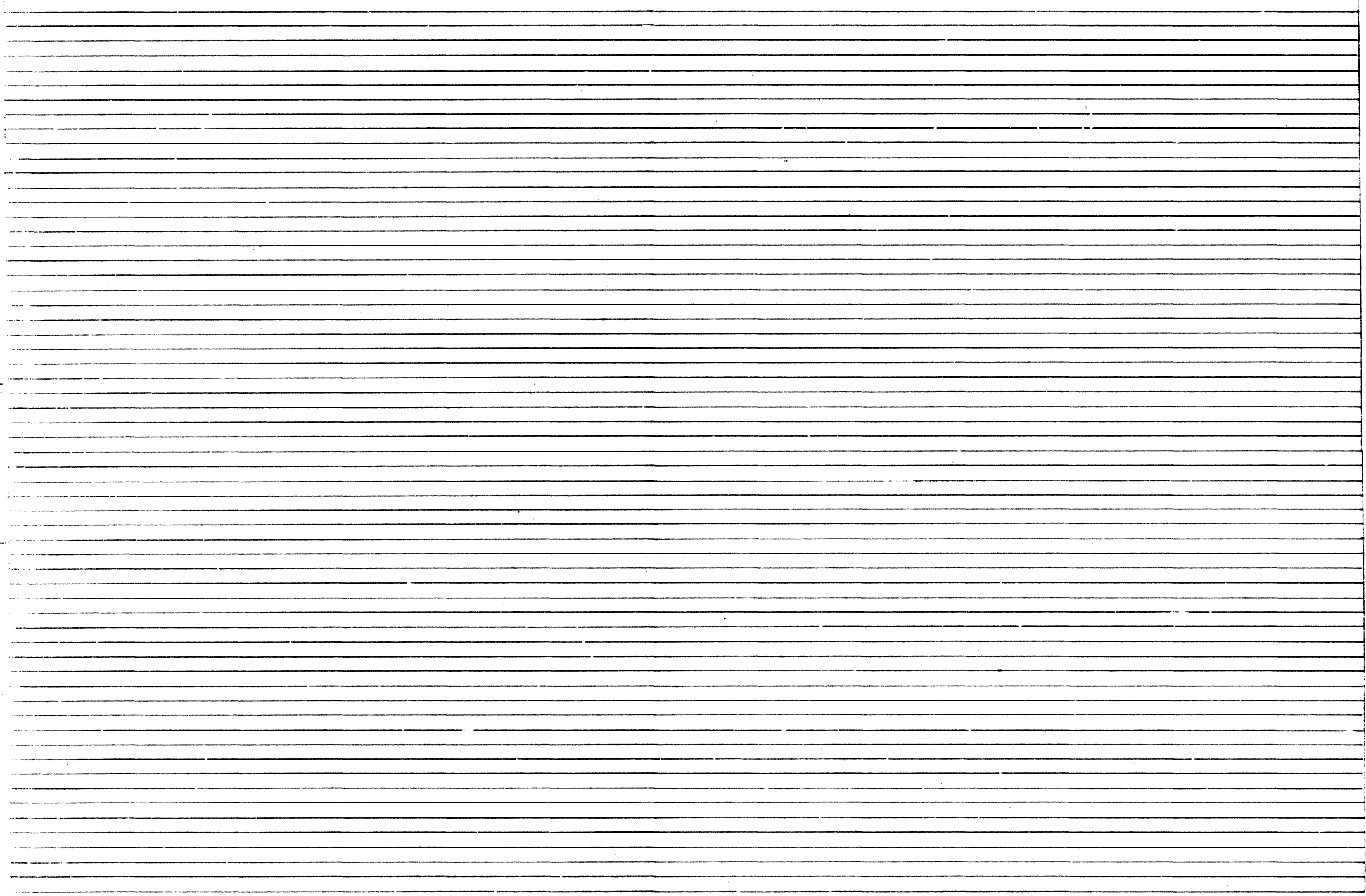


(A) NEW, ADDED GATE 7E AT LOCATION 2A PAGE 9, GATE 5N 3 TERMINAL WAS FINPLR.L AT LOCATION 4D PAGE 11. (B) AT LOC. 3A GATE 6A WAS 6G; LOC. 1B GATE 5C WAS 5A, TERM. NOS. 4, 5, 6 WERE 12, 13, 11 RESPECTIVELY. (C) CORRECTED VIEW OF PACK 1C, LOC. 4C&D.

HIGHEST REFERENCE DESIGNATOR
R37 C33 CR 4

1 B 395-0060034



095-0011069

1 PINS 101, 102, 201, & 202 ARE GRD.
2 PINS 120, 121, & 202 ARE -5V.
3 ALL RESISTORS ARE .25M, ±5%
4 REFERENCE PLUG-IN BOARD 095-00110

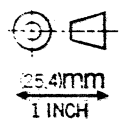
D 46ER00548 Rev. 4-75
C 46ER00555 Rev. 2-75
B 46ER00551 Rev. 11-74
A 46EP01339 JS 1-73

1 R

REF ID	DESCRIPTION	QUANTITY	UNIT
A
B

M48-2-399 NCR
9-73 9-573 A L.F. INTERFACE
JS SCHEMATIC-LOGIC
WHEATON
112
095-0011069
2-9550

FILED PRINT



FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
FACTS.T/	269		4-A3	CR SW
FALFL.G		271	5-C1	FH IF
FALFM1Z	4			ML IF
FALFM2Z	5			ML IF
FALFM3Z	6			ML IF
FALFM4Z	7			ML IF
FALFM5Z	8			ML IF
FALFR.G		262	5-C1	FH IF
FALIGN.GB/		274	6-B3	ALIGN SOL
FALINL.T	258		5-B3	LT ALIGN SW
FALINL.T/	256		5-B3	LT ALIGN SW
FALINR.T	255		5-B3	RT ALIGN SW
FALINR.T/	257		5-A3	RT ALIGN SW
FCK240.H/	293		11-B1	FH & ML IF
FCCMPR.FA		286	11-A3	ML IF
FCTL98.G		40	7-A3	FH IF
FCTR98.G		41	7-B3	FH IF
FCTR90.G		10	7-B3	ML IF
FCUPRM.G/		297	9-C2	ML IF
FDET.L		292	8-D1	ML IF
FDET.LA/		273	8-D1	DET SOL
FDISA.A/	278		6-D3	DISC AMP BD
FDISB.A/	277		6-D3	DISC AMP BD
FDNRL.LAA/		275	11-A2	SERVO CONT BD
FEJL.GA/	267		7-B4	FH IF
FEJR.GA/	266		7-C4	FH IF
FFCRIP.G		284	8-D3	ML IF
FFCRL.TAB	32		4-B4	FH IF
FFCRR.TAB	30		4-B4	FH IF
FFCRR.TBA/		39	4-B3	ML IF
FFING.T	254		6-B4	FING SW
FFING.TAA		3	6-B3	FH IF
FGND.G	283		9-C3	ML IF
FHRS.GA/	294		9-C4	ML IF
FHRS.G3/	261		11-B1	ML IF & HR SOL

FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
FINLEG.H/		295	8-B2	KYBD LIGHT
FINPLL.L/		38	6-A3	FH IF
FINPLL.T	268		6-A3	INPLL SW
FINPLL.T/	270		6-A3	INPLL SW
FINPLR.L/		45	6-B3	FH IF
FINPLR.T	264		6-B3	INPLR SW
FINPLR.T/	265		6-B3	INPLR SW
FINT.GB/		276	4-B1	SOL DR BD
FINT.T	272		5-C2	INT SW
FKCRL.L	36		4-A4	FH IF
FKCROL.G/	24		4-B3	FH IF
FKCROR.G/	263		4-C3	FH IF
FKCRR.L	42		4-D4	FH IF
FLA.GA/	43		4-D4	FH IF
FLB.GA/	37		4-A4	FH IF
FLCLS.GB/		281	4-B1	SOL DR BD
FLFL.G	31		7-D4	FH IF
FLFR.G	34		7-D3	FH IF
FLFS1-Z	9			FH IF
FLFS2-Z	16			FH IF
FLFS3-Z	17			FH IF
FLFS4-Z	18			FH IF
FLFS5-Z	21			FH IF
FLFS6-Z	22			FH IF
FLFS7-Z	23			FH IF
FLFS8-Z	53			FH IF
FLFS9-Z	253			FH IF
FLFS10-Z	90			FH IF
FLFS11-Z	91			FH IF
FLFS12-Z	92			FH IF
FLFS13-Z	93			FH IF
FLFS14-Z	94			FH IF
FLFS15-Z	95			FH IF
FLFS16-Z	96			FH IF
FLFS17-Z	97			FH IF
FLFS18-Z	98			FH IF
FLFS19-Z	99			FH IF
FLFS20-Z	100			FH IF
FLG.TAA/	285			FH IF

FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
FOCRB.Y/	15		4-B4	FH IF
FOCRL.Y/	35		4-A4	FH IF
FOCRR.Y/	33		4-D4	FH IF
FPDSL.SA/	44		10-C3	FH IF
FPDSR.SA	280		9-C3	FH IF
FPFCD.G/	291		9-C2	ML IF
FPFCU.GA	298		9-C3	ML IF
FRML.G/	288		8-C4	FH & ML IF
FRRE.Y/	287		12-B2	FH & ML IF
FRREM.GA/	259		11-B1	ML IF & MOTOR
FRRES.KA/	260		11-B1	ML IF & SOL
FSD11.L	28		9-B3	FH IF
FSD12.L	27		9-B3	FH IF
FSD13.L	26		9-B3	FH IF
FSD14.L	25		9-B3	FH IF
FSD15.L	14		9-B2	FH IF
FSD16.L	13		9-B2	FH IF
FSD17.L	12		9-B2	FH IF
FSD18.L	11		9-B2	FH IF
FSELI.F	20		7-D2	FH IF
FSLALF.G/		290	7-C3	FH IF
FSTOP.GAA		279	11-D1	SERVO BD
FSTOP.GA/		296	11-D1	FH IF
FSTOP.L/	299		11-D3	ML IF
FSTPML.GA/	300		11-D3	ML IF
FTD2.S		29	5-D3	ML IF
FWML.G/	289		8-C4	FH & ML IF
GRD	101			
GRD	102			
GRD	301			
GRD	302			
+5V	1			
+5V	2			
+5V	201			
+5V	202			

REV	DATE	BY	APP
1	B 395-006039		

CLASS	MODEL	EFFECTIVITY

095-0011069

2
 (B) 46ER00568 B.W. 4-75
 (A) 46ER01339 JS 9-73

(A) NEW (B) FUNCTION FPDSR-SA WAS FPDSR-SAI;

M-48-2-399 NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO

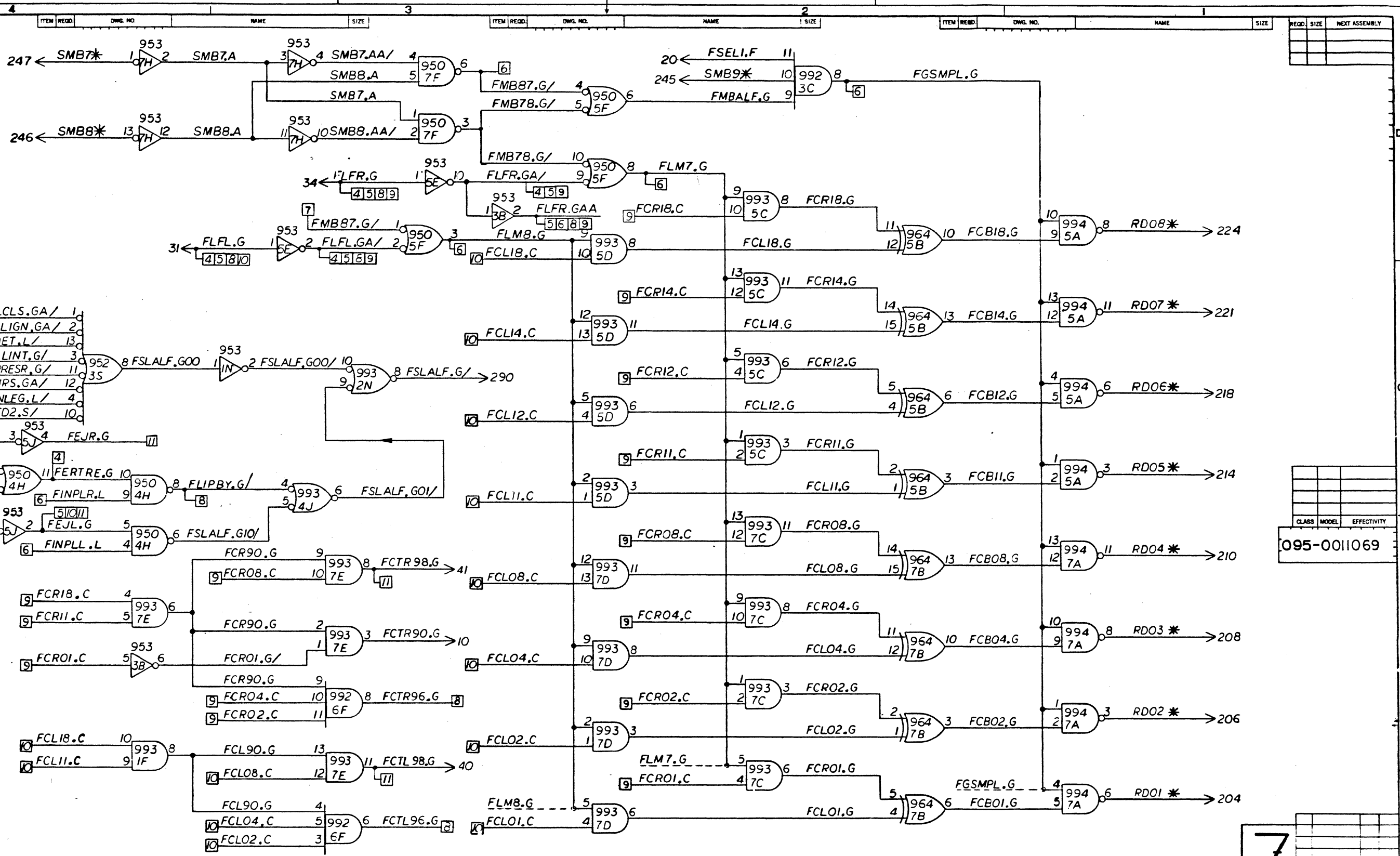
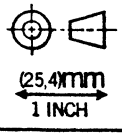
DATE 9-73 BY JS

NAME G.WHEATON

APP

095-0011069

PHOTO PRINT



NOTES
 SIMILAR PARTS
 A CHANGES (A) NEW.

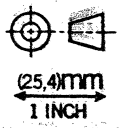
CLASS MODEL EFFECTIVITY
 095-0011069

7
 R

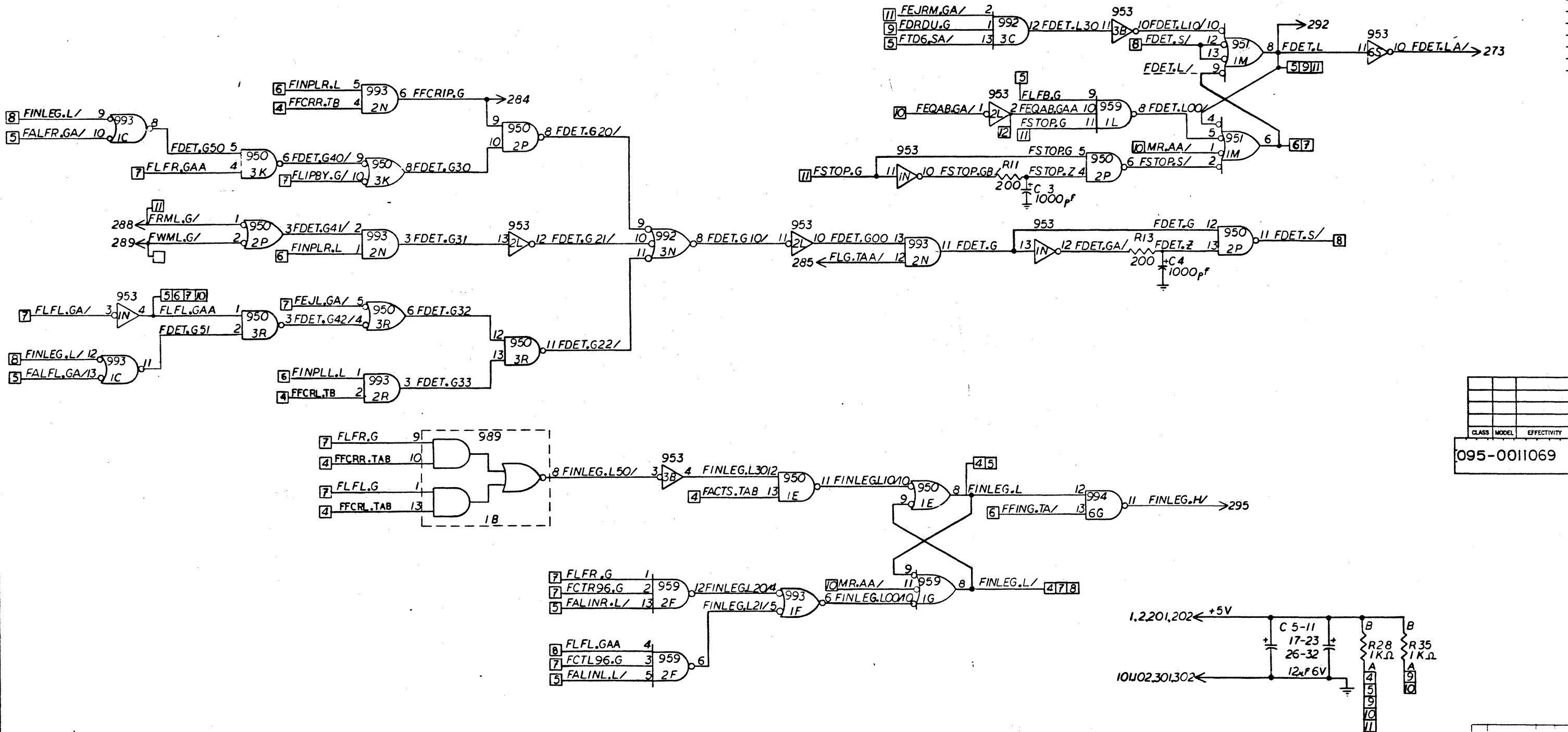
(A) 46ER0139 JS 9-73
 REV. RELEASE NO. DFTS. DATE

STD. QUAL. TO SEE SP20415		CLASS M48-2-399		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START 9-73		END 9-5-73		TITLE ALF INTERFACE	
DESIGNER JS		CHECKER		NAME SCHEMATIC - LOGIC	
DESIGNER WHEATON		APPD		SHEET 7/12	
SCALE		SCALE		095-0011069	
S. PERSEDE 095-0010991		DATE 2-5550		FIELD PRINT	

WICHITA FILE

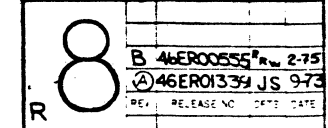


ITEM	REQD.	DWG. NO.	NAME	SIZE	ITEM	REQD.	DWG. NO.	NAME	SIZE	ITEM	REQD.	DWG. NO.	NAME	SIZE	REQD.	SIZE	NEXT ASSEMBLY



CLASS	MODEL	EFFECTIVITY
095-0011069		

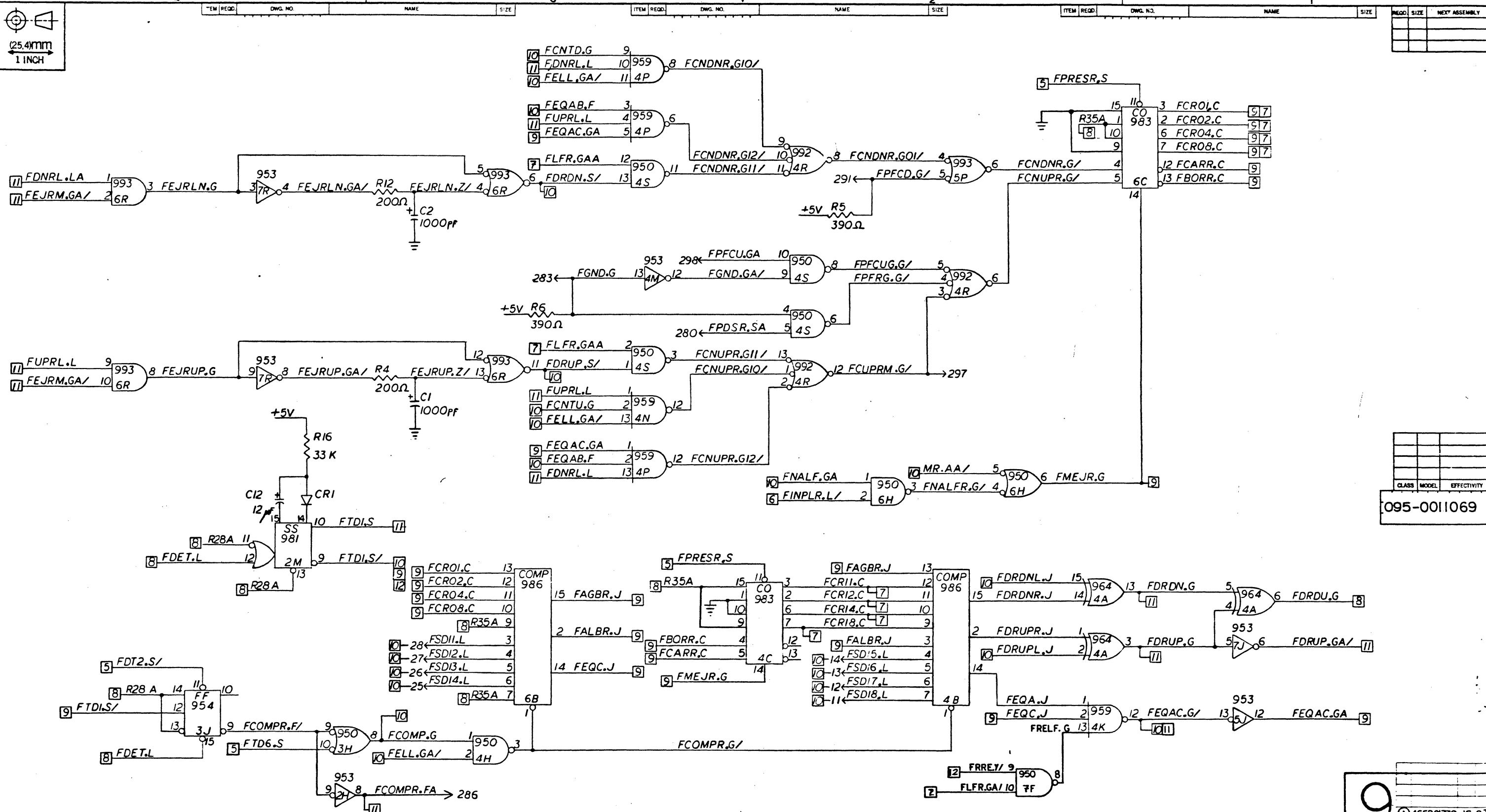
NOTES:
 1. NEW PARTS
 2. CHANGES (A) NEW (B) CORRECTED VIEW OF PACK IC, LOC. +C10;



STD. Q.A. TV SEE SP404 IS		CLASS M 48-2-399		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START 9-73		9-5-73		ALF INTERFACE	
DESIGNER JS		NAME SCHEMATIC-LOGIC		DESIGNER WHEATON	
APP: ADPC		SHEET 8 OF 12		SCALE ~ 095-0011069	
S. PSD BY		SCALE ~		095-0011069	
S. PURSE: 095-0010991		DATE 2-950			

FIELD PRINT

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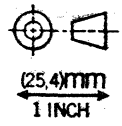


CLASS MODEL EFFECTIVITY
095-0011069

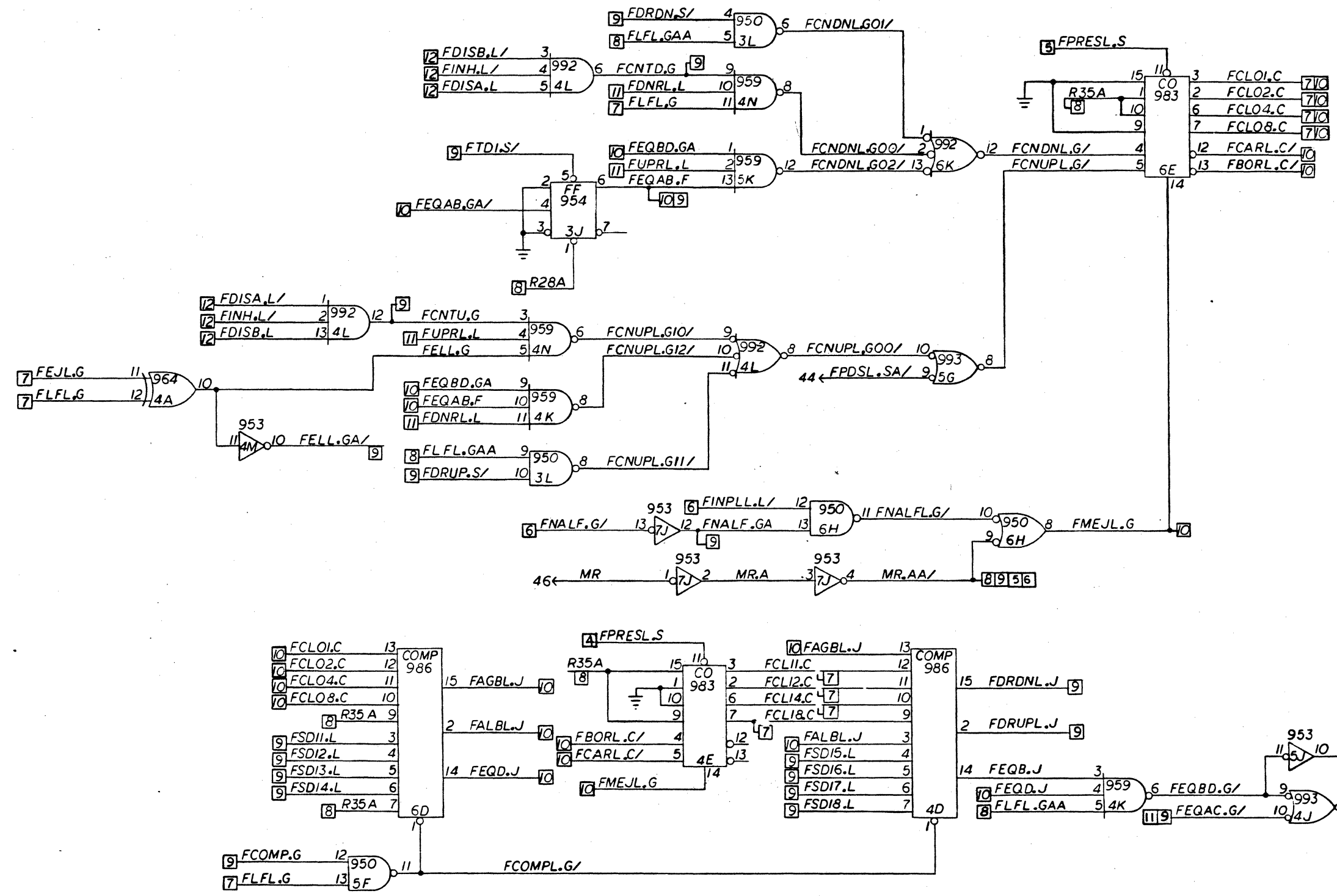
9
A4680339 JS 973

NOTES		STD. Q. A. T. Y. SEE SP404.15		CLASS M48-2-399		NCR THE NATIONAL CASH REGISTER CO DAYTON, OH IO	
S.W. PARTS		UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES AND DECIMALS ARE TO BE USED UNLESS OTHERWISE SPECIFIED.		MATERIAL		DATE 9-73	
CHANGE (A) NEW		FINISH		COATINGS		DESIGNER WHEATON	
		BRAZE		HEAT TREAT		APP. APP. SHEET 9-12	
		TOLERANCES		SPEC. BY		095-0011069	
				SUPERVISOR		0950010991 29550	

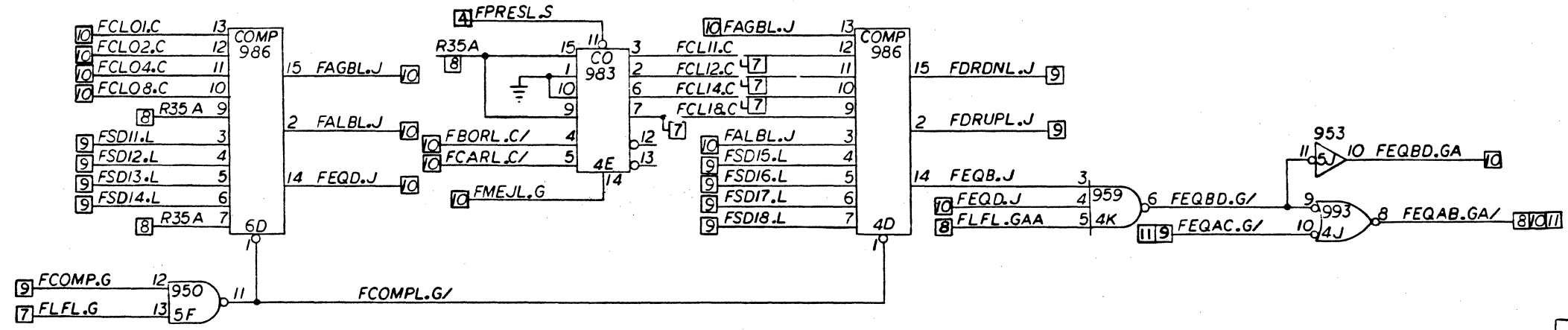
FIELD PRINT



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



CLASS	MODEL	EFFECTIVITY
095-0011069		



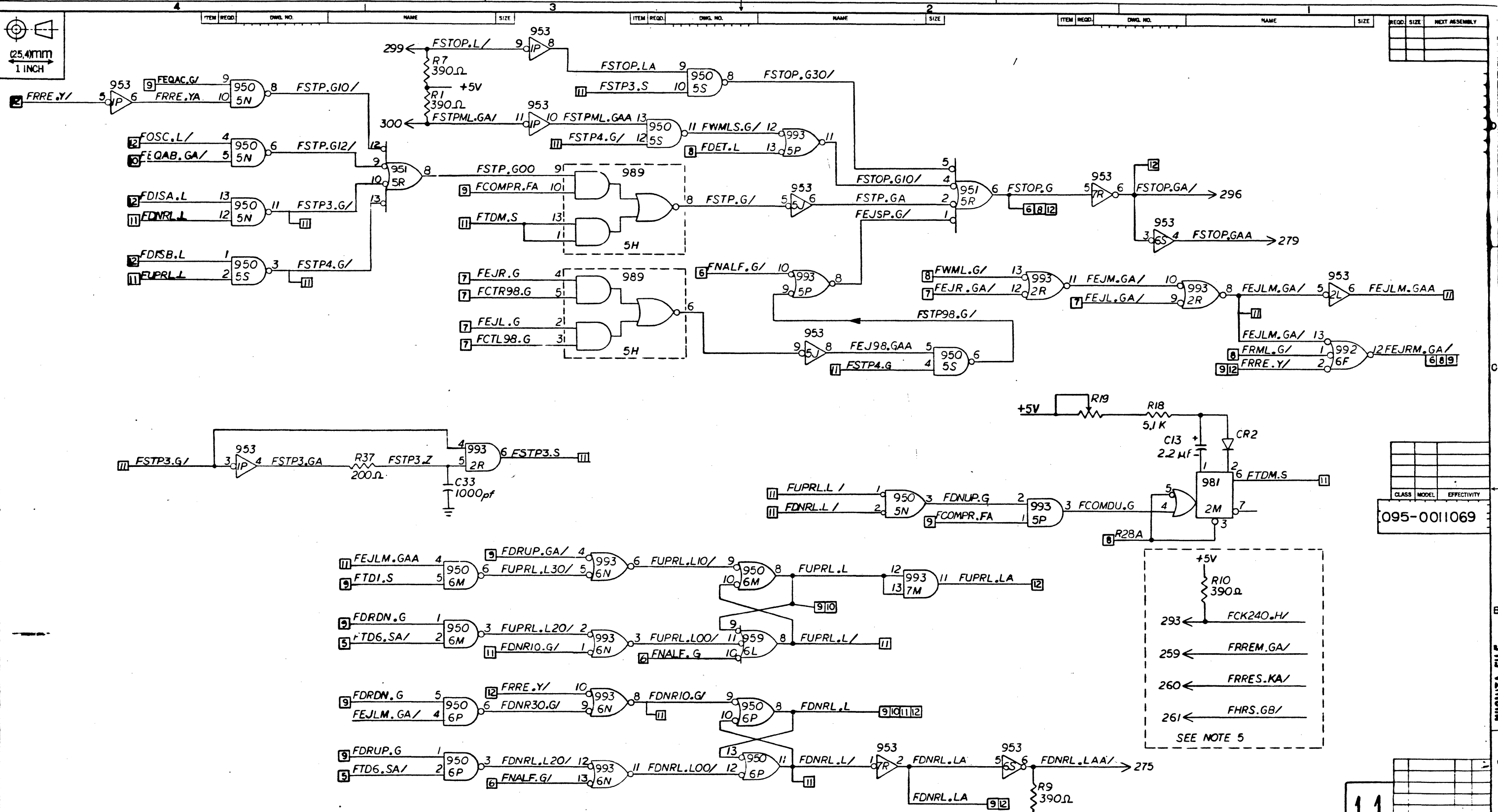
NOTES
 1. NEW

10
 46 ERO1339 JS 973
 R

DATE	BY	CHKD	APPD	REVISION	DESCRIPTION

STD. Q.A. 17 SEE SPEC. 15	NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO
CLASS 9-73 9-573	A.L.F. INTERFACE
DEPT JS	SCHEMATIC-LOGIC
DESIGNER WHEATON	
DATE 10-12	
FILED BY	095-0011069
REVISION 2550	

FIELD PRINT



5. THESE TERMS NOT ON THIS BOARD

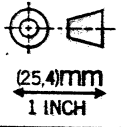
CHANGES (A) NEW, AT LOC. 4D GATE 5N-9, TERM. WAS FINPLR.L REF. BACK TO PAGE 9.

CLASS	MODEL	EFFECTIVITY
095-0011069		

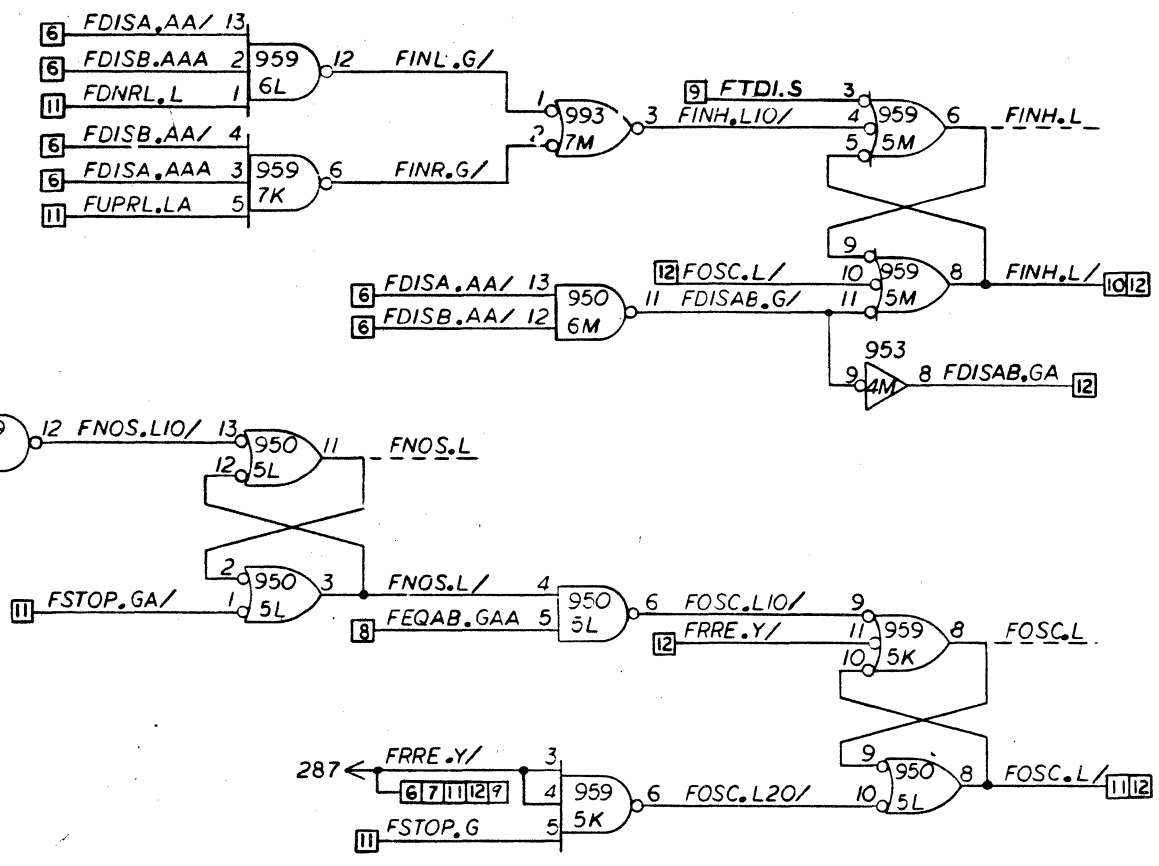
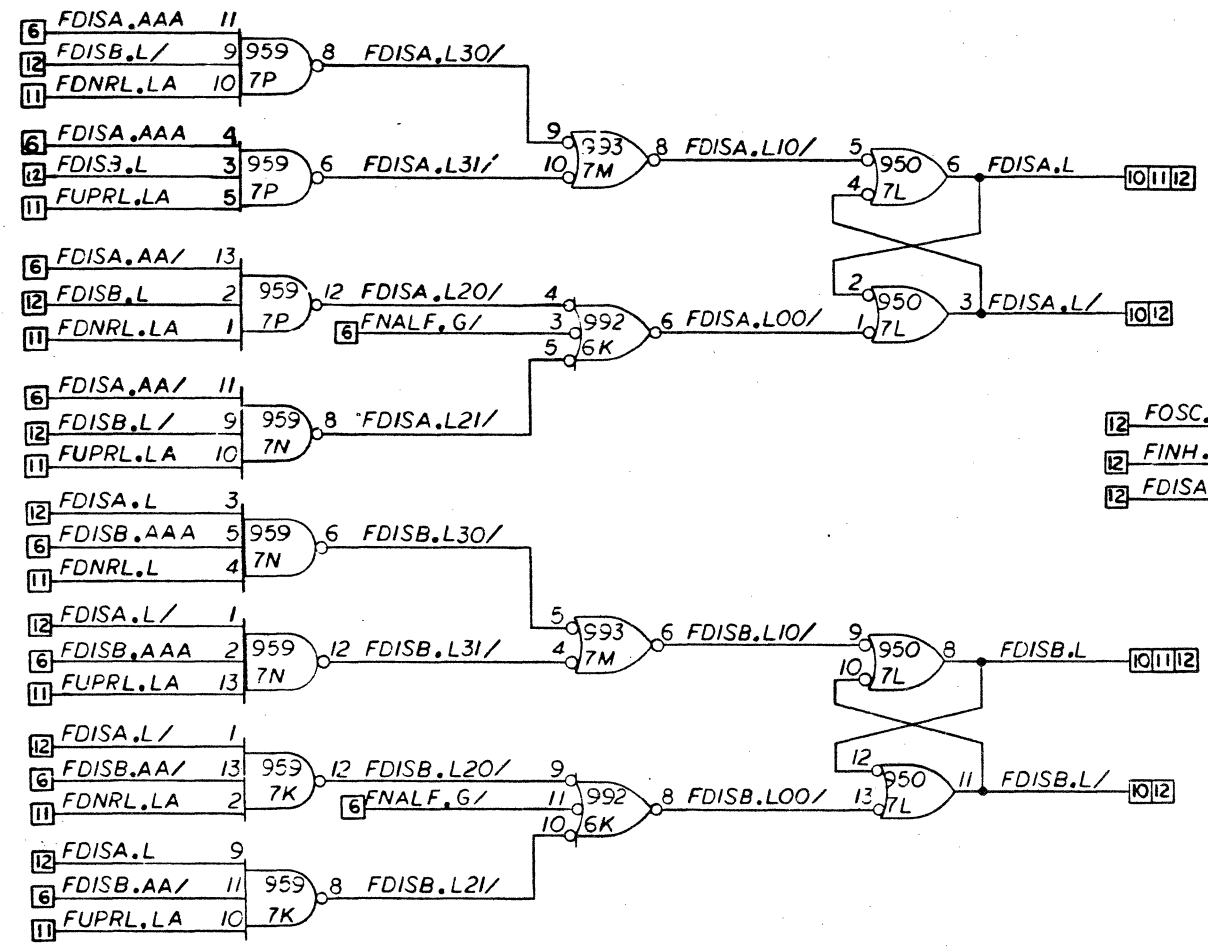
11
 (A) 46ER0339 JS 973
 REV. RELEASE NO. DATE

STD. QUAL. SEE SP4004-15		CLASS M-2-399		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
STAR 9-73		9-573		A.L.F. INTERFACE	
DESIGNER WHEATON		APPROVER		SHEET 11 OF 12	
SCALE		095-0011069		REV. PERSEC. 095-000991	

FIELD PRINT



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



CLASS	MODEL	EFFECTIVITY
095-0011069		

NOTES
 1. W. UP PARTS
 2. CHANGES (A) NEW.

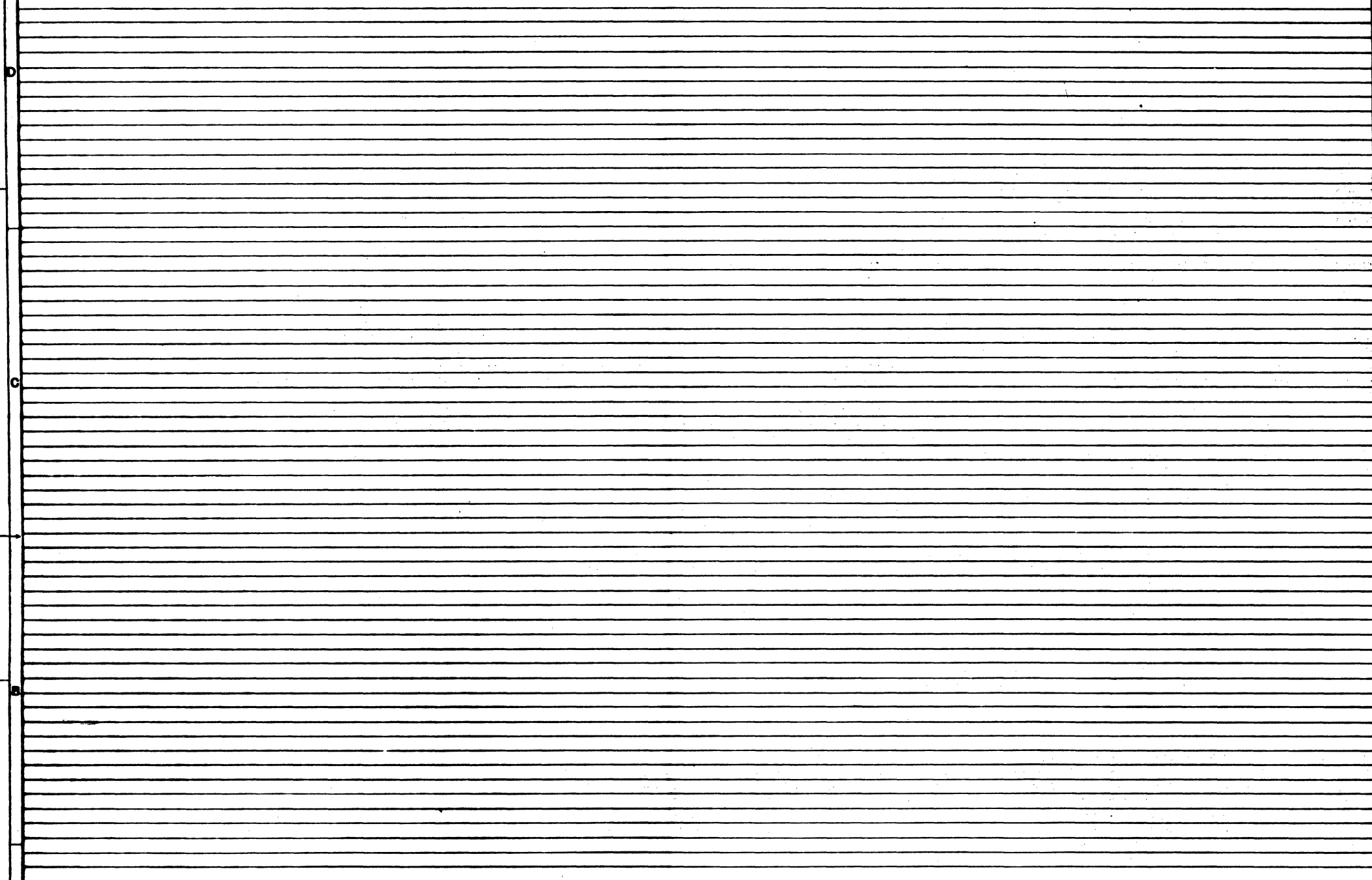
R 12
 46ER01339 JS 9-73
 RELEASE NO. 0074

STD. QUAL. TV SEE SP404-15		CLASS M48-2-399		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.		PART 9-73 FINISH-9-573		NAME SCHEMATIC-LOGIC	
DESIGNER WHEATON		APPROV. JS		SCALE 12 OF 12	
DATE 11-22-68		SHEET 12 OF 12		095-0011069	
SUPERSEDE 095-000991		REV. 2-5-69			

FIELD PRINT

CHANGES: (A) NEW (B) ADDED R64, R65, R66, Q24, Q25, & TPI-6. (C) ADDED SHEETS 1&2, SHEET 3 WAS 1 (D) ADDED "FIELD PRINT" MARKING & 395-006703 & TO USAGE AREA 74 (E) ON PAGE 2, FUNCTION OF INPUT PIN 26 WAS PT2-C; FUNCTION OF INPUT PIN 27 WAS PT1&2E

REV.	DATE	NEXT ASSEMBLY
1	8/3/55	006703



CLASS	MODEL	EFFECTIVITY
095-0300502		

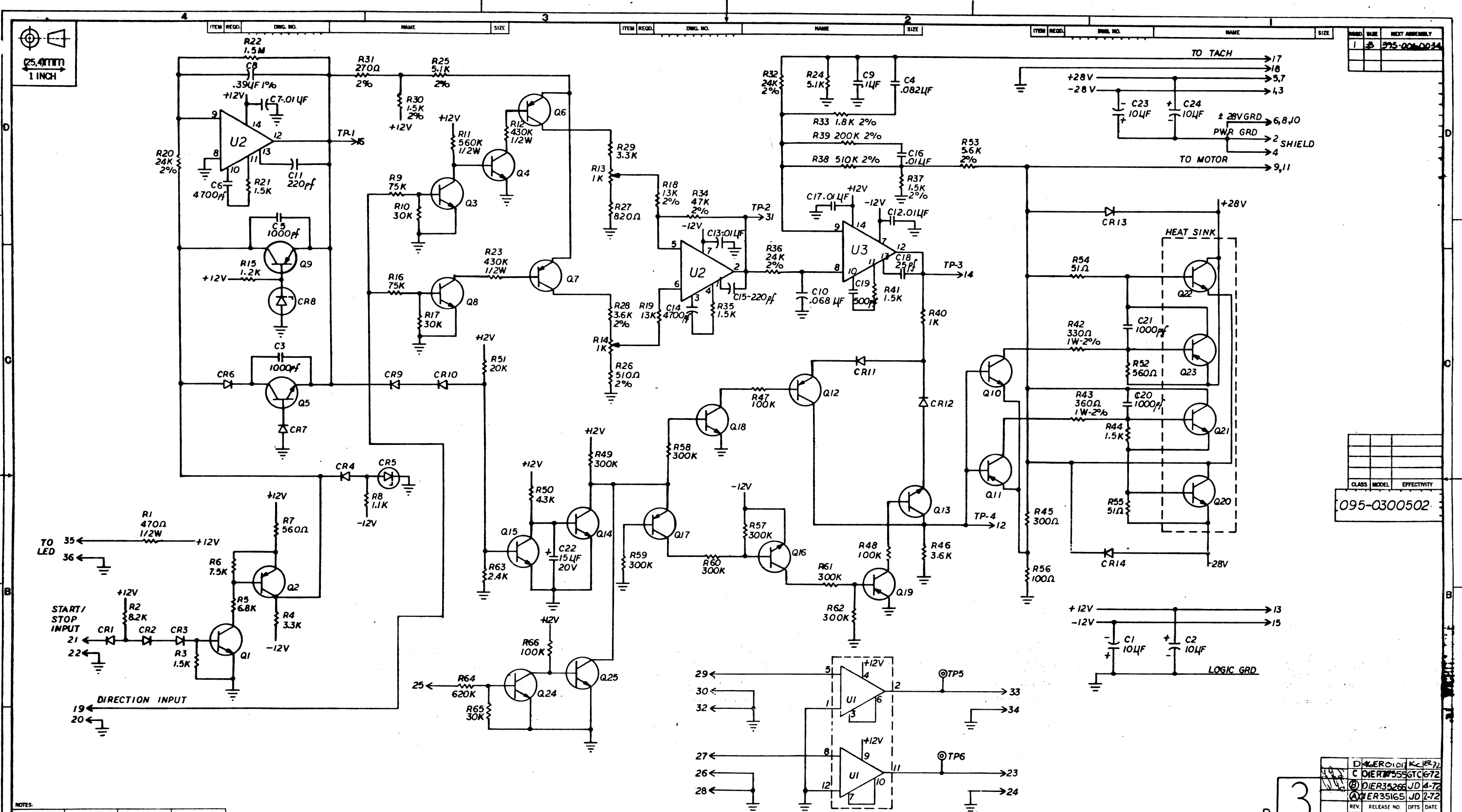
- 4. BOARD PLUG IN 095 0300504
- 3. UNLESS NOTED ALL RESISTORS ARE 1/4 W
- 2. ALL OTHER 1/2 W RESISTORS ARE 5%
- 1. ALL 2% RESISTORS ARE 1/2 W

1/2 W	(C) 46R01173	RTH 1-73
D	46R01047	KC 5-72
1/2 W	C 01ER37555	GTC 6-72
REV.	RELEASE NO.	DFTS. DATE

SIMILAR PARTS		REVISION ON SHEET NUMBER																		
CHANGES		2	3	4	5	6	7	8	9	10	11	12								
A																				
B																				
C																				
D																				
E																				

THIS DRAWING AND INFORMATION THEREON IS THE PROPERTY OF THE NATIONAL CASH REGISTER COMPANY AND ALL UNAUTHORIZED USE AND REPRODUCTION IS PROHIBITED.		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
STD. QUALITY SEE SP3004 IN CLASS: M48-1-399		UNIT: AUTOMATIC LINE FIND NAME: SCHEMATIC-LOGIC (ALF SERVO MOTOR CONTROL)	
START: 6772 FINISH: 6772		SHEET 1 OF 3	
DFTS: GTC CHKR:		SCALE:	
DESIGNER: D. REX		CODE: 2-550	
APPD:		095-0300502	
SUPSD BY:			
SUPSEDES:			

FIELD PRINT



NOTES:
 SIMILAR PARTS: _____
 CHANGES: (A) NEW (B) ADDED R24, R65, R66, Q24, Q25, & TP-6 (C) ADDED SHEETS 1 & 2, SHEET 3 WAS 1 (D) ADDED "FIELD PRINT" MARKING, #375-0060034 TO USAGE AREA

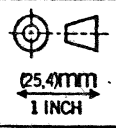
REV.	RELEASE NO.	DFTS	DATE

STD. QUALITY SEE SP4004.15
 CLASS: M-48-1-399
 START: 1271 FINISH: 12371
 DFTS: JPD CHKR: _____
 DESIGNER: D. REX
 APPD: _____
 SUPSD. BY: _____
 SUPERSEDES: _____

UNIT: AUTOMATIC LINE FIND
 NAME: SCHEMATIC-LOGIC
 (ALF SERVO MOTOR CONTROL)
 SHEET 3 OF 3
 SCALE: NONE
 CODE: 2-9550

095-0300502

FIELD PRINT



FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
+5V	2		3-C3	PWR SUP										
+28V INH	3		3-C3	PWR SUP										
FHRS.GB/	5		3-C3	ALF IF										
GRD	6		3-C3											
FINT.GB/	7		3-C3	ALF IF										
GRD	8		3-C3											
FDET.LA/	9		3-D3	ALF IF										
GRD	10		3-D3											
FRRES.KA/	11		3-B3	ALF IF										
GRD	12		3-B3											
FRREM.GA/	13		3-B3	ALF IF										
GRD	14		3-B3											
FALIGN.GB/	15		3-B3	ALF IF										
GRD	16		3-B3											
FLCLS.GB/	17		3-A3	ALF IF										
GRD	18		3-A3											
FCLS.K/		21	3-B1	COMP POLL SOL										
RET		22	3-A1	COMP POLL SOL										
FALIGN.S.K/		23	3-B1	ALIGN F & C SOL										
RET		24	3-B1	ALIGN F & C SOL										
FHRS.K/		25	3-C1	HD ROLL SOL										
RET		26	3-C1	HD ROLL SOL										
FINT.K/		27	3-C1	INT SOL										
RET		28	3-C1	INT SOL										
FDET.K/		29	3-D1	DET SOL										
RET		30	3-D1	DET SOL										
FRREM.K/		31	3-B1	R.R.E. MOT										
RET		32	3-B1	R.R.E. MOT										
FRRE.K/		33	3-B1	R.R.E. SOL										
RET		34	3-B1	R.R.E. SOL										
+28V RET	35		3-D3	PWR SUP										
+28V	36		3-D3	PWR SOL										

ITEM	REQD.	DWG. NO.	NAME	SIZE
1	5	395-0060034		

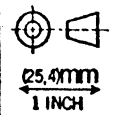
CLASS	MODEL	EFFECTIVITY
095	-0300514	

2	E 46E01284	J S 6-73
	D 46E01272	P 4
	C 01E37542	GTC 6-72
REV	RELEASE NO	DATE

NOTES:
 SIMILAR PARTS:
 CHANGES (A) NEW (B) REWAS I/W (C) ADDED SHEETS 1 & 2 SHEET 3 WAS 1 (D) ADDED FIELD PAINT MARKING, # 395-0060034 TO USAGE AREA (E) INPUT PIN 11 WAS FERRS.SA/, PIN 13 WAS FERRM.GA/, OUTPUT PIN 21 WAS FCLS.S, PIN 23 WAS FALIGN.S.S, PIN 25 WAS FHRS.S, PIN 27 WAS FINT.S, PIN 29 WAS FDET, PIN 31 WAS FERRM.S, PIN 33 WAS FERR.S

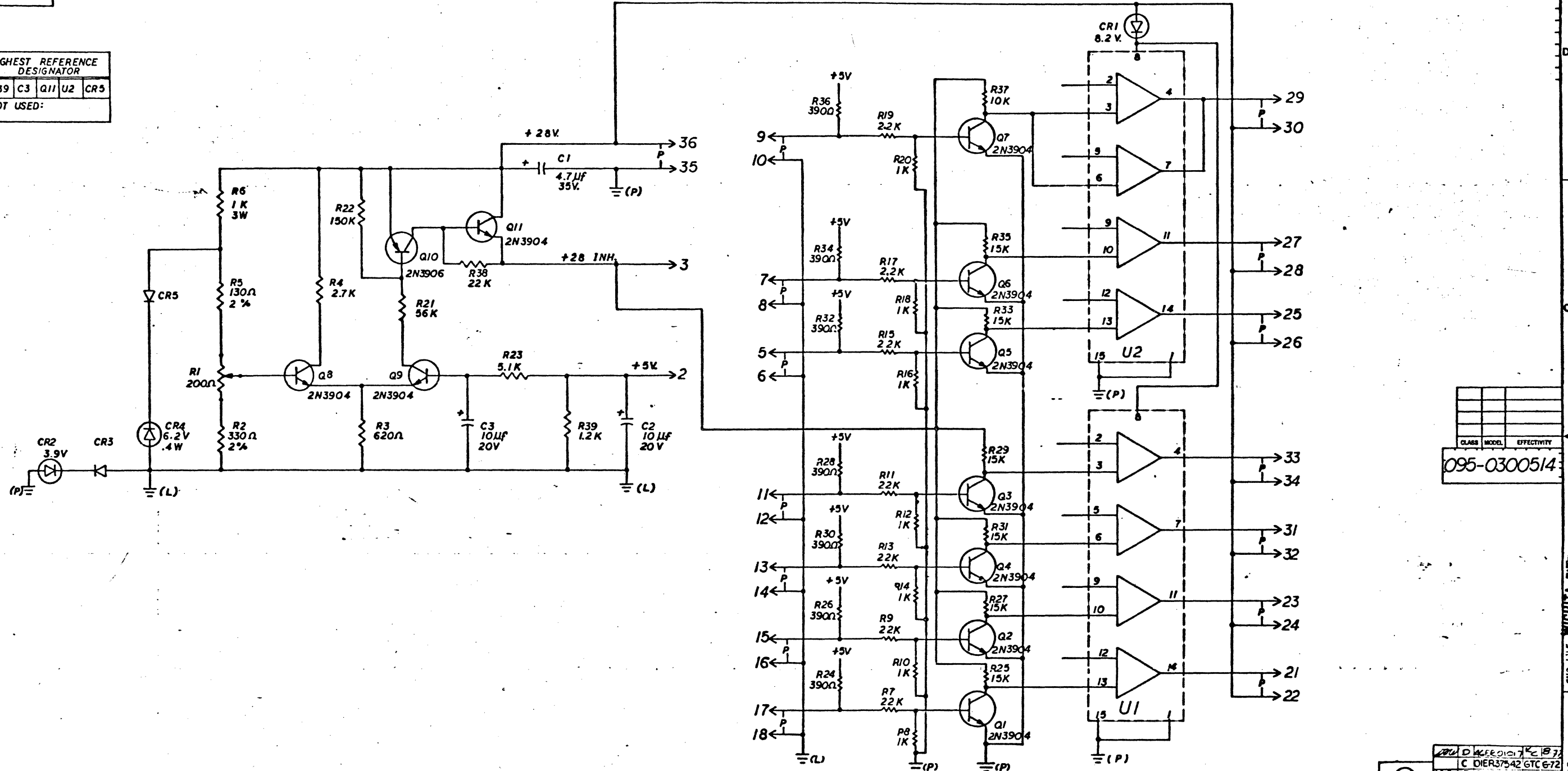
STD QUALITY SEE SPEC 15		CLASS M-48-1-399		N.C.R. THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START 6-8-72		FIN 6-8-72		UNIT AUTO LINE FIND	
DTS GTC		CHER		NAME SCHEMATIC - DRIVER	
BY SIGNED J. DRESHER		SHEET 2 OF 3		(IN SUMMARY)	
APPD		VAL		095-0300514	
SUPD BY		VAL			
SUPERSEDES					

FIELD PRINT



ITEM	REQD	DWG. NO.	NAME	SIZE	ITEM	REQD	DWG. NO.	NAME	SIZE	ITEM	REQD	DWG. NO.	NAME	SIZE	REQD	SIZE	NEAT ASSEMBLY
															1	B	395-0060034

HIGHEST REFERENCE DESIGNATOR				
R39	C3	Q11	U2	CR5
NOT USED:				



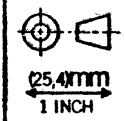
CLASS	MODEL	EFFECTIVITY
095-0300514		

NOTES:
 SIMILAR PARTS:
 CHANGES (A) NEW (B) R6 WAS 1W (C) ADDED SHEETS 1 & 2 SHEET 3 WAS 1 (D) ADDED "FIELD PRINT" MARKING, # 395-0060034 TO USAGE AREA

R	3

STD. QUALITY SEE SP4004-15		CLASS M48-1-399		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START 12-71	FINISH 12-71	LNT AUTO LINE FIND		NAME SCHEMATIC - DRIVER	
DFTS DLC	CHKR	DESIGNER J. DRESHER		SCALE NONE	
APPD	APPD	SHEET 3 OF 3		095-0300514	
SUPDS BY	SCALE NONE	OFF 2-9550			
SUPERSEDES					

FIELD PRINT



FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
CCK60-H	80		5-C4	CASS TRANS IF				7-B4	ALF IF	RD10 *		229		PROCESSOR(BUS)
FALFM1-Z	3			ALF IF	FWML-G/	79		7-B4	ALF & FH IF	RD11 *		231		PROCESSOR(BUS)
FALFM2-Z	4			ALF IF	GRD	101				RD12 *		234		PROCESSOR(BUS)
FALFM3-Z	6			ALF IF	GRD	102				RD13 *		236		PROCESSOR(BUS)
FALFM4-Z	7			ALF IF	GRD	301				RD14 *		239		PROCESSOR(BUS)
FALFM5-Z	8			ALF IF	GRD	302				RD15 *		241		PROCESSOR(BUS)
FCK240-H/	20		7-D4	FH & ALF IF	+5V	1				RD16 *		244		PROCESSOR(BUS)
FCOMPR-FA	54		7-B2	ALF IF	+5V	2				RDINTO2 *		250	4-B1	PROCESSOR
FCTR90-G	22		7-B2	ALF IF	+5V	201				RDIROUT *		47	5-B1	PROCESSOR(BUS)
FCUPRM-G/	44		7-C3	ALF IF	+5V	202				RPINTO2 *		249	5-C1	PROCESSOR
					-12V	51				RPOSO1 *		213		PROCESSOR(BUS)
FDET-L	91		7-B2	ALF IF						RPOSO2 *		216		PROCESSOR(BUS)
FFCRIP-G	23		7-A4	ALF IF	LAWDAT-FA		63	3-D1	READ AMP WRITE DR	RPOSO3 *		220		PROCESSOR(BUS)
FFCRR-TBA/	29		7-D2	ALF IF	LBWDAT-FA		64	3-C1	READ AMP WRITE DR	SDO1 *	203		3-C4	PROCESSOR(BUS)
FGND-G		25	7-C1	ALF IF						SDO2 *	205		3-D4	PROCESSOR(BUS)
					LIMANS-S/	60		4-D4	READ AMP WRITE DR	SDO3 *	207		3-D4	PROCESSOR(BUS)
FHRS-GA/		28	7-B2	ALF IF	LIMAPS-S/	59		4-D4	READ AMP WRITE DR	SDO4 *	209		3-D4	PROCESSOR(BUS)
FHRS-GB/		85	7-B2	ALF IF & SOL	LIMBNS-S/	62		4-C4	READ AMP WRITE DR	SDO5 *	211		3-C4	PROCESSOR(BUS)
					LIMBPS-S/	61		4-C4	READ AMP WRITE DR	SDO6 *	215		3-C4	PROCESSOR(BUS)
FMLSP1-Z	255			FH IF	LIMERS-B/		58	3-D1	READ AMP WRITE DR	SDO7 *	219		3-C4	PROCESSOR(BUS)
FMLSP2-Z	256			FH IF	LR314-FA/		74	3-B1	CONTROL LINE TO 314	SDO8 *	223		3-C4	PROCESSOR(BUS)
FMLSP3-Z	257			FH IF	LRFANS-IA/	69		4-D4	314 READ AMP	SDO9 *	225			PROCESSOR(BUS)
					LRFAPS-IA/	68		4-D4	314 READ AMP	SDI0 *	228			PROCESSOR(BUS)
FPFCD-G/		27	7-D1	ALF IF	LRFBNS-IA/	71		4-C4	314 READ AMP	SDI1 *	230			PROCESSOR(BUS)
FPFCU-GA		26	7-C1	ALF IF	LRFBPS-IA/	70		4-C4	314 READ AMP	SDI2 *	233			PROCESSOR(BUS)
FPFMA-T	19		7-C4	FH IF & SW	LRFINP-IA/	73		5-C4	CONTROL LINE FR314	SDI3 *	235			PROCESSOR(BUS)
FPFMA-T/	5		7-D4	FH IF & SW	LRFSTR-IA/	72		5-C4	CONTROL LINE FR314	SDI4 *	238			PROCESSOR(BUS)
FPFMB-T	18		7-C4	FH IF & SW	MR *	46		3-C4	PROCESSOR(BUS)	SDI5 *	240			PROCESSOR(BUS)
FPFMB-T/	16		7-D4	FH IF & SW	RDO1 *		204	4-B2	PROCESSOR(BUS)	SDI6 *	243			PROCESSOR(BUS)
FPFMC-T	17		7-D4	FH IF & SW	RDO2 *		206	4-B2	PROCESSOR(BUS)	SMB7 *	247		3-A4	PROCESSOR(BUS)
FPFMC-T/	9		7-D4	FH IF & SW	RDO3 *		208	4-B2	PROCESSOR(BUS)	SMB8 *	246			PROCESSOR(BUS)
					RDO4 *		210	4-A2	PROCESSOR(BUS)	SMB9 *	245		3-C4	PROCESSOR(BUS)
FRML-G/	89		7-C4	ALF & FH IF	RDO5 *		214	4-A2	PROCESSOR(BUS)	SPOSO1 *	212			PROCESSOR(BUS)
FRRE-Y/	66		7-B4	ALF & FH IF	RDO6 *		218	4-B2	PROCESSOR(BUS)	SPOSO2 *	217			PROCESSOR(BUS)
FRREM-GA/		55	7-B3	ALF IF & MOTOR	RDO7 *		221	4-B2	PROCESSOR(BUS)	SPOSO3 *	222			PROCESSOR(BUS)
FRRES-SA/		45	7-A3	ALF IF & SOL	RDO8 *		224	4-B2	PROCESSOR(BUS)	SPTO2 *	227		3-B4	PROCESSOR
					RDO9 *		226		PROCESSOR(BUS)	SSELO2 *	251		3-B4	PROCESSOR
FSTPML-GA/		88	7-B3	ALF IF						SSTB *	248		3-B4	PROCESSOR(BUS)
FSTOP-L/		65	7-C3	ALF IF						STERM *	48		3-B4	PROCESSOR(BUS)

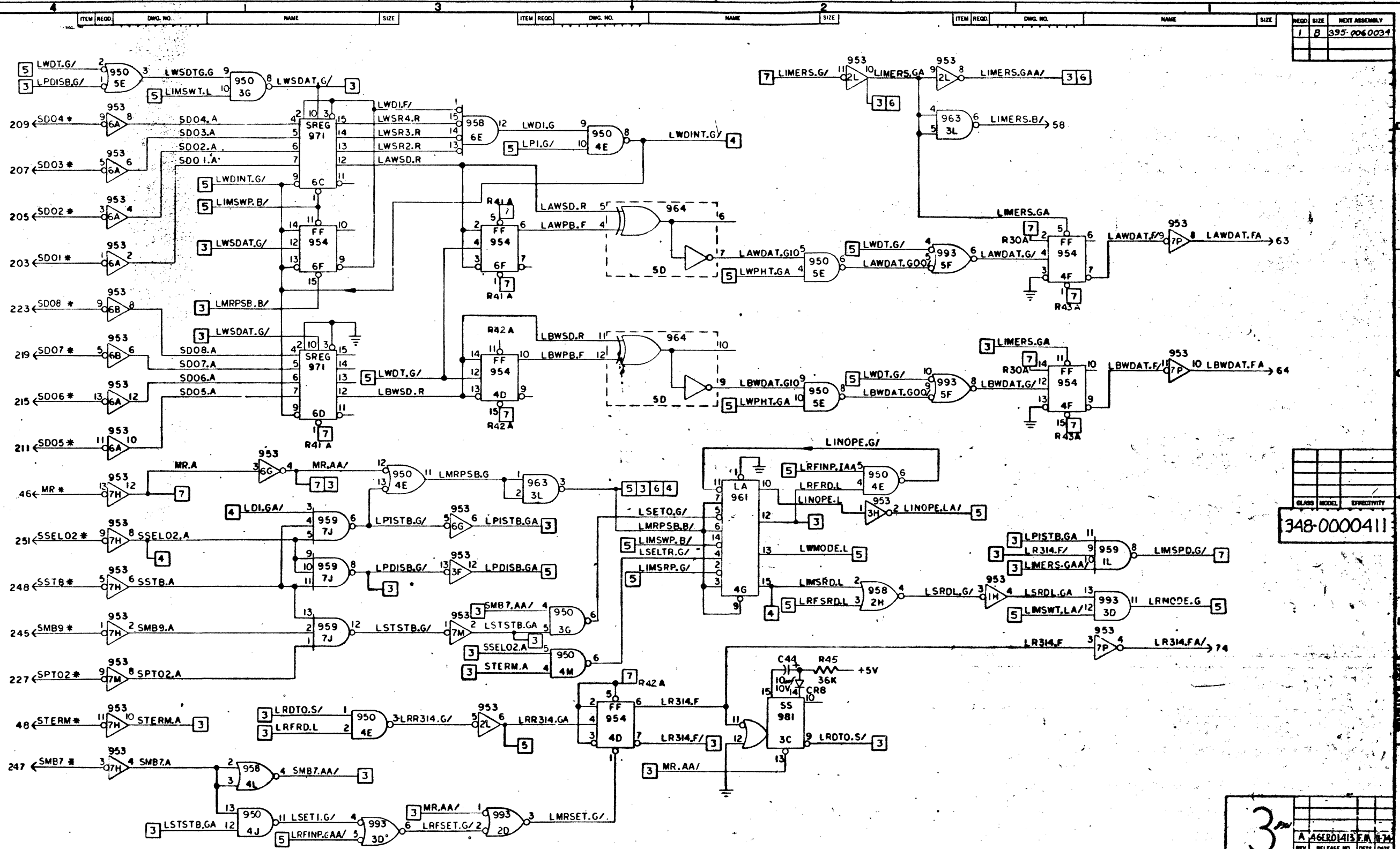
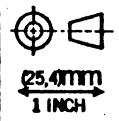
REQD. DATE	3-25-68
REQD. BY	0060034

CLASS	MODEL	EFFECTIVITY
348	0000411	

2	A 4680A13 F.M. 11-74
REV.	RELEASE NO. DATE

NOTES:
SIMILAR PARTS:
CHANGES: NEW

STO QUALITY SEE SP40015	CLASS M-48-3-399	UNIT MAGNETIC LEDGER
START 8-73	FINISH 8-73	NAME SCHEMATIC-LOGIC
DESIGNER J.S. CHNR	DESIGNER M. WEISTAND	SCALE 1:1
APPROVED	APPROVED	DATE 3-25-68
MATERIAL	CONTING	HEAT TREAT
BRACE	HEAT TREAT	FINISH
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES
THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	THE NATIONAL CASH REGISTER CO. DAYTON, OHIO
348-0000411	348-0000411	348-0000411



REQD.	SIZE	NEXT ASSEMBLY
1	8	395-0060034

CLASS	MODEL	EFFECTIVITY
348-0000411		

NOTES:
 SIMILAR PARTS
 CHANGE **NEW**

STD. QUALITY SEE SPEC. 15 CLASS: M48-3-399-00		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START: 973 DESIGNED BY: R. WAGNER APPD.: SUPD. BY: SUPERSEDES: 095001110	FINISH: 8-73 CHKD.: SCALE: 3 OF 7 CODE: 2-9550	UNIT: MAGNETIC LEDGER NAME: SCHEMATIC-LOGIC SHEET: 3 OF 7 SCALE: 348-0000411 CODE: 2-9550	REV. RELEASE NO. DFTS. DATE

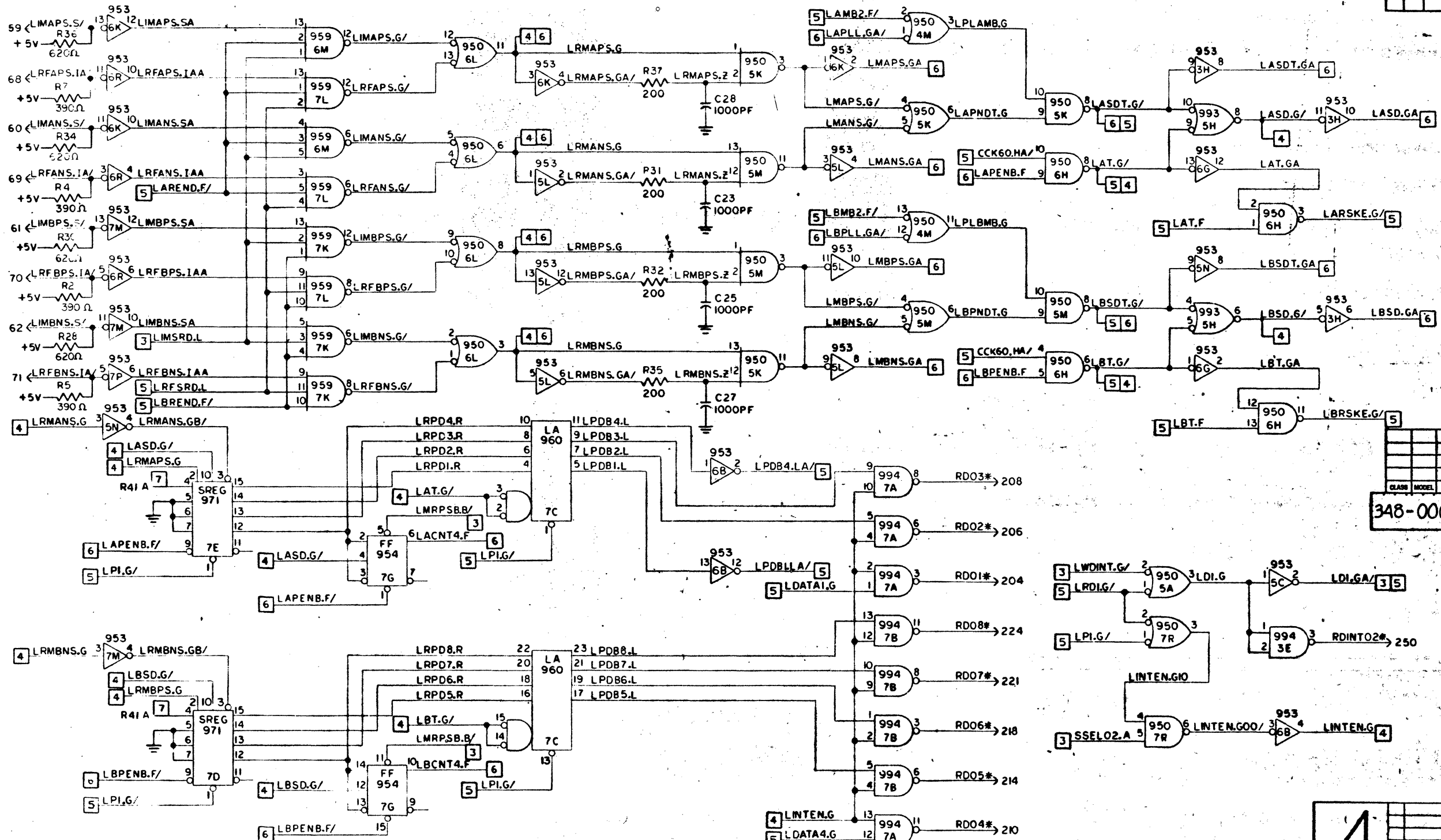
3

FIELD PRINT



ITEM	REQD.	DWG. NO.	NAME	SIZE	ITEM	REQD.	DWG. NO.	NAME	SIZE	ITEM	REQD.	DWG. NO.	NAME	SIZE

ISSN	DATE	NEXT ASSEMBLY
1	8	348-000411



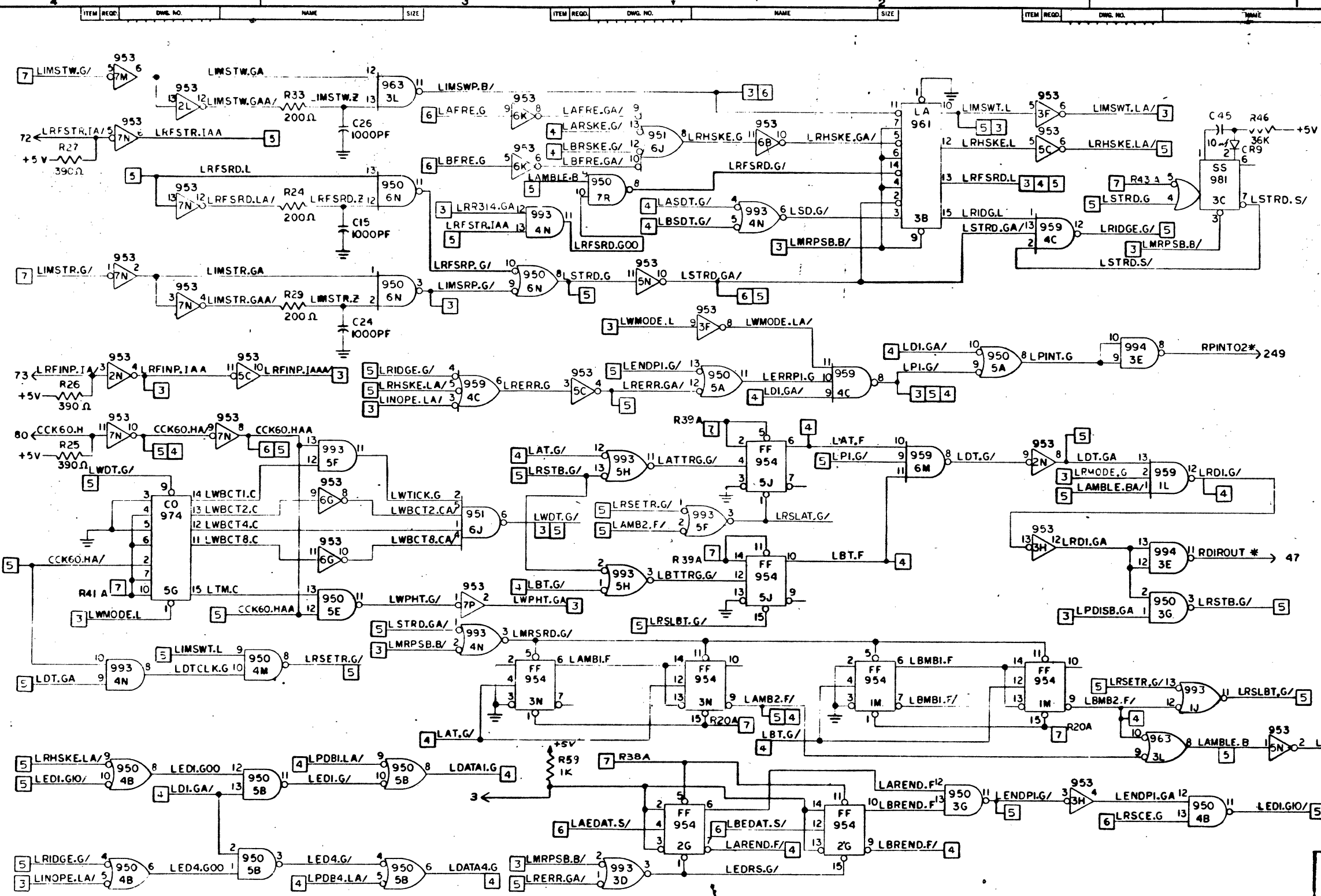
CLASS MODEL EFFICIENCY
348-000411

NOTES:
SIMILAR PARTS
CHANGES (A) NEW

4	A 46ER01413.F.M 11-74
	REV. RELEASE NO. DFTS. DATE

STD. QUALITY SEE SP4004 15	CLASS: M48-3-399-00	NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO
START: 8-73 FINISH: 8-73	UNIT: MAGNETIC LEDGER	
DFTS: JS	CHKR:	NAME: SCHEMATIC-LOGIC
DESIGNER: R. WAGNER	(MAGNETIC LEDGER INTERFACE)	
APPD:	APPD:	SHEET 4 OF 7
SUPD. BY:	SCALE: 2-9550	348-000411
SUPERSEDES: 095-001110		

FIELD PRINT



ITEM	REQD.	DWG. NO.	NAME	SIZE
1	B	395-0060034		

CLASS	MODEL	EFFECTIVITY
348-0000411		

NOTES:
 SIMILAR PARTS:
 CHANGES: (A) NEW

5	A 46C01413 F.M. 11-74
REV.	RELEASE NO. DFTS. DATE

STD. QUALITY SEE SP4004.15 CLASS #48-3-399-00		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START: 8-73 FINISH: 8-73 DFTS: JS CHR		UNIT: MAGNETIC LEDGER NAME: SCHEMATIC-LOGIC	
DESIGNER: R. WAGNER APPD.:		(MAGNETIC LEDGER INTERFACE) SHEET 5 OF 7	
SUPD. BY:		SCALE: 348-0000411	
SUPP. DES. NO.: 095-0011110		DATE: 2-9-55	

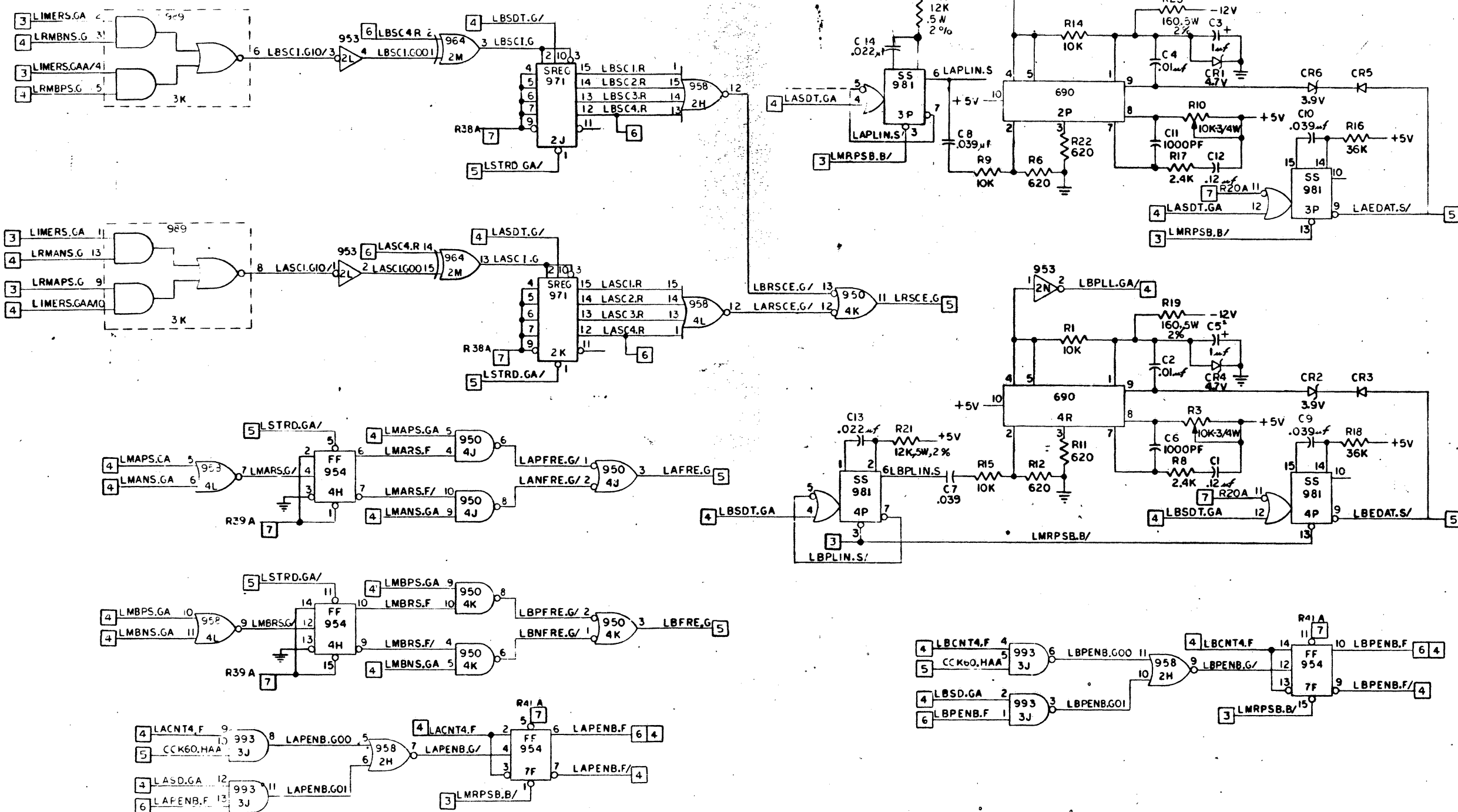
FIELD PRINT

WIGHTA FILE

25.4(111)
1 INCH

ITEM	RECD	DWG. NO.	NAME	SIZE	ITEM	RECD	DWG. NO.	NAME	SIZE	ITEM	RECD	DWG. NO.	NAME	SIZE

REV.	DATE	BY	CHKD.
1	8-73	J.S.	



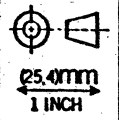
CLASS	MODEL	EFFECTIVITY
348-0000411		

NOTES:
SIMILAR PARTS: _____
CHANGES (A) NEW

6
A-46801413 F.M. 11-74
REV. RELEASE NO. DFTS. DATE

STD. QUALITY SEE SP4004.15		CLASS M48-3-399-00		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START 8-73 FINISH 8-73		UNIT MAGNETIC LEDGER		NAME SCHEMATIC-LOGIC	
DFTS J.S. CHKR		DESIGNER R. WAGNER		(MAGNETIC LEDGER INTERFACE)	
APPD.		SHEET 6 OF 7		SCALE ~	
SHIPS BY		SUPERSEDES 095001110		CODE 2-05-50	
MATERIAL:		UNLESS OTHERWISE SPECIFIED, DIMEN. SHALL BE IN INCHES UNLESS OTHERWISE SPECIFIED.		348-0000411	
COATING:		XX ± .02			
BRAZE:		XXX ± .005			
HEAT TREAT:					
HARDNESS:					

FIELD PRINT



FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS	FUNCTION	INPUT PIN	OUTPUT PIN	PAGE/ZONE	REMARKS
+ 12V	J1-1		3-C4	PWR SUP	WRITE		J7-1	3-B2	R W HEAD					
- 12V	J1-3		3-C4	PWR SUP	WRITE CT		J7-2	3-B2	R W HEAD					
GRD		J1-13	3-C1		ERASE		J7-3	3-B2	R W HEAD					
LIMAPS-S/		J1-14	3-C1	ML IF	GRD	J7-4		3-C4	R W HEAD					
GRD		J1-15	3-B1		READ	J7-5		3-C4	R W HEAD					
LIMANS-S/		J1-16	3-B1	ML IF	WRITE		J7-6	3-A2	R W HEAD					
GRD	J1-23		3-B4		GRD		J7-8	3-B2	R W HEAD					
LAWDAT-FA	J1-24		3-B4	ML IF	READ	J7-10		3-C4	R W HEAD					
GRD	J1-25		3-B4											
LIMERS-B/	J1-26		3-B4	ML IF										
+ 5V	J1-29		3-C4	PWR SUP										

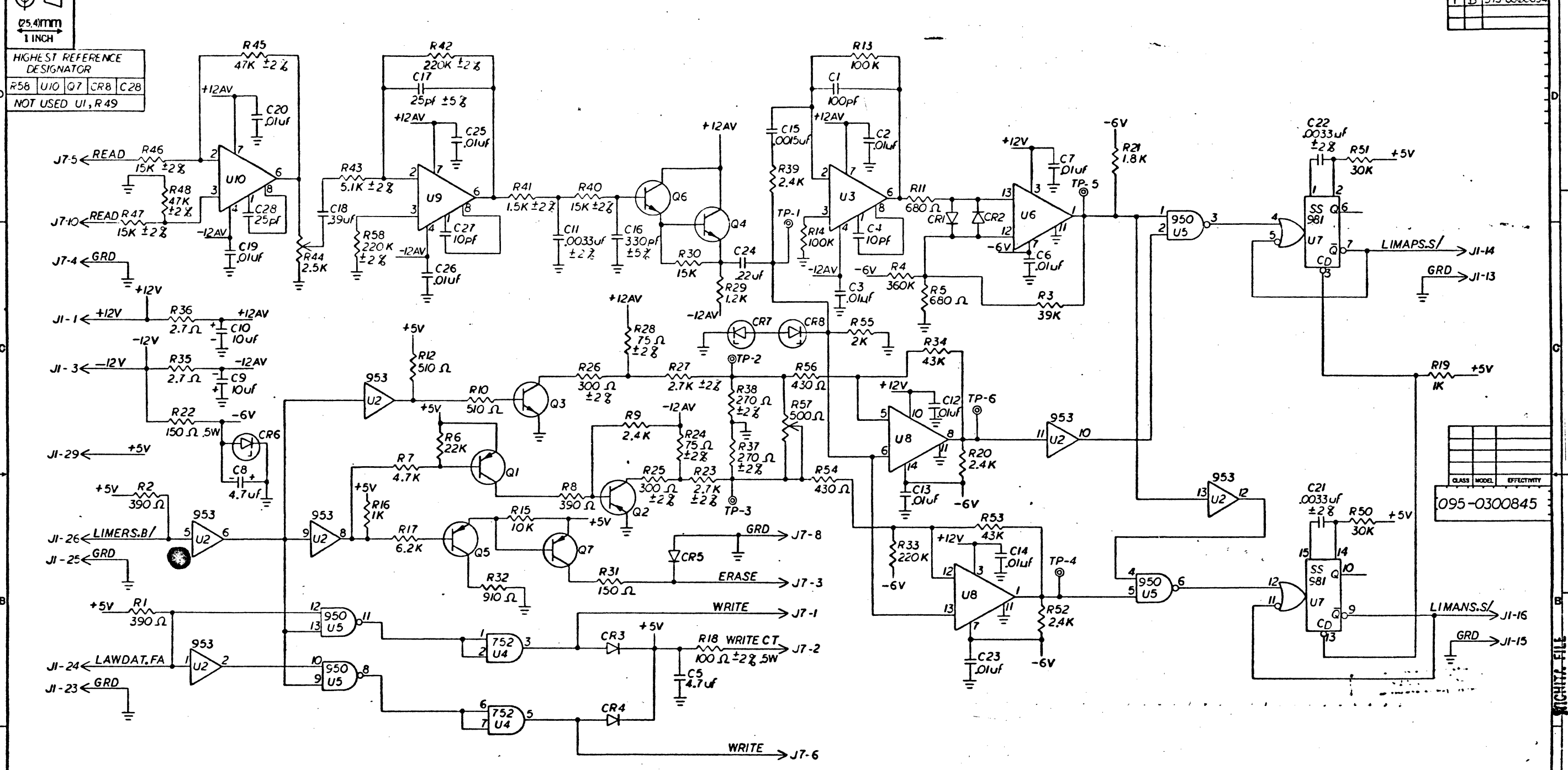
REV	DATE	BY	APP
1	8-15-67	JTC	

CLASS	MODEL	EFFECTIVITY
095-0300845		

NOTES: CHANGES (A) NEW (B) ADDED SHEETS (C) SHEET 3 WAS (D) ADDED "FIELD PRINT" MARKING # 395-0060034 TO USAGE AREA (E) INPUT PINS 4, 5, 10 WAS J2, OUTPUT PINS 1, 2, 3, 6 & 8 WAS J2, ADDED TERMS TO ALL IN AND OUTPUT PINS ON PAGE 3.

STD QUALITY SEE SP004 15		CLASS M-48-1-399		NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO	
START 6-13-72 FINISH 6-13-72		UNIT MAGNETIC LEDGER		NAME SCHEMATIC LOGIC	
DESIGNER T.L. HUBER		DESIGNER T.L. HUBER		SHEET 2 OF 3	
SCALE		SCALE		095-0300845	
SUPERSEDES		SUPERSEDES			

FIELD PRINT



HIGHEST REFERENCE DESIGNATOR
 R58 U10 Q7 CR8 C28
 NOT USED U1, R49

NOTES
 SIMILAR PARTS
 CHANGES (A) NEW (B) ADDED SHEETS 1 & 2, SHEET 3 WAS 1 (C) ADDED "FIELD PRINT" MARKING, # 395-006003A IN USAGE AREA (D) INPUT PINS 4, 5 & 10 WAS J2, OUTPUT PINS 1, 2, 3, 6 & 8 WAS J2, LABELED ALL INPUT & OUTPUT PINS.

STD QUALITY SEE SPEC 445		CLASS M48-1-359		UNIT MAGNETIC LEDGER	
DESIGNER TL HUEBER		SCALE 3 OF 3		PART NO 095-0300845	
APPROVED		DATE		REV	
MATERIAL		COATING		BRAZE	
HEAT TREAT		HARDNESS		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	

3
 46601284 JS 6-73
 C 46601017 E-11
 B 46601017 GTC 6-72
 A 46601017 GTC 6-72
 REV RELEASE NO DTS DATE

FIELD PRINT

CHANGES (A) NEW (B) ON SHEET 3; 48P2-13 TERMINATING AT 48P1-34 WAS 32P2-13; 48J1-34 TERMINATING AT 48X3-3 WAS 48J2-13; PT1&2E TERMINATING AT 48X4-26, TERMINATED AT 48X4-27; PT2-C TERMINATING AT 48X4-27 TERMINATED AT 48X4-26; ON SHEET 4; AT 48X6-13, ADDRESS 05H-261 WAS 48H-261; AT 48X6-14 TERM LIMBPS-S/ WAS LIMAPS-S AND ADDRESS 05H-61 WAS 48H-61; AT 48X6-15, ADDRESS 05H-262 WAS 48H-262 AT 48X6-16 TERM LIMBNS-S/ WAS LIMANS-S/ AND ADDRESS 05H-62 WAS 48H-62; AT 48X6-23 ADDRESS 05H-264 WAS 48H-264; AT 48X6-24, TERM LBWDAT-FA WAS LAWDAT-FA AND ADDRESS 05H-64 WAS 48H-64 (C) ON SHEETS 1,2,3, CLASS WAS M30-I-399, PAGE 4; CLASS WAS M30-I-399, 48P4-B WAS J2CHAN B, 48P4-A WAS J2CHAN A. (D) CORRECTED TERM LABELING ON HARNESS DIAGRAM TO AGREE WITH P. C. BOARD LOGIC TERMS. (E) PAGE 4, AT 48X10-4,6,8,10,14,16,18, ADDED ,IA/ TO TERMS. (F) FALINR.T/CONNECTED TO NO. CONTACTS OF SWITCHES 48ST1; 48ST3 WAS CONNECTED TO N.C. CONTACT OF SWITCH 48ST3; FALINL.T/CONNECTED TO NO. CONTACTS OF SWITCH 48ST7; 48ST9 WAS CONNECTED TO N.C. CONTACT OF SWITCH 48ST9.

REV	DATE	BY	ASSEMBLY
A			395-006003

CLASS	MODEL	EFFECTIVITY

395-0031244

NOTES
SIMILAR PARTS

		REVISION ON SHEET NUMBER														
CHANGES		2	3	4	5	6	7	8	9	10	11	12				
A	A															
B	B															
C	C															
D	D															
	E															

(F) 46R00555	R	2-75
(E) 46R01338	DEE	8-73
(D) 46R01284	JS	8-73
(C) 46R01195	JS	1-73
(B) 46R01171	RTH	1-73
(A) 46R34007	GTC	6-72
REV	RELEASE NO.	DFTS. DATE

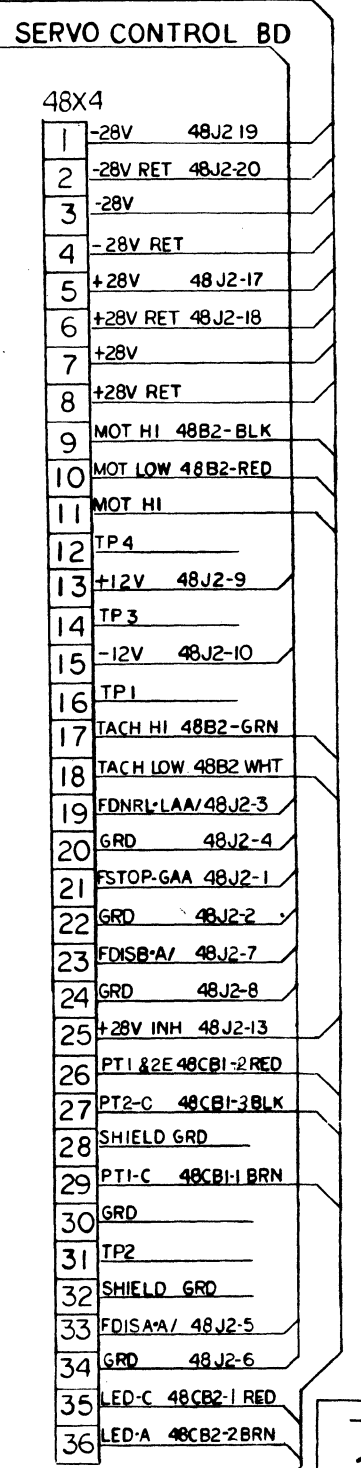
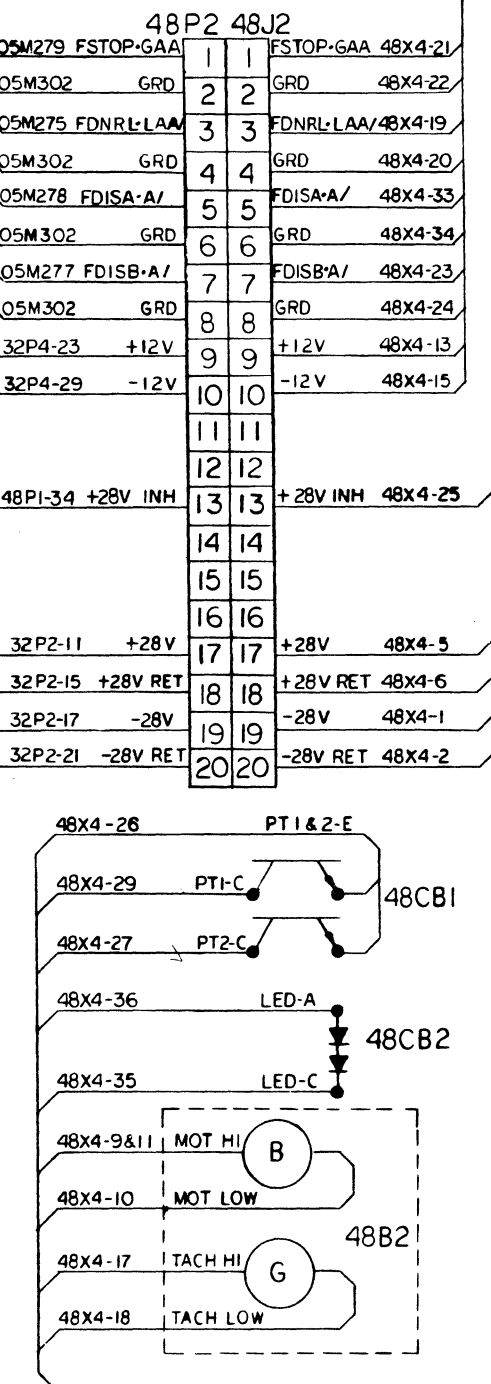
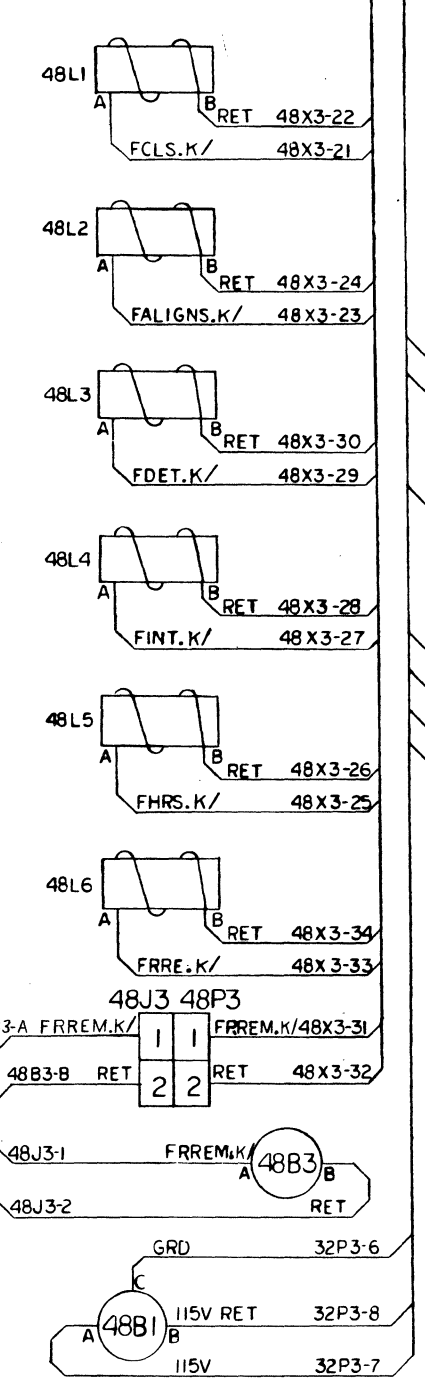
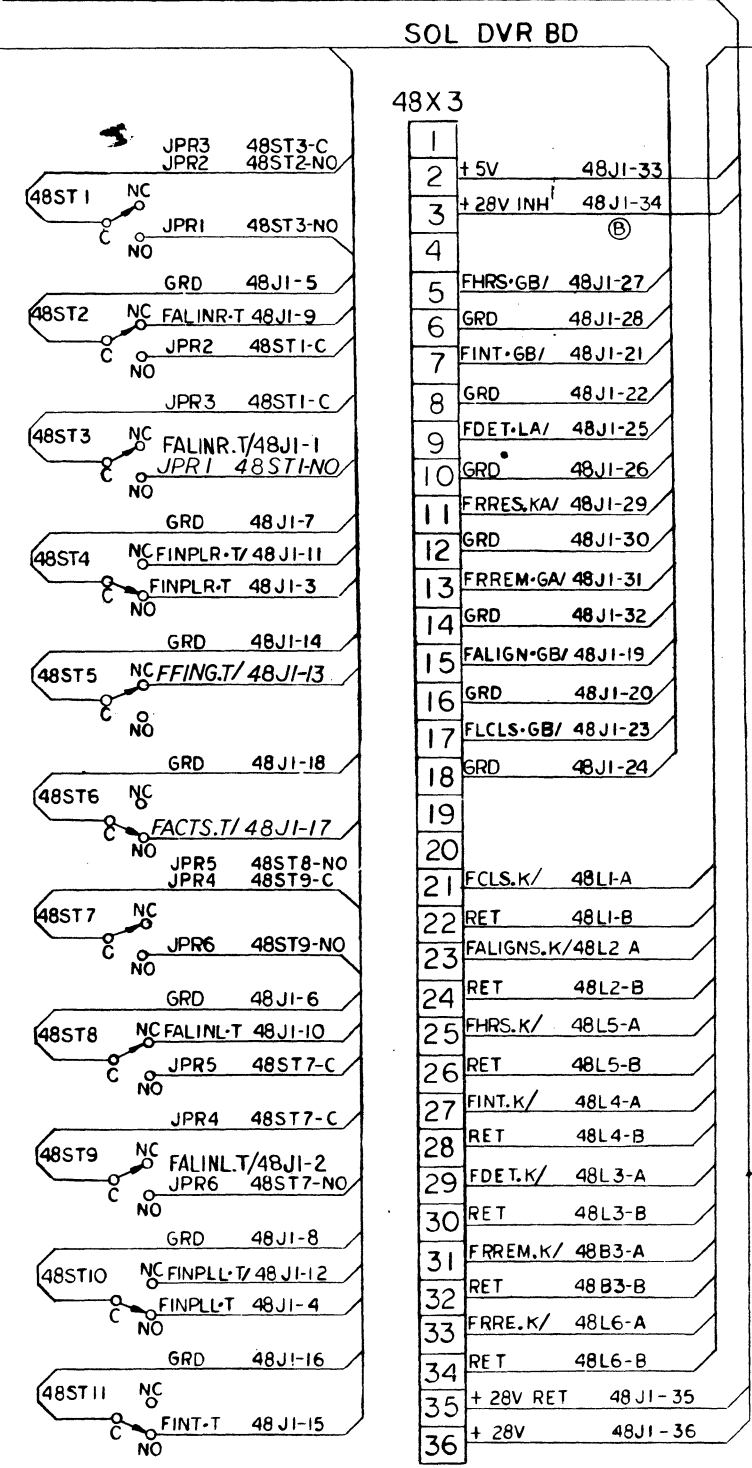
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STD. QUALITY SEE SP4004.15
 CLASS: **M48-I-399**
 START: 3-15-72 FINISH: 3-15-72
 DFTS: GTC CHKR: NAME: DIAGRAM-WIRING
 DESIGNER: G. LUTHER
 APPD: APPD: SHEET 1 OF 4
 SUPSD. BY: SCALE: 395-0031244
 SUPERSEDES: CODE: 2-9512

FIELD PRINT

ALF LOGIC
POWER SUPPLY

48PI 48J1	
05M257 FALINR-T/	1 1 FALINR-T/ 48ST3-NO
05M256 FALINL-T/	2 2 FALINL-T/ 48ST9-NO
05M264 FINPLR-T	3 3 FINPLR-T 48ST4-NO
05M268 FINPLL-T	4 4 FINPLL-T 48ST10-NO
05M301 GRD	5 5 GRD 48ST2-C
05M301 GRD	6 6 GRD 48ST8-C
05M301 GRD	7 7 GRD 48ST4-C
05M301 GRD	8 8 GRD 48ST10-C
05M255 FALINR-T	9 9 FALINR-T 48ST2-NC
05M258 FALINL-T	10 10 FALINL-T 48ST8-NC
05M265 FINPLR-T/	11 11 FINPLR-T/ 48ST4-NC
05M270 FINPLL-T/	12 12 FINPLL-T/ 48ST10-NC
05M254 FFING-T/	13 13 FFING-T/ 48ST5-NC
05M301 GRD	14 14 GRD 48ST5-C
05M272 FINT-T	15 15 FINT-T 48ST11-NO
05M301 GRD	16 16 GRD 48ST11-C
05M269 FACTS-T/	17 17 FACTS-T/ 48ST6-NO
05M301 GRD	18 18 GRD 48ST6-C
05M274 FALIGN-GB/	19 19 FALIGN-GB/ 48X3-15
05M302 GRD	20 20 GRD 48X3-16
05M276 FINT-GB/	21 21 FINT-GB/ 48X3-7
05M302 GRD	22 22 GRD 48X3-8
05M281 FLCLS-GB/	23 23 FLCLS-GB/ 48X3-17
05M302 GRD	24 24 GRD 48X3-18
05M273 FDET-LA/	25 25 FDET-LA/ 48X3-9
05M302 GRD	26 26 GRD 48X3-10
05M261 FHRS-GB/	27 27 FHRS-GB/ 48X3-5
05M302 GRD	28 28 GRD 48X3-6
05M260 FRRES-KA/	29 29 FRRES-KA/ 48X3-11
05M302 GRD	30 30 GRD 48X3-12
05M259 FRREM-GA/	31 31 FRREM-GA/ 48X3-13
05M302 GRD	32 32 GRD 48X3-14
32P4-3 +5V	33 33 +5V 48X3-2
48P2-13 +28V INH	34 34 +28V INH 48X3-3
32P2-8 +28V RET	35 35 +28V RET 48X3-35
32P2-4 +28V	36 36 +28V 48X3-36



NOTES:
 SIMILAR PARTS:
 CHANGES (A) NEW (B) 48P2-13 TERMINATING 48PI-34 WAS 32P2-13; 48J1-34 TERMINATING AT 48X3-3 WAS 48J2-13; PT1&2E TERMINATING AT 48X4-26, TERMINATED AT 48X4-27; PT2-C TERMINATING AT 48X4-26 (C) CLASS WAS M30-1-399 (D) CORRECT TERM LABELING ON HARNESS DIAGRAM TO AGREE WITH P.C. BOARD LOGIC TERMS. (E) FALINR-T/WAS CONNECTED TO NC CONTACT OF SWITCH 48ST3, FALINL-T/WAS CONNECTED TO NC CONTACT OF SWITCH 48ST9.

(E) 46ERO055	Rw	2-75
(D) 46ERO1284	JS	9-73
(C) 46ERO1195	JS	1-73
(B) 46ERO1171	RTH	1-73
(A) 46ERS4007	GTC	6-72
REV	RELEASE NO.	DPTS. DATE

5

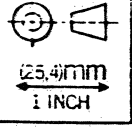
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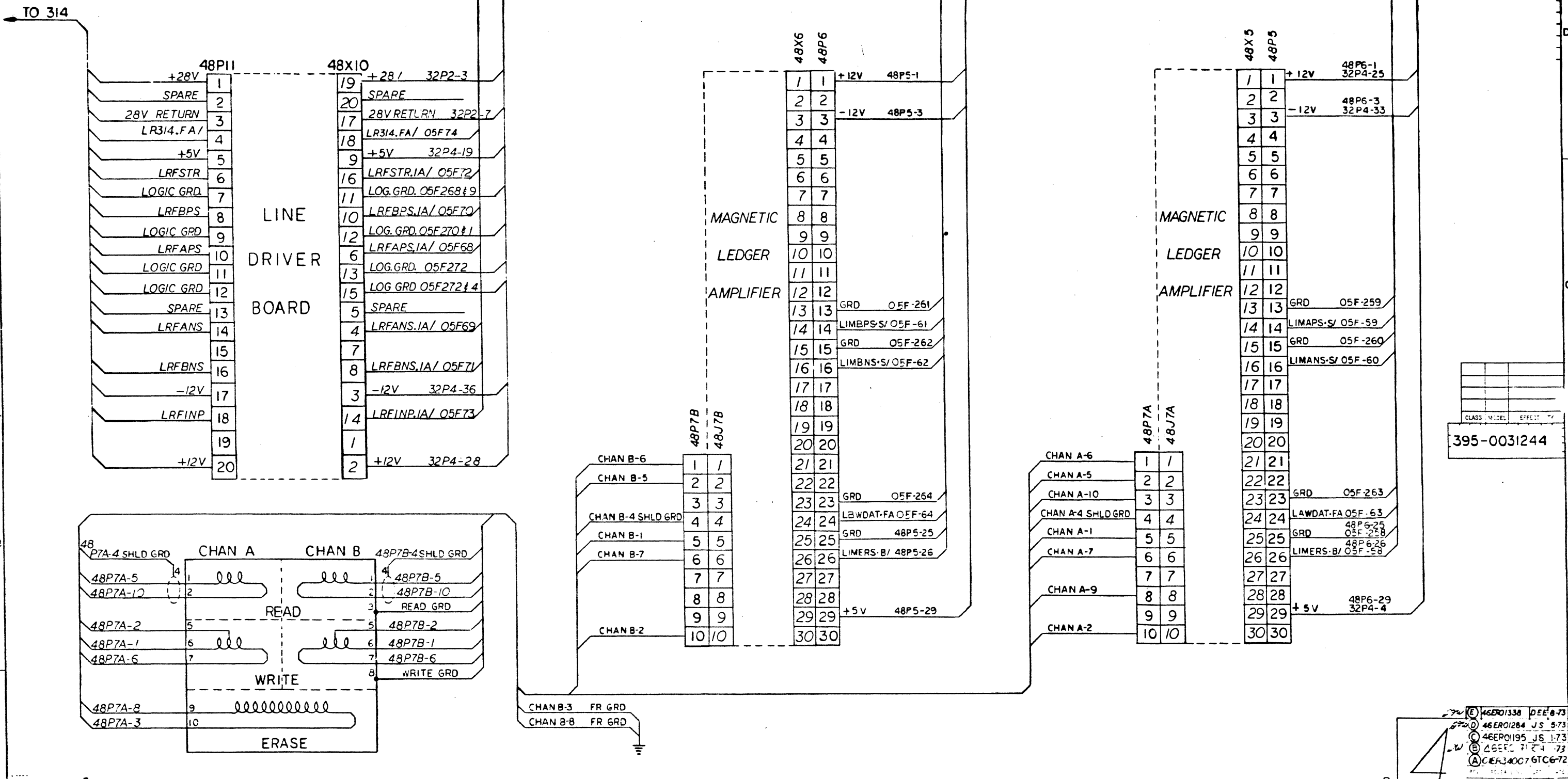
NCR THE NATIONAL CASH REGISTER CO. DAYTON, OHIO

STD. QUALITY SEE SP4004.15
 CLASS: M48-1-399
 START: 3-15-72 FINISH: 3-23-72
 DFTS: GTC CHKR
 DESIGNER: G. LUTHER
 APPD: APPD: SHEET 3 OF 4
 SUPSD. BY: SCALE: NONE
 SUPERSEDES: CODE: 2-9512

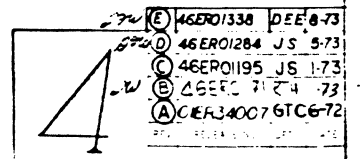
395-0031244



**MAG LEDGER LOGIC
POWER SUPPLY**



CLASS MODEL EFFECT
395-0031244



NEW AT 48X10-19 ADDRESS 05H-261 WAS 48H-261; AT 48X10-20 ADDRESS 05H-262 WAS 48H-262; AT 48X6-15 ADDRESS 05H-262 WAS 48H-262; AT 48X6-16 TERM LIMBPS-S/ WAS LIMBPS-S/ AND ADDRESS 05H-61 WAS 48H-61; AT 48X6-15 ADDRESS 05H-262 WAS 48H-262; AT 48X6-16 TERM LIMBNS-S/ WAS LIMBNS-S/ AND ADDRESS 05H-62 WAS 48H-62; AT 48X6-23 ADDRESS 05H-264 WAS 48H-264; AT 48X6-24 TERM LBWDAT-FA WAS LAWDAT-FA AND ADDRESS 05H-64 WAS 48H-64; CLASS WAS M30-1-399, 48P4-B WAS J2CHAN-B, 48P4-A WAS J2CHAN-A. CORRECT TERM LABELING ON HARNESS DIAGRAM TO AGREE WITH P.C. BOARD LOGIC TERMS AT 48X10-4, 6, 8, 10, 14, 16, 18. ADDED .IA/ TO TERMS.

FIELD PRINT
M48-1-399 NCR THE NATIONAL CALCULATOR REGISTER CO.
31972 32372 AUTOMATIC LINE FIND
GTC DIAGRAM-WIRING
G. LUTHER
4/4
NONE 395-0031244
2-9512