARE LABELED -BV BUS, 0V BUS, +4V BUS, +8V BUS CHASSIS A.
  - WEIGHT, ASSEMBLY, CONTROLLER 62 LBS.
  - REFERENCE DRAWINGS:  
 CHART, MODULE LOCATION - 135748  
 LIST, MODULE CONTROLLER - 135745  
 LOGIC EQUATIONS - 135746  
 TEST, RAD CONTROLLER - 135743  
 SIGMA 7 SYSTEM INSTALLATION DWG. - 134056  
 MASTER DWG. LIST - 135742



SIDE VIEW OF CABINET, CONTROLLER SHOWN IN OPEN POSITION

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
135747	INSTALLATION DWG. RAD CONTROLLER	
DATE: 12-5-66	BY: [Signature]	APPROVED: [Signature]
PROJECT NO: 7201		
DWG NO: 135743		

REVISIONS			
REV.	DESCRIPTION	CHK	DATE
	SEE SHEET ONE		



**VIEW B-13**  
WITH CONTROLLER IN  
CLOSED POSITION  
ROTATED CCW 90°  
SCALE: NONE.

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
	SCIENTIFIC DATA SYSTEMS SANTA MONICA, CALIFORNIA	
MATERIAL LIST		
1. DIMENSIONS 2. DIMENSIONS 3. DIMENSIONS 4. DIMENSIONS 5. DIMENSIONS	DRAWN: [Signature] 12-1-66 CHECK: [Signature] 12-5-66 APPR: [Signature] 12-5-66 MATERIAL:	TITLE <b>INSTALLATION DWG, RAD CONTROLLER</b>
MODEL NO. FIRST USE: 7201 DRAWING NO. FIRST USE: 135743	FINISH:	DWG. NO. <b>D 135747</b> SCALE: DO NOT SCALE DRAWING SHEET 2 OF 2 19634A

1.0 SCOPE

1.1 This procedure describes the data interface cabling between the Sigma Rad device controller and the I/O channel and/or other device controllers. This procedure further describes the data interface and power cabling from the device controller to selection unit, and selection unit to selection unit.

2.0 I/O CHANNEL DATA INTERFACE

2.1 J1\*, J2\* and J3\* shall connect to the device controller module locations 32C, 30C and 28C respectively. Where this Rad device controller is the last device controller in this I/O channel, install one terminator (P/N 127315) at each of the following locations: 28C, 30C and 32C. The I/O channel cables shall be part number 127314-xxx.

2.2 J4\* (priority cable). Connect cable (P/N 127314-xxx) from lower priority device controller (or IOP) to component side of 26C. Connect cable (P/N 127314-xxx) to higher priority device controller to etch side of 26C. Where no higher priority device controller exists, replace cable on etch side of 26C with terminator, P/N 128047.

\* See SDS dwg. 123382, Specification, Design-8-Bit Data Path Interface.

XDS 902345

MSE-4-3-11-00

TITLE PROCEDURE, INSTALLATION RAD INTERCONNECTIONS	SDS	
	134124	C
	SHEET 2	OF 4

3.0 RAD DATA INTERFACE

3.1 On the 7202 (123084), 7203 (123085) or 7204 (123086) install two cables (P/N 127314-561) between device controller module locations A30 and A32 (etch side) and selection unit module locations A18 and A28 (component side) respectively. Install two terminators (P/N 127315) at device controller module locations A30 and A32 (component side). For each additional RAD (cabinet including selection unit and file) \*\*, install two cables (P/N 127314 -xxx) from higher order selection unit module locations A18 and A28 (etch side) to next lower order selection unit module locations A18 and A28 (component side) respectively. Install two terminators (P/N 127315) on the lowest order selection unit module locations A18 and A28 (etch side).

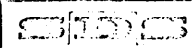
3.2 On the 7205 (132834) install two cables (P/N 127314-561) between device controller module locations A30 and A32 (etch side) and selection unit module locations B10 and B20 (component side) respectively. Install two terminators (P/N 127315) at device controller module locations A30 and A32 (component side). For each additional RAD (cabinet including selection unit and file) \*\*, install two cables (P/N 127314-xxx) from higher priority selection unit module locations B10 and B20 (etch side) to next lower selection unit module locations B10 and B20 (component side) respectively. Install two terminators (P/N 127315) on the lowest order selection unit module locations B10 and B20 (etch side).

XDS 902345

4.0 REMOTE ON-OFF

4.1 Connect remote on-off (120VAC, 60CPS, 1Ø) at J3 on the power distribution box of the highest order cabinet (use P/N 127676, plug). Connect remote on-off (going to additional equipment) at J4 on the power distribution box of the lowest order cabinet (use P/N 127674, plug).

\*\* Maximum of eight cabinets.

TITLE  PROCEDURE, INSTALLATION RAD INTERCONNECTIONS		
	134124	C
	SHEET 3	OF 4



5.0 EXTERNAL AC POWER

5.1 Each Rad cabinet requires 208 VAC, 60CPS, 3Ø (30 amperes maximum per cabinet) power to be connected at TBl of the power distribution box.

6.0 INTERCABINET AC POWER

6.1 AC power is conducted from power distribution Panel (P/N 131325) to power distribution Panel (P/N 131325) through three cables as follows:

FROM (high order cabinet)	TO (next to lower order cabinet)	SDS CABLE PART NO.
J5	J1	133928
J4	J3	133929
J7	J6	133930

XDS 902345

7.0

7.1 All cables, plugs and terminators referenced in this procedure will be supplied at computer system assembly level.

13-13/3-14

TITLE  PROCEDURE, INSTALLATION RAD INTERCONNECTIONS.	SDS	
	134124	C
	SHEET 4	OF 4




		REVISIONS			126555	H
LAL	REV.	DESCRIPTION	CHK	DATE	APPROVED	
X	A	MANUFACTURING RELEASE	ML	3/13/67	ML	ML
	B	REVISED AND REDRAWN	ML	4/16/67	ML	ML
	C	REVISED AND REDRAWN	ML	7/19/67	ML	ML
	D	SEE REV. E.O. REVISED AND REDRAWN	CB	8/6/68	ML	ML
	E	DCR 25378 REVISED FIG. 5.4.1.2. TABLE 6.5.2.4	CB	2/5/69	JRT	JRT
	F	See Rev. E.O. Revised & Redrawn	CB	4/15/69	CB	4-15-69
	G	SEE E.O. 126550M. REVISED PARA'S 5.6.13, 5.6.13.1, 5.6.13.2, 5.6.13.3, 5.6.13.4, 5.7.11, 5.7.11.1, 5.7.11.2, 5.7.11.3, 5.7.11.4 & 6.1.2. J.M.	CB	5/1/69	JRT	JRT
	H	SEE REV. E.O.; ADDED PARA. 5.01 & 5.0.1.1, REV. TABLE 6.5.2.4	CB	8/21/69	JRT	JRT

418

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
----------	-------------	-------------	-----------------------	----------

MATERIAL LIST

NOTES UNLESS SPECIFIED  1. TOLERANCES .XX ±.030 ANGULAR ±1/4° .XXX ±.010  2. BREAK ALL SHARP EDGES .010 APPROX.  3. KACH. SURFACES ✓  4. ALL DIM. IN INCHES	DRAWN U. Helfer 3/13/67	 SANTA MONICA, CALIFORNIA	
	CHECK <i>[Signature]</i> 3/31/67		TITLE  SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD
	APPR. <i>[Signature]</i> 3-31-67		

MODEL NO. First U. 7201	SIZE A	DWG. NO. 126555	CHANG LETTER H
NEXT ASSY. First U. 135743	DO NOT SCALE DRAWING		SHEET 1 of 78

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1.0 SCOPE

Successful completion of this specification shall verify compliance to all requirements of Specification, Product Design, Disc Memory, Medium Speed, SDS Dwg.No.124399, from basic start-up through endurance testing.

2.0 CRITERIA

Failure of the system to perform any designated operation or the inability to bring any adjustment within its indicated tolerance as specified herein, shall be the cause for rejection and retest of the system.

3.0 APPLICABLE DOCUMENTS

DRAWING TITLE	MODEL	SDS DWG. NO.
Installation Dwg. Disc Memory	-	135345
Chart, Module Location	7201	135748
Chart, Module Location	7202,3,4	126552
<del>Chart, Module Location</del>	<del>7205</del>	<del>132845</del>
Chart, Module Location	-	136437
Logic Equations	7201	135746
List, Wire Controller	7201	135745
<del>Logic Equations</del>	<del>7202,3,4</del>	<del>134123</del>
<del>List, Wire Selector</del>	<del>7202,3,4</del>	<del>126351</del>
Logic Equations	7205	132833
List, Wire Selector	7205	126641
Medium Speed Memory test	Sigma 7/5	704072-B
Hi-Capacity Rad Test	Sigma 2	704980
Assy Controller	7201	135743
Design Specification -		
Diagnostic Control Program	Sigma 7/5	700971
Manual, DCP	Sigma 7/5	900712
Manual, DCP	Sigma 2	900839

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Applicable Documents (Continued)

DRAWING TITLE X	MODEL	SDS DWG. NO.
Assy Disc Memory Unit	7202	123084
Assy Selection Unit	7202,3,4	126550
Assy Power Distribution Panel	-	131325
Assy Disc Memory Unit	7203	123085
Assy Disc Memory Unit	7204	123086
<del>Assy Rad Memory Unit</del>	<del>7205</del>	<del>132834</del>
<del>Assy Selection Unit</del>	<del>7205</del>	<del>126584</del>
Procedure Installation Rad Interconnection	-	134124
Specification for Rad File Diagnostic	Sigma 7/5	702302
Manual, Medium Speed RAD File Test,	Sigma 7/5	901130
Manual, High-Capacity RAD File Test,	Sigma 2	901538A

4.0 PREREQUISITES

## 4.1 AC Power

208V 3Ø 60 Hz 30 amps/phase (60 Hz Units)  
208V 3Ø 50 Hz 30 Amps/ Phase (50Hz Units)

## 4.2 Test and measuring Equipment

Card Extender	SDS 117036
Oscilloscope	Tektronix 545A or Equiv.
Oscilloscope Preamp.	Tektronix CA or Equiv.
Oscilloscope Preamp.	Tektronix W or Equiv.
VOM	Triplet 630A or Equiv.

All test and measuring equipment shall have a current calibration sticker.

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4.3 Computer Equipment

Peripheral Equipment Tester  
PET Overlay  
Sigma 7 or Sigma 2 Computer  
Card or Paper Tape Reader

JT14  
SDS 136431

Model 7120 (card) or Model 7061 (tape)

5.0 TEST PROCEDURE

5.0.1 High Pot Test

5.0.1.1 With AC power and logic wiring disconnected from the disc (123387, 126926, 126927, 152434, and 158177) measure the resistance of each Y line to ground. This resistance shall be greater than  $1 \times 10^9$  OHMS with 50 volts applied.

NOTE: On 123387, 126926, and 126927 Y lines are located on pins 1 thru 36 of P8-OA, P8-OB, P8-1A, P8-1B, P8-2A, P8-2B, P8-3A, and P8-3B. On 152434 and 158177 Y lines are located on pins 1 thru 42 of P8-OA, P8-OB, P8-1A, P8-1B, P8-2A, P8-2B, P8-3A and P8-3B.

5.1 General Precautions

5.1.1 Insure that Ac power is disconnected from the RAD.

5.1.2 Insure that all modules are removed from the controller, selection unit and disc interface.

5.2 Visual Inspection

5.2.1 Insure that all cables between the controller, selection unit, disc interface, power supplies and power distribution box are installed as indicated on their respective installation drawings.

5.2.2 Inspect controller, selector and disc interface for loose wires, bent pins, etc.

5.3 Power Tests

NOTE: Unless otherwise noted, power tests pertain to all models.

5.3.1 Continuity check for open, shorts or crossed wires from the PT16 and PT18 power supplies to the controller, selection unit, and disc interface.

5.3.2 Insure switch on power distribution box is OFF (center position). Insure the circuit breaker and toggle switch on the "Disc File Control Chassis" are OFF.

5.3.3 Connect system to 208 VAC 3Ø, 60 Hz, or 50 Hz for 50 Hz unit.

5.3.4 Turn the PT19 and PT16 power supplies to ON.

5.3.5 Set the margin switches on the PT18 and PT16 for normal margins.

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- 5.3.6 Set switch on power distribution box to local.
- 5.3.7 Check, adjust, if necessary, the PT18 and PT16 voltage outputs.  
NOTE: The only adjustment on the PT18 adjusts the +25V. With the +25V adjusted the remaining voltages of the PT18 should fall within 5% of their nominal value.
- \* 5.3.8 Check the selection unit power bus assembly for proper voltages  $\pm$  2% as follows: (7202,3,4)
- +4.0V  
+8.0V  
-8V  
+25V  
-25V
- 5.3.9 Set power distribution box switch to OFF.
- 5.3.10 Install modules as indicated on their respective module location charts.  
NOTE: It is recommended that only a few modules be installed at one time. Do not install or remove modules with power on.
- 5.3.11 Check for proper voltages as in 5.3.7 and 5.3.8.
- 5.3.12 On the Disc File Control Chassis set the circuit breaker to ON. Compressor should run. Set the toggle switch to ON. The disc should turn. If disc does not turn refer to 5.3.14.
- 5.3.13 Check oscillator (CT-10 02C in Controller) for proper crystal.  
60 Hz units - 128131-008  
50 Hz units - 128131-026

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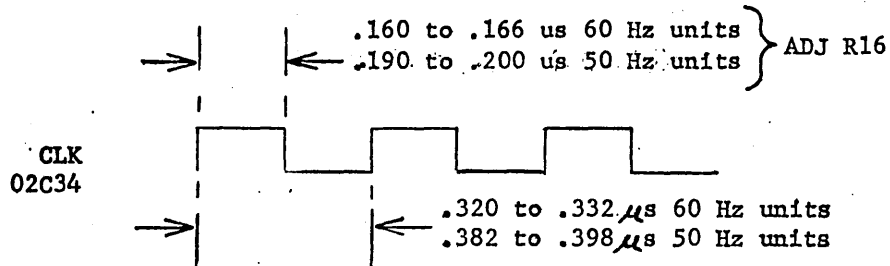
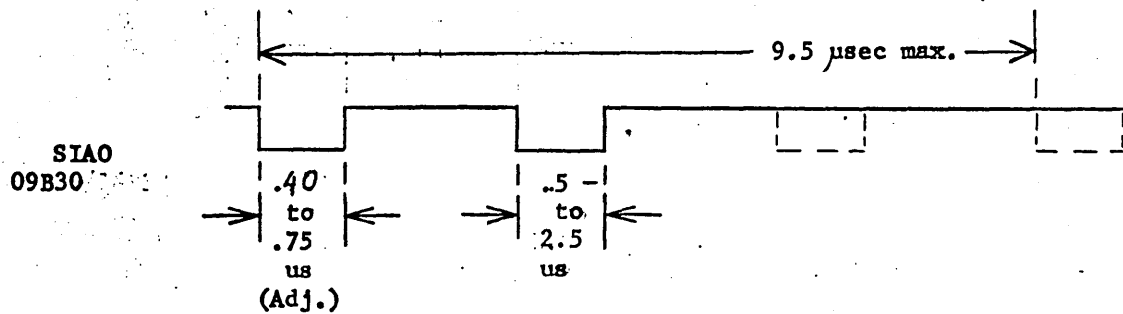


FIGURE 5.4.1.2



2 neg. pulses = Sector pulse  
4 neg. pulses = Index pulse

FIGURE 5.4.2.2

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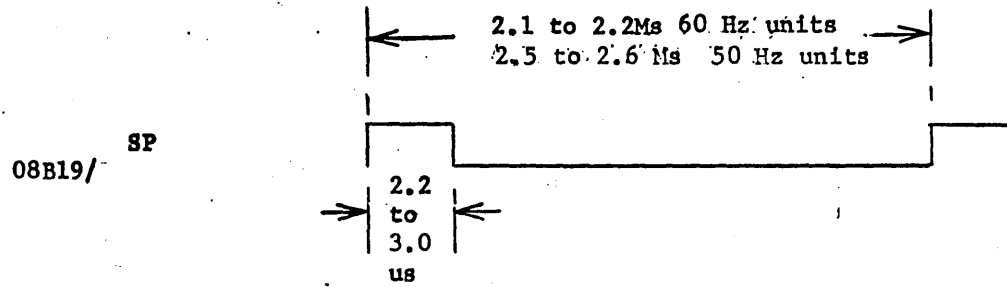


FIGURE 5.4.2.3A

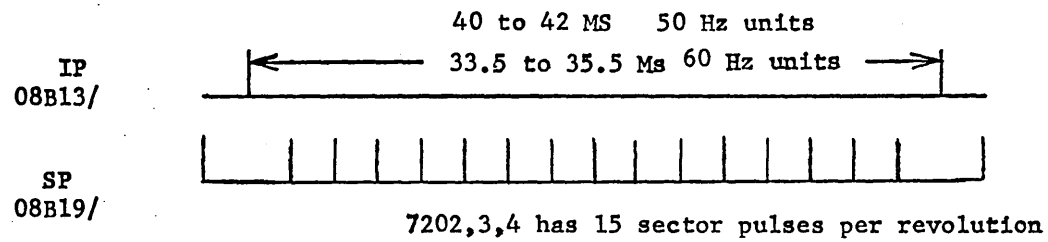


FIGURE 5.4.2.3B

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5.3.14 Insure switches and circuit breaker, 5.3.2, are OFF. Disconnect system from 208VAC. Remove back cover from Power Distribution Panel. Interchange two of the power input wires, TB1-1 and TB1-2. Reconnect system to 208VAC. Repeat 5.3.12 or 5.3.13.

\*5.4 Basic Checks and Adjustments

5.4.1 Oscillator (CT10)

5.4.1.1 Observe the oscillator output at O2C Test Point 'A'. Adjust L1 for maximum amplitude.

5.4.1.2 Adjust R16 on O2C for a symmetrical square wave at O2C34 as in Figure 5.4.1.2

5.4.2 Index/Sector Amplifier

5.4.2.1 Observe sector/index pulse in selection unit at pin 30,09B for 7202,3,4; (Internal Sync)

5.4.2.2 Adjust R28 on 09B (7202,3,4) for waveshape as indicated in Figure 5.4.2.2

5.4.2.3 Observe sector pulse at pin 19,08B (7202,3,4) Ref. Figures 5.4.2.3 A and B.

5.4.2.4 Observe index pulse at pin 13,08B (7202,3,4) Ref. Figure 5.4.2.3.B.

5.5 PET Operation

5.5.1 Preliminary

5.5.1.1 Install PET cables into controller; P181 in location 15A, P183 in location 16A.

5.5.1.2 In controller on module 23C insure that the "On Line - Off Line" switch is in the "Off Line" position (down).

5.5.1.3 In the selection unit set the address switches to "0".

7202,3,4	Location 23A
<del>7205</del>	<del>Location 04B</del>

5.5.1.4 Turn PET power on.  
Turn RAD power on.

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5.5.1.5 Set the 3 toggle switches, on the PET, labled with arrows in the direction of those arrows. Set all other toggle switches down.

Set PET "On Line - Monitor" switch in the "On Line" position.

NOTE: Setting this switch in the down position while the switch in the controller, location 23C, is in the down position will RESET the controller.

## 5.5.2 Seek

5.5.2.1 Set SIO switch up.

Set "ORDER" switches 6 and 7 up. (4 and 5 down).

Set "SGL TRK" up.

Set "IND" switch up.

5.5.2.2 Depress and release FS; DCB and SKS lights should light.

5.5.2.3 Set "DATA" switches 4 and 6 to center position. (All other Data switches down).

5.5.2.4 Depress and release "STEP SKS" .

"Track" lights 1 and 3 should light.

5.5.2.5 Set "DATA" switches 4 and 6 down, 2 and 0 to center position.

5.5.2.6 Depress and release "STEP SKS".

"Track" lights 5 and 7 should come on, 1 and 3 remain on, DCB and SKS go off.

5.5.2.7 "RESET" by setting "MONITOR-ON Line" to Monitor momentarily.

Perform 5.5.2.2 above.

5.5.2.8 Set "DATA" switches 7,5 and 3 to center position (all other Data switches down).

5.5.2.9 Depress and release "STEP SKS". "Track" lights 0,2 and 4 should light.

5.5.2.10 Set "DATA" switches 3 and 1 to center position (all other Data switches down).

5.5.2.11 Depress and release "STEP SKS".

"Track" lights 6 and 8 should come on; 0,2 and 4 remain on; DCB and SKS go off.

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### 5.5.3 Write

5.5.3.1 Insure "SGL TRK" switch is down.

5.5.3.2 Set "SIO" and "Order" switch 7 UP.

Set "DATA" switches 1,3,5 and 7 to center position (01 pattern).

Set "Counter Reset" switches 1 through 256 UP.

Depress "Initialize".  
Set "Run Cont." switch UP.

DCB and WRI lights will light and track register will increment. To stop writing set "Run Cont." down. PET will halt at the track set by the counter reset switches.

### 5.5.4 AN $\emptyset$ through AN3 and SEC.

5.5.4.1 Perform WRI from PET, ref. 5.5.3.

5.5.4.2 Sync scope on AN $\emptyset$  in the controller; 7201 at 25A43.

5.5.4.3 Observe AN $\emptyset$  through AN3 and SEC as indicated on Figure 5.5.4.

### 5.5.5 Delay Line Timing

5.5.5.1 Perform WRI from PET, ref. 5.5.3.

5.5.5.2 Sync scope at 05C15 (7201) observe delay line timing as indicated on Figure 5.5.7.

### 5.5.6 Y Select Test

5.5.6.1 Select track 0

Set "SIO" and "Order" switch 7 UP (WRI instruction).

Set "SGL TRK" UP

Set "Run Cont." UP

5.5.6.2 Check the outputs of the Y select matrix at the points indicated in Table 5.5.6.3. Outputs should be low (0-1V) when selected and high ( $25V \pm 10\%$ ) when not selected.

### 5.5.7 Write Amplifier Test

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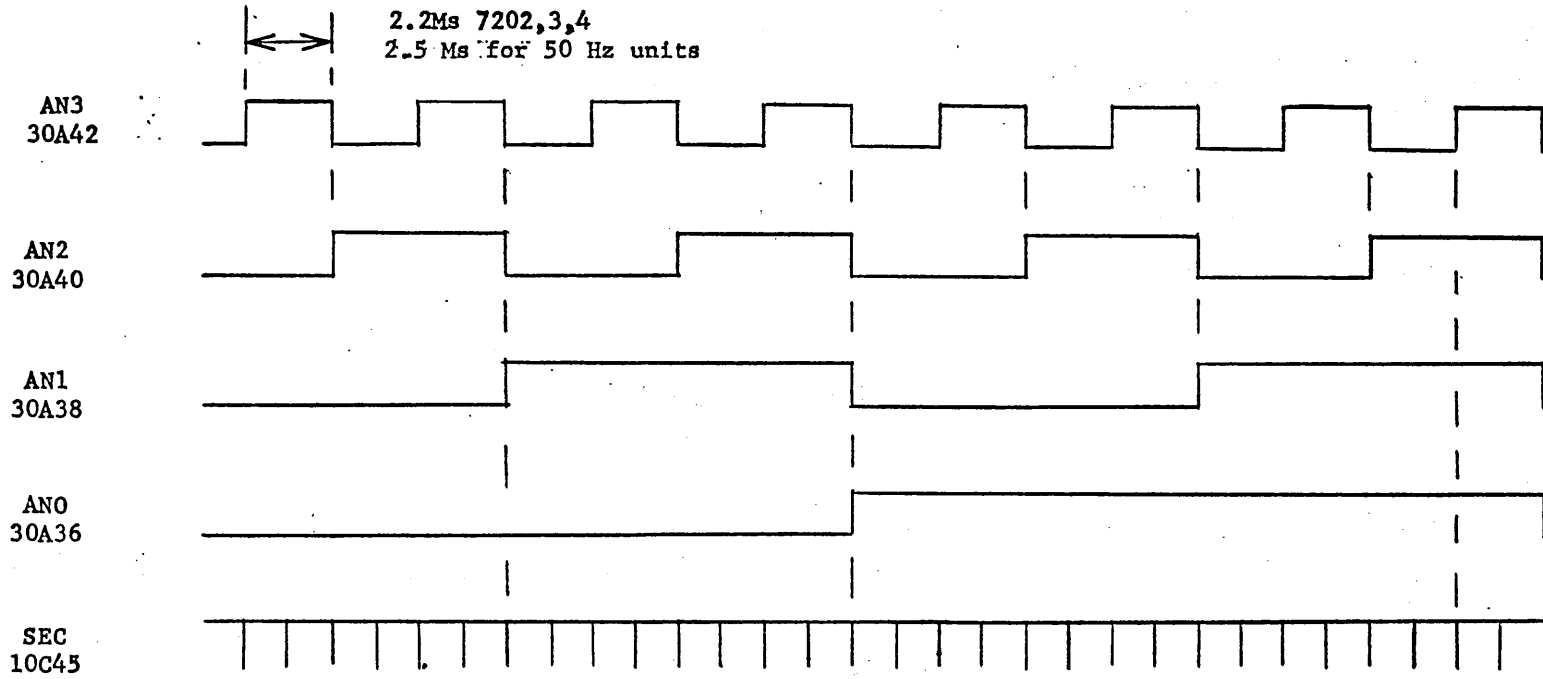


FIGURE 5.5.4

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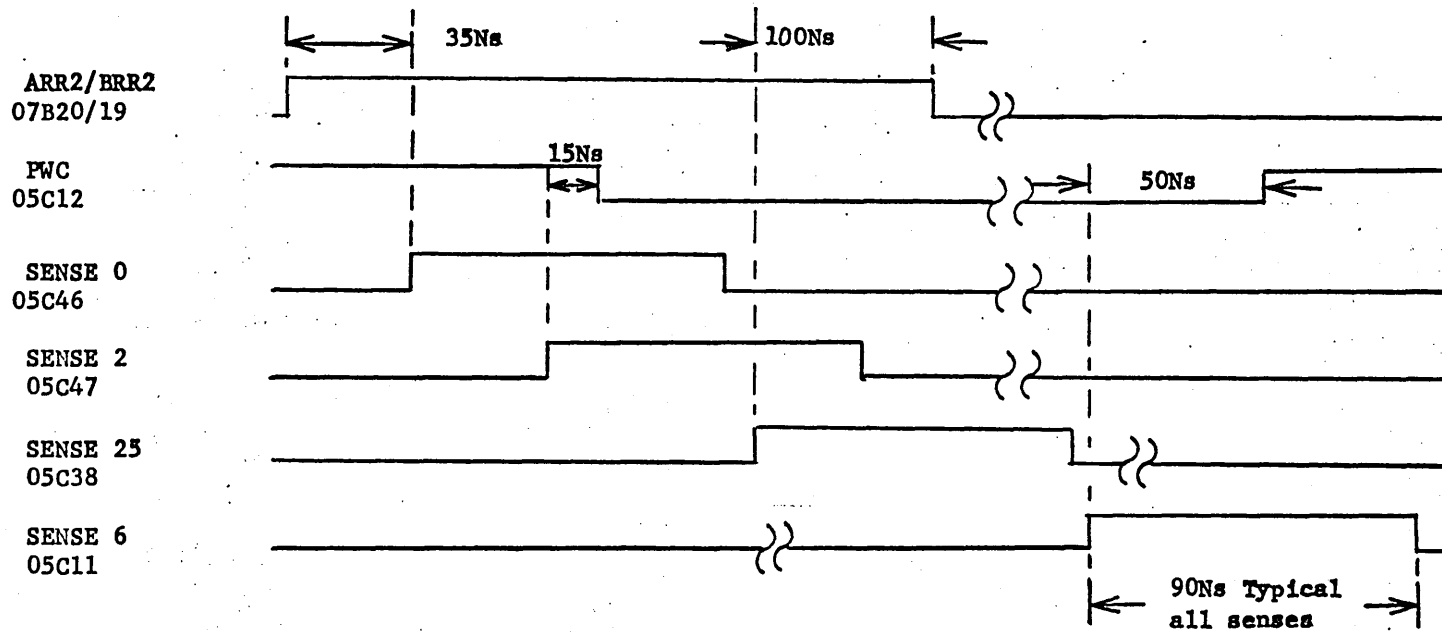


FIGURE 5.5.7

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<u>SIGNAL</u>	<u>TRACK</u>	<u>7202,3,4</u>	<u><del>7205</del></u>
Y00	0	20B36	<del>11B36</del>
Y01	1	20B05	<del>11B05</del>
Y02	2	20B38	<del>11B38</del>
Y03	3	20B06	<del>11B06</del>
Y04	4	20B35	<del>11B35</del>
Y05	5	20B04	<del>11B04</del>
Y06	6	20B37	<del>11B37</del>
Y07	7	20B07	<del>11B07</del>
Y10	8	21B36	<del>12B36</del>
Y11	9	21B05	<del>12B05</del>
Y12	10	21B38	<del>12B38</del>
Y13	11	21B06	<del>12B06</del>
Y14	12	21B35	<del>12B35</del>
Y15	13	21B04	<del>12B04</del>
Y16	14	21B37	<del>12B37</del>
Y17	15	21B07	<del>12B07</del>
Y20	16	22B36	<del>13B36</del>
Y21	17	22B05	<del>13B05</del>
Y22	18	22B38	<del>13B38</del>
Y23	19	22B06	<del>13B06</del>
Y24	20	22B35	<del>13B35</del>
Y25	21	22B04	<del>13B04</del>
Y26	22	22B37	<del>13B37</del>
Y27	23	22B07	<del>13B07</del>
Y30	24	23B36	<del>14B36</del>
Y31	25	23B05	<del>14B05</del>
Y32	26	23B38	<del>14B38</del>
Y33	27	23B06	<del>14B06</del>
Y34	28	23B35	<del>14B35</del>
Y35	29	23B04	<del>14B04</del>
Y36	30	23B37	<del>14B37</del>
Y37	31	23B07	<del>14B07</del>
Y40	32	24B36	<del>Not Applicable</del>
Y41	33	24B05	<del>'' ''</del>
Y42	34	24B38	<del>'' ''</del>
Y43	35	24B06	<del>'' ''</del>
Y44	36	24B35	<del>'' ''</del>
Y45	37	24B04	<del>'' ''</del>
Y46	38	24B37	<del>'' ''</del>
Y47	39	24B07	<del>'' ''</del>
Y50	40	25B36	<del>'' ''</del>
Y51	41	25B05	<del>'' ''</del>
Y52	42	25B38	<del>'' ''</del>
Y53	43	25B06	<del>'' ''</del>
Y54	44	25B35	<del>'' ''</del>
Y55	45	25B04	<del>'' ''</del>
Y56	46	25B37	<del>'' ''</del>
Y57	47	25B07	<del>'' ''</del>

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<u>SIGNAL</u>	<u>TRACK</u>	<u>7202,3,4</u>	<u><del>7205</del></u>
Y60	48	26B36	<del>Not applicable</del>
Y61	49	26B05	<del>— —</del>
Y62	50	26B38	<del>— —</del>
Y63	51	26B06	<del>— —</del>
Y64	52	26B35	<del>— —</del>
Y65	53	26B04	<del>— —</del>
Y66	54	26B37	<del>— —</del>
Y67	55	26B07	<del>— —</del>
Y70	56	27B36	<del>— —</del>
Y71	57	27B05	<del>— —</del>
Y72	58	27B38	<del>— —</del>
Y73	59	27B06	<del>— —</del>
Y74	60	27B35	<del>— —</del>
Y75	61	27B04	<del>— —</del>
Y76	62	27B37	<del>— —</del>
Y77	63	27B07	<del>— —</del>

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TABLE 5.5.6.3 (Sheet 2 cont'd)

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**5.5.7.1 Select Tracks indicated on Table 5.5.7.3 individually as follows:**

Set "SIO" and "Order" switch 7 UP (WRI instruction).

Set "Counter Reset" switches to desired track. Momentarily set "Run Cont" to "Run Con" position. Controller will stop at the track selected. Set "Sgl.Trk" switch UP.

**5.5.7.2 Set "DATA" switches for alternate 10 pattern as in 5.5.3.2.**

**5.5.7.3 Sync scope on WPRE located at 24B14 in the controller. Observe waveshape, Figure 5.5.7.3 at points indicated in Table 5.5.7.3.**

**5.5.8 Data**

5.5.8.1 Perform WRI operation as in 5.5.3.

5.5.8.2 Sync, delayed sweep, on WPRE 24B14 in controller, observe preamble, sync pattern and data at 20C03. Ref. Figure 5.5.8.2.

5.5.8.3 Insure "Data" switches control their respective bits by changing the pattern being written. Refer to Figure 5.5.8. i.e. Data switch 7 must control bit 7 etc.

5.5.8.4 Insure parity is being written. Sync scope on BY359, 08B14 in controller. Observe parity bits at 20C03 (BR7). Ref. Figure 5.5.8.4.

**5.5.9 Clock Discriminator (AT29)**

5.5.9.1 Perform WRI from PET, ref. 5.5.3.

5.5.9.2 Jumper UNEM to ground; 15B31 to 15B32 in controller.

5.5.9.3 Perform Read from PET; Set "SIO" and ORDER switch 6 UP; Set "SGL TRK" UP; Set "RUN CONT" UP.

5.5.9.4 Sync scope positive (+) on DD0B at 31B27.

Perform the checks and adjustment as indicated in Table 5.5.9.5 and Figure 5.5.9.5.

**5.5.10 Check Write**

5.5.10.1 Perform 5.5.3, WRITE instruction, Data pattern of alternate 10. Write entire file halting by setting "RUN CONT" switch down.

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<u>SIGNAL</u>	<u>7202,3,4</u>	<u>TRACK</u>	<u>7202</u>	<u>7203</u>	<u>7204</u>	<del>7205</del>
X0A	<del>X00A</del>	0	11B26	11B26	11B26	<del>17A26</del>
X0B	<del>X00B</del>	0	11B39	11B39	11B39	<del>17A39</del>
-	<del>X01A</del>	32	-	-	-	<del>18A26</del>
-	<del>X01B</del>	32	-	-	-	<del>18A39</del>
X1A	<del>X02A</del>	64	12B26	12B26	12B26	<del>19A26</del>
X1B	<del>X02B</del>	64	12B39	12B39	12B39	<del>19A39</del>
-	<del>X03A</del>	96	-	-	-	<del>20A26</del>
-	<del>X03B</del>	96	-	-	-	<del>20A39</del>
X2A	<del>X04A</del>	128	-	13B26	13B26	<del>21A26</del>
X2B	<del>X04B</del>	128	-	13B39	13B39	<del>21A39</del>
-	<del>X05A</del>	160	-	-	-	<del>22A26</del>
-	<del>X05B</del>	160	-	-	-	<del>22A39</del>
X3A	<del>X06A</del>	192	-	14B26	14B26	<del>23A26</del>
X3B	<del>X06B</del>	192	-	14B39	14B39	<del>23A39</del>
-	<del>X07A</del>	224	-	-	-	<del>24A26</del>
-	<del>X07B</del>	224	-	-	-	<del>24A39</del>
X4A	<del>X10A</del>	256	-	-	15B26	<del>25A26</del>
X4B	<del>X10B</del>	256	-	-	15B39	<del>25A39</del>
-	<del>X11A</del>	288	-	-	-	<del>26A26</del>
-	<del>X11B</del>	288	-	-	-	<del>26A39</del>
X5A	<del>X12A</del>	320	-	-	16B26	<del>27A26</del>
X5B	<del>X12B</del>	320	-	-	16B39	<del>27A39</del>
-	<del>X13A</del>	352	-	-	-	<del>28A26</del>
-	<del>X13B</del>	352	-	-	-	<del>28A39</del>
X6A	<del>X14A</del>	384	-	-	17B26	<del>29A26</del>
X6B	<del>X14B</del>	384	-	-	17B39	<del>29A39</del>
-	<del>X15A</del>	416	-	-	-	<del>30A26</del>
-	<del>X15B</del>	416	-	-	-	<del>30A39</del>
X7A	<del>X16A</del>	448	-	-	18B26	<del>31A26</del>
X7B	<del>X16B</del>	448	-	-	18B39	<del>31A39</del>
-	<del>X17A</del>	480	-	-	-	<del>32A26</del>
-	<del>X17B</del>	480	-	-	-	<del>32A39</del>

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TABLE 5.5.7.3

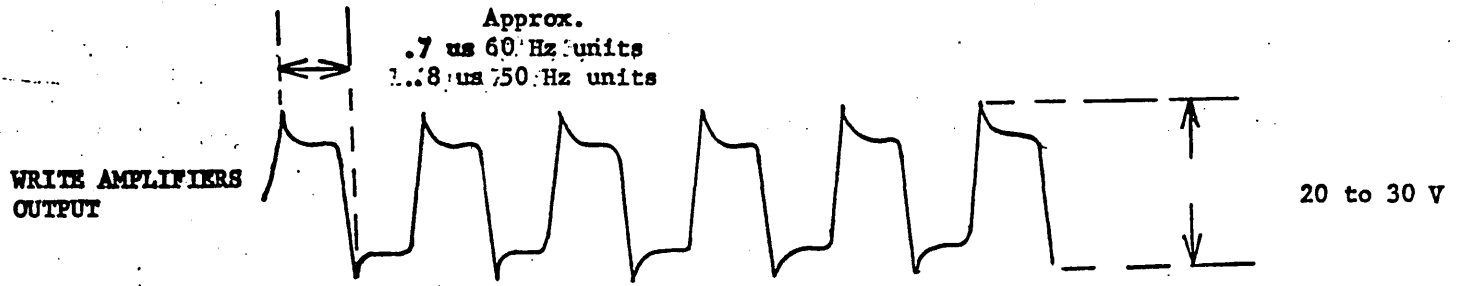


FIGURE 5.5.7.3

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TITLE SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD	SDS	
	126555	H
	SHEET 18	OF 78

STEP	SIGNAL	LOCATION		REMARKS
		7202,3,4	<del>7205</del>	
1	DDOB	31B27	<del>23B27</del>	1320 or * 1600 ns symmetrical square wave 660 or * 1800 ns symmetrical square wave
2	CD	30B38	<del>22B38</del>	
3	DDOB	31B27	<del>23B27</del>	delay between CD and DDOB should be less than 30 ns.
	CD	30B38	<del>22B38</del>	
4	CDD	30B26	<del>22B26</del>	660 or * 800 ns symmetrical square wave CDD should be delayed from DDOB by 100 ± 15 ns.
5	DDOB	31B27	<del>23B27</del>	
	CDD	30B26	<del>22B26</del>	
6	adj. R19	30B	<del>22B</del>	Adj. R19 until trailing edge of CDD is 430 or * 520 ns after the rising edge of DDOB
7	DAI	29B24	<del>21B24</del>	DAI should change states 50 ± 20 ns after the rising edge of CDD
	CDD	30B26	<del>22B36</del>	
8	DS	29B03	<del>21B03</del>	DS is a pulse 110 ± 10 ns wide
9	DS	29B03	<del>21B03</del>	DS occurs 50 ± 20 ns after the falling edge of CD
	CD	30B38	<del>22B38</del>	

\* indicates 50 Hz timing

TABLE 5.5.9.5

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TITLE SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD	SDS	
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BC  
20C01

BR7  
20C03

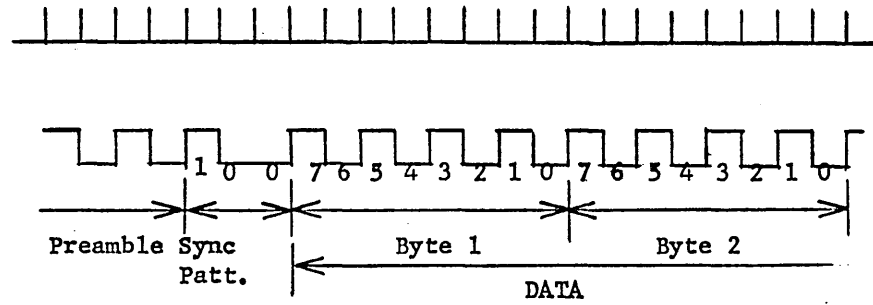


FIGURE 5.5.8.2

BC  
20C01

BR7  
20C03

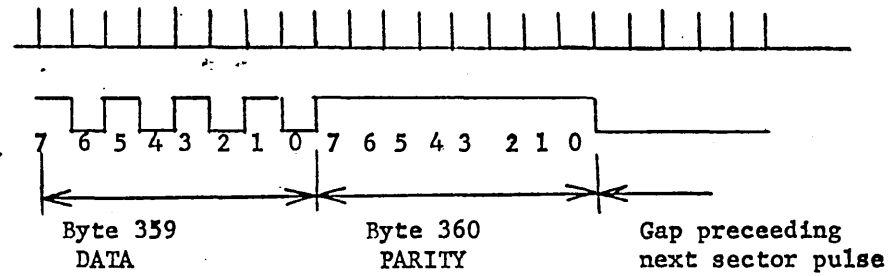
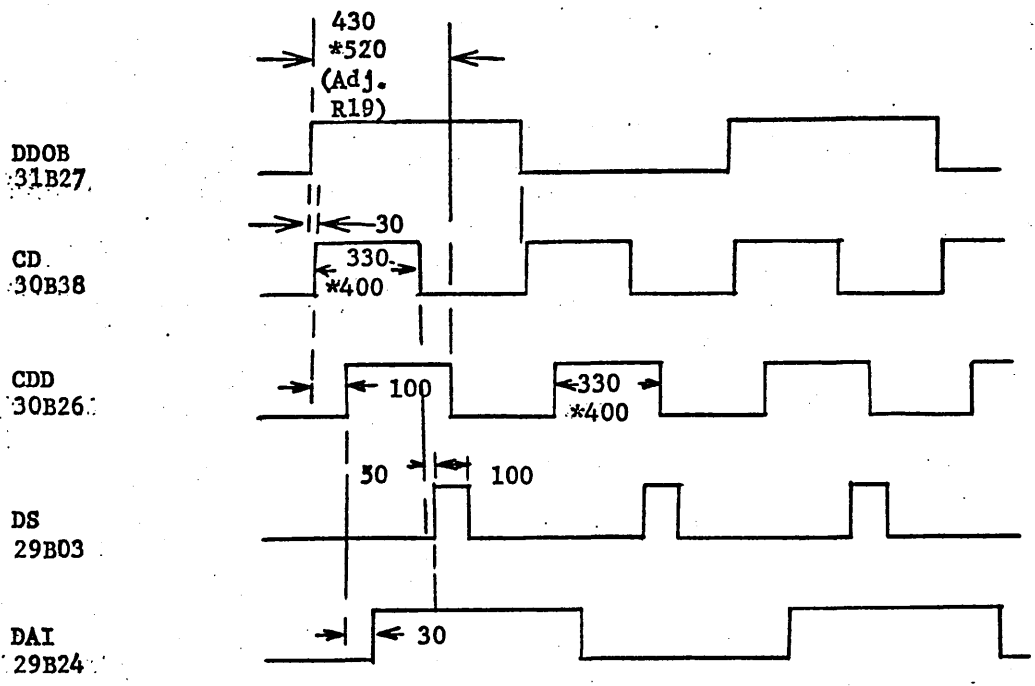


FIGURE 5.5.8.4

XDS 902345

TITLE	SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD		SDS
			126555
			H
		SHEET 20	OF 78



All time in nano sec  
 \* 50 Hz Units

FIGURE 5.5.9.5

XDS 902345

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TITLE	SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD		SDS
			126555
			H
SHEET 21		OF 78	

- 5.5.10.2 Set "SIO", Order switches 5 and 7 UP.
- 5.5.10.3 Check write compares data read from the memory with data sent from the "DATA" switches, thus the "DATA" switches must be set to the pattern previously written.  
Depress "Initialize"
- 5.5.10.4 Set "Error Stop" and "Run Cont." switches UP.
- 5.5.10.5 DCB and CHW lights will light and track register will increment. Any error occurring will be indicated on the TER lamp and track will stop incrementing. To continue depress "Step" SKS/ Erstop.
- 5.5.10.6 Insure operation of UNE and TER by changing any one of the "Data" switches. The TER lamp should light immediately.- And track register should stop incrementing.
- 5.5.10.7 System must cycle thru the memory 5 (Five) times without halting on an error.
- 5.5.10.8 Change "DATA" switches to an all 0 pattern. Repeat 5.5.10.1 thru 5.5.10.7.
- 5.5.10.9 Change "DATA" switches to an all 1 pattern. Repeat 5.5.10.1 through 5.5.10.7.
- 5.5.10.10 Change "DATA" switches to 10011001 pattern, Repeat 5.5.10.1 through 5.5.10.7.

## 5.5.11 READ

- 5.5.11.1 Insure "SGL TRK" switch is down.
- 5.5.11.2 Set "SIO" and order switch 6 up
- 5.5.11.3 Set "Counter Reset" switches 1 through 256 up. Depress "Initialize."
- 5.5.11.4 Set "Run Cont" and "Error Stop" switches UP.
- 5.5.11.5 DCB and RED lights will light and track lights will increment, track will stop on an error. Restart as in 5.5.10.5.
- 5.5.11.6 System must cycle through the memory 5 (Five) times without halting on an error.

## 5.5.12 Troubleshooting

- 5.5.12.1 If TER or UNE lamps come on during a WRI, CHW or RED operation "SGL TRK" operation may be used to localize the problem.
- 5.5.12.2 Set "DATA" switches for desired track as follows:

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	BYTE 1	BYTE 2
Data Switches	7 6 5 4 3	3 2 1 0
Track Register Bit	4 3 2 1 0	8 7 6 5
Byte 1 = 1st time "STEP SKS" is depressed		
Byte 2 = 2nd time "STEP SKS" is depressed		

- 5.5.12.3 Set SIO, order switches 6 and 7 up.
- 5.5.12.4 Depress and release FS
- 5.5.12.5 Set "DATA" switches as in 5.5.12.2 for byte 1.
- 5.5.12.6 Depress and release "STEP SKS"
- 5.5.12.7 Set "DATA" switches for byte 2.
- 5.5.12.8 Depress and release "STEP SKS"
- 5.5.12.9 Set desired operation into "Order Switches" as follows:

	ORDER SWITCHES			
	4	5	6	7
WRI	0	0	0	1
RED	0	0	1	0
SEK	0	0	1	1
CHW	0	1	0	1
SNS	0	1	0	0

- 5.5.12.10 Depress FS, system will now be operating on the track selected.
- 5.5.12.11 System may be operated on a band of tracks starting with track 0 by the following method.
- 5.5.12.12 Set "SGL TRK" switch down.
- 5.5.12.13 Set highest track desired into "COUNTER RESET" switches. Depress "Initialize."
- 5.5.12.14 Perform 5.5.12.9.
- 5.5.12.15 Set "RUN CONT" switch up. System will cycle from 0 to the number set in 5.5.12.13.

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--	--

## 5.6 Sigma 7/5 Computer Testing

### 5.6.1 Preliminary

Perform sections 5.1 through 5.4.2 of this procedure.

### 5.6.2 Program loading

Use the standard load procedure, as outlined in either the Sigma 7 or the Sigma 5 Computer Reference Manual, to load the combined Sigma 7/5 Diagnostic Control Program and RAD Diagnostic Program (SDS 704072B). The Input/Output keyboard shall print

MEDIUM SPEED RAD MEMORY TEST MODEL NO. 704072

and remain in the input mode when the program has been successfully loaded.

### 5.6.3 Power off status

5.6.3.1 Remove D.C. power from the controller and selection unit by setting the LOCAL-OFF-REMOTE switch on the PT18 Power Distribution Panel to the OFF position. Enter the following directives:

```

$DKB,Q+
$UNIT,0,OF0,n+  note: for part number
$LEN,360+      123084, n = 4
$ADDR,1,0,0+   123085,n = 5
$SMD,Q+        123086,n = 6
$SML,3+
$TIO,OF0,0+    Q = Keyboard address
  
```

5.6.3.2 The TIO status response shall be as follows:

```

TIO 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CC1, 2 ADDRESS  NOTE: X = indeterminate
    0 0 0 0 0 0 0 X X X X X X X X 1 1 FO
  
```

**NOTE:** Individual status bits may be interpreted using Manual Medium Speed RAD File Test (SDS 901130).

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5.6.4 Power On Status

5.6.4.1 Apply D.C. power to the controller and selection unit by setting the LOCAL-OFF-REMOTE switch on the Power Distribution Panel to the LOCAL position.

5.6.4.2 Set the ONLINE-OFFLINE switch (Controller 23C) to the "0" or OFFLINE position. Enter the following directives:

\$ TIO, OFO, O+

The TIO status response shall be identical to section 5.6.3.2.

5.6.4.3 Set the ONLINE-OFFLINE switch to the "1" or ONLINE position.

Set address comparator switches S1-1, S1-2, S2-1, S3-1 and S4-1 (controller 24C) to the "0" position.

Set address comparator switches S2-2, S3-2, and S4-2 to the "1" position.

5.6.4.4 Enter the following directed:

\$ TIO, OFO, O+

The TIO status response shall be identical to section 5.6.3.2

5.6.4.5 Set address comparator switch S1-2 to the "1" position and enter the following directive:

\$ TIO, OFO, O+

The TIO status response shall be as follows:

TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 0 0 1 0 0 0 0 X X X X X X X 0 0 FO

5.6.4.6 Enter the following directives: The accompanying responses shall be printed.

\$ TDV, OFO, O+

TDV 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 X 0 0 X X X X X X X X X X X 0 X FO

NOTE: X = indeterminate

\$ AIO, O+

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```

AIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCL, 2 ADDRESS
    0 X 0 0 X X X X X X X X X X X X 1 1 0

```

\$ HIO, OFO, O+

```

HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCL, 2 ADDRESS
    0 0 0 1 0 0 0 0 X X X X X X X X 0 0 FO

```

5.6.4.7 Attach a clip lead from GND to signal IDS (Controller 28A04)

5.6.4.8 Set computer sense switch 4 to the "1" position. Enter the following directives:

\$ CLR +  
TIO, OFO, O+ /

5.6.4.9 Reference figure 5.6.4.9

Sync on and display signal SDO (controller 17A04). Two SDO's shall be displayed. They shall be  $210 \pm 40$  n sec in width, separated by  $210 \pm 40$  nsec. Signal FSD (Controller 07B42) shall assume the true state  $190 \pm 45$  nsec after the leading edge of the second SDO, and shall remain true until signal FSU (Controller 11B03) assumes the false state.

5.6.4.10 Regain keyboard control by momentarily setting computer sense switch 1 to the "1" position.

Set sense switch 4 to the "0" position.

Remove the GND jumper from signal IDS.

5.6.5 Illegal Order

5.6.5.1 Enter the following directives: The accompanying responses shall be printed:

```

$SIO, OFO, OO, OO, 360, O+
SIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCL 2 ADDRESS
    0 0 0 1 0 0 0 0 X X X X X X X X 0 0 FO
$TIO, OFO, O+
TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CU, 2 ADDRESS
    0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 FO

```

5.6.5.2 Set the computer COMPUTE switch to the "IDLE" position. Depress the computer I/O RESET switch momentarily. Set the COMPUTE switch to the "RUN" position.

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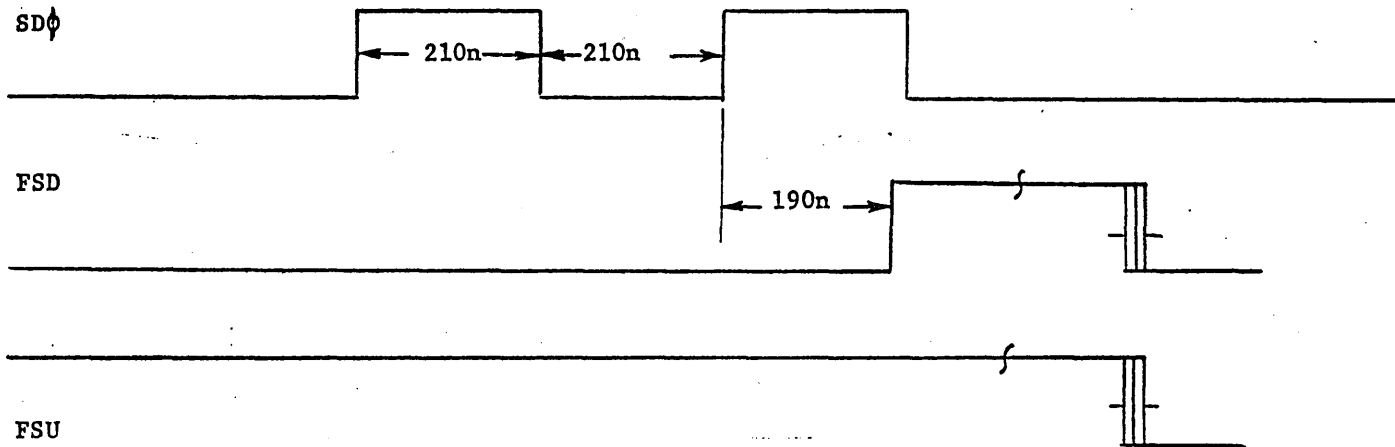


FIGURE 5.6.4.9

XDS 902345

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TITLE	SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD		SDS
			126555
			H
		SHEET 27	OF 78

## 5.6.5.3 Enter the following directive:

\$ TIO, OFO, O+

The TIO status response shall be as follows:

```
TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
      0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO
```

## 5.6.5.4 Perform section 5.6.5.1.

## 5.6.5.5 Execute the following directives: The accompanying responses shall be printed:

\$ HIO, OFO, O+

```
HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
      0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 FO
```

\$ TIO, OFO, O+

```
TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
      0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO
```

## 5.6.5.6 Enter the following directive:

\$ SIO, OFO, OO, O4, 360, O+

The response shall be as follows:

ILEG 360/FO/O/O/

CURRENT COMMAND (Command location)

UNUS END

```
AIØ 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
      0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 01 FO
```

```
TDV 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
      0 X 0 0 X X X X 0 0 0 0 0 0 0 0 0 X FO
```

TITLE

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SDS

126555

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```

HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 00 FO
SIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

```

5.6.6 Seek-interrupt on count done, Channel End

5.6.6.1 Attach a clip lead from GND to signal SEEKCHE (Controller 04B01).

5.6.6.2 Enter the following directives: The accompanying responses shall be printed:

```

$ PATT, 0, 1+
$ SIO, OFO, 03, 40, 02, 0+
SIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO
$ TIO, OFO, 0+
TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    1 1 1 1 0 1 1 0 0 0 0 0 0 0 0 0 0 1 FO
$ TDV, OFO, 0+
TDV 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 X 0 0 X X X X 0 0 0 0 0 0 0 0 0 0 0 0 FO
$ HIO, OFO, 0+
HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    1 1 1 1 0 1 1 0 0 0 0 0 0 0 0 0 0 1 FO
$ TIO, OFO, 0+
TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

```

5.6.6.3 Enter the following directive:

```
$ SIO, OFO, 03, 10, 02, 0+
```

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TITLE SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD	SDS	
	126555	H
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The response shall be as follows:

CHAN END NOT RECEIVED

SEEK 360/FO/O/O/

CURRENT COMMAND (Command location)

AIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS

AIO Response... meaningless \_\_\_\_\_

TDV 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 X 0 0 X X X X 0 0 0 0 0 0 0 0 OX FO

HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 1 1 1 0 1 1 0 0 0 0 0 0 0 0 0 01 FO

SIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

5.6.6.4 Remove the GND jumper from signal SEEKCHE.

\*5.6.6.3 Enter the following directives: The accompanying responses shall be printed.

\$ SIO, OFO, 03, 00, 02, 0+

SIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

\$ HIO, OFO, 0+

HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

\$ SEEK, 07FF, 02+

\$ TIO, OFO, 0+

TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

TITLE

SPECIFICATION, TEST AND  
ACCEPTANCE MEDIUM SPEED RAD

SDS

126555

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\* 5.6.6.5 Enter the following directive:

\$ SEEK, MFFF, 02+

NOTE: for part number

123084, m = 0

123085, m = 1

123086, m = 2

The response shall be as follows.

```
SEEK 360/FO/0/0/
CURRENT COMMAND (command location)
UNUS END
SECT UNAV
AIG 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl,2 ADDRESS
    0 0 1 0 0 0 0 0 0 0 0 1 1 0 0 0 0 1 FO
TDV 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 X 1 0 X X X X 0 0 0 0 0 0 0 0 OX FO
HIG 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 FO
```

### 5.6.7 Dynamic Seek

5.6.7.1 Enter the following directives:

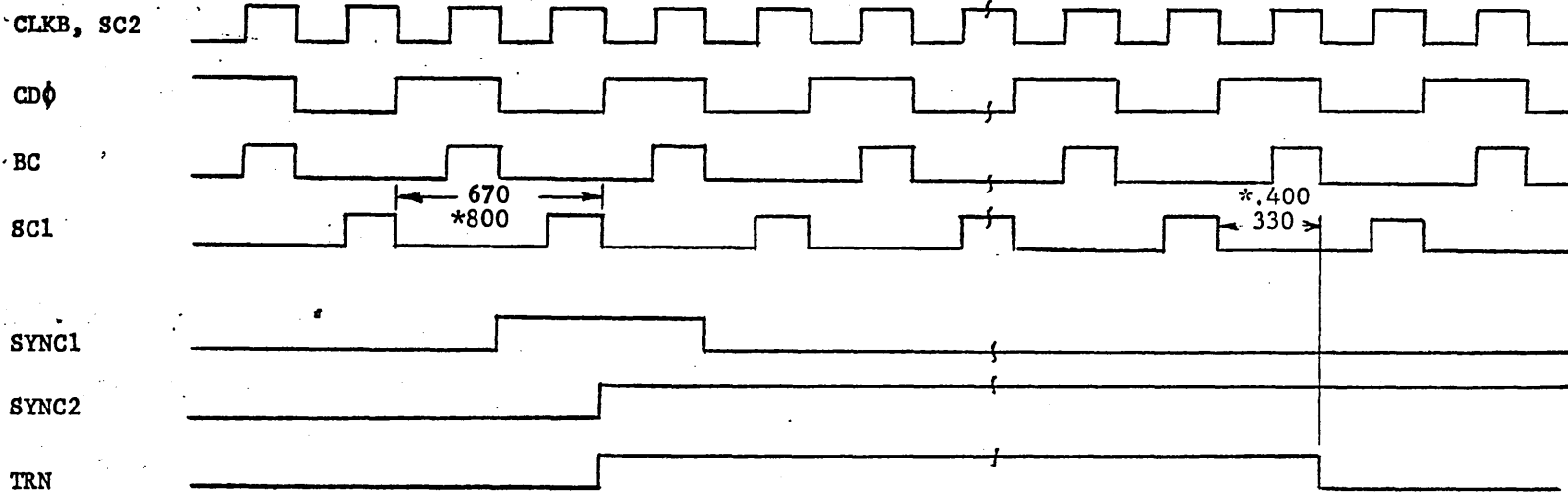
\$ CLR+  
SEEK, 0557, 02+/  
5.6.7.2 Reference figure 5.6.7.2

Sync on and display signal TRN. Also display signal SCl.

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TITLE	SDS	
	126555	H
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PART NUMBERS  
123084, 123085, 123086



\* For 50 Hz units

FIGURE 5.6.7.2

XDS 902345

TITLE SPECIFICATION, TEST AND ACCEPTANCE MEDIUM SPEED RAD	SDS	
	126555	11
	SHEET 32	OF 78

PARTNUMBER	SIGNAL	LOCATION
123084,123085,123086	TRN	18A34 )
	SC1	18A27 )

in selection unit

Signal SC1 shall have the following characteristics:

Type	60 Hz Units	50 Hz Units
width	Pulse	200 ± 10 nsec
period	165 ± 10 nsec	800 ± 20 nsec
	670 ± 20 nsec	

5.6.7.3 Insure that TRN is true for nine SC1 pulses and that it assumes the false state at least 100nsec before the tenth SC1.

5.6.7.4 Reference Figure 5.6.7.2

Sync on and display signal USECP (controller 29A46). Also display signal SYNC1 (controller 14C36).

Sync1 shall have the following characteristics:

	60 Hz Units	50 Hz Units
Width	670 ± 20nsec	800 ± 20 n.sec
Relationship to leading edge of USECP	true within 700 nsec	true within 800 nsec.

5.6.7.5 Reference Figure 5.6.7.5

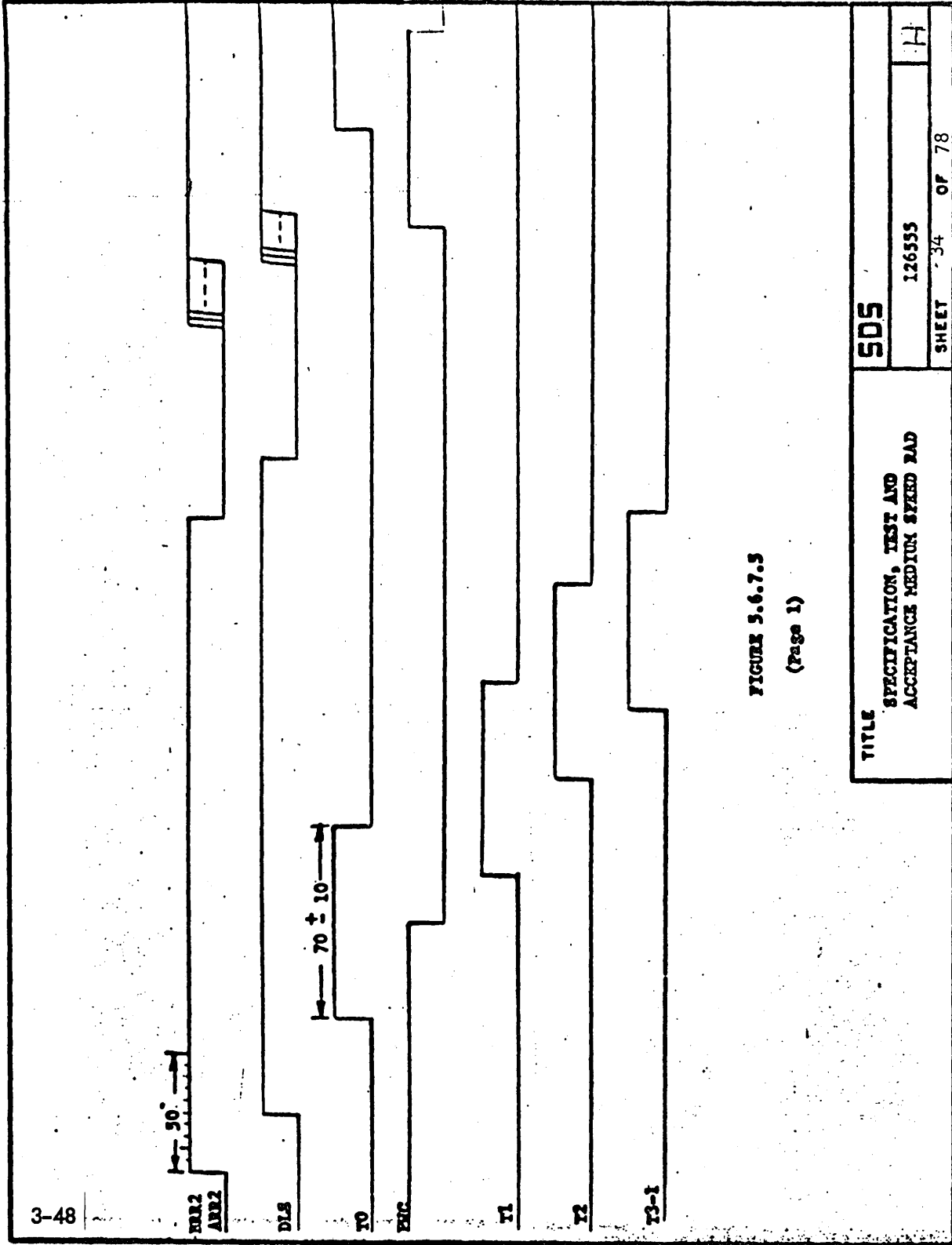
Insure that signal TO (Controller 06C28) occurs  $45 \pm 20$  nsec after signal ARR2 (controller 07B20).

TO shall be  $70 \pm 20$  nsec in width. Using signal TO as a reference inspect the following signals:

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	126555	H
	SHEET 33	OF 78



T3-1

T3

T4

DAXDT, SBRXDT

NT5

T6

← 40 →

FIGURE 5.6.7.5

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TITLE

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ACCEPTANCE MEDIUM SPEED RAD

SDS

126555

HF

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Signal	Location	Characteristics
FWC	06C19	False 40 nsec after TO. True 325 nsec after TO.
T1	06C29	true 60 nsec after TO
T2	06C06	true 100nsec after TO
T3-1	06C04	true 130 nsec after TO
T3	06C17	true 170 nsec after TO
T4	06C07	true 180 nsec after TO
NT5	06C18	false 230 nsec after TO
T6	06C05	true 300 nsec after TO

NOTE: Tolerance is  $\pm$  10 nsec.

### 5.6.8 Sense

5.6.8.1 Regain keyboard control and enter the following directives:

\$ SEEK, 0000, 02 +

\$ SENS, 03 +

The SENSE response shall be as follows:

SENS: - j

NOTE: for part number 123084, 123085, 123086 00<j<OF

leading zeros are not printed.

5.6.8.2 Enter the following directive:

\$ TIO, OFO, 0 +

The TIO status response shall be as follows:

TIO	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	CC1, 2	ADDRESS	
	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	FO

5.6.8.3 Enter the following directives:

TITLE

SPECIFICATION, TEST AND  
ACCEPTANCE MEDIUM SPEED RAD

SDS

126555

H

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\$ SEEK, m n FF, 02 +  
\$ SENS, 03 +

NOTE: for part number 123084, m = 0, n = 7  
123085, m = 0, n = F  
123086, m = 1, n = F

The SENSE response shall be as follows:

SENS mm FF j

NOTE: j is described in Section 5.6.8.1

### 5.6.9 Write

5.6.9.1 Enter the following directives. The accompanying responses shall be printed:

\$ PATT, A, 1+  
\$ SEEK 0000, 02 +  
\$ SIO, OFO, 01, 10, 360, 0+

SIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

\$ TIO, OFO, 0+

TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS  
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

\$ ADDR, 1, n, mt

NOTE: for part number 123084, n = 127, m = 15 123086, n = 511, m = 15  
123085, n = 255, m = 15

\$CLR +  
WRT+/  
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ACCEPTANCE MEDIUM SPEED RAD

SDS

126555

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5.6.9.2 Sync on and display signal WEN (controller 05B02). WEN shall have the following characteristics:

	60 Hz Units	50 Hz Units
width	$2.10 \pm .1$ m sec	$2.5 \pm .1$ m sec
period	$34.5 \pm 1.$ m sec	$41 \pm 1.$ m sec

5.6.9.3 Display the following signal and observe that it assumes the true state when WEN goes false.

Part number	signal	location
123084	TRK1	13B23 )
123085	TRKO	13B17 )
123086	TRKOVF	14B07 )

in controller

5.6.9.4 Reference Figure 5.6.9.4

Sync on signal WCPB-358 (controller 03B01). Display signal BR7 (Controller 20C03) and signal DAM (Controller 30B04). The period of BR7 shall be as follows:

	60 Hz Units	50 Hz Units
BR7	$1330 \pm 30$ nsec	$1600 \pm 30$ nsec

For Reference, CDO is located in the controller at 30B05.

5.6.9.5 Sync on and display signal SECP (controller 29A41). Also display signal WEN (05B02). The relationship between SECP and WEN shall be as follows:

SECP : WEN                      16:1

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	126555	H	
	SHEET 38	OF 78	



WCPB-358

BR7

660/  
\*800

CDφ

DAM

XDS 902345

FIGURE 5.6.9.9

\* 50 Hz units

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				126555	H
	SHEET	39	OF 78		

5.6.9.6 Regain keyboard control and enter the following directives:

```
$ ADDR, 1, 0, 0+
$ PATT, F, 1+
$ LEN, 359+
$ WRT +
$ TIO, OFO, 0+
```

5.6.9.7 The TIO status response shall be as follows:

```
TIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
     0 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 FO
```

5.6.9.8 Enter the following directives:

```
$ LEN, 361 +
$ WRT +
$ TIO, OFO, 0+
```

The TIO Status response shall be identical to section 5.6.9.7

```
$ LEN, 360 +
$ GO+
```

5.6.9.9 Sync on the trailing edge of signal PRE (controller 18C05). Display signals PA7 (controller 18C07) and BC (controller 18C10). Observe that signal PA7 stays true for eight BC pulses and goes false for eight. PA7 shall be false when SBRXPA (controller 31B46) goes true.

\* 5.6.9.10 Regain keyboard control and enter the following directives:

```
$ ADDR, 1, n, m+
$ LEN, 720+
$ WRT +
```

NOTE: m and n are described in section 5.6.9.1

The WRITE response shall be as follows:

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```

WRT          720/FO/n/15/
CURRENT COMMAND (command location)
UNUS END
SECT UNAV
AIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 FO
TDV 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 X 1 0 X X X X 0 0 0 0 0 0 0 0 0 X FO
HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 FO

```

\* 5.6.9.11 Attach a clip lead from signal NBC2 (controller 01B44) to the unused input pin of signal GT12 (controller 24B11).

\* 5.6.9.12 Enter the following directives:

```

$ ADDR, 1, 0, 0+
$ LEN, 360 +
$ GO +

```

The WRITE response shall be as follows:

```

WRT          360/FO/O/O/
CURRENT COMMAND (command location)
UNUS END
RATE ERR
TRANS ERROR
AIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    1 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 1 FO
TDV 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    1 X 0 0 X X X X 0 1 0 0 0 0 1 0 0 X FO
HIO 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CCl, 2 ADDRESS
    0 0 0 1 1 0 0 0 0 1 0 0 0 0 1 0 0 0 FO

```

Remove the clip lead.

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- \* 5.6.9.13 Regain keyboard control and set the first track protect switch to the "1" position. Enter the following directives:

\$ LEN, n +  
 \$ ADDR, 1, 31, 0+  
 \$ CLR +  
 WRT, 1 + 32(STEP+) + STOP, 00+ /

\*NOTE: For part no.  
 123084 n = 5760  
 123085 n = 5760  
 123086 n = 5760

- \* 5.6.9.14 The following message shall be printed:

WRT/FO/31/0/WRT PROT  
 STOP, 00

NOTE: The above message indicates that track 31 is write protected. The track address will be incremented by 32 as each successive track protect switch is set.

- \* 5.6.9.15 Reset the track protect switch which was set, and place the next one in the "1" position. Clear the STOP condition by placing the computer in the IDLE mode momentarily. Repeat section 5.6.9.14 by returning the computer to the RUN mode. Discontinue the test as per the list below:

PART NUMBER	DISCONTINUE TEST
123084	after 4th switch
123085	after 8th switch
123086	after 16th switch

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\* 5.6.10

5.6.9.16 (Power monitor test - future)

Check-Write

5.6.10.1 Regain keyboard control. Set computer sense switch 4 to the "1" position and enter the following directives:

\$ ADDR, 1, 0, 0+  
\$ LEN, 5760 +  
\$ PATT, 5, 1 +  
\$ WRT +  
\$ CLR +  
CMPW+/-

5.6.10.2 Follow the procedure outlined in section 5.5.9 to adjust the clock discriminator.

5.6.10.3 Sync on and display signal CHWEN (controller 04B13). Also display signal DCL (controller 03B03). Insure that DCL has the following characteristic:

Part Number	Characteristics
60 Hz units	true $21.3 \pm .3$ $\mu$ sec after CHWEN
50 Hz units	true $25.6 \pm .4$ $\mu$ sec after: chwen

5.6.10.4 Reset computer sense switch 4 to the "0" position. No error reports shall occur.

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5.6.10.5 Create a sync pattern error by momentarily applying GND to signal PSPR (controller 26A14).

The resulting error report shall be as follows:

```

WRT Compare Error @ / FO/ 0/ 0/
CWRT      5760/ FO/ 0/ 0/
CURRENT COMMAND      (command location)
UNUS END
TRANS ERR
AIO 0123 4567 8901 2345 CCL,2 ADDRESS
      0000 0000 0101 1000 01 FO
TDV 0123 4567 8901 2345 CCL, 2 ADDRESS
      0X00 XXXX 0100 0010 OX FO
HIO 0123 4567 8901 2345 CCL,2 ADDRESS
      0001 1000 0100 0010 00 FO

```

5.6.10.6 Regain keyboard control, place a ground lead on signal PAOSET (controller 16B04), and enter the following directive:

\$ WRT+

Remove the ground lead and enter: \$ GO+

The resulting parity error report shall be as follows:

```

WRT Compare Error @/FO/0/0/ .0
CWRT      5760/FO 0/ 0/
CURRENT COMMAND      (command location)
UNUS END
TRANS ERR
AIO 0123 4567 8901 2345 CCL,2 ADDRESS
      0000 0000 0101 1000 01 FO
TDV 0123 4567 8901 2345 CCL,2 ADDRESS
      0X00 XXXX 0100 0010 OX FO
HIO 0123 4567 8901 2345 CCL,2 ADDRESS
      0001 1000 0100 0010 00 FO

```

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5.6.10.7 Regain keyboard control and enter the following directives:

\$WRT+

\$LEN, 360+

\$ADDR, 1 0, 1+

\$PATT, 55555554, 8+

\$WRT +

\$LEN, 5760 +

\$ADDR, 1,0,0 +

\$GO +

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The following

WRT Compare error report shall be as follows:

```

WRT Compare Error @ / FO/ 0/ 0/ XXXX
CWRT          5760/ FO/ 0/ 0/
CURRENT COMMAND      (command location)
UNUS END
TRANS ERR
AIO 0123 4567 8901 2345 CCl,2  ADDRESS
      0000 0000 0100 1000 01  FO
TDV 0123 4567 8901 2345 CCl,2  ADDRESS
      0X00 XXXX 0100 0010 0X  FO
HIO 0123 4567 8901 2345 CCl,2  ADDRESS
      0001 1000 0100 0010 00  FO
  
```

\* 5.6.11 Read

5.6.11.1 Regain keyboard control and enter the following directives:

```

$ADDR,1,0,0+
$PATT,5,1+
$LEN,5760+
$WRT+
$CLR+
CMPR+/
  
```

No error reports shall occur.

5.6.11.2 Regain keyboard control and enter the following directives:

```

$LEN,359,1+
$GO+
  
```

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The status response shall be as follows:

```
READ      359/ FO/ 0/ 0/
CURRENT COMMAND      (command location)
INC LENGTH
AIO 0123 4567 8901 2345 CCl,2 ADDRESS
      0000 0000 1001 1000      01      FO
TDV 0123 4567 8901 2345 CCl,2 ADDRESS
      0X00 XXXX 1000 0010      0X      FO
HIO 0123 4567 8901 2345 CCl,2 ADDRESS
      0001 0000 1000 0010      00      FO
```

5.6.11.3 Regain keyboard control and enter the following directives:

```
$LEN, 359+
$WRT+
$LEN, 360 +
$GO
```

The status response shall be as follows:

```
Compare Error @ /FO/O/O/
90 55555555 55555500
Summary /FO/O
BIT POS      Dropped      Picked
0           0           0
1           1           0
2           0           0
3           1           0
4           0           0
5           1           0
6           0           0
7           1           0
```

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## 5.6.11.4 Regain keyboard control and enter the following directions:

\$PATT, F, I+  
 \$LEN, 5760+  
 \$WRT+  
 \$CLR+  
 READ, 0, 1+/  
 .

No errors shall occur.

## 5.6.11.5 Regain keyboard control. Create a Parity error by applying GND to signal PAO (controller 18C24).

## 5.6.11.6 Enter the following directive: The accompanying print out shall occur.

\$GO+

READ 5760/ F0/ 0/ 0/  
 CURRENT COMMAND (command location)  
 UNUS END  
 TRANS ERR  
 AIO 0123 4567 8901 2345 CC1,2 ADDRESS  
 0000 0000 0101 1000 01 F0  
 TDV 0123 4567 8901 2345 CC1,2 ADDRESS  
 0000 0000 0100 0010 00 F0  
 HIO 0123 4567 8901 2345 CC1,2 ADDRESS  
 0001 1000 0100 0010 00 F0

Remove the GND from PAO.

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\* 5.6.12 Command Chain

5.6.12.1 Regain keyboard control and enter the following directives:

\$ADDR, 1, 0, 0 +  
 \$CCHN, 1+  
 \$CLR+  
 CCHN, 0+ /

No error reports shall occur.

5.6.12.2 Sync on and display signal DGB (controller 15B38) and verify that it remains true for the following times:

123084, 123085, 123086	132834
between 35 & 70 m sec	between 70 & 105 m sec

\* 5.6.13 Matrix Test

NOTE: Paragraphs 5.6.13.1 thru 5.6.13.4 to be preformed only on units with logical sparing installed. (Wire list 126551H (and above.)

Paragraph 5.6.13.4 to be preformed on all units.

5.6.13.1 Install LT105 modules as per the following chart

<u>Model</u>	<u>Arm Interface Assy</u>	<u>LT105</u>	<u>Spare Tracks</u>
7202	127612	29A & 30A	0-15
7203	127612	29A, 30A, 31A & 32A	0-31
7204	127612	29A, 30A, 31A, & 32A 04B, 05B, 06B & 07B	0-64

5.6.13.2 Preform the spares portion of the following test:

\$ADDR, 1, 0, 0+	n(WRT + PCYC, 00000008 + STEP +) +
\$LEN, 2880+	PATT, 00000000, 8 + BACK +
\$CLR+	n (CMPW+PCYC, 00000008 + STEP +) +
PATT, 00000000, 8 + BACK +	STOP, 0001+ /

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## 5.6.13.2 (Cont'd.)

Active Head TestSpares Test

NOTE: for part Number

123084, N = 256

n = 32

123085, n = 512

n = 64

123086, n = 1024

n = 128

5.6.13.3 Remove LT105 modules installed in 5.6.13.1. List all failing tracks on Head Sparring Chart 153709-002.

5.6.13.4 Perform the "Active Head Test" portion of 5.6.13.2.

No error reports shall occur before the message

STOPOO01

is printed.

5.6.14 Pattern Test

5.6.14.1 Regain keyboard control and enter the following directives:

\$ADD, 1,0, 0+

\$LEN, 46080+

\$CLR+

PATT, D2D22D2D, 8 + 1 @ +

PATT, 33CCAAFF, 8 + 1 @ +

PATT, FFO055CC, 8 + 1 @ +

PATT, CC3311AA, 8 + 1 @ +

PATT, AAOFF55, 8 + 1 @ +

STOP, 0002+1. + BACK +

n (WRT+STEP+) +5 (BACK +

n (CMPW+STEP+)+@+/-

NOTE: for part number 123084, n = 16

123085, n = 32

123086, n = 64

132834, n = 32

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5.6.14.2 Section 5.6.14.1 provides a control line which writes five different patterns on all tracks and check-writes each pattern five times. Run times are as follows:

PART NUMBER	RUN TIME
123084	≈ 2.5 min
123085	≈ 5.0 min
123086	≈ 10.0 min

Note: 50 Hz units  
run 20% longer

No error reports shall occur before the message

STOP0002

is printed.

#### 5.6.15 Margins

5.6.15.1 Set the PT16 margin switch to the "LOW" position. Regain keyboard control and enter:

\$GO+

No error report shall occur before the message STOP0002 is printed.

5.6.15.2 Set the PT16 margin switch to the "HIGH" position. Regain keyboard control and enter

\$GO+

No error report shall occur before the message STOP0002 is printed.

5.6.15.3 Return the PT16 margin switch to the "NORMAL" position.

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## 5.7 Sigma 2 Computer Testing

The following tests shall constitute the minimum acceptable standard for the Medium Speed RAD, using a Sigma 2 computer.

### 5.7.1 Preliminary

Perform sections 5.1 through 5.4.2 of this procedure

### 5.7.2 Program loading

Use the standard load procedure, as outlined in the Sigma 2 Computer Reference Manual, to load the Sigma 2 Diagnostic Control Program and RAD Diagnostic Program (SDS 704980). The Input/Output keyboard shall print,

SIGMA 2 HIGH CAPACITY RAD TEST NO. 704980 MANUAL NO. 901538

and remain in the input mode when the program has been successfully loaded.

### 5.7.3 Power On Status

5.7.3.1 Apply D.C. power to the controller and selection unit by setting the LOCAL-OFF-REMOTE switch on the Power Distribution Panel to the LOCAL position.

5.7.3.2 Set the ONLINE-OFFLINE switch (Controller 23C) to the "1" or ONLINE position. Enter the following directives:

\$ALT, 20, 168, B4, +	\$ ALT, 12CF, 8020, +
\$ALT, D3C, 168, +	* \$ALT, 1310, XXXX, 6168, +
\$ALT, D40, 10, +	\$ALT, 1324, 2168, +
\$ALT, 1141, 10, 0, +	\$ALT, 1328, FFFF, +
\$ALT, 1290, A021, +	* See Note Page 53

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5.7.3.2 (cont'd)

\$DKB, Q +  
 \$UNIT, 0, C01+  
 \$LEN, 0, 360 +  
 \$ADDR, 1, 0,0+  
 \$PATT, 0000,+  
 \$\$SMD, Q +  
 \$\$SML, 3 +

Note: for part number

123084, xxxx = F802  
 123085, xxxx = F002  
 123086, xxxx = E002

Q = Keyboard Address

5.7.3.3 Set the ON LINE-OFFLINE switch (Controller 23C) to the "0" or OFFLINE position. Enter the following directive

\$ TIO, C0 +

5.7.3.4 The TIO status response shall be as follows:

TIO	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 0	0 0 0 0	11	C0

Note: Individual status bits may be interpreted using Manual, Medium Speed RAD File Test (SDS 901167).

5.7.3.5 Set the ONLINE-OFFLINE switch to the "1" or ONLINE position.

Set address comparator switches S1-1, S1-2, S2-1, S3-1, S3-2, S4-1, and S4-2 ( Controller 24C. ) to the "0" position.

Set address comparator switch S2-2 to the "1" position.

5.7.3.6 Enter the following directive

\$ TIO, C0 +

The TIO status response shall be identical to section 5.7.3.4

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- 5.7.3.7 , Set address comparator switch S1-2 to the "1" position and enter the following directive

\$ TIO, C 0 +

The TIO status response shall be as follows:

TIO	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 1	0 0 0 0	00	C 0

- 5.7.3.8 Enter the following directives: The accompanying responses shall be printed:

\$ TDV, C 0 +

TDV	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 0	0 0 0 0	00	C 0

\$ HIO, C 0 +

HIO	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 1	0 0 0 0	00	C 0

- 5.7.3.9 Attach a clip lead from GND to signal IDS (Controller 28A04)

- 5.7.3.10 Set computer data switch 4 to the "1" position. Enter the following directives:

\$ CLR +

TIO, C 0, + 1

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5.7.3.11

Reference figure 5.6.4.9

Sync on and display signal SD0 (Controller 17A04). Two SD0's shall be displayed. They shall be  $210 \pm 40$  n/sec. in width, separated by  $210 \pm 40$  n/sec. Signal FSD (Controller 07B42) shall assume the true state  $190 \pm 45$  n/sec. after the leading edge of the second SD, and shall remain true until signal FSU (Controller 11B03) assumes the false state.

5.7.3.12

Regain keyboard control by momentarily setting computer data switch 0 to the "1" position.

Set data switch 4 to the "0" position.

Remove the GND jumper from signal IDS.

5.7.4 Illegal Order

5.7.4.1

Enter the following directives: The accompanying responses shall be printed:

		\$ SIO, C 0,00,00,360,0+		
SIO	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 1	0 0 0 0	00	C 0
		\$ TIO, C 0,0,0 +		
TIO	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 1	1 0 0 0	00	C 0
		\$ HIO, C 0+		
HIO	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 1	1 0 0 0	00	C 0
		\$ TIO, C 0 +		
TIO	0 1 2 3	4 5 6 7	OC	ADDR
	0 0 0 1	0 0 0 0	00	C 0

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**5.7.5 Seek-interrupt on count done, Channel End.**

**5.7.5.1 Attach a clip lead from GND to signal SEEKCHE  
(Controller 04B01).**

**5.7.5.2 Enter the following directives: The accompanying responses shall be received:**

```

$SIO, C 0, 03, 00 , 02, 0+
SIO 0123 4567 OC ADDR
      0001 0000 00 C0
$WRT+
SIO NOT POSS
TIO 0123 4567 OC ADDR
      0111 0110 01 C0
CHAN END NOT RECEIVED
SEEK 000002/ C 0 / 000 / 00 /
HIO 0123 4567 OC ADDR
      0111 0110 01 C0

```

**5.7.5.3 Remove the GND jumper from SEEKCHE.**

**5.7.5.4 Enter the following directives. The accompanying responses shall be received:**

```

$SIO, C 0, 03, 00, 02, 0+

```

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SIO 0123 4567 OC ADDR  
0001 0000 00 C0

\$HIO, C0 +  
HIO 0123 4567 OC ADDR  
0001 0000 00C0

\$SEEK, 07FF +  
\$TIO, C0 +

TIO 0123 4567 OC ADDR  
0001 0000 00C0

\*5.7.5.5 Enter the following directive:

\$SEEK, mFFF+ NOTE: for part number 123084, m = 0  
123085, m = 1  
123086, m = 2

The response shall be as follows.

SEEK 000002 / C0 / 000 / 00 /

AIO 0123 4567 OC ADDR  
0010 0000 01 C0

TDV 0123 4567 OC ADDR  
0010 0000 01 C0

HIO 0123 4567 OC ADDR  
0001 1000 00 C0

OPERATIONAL STATUS BYTE  
00011000

UNUS END

SECT UNAV

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5.7.5.5 Enter the following directives: The accompanying responses shall be printed:

\$SIO, C0, 00, 01, 00, 00+

ILEG 000000 / C0 / 000 / 00 /

HIO 0123 4567 0C ADDR

0001 1000 00 C0

Operational Status Byte

00001000

Unus End

### 5.7.6 Dynamic Seek

5.7.6.1 Enter the following directives:

\$ CLR +

SEEK, 0557, 02+ /

5.7.6.2 Reference figure 5.6.7.2. Sync on and display signal TRN. Also display signal SCL.

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PARTNUMBER	SIGNAL	LOCATION	
123084, 123085, 123086	TRN	18A34 )	
	SC1	18A27 )	in selection unit

Signal SC1 shall have the following characteristics:

	60 Hz Units	50 Hz units
Type	Pulse	Pulse
Width	165 <sup>+</sup> 10 nsec	200 + 15 nsec
Period	670 <sup>+</sup> 20 nsec	800 + 30 nsec

5.7.6.3 Insure that TRN is true for nine SC1 pulses and that it assumes the false state at least 100nsec before the tenth SC1.

5.7.6.4 Reference Figure 5.6.7.2

Sync on and display signal USECP (controller 29A46). Also display signal SYNC1 (controller 14C36).

Sync1 shall have the following characteristics:

	60 Hz units	50 Hz units
Width	670 <sup>+</sup> 20nsec	800 <sup>+</sup> 30 nsec
Relationship to leading edge of USECP	true within 700 nsec	true within 850 nsec

5.7.6.5 Reference Figure 5.6.7.5

Insure that signal TO (Controller 06C28) occurs 45<sup>+</sup> 20 nsec after signal ARR2 (controller 07B20).

TO shall be 70<sup>+</sup> 20 nsec in width. Using signal TO as a reference inspect the following signals:

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SIGNAL	LOCATION	CHARACTERISTICS
PWC	06C19	False 40nsec after TO. True 325 nsec after TO.
T1	06C29	true 60 nsec after TO
T2	06C06	true 100nsec after TO
T3-1	06C04	true 130nsec after TO
T3	06C17	true 170nsec after TO
T4	06C07	true 180nsec after TO
NT5	06C18	false 230nsec after TO
T6	06C05	true 300nsec after TO

NOTE: Tolerance is  $\pm$  10 nsec.

### 5.7.7 Sense

5.7.7.1 Regain keyboard control and enter the following directives:

NOTE: Keyboard control can be regained by either, 1.) Setting DATA switch 0 "UP"  
or 2.) Momentarily setting Interrupt switch "UP".

\$ SEEK, 0000, 02 +  
\$ SENS, 03 +

The SENSE response shall be as follows:

SENSE:j

Note: for part number 123084, 123085, 123086 00 <j <OF

### 5.7.8 Write

5.7.8.1 Enter the following directives:

\$PATT, AAAA +  
\$ADDR, 1, n, m + NOTE: for part number  
\$CLR+ 123084, n = 127, m = 15  
WRT+/ 123085, n = 255, m = 15  
123086, n = 511, m = 15

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5.7.8.2 Sync on and display signal WEN (controller 05B02). WEN shall have the following characteristics:

	60 Hz Units	50 Hz units
Width	2.10 $\pm$ 0.1 m sec	2.5 $\pm$ .1 m sec
Period	34.5 $\pm$ 1.0m sec	41 $\pm$ 1. m sec

5.7.8.3 Display the following signal and observe that it assumes the true state when WEN goes false.

Part number	Signal	Location
123084	TRK1	13B23)
123085	TRKO	13B17)
123086	TRKOVF	14B07) in controller

5.7.8.4 Reference Figure 5.6.9.4

Sync on signal WCPB-358 (controller 03B01). Display signal BR7 (Controller 20C03) and signal DAM (Controller 30B04). The period of BR7 shall be as follows:

	60 Hz units	50 Hz units
BR7	1330 $\pm$ 30 nsec	1600 $\pm$ 30 nsec

For Reference, CDO is located in the controller at 30B05.

5.7.8.5 Sync on and display signal SECP (controller 29A41). Also display signal WEN (05B02). The relationship between SECP and WEN shall be as follows:

123084, 123085, 123086  
SECP : WEN 16:1

5.7.8.6 Regain keyboard control and enter the following directives:

\$ADDR, 1, 0, 0 +  
\$PATT, FFFF +  
\$LEN, 0, 360 +  
\$CLR +  
WRT +/

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The Write response shall be as follows:

WRT 000360/CO/000/ 00 /  
AIO 0123 4567 0C ADDR  
1000 0000 01 C 0  
TDV 0123 4567 0C ADDR  
1000 0000 01 C 0  
HIO 0123 4567 0C ADDR  
0001 1000 00 C 0  
OPERATIONAL STATUS BYTE  
10001000  
UNUS END  
RATE ERR  
TRANS ERR

Remove the clip lead.

- \* 5.7.8.11 Regain keyboard control and set the first track protect switch to the "1" position. Enter the following directives:

\$LEN, 0, n+  
\$ADDR, 1, 31, 0+  
\$CLR+  
WRT, 1+ 32(STEP+) + STOP, 00+ /

NOTE: For part no.  
123084 n = 5760  
123085 n = 5760  
123086 n = 5760

- \* 5.7.8.12 The following message shall be printed:

WRT/CO/0031/0/WRT PROT  
STOP, 00

NOTE: The above message indicates that track 31 is write protected. The track address will be incremented by 32 as each successive track protect switch is set.

- \* 5.7.8.13 Reset the track protect switch which was set, and place the next one in the "1" position. Clear the STOP condition by placing the computer in the IDLE mode momentarily. Repeat section 5.7.8.12 by returning the computer to the RUN mode. Discontinue the test as per the list below:

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PART NUMBER	DISCONTINUE TEST
123084	after 4th switch
123085	after 8th switch
123086	after 16th switch

## \*5.7.9 Check-Write

5.7.9.1 Regain keyboard control. Set computer DATA switch 4 to the "1" position and enter the following directives:

```
$ADDR, 1, 0, 0+
$LEN, 0, 360+
$PATT, 5555+
$WRT+
$CLR+
CMPW + /
```

5.7.9.2 Follow the procedure outlined in section 5.5.9 to adjust the clock discriminator.

5.7.9.3 Sync on and display signal CHWEN (controller 04B13). Also display signal DCL (Controller 03B03). Insure that DCL has the following characteristics:

Part Number	Characteristics
60 Hz units	true $21.3 \pm .3 \mu\text{sec}$ after CHWEN
50 Hz units	true $25.6 \pm .4 \mu\text{sec}$ after CHWEN

5.7.9.4 Reset computer DATA switch 4 to the "0" position. No error reports shall occur.

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5.7.9.5 Create ~~sync~~ pattern error by momentarily applying GND to signal P5PR (controller 26A14).

The resulting error report shall be as follows:

WRT COMPARE ERROR @ / CO / 000 / 00 /  
CWRT 000360 / CO / 000 / 00 /

HIO 0123 4567 OC ADDR  
0001 1000 00 C O

OPERATIONAL STATUS BYTE  
10001000

UNUS END

TRANS ERR

5.7.9.6 Regain keyboard control, place a ground lead on signal PA0SET (controller 16B04), and enter the following directive: \$WRT+

Remove the ground lead and enter: \$GO+

The resulting parity error report shall be as follows:

WRT COMPARE ERROR @ / CO / 000 / 00  
CWRT 000360 / CO / 000 / 00 /

HIO 0123 4567 OC ADDR  
0001 1000 00 C O

OPERATIONAL STATUS BYTE  
10011000

UNUS END

TRANS ERR

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## \*5.7.10 Read

5.7.10.1 Regain keyboard control and enter the following directives:

\$ADDR, 1, 0, 0 +  
 \$PATT, 5555+  
 \$LEN, 0, 5760+  
 \$WRT+  
 \$CLR+  
 CMFR+ /

No error reports shall occur.

5.7.10.2 Regain keyboard control and enter the following directives:

\$LEN, 0, 359, 1 +  
 \$GO +

The following error typeout shall occur:

Read 000359/ CO / 000 / 00 /  
 OPERATIONAL STATUS BYTE  
 01010000  
 INC LENGTH

5.7.10.3 Regain keyboard control and enter the following directives:

\$LEN, 0, 359 +  
 \$WRT +  
 \$LEN, 0, 360 +  
 \$GO +

The following error typeout shall occur:

COMPARE ERROR @ / Co / 000 / 00 /  
 000179 5555 5500

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SUMMARY / Co / 000 / 00 /  
BIT POS DROPPED PICKED

00	000000	000000
01	000001	000000
02	000000	000000
03	000001	000000
04	000000	000000
05	000001	000000
06	000000	000000
07	000001	000000

5.7.10.4 Regain keyboard control and enter the following directives:

\$PATT, FFFF+  
\$LEN, 0, 5760+  
\$WRT+  
\$CLR+  
READ, 0, 1 + /

No errors shall occur.

5.7.10.5 Create a read error by applying GND to signal PAO. (Controller 18C24).

5.7.10.6 The error printout shall occur:

READ 005760/ Co / 000 / 00 /

HIO 0123 4567 OC ADDR  
0001 1000 00 Co

OPERATIONAL STATUS BYTE  
10011000

UNUS END

TRANS ERR

Remove the GND from PAO.

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\* 5.7.11 Matrix Test

NOTE: Paragraphs 5.7.11.1 thru 5.7.11.4 to be performed only on units with logical sparing installed. (Wire list 126551H and above).

Paragraph 5.7.11.4 to be performed on all units.

## 5.7.11.1 Install LT105 modules as per the following chart:

<u>Model</u>	<u>Conn. Interface Assy.</u>	<u>LT105</u>	<u>Spare Tracks</u>
7202	127612	29A & 30A	0-15
7203	127612	29A,30A,31A & 32A	0-31
7204	127612	29A,30A,31A,32A, 04B,05B,06B & 07B	0-64

## 5.7.11.2 Perform the spares portion of the following test:

\$ADDR, 1, 0, 0 +  
\$LEN, 0, 2880 +  
\$CLR +  
PATT, 0000 + BACK + n (WRT + PCYC,  
0001 + STEP +) + PATT, 0000 + BACK  
+n (CMFW + PCYC, 0001 + STEP +) +  
STOP, 01 + /

<u>Active Head Test</u>	<u>Spare Test</u>
NOTE: for part number 123084, n = 256	n = 32
123085, n = 512	n = 64
123086, n = 1024	n = 128

## 5.7.11.3 Remove LT105 modules installed in 5.7.11.1. List all failing tracks on Head Sparing Chart 153709-002.

## 5.7.11.4 Perform the "Active Head Test" portion of 5.7.11.2.

No error reports shall occur before the message.

STOP 01

is printed.

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5.7.12 Pattern Test

5.7.12.1 Regain keyboard control and enter the following directives:

\$ADDR, 1, 0, 0+  
\$LEN, 0, 5760+  
\$CLR+  
PATT, 0000 + 1@ PATT, 1111 + 1@ +  
PATT, AAAA + 1@ PATT, CCCC + 1@ +  
PATT, EEEE + 1@ + STOP, 02 + 1. +  
BACK + n (WRT + STEP + )+5 (BACK +  
n (CMPW + STEP + ) +) +@ + /

NOTE: for part number

123084, n = 128  
123085, n = 256  
123086, n = 512

132834, n = 256

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5.7.12.2 Section 5.7.12.1 provides a control line which writes nine different patterns on all tracks and check writes each pattern three times. No error reports shall occur before the message: STOP 02 is printed.

Run times are as follows:

Part No.	Run Time
123084	~ 2.5 min
123085	~ 5.0 min
123086	~ 10.0 min

NOTE: 50 Hz units take 20% longer.

5.7.13 Margins

5.7.13.1 Set the PT16 margin switch to the "LOW" position. Regain keyboard control and enter: \$GO+  
No error report shall occur before the message: STOP 02 is printed.

5.7.13.2 Set the PT16 margin switch to the "HIGH" position. Regain keyboard control and enter: \$GO+  
No error report shall occur before the message: STOP 02 is printed.

5.7.13.3 Return the PT16 margin switch to the "NORMAL" position.

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6.0 ACCEPTANCE TESTING

6.1 General

6.1.1 The acceptance test shall be executed according to sections 6.2.1 through 6.2.5, in that order. Criteria as to the success or failure to meet acceptance standards are given in section 6.3. Failure to pass any part of the acceptance test must be followed by repair and restart according to section 6.4

6.1.2 There shall be at least three spare head-pairs left unimplemented per head plate at the completion of the acceptance test. On units with logical sparing (wiring list 126551H or above) the amount of unimplemented spares shall be as listed below:

<u>Part no.</u>	<u>Number of Head Plates</u>	<u>Logical Spares</u>
123084 _____	1 _____	8 _____
123085 _____	2 _____	12 _____
123086 _____	4 _____	20 _____

6.1.3 Multiple unit testing is outlined in section 6.5.

6.2 Acceptance Procedure

6.2.1 Preliminary Tests

Perform the asterisked portions of section 5 (see table 6.1) in the order indicated. All printouts shall be identical to those listed in section 5.

6.2.2 Acceptance Test Control Line

6.2.2.1 Sigma 5/7

Set sense switch three to the "1" position, and enter the following directives:

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Q = Keyboard Address  
 K = IOP Address  
 m = Controller Address  
 n = Device Address

## Core Memory Size

PART NO.	8K				12K			16K and above		
	p	t	u	v	t	u	v	t	u	v
123084	4	11520	28	64	23040	28	32	46080	28	16
123085	5	11520	14	128	23040	14	64	46080	14	32
123086	6	11520	7	256	23040	7	128	46080	7	64

\$UNIT, 0, kmp+  
 \$ADDR, 1, 0, 0+  
 \$SML, 3+  
 \$SMD, Q+  
 \$CNTR, FFFFF+  
 \$LEN, t+  
 \$PATT, F082B55, 7+  
 \$CLR+

1. + u (BACK+v (WRT+STEP+)+5 (BACK+v (2CMPW+STEP+)+)+BACK+v (2CMPR+STEP+)+PCYC, 8265317+)  
 +MARK, 09+5PCYC+1@+
2. +SENS+SML, 0+10 (CMPW+)+SML, 3+TYBB, 1, 2+TYPC, 02000+CNTR, 02000+@+ /

## 6.2.2.2 Sigma 2

Set the computer data switch three to the "1" position, and enter the following directives:

Q = Keyboard Address  
 m = Controller Address  
 n = Device Address

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\$UNIT,0,mn1+  
 \$ADDR,1,0,0+  
 \$SML,3+  
 \$SMD,Q+  
 \$TRY,.10+  
 \$LEN,0; 1024 +  
 \$PATT,EB85+  
 \$XGEN,mn+  
 \$CLR

NOTE: FOR PART NUMBER

123084 N = 28  
 123085 N = 14  
 123086 N = 7

N(XWRT+5XCWT+XRDS+PCYC,1357+5PCYC+)+MARK,09+ /

6.2.2.3 The control line writes, check-writes, and reads on every track, changing the data pattern after each pass. Ten retries are attempted whenever a read or check-write error is detected. The following messages may occur during the acceptance test:

MARK 09 -  $10^9$  bits have been read from each unit

Pass time, Sigma 5/7 - 20 to 25 min/unit

Pass time, Sigma 2 - 14 min/unit

NOTE: 50 Hz units take 20% longer per pass

SENSE XXX + XXX is the data group address, plus one sector, in which an error was detected.

COUNTER 14 YY - YY is the total number of read or check-write errors detected after ten retries.

REL LOC - the data pattern recorded when an error was detected.  
1-2 (data)

} Sigma 5/7  
only

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## 6.2.3 Low Margins

Regain keyboard control, and set the PT16 margin switch to the "LOW" position. Enter

\$GO+

and complete five MARK09 passes of the acceptance test.

## 6.2.4 High Margins

Regain keyboard control, and set the PT16 margin switch to the "HIGH" position. Enter

\$GO+

and complete five MARK09 passes of the acceptance test.

## 6.2.5 Normal Margins

Regain keyboard control, and set the PT16 margin switch to the "NORMAL" position. Enter

\$GO+

and run the acceptance test for the required time, as indicated.

PART NUMBER	MINIMUM RUN TIME PER UNIT (INCLUDING MARGINS)
123084	4 hrs.
123085	6 hrs.
123086	8 hrs.

NOTE: ADD 20% to these run times for 50 Hz units

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6.3 Acceptance Criteria

6.3.1 Recoverable errors

The only error printouts allowed are for read or check-write data transmission errors, which have the form

```
READ t/mn/x/y/ or WRT COMPARE ERROR@ mn/x/y/  
(status)          CWRT t/mn/x/y/  
UNUS END          (status)  
TRANS ERROR      UNUS END  
                  TRANS ERROR
```

Note: See section 6.2.2 for t, m, and n.

x = starting track address of this operation

y = starting sector address of this operation

any other printout shall be considered a non-recoverable error, and cause for restart of the test.

6.3.2 Error Retry

The retry provision will execute an additional ten check-write operations whenever an error is detected. The total number of detected errors during the retry is printed as

COUNTER 14 (number) (Sigma 5/7 only)

6.3.3 Non-recoverable Errors

More than one recoverable error on the same track per MARK09 pass shall be considered a non-recoverable error, and cause for restart of the test.

6.3.4 Recoverable Error Rate

6.3.4.1 Sigma 5/7

The recoverable error rate per unit shall be equal to, or less than, one error per

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four hours of run time.

#### 6.3.4.2 Sigma 2

The recoverable error rate per unit for 60 Hz units shall be equal to, or less than, two errors per five hours of run time. For 50 Hz units the recoverable error rate per unit shall be equal to, or less than one error per three hours of run time.

#### 6.4 Restart Provisions

6.4.1 Failure to pass section 6.2.1 requires a restart at the beginning of section 6.2.1.

6.4.2 Failure to pass section 6.2.3, 6.2.4, or 6.2.5 requires a restart at the beginning of section 6.2.3, after the cause of the failure is repaired.

6.4.3 The minimum run time after restarting the acceptance test is three hours for each unit which failed section 6.3. Accrued run time before the restart may be used to meet the total acceptance test time, as stated in section 6.2.5.

6.4.4 If a failing head is replaced with a spare, the Matrix Test (section 5.6.13 or 5.7.11) must also be repeated.

6.4.5 Acceptance testing may continue beyond the minimum required run time, if the recoverable error rate exceeds the value stated in section 6.3.4. Testing may continue until

- 1) the recoverable error rate is achieved, or
- 2) twelve hours of testing per unit have elapsed.

6.4.6 If, after twelve hours of testing, a unit still has not achieved an acceptable error rate, the acceptance test for that unit must be restarted at section 6.2.3.

#### 6.5 Testing Multiple Units

##### 6.5.1 Acceptance testing multiple units

##### 6.5.1.1 Addressing

A maximum of eight units (four units on Sigma 2) may be acceptance tested at one time using the control lines of Section 6.2. The storage capacity must be the same for each unit tested.

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6.5.1.1 Cont.

The unit XGEN and ADDR directives in section 6.2.2.1 and 6.2.2.2 must be modified as follows to include all units being tested.

\$UNIT, 0, km<sub>1</sub>, n<sub>1</sub>, p<sub>1</sub>, km<sub>2</sub>, n<sub>2</sub>, p<sub>2</sub>, ..., km<sub>x</sub>, n<sub>x</sub>, p<sub>x</sub> + (sigma 5/7 only)  
 \$UNIT, 0, km, n, 1, km<sub>2</sub>, n<sub>2</sub>, 1, --- km<sub>x</sub>, n<sub>x</sub>, 1 + (Sigma 2 only)

\$ADDR, ff, 0, 0+

\$XGEN, km, n<sub>1</sub>, 0, km<sub>2</sub>, n<sub>2</sub>, 0, --- km<sub>x</sub>, n<sub>x</sub>, 0 + (sigma 2 only)

Note: k = IOP Address, if applicable

m<sub>1</sub>-m<sub>x</sub> = Controller Address 1 ≤ x ≤ 8

n<sub>1</sub>-n<sub>x</sub> = Device Address 1 ≤ x ≤ 8

p<sub>1</sub>-p<sub>x</sub> = Capacity Designation 1 ≤ x ≤ 8 (sigma 5/7 only)

NUMBER OF UNITS TESTED

	1	2	3	4	5	6	7	8
ff	01	03	07	0F	1F	3F	7F	FF

6.5.1.2 Control Line

The "v" parameter in the control lines of section 6.2 must be modified for multiple unit testing. It becomes the sum of the individual v's, as determined in section 6.2.

Example: if three units (part number 123084) are tested together on a Sigma 5 with >8K core memory, v = 64+64+64 = 192.

The time per MARK09 printout is equal to the value of section 6.2.2.3 multiplied by the number of units tested.

6.5.1.3 Minimum Run Time

The minimum acceptance test run time is equal to the value given in section 6.2.5 multiplied by the number of units tested.

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6.5.2 System Testing Accepted Units

6.5.2.1 Refer to Section 6.5.1.1 for addressing of multiple units.

6.5.2.2 The "v" parameter of the control line in Section 6.2 is modified as outlined in Section 6.5.1.2. The u parameter is set at 7. (Sigma 5/7 only).

6.5.2.3 Complete two MARK09 passes of the acceptance test on normal margins.

TABLE 6.5.2.4 Acceptance Test Paragraphs

<u>Testing Master Unit</u>		<u>Testing Slave Unit Only</u>	
<u>SIGMA 5/7</u>	<u>SIGMA 2</u>	<u>SIGMA 5/7</u>	<u>SIGMA 2</u>
5.0.1	5.0.1	5.0.1	5.0.1
5.3.8	5.3.8	5.3.8	5.3.8
5.4	5.4	5.4.2	5.4.2
5.6.6.5	5.7.5.5	5.6.9.13	5.7.8.11
5.6.9.10	5.7.8.8	5.6.9.14	5.7.8.12
5.6.9.11	5.7.8.9	5.6.9.15	5.7.8.13
5.6.9.12	5.7.8.10	5.6.13	5.7.11
5.6.9.13	5.7.8.11		
5.6.9.14	5.7.8.12		
5.6.9.15	5.7.8.13		
5.6.10	5.7.9		
5.6.11	5.7.10		
5.6.12	5.7.11		
5.6.13			

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