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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.

Commodore Business Machines, Inc.

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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.

250802	MAIN ASSY CDTV	250805-01	REAR PANEL ASSY CDTV
250802-01	NTSC	252549-01	PANEL REAR CDTV
250802-02	PAL-I	325552-06	CONN POWER FILTER
250802-03	SECAM	252551-01	FAN
250802-04	PAL-G	252631-01	GASKET FAN
250802-05	BLANK CARD	252552-01	METAL COVER SCSI SLOT W/O CARD
250802-06	SCART	252540-01	HARNESS ASSY FAN
250803-01	BOTTOM CHASSIS ASSY CDTV NTSC	252553-01	HARNESS ASSY AC INPUT
250803-02	BOTTOM CHASSIS ASSY CDTV PAL	905476-04	TUBING HEAT SHRINKABLE 4 DIA X 40 L
252567-01	LABEL, RATING CDTV	1540010-04	GROUND CABLE ASSY GREEN/YELLOW
366587-01	LABEL, SERIAL#	906800-11	SCREW PH M3 X .35 BLACK
366565-01	LABEL, LASER CAUTION	906800-05	SCREW PH M3 X 6 BLACK
325090-02	SEAL, WARRANTY	905980-03	NUT HEXAGON M3
366566-01	LABEL, DISK CAUTION	906805-01	SCREW STP FLAT HEAD M3 X 6 BLACK
252665-01	INSULATION SHEET, FLASH MEMORY	907272-01	FLAT WASHER M3
252387-01	COVER, TOP CDTV	250807-01	FRONT BEZEL ASSY CDTV
252951-01	VIDEO CARD, NTSC	252566-01	FRONT BEZEL CDTV
390891-01	VIDEO CARD, PAL FOR 250802-02 SET SW TO PAL-I	252567-01	DOOR CADDY CORDOM DRIVE
390932-01	VIDEO CARD, SECAM FOR 250802-04 SET SW TO PAL-G ON VIDEO CARD 390891-01	252568-01	SPRING DOOR CADDY
363714-01	VIDEO SCART CARD	252569-01	PLASTIC FILTER FL DISPLAY
906883-03	SCREW, SELF TAPPING PAN HEAD M3 X 6 (QTY = 2)	250481-01	PCB ASSY POWER SW & PHONE JACK
252466-02	SCREW, SELF TAPPING BIND HEAD M4 X 6 (QTY = 4)	252571-01	DOOR MEMORY CARD
906800-05	SCREW, PAN HEAD M3 X 6 (QTY = 2)	252572-01	LENS PLASTIC LED
250803	BOTTOM CHASSIS ASSY CDTV (-01 - NTSC; -02 - PAL)	252573-01	BUTTON POWER SWITCH
250804-01	CORDOM MECHANISM ASSY CDTV	252574-01	PLASTIC SWITCH UNIT
250842-01	PCB ASSY MEMORY CARD	250483-01	PCB ASSY LED INDICATOR GREEN
252583-01	BOTTOM CHASSIS CDTV	250669-01	FLEXIBLE BUSHING
250806-01	POWER SUPPLY ASSY CDTV	252666-01	HOLDER FRONT BEZEL
252584-01	BRACKET METAL, REG MKE TOP	252668-01	NYLON WASHER
252584-01	FOOT CDTV W/OT STAMP	906115-01	TOROID
252585-01	FOOT RUBBER CDTV	252570-01	PLATE LOGO COMMODORE
252835-01	RUBBER BUSHING	250479-01	PCB ASSY DISPLAY CDTV
252641-01	CABLE TIE	252630-01	PLASTIC PCB HOLDER SW AND PHONE JACK
250484-01	PCB ASSY MAIN LOGIC CDTV NTSC	906885-01	SCREW STP PH M2 6 X 8
250484-02	PCB ASSY MAIN LOGIC CDTV PAL	906883-01	SCREW STP PH M3 X 8
250485-01	PCB ASSY MIDI INTERFACE	906883-04	SCREW STP PH M3 X 10
250805-01	REAR PANEL ASSY CDTV	250485-01	PCB ASSY MIDI INTERFACE
250807-01	FRONT BEZEL ASSY CDTV	252625-01	SCHEMATIC MIDI INTERFACE
390918-01	HOLDER BOTTOM CHASSIS	252626-01	PCB MIDI INTERFACE
906883-03	SCREW PAN HEAD M3 X 6	252166-03	CONN S PIN DIN
906883-03	SCREW PAN HEAD M3 X 10	252664-01	PCB HOLDER PLASTIC
390903-01	SCREW ST PH M3 X 6 BLACK	252628-01	HARNESS ASSY MIDI INTERFACE
251449-02	SCREW ST PH M4 X 8	250483	PCB ASSY LED INDICATOR (-01 - GREEN; -02 - AMBER)
251541-04	SPRING WASHER M4	252598-01	PCB LED INDICATOR
906565-04	LOCK WASHER EXT TOOTH M4	325521-07	LED GREEN 5 DIA ROHM
906883-01	SCREW ST PH M3 X 8	325521-04	LED GREEN 5 DIA SHARP
906885-02	SCREW ST M2 X 2 X 6	252621-02	LED AMBER 5 DIA ROHM SLH 56YC
906676-03	SCREW M2 X 2 X 6	252621-01	LED AMBER 5 DIA SHARP
250806-01	POWER SUPPLY ASSY CDTV	252582-02	HARNESS ASSY 2 CONDUCTOR
252560-01	REGULATOR SWITCHING MKE	250481-01	PCB ASSY POWER SWITCH AND PHONE JACK
252562-01	BRACKET METAL, REG MKE BOTTOM	252578-01	PCB POWER SW AND PHONE JACK
252632-01	SHEET INSULATION POWER SUPPLY	252579-01	HEADPHONE JACK 6 43 DIA PC MOUNT TANAKA ELEC
252636-01	HARNESS ASSY POWER MKE	252590-01	SWITCH POWER PC MOUNT EXCELL ELEC
252637-01	HARNESS ASSY CORDOM POWER	252581-01	HARNESS ASSY SHIELDED 2 CONDUCTORS
252538-01	HARNESS ASSY POWER SWITCH	252582-01	HARNESS ASSY 2 CONDUCTORS
906885-02	SCREW ST PH M2 6 X 6	252629-01	PLATE GROUND SW AND PHONE JACK
907272-01	WASHER FLAT M2 6	250482-01	PCB ASSY MEMORY CARD
251541-07	WASHER SPRING M2 6	252575-01	PCB MEMORY CARD
250804-01	CORDOM MECHANISM ASSY CDTV	252576-01	HARNESS ASSY FLAT CABLE 40 PIN
252564-01	CORDOM MECHANISM CRS11-B MKE	252577-01	CONN MEMORY CARD ITT CANNON
252555-01	METAL BRACKET HOLDER MAIN LOGIC	252645-01	COPPER TAPE 15MM WIDTH
252557-01	PLASTIC GUIDE OPTION CARD	250479-01	PCB ASSY DISPLAY CDTV
252576-02	HARNESS ASSY 40 PIN FLAT CABLE	252537-01	SCHEMATIC DISPLAY CDTV
252639-01	HARNESS ASSY AUDIO CONTROL	252642-01	PCB DISPLAY CDTV
906883-01	SCREW STP PH M3 X 8	252538-01	PCB DISPLAY CDTV
252634-01	STAND OFF LOGIC PCB (TO BE PRESSED BY MFG)	252539-01	IR RECEIVER MODULE SHARP
252556-01	BUTTON EJECT CAR 5118 MKE	252546-01	RUBBER DISPLAY T = 5
252667-01	HOLDER INSULATION SHEET	252540-01	FL DISPLAY CP74233A NIDRITAKE
250486-01	PCB ASSY, FLASH MEMORY	250484	PCB ASSY MAIN LOGIC CDTV (-01 - NTSC; -02 - PAL)
252658-01	SCHEMATIC FLASH MEMORY FROM AER	252604-01	PCB FAB MAIN LOGIC CDTV
252659-01	PCB FLASH MEMORY		

Commodore International Spare Parts List

PCB Components

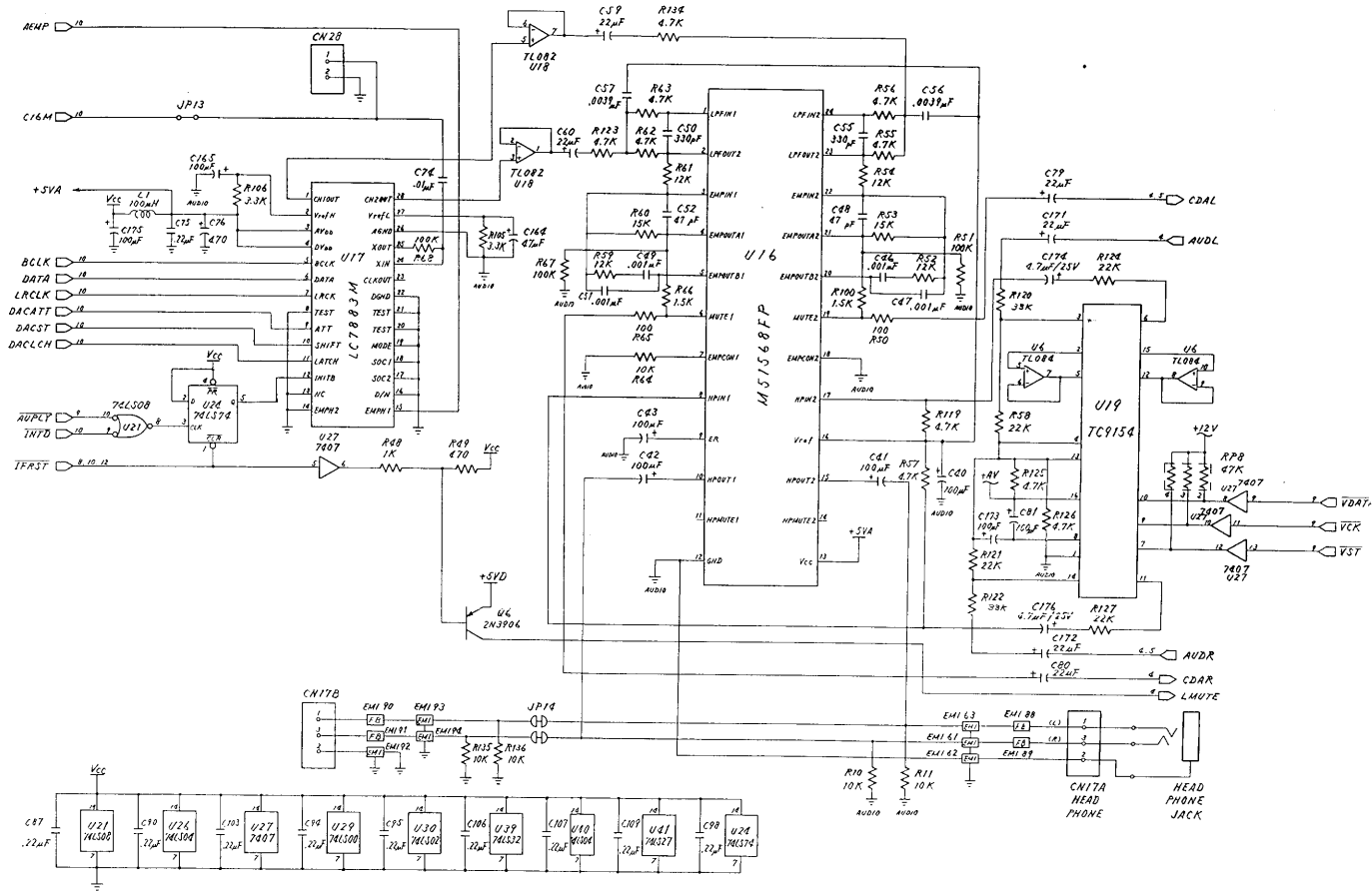
PCB Assembly CDTV

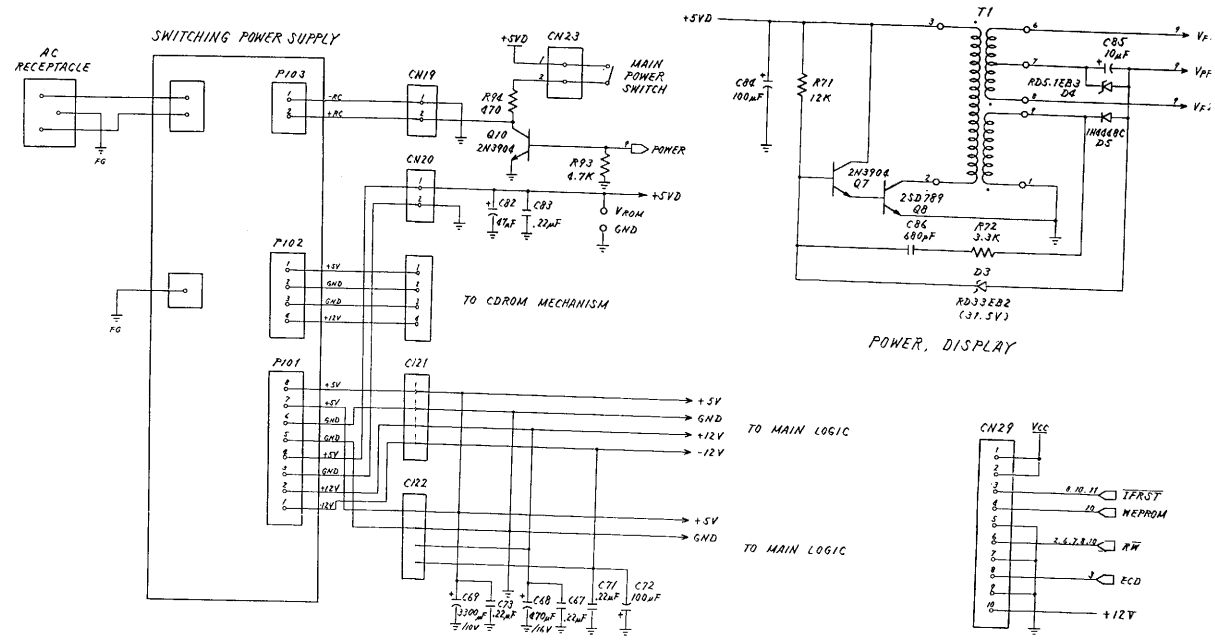
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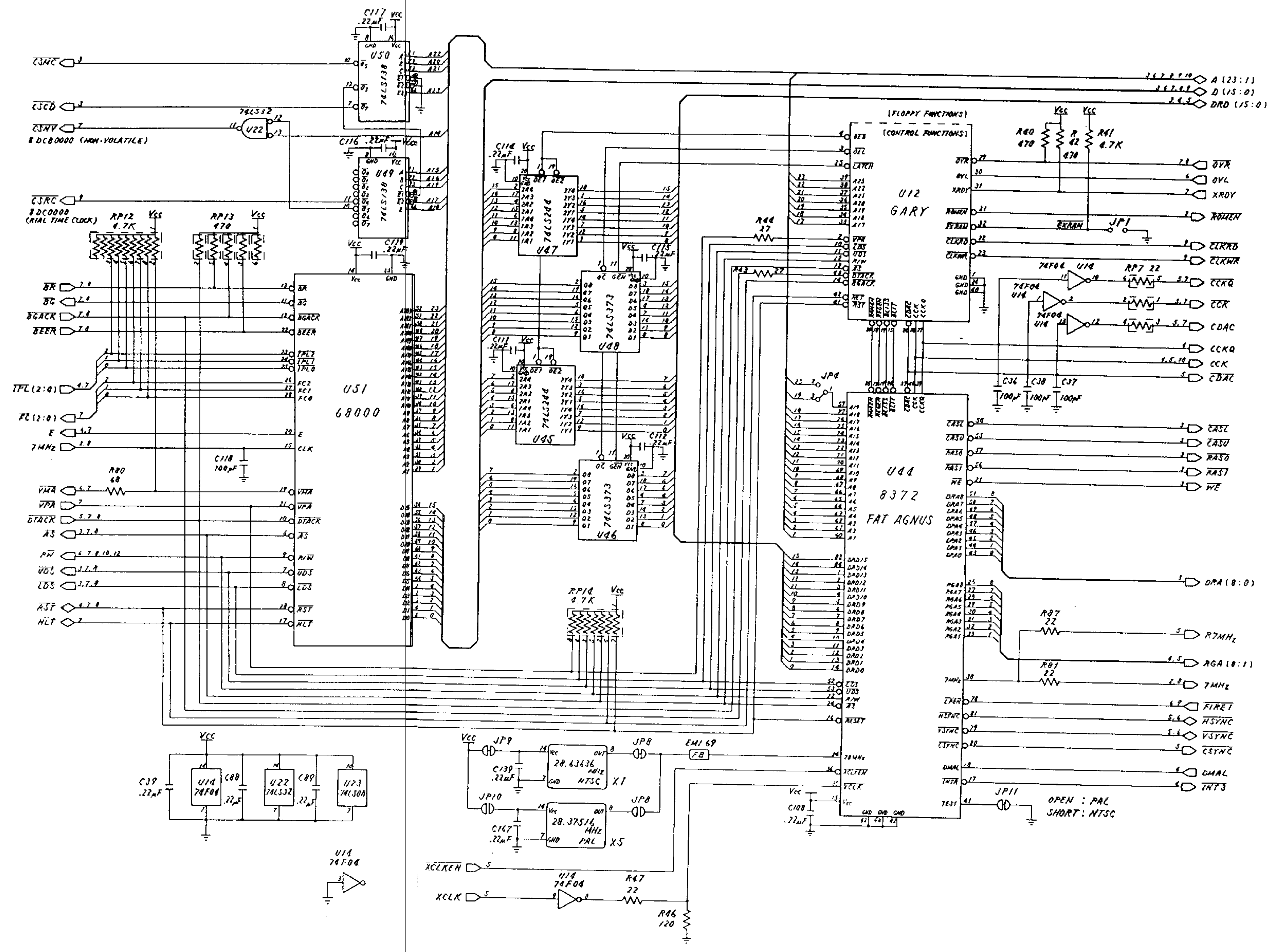
IC COMPONENTS				CONNECTORS (Continued)			
390084-03	8800D CPU 8MHz	U51		390851-02	DIN MINI 4 PIN	CN8	
318072-01	GARY 5917	U12		900345-20	HEADER ASSY 40 PIN 2.54 PITCH	CN9,13	
252126-02	DENISE 8362R8	U8		252616-03	HEADER ASSY 3 PIN 2 PITCH	CN17,18,25	
252127-02	PAULA 83647R	U4		252616-02	HEADER ASSY 2 PIN 2 PITCH	CN21,22,24	
315093-02	ROM KICKSTART V1.3	U13		250669-04	HEADER ASSY 4 PIN 2.5 PITCH	CN19	
318029-03	CIA 8520 A-1 2 MHz	U9,10		250669-02	HEADER ASSY 2 PIN 2.5 PITCH	CN20	
390229-01	VIDEO WYRHD	U11		252616-04	HEADER ASSY 4 PIN 2.54 PITCH	CN27	
318099-01	DRAM 256K X 4 100NS ZIP	U65-72		900333-02	HEADER ASSY 2 PIN 2.54 PITCH	JP15	
318099-05	DRAM 256K X 4 80NS ZIP	SUB FOR 318099-01		390333-01	JUMPER		
318069-02	F. AGNUS 8372	U44		OSCILLATORS, TRANSISTORS AND DIODES			
390563-02	DMAC 4701	U36		325566-14	OSCILLATOR MODULE 28 63636 MHZ	X1	
252658-01	ROM CDROM DRIVER, ODD	U35		252344-01	OSCILLATOR MODULE 28 37516 MHZ	X5	
252657-01	ROM CDROM DRIVER, EVEN	U34		325566-12	OSCILLATOR MODULE 28 63636 MHZ	X1	
252658-01	CPU LC6554H	U62		902707-01	TRANSISTOR PNP 2N0906	O4,6	
252609-02	CPU 85001	U75		390192-01	TRANSISTOR PNP 2N3904	O1,7,9,10,12,13	
318073-01	RTC MSM6242B	U61		252338-01	TRANSISTOR NPN 25D789	O8	
252611-01	AMP M51586FP	U16		390254-01	TRANSISTOR JET MPF102	O5	
252612-01	ATT TC9154AP	U19		902723-02	TRANSISTOR 2SA1300A	O2,5	
901523-01	TIMER NE555	U76		902717-01	TRANSISTOR 2SA733	O1	
390086-01	AMP TL084/LF347	U5,6		902707-01	TRANSISTOR 2N3906	SUB FOR ABOVE	
901523-10	AMP TL082/LF353N	U18		D10E	ZENER 5.1V RD 5.1EB	D4	
901879-03	TRI-PORT 6525B	U32		900922-02	DIODE ZENER 30V RD 30EB	D3	
252614-01	DAC LC7883M	U78,79		900850-09	DIODE SIGNAL 1N4480C	O5	
328156-02	RESET P51518B	U56,82		900850-01	DIODE SIGNAL 1N4148	D1,6-9	
252620-01	SRAM 16K 5K DIP 100NS	SUB FOR -01		252618-01	OSCILLATOR CERAMIC 3MHZ	X3	
252620-02	SRAM 16K 5K DIP 120NS	SUB FOR -01		252618-02	OSCILLATOR CERAMIC 4MHZ	X4	
252620-03	SRAM 16K 5K SIP 150NS	U5,6		900560-01	OSCILLATOR CRYSTAL 32.768 KHZ	X2	
901521-29	74LS373	U49,50		RESISTOR PACKS			
901521-16	74LS138	U54,55		252657-01	S COM 82K 9 ELEMENT	RP23,24	
318050-01	74F244	U7		902441-17	S COM 470 OHM 5 ELEMENT	RP3	
901521-11	74LS157	U1,2		902410-08	S COM 4.7K 9 ELEMENT	RP3,8,10,26	
310003-01	74HC245	U3		902441-10	S COM 120 OHM 5 ELEMENT	RP5	
901882-01	1488	U31		902410-13	S COM 10K 9 ELEMENT	RP6	
901883-01	1489	U31		902410-09	S COM 3.3K 9 ELEMENT	RP11,25	
901521-28	74LS164	U42,28		252647-02	S COM 47K 3 ELEMENT	RP8	
901521-52	74LS239	U14		902442-55	S COM 4.7K 7 ELEMENT	RP12,14,21	
901521-06	74LS74	U52,53		902441-31	S COM 4.7K 5 ELEMENT	RP7,19,20,22,27,28	
390110-01	74F04	U15		902422-04	INDIVIDUAL 22 OHM 4 ELEMENT	RP7	
901521-46	74LS245	U15		902422-06	INDIVIDUAL 68 OHM 4 ELEMENT	RP4	
901521-38	74LS38	U22,25,39,73		902422-05	INDIVIDUAL 47 OHM 4 ELEMENT	RP2	
901521-31	74LS32	U21,80		390227-05	INDIVIDUAL 68 OHM 5 ELEMENT	RP15,17,29,30	
901521-03	74LS08	U27,37		252648-01	INDIVIDUAL 68 OHM 3 ELEMENT	RP21	
901522-30	7407	U41,43,64		902422-06	INDIVIDUAL 1K 4 ELEMENT	RP33	
901521-22	74LS27	U26,40,63,68		252648-02	INDIVIDUAL 1K 3 ELEMENT	RP32	
901521-02	74LS04	U23,30,74		RESISTORS — 1% ± 5% UNLESS OTHERWISE SPECIFIED			
901521-21	74LS02	U29,81		390904-25	1M	RP96,115	
901521-01	74LS00	U45,47,57,59,60,77		390904-24	470K	R22,25	
901521-13	74LS244	U38		390904-23	100K	R51,67,68	
318056-01	74F00			390904-22	47K	R92	
IC SOCKETS				390904-20	15K	R52,54,59,61,18,28	
900185-01	84 PIN PLCC	XU36,44		390904-19	12K	R4,5,12,14,16,17,23,26,27,54,59,90,105,138,143	
900141-01	64 PIN SDIP	XU51		390904-18	10K	R1,39,41,45,55,57,62,63,77,84,86,117,119,123,125,126,134,140	
904150-10	64 PIN DIP	XU4,8,12		390904-17	4.7K	R19,29,79,105,106	
251313-02	48 PIN DIP	XU9,10,13,32,75		390904-16	3.3K	R66,100	
904150-06	40 PIN DIP	XU34,35		390904-13	1K	R7,8,48,76,84,95,97,128,133,137	
390768-02	32 PIN DIP MCH TOOL			390904-15	33 OHM	R88	
252600-01	HOLDER CONN CARTRIDGE			390904-10	120 OHM	R46	
200966-02	TRANSFORMER DC-DC CONV	T1		390904-07	56 OHM	R78	
CONNECTORS				390904-09	100 OHM	R50,65	
390851-03	DIN MINI 5PIN	CN7		390904-06	47 OHM	R36,37,96	
390242-03	D SUB 23 PIN MALE	CN4		390904-05	33 OHM	R42,44	
390241-03	D SUB 23 PIN FEMALE	CN5		390904-11	27 OHM	R13	
390242-05	D SUB 25 PIN MALE	CN2		390904-15	2.7K	R47	
390241-05	D SUB 25 PIN FEMALE	CN3		390904-03	22 OHM	R47	
252622-01	CARD EDGE 30 PIN 2.54 PITCH	CN10,11					
252617-11	KEL 9811 SERIES 170L	CN12					
252603-01	HOUSING MOLEX S2007	CN14,15,16					
252122-02	RCA JACK RED	CN6					
252122-01	RCA JACK WHITE	CN5					

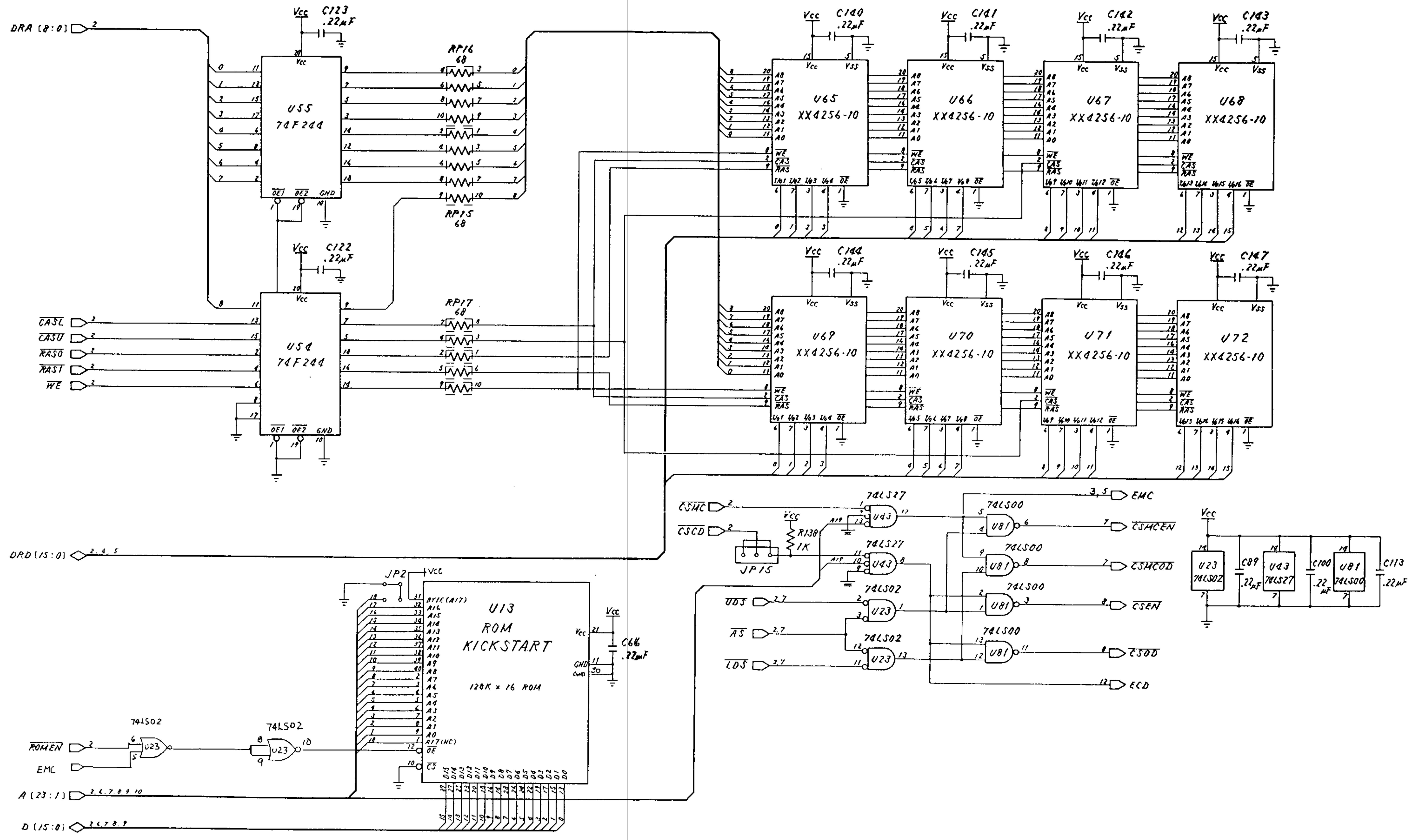
Commodore International Spare Parts List
PCB Components (Continued)
PCB Assembly CDTV

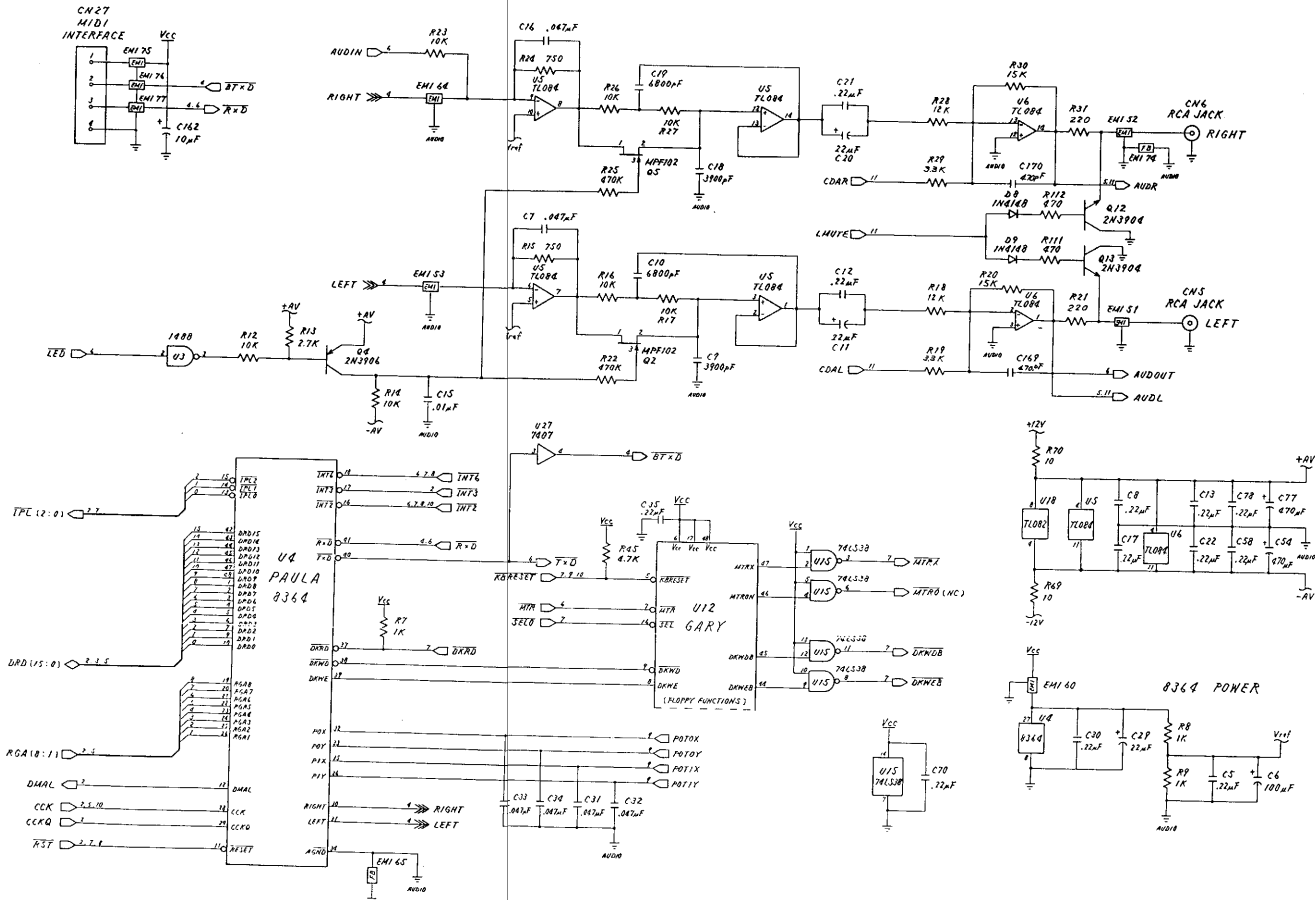
RESISTORS (Continued)		CAPACITORS (Continued)			
390904-02	10 OHM	R69,70	900463-28	MLC AXIAL .01UF	C15,74,154
390904-01	4.7 OHM	R2	900019-07	MLC AXIAL .047UF	C7,16,31-34,63
390904-11	.470 OHM	R40,42,49,63,111,112	900463-26	MLC AXIAL 6800PF	C10,19
390904-21	22K	RS8,121,124,127	900463-23	MLC AXIAL 3900PF	C9,18,56,57
901600-15	147 OHM, 1/2W ± 5%	R3,101,102	900463-37	MLC AXIAL .1UF	C65,91,124,134,150,161,179
901600-52	33 OHM, 1/2W ± 5%	R14			C135
901550-07	100K	R82	900010-42	CER DISCS 22PF	C131,132
901550-07	12K	R71	900010-64	CER DISCS 33PF	C86
901550-20	10K	R85,103,104	900010-35	CER DISCS 10PF	C1,2
901550-19	4.7K	R73-75,91,93,99,107,108,116,141	900010-23	CER DISCS 680PF	C3
901550-02	3.3K	R72	900100-33	ELECT 47UF 16V	C50,55
901550-01	1K	R138,142	900010-61	CER RAD 0.1UF 25V	C169,170
901550-94	68 OHM	R80	900463-10	MLC AXIAL 330 PF	C45,47,49,51
901550-56	47 OHM	R38,109	900463-12	MLC AXIAL 470PF	C48,52
901550-63	22 OHM	R81,87	900019-17	MLC RAD 47PF 50V	C92
901550-133	4.7 OHM	R6	900022-05	MLC RAD 33UF 50V	C76
901550-58	470 OHM	R84	900100-58	ELECT RAD 470UF 10V	C174
901550-52	220 OHM	R21,31	900100-59	ELECT RAD 4.7UF 25V	C136
901550-06	33K	R120,122	251029-06	TRIMMER 0.8 - 45PF	
RESISTORS — 1/2W 5%, CARBON			MISCELLANEOUS		
901550-02	3.3K	R1	312754-02	INSULATION TAPE	
901550-89	150 OHM	R2	905476-05	TUBING SHRINKABLE 3 X 20L	
901550-105	33 OHM	R3	251584-15	WRAPPING WIRE AWG 28 L = 20MM	
901550-58	470 OHM	R4	251842-02	EMI FILTER 100PF	EM19,53,55,60,64,70,75,80,83,87,92,95,100
901550-56	47 OHM	R5			EM1-8,71,72,81,82
901550-52	220 OHM	R1,2,3	390297-02	EMI FILTER 100PF W/FERRITE	EM65,66,69,74,90,91
901550-76	270 OHM	R4	903025-01	FERRITE BEAD	FB1,2,3
CAPACITORS			903025-01	FERRITE BEAD	EM1,2,3,4
390101-04	ELECT RAD 22UF 35V	C11,20,29,59,60,79,80,177,178	251842-02	EMI FILTER 100PF	PC1
900100-34	ELECT RAD 10UF 50V	C14,85,155,162,163	252541-01	TACT SWITCH (USE W/252542-01) HOSHIDEN	
900100-57	ELECT RAD 3300UF 10V	C2,61,69	252544-01	TACT SWITCH (USE W/252538-01) ALPS	LED 1
900100-33	ELECT RAD 47UF 16V	C82,23,164	252547-01	LED AMBER 1 X 5 SHARP	LED 2,3
390101-02	ELECT RAD 100UF 16V	C5,40,43,72,81,84,125,165,173,175	252621-02	LED AMBER 5 DIA ROHM	SUB FOR ABOVE
900100-48	ELECT RAD 47UF 50V	C152	252621-01	LED AMBER 5 DIA SHARP	
390101-03	ELECT RAD 470UF 16V	C54,88,77	252548-01	HOLDER LED (USE W/252547-01)	
900100-11	ELECT RAD 4.7UF 25V	C171,172,176	252542-01	WIRE FLAT JUMPER 2 MM PITCH 10 CONDUCTS L = 100	SUB FOR ABOVE
900022-01	MLC RAD 22UF 50V	C3,4,8,12,13,17,21,22,58,71,73,75,78,119,140,147,184,5	252542-02	WIRE FLAT JUMPER 2 MM PITCH 10 CONDUCTS L = 100	SUB FOR ABOVE
900022-03	MLC RAD .1UF 50V	C157,153	251188-03	COIL INDUCTOR 100UH	L1
900463-04	MLC AXIAL 100PF	C1,36,37,38,118	252599-01	SHIELD PLATE LOGIC PCB	
390082-05	MLC AXIAL 22UF	C5,24-28,30,35,39,64,66,67,70,83,87,90,93,117,120-123,127,129,130,133,137-139,148,149,156,158,159,167,180-183	252801-01	INSULATION SHEET LOGIC PCB	
			390879-01	STAND OFF M2.5 X 0.45 X 13 (SUB USE W/250466-01)	
			906883-01	SCREW SELF TAPPING PAN HEAD M3 X 8 (QTY 4)	
			906883-07	SCREW SELF TAPPING PAN HEAD M3 X 16 (QTY 4)	
			318277-17	POLYFOAM BLOCK	

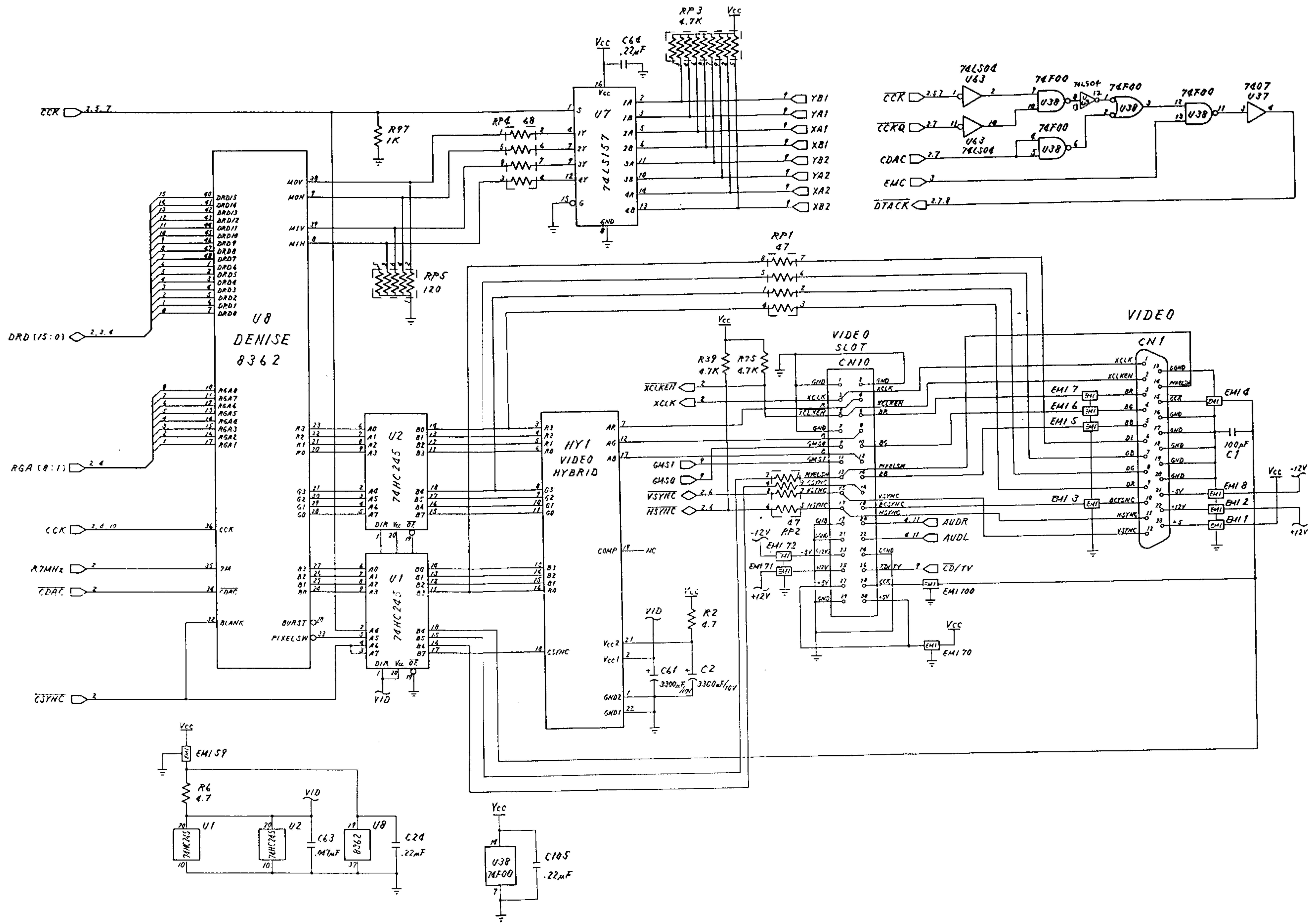


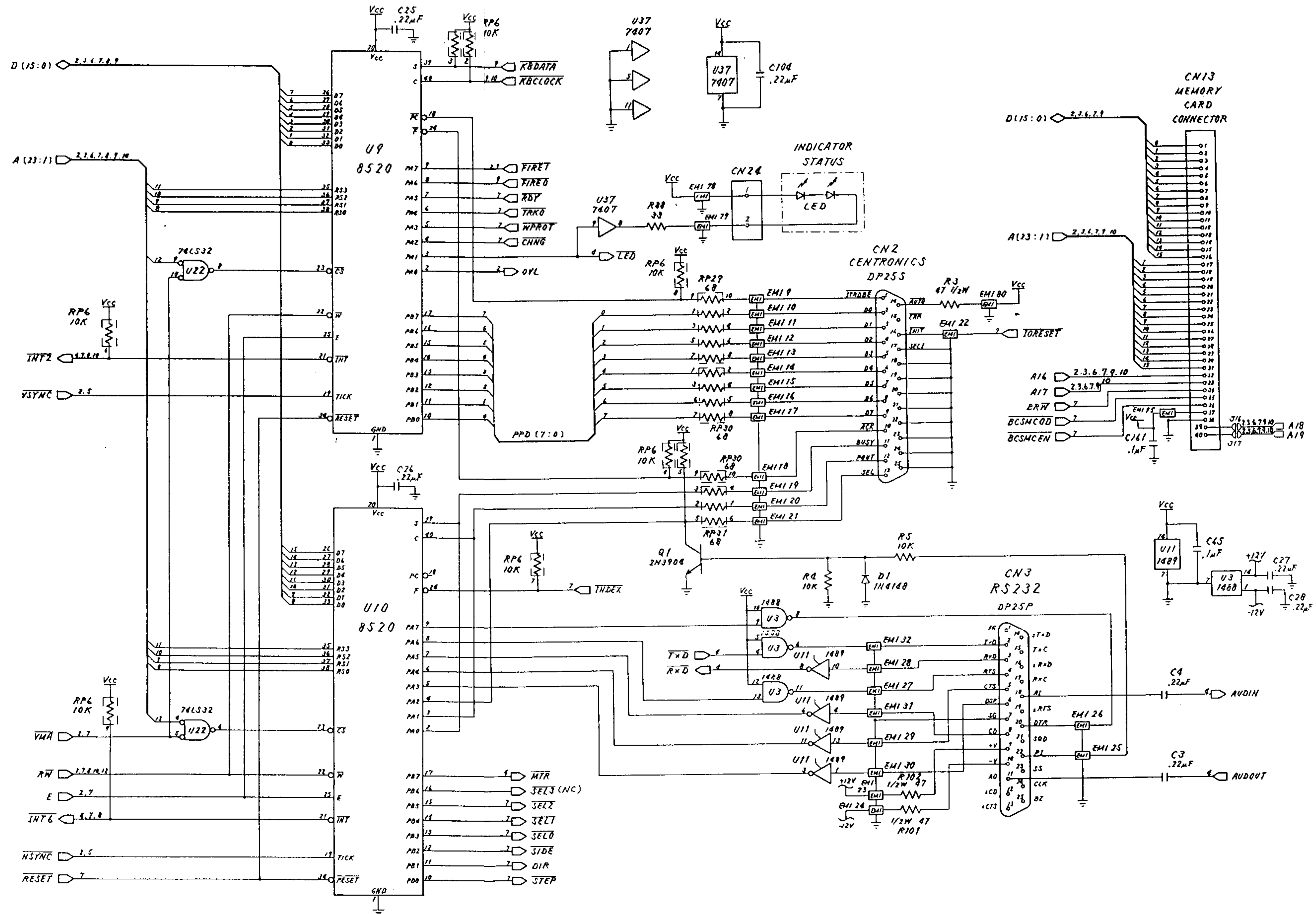


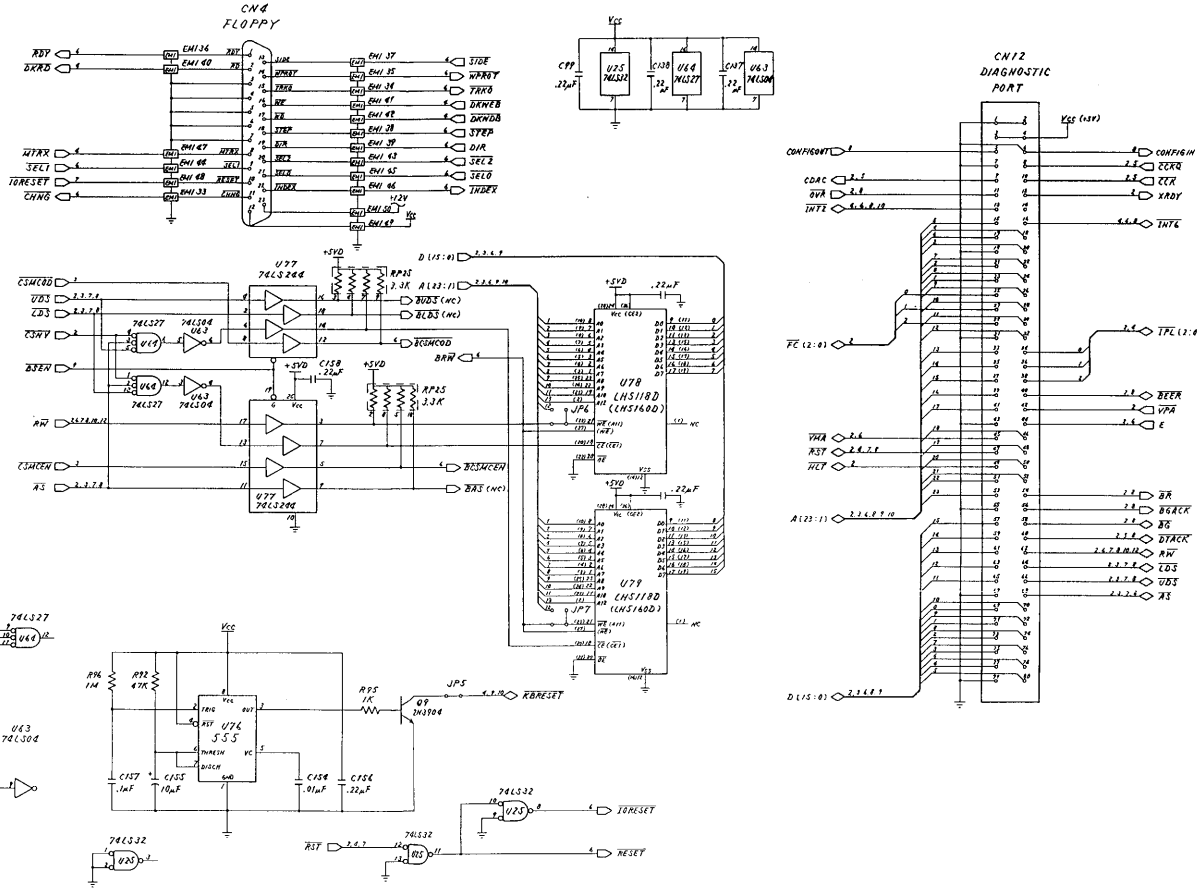


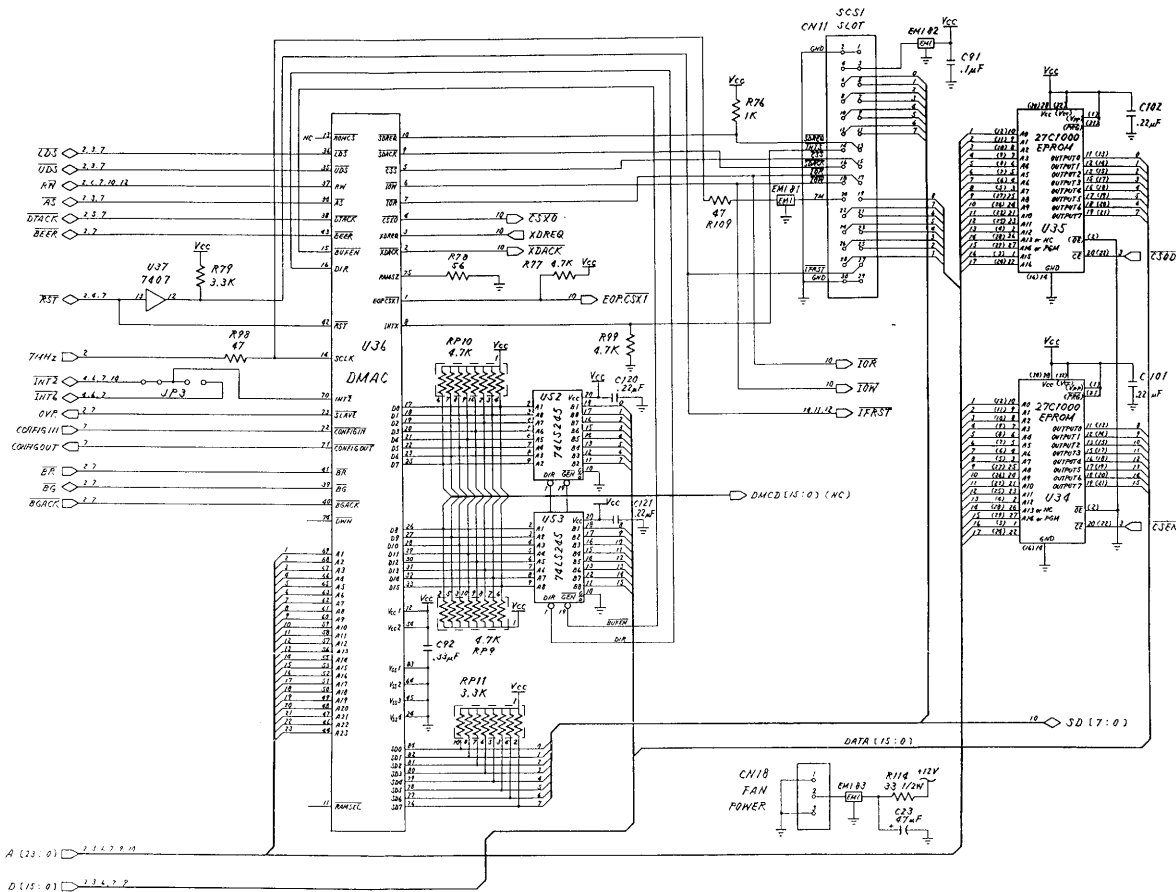


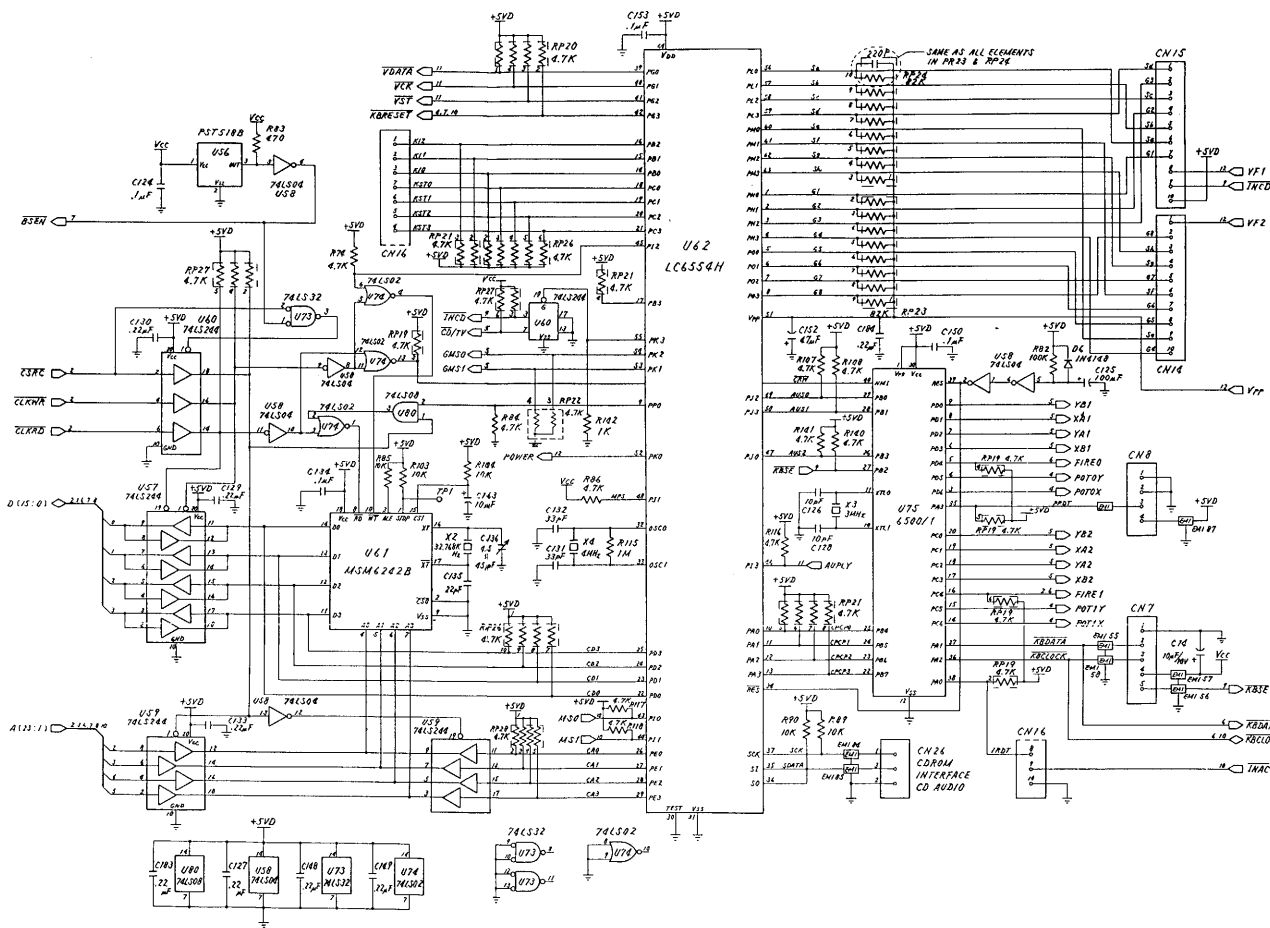


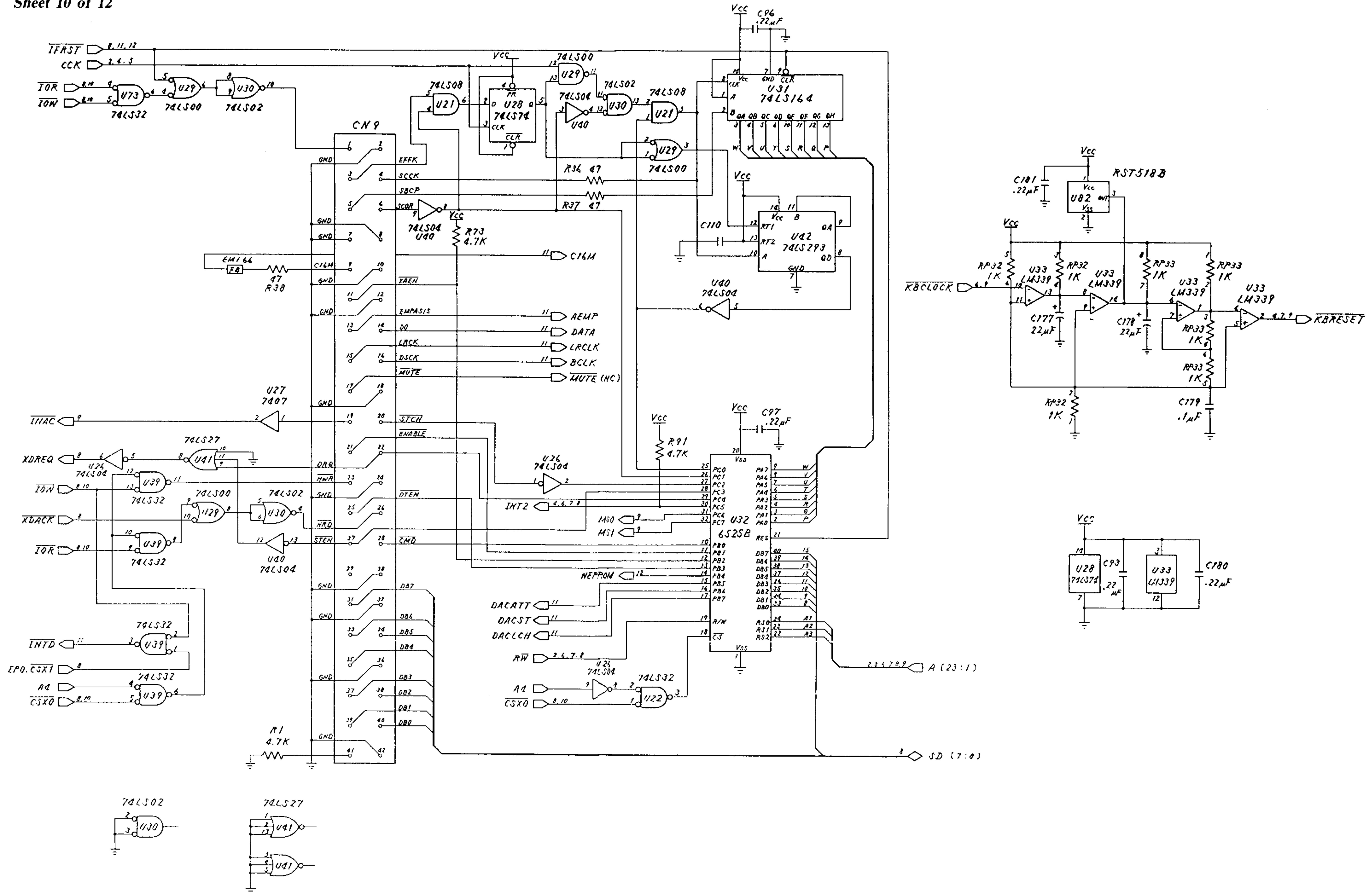












Commodore International Spare Parts List SHIPPING ASSEMBLIES

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 Techtopics for current numbers.

CDTV SHIPPING ASSY	CDTV SHIPPING ASSY (Continued)
513402-01 US	363713-02 MODULATOR, CDTV PAL
513402-02 CN	363713-01 MODULATOR, CDTV NTSC
513402-03 U.K.	903508-07 CORD, POWER BSI BLACK
513402-04 GR	903508-18 CORD, POWER ULICSA BLACK
513402-05 NOT USED, USE -04	903508-01 CORD, POWER VDE BLACK
513402-06 IT	903508-02 CORD, POWER SEV BLACK
513402-07 NOT USED, USE -06	903508-03 CORD, POWER SAA BLACK
513402-08 SG	903508-10 CORD, POWER JP BLACK
513402-09 NOT USED, USE -06	398075-01 AUTO RF SWITCH BOX NTSC
513402-10 NOT USED, USE -06	251846-01 CABLE, RF PAL
513402-11 NOT USED, USE -06	325228-01 RF SWITCH SD
513402-12 SD	252590-01 CD CADDY
513402-13 NOT USED, USE -08	252594-01 REMOTE CONTROLLER CDTV
513402-14 NOT USED, USE -06	252592-01 BOX, INDIVIDUAL CDTV
513402-15 NOT USED, USE -06	252593-01 CARTON, OUTER CDTV
513402-16 NOT USED, USE -06	252649-01 BOX, ACCESSORY
513402-17 NOT USED, USE -06	252595-01 FOAM, PACKING - FRONT
513402-18 AL	252596-01 FOAM, PACKING - REAR
513402-19 NOT USED, USE -06	311945-01 CABLE AUDIO
513402-20 NOT USED, USE -06	400807-01 SVC SUB ASSY
513402-21 JP	318882-01 CARD, WARRANTY, CN
368082-02 GUIDE, QUICK CONNECT	368014-01 CARD, WARRANTY, AL
250802-01 MAIN ASSY CDA-1, NTSC	320408-04 BAG, FLAT 650MM X 650MM FOR CDTV
250802-02 MAIN ASSY CDA-1, PAL-I	324257-01 BAG, DRYING AGENT
250802-04 MAIN ASSY CDA-1, PAL-G	367669-01 DISK ASSY - CD WELCOME DISK

SIGNAL	DESCRIPTION
ZENHS	28.5MHz 100MHz/28.5MHz (ZM) Master Clock
ZENL	1 MHz Processor Clock
A123[1]	Processor Address (0000)
ACK	Data Acknowledge (Parallel)
AS	Address Strobe (0000)
AUDIN	Audio Input (00112 jack)
AUDOUT	Audio Output (00112 jack)
BUS	Bus Latch (0000)
BU	Bus Grant (0000)
CGACK	Bus Grant Acknowledge (0000)
BLISS	Blitter Slowdown (chips)
BLIT	Chip Memory Access (chips)
BR	Bus Request (0000)
BUSY	Device Busy (parallel)
CASL/CASU	CAS Latch/Upper Byte (DRAM)
CLK	Color Clock aka M (chips)
CKO	Color Clock Quadrature aka C3 (chips)
CSK	1 MHz Quadrature Clock
CMS	Media Change (Floppy)
CLKRD/CLKWR	Real-time Clock Read/Write
CSYNC	Composite Sync (Video)
CS	Clear to Send (rs232)
D15[0]	Processor Data (0000)
DIR	Direction (Floppy)
DRD	Diskette Read Data (Floppy)
DRND	Diskette Write Data (Floppy)
DRNE	Diskette Write Enable (Floppy)
DRAL	Chip DRN Request (chips)
DRAS[0]	DRAM Address (DRAM, chips)
DRS1[0]	DRAM Data (DRAM, chips)
DRS	Data Set Ready (rs232)
DRACK	Data Transfer Acknowledge (0000)
DTR	Data Terminal Ready (rs232)
E	Peripheral E Clock (0000)
EXMAN	Expansion Memory Present
F1[0:1]	Function Key(s) (0000)
F1KEY/F1REL	Fire Button (Keyboard)
HDV	Processor Halt (0000)
HSTNC	Horizontal Sync (video)
INDEX	Diskette Index Hole (Floppy)
INT[1:0]	Interrupt Requests (chips)
IOREQ	I/O Request
IPL[1:0]	Processor Interrupt Requests (0000)
KBCLK	Keyboard Clock (Keyboard)
KBDATA	Keyboard Data (Keyboard)
KBRESET	Keyboard Reset (Keyboard)
CS200S	Upper/Lower Data Strobe (0000)
LED	Power On LED

SIGNAL	DESCRIPTION
LEFT/RIGHT	Audio Channels
MEM	Memory On (Floppy)
MDR	Motor On Drive (Floppy)
MDV/MOR	Motor Quadrature Signals (Floppy)
MIV/MIR	Motor Quadrature Signals (Floppy)
OV	Overlay ROM over RAM
OVS	Override System Decoding
PIXELSH	Pixel Latch (Video)
POTX/POTY	POT Lines (Joystick)
POTIX/POTIY	POT Lines (Joystick)
PORT	Port Out (Parallel)
PPF[1:0]	Parallel Port Data (parallel)
RAMEN	RAM Enable (chips)
REGEN	Chip Register Enable (chips)
RAS/RAS	RAS Internal/Expansion Lines (DRAM)
RDY	Driver Ready (Floppy)
RESET	General Reset
SGA[0:1]	Register Address Bus (chips)
SI	Ring Indicate (rs232)
SDEN	ROM Enable
SDV	Request to Send (rs232)
SDT	Processor Reset (0000)
RXD	Receiver Data (rs232)
SN	Processor Read/Write (0000)
SEL	Select (parallel)
SEL[1:0]	Drive Select (Floppy)
SI0	Side Select (Floppy)
STEP	Head Step Command (Floppy)
TRXD	Track & Sense (Floppy)
TRD	Transect Data (rs232)
VMA	Valid Memory Address (0000)
VPA	Valid Peripheral Address (0000)
VSHC	Vertical Sync (video)
WE	Write Enable (RAM)
WPROT	Write Protect Sense (Floppy)
XCLK	External 28 MHz Clock (genlock)
XCLKEN	External Clock Enable (genlock)
XRDY	External Data Ready
AMP/ANOR	Analog Audio Left/Right
AMP	Audio Comparison
AUPLY	CD Audio Play
AS	00112 Audio Strobe
CLK	CD Audio Clock
CSMEM/CSMEMD	Chip Select Memory Card Even/Odd
CSM	Local Voltage Sense
CSO	Buffer Processor Read/Write
CSN	Local Voltage Sense
CSO	Buffer Processor Data (MIDI)
MDP/MDS	00112 Upper/Lower Data Strobe

SIGNAL	DESCRIPTION
CSM	100ns Bus Clock
CSL/CSAR	CD Audio Left/Right
CD/TV	Select CD/TV (see 1000)
CONFIRM	Config In
CONFIGNET	Config Out
CSO	Chip Select CSORH Driver
CSOH/CSOD	Chip Select CSORH Driver Even/Odd
CSMC	Chip Select Memory Card
CSMEM/CSMEMD	Chip Select Memory Card Even/Odd
CSM	Real-time Chip Select
CSO	AT Device Chip Select no.0
DACAT	Activator Data (Dac)
DACLCH	Activator Latch (Dac)
DACS	Activator Strobe (Dac)
DATA	CD Audio Data
DACD	Umac Data
EXP-CSX1	End of Process/AT Device Chip Select No.1
GAS[1:0]	Genlock Mode Select (Remote Control)
IFRST	Interface Reset
IRAC	Indicator Power/Status
INDC	Indicator CD/TV Mode
INT0	CD Active Event
INTS	SCSI Interrupt
IOK/IOW	Dmac Read/Write
KBK	Keyboard Sense
LBCLK	Line Rate
LDV	Audio Left/Right Clock
MS	Power Sense Logic
MS[1:0]	Genlock Mode Select (Analog)
MUTE	CD Mute
POWER	Main Logic Power On/Off
SD[1:0]	Smac X/SCSI Data
VCS	Activator Data Clock (Head Phases)
VDATA	Activator Data Clock (Head Phases)
VFT[1:1]	Filament Voltage
VST	Activator Data Clock (Head Phases)
VVF	-33V Voltage
VA, VB, VC, VD [1:1]	Mouse Input Signal
XACK	AT Device Data Acknowledge
XREQ	AT Device Data Requirement
ENC	ENABLE MEMORY CARDS
ESC	ENABLE CSORH DRIVER (DRAM)
WPROT	WRITE ENABLE E-PROH

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.) 15 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 synced 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-\$E000FF
Non-volatile Memory	\$DC8000
DMAC	Auto config., typically \$E90000
Tri-port	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

50W (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); Time, 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

80 characters/25 lines; 60 characters/25 lines; Various font sizes and types selectable; Screen colors user 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-ROM, 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