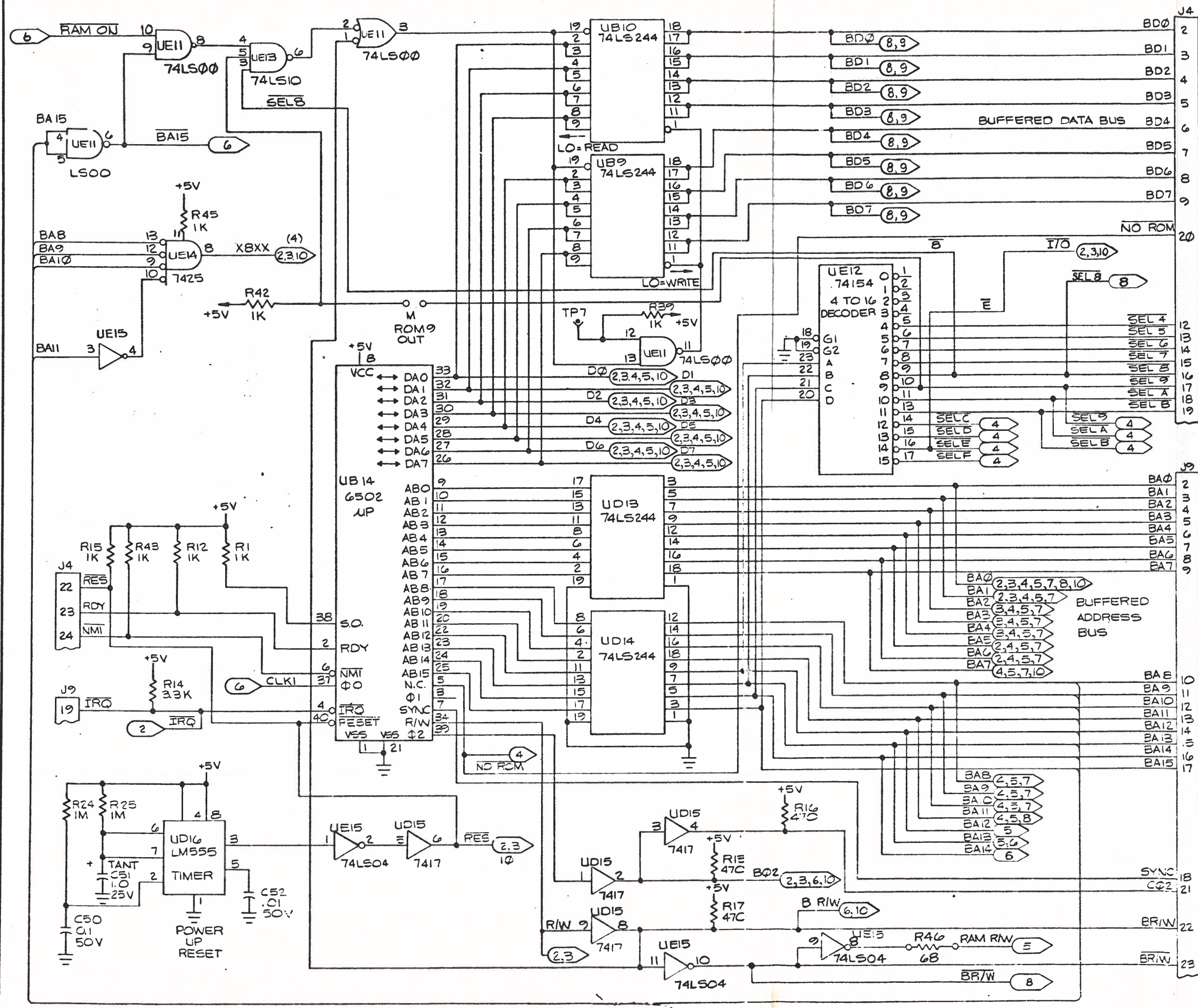


LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	6/23/87	H. Ham



MEMORY EXPANSION

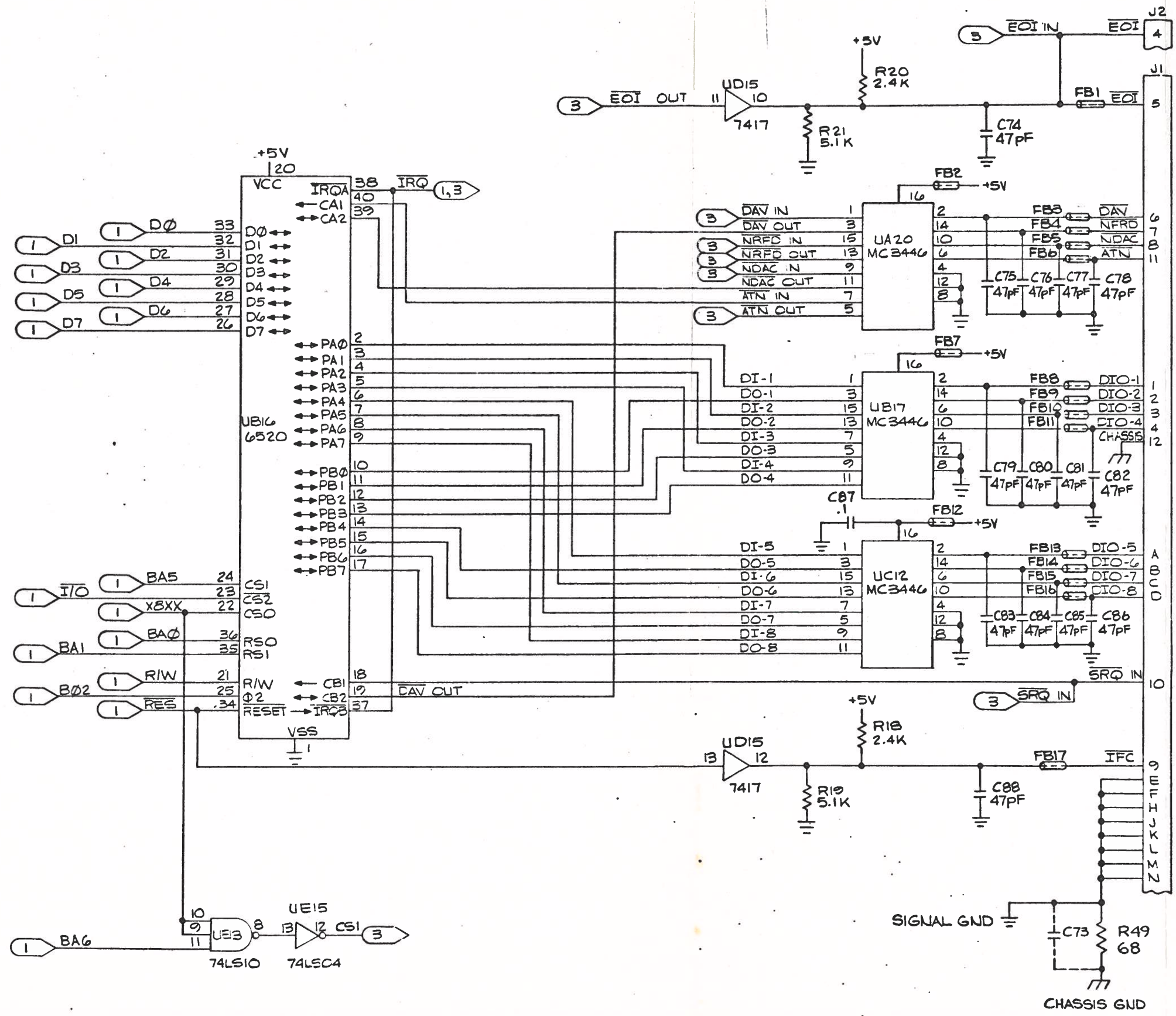
MEMORY EXPANSION

3. ALL CAPACITOR VALUES ARE MEASURED IN MICROFARADS.
 2. ALL RESISTOR VALUES ARE IN OHMS ±5% AND ARE 1/4 WATT.
 - 1 REFER TO ASSEMBLY DRAWING NUMBER 8032090.
- NOTES-UNLESS OTHERWISE SPECIFIED:

CPU & MEMORY EXPANSION

UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS	DRAWN BY C. DANIELS	DATE 1-3-87	commodore
MATERIAL	ENGR APPR	USED ON 8032	LOGIC DIAGRAM UNIVERSAL DYNAMIC PET
FINISH	NEXT ASSY 8032089	SIZE D	8032087
		SCALE NONE	SHEET 1 OF 11

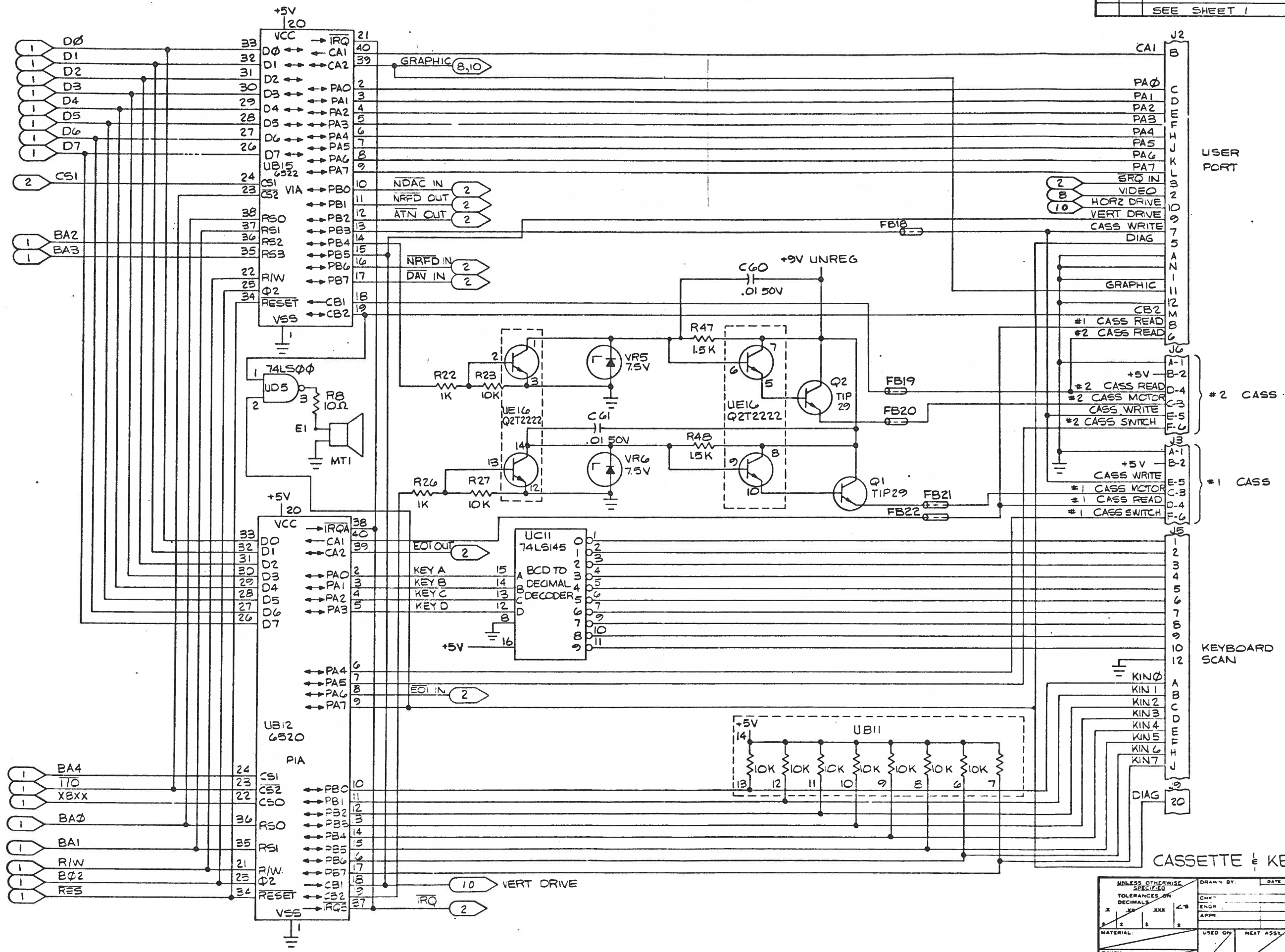
REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



IEEE-488
INTERFACE

IEEE - 488 INTERFACE

UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS	DRAWN BY: _____ DATE: _____	commodore LOGIC DIAGRAM UNIVERSAL DYNAMIC PET
MATERIAL: _____ FINISH: _____	ENGR: _____ APPR: _____	
USED ON: _____ NEXT ASSY: _____	SIZE: D 8032087 REV: A SCALE: NONE SHEET 2 OF 11	



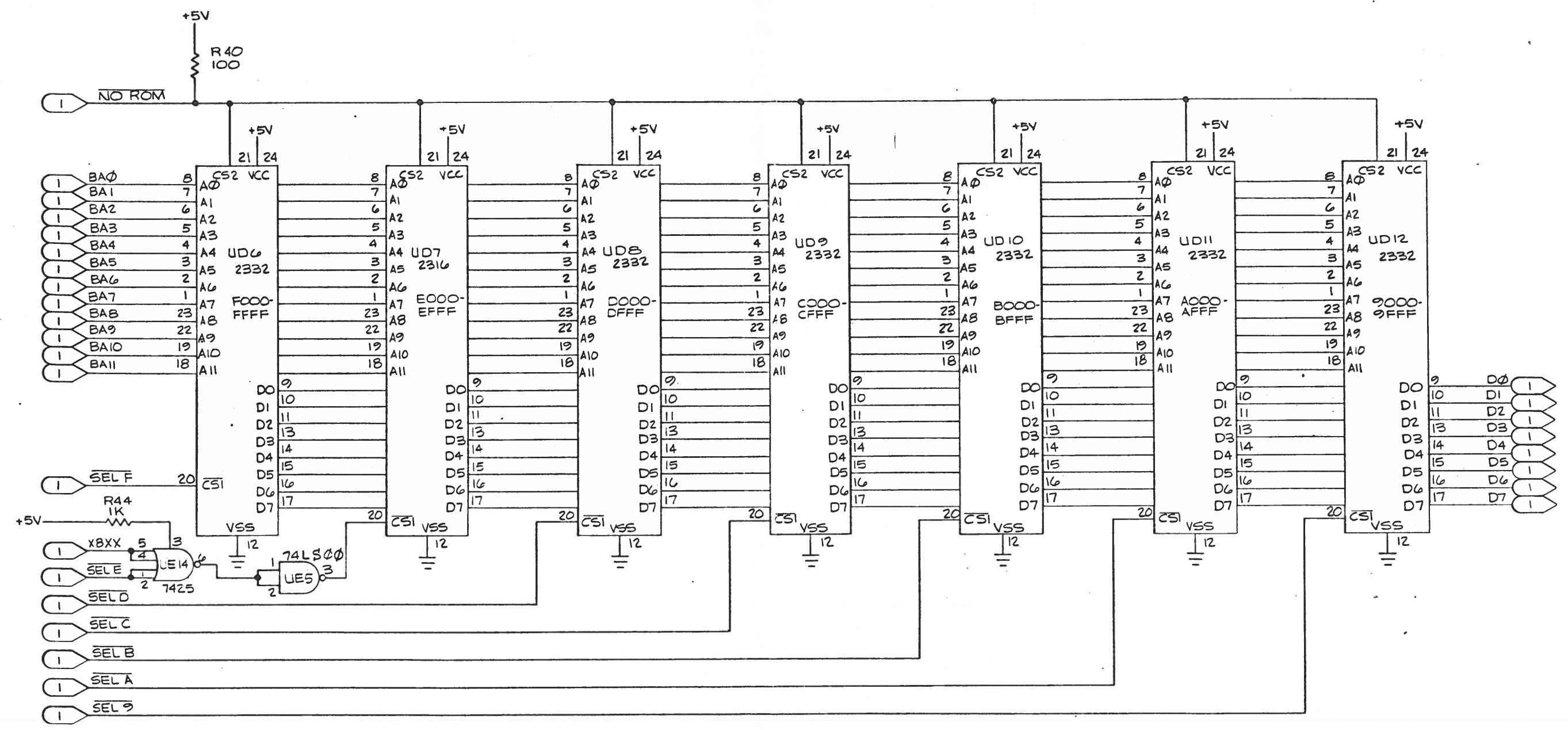
CASSETTE & KEYBOARD

UNLESS OTHERWISE SPECIFIED		DRAWN BY	DATE
TOLERANCES ON DECIMALS		CHK	
1	XX	ENGR	
2	XX	APPR	
MATERIAL		USED ON	NEXT ASSY
FINISH			

commodore

LOGIC DIAGRAM
UNIVERSAL
DYNAMIC PET

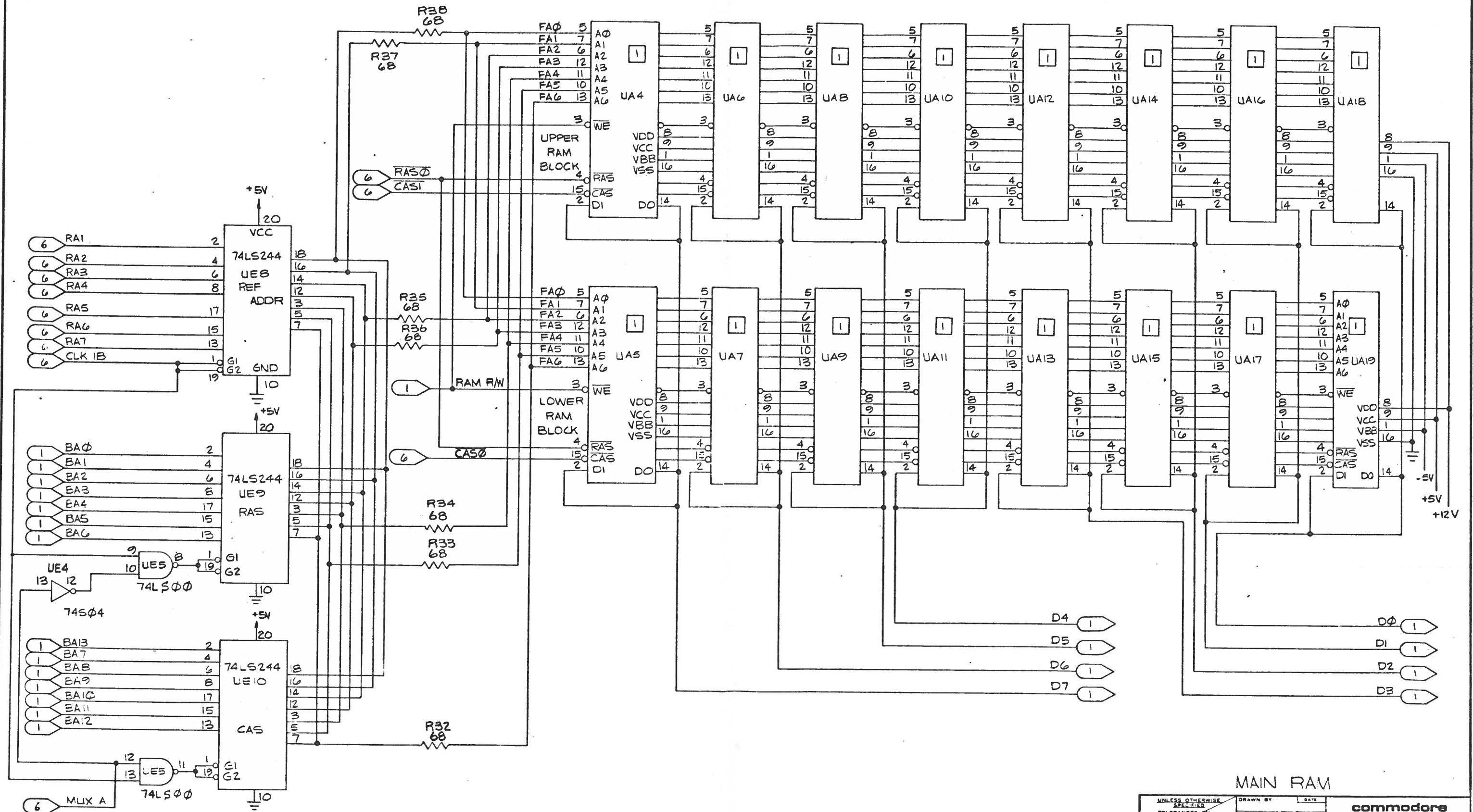
SIZE **D** 8032087 **REV A**
SCALE NONE SHEET 3 OF 1



ROMS

UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS		DRWN BY	DATE
MATERIAL:		CHKD	
FINISH:		ENGR	
		APPR	
		USED ON	NEXT ASSY
LOGIC DIAGRAM UNIVERSAL DYNAMIC FET			
SIZE	D	5032087	REV A
SCALE 1/16" = 1" SHEET 4 OF 4			

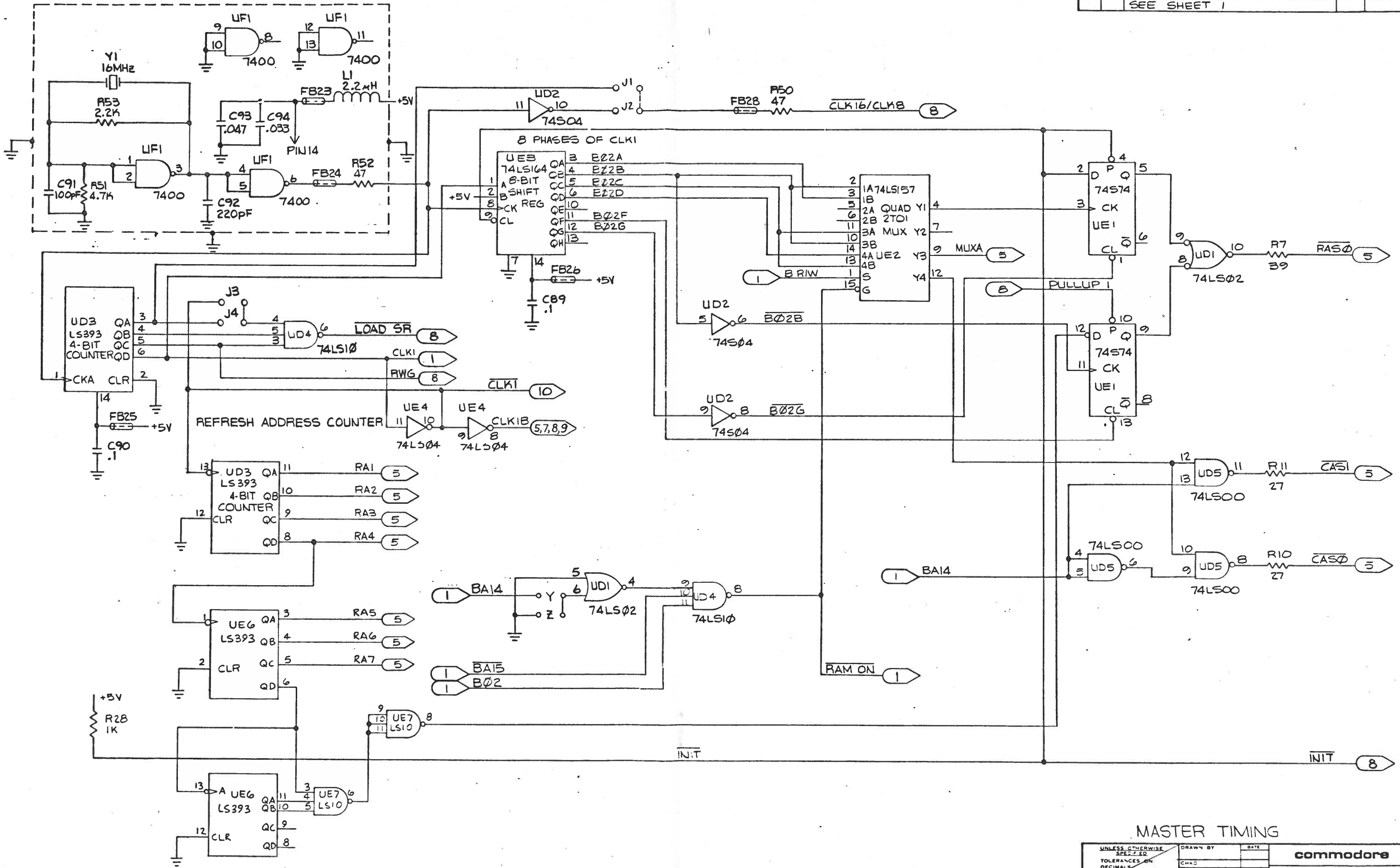
REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



MAIN RAM

UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS MATERIAL: FINISH:	DRAWN BY	DATE	commodore
	CHKD		
	ENGR		
	APPR		
USED ON	NEXT ASSY		LOGIC DIAGRAM UNIVERSAL DYNAMIC PET
SIZE	D	8032087	REV A
SCALE: NONE			SHEET 5 OF 11

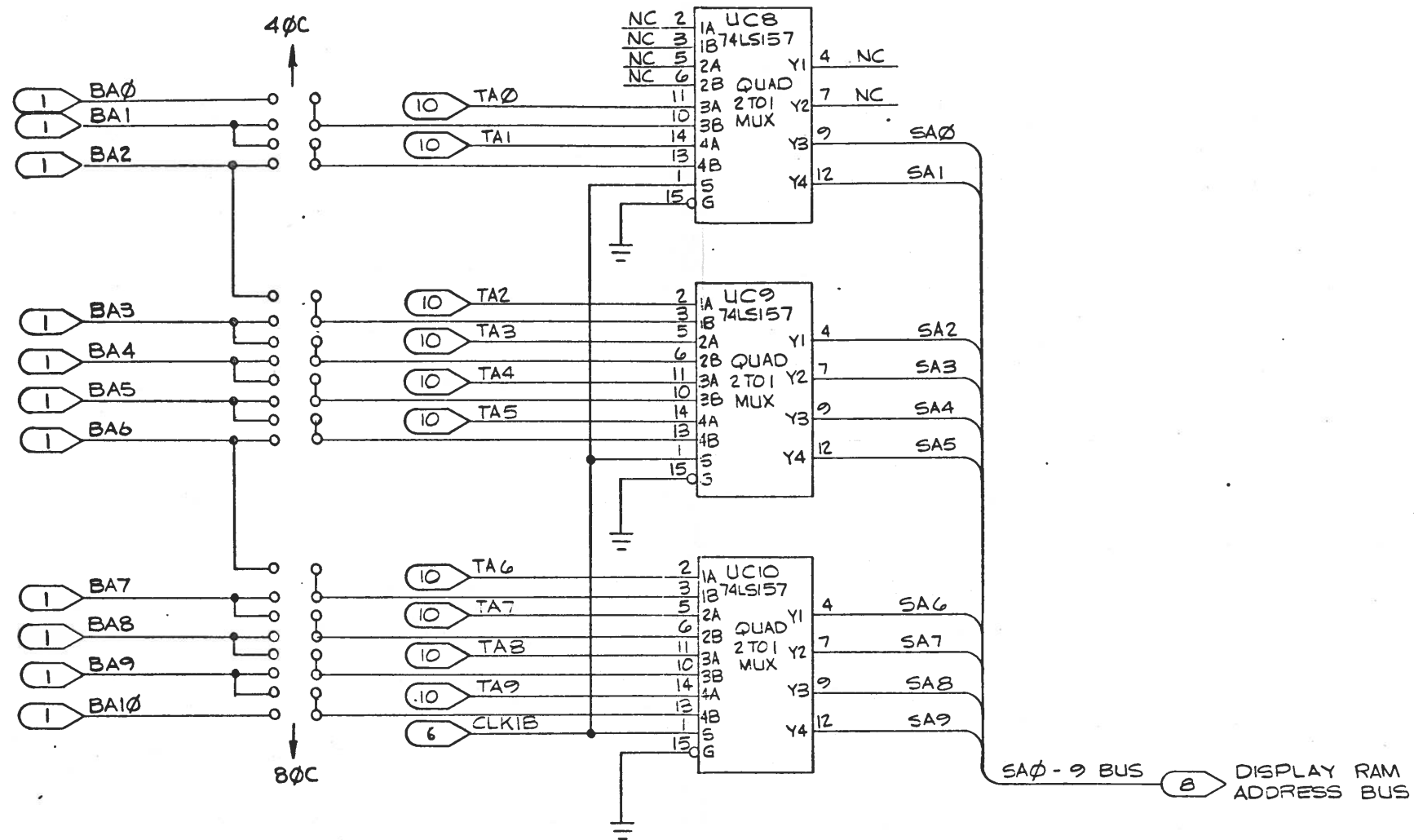
REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



MASTER TIMING

UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS	DRAWN BY	DATE	commodore
	CHCK		
	ENGR		
	APPR		
MATERIAL	USED ON	NEXT ASSY	LOGIC DIAGRAM UNIVERSAL DYNAMIC PET
FINISH			SIZE D 8032087 REV A
			SCALE NONE SHEET 3 OF 3

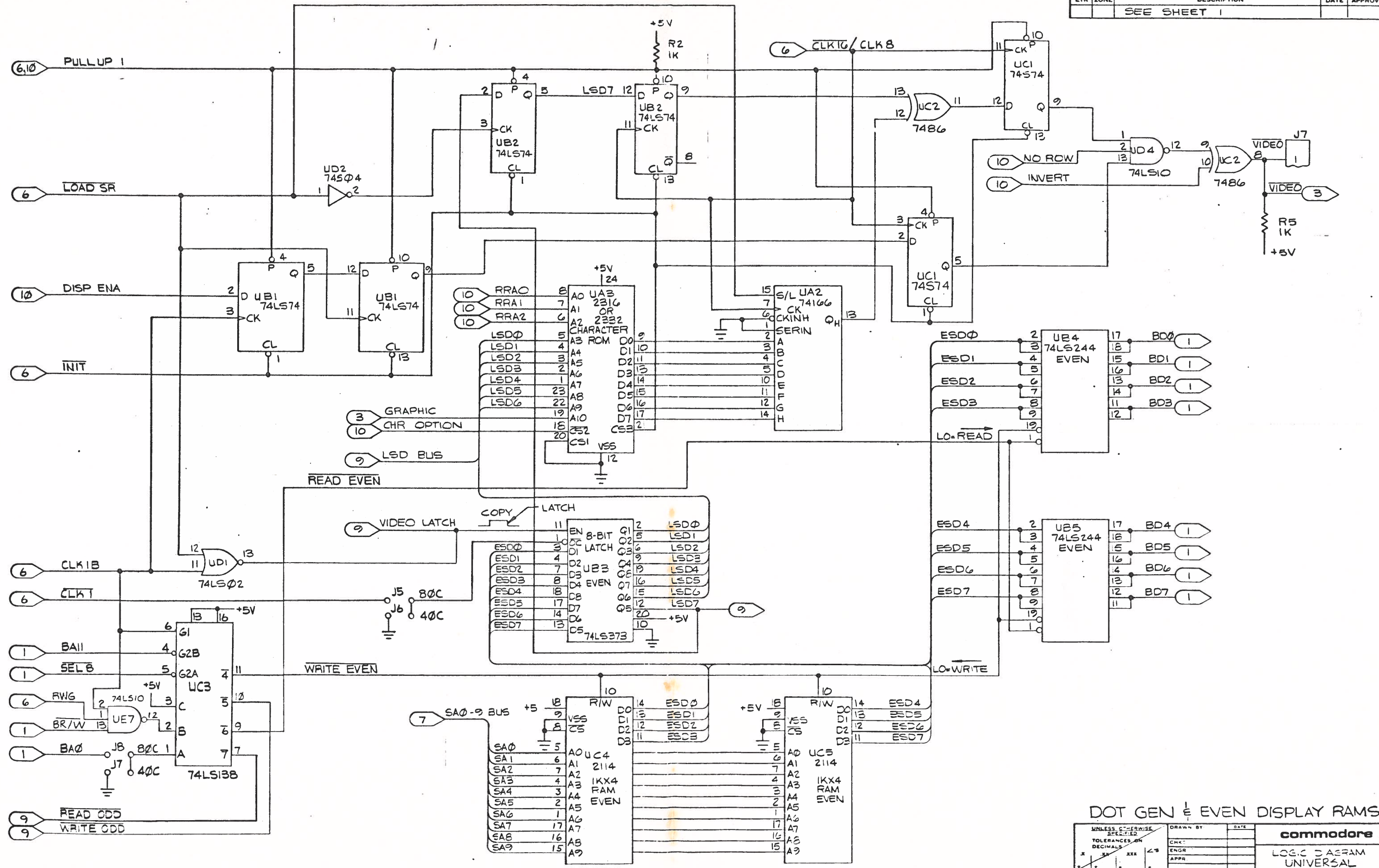
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



DISPLAY ADDRESS MUX

UNLESS OTHERWISE SPECIFIED		DRAWN BY	DATE	commodore LOGIC DIAGRAM UNIVERSAL DYNAMIC PET
TOLERANCES ON DECIMALS		CHKD		
.X .XX .XXX .LS .X .XX .XXX .LS		ENGR		
MATERIAL		APPR		SIZE D 8032087 REV A SCALE NONE SHEET 7 OF 11
FINISH		USED ON	NEXT ASSY	

REVISIONS			
LTR	ZONE	DESCRIPTION	DATE APPROVED
		SEE SHEET 1	



DOT GEN & EVEN DISPLAY RAMS

UNLESS OTHERWISE SPECIFIED	DRAWN BY	DATE
TOLERANCES ON DECIMALS	CHK:	
XXX	ENGR:	
	APPR:	
MATERIAL	USED ON	NEXT ASSY.
FINISH:		

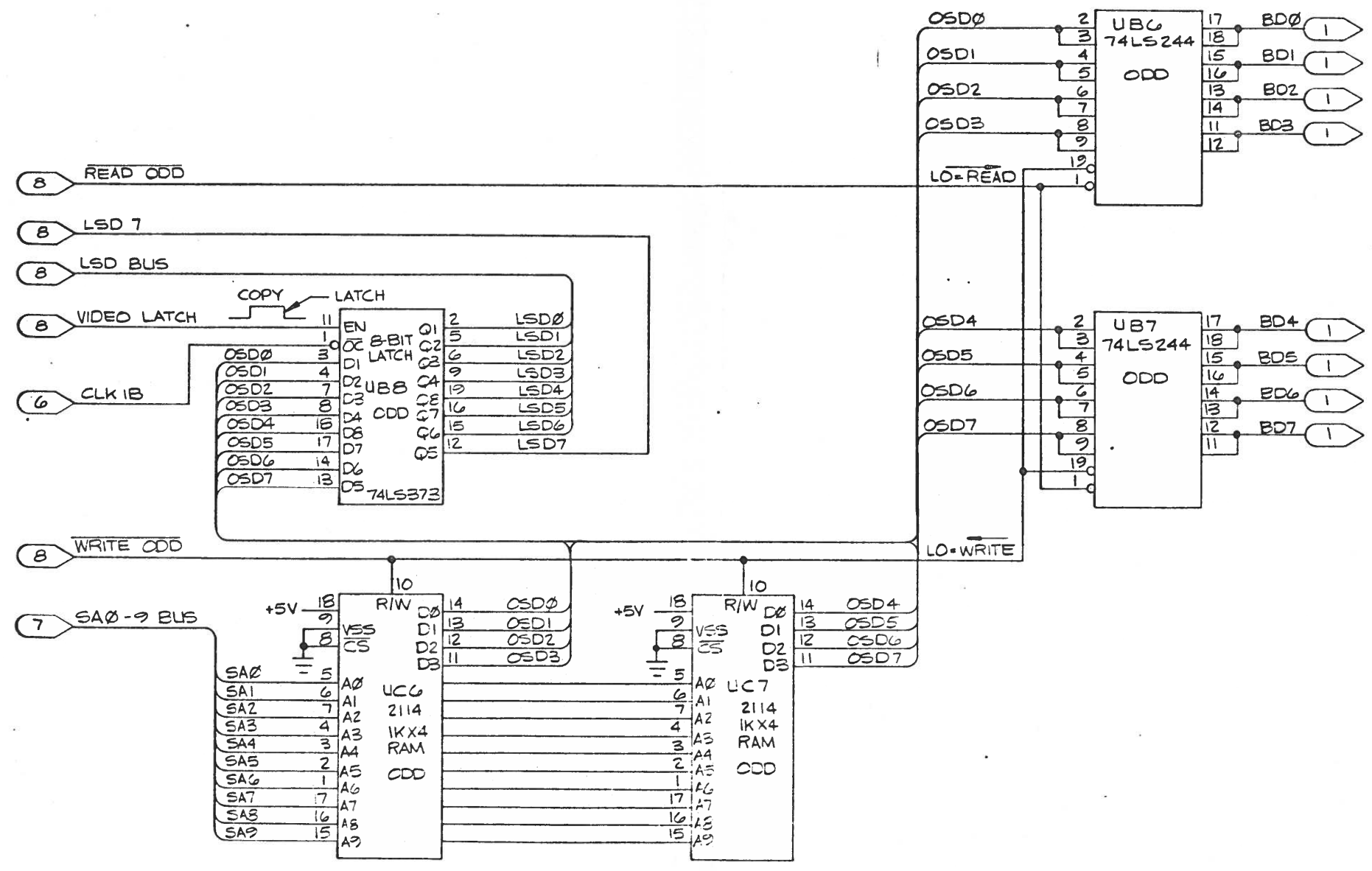
commodore

LOGIC D AERAM
UNIVERSAL
DYNAMIC PET

SIZE **D 8032087** REV **A**

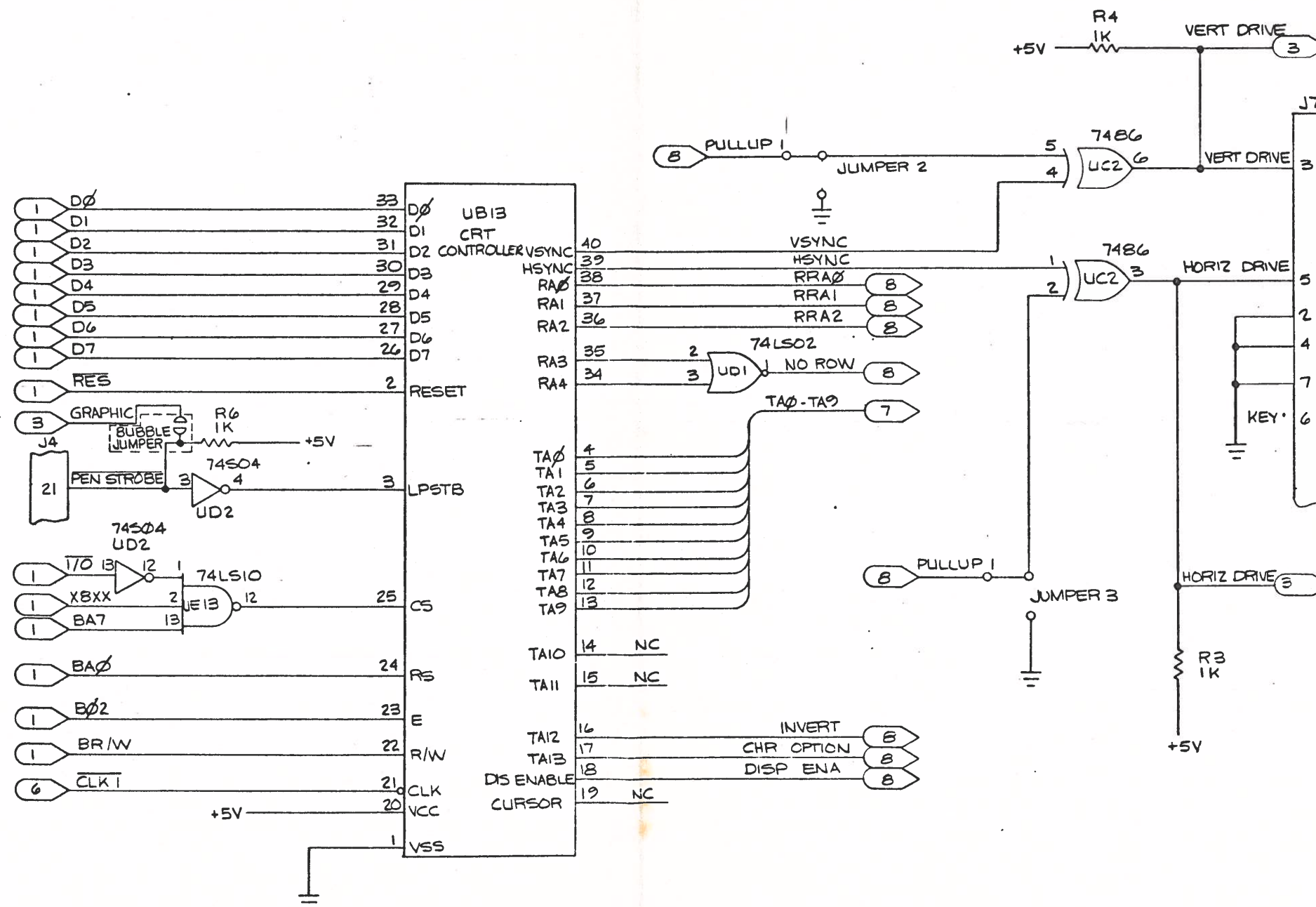
SCALE NONE SHEET **B** OF **11**

LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



ODD DISPLAY RAMS

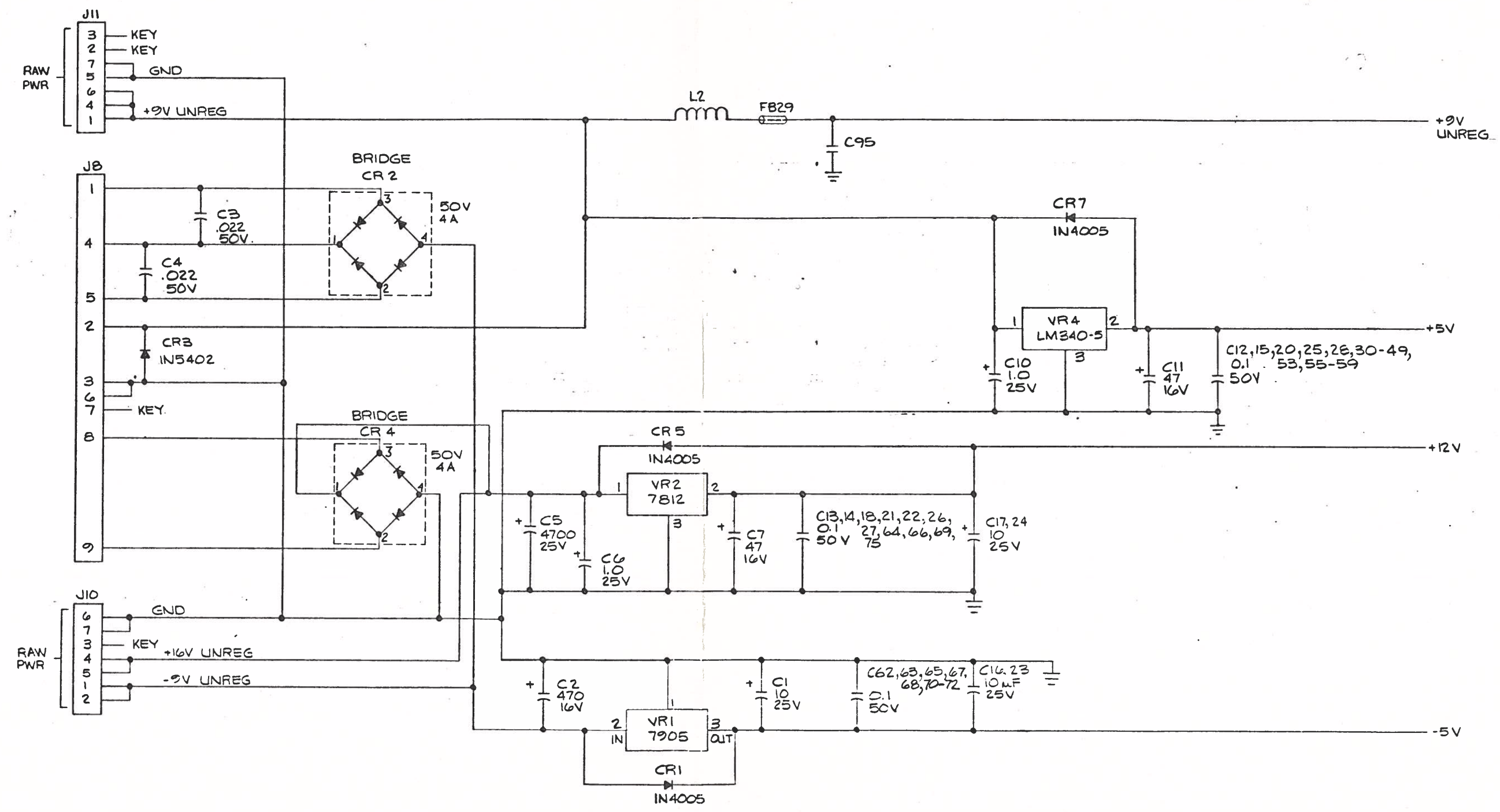
UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS X 2 3 4 5 6 7 8 9 10 15 20 30 40 50 60 70 80 90 100	DRAWN BY	DATE	commodore LOGIC DIAGRAM UNIVERSAL DYNAMIC PET
	CHKD		
	ENGR		
	APPR		
MATERIAL	USED ON	NEXT ASSY	SIZE D 8032087 A SCALE NOLET SHEET 9 OF 11



CRTC AND SYNC BUFFERS

UNLESS OTHERWISE SPECIFIED, TOLERANCES ON DECIMALS ON		DRAWN BY		DATE
3		CHKD		
2		ENGR		
1		APPR		
MATERIAL		USED ON	NEXT ASSY	
FINISH				
commodore				
LOGIC DIAGRAM UNIVERSAL DYNAMIC PET				
SIZE	D	8032087	A	REV
SCALE	NONE	SHEET 3 OF		

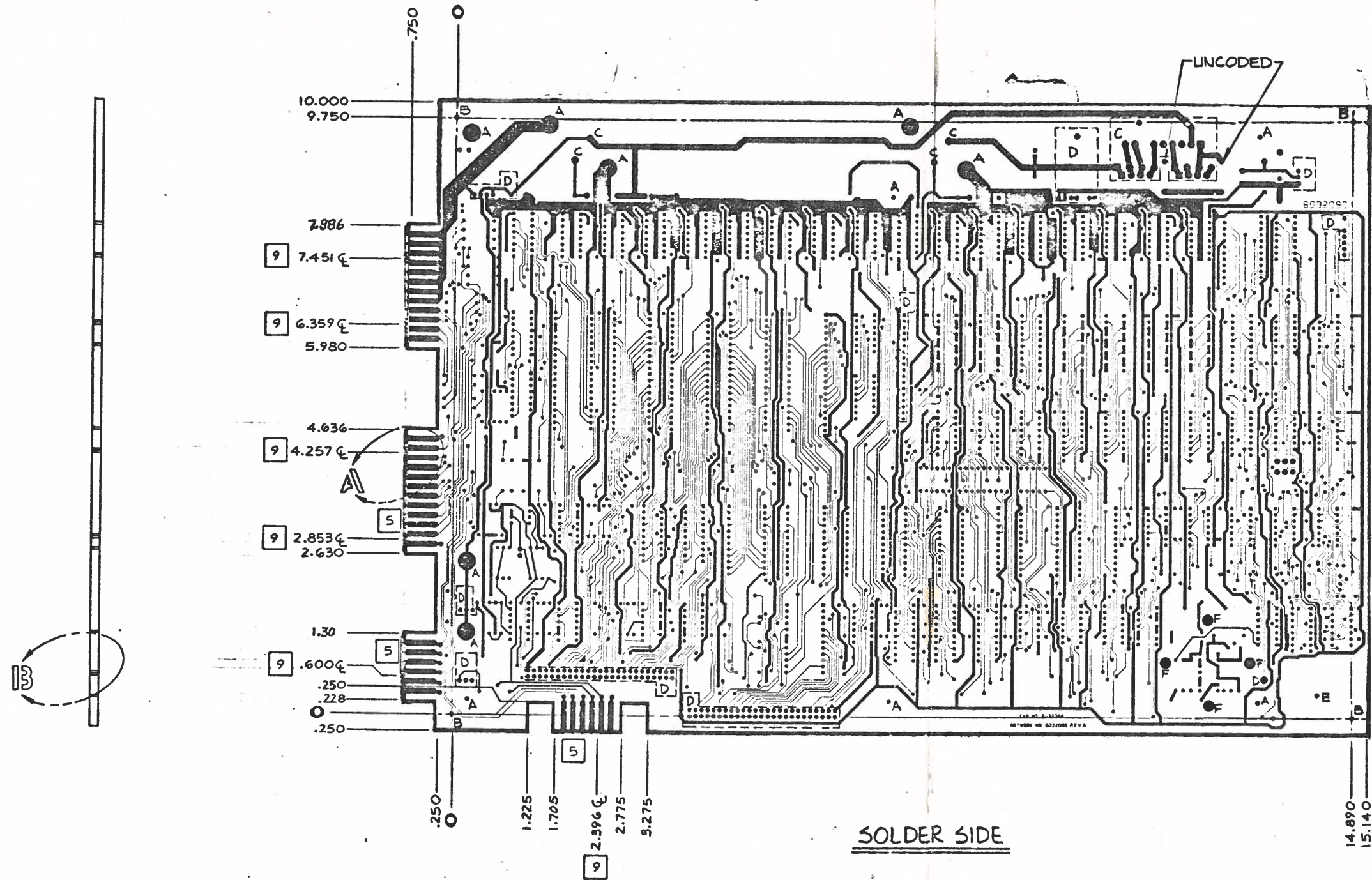
REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		



VOLTAGE REGULATOR

UNLESS OTHERWISE SPECIFIED	DRAWN BY	DATE	commodore
TOLERANCES ON DECIMALS	CHKD		
APPROVED	ENGR		
MATERIAL	USED ON	NEXT ASSY	LOGIC DIAGRAM UNIVERSAL DYNAMIC PET
FINISH:			SIZE D 8032037 RE A
			SCALE NONE SHEET 11 OF 11

REVISIONS			
LTR	ZONE	DESCRIPTION	DATE APPROVED
A		PRODUCTION RELEASE	9/2/81 [Signature]

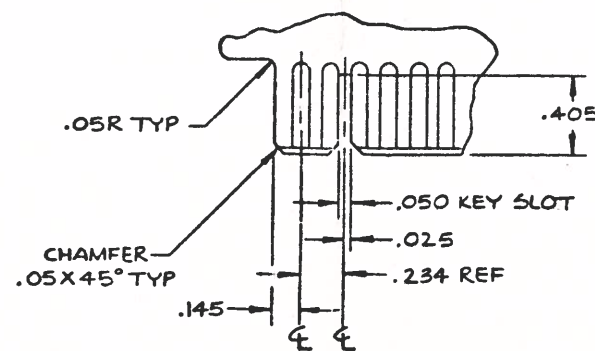


SOLDER SIDE

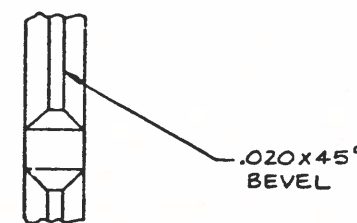
HOLE SCHEDULE 8			
CODE	HOLE SIZE	QTY	HOLE TYPE
A	.156 ± .005	12	PLATED THRU
B	.094 ± .002	4	NON-PLATED 11
C	.070 ^{+ .003} _{- .002}	30	PLATED THRU
D	.047 ^{+ .003} _{- .002}	146	PLATED THRU
E	.850 ± .005	1	NON-PLATED
UNCODED	.041 ± .002	A/R	PLATED THRU
F	.093 ^{+ .003} _{- .002}	4	PLATED THRU

- 11 TOOLING HOLES TO BE NON-PLATED THRU AND NOT DRILLED AS A SECONDARY OPERATION.
- 10. SOLDERMASK SHALL BE .010 MAX GREATER IN DIA THAN PAD DIA.
- 9 FOR SLOT DIMENSIONS, SEE VIEW A.
- 8 HOLE TOLERANCES APPLY AFTER PLATING.
- 7. SILKSCREEN COMPONENT SIDE USING 8032086 ARTWORK PROVIDED PER COMMODORE SPEC NO.3204-23 SECT.4.4.5.
- 6. SOLDERMASK BOTH SIDES.
- 5 CONNECTORS NOT TO BE GOLD PLATED.
- 4. CONNECTOR FINGERS PLATED .0001 THICK LOW STRESS NICKEL UNDER GOLD. GOLD PLATE TO BE .000020 THICK.
- 3. PLATED THRU HOLES: PLATING IN HOLES TO BE .001 MIN.
- 2. SOLDER PLATE TO BE 60% TIN, 40% LEAD ± 10%, SOLDER PLATING TO BE .00025 THICK. COPPER SURFACE TO BE REFLOWED FRONT AND BACK.
- 1 MATERIAL: .062 THICK - 1 OZ COPPER-CLAD EPOXY FR-4 GRADE OR EQUIV.

NOTES: UNLESS OTHERWISE SPECIFIED:



VIEW A
(ROTATED 90° CCW)
TYP



VIEW B
(TYPICAL TO CONNECTOR)
EDGES

-01 SHOWN

UNLESS OTHERWISE SPECIFIED TOLERANCES ON DECIMALS	DRAWN BY PCJ/JP	DATE 2/4/81	commodore
	CHKD ENGR APPR		
MATERIAL 1	USED ON 8032	NEXT ASSY 8032090	SIZE D 8032088
FINISH SEE NOTES			REV A
SCALE 1/1			SHEET 1 OF 1

PART NO.	DESCRIPTION
8032090-01	UNIV.DYNAMIC PET 8032-60HZ.
-02	8032-50HZ.
-03	4032-60HZ
-04	4032-50HZ
↓ -05	↓ 4016-60HZ
8032090-06	UNIV.DYNAMIC PET 4016-50HZ

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	6/23/81	<i>J. Green</i>

- 7 IDENTIFY WITH APPLICABLE DASH NO.
- 6 SOLDER TO XTAL AND PCB.
- 5 FOR ITEMS 118 & 119, ALL ASSEMBLIES MUST HAVE SAME VENDOR.
- 4 SOLDER JUMPER, ITEM 106 FROM E1 TO SILVER CONTACT ON MT1, ITEM 73; TAKE CARE TO ALLOW NO MORE THAN ONE SECOND DURATION FOR APPLICATION OF HEAT DURING SOLDERING.

3 SOLDER AT 3 PLACES, EQUALLY SPACED AROUND THE BRASS BASE MT1 (ITEM 73)

2 IDENTIFY WITH APPLICABLE DASH NO.

1. SHEET 6 OF 6 SIZE D
ASSY DWG

NOTES: UNLESS OTHERWISE SPECIFIED:

commodore	TITLE:	PCB ASSY - UNIV. DYNAMIC PET	DRAWN BY:	DATE:	ENGR:	SIZE:	DRAWING NUMBER:
			<i>[Signature]</i>	3-11-81	<i>[Signature]</i>	B	8032090
			CHKD:	6-17-91			SHEET 1 OF 6

QUANTITY REQD PER PART / DASH NO.							ITEM	Q	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
							1	D	8032088-01	FABRICATION-UNIV. DYNAMIC PET			
							2	D	8032087-01	LOGIC DIAGRAM-UNIV. DYNAMIC PET			
							3						
							4	B	901521-01	IC, 74LS00	UD5, UE5, UE11		
							5	B	901521-24	, 74LS10	UD4, UE7, UE13		
							6	B	901522-20	, 7425	UE14		
							7	B	901521-02	, 74LS04	UE15		
							8	B	901523-01	, LM555	UD16		
							9	B	901522-01	, 7417	UD15		
							10	B	901435-01	, 6502	UB14		
							11	B	901479-01	, CRT CONTROLLER	UB13		
							12	B	901522-13	, 74154	UE12		
							13	B	901436-01	, 6520	UB12, UB16		
							14	B	901524-01	, MC3446	UA20, UB17, UC12		
							15	B	901437-01	, 6522	UB15		
							16	B	901521-09	, 74LS145	UC11		
							17	B	901521-40	, 74LS393	UD3, UE6		
							18	B	901521-21	, 74LS02	UD1		
							19	B	901525-09	, 74S74	UC1, UE1		
							20	B	901525-01	, 74S04	UD2, UE4		
							21	B	901521-06	, 74LS74	UB2, UB1		
							22	B	901522-28	, 74166	UA2		
							23	B	901447-10	, 2316	UA3		
							24	B	901521-32	, 74LS86	UC2	SEE ITEM 34 FOR SUBSTITUTION	
							25	B	901521-28	, 74LS164	UE3	SEE ITEM 29 FOR SUBSTITUTION	
							26	B	901521-16	, 74LS138	UC3		
							27	B	901521-11	, 74LS157	UC8-UC10, UE2	SEE ITEM 28 FOR SUBSTITUTION	
							28	B	901522-23	, 74157	UC3-UC10, UE2	SUBSTITUTION FOR ITEM 27	
							29	B	901522-27	, 74164	UE3	SUBSTITUTION FOR ITEM 25	
							30	B	901465-22	, 2332	UD6		
							31	B	901465-21	, 2332	UD8		
							32	B	901465-20	, 2332	UD9		
							33	B	901465-23	, 2332	UD10		
							34	B	901522-18	IC, 7486	UC2	SUBSTITUTION FOR ITEM 24	
							35	B	901522-04	IC, 7400	UF1		
							36	B	900110-07	CAP. LOW LEAK. ELECT. 1uF 50V	CI0		
							37	B	900461-28	CAP. CERAMIC AXIAL .1uF 50V	CI2, CI3, CI20-22, 25-28, 30-50, 53, 55-59, 62-72, 75, 87, 89, 90, 95, 96		

commodore

TITLE: PCB ASSY-UNIV. DYNAMIC PET

DRWN BY: *[Signature]* DATE: 3-11-81 ENGR: *[Signature]* APPR: *[Signature]*

DATE: SIZE: B 8032090 REV: A SHT: 6

QUANTITY HEAD PER PART / DASH NO.							ITEM	QS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES						
							75												
							3	3	3	3	3	3	76	B	900750-05	DIODE, IN4005	CR1,5,7		
							2	2	2	2	2	2	77	B	900757-01	, BRIDGE 4A/50V	CR2,4		SEE ITEMS 79&80 FOR SUBSTITUTION
							1	1	1	1	1	1	78	B	900753-01	, IN5402 3A/200V	CR3		
							5	5	5	5	5	5	79	B	900756-01	, BRIDGE 1.5A/50V	CR4		SUBSTITUTION FOR ITEM 77 (CR4)
							5	5	5	5	5	5	80	B	900757-02	, BRIDGE 4A/50V	CR2,4		SUBSTITUTION FOR ITEM 77
							2	2	2	2	2	2	81	B	900941-01	DIODE, ZENER 7.5V	VR5,6		
													82						
							1	1	1	1	1	1	83	B	901527-03	VOLTAGE REGULATOR, 7905, -5V/1.5A	VR1		TO-220
													84						
							1	1	1	1	1	1	85	B	901528-04	VOLTAGE REGULATOR, 7812, +12V/1A	VR2		TO-3
							1	1	1	1	1	1	86	B	901528-01	VOLTAGE REGULATOR, LM323	VR4		
													87						
							1	1	1	1	1	1	88	B	900556-02	CRYSTAL 16MHZ	Y1		
													89						
							1	1	1	1	1	1	90	B	903326-07	HEADER ASSY .100 CENTER	J10		7 PIN; REMOVE PIN 3 AT ASSEMBLY
							2	2	2	2	2	2	91	B	903345-25	HEADER ASSY, DUAL ROW .100 CENTER	J4,9		50 PIN
							1	1	1	1	1	1	92	B	903316-09	HEADER ASSY .156 CENTER	J8		9 PIN; REMOVE PIN 7 AT ASSEMBLY
							1	1	1	1	1	1	93	B	903331-07	HEADER ASSY, POLARIZED .100 CENTER	J11		7 PIN; REMOVE PIN 3 AT ASSEMBLY
							1	1	1	1	1	1	94	B	903331-07	HEADER ASSY, POLARIZED .100 CENTER	J7		7 PIN; ORIENT OMITTED PIN TO PIN 6 POSITION
							1	1	1	1	1	1	95	B	903331-20	HEADER ASSY, POLARIZED .100 CENTER	J5		20 PIN; ORIENT OMITTED PIN TO PIN 19 POSITION
													96						
							4	4	4	4	4	4	97	B	904150-04	SOCKET, IC LOW PROFILE 24 PIN	UA3, UD7, UD11, UD12		
							1	1	1	1	1	1	98	B	904150-06	SOCKET, IC LOW PROFILE 40 PIN	UB14		
													99						
							2	2	2	2	2	2	100	B	901151-17	COIL, INDUCTOR 2.2uh	L1, L2		
							1	1	1	1	1	1	101	B	320086-02	BUS WIRE			
													102						
							4	4	4	4	4	4	103	B	906403-19	RIVET, DOME HEAD, OPEN END			
							2	2	2	2	2	2	104	B	906404-04	RIVET, DOME HEAD, CLOSED END			
													105						
							1	1	1	1	1	1	106	B	903780-01	#30 WIRE WRAP WIRE, RED			
							19	19	20	20	20	20	107	B	903781-01	22 AWG BARE WIRE ON TAPE #FEEL			
													108						
							1	1	1	1	1	1	109	B	320268-01	HEAT SINK			
													110	B	904907-01	HEAT SINK, COMPOUND THERMAL			
													111						

commodore

TITLE: PCB ASSY-LNIV. DYNAMIC PACK

DRWN BY: [Signature]
CHKD: [Signature]

DATE: 3-11-81
DATE: 3-11-81

ENGR:
APPR:

DATE:

SIZE: B

8032090

REV: A

SHT: 4/6

QUANTITY REQD PER PART / DASH NO.										ITEM	QS	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES	
										1111	112	B	901521-13	IC, 74LS244			UB4-UB7, UB9, UB10, UD13, UD14, UE8-UE10
										9999	113	B	901521-13	, 74LS244			UB4, UB5, UB9, UB10, UD13, UD14, UE8-UE10
										22	114	B	901521-29	, 74LS373			UB3, UB8
										1111	115	B	901521-29	, 74LS373			UB3
										44	116	B	901453-02	, 2114			UC4-UC7
										2222	117	B	901453-02	, 2114			UC4, UC5
										16161616	118	B	901470-01	, 4116			UA4-UA19
										88	119	B	901470-01	, 4116			UA5, UA7, UA9, UA11, UA13, UA15, UA17, UA19
										1	120	B	901474-03	, 2316			UD7
										1	121	B	901474-04	, 2316			UD7
										1	122	B	901499-01	, 2316			UD7
										1	123	B	901498-01	IC, 2316			UD7
											124						
											125						
										282828282828	126	B	903025-01	FERRITE BEAD			FBI-26, 28, 29
										1111111	127	B	4022048-01	Shield Box			
										1111111	128	B	4022047-01	Shield CAP			
											129						
										1111111	130	B	900461-22	CAP, CERAMIC AXIAL .033 μ F, 50V			C94
										1111111	131	B	900461-24	CAP, CERAMIC AXIAL .047 μ F, 50V			C93
										1111111	132	B	900463-04	CAP, CERAMIC AXIAL 100 PF, 50V			C91
											133						
											134						
											135						
											136						
											137						
											138						
											139						
											140						
											141						
											142						
											143						
											144						
											145						
											146						
											147						

commodore

TITLE: PCB ASSY-UNIV. DYNAMIC PACK

DRWN BY: *M. A. ...* DATE: 3-11-81 ENGR: APPR:

DATE: SIZE:

8032090

REV: A SHT: 5/6