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*Produced By:*

**Commodore International Spare Parts GmbH  
Braunschweig, West Germany**

## **SERVICE MANUAL**

# **CDTV**

**MAY, 1991**

**PN-400403-01**

**INTERNATIONAL EDITION**

**SERVICE POLICY AND PART NUMBER INFORMATION MAY VARY ACCORDING TO COUNTRY. SOME PARTS MAY NOT BE AVAILABLE IN ALL COUNTRIES.**

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## Commodore International Spare Parts List MAJOR ASSEMBLIES

Commodore part numbers are provided for reference only and do not indicate the availability of spare parts from Commodore. Industry standard parts (Resistors, Capacitors, Connectors) should be secured locally. Part number information may vary according to country, some parts may not be available in all countries.

<b>250002</b> MAIN ASSY CDTV	<b>250009-01</b> REAR PANEL ASSY CDTV
250002-01 W/SC	252540-01 PANEL REAR CDTV
250002-02 PAL-I	252552-06 CORE POWER FILTER
250002-03 SECAM	252564-01 FAN
250002-04 PAL-G	252601-01 GASSET FAN
250002-05 BLANK CARD	252652-01 METAL COVER SLOT MAG CARD
250002-06 SCART	252640-01 HARNESS ASSY FAN
250003-01 BOTTOM CHASSIS ASSY CDTV W/SC	252553-01 HARNESS ASSY AC INPUT
250003-02 BOTTOM CHASSIS ASSY CDTV PAL	005476-04 TUBING HEAT SHrinkABLE 4 DIA X 40L
252507-01 LABEL ROUTING CDTV	1540010-04 GRINDING CARBIDE ASSY GREEN/YELLOW
250005-01 LABEL SERIAL#	000005-01 SCREEN PH MAG X 35 B ACK
250005-02 LABEL LASER GUIDANCE	000006-01 SCREEN PH MAG X 6 BLACK
252500-02 SEAL WARRANTY	000000-01 MIT KEKACON M3
250006-01 LABEL USE CAUTION	000005-01 SCREEN STRIP AT HEAD M3 X 6 BLACK
252503-01 INSULATION SHEET FLASH MEMORY	007272-01 FLAT WASHER M3
252507-01 COVER TOP CDTV	<b>250007-01</b> FRONT BEZEL ASSY CDTV
252507-02 VIDEO CARD PAL FOR 250002-02 SET SW TO PAL-I	252566-01 FRONT BEZEL CDTV
250001-01 VIDEO CARD PAL FOR 250002-04 SET SW TO PAL-G ON VIDEO	252567-01 DOOR CADDY CORDON DRIVE
250002-01 VIDEO CARD SECAM FOR 250002-04 SET SW TO PAL-G ON VIDEO	252568-01 SPRING DOOR CADDY
252507-01 VIDEO CARD W/SC	252569-01 P. ASTIC FILTER FL BUSHING
252507-02 VIDEO SCART CARD	250001-01 PCB ASSY POWER SW & PHONE JACK
250003-01 SCREEN SELF TAPPING PAN HEAD M3 X 6 (DT) = 2	252571-01 DOOR MECHANISM DRIVE
250003-02 SCREEN SELF TAPPING BRK PLAND BR X 8 (DT) = 4	252572-01 LENS PLASTIC LEO
250003-03 SCREEN FAN HEAD M3 X 6 (DT) = 2	252573-01 BUTTON POWER SWITCH
<b>250003</b> BOTTOM CHASSIS ASSY CDTV (01 - W/SC; 02 - PAL-I)	252574-01 P-AS-TO SWITCH JUMP
250004-01 CORON MECHANISM ASSY CDTV	250003-01 PCB ASSY LED INDICATOR GREEN
250004-02 PCB ASSY MEMORY CARD	252506-01 FLEXIBLE BUSHING
250004-03 BOTTOM CHASSIS CDTV	252546-01 MOUNT FRONT BEZEL
250006-01 POWER SUPPLY ASSY CDTV	252544-01 NYLON WASHER
252504-01 GRASSCUT METAL HIGH WIRE TOP	006133-01 TORX
252504-02 FOOT CDTV W/SC STAMP	252570-01 PLATE LOGO COMMODORE
252504-03 FOOT RUBBER CDTV	250019-01 PCB ASSY DISPLAY CDTV
252505-01 RUBBER BUSHING	252570-02 PLASTIC RUB HOLDER SW AND PHONE JACK
252541-01 CASE 7 TH	000045-01 SCREW S/P PH M2 X 8 B
250034-01 PCB ASSY MAIN LOGIC CDTV W/SC	000043-01 SCREW S/P PH M3 X 3
250034-02 PCB ASSY MAIN LOGIC CDTV PAL	000043-02 SCREW S/P PH M3 X 10
250034-03 PCB ASSY MAIN INTERFACE	<b>250035-01</b> PCB ASSY MAIN INTERFACE
250035-01 REAR PANEL ASSY CDTV	250035-01 SCHEMATIC MAIN INTERFACE
250037-01 FRONT BEZEL ASSY CDTV	252626-01 PCB MAIN INTERFACE
250038-01 FLY DR BOTTOM CHASSIS	252640-05 PCB HOLDER PLASTIC
250038-02 SCREEN PAN HEAD M3 X 6	252628-01 HARNESS ASSY MAIN INTERFACE
250038-03 SCREEN PAN HEAD M3 X 10	<b>250043</b> PCB ASSY LED INDICATOR (01 - GREEN; 02 - AMBER)
250038-04 SCREEN ST PH M3 X 6 BLACK	252590-01 PCB LED INDICATOR
251449-02 SCREEN ST PH M3 X 6	252591-01 LED GREEN 5 DIA ROMA
251541-04 SPRING WASHER M4	252592-01 LED GREEN 5 DIA SHARP
250546-04 LOCK WASHER ECL TOOTH M4	252593-01 LED AMBER 5 DIA ROMA SLN 50% 252594-01 LED AMBER 5 DIA SHARP
250040-01 SCREEN ST PH M3 X 3	252595-01 HARNESS ASSY 2 CONDUCTOR
250040-02 SCREEN ST W/2 X 6	<b>250044-01</b> PCB ASSY POWER SWITCH AND PHONE JACK
250040-03 SCREEN M3 X 6	252595-01 PCB POWER SW AND PHONE JACK
<b>250046-01</b> POWER SUPPLY ASSY CDTV	252595-02 HEADPHONE JACK 6 X 43 DIA PCB MOUNTING SPACER ELEC
252593-01 REGULATOR SWITCHING LINE	252596-01 SWITCH POWER PCB MOUNTING EXCEL. ELEC
252592-01 BRACKET METAL NEG AMP BOTTOM	252597-01 HARNESS ASSY SWITCH 0-2 CONDUCTORS
252592-02 SHEET INSULATION POWER SUPPLY	252597-02 HARNESS ASSY 2 CONDUCTORS
252593-02 HARNESS ASSY POWER W/SC	252598-01 PLATE GROUND SW AND PHONE JACK
252593-03 HARNESS ASSY CORDON POWER	<b>250048-01</b> PCB ASSY MEMORY CARD
252593-04 HARNESS ASSY POWER SWITCH	252595-01 PCB MEMORY CARD
250006-01 SCREEN ST PH M2 X 6	252596-01 HARNESS ASSY 4 AT CABLE 43 PH
250702-01 WASHER FLA M3 B	252597-01 CORE MEMORY CHIP 17T 2000PH
251543-01 WASHER SPRING M3	252598-01 COVER TAPE 8MM WITH
<b>250049-01</b> CORON MECHANISM ASSY CDTV	<b>250049-01</b> PCB ASSY DISPLAY CDTV
252594-01 CORON MECHANISM 05011-B MKE	252595-01 SCHEMATIC DISPLAY CDTV
252595-01 METAL BRACKET HOLDER MAIN LOGIC	252642-01 PCB DISPLAY CDTV
252597-01 PLASTIC GUIDE OPTION CARD	252598-01 PCB DISPLAY CDTV
252596-02 HARNESS ASSY 4D PH FLAT CABLE	252598-02 IR RECEIVER AND ILE SW
252599-01 HARNESS ASSY LOGO CONTROL	252598-03 RUBBER DISPLAY 1.5"
000003-01 SCREEN ST PH M3 X 6	252599-01 F. DISPLAY OPTION MOUNTAGE
252604-01 STAND OF LOGIC PCB (TO BE PRESSIED BY MFG.)	<b>250044</b> PCB ASSY MAIN LOGIC CDTV (01 - W/SC; 02 - PAL-I)
252594-01 BUTTON EJECT CAL 5118 MKE	252604-01 PCB TAB MAIN LOGIC CDTV
252597-01 HOLDER INSULATION SHEET	
<b>250050-01</b> PCB ASSY FLASH MEMORY	
252598-01 SCHEMATIC FLASH MEMORY FROM AER	
252599-01 PCB FLASH MEMORY	

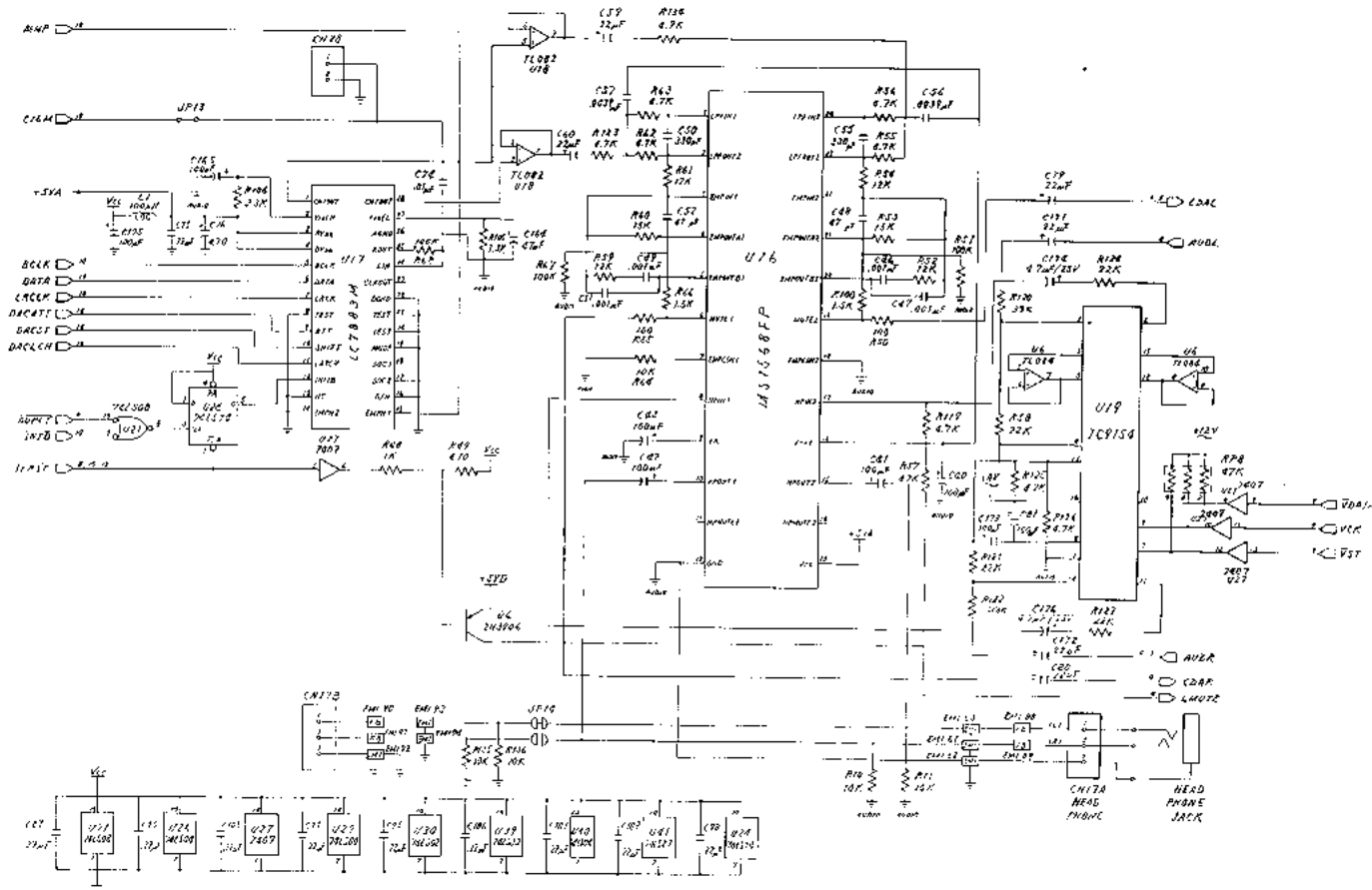
### Commodore International Spare Parts List PCB Components PCB Assembly CDTV

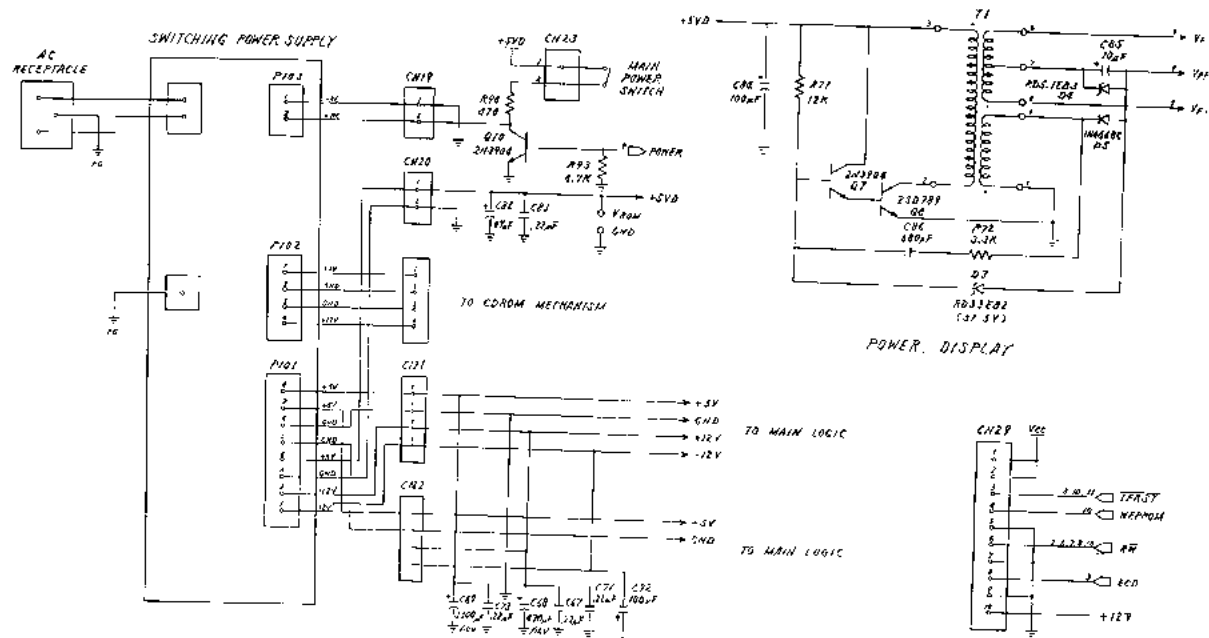
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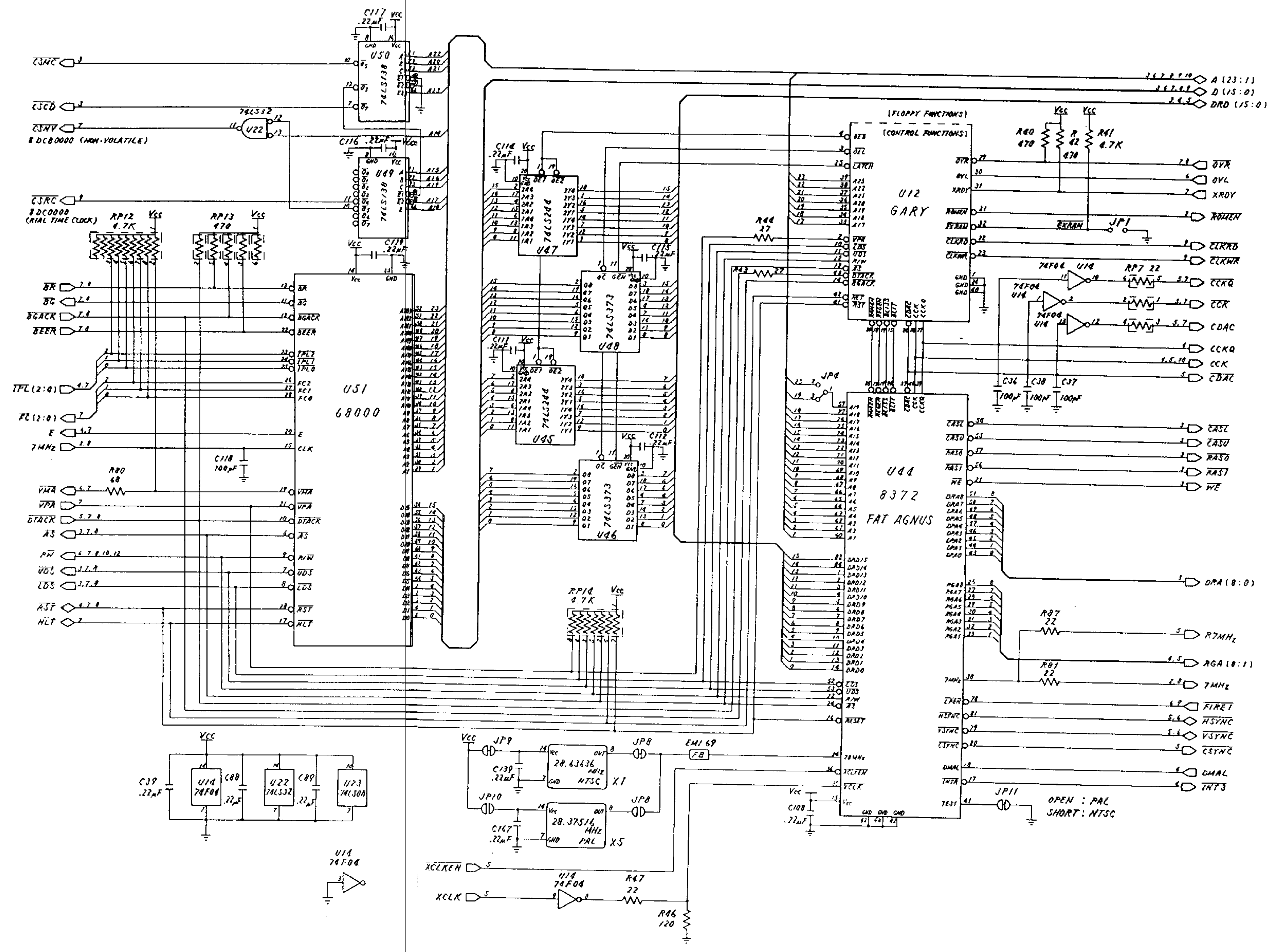
IC COMPONENTS	USE	CONNECTORS	
310084-01	68000 CPU 1Mx2	US1	
310372-04	GAFR 5117	UI2	
767196-01	ORANGE 136P/8	US	
252127-02	PAULA 136P/8	UK	
315303-02	PCIA MICROLINK V1 3	UI3	
311297-01	Q14 8575 8.1 2 MHz	US 10	
310229-04	WD250 MB/2	U11	
311298-01	ORWAY 256K x 4 16V/45 DIP	U9-12	
310398-05	DRAM 256K x 4 80V/5 DIP	SLB FOR 218999-01	
315309-02	F. ADAMS 1372	U14	
310253-02	DMAC 470H	US6	
352596-01	ROM CONTROL DRIVER 1100	US5	
252597-01	ROM CONTROL DRIVER 11E64	U34	
252598-01	CPU LOG564H	U62	
252599-02	CPI 165001	US5	
310271-01	RIC M206247B	US1	
252511-01	AMP MC3168P/P	U16	
252512-01	ATT TOS168P	U18	
901523-01	TIMER NE555	U17	
310266-01	AMP TL081A/137	U1-5	
901523-10	AMP TL081A/137N	U18	
901579-01	TRIP POINT 6225B	US2	
252514-01	QAC LC7808A	U17	
252195-02	FREQ. PST1518B	U9A, B2	
252520-01	SRAM 16K SR EP 100V/5	U18 7-9	
252520-02	SRAM 16K SR EP 120V/5	SLB FOR -01	
252520-03	SRAM 16K SR EP 150V/5	U1-6	
901521-29	74LS377	U40 48	
901521-18	74LS108	U49 50	
111625-01	74F514	U1	
901521-11	74LS157	U12	
110202-01	74LS245	U1	
901382-01	1483	U11	
901183-01	3439	U2	
901521-28	74C210A	U11	
901521-52	74LS225	U42	
901521-06	74LS74	U24 26	
901301-24	74F04	U14	
901521-46	74LS245	U12 50	
901521-36	74LS50	U15	
901521-31	74LS252	US2 25 39 12	
901521-25	74LS506	U27 37	
901521-22	74LS27	U1 4 1 64	
901521-20	74LS00	USE 42 63 68	
901521-13	74LS244	U27 37 74	
901521-12	74F04	U28 81	
112309-01	74F50	U45 47 58 61 77	
112309-02	74F50	U2	
<b>IC SOCKETS</b>			
310385-01	84 PIN PLCC		
310381-01	64 PIN SDIP	U136 44	
310450-10	84 PIN DIP	U162	
751113-02	48 PIN DIP	U14 1 8 12	
901590-06	40 PIN DIP	U16 14 13 12 75	
310278-02	32 PIN DIP WITH TOOL	U134 24	
252595-04	MULTI-DIP CARTRIDGE		
202965-02	TRANSFORMER (C.B. CO.)		
<b>CONNECTORS</b>			
310201-103	DVI MALE 15PIN	1*	
310272-03	D SUB 73 PIN MALE	Ch4	
310271-03	D SUB 73 PIN FEMALE	Ch1	
310272-05	D SUB 75 PIN MALE	C42	
252502-01	D SUB 75 PIN FEMALE	C43	
252502-01	CARD EDGE 30 PIN 2.54 PITCH	Ch10 11	
252517-11	HEL DVI 15 PINES 170L	Ch12	
252501-10	MIDPONS MOLEXT 52007	Ch14 15 14	
252422-02	PCIA JACK RED	Ch5	
252422-01	PCIA JACK WHITE	Ch6	
250831-02	DVI WITH 4 PIN		
803345-20	HEADER ASSY 43 PIN 2.54 PITCH		Ch9
252616-30	HEADER ASSY 3 PIN 1 PITCH		Ch19 15
252616-32	HEADER ASSY 2 PIN 2 PITCH		Ch19 13 24
250869-54	HEADER ASSY 4 PIN 2.5 PITCH		Ch24 22
250869-31	HEADER ASSY 2 PIN 2.5 PITCH		Ch29
252616-34	HEADER ASSY 4 PIN 2 PITCH		Ch27
903332-32	HEADER ASSY 2 PIN 2.54 PITCH		U15
250325-21	SWAMP		
<b>OSCILLATORS, TRANSISTORS AND DIODES</b>			
252568-44	OSCILLATOR MODULE 28 68356 1MHz		X1
252344-31	OSCILLATOR MODULE 28 37518 1MHz		X5
252568-42	OSCILLATOR MODULE 28 60638 1MHz		X1
902707-31	TRANSISTOR PNP 2N2906		Ch4 6
310192-31	TRANSISTOR PNP 2N2904		Ch17 3 10 12 13
252430-21	TRANSISTOR POWER 250769		Ch2
250254-31	TRANSISTOR JET 16P 100Hz		Ch2 5
902723-32	TRANSISTOR 2SA330A		Ch1
902717-31	TRANSISTOR 2EAT31		SLB FOR ABOVE
902707-32	TRANSISTOR 2N2906		SLB FOR ABOVE
900278-21	DIODE 22MER 5.1V RD 5 1EG		D4
900278-32	DIODE 22MER 30V RD 30EB		D5
900450-39	DIODE SCHOTTKY 1N4148S		Ch2
900450-31	DIODE SCHOTTKY 1N4148S		D1 8 9
252618-31	OSCILLATOR CERAMIC 1MHz		X3
252618-32	OSCILLATOR CERAMIC 4MHz		X4
902660-21	OSCILLATOR CRYSTAL 32.768 kHz		X2
<b>RESISTOR PACKS</b>			
252667-01	5 COM 10K 5 ELEMENT		RP13 14
902644-17	5 COM 470 OHM 5 ELEMENT		RP13
902641-30	5 COM 4.7K 5 ELEMENT		RP13 8 10 23
902641-80	5 COM 120 OHM 5 ELEMENT		RP6
902641-43	5 COM 10K 5 ELEMENT		RP11 15
902641-26	5 COM 2.3K 5 ELEMENT		RP6
252647-32	5 COM 47K 5 ELEMENT		RP12 14 21
902642-55	5 COM 4.7K 7 ELEMENT		RP19 20 22 27 28
902641-31	5 COM 4.7K 5 ELEMENT		RP1
902622-04	INDIVIDUAL 22 OHM 4 ELEMENT		RP4
902622-06	INDIVIDUAL 68 OHM 4 ELEMENT		RP1 2
310227-05	INDIVIDUAL 68 OHM 5 ELEMENT		RP15-17 29 30
252648-01	INDIVIDUAL 68 OHM 5 ELEMENT		RP21
902622-06	INDIVIDUAL 1K 4 ELEMENT		RP23
252648-02	INDIVIDUAL 1K 7 ELEMENT		RP30
<b>RESISTORS - 4W &amp; 5W UNLESS OTHERWISE SPECIFIED</b>			
250834-25	1M		RP26 15
250924-24	470K		RP2 25
250924-23	100K		RP4 6 7 68
250924-22	47K		RP2 16 20 30
250924-20	15K		RP3 4 5 8 10 11 13 28
250924-19	10K		RP5 6 10 23 27 29
250924-18	10K		RP1 21 41 45 46 51 62
310266-17	4.7K		122 425 425 434 140
250924-16	3.3K		RP10 20 28 105 106
250924-14	1.5K		RP8 100
310924-13	1K		RP1 48 78 84 95 97
250924-12	750 OHM		128 133 147
250924-10	33 OHM		R15 24
250924-09	120 OHM		R88
250924-07	64 OHM		R29
250924-06	160 OHM		RP1 65
250924-04	47 OHM		RP6 37 39
250924-04	27 OHM		RP4 44
250924-03	2.7K		R13
250924-02	22 OHM		RP7

### Commodore International Spare Parts List PCB Components (Continued) PCB Assembly CDTV

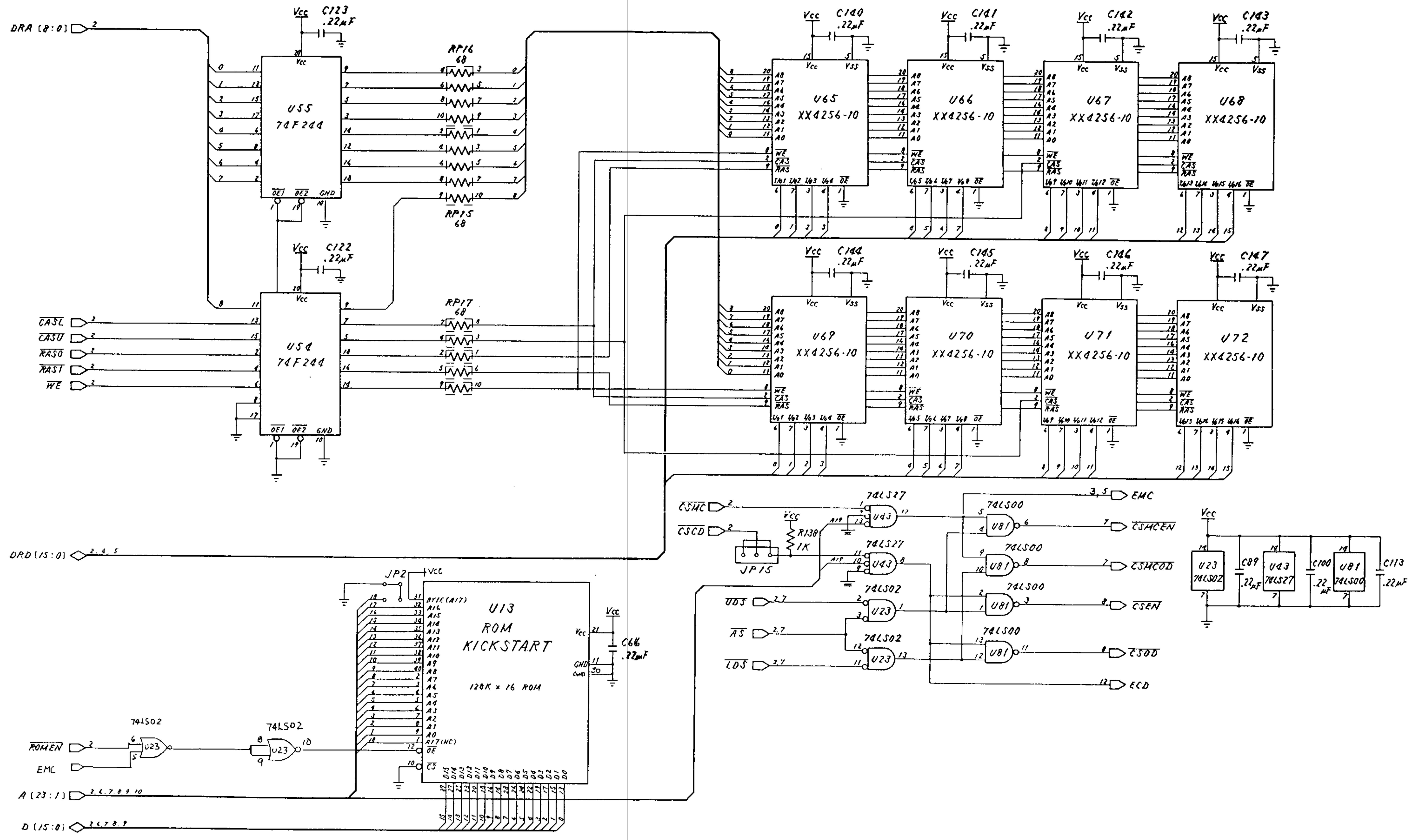
REGISTERS (Continued)	RESISTORS	CAPACITORS (Continued)
200904-02 10 OHM	R69,70	900463-28 MLC AXIAL 200PF
200904-04 4.7 OHM	R7	900463-07 MLC AXIAL 200UF
200904-11 470 OHM	R40 R42,49,63,111,112	900463-26 MLC AXIAL 500PF
200904-21 2K	R86,124,124,127	900463-23 MLC AXIAL 3500PF
90 500-15 47 OHM, 100W ± 5%	R3 101 R10	900463-37 MLC AXIAL 1UF
90 500-20 33 OHM, 100W ± 5%	R14	
90 500-02 100M	R2	90040-42 GER MICS 200F
90 500-07 12K	R21	90040-64 GFF DICS 15K
90 500-20 10K	R85,100,104	90040-25 GER DICS 100F
90 500-19 4.3K	A73-75,81,93,98,107	90040-23 GER DICS 600PF
	10B 1'6 141	90100-33 FLCT 47UF 18V
90 500-02 3.3K	R75	90040-81 GER RAO 0.1UF 25V
90 500-01 1K	R138,142	90040-19 MLC AXIAL 330 PF
90 500-34 68 OHM	R40	90040-12 MLC AXIAL 470PF
90 500-36 47 OHM	R30,100	90040-16 MLC AXIAL .001UF
90 500-83 22 OHM	R41,87	90040-17 MLC RAO 47PF 50V
90 500-130 4.7 OHM	R5	90029-05 MLC RAO 33UF 50V
90 500-58 470 OHM	R24	900100-50 ELECT RAO 470UF 10V
90 500-92 220 OHM	R21,31	900100-59 ELECT RAO 4.7UF 25V
90 500-06 33K	R120,122	25-029-06 TRIMMER 6.8 ± .05%
REGISTERS — 2-W 5% CARBON		MISCELLANEOUS
90 500-02 3.3K	R1	31754-02 INSULATION TAPE
90 500-88 150 OHM	R2	30547-00 TAPPING SHIMMABLE 3 X 20L
90 500-105 33 OHM	R3	251584-15 WRAPPING WIRE AWG 25 L=20MM
90 500-58 470 OHM	R4	25 842-02 ENM FILTER 1000A
90 500-56 47 OHM	R5	
90 500-57 220 OHM	R1,2,3	30027-02 ENM FILTER 1000W W/EFERRIE
90 500-75 270 OHM	R4	30035-01 FERRITE BEAD
		30035-01 FERRITE BEAD
CAPACITORS		251642-02 ENM FILTER 1000F
190101-04 ELECT RAO 22UF 50V	C1,2,30,29,59,60,75,80,177,118	252677-01 PHOTO-COUPLER PCBODY
900101-34 ELECT RAO 100UF 50V	C14,8,155,161,164	25244-01 TACT SWITCH (USE W0225642-01) W/SHOEN
900101-57 ELECT RAO 330UF 10V	C1,61,69	25244-01 TACT SWITCH (USE W0225638-01) A/PS
900101-33 ELECT RAO 47UF 16V	C82,21,164	252547-01 LED AMBER 1 X 5 SMD
190401-00 ELECT RAO 1000UF 10V	C0,40,43,72,81,84,825,164,175,175	252624-02 LED AMBER 5 DIA ROW
900101-48 ELECT RAO 47UF 50V	C152	252624-02 LED AMBER 5 DIA SMD
190401-00 ELECT RAO 470UF 10V	C4,8,12,13,17,21,22	252548-01 HOLDER LED (USE W0225647-01)
900100-81 FLCT RAO 4.7UF 25V	56,71,12,75,78,119,840,842,164,5	252542-01 WIRE FLAT JUMPER 2 MM PITCH 10 CON-DUCTS L=100
90020-01 MLC RAO 22UF 50V	C157,153	252542-02 WIRE FLAT JUMPER 2 MM PITCH 10 CON-DUCTS L=100
90020-03 MLC RAO 1UF 50V	C130,37,38,118	251488-03 CONDUCTOR 100HM
90040-04 MLC AXIAL 100PF	C5,24,28,30,35,39,64	252290-01 SHIELD PLATE LOGIC PCB
25032-05 MLC AXIAL 220PF	96,67,70,83,87,90,90,117,100-123,127,129,150,123,127-139,140,149,156,158,159,167,180,183	252901-01 INSULATION SHEET LOGIC PCB
		300679-01 STAND OFF W/2.5 X 0.45 X 18 ISUB USE W0225680-03
		300680-01 SCREW SEL TAPPING PMW HEAD M3 X 6 (JOTY 4)
		90083-07 SCREW SEL TAPPING PMW HEAD M3 X 6 (JOTY 4)
		31827-17 POLYFORM BLOCK
		ENM 53,55,60,54,70,75,30,83,91,92,95,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200

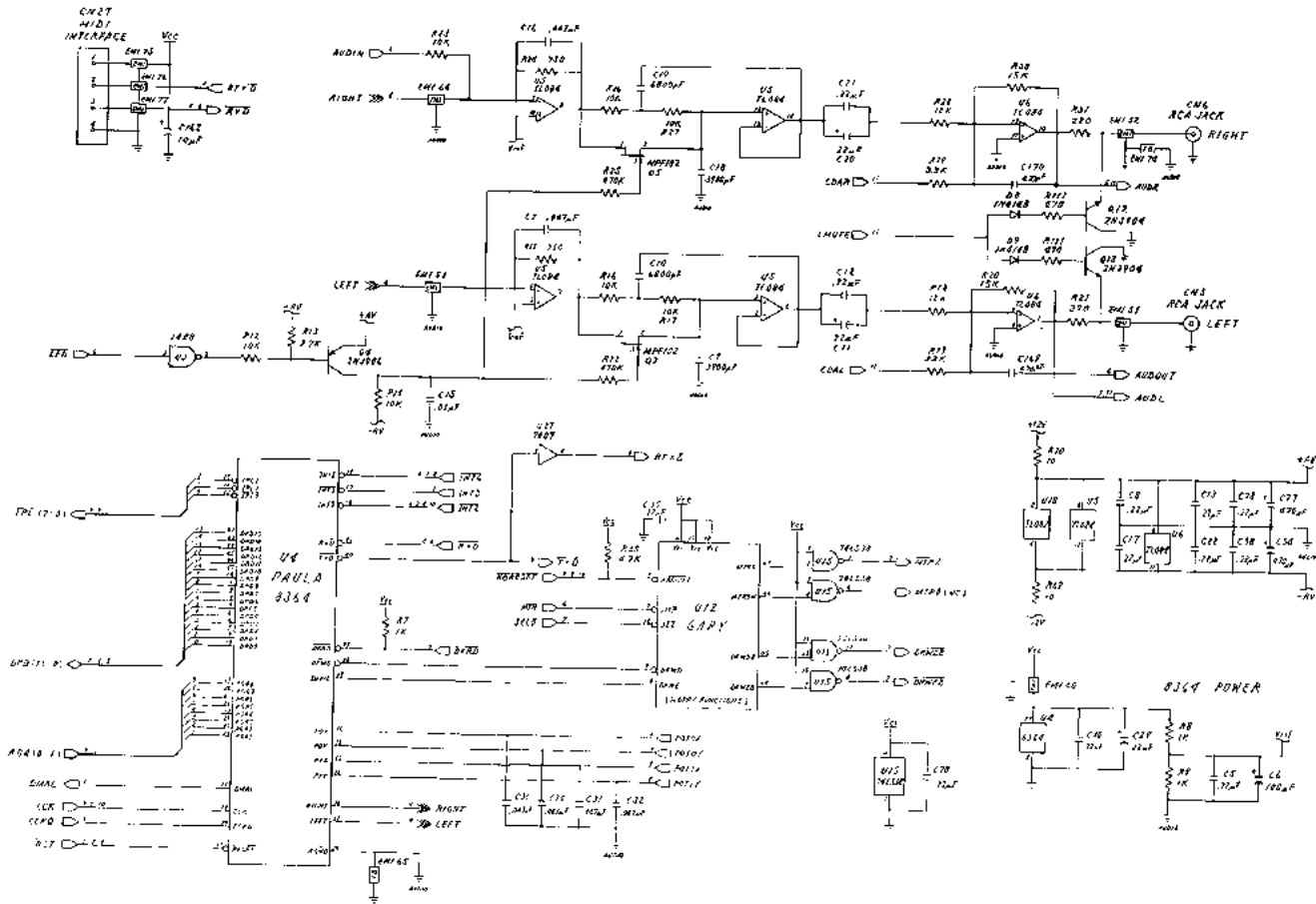


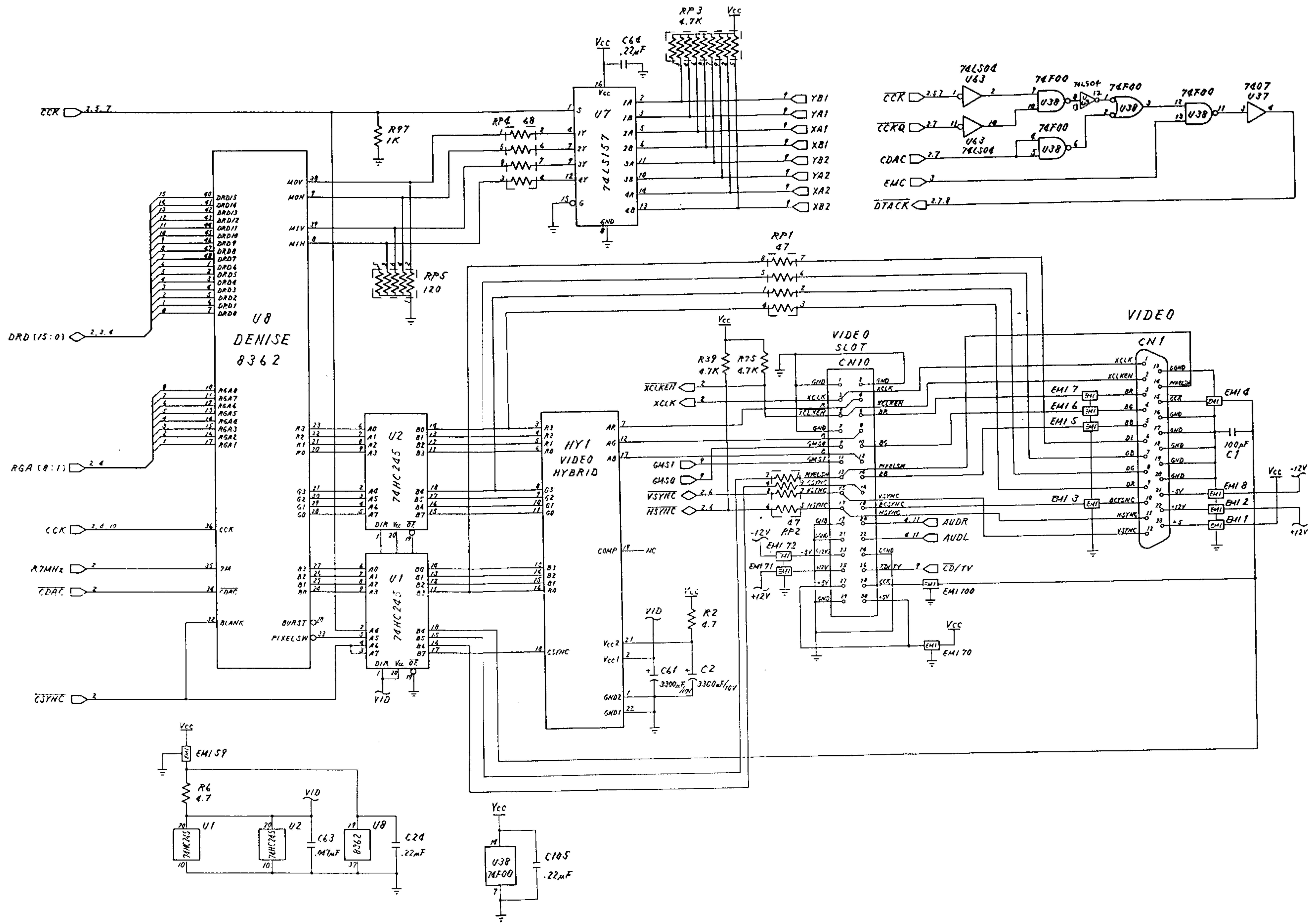


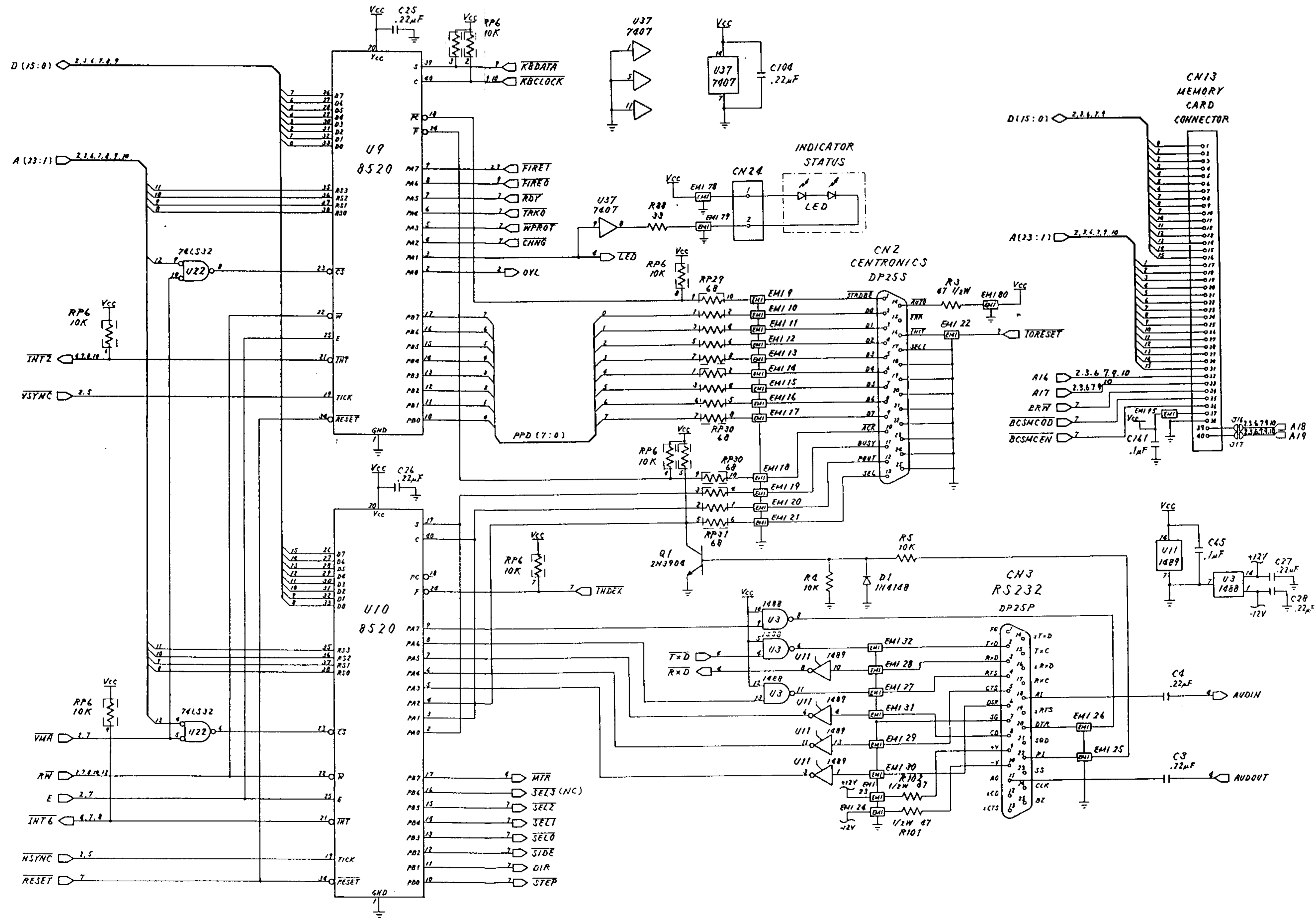


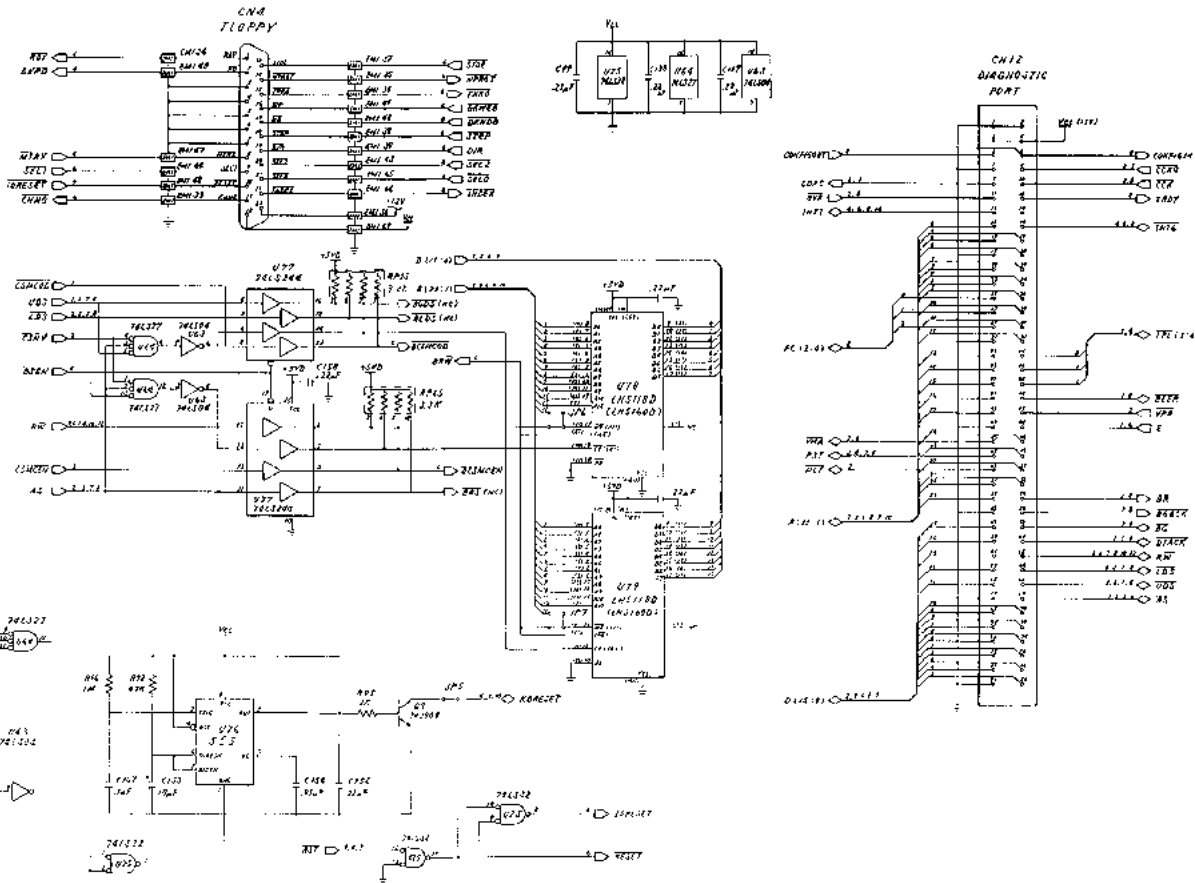


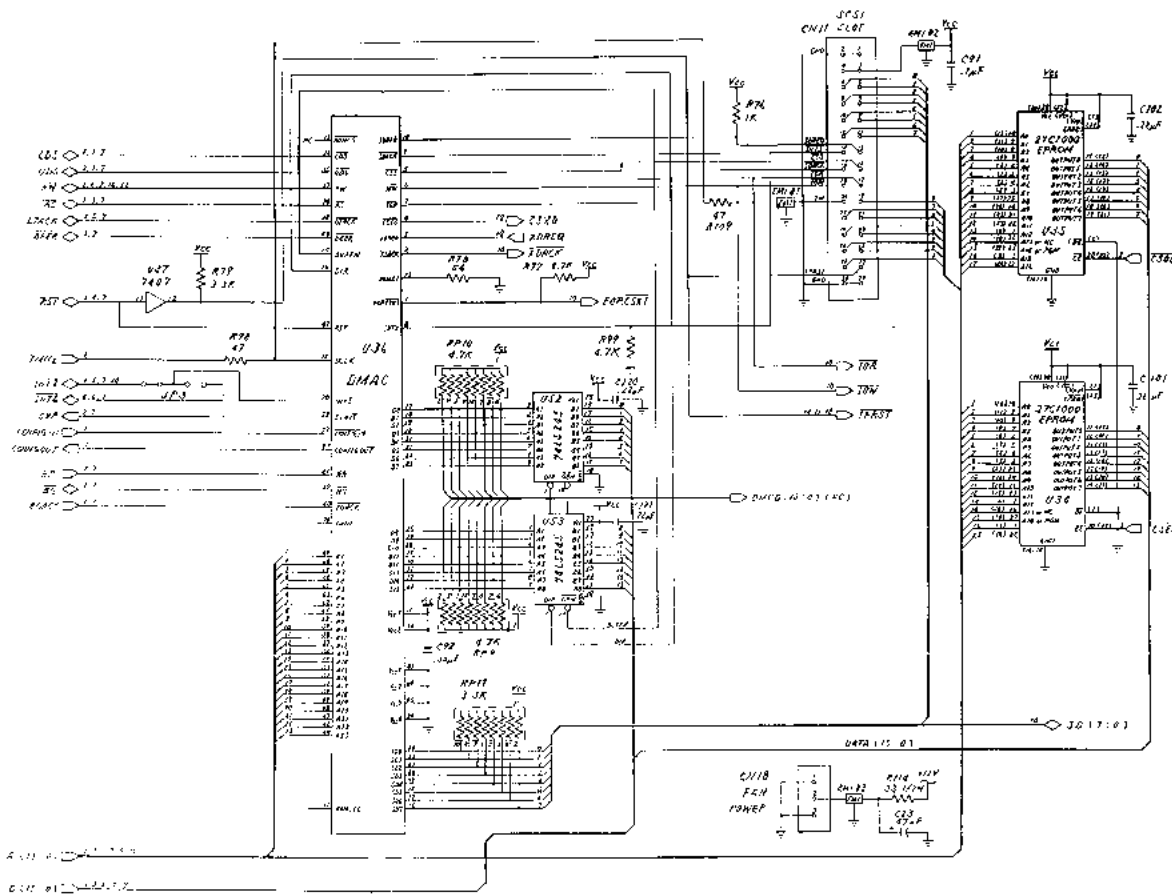






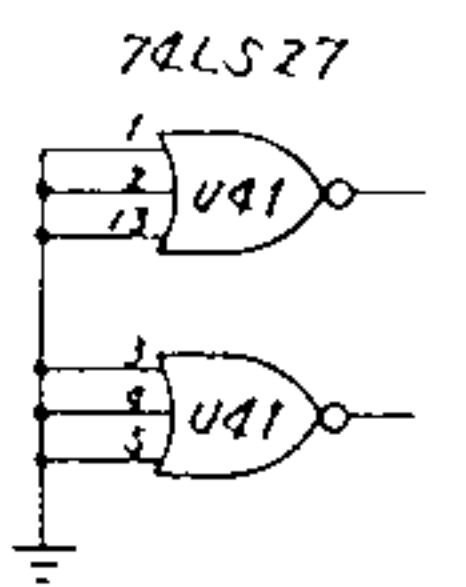
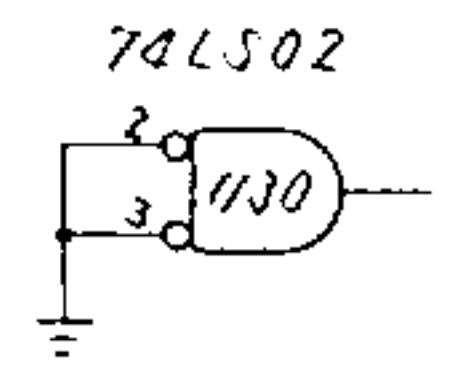
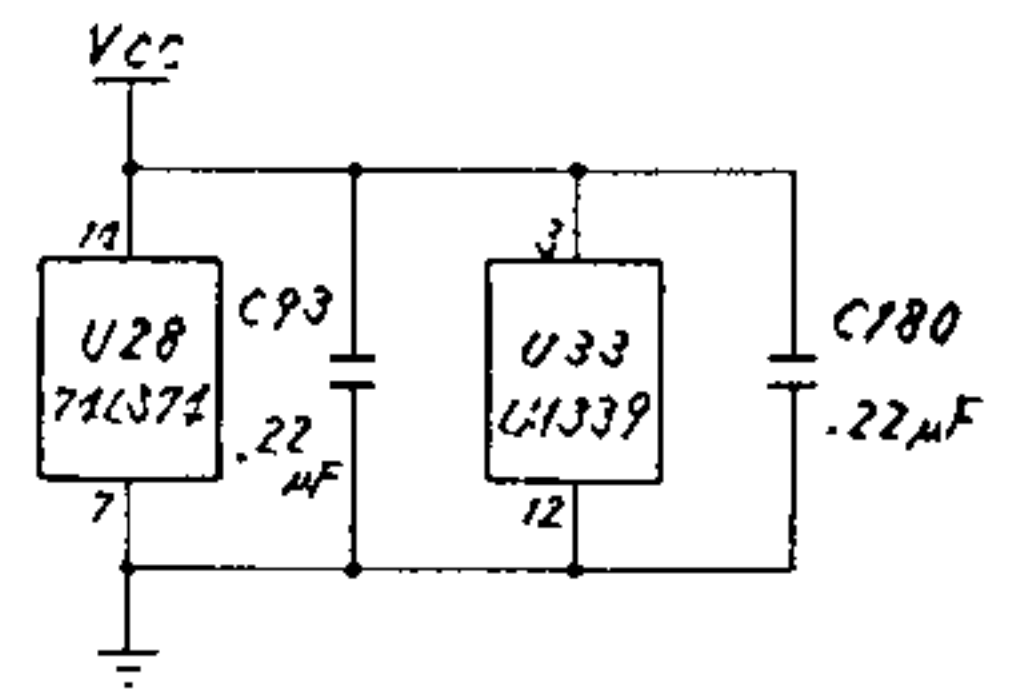
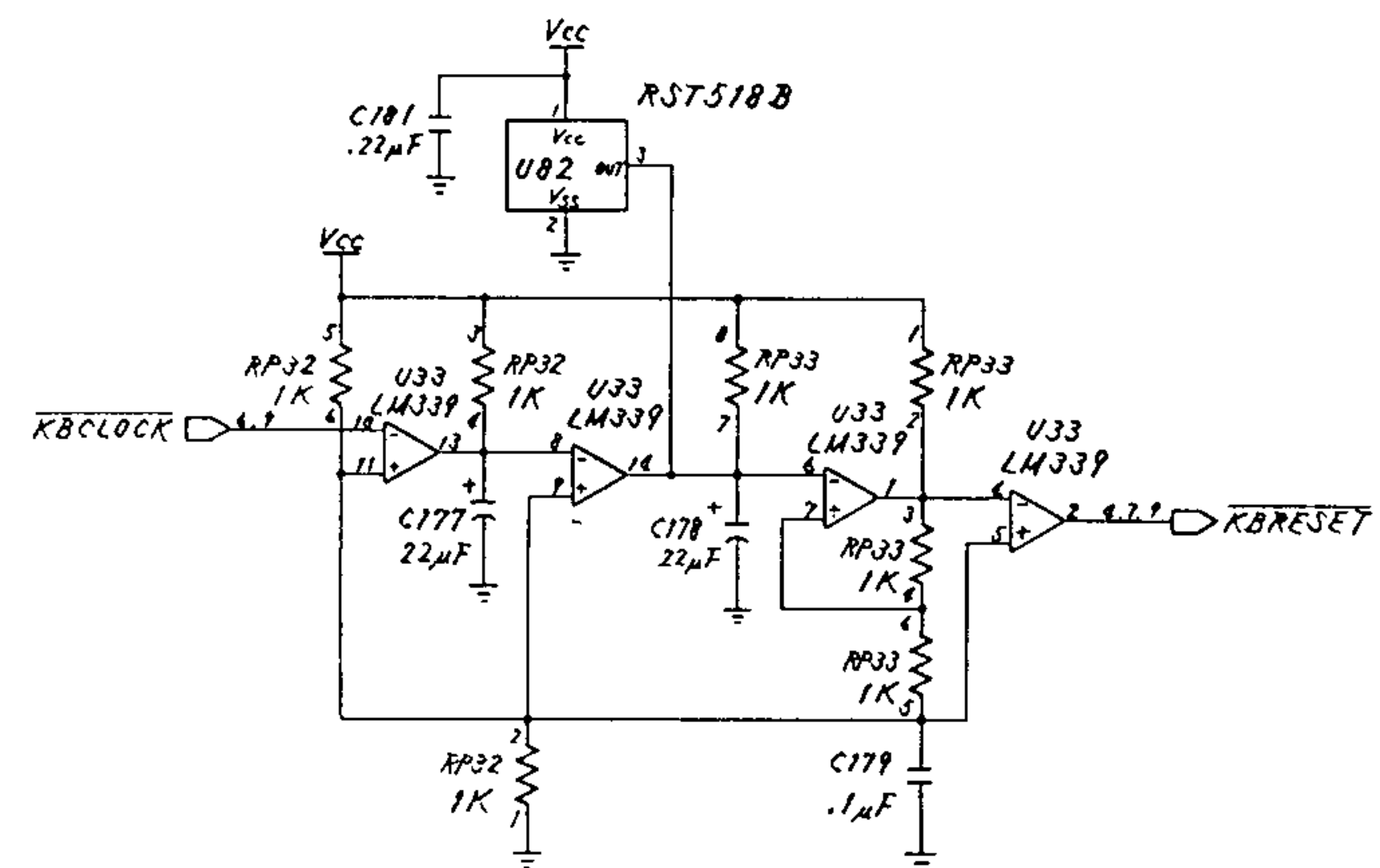
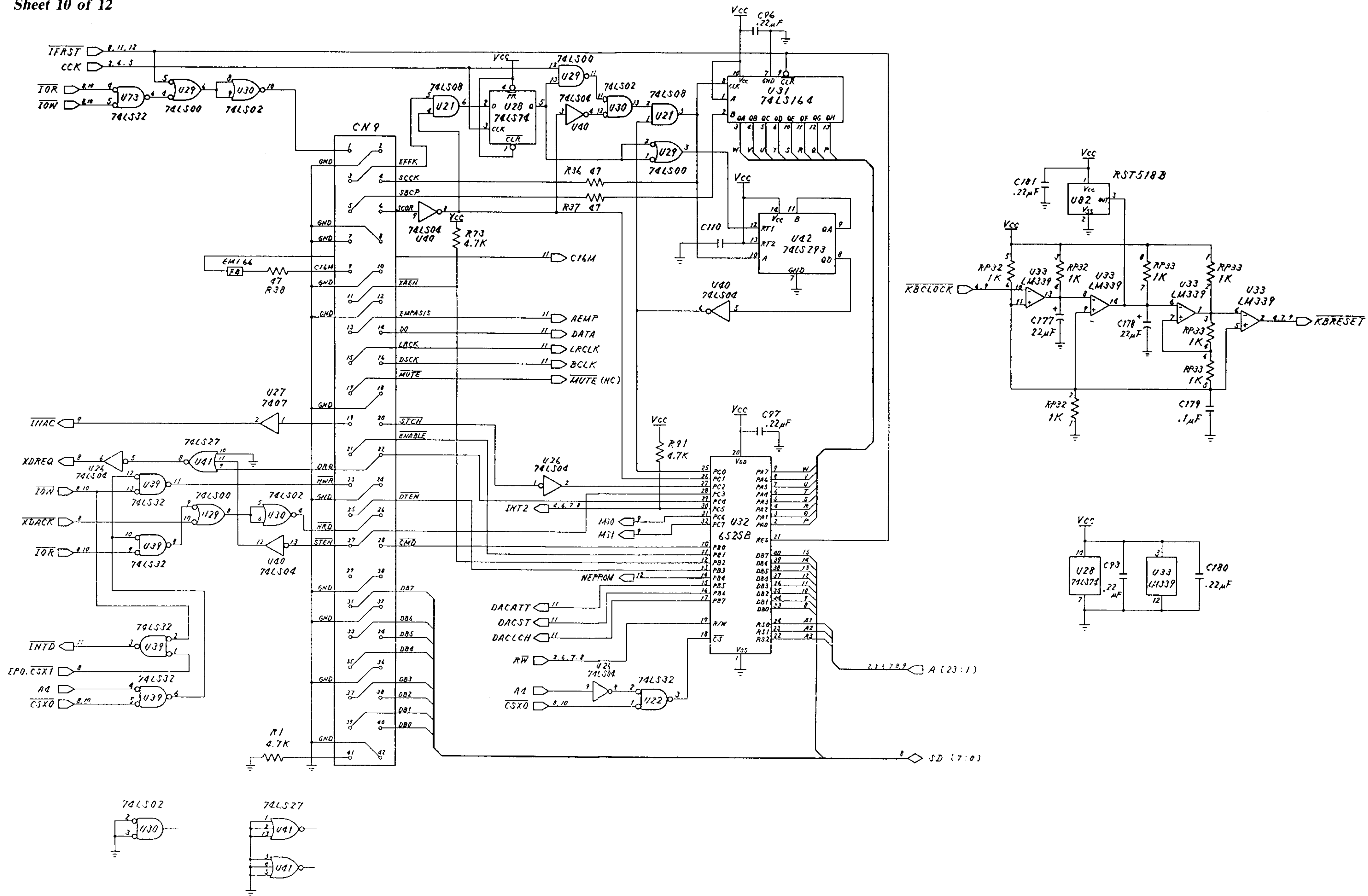














## Commodore International Spare Parts List SHIPPING ASSEMBLIES

Commodore part numbers are provided for reference only and do not indicate the availability of spare parts from Commodore. Industry standard parts (Resistors, Capacitors, Connectors) should be secured locally. Part number information may vary according to country, some parts may not be available in all countries. Part Numbers are subject to change, see Parts (Section 2) of current Technotes for current numbers.

CDTV SHIPPING ASSY	CDTV SHIPPING ASSY (Continued)
513462-01 US	363713-02 MODULATOR, CDTV PAL
513462-02 CA	363713-01 MODULATOR, CDTV NTSC
513462-03 U.K.	903508-01 COFO. POWER BS. BLACK
513462-04 PA	903508-18 COFO. POWER ULTRA BLACK
513462-05 NOT USED, USE 04	903508-01 COFO. POWER VDE BLACK
513462-06 IT	903508-02 COFO. POWER SEV. BLACK
513462-07 NOT USED, USE 06	903508-03 COFO. POWER SAA BLACK
513462-08 SE	903508-10 COFO. POWER JP. BLACK
513462-09 NOT USED, USE 06	393875-01 AUTO RF SWITCH 60X NTSC
513462-10 NOT USED, USE 06	254248-01 CNLLE. RF PA.
513462-11 NOT USED, USE 06	325298-01 RF SWITCH 50
513462-12 S3	252593-01 CO CADDY
513462-13 NOT USED, USE 08	252594-01 REMOTE CONTROLLER CDTV
513462-14 NOT USED, USE 06	252592-01 BOX, MINICASE CDTV
513462-15 NOT USED, USE 06	252553-01 CARTON, OUTER CDTV
513462-16 NOT USED, USE 06	252649-01 BOX, ACCESSORY
513462-17 NOT USED, USE 06	252595-01 FOAM PACKING - FRONT
513462-18 A1	252596-01 FOAM PACKING - REAR
513462-19 NOT USED, USE 06	311845-01 CABLE AURUM
513462-20 NOT USED, USE 06	400071-01 SVC SUB ASSY
513462-21 P	316882-01 CARD, WARRANTY, CT
230082-00 GUIDE, QUICK CONNECT	388114-01 CARD, WARRANTY, AL
230079-01 MAIN ASSY COM. I, NTSC	334081-04 BAG, FLAT, 65X90 X 650MM FOR CDTV
230078-00 MAIN ASSY COM. I, PAL 4	342757-01 BAG, DRUM AGENT
230079-04 MAIN ASSY COM. I, PAL G	367683-01 DSK. ISSY - CO #WILL COME DSK

Symbol	Description
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**1.1 SPECIFICATIONS****CENTRAL PROCESSING UNIT**

MC68000 (Motorola) 16/32 bit main CPU

**CPU SPEED**

7.15909 MHz (NTSC); 7.09379 MHz (PAL)

*NOTE:* CPU speeds can vary when using an external system clock such as with genlocking units.**CUSTOM CHIPS**

3 Amiga-specific custom chips (Agnus, Paula and Denise) which enhance system performance by taking over tasks such as handling video, sound, direct memory access (DMA) and/or graphics.

**OTHER CUSTOM CHIPS**

CDTV will also have other custom chips for handling the CD-ROM interface and IR control.

**MEMORY**

1 MB (Megabyte) chip RAM, 2K non-volatile RAM reserved for system (clock, prefs, etc.), 512K ROM

**INTERNAL SLOTS**Intelligent video slot (for optional genlock, RF board, etc.) I<sup>2</sup>C pin edge connector; DMA slot — for SCSI, LAN, etc.**VIDEO OUTPUTS**

Analog RGB, Digital RGB (DB-23 connector); Composite video NTSC or PAL (RCA connector); Component video Y-C (S connector type for S-VHS and Hi8); RF Modulated (F connector); Optional genlock capabilities via plug-in module. Three-mode (CDTV, video source or mixed) under software control.

**VIDEO DISPLAY (GENERAL)**

400 lines/vertical frequency 60Hz (NTSC); 512 lines/vertical frequency 50Hz (PAL); Graphic co-processor with beam sync'd draw, fill and move modes (blitter); Maximum 1Mb video memory (chip memory); Palette of 4096 colors; Maximum 6 bitplanes; 8 sprites per scanline

**OPERATING SYSTEM**

Amiga kickstart 1.3 in ROM; ISO 9660 file system handler; High-speed decompression for graphics, audio and other data; CD + G, CD + midi, CDDA support

**IR (INFRARED) REMOTE UNIT SPECS***Landscape format*

Proprietary high-speed IR signal; Power supplied by 2 AA batteries; 10 numeric keys plus Escape and Enter, Joy/Mouse, CD/TV and Genlock keys; Button for Up, Down, Left, Right and diagonal movement; Two Select (or Fire) keys: A and B; CD audio — Reverse, Forward, Play/Pause, Headphone Volume Up-Down and Stop keys

**OPTIONAL ACCESSORIES**

External floppy disk drive; Trackball; Personal RAM or ROM card, Genlock; Keyboard; Modem

**ADDED RAW KEYBOARD CODES**

6C Play/Pause; 6D Stop; 6E Fast Forward; 6F Fast Reverse

**MEMORY MAP (IN ADDITION TO IM CHIP A500)**

Memory Card	\$E00000-\$E1000F
Non-volatile Memory	\$DCB000
DMAC	Auto config., typically \$E90000
Trioport	Mapped to DMAC, \$B0

**COMPUTER GENERATED AUDIO SPECS**

4 independent sound channels (right and left); Complex waveforms; Sound buffer up to 128K, unlimited seamless sound; 8-bit D/A converter plus 6-bit volume control

**AUDIO EXTRAS**

Capable of sound mapping Amiga over CD-DA sound.

**1.1 SPECIFICATIONS (Continued)****REAR PORTS**

Centronics parallel interface; RS-232 serial interface; External floppy disk drive interface (Amiga floppy disk drive compatible); Hardwired alternative to IR for keyboard, mouse, joystick; 2 audio output ports (RCA type plug) (requires external audio amplifier); Midi in and out

**FRONT PORT**

Stereo headphone jack; Port for optional personal RAM/ROM card (256K)

**POWER CONSUMPTION**

56W (average AC100-240V, 50/60Hz)

**ENVIRONMENTAL CONDITIONS**

Operating temperature 5C to 40C (non-condensing); 41F to 104F  
Operating humidity 25% to 80% (non-condensing)

**FRONT PANEL DISPLAY**

Fluorescent (white characters on black). True, track and volume level; Clock remains lit when unit is turned off; Display controllable by application

**FRONT PANEL CONTROLS**

Power On/Off; Headphone volume Up/Down; Play/Pause; Stop; Forward/Reverse -- Scan/Skip; CD/TV; Reset

**TEXT MODES**

86 characters/25 lines; 60 characters/25 lines; Various font sizes and types selectable; Screen colors use: definable

**GRAPHICS MODES***(NTSC)*

320 X 200 non-interlaced 32 colors  
640 X 200 non-interlaced 16 colors  
320 X 400 interlaced 32 colors  
640 X 400 interlaced 16 colors  
plus overscan and HAM modes

*(PAL)*

320 X 256 non-interlaced 32 colors  
640 X 256 non-interlaced 16 colors  
320 X 512 interlaced 32 colors  
640 X 512 interlaced 16 colors  
plus overscan, HAM, etc.

**CD-ROM DRIVE SPECS**

Sony/Philips type CD-ROM standard Mode 1, Mode 2

Data readout from disk 153 Kbytes/sec (Mode 1); 171 Kbytes/sec (Mode 2); 2 Megabytes/sec (burst)  
Average access time 0.5 sec  
Maximum access time 0.8 sec  
Soft read error Less than 10e-9  
Hard read error Less than 10e-12  
Seek error Less than 10e-6  
Commands CD-ROM1, CD-Audio, CD + G  
MTBF 10,000 P.O.H.  
Standard supported ISO-9660  
Data Capacity 540 MegaBytes (approx.) (about 700 Amiga floppy disks)

**CD AUDIO SPECS****8X oversampling**

Audio output External 1.4VRMS, 10K OHM  
Frequency response 4-20KHz  
Signal/Noise -92DB  
Channel Separation -85DB  
Harmonic Distortion 0.02% at 1 KHz  
Maximum audio capacity about 28 hours - AM quality  
Sample Rates variable from CD Audio rate (44KHz) to 6KHz  
Dual 16 bit D/A converter plus 64 levels of attenuation