

(25,4)mm  
1 INCH

ITEM	REQD	DWG. NO.	NAME	SIZE
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395-0060031

REQD.	SIZE	NEXT ASSEMBLY
I	B	395-0060026

M64-3  
M64-2

ITEM	DWG. NO.	DWG NAME	REVISION LEVEL	
			CURRENT DESIGN	ASSOC & CHG NO THIS MACHINE
1	095-0011037	SCHEMATIC-LOGIC (CASS DATA)	A	07
2	348-0000408	SCHEMATIC-LOGIC (CASS TRAN)	A	10

NOTES:

REPLACES DWG SAME NO DATED 5-13-73  
 CHANGES: (M) ITEM 2 WAS 095-0011011 REV B (N) ITEM 2 WAS REV A, CORRECTED REV M  
 P ITEM 2 WAS 095 0011055, REV B, CHG NO.08

	JEG	P	46ER10600 DA	1-75
		N	46ER04117 MW	3-74
		M	46ER04079 MW	5-73
MODULE CHG. NO.		399	REV.	RELEASE NO.
				DFTS. DATE

UNLESS OTHERWISE SPECIFIED, DIMENSIONAL LIMITS ARE: INCH NOMINAL .XX ± .02 .XXX ± .005		STD. QUALITY SEE SP4004.15	THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
MATERIAL:	CLASS: M64	START FINISH 1-30-73	SYSTEM 399 COMPUTER	
COATING:	DFTS: J.S.	DESIGNER: R.C. EIFORT	NAME: INDEX-FIELD PRINT PACKAGE (CASSETTE)	
BRAZE:	APPD:	SHEET   CF	395-0060031	
HEAT TREAT:	SUPSD. BY:	SCALE:	FIELD PRINT	
HARDNESS:	SUPERSEDES:	CODE: 2-9507		

MATHIAS FILE

CHANGES: NEW, ADDED CIRCUIT ON PAGE 9, ZONE 4A

HIGHEST REFERENCE DESIGNATOR  
R13 C24 CR1

ITEM	SIZE	NEXT ASSEMBLY
1	B	395-0060031

CLASS	MODEL	EFFECTIVITY
095-0011037		

- 4. PINS 101, 102, 301, & 302 ARE GRD.
- 3. PINS 1, 2, 201, & 202 ARE +5VDC
- 2. ALL RESISTORS ARE .25W 5%.

NOTE 1: BOARD PLUG IN 095-0011036

REVISION ON SHEET NUMBER											
2	3	4	5	6	7	8	9	10	11	12	
A	A	A	A	A	A	A	A				

1

A 46804C32 MP 575

REF. QUALITY CONTROL	NCR	THE NATIONAL CASH REGISTER CO. DAYTON, OHIO
CLASS: MG4-3-399	DATE: 5-73	REV: 5-23-73
DESIGNER: P SPIVEY	SCHEMATIC - LOGIC (DATA CASSETTE)	
APP: [ ]	SCALE: 1/8"	095-0011037
PROPERTY: 095-0297058	2-9550	FIELD FRINT

R



ITEM	REQD	DWG. NO.	NAME	SIZE	ITEM	REQD	DWG. NO.	NAME	SIZE	ITEM	REQD	DWG. NO.	NAME	SIZE	REQD	SIZE	NEXT ASSEMBLY
FUNCTION	INPUT PIN	OUTPUT PIN	PAGE / ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE / ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE / ZONE	REMARKS			
CBUSY.G	22		4-A4,C3,B3, D2,5-C2,B2	CASS TRAN IF	CPSD 23.R/	13		8-C2	CASS TRAN IF	DMA5MCA/	261		9-A4	MEMORY IF			
CCK 120.C	29		9-C2		CRCNTG.YA	86		5-B4,6-D3		DMA5MCR/		260	9-A2				
CCK 15.C	7		8-B2		CRCT08.G	288		5-B4,7-D2,8-D4		DTM 01/		64	9-D2				
CDCR.SA	292		6-D3,B4,B3 7-D4		CRD8.LA/		20	4-B2		DTM 02/		65	9-D2				
CDCW.GA/	100		6-D3,7-D4,B3		CRDATA.LA	289		6-C4		DTM 03/		66	9-D2				
CDPRES.CA	32		5-D4,8-C2		CRDERR.FA		294	7-D1		DTM 04/		67	9-D2				
CEND.G	296		5-C4		CRDPER.FA	30		8-B2		DTM 05/		68	9-C2				
CEODES.GA/		23	5-A1		CRDY 1.FA	96		4-D3,B4,8-B2		DTM 06/		69	9-C2				
CEQOUT.FA	43		5-B3,8-D4		CRDY 2.FA	10		4-D3,8-B2		DTM 07/		70	9-C2				
CEQOUT.G/		284	6-B3		CREVLH.GA		38	4-C1		DTM 08/		71	9-C2				
CERRST.GA/	299		7-D1		CREWST.G	297		5-C3,A3		DTM 09/		72	9-D1				
CEVEN.LA	27		8-B3		CRVDIR.LA/		92	5-B2		DTM 10/		73	9-D1				
CIRG.GA	285		4-A3,7-D1		CRWD.G		16	4-C3		DTM 11/		74	9-D1				
CIRGBS.G/	98		6-B4,A4		CRWIND.GA/	90		5-D4,A4		DTM 12/		75	9-D1				
CIRGEN.G		93	4-B1	CASS TRAN IF	CSEND.FA	87		6-D3,7-D2		DTM 13/		76	9-C1				
CLDLT.H		290	9-B1	KEYBOARD IF	CSPCLK.F		40	7-C2		DTM 14/		77	9-C1				
CLDLT.H/		291	9-B1	KEYBOARD IF	CSRCK2.GA/		42	7-D3		DTM 15/		78	9-C1				
CLDRIG.G/		37	4-B2	CASS TRAN IF	CSSTB.FA/		97	5-D1		DTM 16/		79	9-C1	MEMORY IF			
CLOAD.FA/		99	4-B2	CASS TRAN IF	CSTERR.G/	300		7-D2		GRD	101,102			605 POWER SUPPLY (BUSSED)			
COM/		286	9-C1	PROCESSOR 3	CTIMEO.G	44		5-D3			301,302						
COSCLK.S/	287		9-B2	CASS TRAN IF	CTMRK.LA/		89	4-C2		LOAD/	68		4-B4	KEYBOARD IF			
CPP3.LA/		21	4-C2		CTPSPD.FA	28		5-B4,8-B3		MAB01/		53	9-D3	MEMORY IF			
CPP4.LA/		24	4-D2		CTRLR 1.GA/	12		8-C2		MAB02/		54	9-D3				
CPSD 10.R	242		8-C3		CTRLR 2.GA/	11		8-C2		MAB03/		55	9-D3				
CPSD 11.R	85		8-C3		CUTS.FA/	34		7-B4		MAB04/		56	9-D3				
CPSD 12.R	49		8-D3		CWCNTG.YA	45		7-B4		MAB05/		57	9-C3				
CPSD 13.R/	14		8-C2		CWCNTI.Y/	91		6-D3,7-D3		MAB06/		58	9-C3				
CPSD 20.R	293		8-C3		CWCNT E.YA	31		4-B2		MAB07/		59	9-C3				
CPSD 21.R	95		8-C3		CWCTB.FA	295		6-D4,7-C2,B2		MAB08/		60	9-C3				
CPSD 22.R	50		8-D3	CASS TRAN IF	CWCTPE.G		84	7-C1		MAB09/		61	9-C3				
					CWDATA.G/		41	7-A2		MAB10/		62	9-C3				
					CWRTLH.G		39	4-C1		MAB11/		253	9-B3	MEMORY IF			
					CWTPM 1.L		9	5-B1	CASS TRAN IF								
					CWTPM 2.L		25	5-B1									

REQD	SIZE	NEXT ASSEMBLY

CLASS	MODEL	EFFECTIVITY

095-0011037

2

NOTES

CHANGE (A) NEW

STC QUANTITY SEE SPACER 5  
CLASS M64-3-399

STARTS-73 FINISH-5-23-73  
DESIGNER R. SPIVEY

NAME SCHEMATIC-LOGIC  
(PIN SUMMARY): DATA

SCALE 2 OF 9

095 0011037  
FIELD PRINT

THE NATIONAL CASH REGISTER CO. DAYTON, OHIO

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF ARE IN THIRDS OF AN INCH.

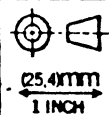
MATERIAL: COATING, BRAZE, HEAT TREAT, HARDNESS

DATE: 02-05

APP'D: [Signature]

SHIPPED BY: [Signature]

SUPPLIER: 095-0297059



FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
MAB 12/		254	9-B3	MEMORY IF
MDS/	262		9-A3	MEMORY IF
MR/	46		5-C3	605 POWER SUPPLY (BUSSED)
MRA		33	5-C3	CASS TRAN IF
RD 01/		204	8-B1	PROCESSOR2(BUSSED)
RD 02/		206	8-B1	
RD 03/		208	8-B1	
RD 04/		210	8-C1	
RD 05/		214	8-C1	
RD 06/		218	8-C1	
RD 07/		221	8-D1	
RD 08/		224	8-D1	
RD 09/		226	8-B2	
RD 10/		229	8-B2	
RD 11/		231	8-B2	
RD 12/		234	8-C2	
RD 13/		236	8-C2	
RD 14/		239	8-C2	
RD 15/		241	9-D2	
RD 16/		244	8-D2	PROCESSOR2(BUSSED)
RDINT07/		250	6-D1	PROCESSOR 1
RDIR0UT/		47	6-C3	PROCESSOR3(BUSSED)
RPINT07/		249	6-D1	PROCESSOR 1
SD 01/	203		7-C3	PROCESSOR1(BUSSED)
SD 02/	205		7-C3	
SD 03/	207		7-C3	
SD 04/	209		7-C3	
SD 05/	211		7-D3	
SD 06/	215		7-D3	
SD 07/	219		7-D3	
SD 08/	223		7-D3	
SD 09/	225		7-A4	PROCESSOR1(BUSSED)

FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
SD 10/	228		7-B4	PROCESSOR1(BUSSED)
SD 11/	230		7-B4	
SD 12/	233		7-B4	
SD 13/	235		7-C4	
SD 14/	238		7-C4	
SD 15/	240		7-C4	
SD 16/	243		7-C4	PROCESSOR1(BUSSED)
SMB 07/	247		4-B4	PROCESSOR4(BUSSED)
SMB 08/	246		4-B4	
SMB 09/	245		4-B4	
SPOS01/	212		4-D4	
SPOS02/	217		4-D4	
SPOS03	222		4-C4	PROCESSOR4(BUSSED)
SPT07/	227		5-D2	PROCESSOR 4
SSEL07/	251		4-B3	PROCESSOR 1
SSTB/	248		4-B2	PROCESSOR4(BUSSED)
STERM/	48		4-B2	PROCESSOR4(BUSSED)
TPGND/	35		9-B4	TEST PANEL
TSIDA1.TA/	18		8-D2	CASS TRAN IF
TSIDA2.TA/	19		8-D2	
TWTEN 1GA	6		8-C2	
TWTEN 2GA	5		8-C2	CASS TRAN IF
+5V	1,2			605 POWER SUPPLY (BUSSED)
	201,202			

FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
RESERVED PINS	51,52,63,60-63, 213,216,220,252			
	255-259,263-263			
SPARE PINS (C399 ONLY)	15,26,36,94, 232,237,298			
OPEN PINS	3,4,17			

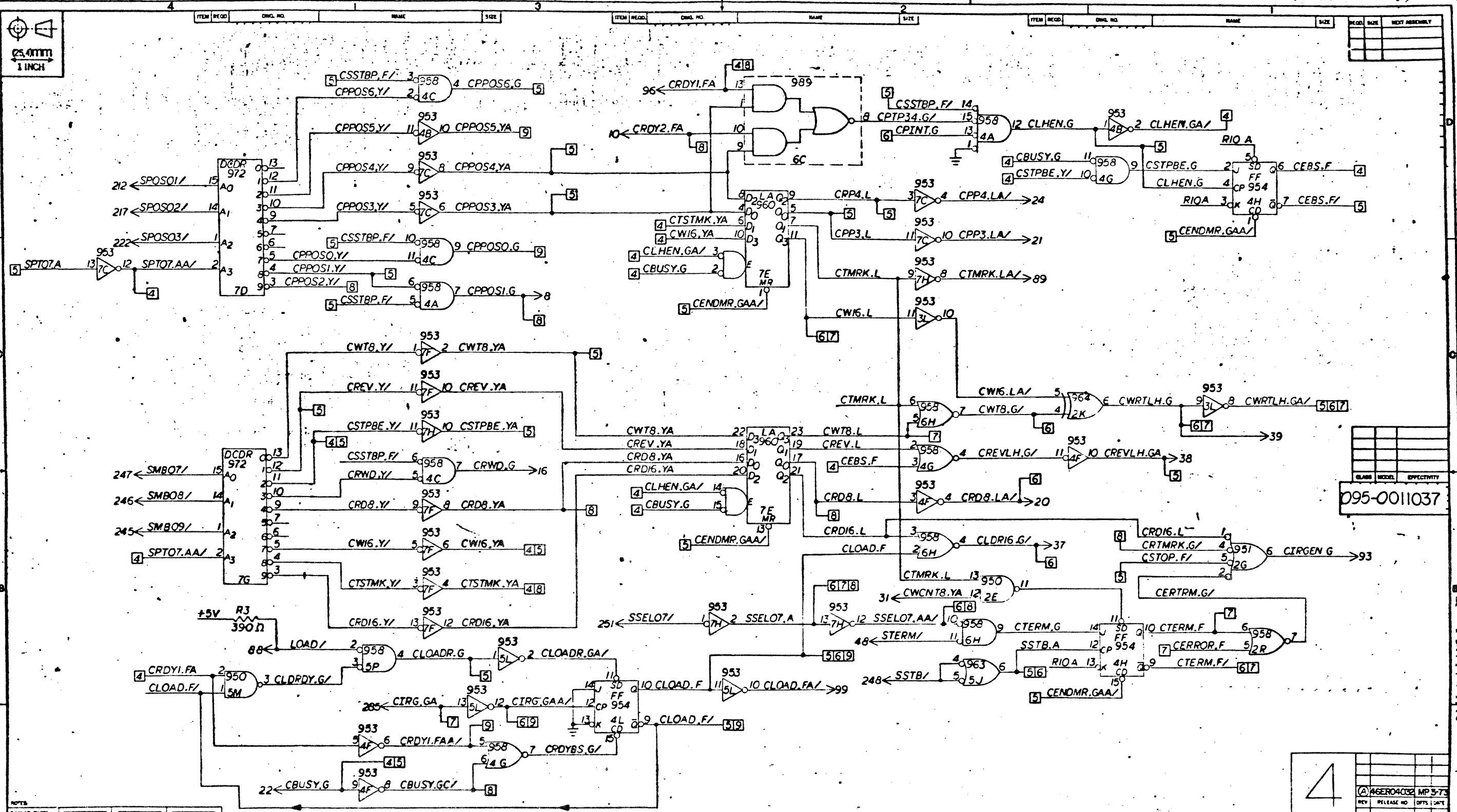
REV	DATE	BY

CLASS MODEL EFFECTIVITY  
095-0011037

3  
0950011037 MP 573  
REV. RELEASE NO. DATE

NOTES  
STANDARD PARTS  
CHANGES (A) NEW

STANDARD QUALITY SEE SP00415	CLASS AEC-3-359	NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO
START 5-73 FINISH 5-23-73	DPTSL J.W.V. CHAR	NAME SCHEMATIC-LOGIC
DESIGNER P. SPIVEY	SCALE	SHEET 3 OF 9
SUPD BY	SCALE	095 0011037
SUPERSEDED 095 0297058	SCALE	FIELD PRINT

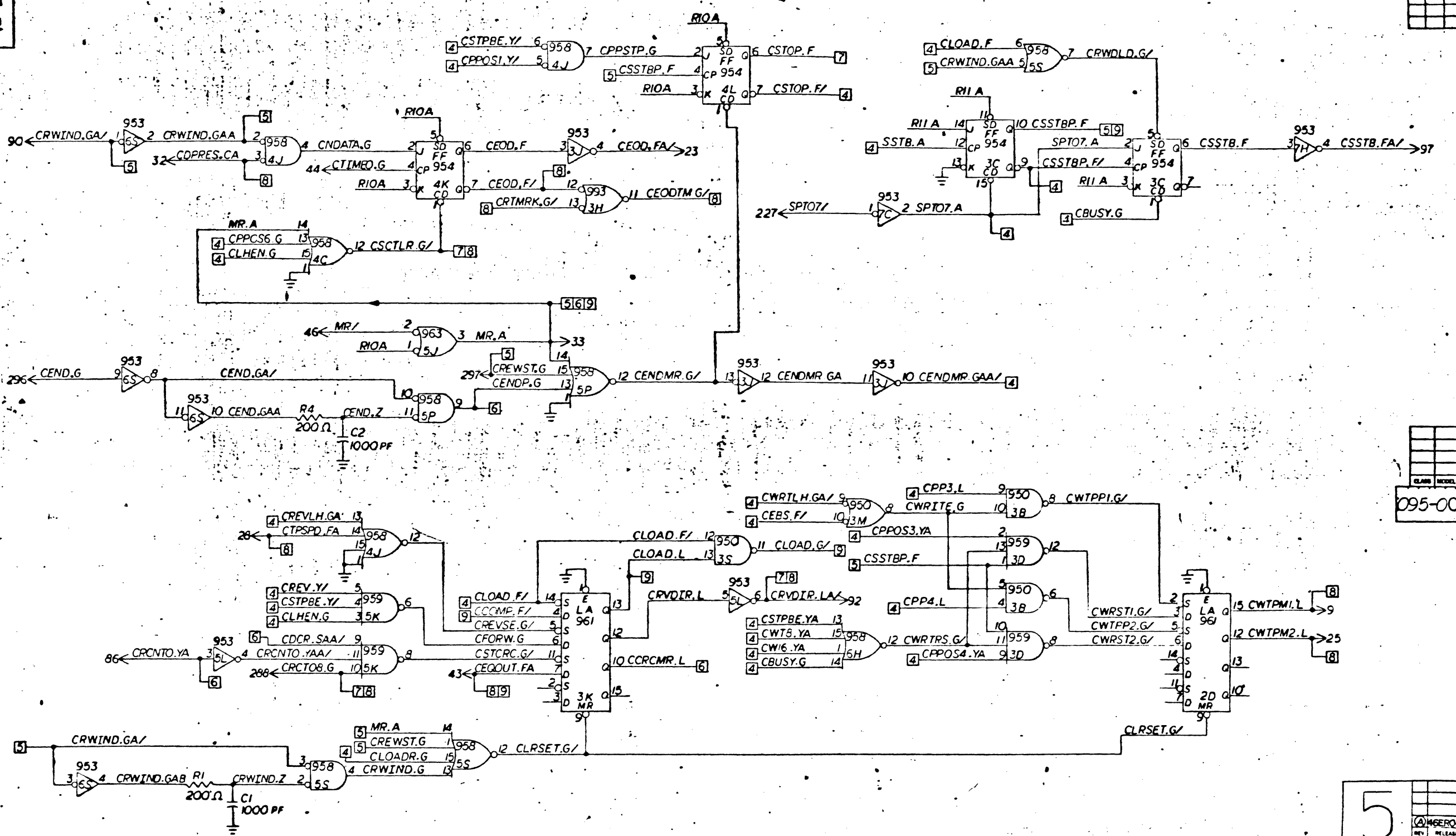


ITEM	REQD	QTY	NAME	SIZE	ITEM	REQD	QTY	NAME	SIZE	ITEM	REQD	QTY	NAME	SIZE	REQD	SIZE	NEXT ASSEMBLY

NOTES		CLASS MODEL EFFICIENCY	
1. SIMILAR PARTS		095-0011037	
CHANGES (NEW)			
UNLESS OTHERWISE SPECIFIED, DIMENSIONS SHALL BE IN INCHES AND DECIMAL FRACTIONS SHALL BE TO NEAREST 0.001 INCH.		THIS DRAWING AND INFORMATION THEREON IS THE PROPERTY OF THE NATIONAL CASH REGISTER COMPANY AND IS UNCLASSIFIED AND IS BEING RELEASED TO THE PUBLIC.	
MATERIAL		NCR THE NATIONAL CASH REGISTER CO DAYTON, OHIO	
COATING		STD QUALITY SEE SPACOM 13 CLASS MFG-3-399	
BRAZE		START 5-73 FINISH 5-73	
HEAT TREAT		UNIT CASSETTE INTERFACE	
WELDING		NAME SCHEMATIC - LOGIC	
		DESIGNER P. SPIVEY	
		SHEET 4 OF 9	
		SCALE	
		095-0011037	
		SUPERSEDES 095-0297058 OK 2-9-55	

FIELD PRINT



CLASS MODEL EFFECTIVITY  
095-0011037

5  
NCR 4860000 MP 577  
REV RELEASE NO DATE

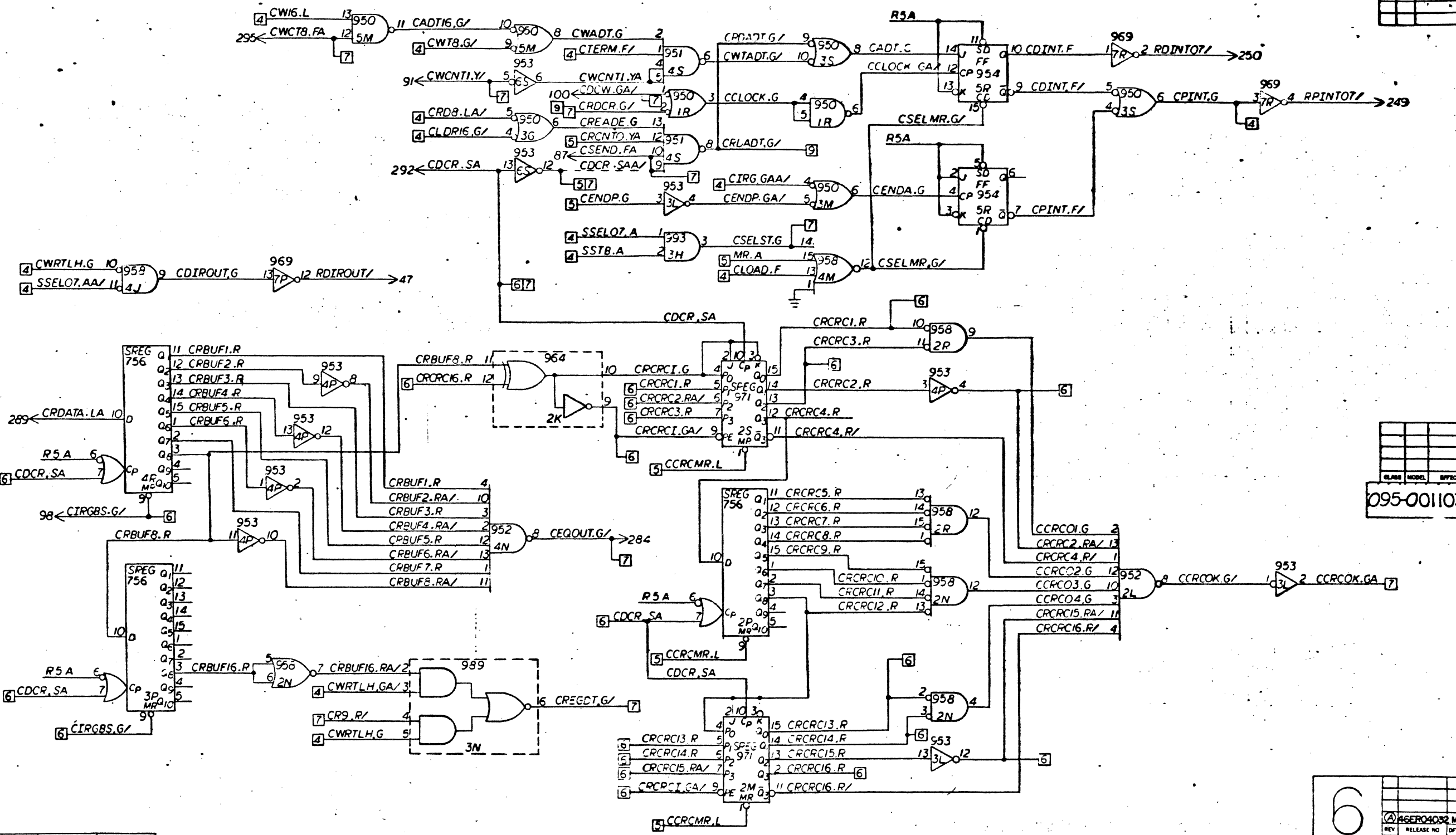
NOTES  
SIMILAR PARTS  
CHANGES (A) NEW

STD QUALITY SEE SPAN 11		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
CLASS M64-3399	STAR 573	MP 52373	CASSETTE INTERFACE
DTS G M	DESIGNER P SPIVEY	APPROV	SCHEMATIC - LOGIC
APPL	SCALE 1/8" = 1"	SHEET 5 OF 9	CASSETTE - DATA
SUPPLY BY	SCALE 1/8" = 1"	095 0011037	
SUPPLY NO. 0950297058	DATE 2-5-59		

FIELD PRINT

ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE	ITEM NO.	DWG. NO.	NAME	SIZE
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25.41111  
1 INCH



CLASS MODEL EFFECTIVITY  
095-0011037

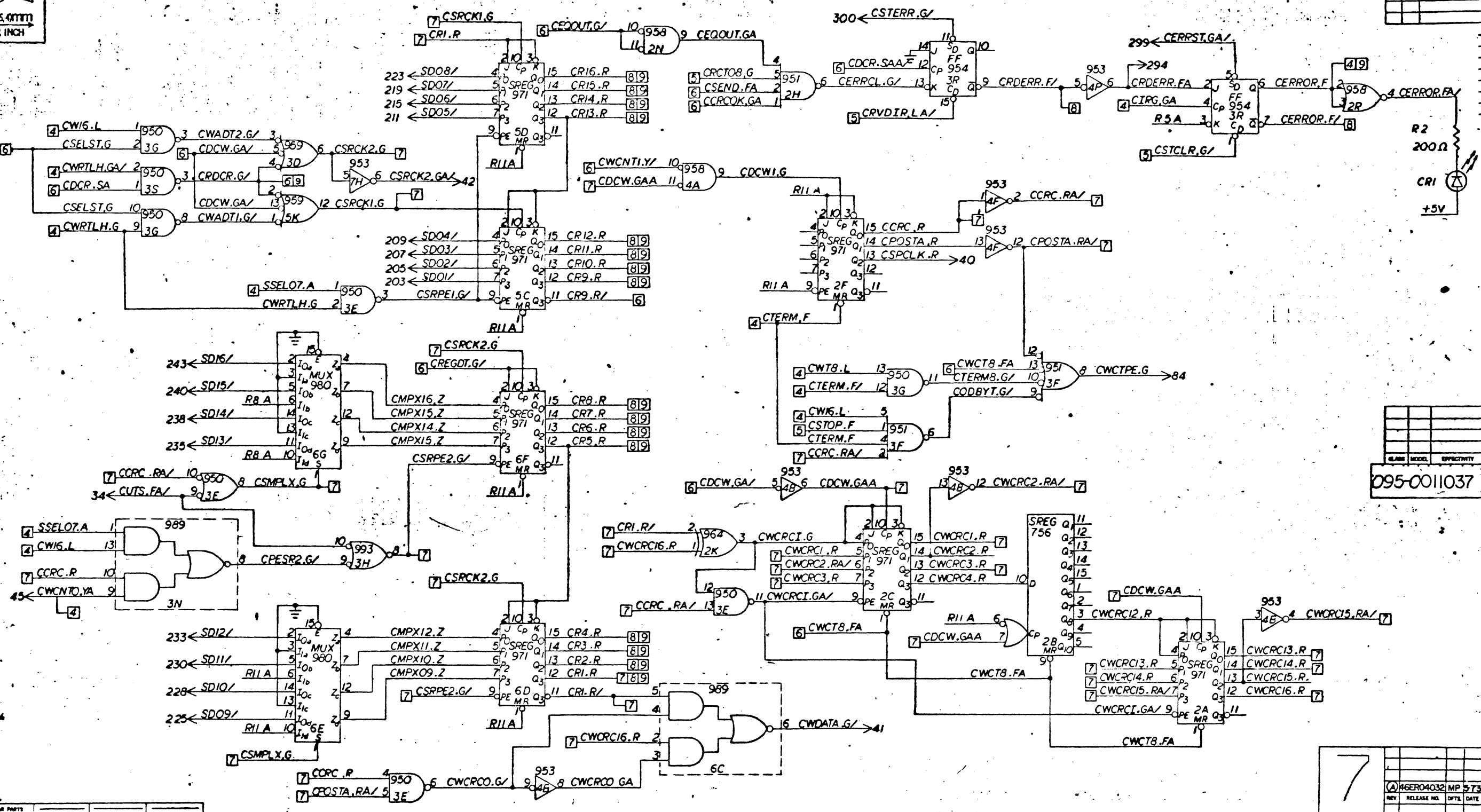
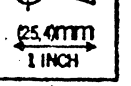
NOTES  
SIMILAR PARTS

CHANGES (A) NEW

6  
(A) 46904092 MP-973  
REV RELEASE NO DFTS DATE

STD. QUALITY SEE SP404 15	CLASS M64-3-399	NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO
STAR 573	F.N. 52373	CASSETTE INTERFACE
DFTS G.M. CHR	DESIGNER P. SPIVEY	SCHEMATIC-LOGIC
APPD APPD	SHEET 6 OF 9	(CASSETTE DATA)
SUPD BY	SCALE	095 0011037
SUPRECODE 095 0297058	DATE 2-28-80	FIELD PRINT

ITEM	RECD.	QTY.	NO.	NAME	SIZE	ITEM	RECD.	QTY.	NO.	NAME	SIZE	ITEM	RECD.	QTY.	NO.	NAME	SIZE	RECD.	SIZE	NEXT ASSEMBLY
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095-0011037

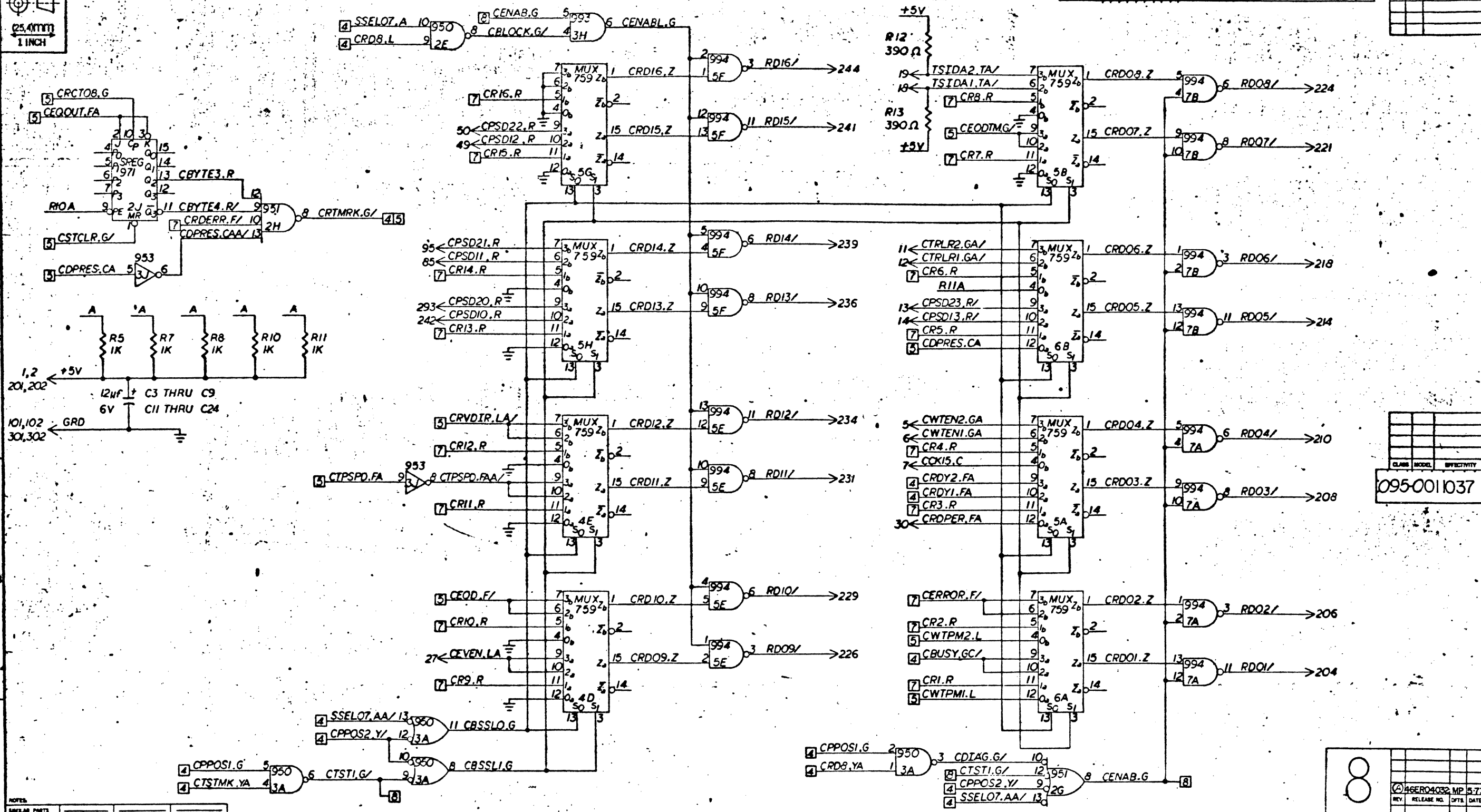
7	MP 573
MP 573	

NOTES	
SIMILAR PARTS	
CHANGED	NEW

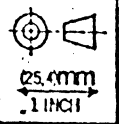
UNLESS OTHERWISE SPECIFIED, DIMENSIONS IN MILLIMETERS ARE TO BE USED.		START: 5-73	FINISH: 5-23-73	UNIT: CASSETTE INTERFACE
DESIGNER: P. SPIVEY		DFTS: G. M. CHUR	NAME: SCHEMATIC LOGIC	
APPD: [Signature]		SHEET 7 OF 9		
SUPERSEDES: 095 0297058		SCALE: FIELD PRINT		
MATERIAL:		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO		
COATING:				
BRAZE:				
HEAT TREAT:				
HARDNESS:				



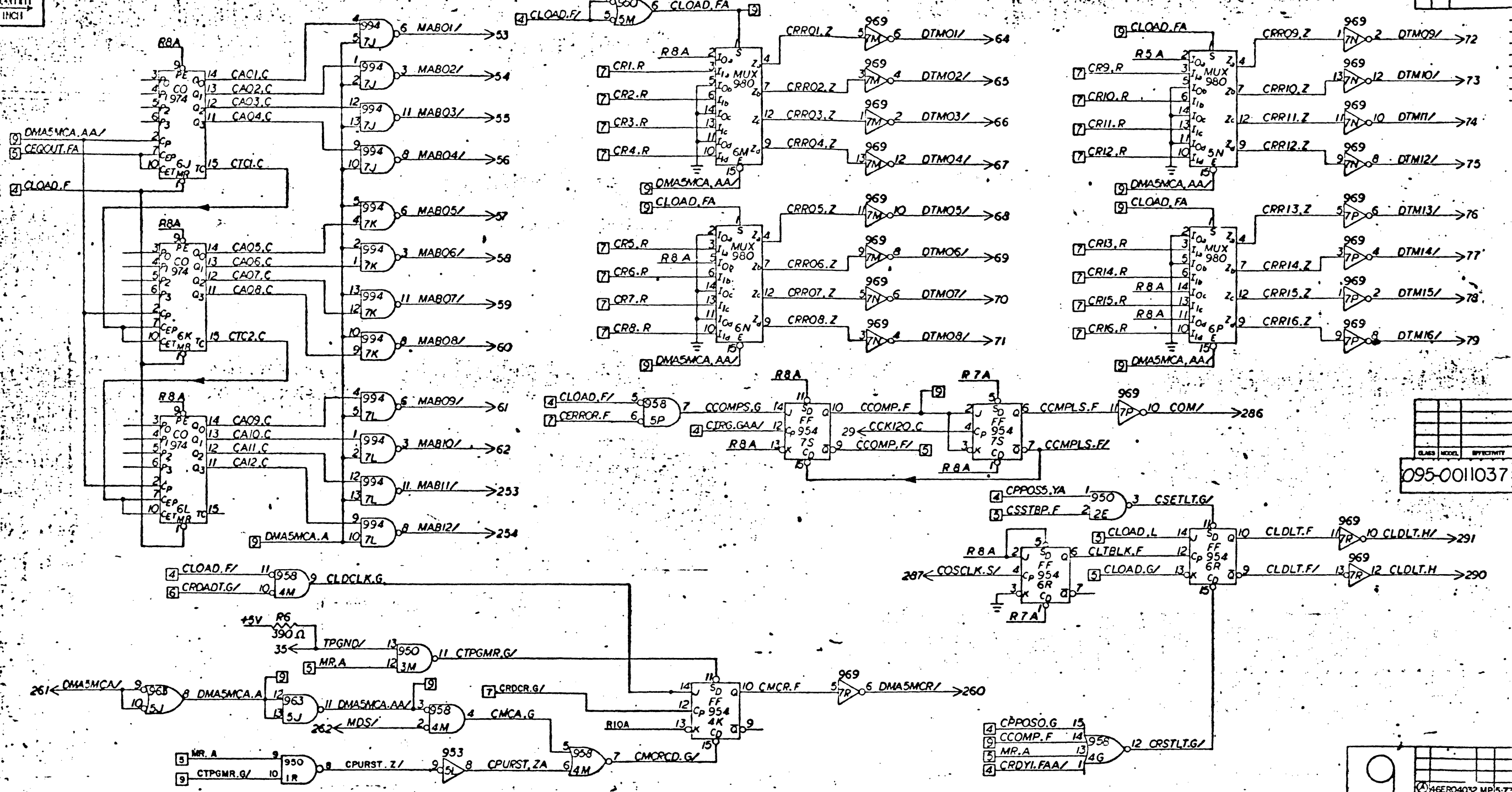
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NOTES		8	
SIMILAR PARTS		④ 46E04032 MP 5.73	
CHANGES (A) NEW		REV. RELEASE NO. DATE	
STD. QUALITY SEE SP004-15		CLASS. #64-3-399	
START: 5-73 FINISH: 5-23-73		UNIT: CASSETTE INTERFACE	
DFTS: G M		NAME: SCHEMATIC-LOGIC	
DESIGNER: P SPIVEY		(CASSETTE DATA)	
APPRO: [ ]		SHEET: 6 OF 9	
SUPD: BY [ ]		SCALE: [ ]	
SUPERSEDED BY: 095 0297058 DKE 2-5580		095 0011037	
		FIELD PRINT	



ITEM	REQD.	DWG. NO.	NAME	SIZE	ITEM	REQD.	DWG. NO.	NAME	SIZE	ITEM	REQD.	DWG. NO.	NAME	SIZE	REQD.	SIZE	NEXT ASSEMBLY



CLASS MODEL EFFICIENCY  
095-0011037

9  
AGERO4032 MP-5-72  
REV. RELEASE NO. DATE

NOTES  
REVISIONS  
CHANGES (A) NEW ADDED CIRCUIT AT 4 B

STB QUALITY SEE SPACED 15	NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO
CLASS: M64-3-399	START: 5-73 FINISH: 5-23-73 UNIT: CASSETTE INTERFACE
DESIGNER: P. SPIVEY	NAME: SCHEMATIC - LOGIC
APPD: [ ]	SCALE: [ ]
SUPD: BY [ ]	DATE: [ ]
SUPP: 095-0297058	REV: 2-955

095-0011037  
FIELD PRINT