

A4000T/40

Advance Engineering Release #310

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APPLICATION		REVISION			
NEXT ASSEMBLY	USED ON	LTR	DESCRIPTION	DATE	APPROVED
	A4000T	A	SPECIFICATION RELEASE	4/22/93	<i>J.G.C.B.</i> <i>A.C.B.</i>

1.0 DESCRIPTION

The A4000T computer is a new member of the Amiga 4000 family, based on the AA chip set. It is housed in a tower case with a separate keyboard. Expansion capabilities are provided via five internal Zorro II/III expansion connectors, four PC/AT slots, two video slots, and a CPU slot.

A functional block diagram is shown in Figure 1.

1.1 ELECTRICAL SPECIFICATIONS

1.1.1 CPU

The CPU for the A4000T is contained on a separate CPU card (occupying the CPU slot) which can be used with a 25 Mhz 68040 or 68LC040 processor. When a 68040 processor is used, it resides in a PGA socket. Future CPU cards may contain RAM and/or other expansion devices/processors.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS. TOLERANCES: ANGLES +/- 1 DEGREE 2 PLACE DECIMALS +/- 0.50 3 PLACE DECIMALS +/- 0.25		DRAWN <i>A. Young</i> SYSTEM ENG.	DATE 4/22/93	<h1>Commodore</h1> <p>1200 WILSON DRIVE WEST CHESTER, PA. 19380 (215) 431-9100</p>	
		TEST ENG	DATE		
		COMP. ENG Drew Shaanon	DATE		
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1.1.2 FASTRAM

- Up to 16 Megabytes
- 4 72 pin SIMM sockets
- 32 bit CPU interface
- Page or Static Column mode
- 80 nsecs

The SIMMs are 72 pin JEDEC standard. Many 72 pin SIMMs are 36 bits wide. This machine requires only 32 bits of data. If a 36 bit SIMM is used, then the extra 4 bits are simply ignored.

FASTRAM is controlled by the same RAMSEY chip used in the A3000 and A4000. RAMSEY was designed to terminate cycles via *STERM.

BURST mode is functional for FASTRAM. It is desirable to have this turned on. The test for static column DRAMs should be left in the ROM, and the BURST bit turned on just as is done with the A3000. However, the test for static column DRAMs must be done differently. Instead of writing four longwords with the static column bit set, and then reading them back with it off, the four longwords should be written with the bit set off, and then read back with it turned on. This is necessary because JEDEC standard SIMMs do not make use of an output enable (*OE) pin for the DRAMs. When static column mode is turned on, all writes to the DRAM are done as late writes. Without the *OE pin, the SIMMs cannot do late writes. The test will fail, indicating the correct result, but more significantly the data being written to the DRAMs will collide with data coming out of them, which is undesirable. Static column SIMMs must be custom made. One of the no connect pins will be assigned to act as the *OE pin. Only after it is determined that the DRAMs are the static column type should a write to DRAM in static column mode EVER be allowed.

If static column DRAMs are installed, PAGE MODE operation is functional as well (when the bit is turned on). FAST RAM SIMM types usable with the A4000T are:

1MB SIMM = 256k x 32/36
 4MB SIMM = 1M x 32/36

Double-sided SIMMs (2MB or 8MB) may be used in SIMM S351 and S353. The second side of the SIMM is seen as the electrical equivalent of another single-sided SIMM installed in SIMM slots 2 and 4 respectively. However, the maximum memory addressed is the same whether four single-sided or two double-sided SIMMs are used (4MB with 1MB or 2MB SIMMs or 16 MB with 4MB or 8MB SIMMs). Thus there is no advantage to using double-sided SIMMs over the single-sided type.

A jumper is provided on the motherboard to indicate SIMM size.

SIMM Size	
J300	Size
2-3	1MB (or 2MB)
1-2	4MB (or 8MB)

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1.1.5 REAL TIME CLOCK

- Ricoh RTC with 26 x 4 bit battery backed RAM
- The A4000T uses the same Ricoh RTC as in the A3000 and A4000.

1.2 FLOPPY DISK DRIVES

- 1 internal 3.5" floppy drive standard
2 speed, high density, 1.7M formatted
half-height drive = P/N 313248-03 (32mm)
low-profile drive = P/N 365019-01 (25mm)
- Up to 2 internal floppy disk drives (df0: & df1:)

A single 1.7M internal floppy disk drive comes installed in the machine. The circuitry on the motherboard can support two internal drives. The standard disk is installed in the topmost drive bay. A second drive can be added in the bay below it. The 3.5" floppy disk drive requires an adaptor bracket to allow mounting in the 5.25" drive bay.

The internal floppy connector is wired such that df0: is connected before the twist in the floppy cable wire. df1: would be after the twist. If an 880K drive is used as df1:, the jumper on the disk module (J250) must be installed (or set).

1.3 HARD DISK DRIVES

The A4000T supports both SCSI and IDE hard drive interfaces.

Hard drives can be installed in any of the available drive bays. Half height hard disk drives can be mounted in the four bays in the front of the machine (below the floppy). In addition, a single full-height, or two half-height hard disk drives can be installed alongside the power supply in the back of the machine.

Drive bays: Externally accessible --
 Three horizontal bays for 5.25" half-height devices (adaptable for 3.5" devices)
 (one populated with a 3.5" 1.76MB dual-speed high-density floppy disk drive)
 Two vertical bays for 5.25" half-height devices (adaptable for 3.5" devices)

 Internally accessible --
 One vertical bay for 5.25" full-height devices (adaptable for 3.5" devices)

3.5" hard disk drives (or other peripherals) require an adaptor bracket to allow mounting in the 5.25" drive bays.

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1.3.1.1 DIPSWITCH CONFIGURATION

The dipswitch configuration is as follows (default setting for all switches is OFF):

Switches 1, 2, and 3 (SCSI address switches): These switches determine the SCSI bus address for the SCSI controller. This should usually be set to device 7. Settings for switches 1, 2, and 3 establish SCSI addresses 0 through 7 as shown in Table I. Add-on SCSI devices must be set to a unique SCSI address other than the motherboard SCSI controller's address

Switch 4 (SCSI fast bus switch): This is set to OFF to enable the SCSI fast bus.

Switch 5 (Short/long switch): This is set to OFF to recognize that the system uses standard booting time.

Switch 6 (synchronous mode switch): This is set to OFF to indicate that the synchronous mode feature is enabled.

Switch 7 (external SCSI termination switch): When set to OFF, this indicates that no devices are installed. When set to ON, it indicates that external SCSI devices are installed. Then external termination must be set. The last SCSI device in the chain must be terminated per manufacturer's documentation and terminators on other devices must be removed or deactivated.

Switch 8 (logical unit enable switch): When set to OFF, this indicates that unit 0 is the only unit recognized. When set to ON, this enables the system to recognize units 1 through 6 as logical units (LUNs).

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1.3.2 IDE CONTROLLER

- Built in 16 bit IDE interface (internal connections only)
- 2 drive support

An internal 40 pin connector is provided for the addition of up to two 16 bit AT IDE compatible hard disk drives.

The IDE (AT) hard drive requires two mutually exclusive chip selects. Refer to the following tables for address range in which each is active. The state machine shown (Figure 2) is used for IDE accesses. Note that consecutive accesses cannot be performed nearly as fast as a single access. This would suggest that the optimum algorithm for access of IDE data would consist of single accesses of IDE data interleaved with single accesses of the target/source data buffer.

Data register accesses can be performed faster than control register accesses. Accesses to the control registers are called "8 bit accesses" while those to the data register are called "16 bit accesses". Shown below is a table that gives addresses for all registers related to the IDE sub-system.

	A13	A12	A5	A1	Address	Function
SCSI	0	0	X	X	\$0DD0040	SCSI registers decoded
IDE	0	1	1	0	\$0DD1XX0	Reserved for mode register 0
	0	1	1	1	\$0DD1XX2	Reserved for mode register 1
	1	0	1	0	\$0DD2XX0	_CS1, 16 bit speed
	1	0	1	1	\$0DD2XX2	_CS1, 8 bit speed
	1	1	1	0	\$0DD3XX0	IDE interrupt register
	1	1	1	1	\$0DD3XX2	_CS2, 8 bit speed

Note that A5 must be high for all accesses. This is because contention with RAMSEY results if this is not done.

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The disk drive address lines DA0, DA1, and DA2 are connected to processor address lines A2, A3, and A4 respectively. This results in the following memory map:

A1000 address	Addr on AT address	Valid Data	Read Function	Write Function
\$0DD1020	-	D31	None	Mode Reg0 (reserved)
\$0DD1022	-	D31	None	Mode Reg1 (reserved)
\$0DD3020	-	D31	IDE int reg	None
\$0DD303A	3F6	8 bits	Alternate Status	Device Control
\$0DD303E	3F7	8 bits	Drive address	Not used
\$0DD2026	1F1	8 bits	Error Register	Features
\$0DD202A	1F2	8 bits	Sector Count	Sector Count
\$0DD202E	1F3	8 bits	Sector Number	Sector Number
\$0DD2032	1F4	8 bits	Cylinder Low	Cylinder Low
\$0DD2036	1F5	8 bits	Cylinder High	Cylinder High
\$0DD203A	1F6	8 bits	Drive/Head	Drive/Head
\$0DD203E	1F7	8 bits	Status	Command
\$0DD2020	1F0	16 bits	Data	Data

Locations \$0DD1020 and \$0DD1022 are reserved for the mode registers. These are currently not implemented. When implemented, they will allow faster transfer rates from hard drives that support such rates. Part of the ID of a drive is information that allows the driver to decide which 'mode' is the fastest that the drive supports. Modes are defined as follows:

Mode Reg1	Mode Reg0	Mode type	Max. transfer rate
0	0	mode 0	3.3 MB/sec
0	1	mode 1	5.2 MB/sec
1	0	mode 2	8.3 MB/sec
1	1	Undefined	

As currently implemented, only mode 0 is available.

Location \$0DD3000 contains the IDE interrupt register. This register returns a value of 1 if an interrupt is pending from the IDE hard disk, and a value of 0 if an interrupt is not pending from this source. Writing to this register has no effect.

The A4000T supports four different timings for IDE drive access. They represent reads and writes at 8 and 16 bit transfer widths. These timings are shown in Figures 3 through 6

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Mode 0 read, 8 bit

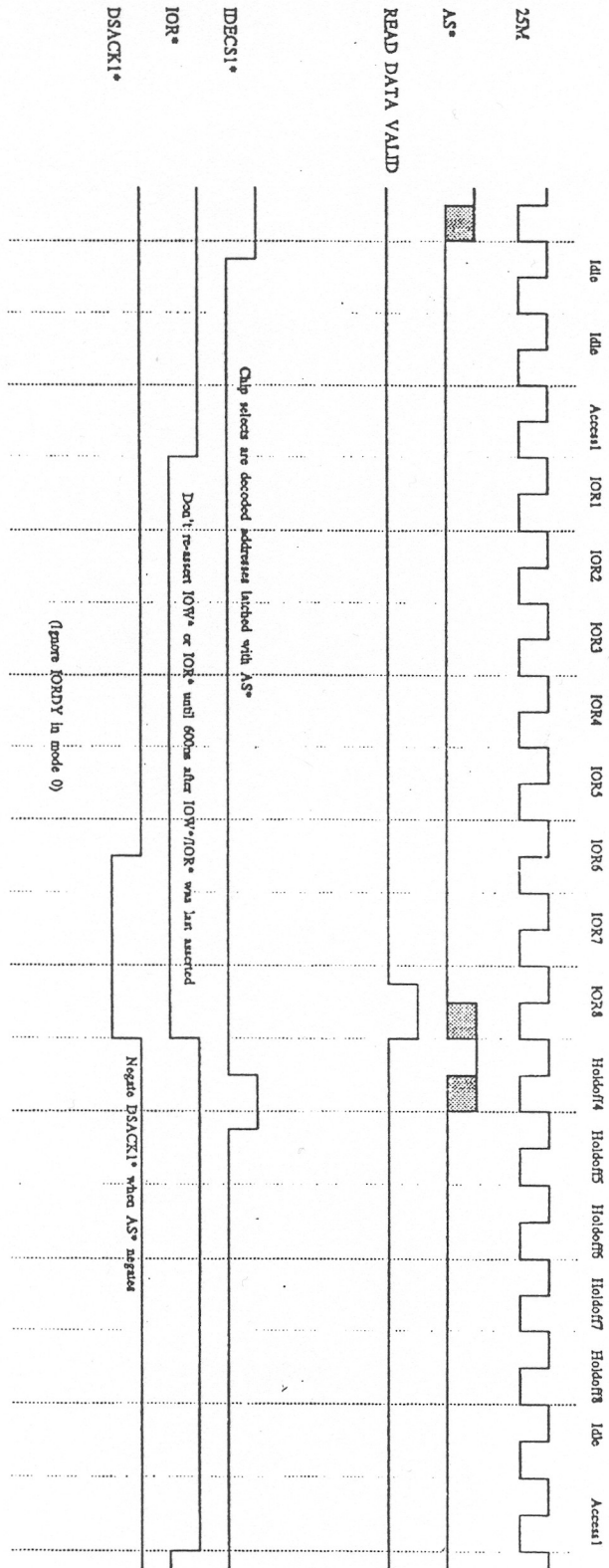


FIGURE 4
Timing Diagram
Mode 0, Read 8 Bit Transfer

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Mode 0 write, 8 bit

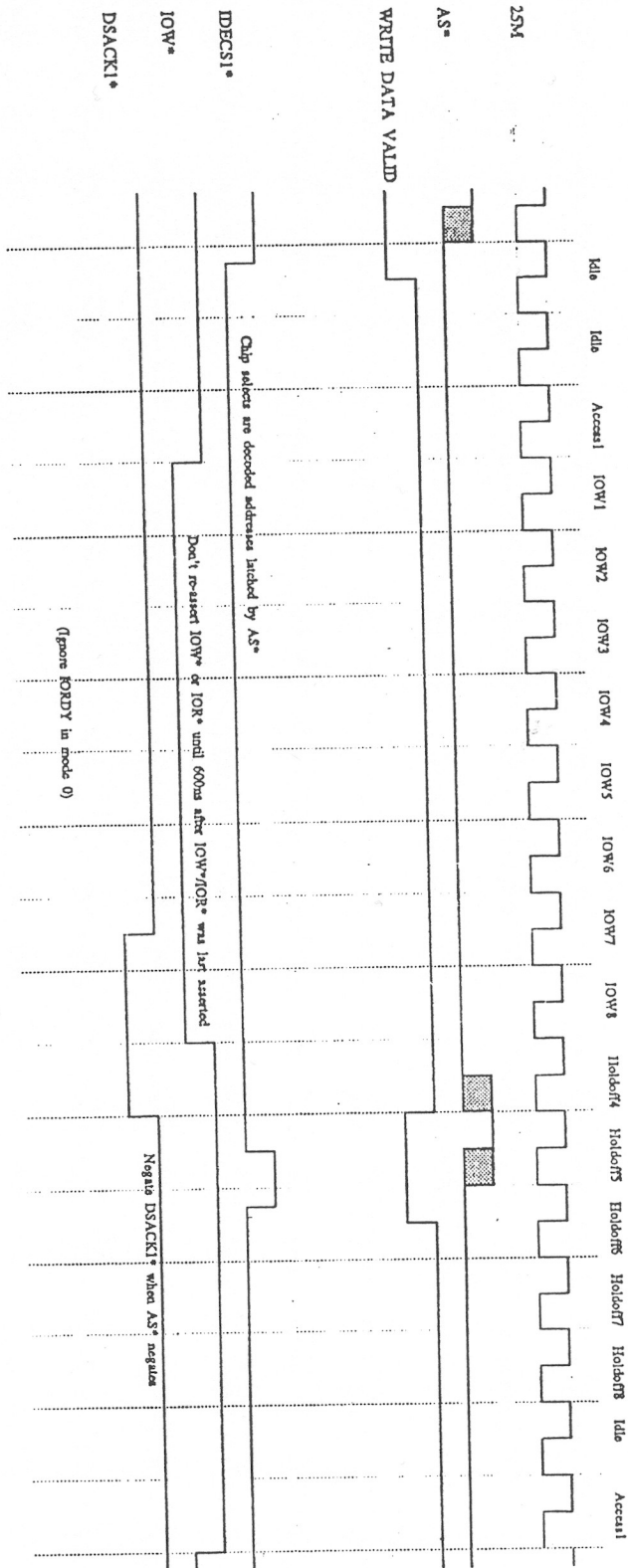


FIGURE 6
Timing Diagram
Mode 0, Write, 8 Bit Transfer

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A 200 pin KEL connector is provided on the motherboard which provides direct access to the processor bus signals. This connector is physically and electrically compatible with the coprocessor slot of the A3000 and A4000. Since no processor exists on the motherboard of the A4000T, this processor slot must be occupied by a CPU card for the machine to function. However, different CPU cards can be plugged into this slot in order to alter or enhance the system (such as future processors, or coprocessors).

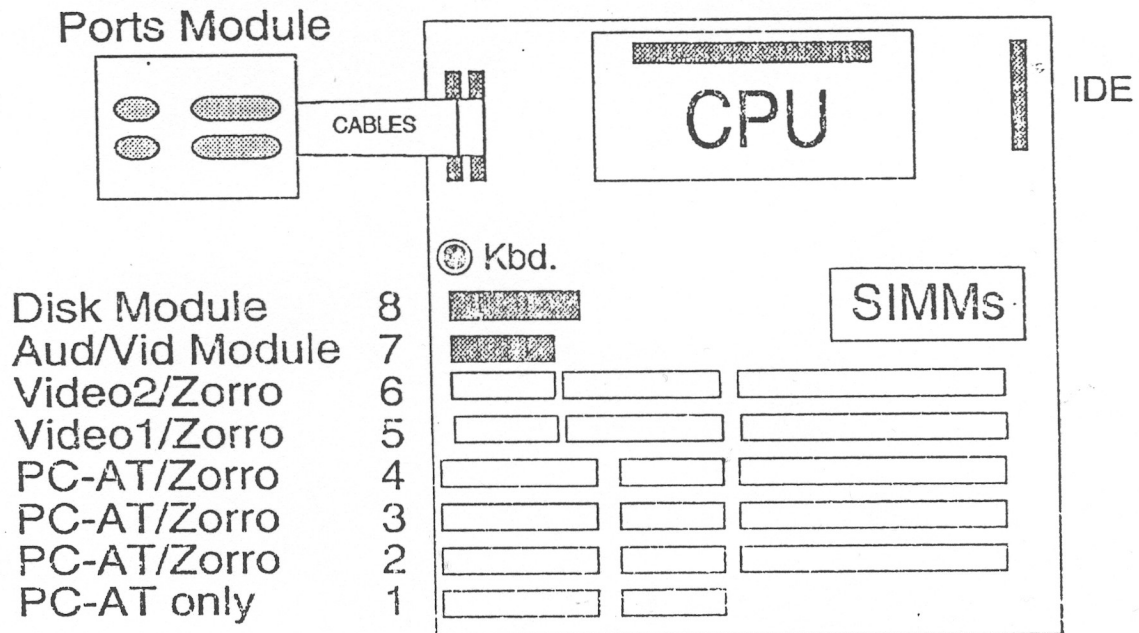


FIGURE 7
Expansion Slots

CASEWORK CONNECTORS

Motherboard:	
keyboard:	5 pin DIN
internal CPU Module	KEL 200 pin
internal IDE HDD	40 pin DIL
Ports Module:	
parallel port	DB25F
serial port	DB25M
mouse/joysticks	2 DB9M
Audio/Video Module:	
video	DB23F
R/L audio	2 RCA jacks
headphone jack	mini stereo jack
Disk Module:	
external SCSI-2	HD50F
internal SCSI-2 HDD	50 pin DIL header
internal FDD	34 pin DIL header

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1.9 ASICs

All ASICs are provided in PLCC packages for surface mounting.

1.9.1 FAT RAMSEY

RAMSEY is the FASTRAM controller that was designed for the A3000. Refer to Fat Ramsey specification 390541.

1.9.2 FAT GARY

FAT GARY is a large 'glue' chip designed for the A3000 which performs a variety of tasks. Refer to Fat Gary specification 390540.

1.9.3 BUSTER

BUSTER is responsible for bus control and arbitration. It can be used in the same fashion as in the A3000, and does not require any additional logic. Refer to Buster specification 390539.

1.9.4 BRIDGET

Bridget is a Gate Array (also used in the A4000) which replaces the following TTL chips: six 74F646's and four 74F245's. This results in reduced cost, reduced real estate and easier routing. BRIDGET can be used unchanged from the A3000 and other ECS/AA designs. BRIDGET was created with NCR's technology and processing. This was necessary for two reasons: pin count and speed. Refer to Bridget specification 391380.

1.9.5 PAULA

PAULA performs several functions such as 8 bit audio with four voices configured as two stereo channels, floppy disk I/O, RS-232 serial I/O, potentiometer, and interrupt controls.

1.9.6 ALICE

ALICE is the main Amiga Chip bus controller.

1.9.7 LISA

LISA provides 32 bit chip interface and improves video color depth and video output to 24 bits of digital RGB video.

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2.5 MATERIALS

Casework shall be made of sheet steel except for the bezel, door, and feet, which shall be made of U.L rated (94 V-0) plastics. All plastic parts shall have standard recycling symbol.

2.5.1 HAZARDOUS MATERIALS

No components containing poly-chlorinated byphenyl (PCB) or polybromide shall be used in the A4000T. Any batteries used in the A4000T shall a standard recycling symbol on their exterior.

3.0 POWER SUPPLY

A power supply is required to meet the shape requirements of the case. Refer to Commodore specification 391699 for power supply details.

3.1 INPUT REQUIREMENTS

Input voltage range:	90 to 132 VAC rms (select switch set at 115 V) 180 to 264 VAC rms (select switch set at 230 V) (selectable by external switch)
Input frequency:	47 to 63 Hz
Input current:	6 amps max. @ 115 VAC (involve 1 amp AC output) 3 amps max. @ 230 VAC (involve 0.5 amp AC output)
Inrush current:	40 amps (peak) maximum @ 115 V 80 amps (peak) maximum @ 230 V (at cold start in 25 ° C ambient)
Efficiency:	68% minimum @ full load

3.2 DC OUTPUT REQUIREMENTS

Maximum continuous output power: 250 watts

OUTPUT	+5V	+12V	- 5V	- 12V
Max. load	25.0A	10.0A	0.3 A	0.3 A
Min. load	5.0A	1.0	0 A	0 A
Regulation	+5/- 4%	+5/- 4%	+10/-10%	+10/-9%
Max. voltage	5.25V	12.6V	-5.5V	-13.20V
Min. voltage	4.80V	11.52V	4.5V	-10.92V
Ripple & noise (Max. p-p)	80 mV	120mV	150mV	150mV
Ripple (Max. p-p)	60 mV	80mV	80mV	100mV

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4.0 REGULATORY REQUIREMENTS

*The A4000T complies with the following regulatory agency requirements

USA: UL 478Rev 4/1950 (Electronic Data Processing Units and Systems/ Information Technology Equipment)

FCC CFR47 Part 15 Class B

Canada: CSA 22.2 (Data Processing Equipment, Consumer and Commercial Products)
Canadian DOC Class B

Europe: EN 55022 (EMI) EN60950 (safety)

5.0 ENVIRONMENTAL REQUIREMENTS

Units furnished to the requirements of this specification shall meet the following environmental resistance requirements, per Commodore Engineering Policy #1.02.010, Product Environmental Requirements. Vendors shall furnish supporting documentation upon request. Units shall meet all requirements of this specification after the tests listed here. The list presented here is a summary of some of the requirements.

Operating Temperature	5 ° to 40 ° C
Operating Humidity	10 to 90% RH non-condensing
Operating Altitude	0 to 3000 meters
Storage Temperature	- 20 ° to + 70 ° C
Storage Humidity	5 to 95% RH non-condensing
Storage Altitude	0 to 15,000 meters
Storage Shock	20 g's - 11 msec - 1/2 sine wave , two shocks in each of six directions
Storage vibration	Sinusoidal sweep, 1.5 mm full amplitude, 12 minute sweep rate for 10 - 500 - 10 Hz, 2 hours in each axis

5.1 TRANSIT REQUIREMENTS (non-operating/packaged)

Transportation simulation: Per NSTA Pre-shipment Test Procedure Project 1A (0.5mm displacement peak-to-peak at 2-55-2 Hz in each of three mutually perpendicular planes for 7 minutes per cycle for a duration of 30 minutes)

Drop test: Per NSTA Standard (30-inch drops: on one corner and three edges radiating from that corner, and on all faces of the box)

6.0 MINIMUM ACCEPTANCE LEVEL

The minimum acceptance level for any lot will be an AQL of 0.65 as defined by MIL-STD 105 single sampling techniques.

7.0 ENGINEERING CHANGES

Any changes to form, fit, or function shall be made via the formal ECR process.

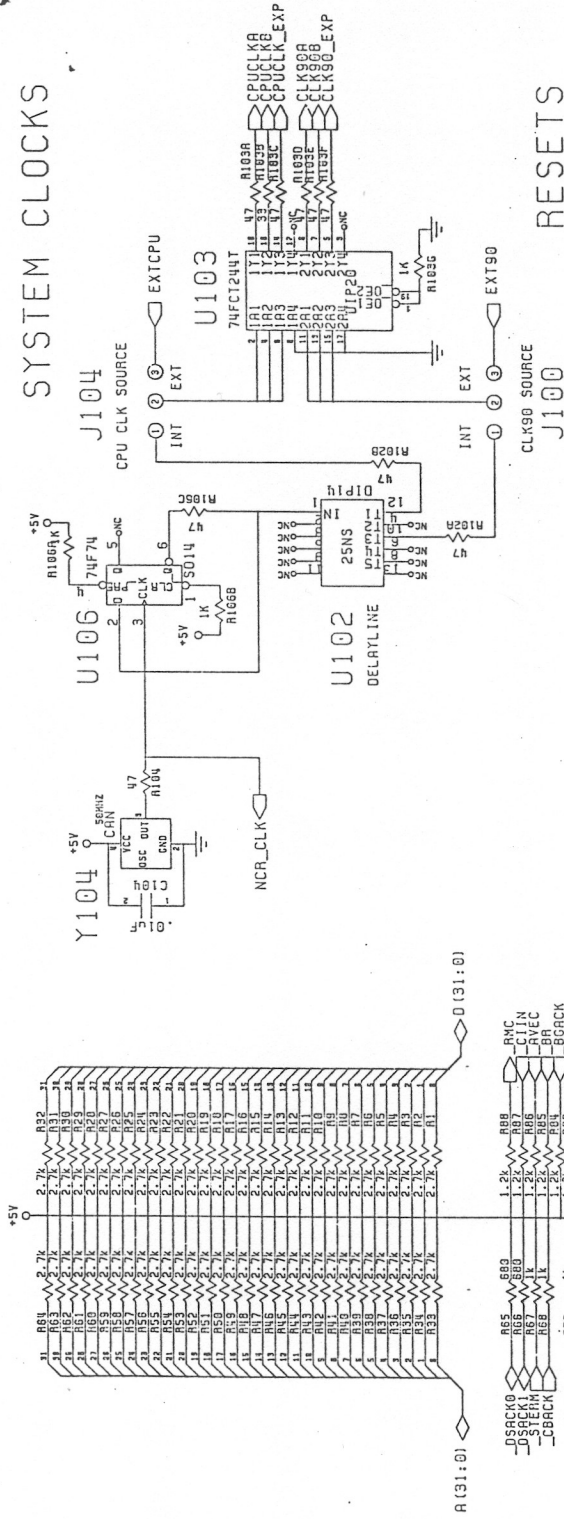
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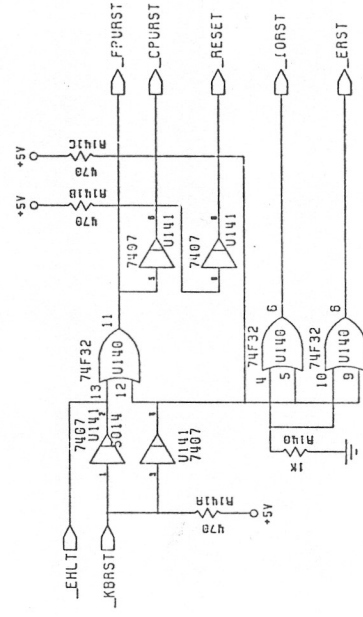
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SYSTEM CLOCKS



RESETS

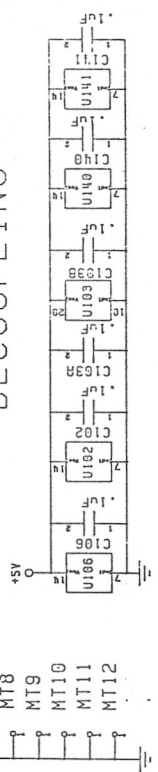


CLOCKS

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DECOUPLING

lend U140-sub to gary
 lend U141-sub to scsi
 lend U141-sub to harddisk
 lend U106-sub to gary

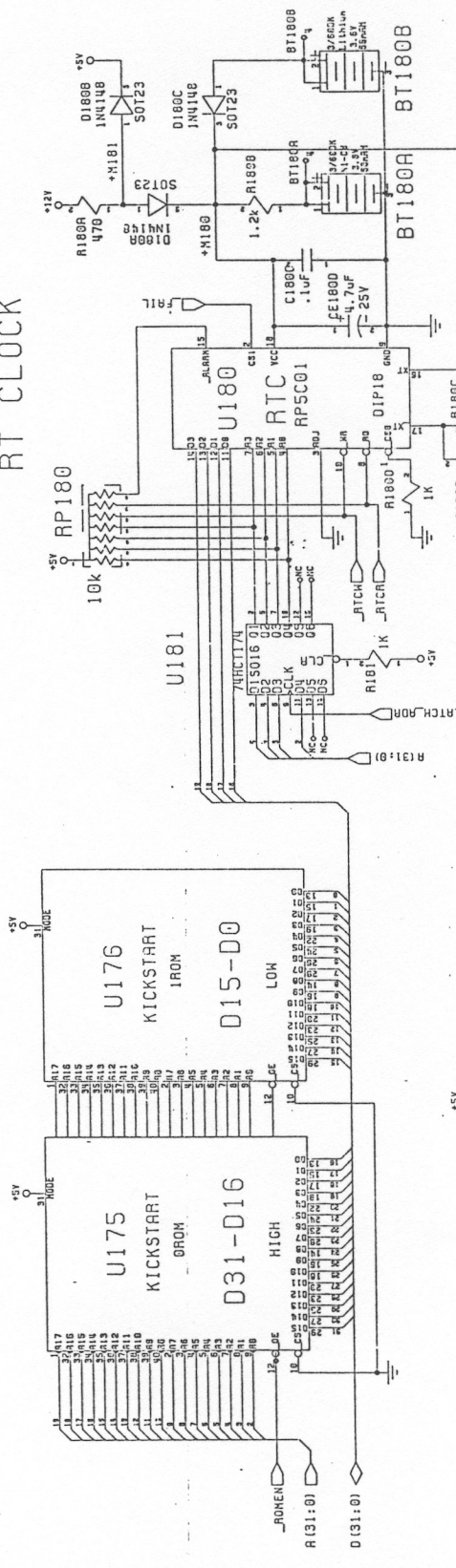


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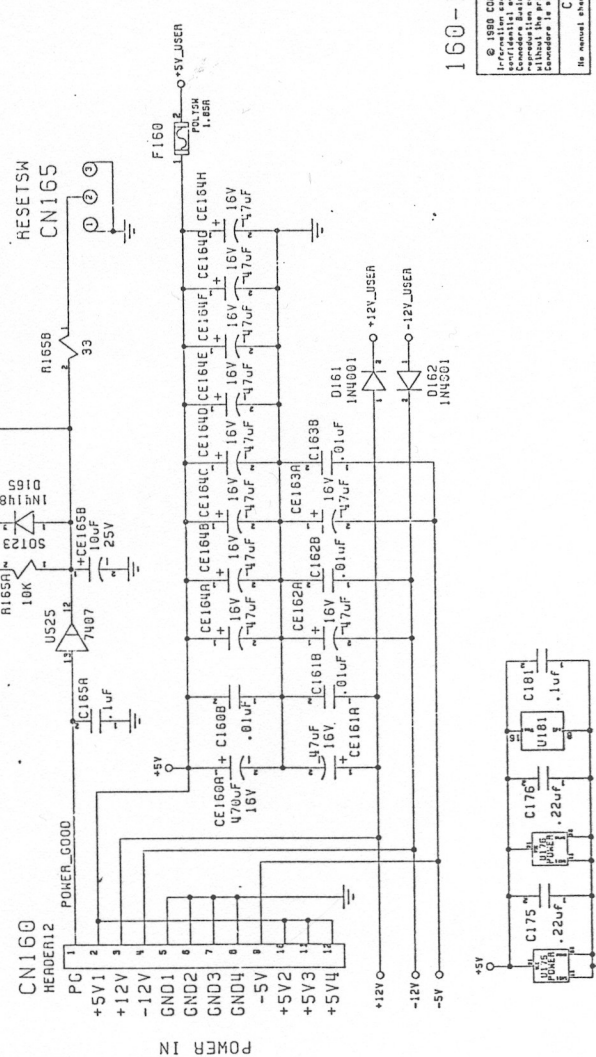
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SYSTEM ROMS

RT CLOCK



POWER



160-199 ROMS, RTC, power in

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QTY. REQ. PER DASII #		ITM #	PART NO.	DESCRIPTION	REF DES / NOTES				
10	09	07	06	05	04	03	02	01	
	R	R	1	365149-01	SCHEMATIC				
	R	R	2	365151-01	PCB FAB				
	1	1	3	365148-01	ARTWORK				
			4		INTEGRATED CIRCUITS				
			5						
			6						
	1	1	7	391657-01	IC, 6ROM, 256Kx16, 150ns, KICKSTART (HIGH)	U175 SET J151 = PINS 2-3 (V41.XXX)			
	1	1	8	391658-01	IC, 1ROM, 256Kx16, 150ns, KICKSTART (LOW)	U176 SET J151 = PINS 2-3 (V41.XXX)			
			9						
	1	1	10	391227-01	IC, CSG, CSG4203, LISA (PLCC84)	U450			
	1	1	11	391077-01	IC, CSG, CSG6364, PAULA (PLCC52)	U500			
	1	1	12	391010-01	IC, CSG, CSG3374, ALICE (PLCC84)	U200			
	2	2	13	391078-02	IC, CSG, CSG8520A, CIA (PLCC41)	U550, U550			
			14						
	1	1	15	390540-02	IC, CGA, F008, FAT GARY (PLCC84)	U150			
	1	1	16	390541-07	IC, CGA, F012, FAT RAMSEY (PLCC84)	U300			
	1	1	17	390539-09	IC, CGA, F013, FAT BUSTER (PLCC84)	U700			
	1	1	18	391380-01	IC, CGA, BRIDGETTIE (PQFP100)	U250			
			19						
	1	1	20	391494-01	IC, ADV7120, VIDEO DAC (PLCC44)	U460			
	1	1	21	390555-01	IC, IC, DELAYLINE, 5-TAP, 25NS (DIP14)	U102			
	2	2	22	391597-01	IC, DS2107S, SCSI TERMINATOR (SO16)	U610, U611			
	1	1	23	391421-01	IC, LM385, Voltage Ref., 1.2V (SO-8)	U470			
	1	1	24	391087-01	IC, MCI488, QUAD Line Driver (SO14)	U570			
	1	1	25	391086-01	IC, MCI489, QUAD Line Receiver (SO14)	U580			
	1	1	26	391593-01	IC, NCR53710, SCSI CONTROLLER (PQFP160)	U600			
	1	1	27	390525-01	IC, RP5C01, RTC (DIP18)	U180			
	4	4	28	391599-02	IC, DRAM512Kx8, 80ns (SOJ28)	U260-U263			
			29						
			30						
			31						
			32						
			33						
			34						
			35						
			36						
			37						
			38						
	1	1	39	391664-01	IC, PAL, RASCASB, P22V10-10 (PLCC20)	P212 Programmed into PN 391392-03			
	1	1	40	391477-02	IC, PAL, MISOCYPRAM, P16L8-10 (PLCC20)	P213 Programmed into PN 391199-03			
	1	1	41	391653-01	IC, PAL, HDECODE, P22V10-15 (PLCC20)	P651 Programmed into PN 391392-02			
	1	1	42	391411-01	IC, PAL, ISTATE, P16R8-15 (PLCC20)	P652 Programmed into PN 391403-02			
	1	1	43	391411-01	IC, PAL, ARBITER, P16R4-15 (PLCC20)	P701 Programmed into PN 391359-04			
	1	1	44	391411-01	IC, PAL, ZORRO, P16L8-10 (PLCC20)	P702 Programmed into PN 391199-03			
			45						
			46						
			47						
			48						
			49						
			50						
Commodore		Title		PCB Assembly, A400T		Drawing #		REV	
						365150		1	
						Sheet 2		of 6	

QTY.	REQ.	PER	DASH #	ITM #	PART NO.	DESCRIPTION	REF DES. / NOTES	
10	03	07	06	05	04	03	02	01
				101				
				102				
				103		CAPACITORS		
				104				
				105	390053-01	CAP. SM. X7R. 01UF (1206)	C104, C154B, C160B, C161B, C162B, C163B, C160D-F, C600B, C600D, C600F	
				106			C600H	
				107	390053-04	CAP. SM. X7R. 047UF (1206)	C500A-D	
				108	310027-02	CAP. SM. Z5U. 1UF (1206)	C102, C103A, C103B, C106, C140, C141, C154A, C155, C159, C165A, C180C	
				109			C181, C200A, C2212, C213, C215, C216, C250A, C250B, C360B, C45-9B, C459C	
				110			C460A-C, C470, C501B, C520, C525, C541, C542, C550, C555, C560, C580	
				111			C590, C600A, C600C, C600E, C600G, C600J, C602, C610B, C611B, C651, C652	
				112			C670, C750	
				113	390797-02	CAP. SM. Z5U. 22UF (1210)	C150, C175, C176, C260A, C260B, C261A, C261B, C262A, C262B, C263A, C263B	
				114			C300A, C370A, C370B, C371A, C371B, C450A, C450B, C455A, C455B, C457A	
				115			C457B, C660A, C660B, C700A, C700B, C701, C702, C705A, C705B, C706A	
				116			C706B, C707A, C707B, C711, C760B, C760C, C760E, C760F	
				117	390053-07	CAP. SM. X7R. 100PF (1206)	C765A-C, C766A-I, C767A-I, C775A-I, C776A-H	
				118	390818-01	CAP. SM. NPO. 22PF (1206)	C180B, C459A	
				119	390818-04	CAP. SM. NPO. 47PF (1206)	EC550A-F, EC551A-G, EC552, EC553	
				120	390818-05	CAP. SM. NPO. 56PF (1206)	C180A	
				121	390818-06	CAP. SM. NPO. 100PF (1206)	EC510A-C, EC555A-G, EC560A, EC560B, EC561, EC565A-G, EC570A-C	
				122			EC580A-D	
				123				
				124	391097-01	CAP. ELECT ALUM. 100UF. 6.3V (D)	CE460H, CE510, CE751-CE755	
				125	391097-07	CAP. ELECT ALUM. 10UF. 25V (C)	CE165B, CE460G	
				126	391097-03	CAP. ELECT ALUM. 22UF. 16V (C)	CE560A, CE560B, CE760A, CE760D	
				127	391097-06	CAP. ELECT ALUM. 4.7UF. 25V (A)	CE180D, CE610A, CE611A	
				128	390101-03	CAP. ELECT ALUM. 470UF. 16V (RADIAL)	CE160A, CE501A	
				129	391097-04	CAP. ELECT ALUM. 47UF. 16V (D)	CE161A, CE162A, CE163A, CE164A-H	
				130				
				131	251029-06	CAP. TRIMMER, CERAMIC. 6.8-46PF	VC100	
				132				
				133				
				134				
				135				
				136				
				137				
				138				
				139	391121-01	NPN, SM. 2N3204 (SOT23)	C561, C650	
				140				
				141	391327-01	DIODE, SM. 1N4001 (MELF)	D151, D162, D460A, D460B, D461A, D461B, D462A, D462B, D550A-F, D560	
				142	391129-01	DIODE, SM. 1N4148 (SOT23)	D165, D180A-D, D561	
				143				
				144	391092-03	FILTER, FERRITE, SM (1206)	FB555A-G, FB565A-G, FB710	
				145	391559-01	FILTER, FERRITE, SM (1812)	FD500, FB510, FB550, FB556, FB560A, FB560B	
				146				
				147	391138-05	INDUCTOR, SM. 47UH (1210)	L460	
				148				
				149				
				150				
					Title			
					PCB Assembly, A400T			
					Drawn by		P. Lassa	
					Drawing #		365150	
					Sheet #		Sheet 4	
					REV		1	
							of 6	

Commodore

QTY.	REQ.	PER DASH #	ITM	PART NO.	DESCRIPTION	REF DES / NOTES					
10	09	07	07	06	05	04	03	02	01		
			201								
			202								
			203		CONNECTORS						
			204								
			5	903446-06	CONN100 (ZORRO)	CN751-CN755					
			1	390557-01	CONN200 (KEL)	CN800					
			6	903446-04	CONN35 (CARD)	CN451, CN452, CN771-CN774					
			2	903446-08	CONN54 (CARD)	CN453, CN454					
			4	903446-02	CONN62 (CARD)	CN761-CN764					
			4	903345-20	DIL40, Audi/Vid. M. Ports. M. IDE (1X-1)	CN450, CN550, CN560, CN650					
			1	903345-29	DIL56, Disk M. (1X-1)	CN600					
			1	212	DIN5 (KEYBD)	CN510					
			1	391269-01	HEADER12, POWER IN (X.159)	CN100					
			1	214							
			4	903326-03	SIL3 (X-1)	CN165, CN521-CN523					
			2	903326-04	SIL4 (X-1)	CN180, CN500					
			1	903326-05	SIL5 (X-1)	CN520					
			218		HARNESSE HEADERS (DESCRIPTION)	HARNESSE WIRE COLOR					
			219			WHITE, WHITE					
			220			BLACK (.), YELLOW					
			221		CN165 (RESET SWITCH) SIL3	BROWN (.) BLACK, RED, BLACK					
			222		CN180 (Replacement Battery) SIL4	YELLOW, BLUE					
			223		CN500 (SPEAKER OUT) SIL4	WHITE, YELLOW					
			224		CN520 (KEYLOCK/POWERLED) SIL5	WHITE, RED					
			225		CN521 (SPEAKER SWITCH) SIL3						
			226		CN522 (SPEAKER LED) SIL3						
			227		CN523 (SCSI/IDE LED) SIL3						
			228								
			229		CONFIGURATION JUMPERS						
			230			J540					
			1	903345-05	DIL12 (1X-1)	J100, J104, J151, J212, J500, J500					
			6	903326-03	SIL3 (X-1)						
			233								
			6	390043-01	SHORTING BARS (SHUNTS)						
			235								
			236								
			237		JUMPER SETTINGS	JUMPER DESCRIPTION					
			238			pins 1-2 = Internal, pins 2-3 = External					
			239		J100 (CLK90 clock source) determined by assy.	pins 1-2 = Internal, pins 2-3 = External					
			240		J104 (CPUCLK clock source) determined by assy.	pins 1-2 = Internal, pins 2-3 = External					
			241			pins 1-2 = 200ns, pins 2-3 = 100ns					
			242		J151 (ROM Speed)	pins 1-2 = NTSC, pins 2-3 = PAL					
			243		J212 (NTSC/PAL) pins 1-2 = -01, pins 2-3 = -02	pins 1-2 = 1M x 32, pins 2-3 = 256K x 32					
			244		J300 (RAM Size) determined by assy.	pins 1-2 = no, pins 2-3 = yes					
			245		J500 (SYNC ON GREEN) pins 1-2						
			246								
			247								
			248		UNSTUFFED COMPONENTS						
			249								
			250								
Commodore							Drawn by P. Lassa				
Title PCB Assembly, A40001							Drawing # 365150				
							Sheet 6 of 6				
							REV 1				

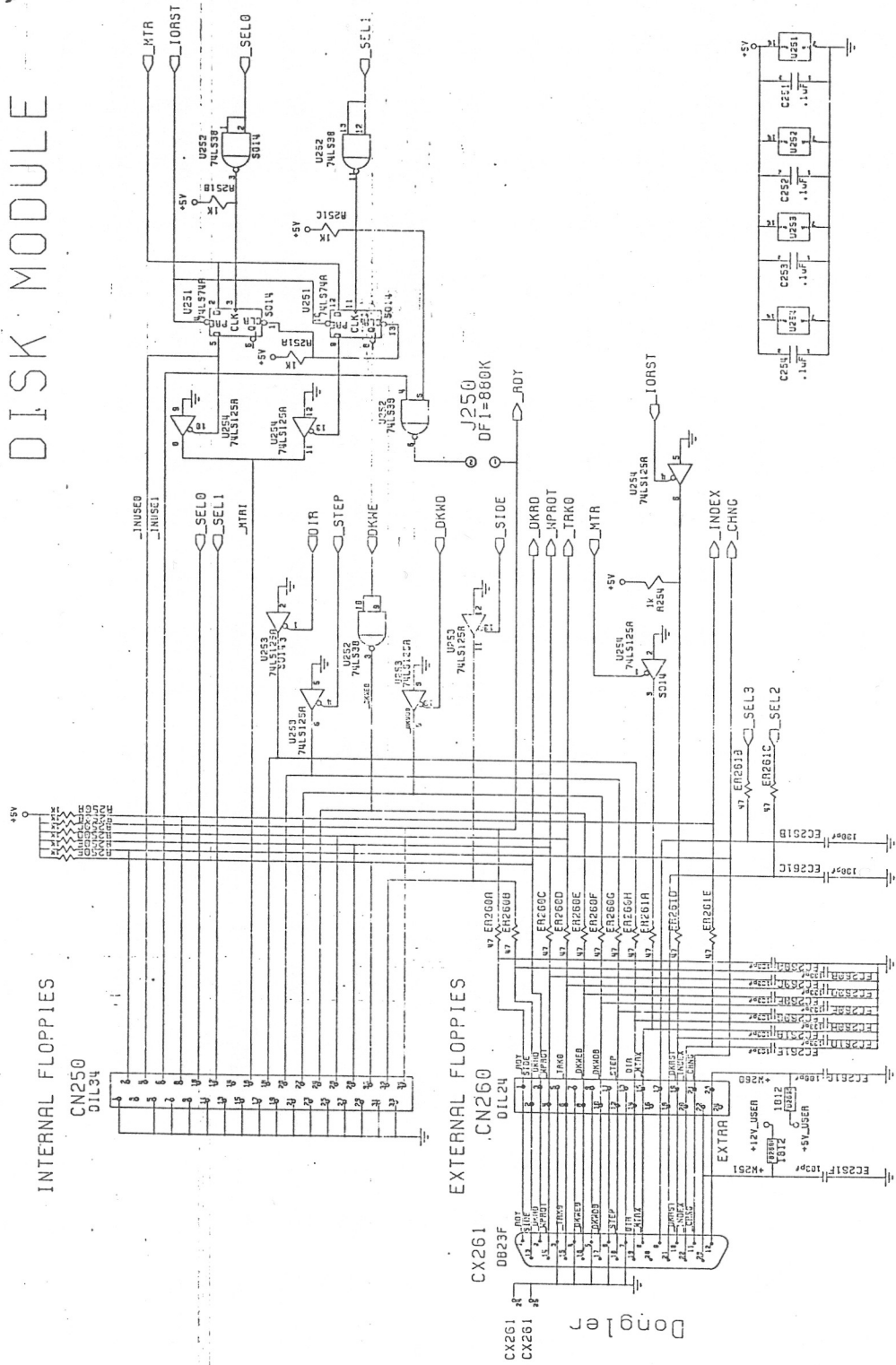
DISK MODULE

INTERNAL FLOPPIES

CN250
DIL34

EXTERNAL FLOPPIES

CN260
DIL24



250-289

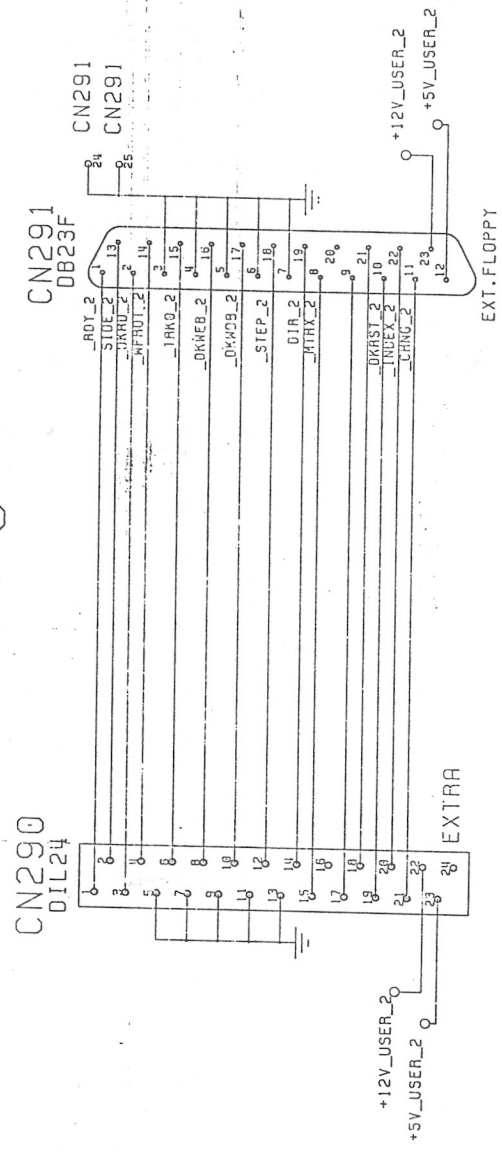
Floppy

COMMERCIAL BUSINESS MACHINES	
COMMODORE	
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DISK MOD	
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NO. 17	NO. 18
NO. 19	NO. 20
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NO. 181	NO. 182
NO. 183	NO. 184
NO. 185	NO. 186
NO. 187	NO. 188
NO. 189	NO. 190
NO. 191	NO. 192
NO. 193	NO. 194
NO. 195	NO. 196
NO. 197	NO. 198
NO. 199	NO. 200

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 B. MODEL NUMBER MAY BE USED IN THIS DOCUMENT

DISK MODULE

Flidget



290-299 EXT floppy widget

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C.A.D. Generated No manual changes may be made to this document			USED ON: NEXT/AST PART: R40001 REV: 365255 SCALE: NONE SHEETS: 3 OF 3	

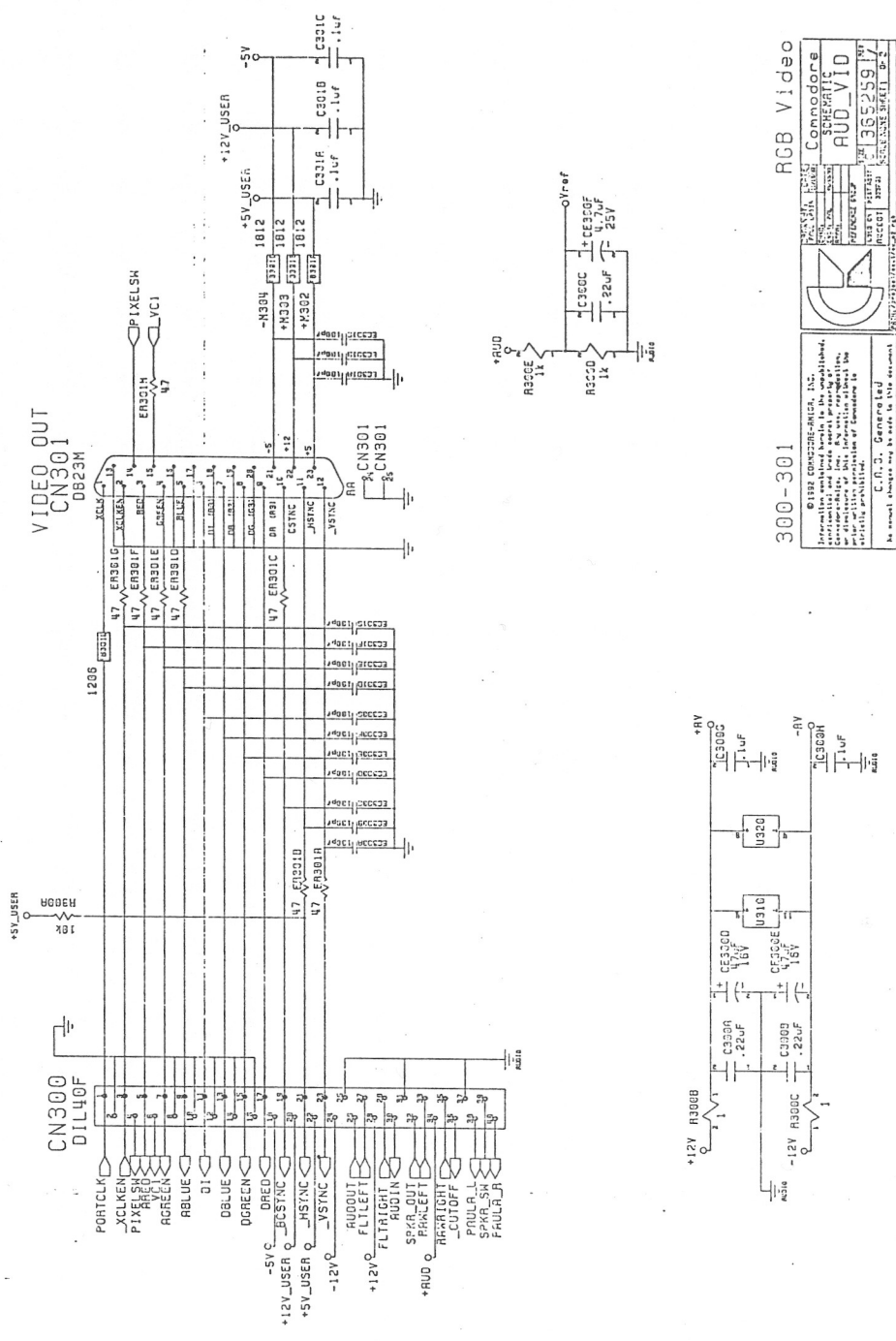
PART NUMBER	DESCRIPTION	REVISIONS		DATE	APPROVED
		ZN	LTR		
365257-01	PCB Assembly, A4000T DISK Module	1	Advance Engineering Release	4/23/93	<i>P. Lassa</i>

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Commodore	PCB Assembly, A4000T DISK Module	Drawn by P. Lassa	Drawing # 365257
		Sheet 1 of 2	

AUD_VID MODULE

REVISIONS	DATE	APPROVED
ZONE LTR /	DESCRIPTION	
	ADVANCE ENGINEERING RELEASE	
	4-23-93	LicB

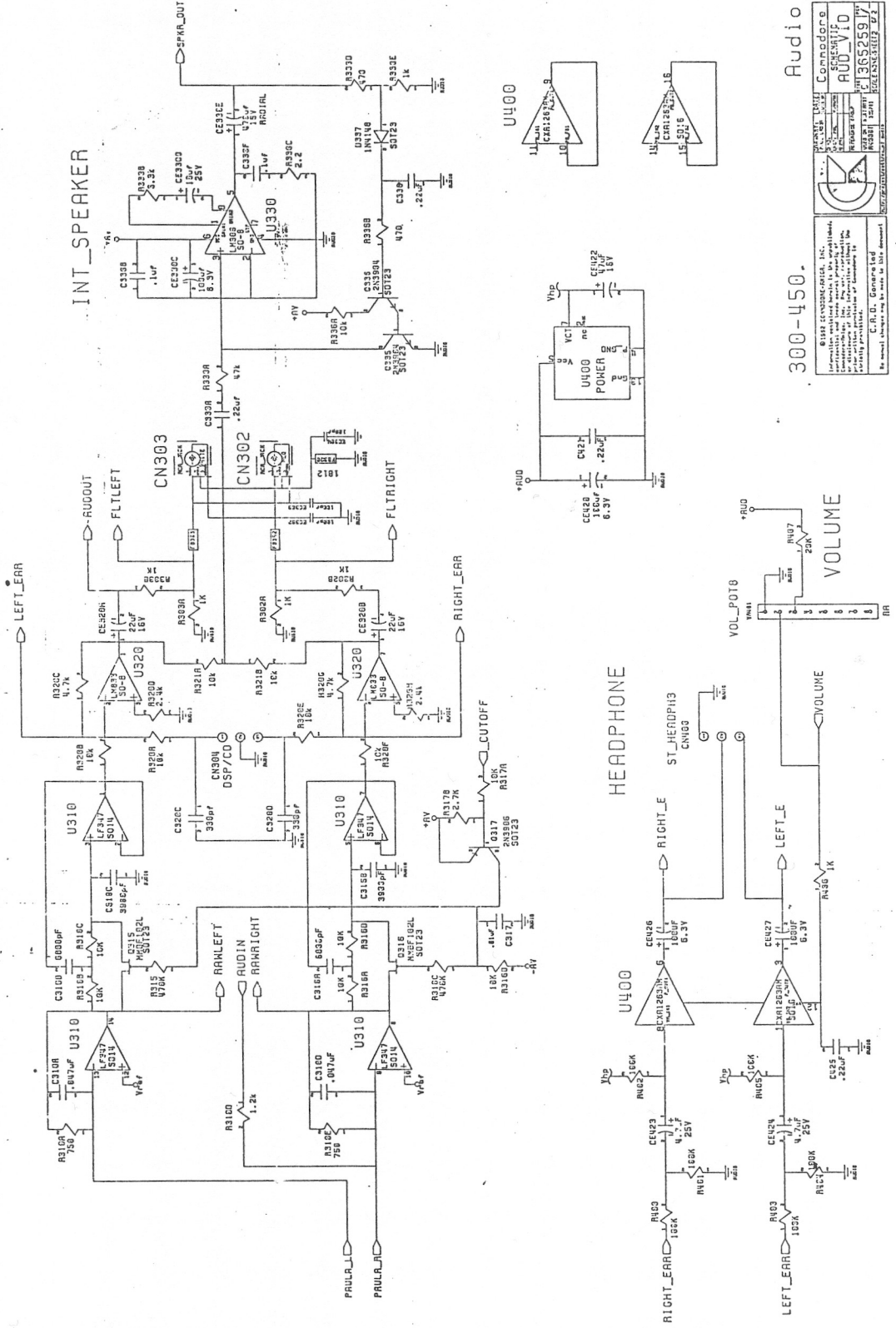


300-301

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Compton
 AUD_VID
 PART NO. 300-301
 REVISION 1.0
 DATE 11/92
 SHEET 1 OF 1

AUD_VID MODULE



300-450

Audio

Concord

AUD_VID

3652917

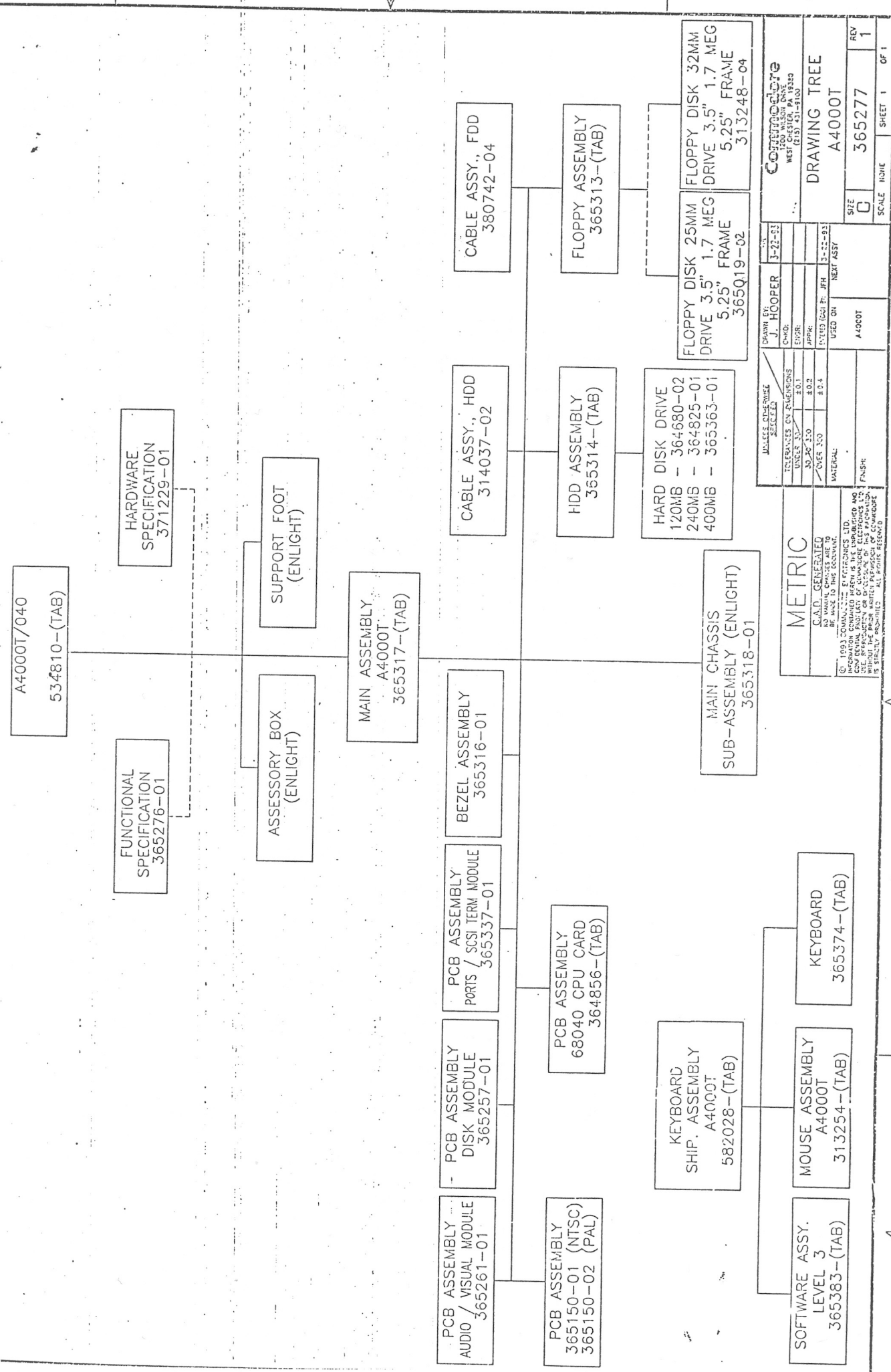
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QTY. REQ. PER DASH #		ITEM #	PART NO.	DESCRIPTION	REF DES / NOTES	
1	02	01	365259-01	SCHEMATIC		
1	02	02	365252-01	PCB FAB		
1	02	03	365260-01	ARTWORK		
1	02	04		INTEGRATED CIRCUITS		
1	02	05	3911630-01	CXA1253M, Audio HEADPH Amp (SO16)	U400	
1	02	06	391103-01	LF347, Op Amp, Genl JFET (SO14)	U310	
1	02	07	3911671-01	LM386, Audio Speaker Amp (SO-8)	U330	
1	02	08	391473-01	L4833, Op Amp, Dual (SO-8)	U320	
1	02	09		CAPACITORS		
1	02	10				
1	02	11				
1	02	12	390853-01	CAP, SM, X7R, .01UF (1206)	C317	
1	02	13	390853-04	CAP, SM, X7R, .047UF (1206)	C310A, C310D	
7	02	14	310027-02	CAP, SM, Z5U, .1UF (1206)	C300G, C300H, C301A, C, C330B, C330F	
7	02	15	390797-02	CAP, SM, Z5U, .22UF (1210)	C300A-C, C330A, C336, C421, C425	
2	02	16	390818-10	CAP, SM, NPO, 330PF (1206)	C320C, C320D	
2	02	17	390853-03	CAP, SM, X7R, 3900PF (1206)	C310C, C316B	
2	02	18	390853-09	CAP, SM, X7R, 6000PF (1206)	C310B, C316A	
1	02	19				
17	02	20	390818-06	CAP, SM, NPO, 100PF (1206)	EC300A-G, EC301A-G, EC302-EC304	
4	02	22	391097-01	CAP, ELECT ALUM, 100UF, 6.3V (D)	CE330C, CE420, CE426, CE427	
1	02	23	391097-07	CAP, ELECT ALUM, 10UF, 25V (C)	CE330D	
2	02	24	391097-03	CAP, ELECT ALUM, 22UF, 16V (C)	CE320A, CE320B	
3	02	25	391097-05	CAP, ELECT ALUM, 4.7UF, 25V (A)	CE300F, CE423, CE424	
1	02	26	390101-03	CAP, ELECT ALUM, 470UF, 16V (RADIAL)	CE330E	
3	02	27	391097-04	CAP, ELECT ALUM, 47UF, 16V (D)	CE300D, CE300E, CE422	
2	02	28		TRANSISTORS, DIODES, FERRITES		
2	02	30	391121-01	NPN, SM, 2N3904 (SOT23)	Q335, Q336	
1	02	31	391122-01	PNP, SM, 2N3906 (SOT23)	Q317	
2	02	32	391145-01	JFET, M4DF102L (SOT23)	Q315, Q316	
1	02	34	391129-01	DIODE, SM, 1N4148 (SOT23)	D337	
3	02	36	391092-03	FILTER, FERRITE, SM (1206)	FB301D, FB302, FD303	
4	02	37	391559-01	FILTER, FERRITE, SM (1812)	FB300, FB301A-C	
3	02	38				
4	02	39				
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4	02	50				
Title					Drawing #	REV
Commodore					P. Lassa	1
PCB Assembly, A4003T AUDIVID Modults					365261	1
					Sheet 2	of 3

QTY.	REQ.	PER	DASH#	ITEM	PART NO.	DESCRIPTION	REF DES / NOTES	
10	09	07	08	05	04	03	02	01
				51		RESISTORS		
				2	52	RES. CHIP, 1/4W, 5%, 1 OHM (1206)	R300B, R300C	
				1	53	RES. CHIP, 1/8W, 5%, 1.2K OHM (1206)	R310D	
				4	54	RES. CHIP, 1/8W, 5%, 100K OHM (1206)	R401, R402, R404, R405	
				14	55	RES. CHIP, 1/8W, 5%, 10K OHM (1206)	R300A, R310B, R310C, R316A, R316B, R316D, R317A	
				56			R320A, R320B, R320E, R320F, R321A, R321I, R336A	
				8	57	RES. CHIP, 1/8W, 5%, 1K OHM (1206)	R300D, R300E, R302A, R302B, R303A, R303B, R303E, R406	
				58				
				1	59	RES. CHIP, 1/8W, 5%, 2.2 OHM (1206)	R330C	
				2	60	RES. CHIP, 1/8W, 5%, 2.4K OHM (1206)	R320D, R320H	
				1	61	RES. CHIP, 1/8W, 5%, 2.7K OHM (1206)	R317B	
				1	62	RES. CHIP, 1/8W, 5%, 20K OHM (1206)	R407	
				1	63	RES. CHIP, 1/8W, 5%, 3.3K OHM (1206)	R330B	
				2	64	RES. CHIP, 1/8W, 5%, 4.7K OHM (1206)	R320C, R320G	
				2	65	RES. CHIP, 1/8W, 5%, 470 OHM (1206)	R330D, R336B	
				2	66	RES. CHIP, 1/8W, 5%, 470K OHM (1206)	R315, R316C	
				1	67	RES. CHIP, 1/8W, 5%, 47K OHM (1206)	R330A	
				2	68	RES. CHIP, 1/8W, 5%, 750 OHM (1206)	R310A, R310E	
				2	69	RES. CHIP, 1/8W, 5%, 100K OHM (1206)	F400, R403	
				70				
				8	71	RES. CHIP, 1/8W, 5%, 47 OHM (1206)	ER301A-H	
				72				
				73				
				74				
				75				
				1	76	CONNECTORS		
				1	77	D-SUB, 23 PIN, Male, RGB VIDEO (R4)	CN301	
				1	78	DIL40F (1X.1)	CN300	
				1	79	HEADPH (STEREO)	CN400	
				1	79	RCA JACK (RED)	CN302	
				1	80	RCA JACK (WHITE)	CN303	
				1	81	SIL3 (X.1)	CN304	
				82				
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				84		NOT STUFFED	VR1	
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Commodore					PCB Assembly, A4000T AUDIO/VIDEO Module			
Title					Drawing #			REV
					P. Lausa			1
					365261			1
					Sheet 3			of 3

*** THIS DRAWING IS FOR REFERENCE ONLY ***

REV	DESCRIP	DATE	APPROV
1	ADVANCE ENGINEERING RELEASE	7-23-83	J.B.A.



UNLESS OTHERWISE SPECIFIED	
TOLERANCES ON DIMENSIONS	
UNDER 3/32"	±0.1
3/32" TO 1/2"	±0.2
OVER 1/2"	±0.4
MATERIAL	
USED ON	NEW ASSY
A4000T	

DRAWN BY		DATE
J. HOOPER		3-22-83
CHKD:		
ENGR:		
APPR:		
FREQD USE: P. JFH		3-22-83
USED ON		
A4000T		

METRIC	
CALC. GENERATED	
BY: [blank]	
DATE: [blank]	
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COMPANYSOURCE	
WEST CHESTER, PA 19380	
(610) 431-8100	
DRAWING TREE	
A4000T	
SIZE	D
SCALE	AS SHOWN
SHEET	1
OF	1

PART NUMBER	DESCRIPTION	ZN	LTR	REVISIONS		DATE	APPROVED
				DESCRIPTION	RELEASE		
365314-01	HDD ASSEMBLY, A4000T, 120GB						
365314-02	HDD ASSEMBLY, A4000T, 240GB					4-23-93	J. Hooper
365314-03	HDD ASSEMBLY, A4000T, 53GB						

1. SHEET 3 OF 3 SIZE C
ASSY. DWG 365314

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Commodore	TITLE HDD ASSEMBLY, A4000T	Drawn by J. Hooper	Drawing # 365314
			Sheet 1 of 3

QUANTITY REQUIRED PER DASH #													ITEM #	PART NO.	DESCRIPTION	REF DES / NOTES																																																																										
25	24	23	22	21	20	19	18	17	16	15	14	13					12	11	10	09	08	07	06	05	04	03	02	01																																																														
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Commodore													Title													HDD ASSEMBLY, A4000T													Drawn by J. HOOPER													Drawing # 365314													REV 1																									
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PART NUMBER	DESCRIPTION	ZN LTR	REVISIONS DESCRIPTION	DATE	APPROVED
365316-01	BEZEL ASSEMBLY,A1000T	1	ADVANCE ENGINEERING RELEASE	9-23-93	<i>M. Beck</i>

1. SHEET 3 OF 3 SIZE C
ASSY. DWG 365316

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Commodore	TITLE	BEZEL ASSEMBLY,A1000T	Drawn by	J. Hooper	Drawing #	365316
						Sheet 1 of 3

ITEM #	QUANTITY REQUIRED PER DASH #										PART NO.	DESCRIPTION	REF DES / NOTES					
	1	2	3	4	5	6	7	8	9	10								
1											365312-01	FRONT BEZEL A4000T						
2											365303-01	DOOR WINDOW						
3											365310-01	BEZEL DOOR						
4											365311-01	NAMEPLATE						
5											365304-01	PUSH DOOR LOCK MECHANISM	EN-					
6											365353-01	SNAP-IN COVER PLATE FDD	EN-3105228					
7											365357-01	PUSH CONTROL BUTTON	EN-3501477					
8											365302-01	RETAINER SPRING	EN-3501477					
9											365356-01	LED LENS	EN-3103288					
10											365359-01	RETAINER SPRING	EN-3635046373					
11											251449-01	SCREW SELF-TAPPING M4 X 6	EN-3630060625					
12																		
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Title											BEZEL ASSEMBLY, A4000T		Drawn by	J. HOOPER	Drawing #	365316	REV	1
Commodore													Sheet 2		of 3			

PART NUMBER	DESCRIPTION	ZN	LTR	REVISIONS		DATE	APPROVED
				DESCRIPTION	RELEASE		
365317-01	MAIN ASSEMBLY A4000T 3F1.44M 3H120MB 2M+4M NTSC		1	ADVANCE ENGINEERING RELEASE	4/23/93	G. BERLIN	
365317-02	MAIN ASSEMBLY A4000T 3F1.44M 3H120MB 2M+4M PAL						
365317-03	MAIN ASSEMBLY A4000T 3F1.44M 3H120MB 2M+8M NTSC						
365317-04	MAIN ASSEMBLY A4000T 3F1.44M 3H120MB 2M+8M PAL						
365317-05	MAIN ASSEMBLY A4000T 3F1.44M 3H240MB 2M+4M NTSC						
365317-06	MAIN ASSEMBLY A4000T 3F1.44M 3H240MB 2M+4M PAL						
365317-07	MAIN ASSEMBLY A4000T 3F1.44M 3H240MB 2M+8M NTSC						
365317-08	MAIN ASSEMBLY A4000T 3F1.44M 3H240MB 2M+8M PAL						
365317-09	MAIN ASSEMBLY A4000T 3F1.44M 3H535MB 2M+4M NTSC						
365317-10	MAIN ASSEMBLY A4000T 3F1.44M 3H535MB 2M+4M PAL						
365317-11	MAIN ASSEMBLY A4000T 3F1.44M 3H535MB 2M+8M NTSC						
365317-12	MAIN ASSEMBLY A4000T 3F1.44M 3H535MB 2M+8M PAL						

1. SHEET 3 OF 3 SIZE D
ASSY. DWG 365317

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Commodore	TITLE	MAIN ASSEMBLY,A4000T	Drawn by	J. Hooper	Drawing #	365317
						Sheet 1 of 3

ITEM #	QUANTITY REQUIRED PER DASH #													PART NO.	DESCRIPTION	REF DES / NOTES	
	10	11	12	13	14	15	16	17	18	19	20	21	22				
1	1	1	1	1	1	1	1	1	1	1	1	1	1	365316-01	MAIN CHASSIS SUB-ASSEMBLY		
2														365313-01	FLOPPY DISK DRIVE ASSY, 3.5" 5.25" 25MM		
3	S	S	S	S	S	S	S	S	S	S	S	S	S	365313-02	FLOPPY DISK DRIVE ASSY, 3.5" 5.25" 32MM	SUB FOR ITEM 3	
4																	
5																	
6	2	2	1	2	2	1	1	2	2	1	1	1	1	391518-01	IC, SIMM MODULE, 1M X 32 80NS	535, 535A	
7																	
8	-	1	-	1	-	1	-	1	-	1	-	1	-	355190-01	PCD ASSEMBLY A4000T, NTSC		
9	1	-	1	-	1	-	1	-	1	-	1	-	1	355150-02	PCB ASSEMBLY A4000T, PAL		
10																	
11	1	1	1	1	1	1	1	1	1	1	1	1	1	354836-01	PCU ASSEMBLY, 68040 CPU CARD		
12																	
13	1	1	1	1	1	1	1	1	1	1	1	1	1	365261-01	PCB ASSEMBLY, AUDIO/VIDEO MODULE		
14	1	1	1	1	1	1	1	1	1	1	1	1	1	365257-01	PCB ASSEMBLY, DISK MODULE		
15	1	1	1	1	1	1	1	1	1	1	1	1	1	365297-01	PCD ASSEMBLY, PORTS/SCSI TERM. MODULE		
16																	
17	4	4	4	4	4	4	4	4	4	4	4	4	4	354921-01	STANDOFF, PLASTIC	FOR CPU CARD	
18																	
19	-	-	-	-	-	-	-	-	-	-	-	-	-	365314-01	HDD ASSEMBLY, 120MB		
20	-	-	-	-	-	-	-	-	-	-	-	-	-	365314-02	HDD ASSEMBLY, 240MB		
21	1	1	1	1	1	1	1	1	1	1	1	1	1	365314-03	HDD ASSEMBLY, 532MB		
22																	
23	1	1	1	1	1	1	1	1	1	1	1	1	1	314037-02	CABLE ASSEMBLY, HDD, 50 PIN SCSI		
24	1	1	1	1	1	1	1	1	1	1	1	1	1	390742-04	CABLE ASSEMBLY, FLOPPY		
25																	
26	8	8	8	8	8	8	8	8	8	8	8	8	8	364251-01	STANDOFF, HEX, M/F MEXX0.5 /A-40	ITEM 15 TO 1	
27																	
28	16	16	16	16	16	16	16	16	16	16	16	16	16	906010-01	SCREW, #6-32X .25 LG.	ITEMS 8, 9, 13, 14 TO 1	
29																	
30	1	1	1	1	1	1	1	1	1	1	1	1	1	363619-01	LABEL, MI-CD		
31	1	1	1	1	1	1	1	1	1	1	1	1	1	363646-01	LABEL, REAR I/O PORTS LABEL		
32	1	1	1	1	1	1	1	1	1	1	1	1	1	363645-01	LABEL, REAR SLOTS		
33																	
34																	
35																	
36	-	1	-	1	-	1	-	1	-	1	-	1	-	363644-01	LABEL, RATING - MADE IN PHILIPPINES	120V PRODUCT	
37	1	-	1	-	1	-	1	-	1	-	1	-	1	363644-02	LABEL, RATING - MADE IN PHILIPPINES	240V PRODUCT	
38																	
39	1	1	1	1	1	1	1	1	1	1	1	1	1	312695-03	CABLE ASSEMBLY, SHORT	ITEMS 15 TO 8 OR 9	
40	1	1	1	1	1	1	1	1	1	1	1	1	1	312695-01	CABLE ASSEMBLY, LONG	ITEMS 15 TO 8 OR 9	
41																	
42	1	1	1	1	1	1	1	1	1	1	1	1	1	363316-01	BEZEL, ASSEMBLY		
43																	
44																	
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Comments

MAIN ASSEMBLY, A4000T

Drawn by J. HOOPER
 Drawing # 365317
 Sheet 2 of 3

PART NUMBER	DESCRIPTION	ZN	LTR	REVISIONS		APPROVED
				DESCRIPTION	DATE	
365318-01	MAIN CHASSIS SUB-ASSEMBLY (ENLIGHT)		1	ADVANCE ENGINEERING RELEASE	4-23-73	J. Hooper

1. SHEET 3 OF 3 SIZE D
 ASSY. DWG. 365318

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Commodore	TITLE	MAIN CHASSIS SUB-ASSY	Drawn by J. Hooper	Drawing # 365318
			Sheet 1 of 3	

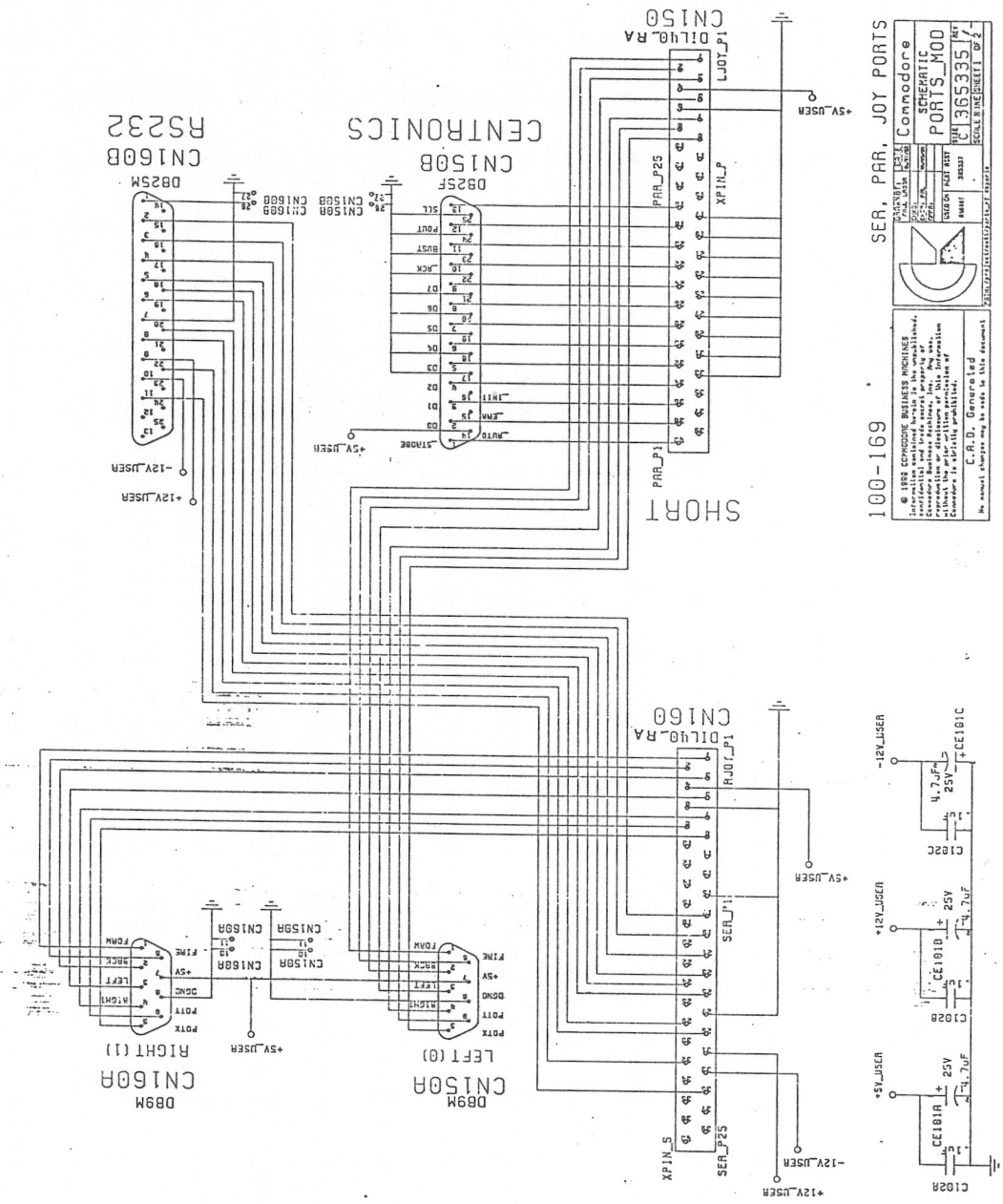
QUANTITY REQUIRED PER DASH #													REF DES / NOTES																		
25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	PART NO.		DESCRIPTION	REV			
																									Title			Drawing #	Sheet		
																										TBD		CHASSIS BOTTOM SET ASSEMBLY	ENLIGHT # 5205499	J. HOOPER	365310
																										TBD		CONTROL PANEL	ENLIGHT # 5401679		
																										TBD		FOOTSTAND ASSEMBLY	ENLIGHT # 5101683		
																										TBD		TOP COVER	ENLIGHT # 5204053		
																										391629-01		POWER SUPPLY	ENLIGHT # 0253369		
																										TBD		PARTS BOX ASSEMBLY	ENLIGHT # 5500774		
																										TBD		HDD BRACKET ASSEMBLY	ENLIGHT # 5202752		
																										TBD		SPEAKER ASSEMBLY	ENLIGHT # 5100039		
																										TBD		SPEAKER STAND	ENLIGHT # 3401039		
																										TBD		ADAPTER PLATE (OPTION CARD BRACKET)	ENLIGHT # 3203397		
																										TBD		PCR GUIDE	ENLIGHT # 5103241		
																										TBD		COVER PLATE I/O 25 PIN	ENLIGHT # 3203394		
																										TBD		COVER PLATE I/O 9 PIN	ENLIGHT # 3203395		
																										TBD		COVER PLATE FDD	ENLIGHT # 3205782		
																										TBD		DISK COVER HDD	ENLIGHT # 3505771		
																										TBD		FAN	ENLIGHT # 3402087		
																										TBD		FAN FILTER	ENLIGHT # 3103175		
																										TBD		METAL COLUMN (STANDOFF #6-32X.25")	ENLIGHT # 3502549		
																										TBD		SCREW M3 X 8	For Item 16 ENLIGHT # 3501216		
																										TBD		SCREW FLAT HEAD #6-32X16	For Items 26 & 27 ENLIGHT # 3501591		
																										TBD		SCREW HEX HEAD #6-32X8	For # 13,23,24 to 1 ENLIGHT # 3501699		
																										TBD		SCREW HEX HEAD #6-32X6	For # 18 & 7 to 1 ENLIGHT # 3501557		
																										TBD		SCREW TAPPING #8-32X6	For # 3 & 9 to 1 ENLIGHT # 3560703		
																										TBD		BAG, ANTI-STATIC	ENLIGHT # 3503184		
																										TBD		PACKING BOX			
																										TBD		FOAM END CAPS			

PORTS MODULE

REV	DATE	APPROVED
1	4/25/83	JCB

DESCRIPTION: ADVANCE ENGINEERING RELEASE

SOLDER (BACK OF BOARD) VIEW
(FROM INSIDE CASE)



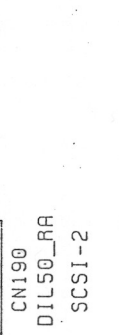
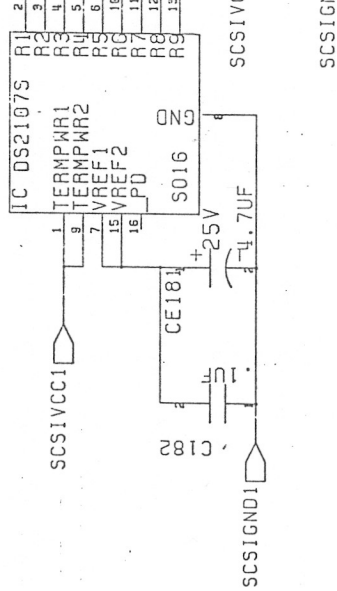
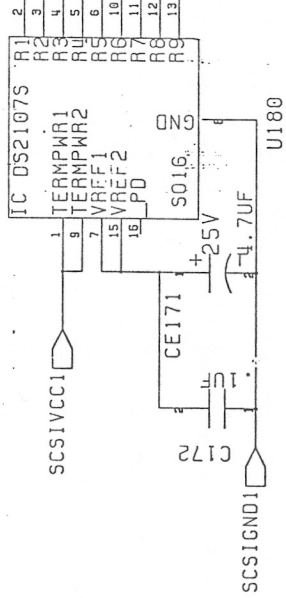
100-169 SER, PAR, JOY PORTS

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C.M.D. General Ltd.
 100-169 SER, PAR, JOY PORTS

Commodore
 SCHEMATIC
 PORTS MOD
 SHEET NO. 1365335
 REV. 1
 SCALE: NONE SHEET 1 OF 2

U170



SCSI TERMINATION

170-199

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DRRAWBY: ORATE	Commodore
DATE: 8/22/92	SCHMATIC
DESIGNER: PFL	PORTS_MOD
APP: PFL	SIZE C 365335
REFERENCE GROUP	REV 1
USED ON NEXT ASSY	365337
NUMBER	365337
SCALE	NONE SHEET 2 OF 2

PRTH: /proj/sect/sect/ports_177.schematic

PART NUMBER	DESCRIPTION	REVISIONS			DATE	APPROVED
		ZN	LTR	DESCRIPTION		
365337-01	PCB Assembly, A4000T PORTS Module	1		Advance Engineering Release	4/23/93	(Signature)

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Commodore	PCB Assembly, A4000T PORTS Module	Drawn by P. Lassa	Drawing # 365337
			Sheet 1 of 2

QTY	REQ	PER DASH	ITEM	PART NO.	DESCRIPTION	REF DES / NOTES
			R 1	365335-01	SCHEMATIC	
			R 2	365338-01	PCB FAB	
			1 3	365336-01	ARTWORK	
			4			
			5		INTEGRATED CIRCUITS	
			2 6	391597-01	IC, DS2107S, SCSI TERMINATOR (SO16)	U170,U190
			7			
			8		CAPACITORS	
			6 9	310027-02	CAP, 5M, 25U, 1UF (1263)	C102A-C,C172,C192,C192
			10			
			6 11	391097-06	CAP, ELECT ALUM, 4.7UF, 25V (A)	CE101A-C,CE171,CE101,CE190
			12			
			13		CONNECTORS	
			1 14	390241-05	D-SUB, 25 PIN, Female, PARALLEL (VERT/H/PROF)	CH150B
			1 15	390242-05	D-SUB, 25 PIN, Male, SERIAL (VERT/H/PROF)	CNI160B
			2 16	390242-01	D-SUB, 9 PIN, Male, JOY/MOUSE (VERT/H/PROF)	CNI150A,CNI160A
			2 17	390224-03	DIL40, RA, L/P, DUAL ROW POST HEADER (RA)	CNI150,CNI160
			1 18	391621-01	DIL50, RA, Polarized, Shrouded (SCSI-2)	CNI190
			19			
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Commodore			PCB Assembly, A400UT PORTS Module			Drawn by P. Lassa
						Drawing # 365337
						Sheet 2 of 2
						REV 1

Part Number	Description	Zn	Ltr	Revisions	
				Description	Date
534810-01	A4000T/040 3F1.44M 3H120MB 2M + 4M NTSC		1	ADVANCE ENGINEERING RELEASE	4/23/93
534810-02	A4000T/040 3F1.44M 3H120MB 2M + 4M PAL				
534810-03	A4000T/040 3F1.44M 3H120MB 2M + 8M NTSC				
534810-04	A4000T/040 3F1.44M 3H120MB 2M + 8M PAL				
534810-05	A4000T/040 3F1.44M 3H240MB 2M + 4M NTSC				
534810-06	A4000T/040 3F1.44M 3H240MB 2M + 4M PAL				
534810-07	A4000T/040 3F1.44M 3H240MB 2M + 8M NTSC				
534810-08	A4000T/040 3F1.44M 3H240MB 2M + 8M PAL				
534810-09	A4000T/040 3F1.44M 3H535MB 2M + 4M NTSC				
534810-10	A4000T/040 3F1.44M 3H535MB 2M + 4M PAL				
534810-11	A4000T/040 3F1.44M 3H535MB 2M + 8M NTSC				
534810-12	A4000T/040 3F1.44M 3H535MB 2M + 8M PAL				

1. Sheet 3 of 3 Size
 Assembly Drawing: 534810
 Notes:

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Commodore

Title:
 A4000T/040

Drawn by
 APH

Drawing #
 534810

Sheet 1 of 3

Item #	Quantity Required Per Dash Number										Part Number	Description	Reference Designators/ Notes
	10	09	08	07	06	05	04	03	02	01			
1											365317-01	MAIN ASSY, A4000T/040 120MB HD 2M + 4M	
2											365317-02	MAIN ASSY, A4000T/040 120MB HD 2M + 4M	
3											365317-03	MAIN ASSY, A4000T/040 120MB HD 2M + 0M	
4											365317-04	MAIN ASSY, A4000T/040 120MB HD 2M + 8M	
5											365317-05	MAIN ASSY, A4000T/040 240MB HD 2M + 4M	
6											365317-06	MAIN ASSY, A4000T/040 240MB HD 2M + 4M	
7											365317-07	MAIN ASSY, A4000T/040 240MB HD 2M + 8M	
8											365317-08	MAIN ASSY, A4000T/040 240MB HD 2M + 8M	
9											365317-09	MAIN ASSY, A4000T/040 535MB HD 2M + 4M	
10											365317-10	MAIN ASSY, A4000T/040 535MB HD 2M + 4M	
11											365317-11	MAIN ASSY, A4000T/040 535MB HD 2M + 8M	
12											365317-12	MAIN ASSY, A4000T/040 535MB HD 2M + 8M	
13												BOX, PACKING	
14											365361-01	ENDCAP	
15											365395-01		
16												BOX, ACCESSORY	ENLIGHT SUPPLIED
17											OEM	SUPPORT FOOT	ENLIGHT SUPPLIED
18											OEM		
19												VIDEO ADAPTER	
20											390602-01		
21												LABEL, RATING, MADE IN PHILIPPINES	FCC
22											369644-01	LABEL, RATING, MADE IN PHILIPPINES	VDE
23											369644-02	LABEL, RATING, MADE IN PHILIPPINES	SUB FOR ITEM 24 FOR BRAZIL ONL
24											369644-03	LABEL, RATING, MADE IN PHILIPPINES	
25												LABEL, UPC 3F1.44M 120MB HD 2M + 4M	
26											369647-01	LABEL, UPC 3F1.44M 120MB HD 2M + 8M	
27											369647-02	LABEL, UPC 3F1.44M 240MB HD 2M + 4M	
28											369647-03	LABEL, UPC 3F1.44M 240MB HD 2M + 8M	
29											369647-04	LABEL, UPC 3F1.44M 535MB HD 2M + 4M	
30											369647-05	LABEL, UPC 3F1.44M 535MB HD 2M + 4M	
31											369647-06	LABEL, UPC 3F1.44M 535MB HD 2M + 8M	
32													
33													
34													
35													
36											325000-02	SEAL, WARRANTY	
37											354084-01	SEAL, TAMPER EVIDENT	
38													
39													
40													
41													
42													
43													
44											251006-01	BAG, PLASTIC	FOR KEYLOCK KEYS
45											320400-04	BAG, FLAT, 650mm x 650mm	FOR CPU
46											324257-01	BAG, DRYING AGENT	PLACE IN ITEM 45
47												LABEL, HEAVY LIFT WARNING	
48											366610-01	LABEL, BAR CODE, PLANK	
49											366048-01		
50													

Commodore

Title: A4000T/040

Drawn by APH
 Drawing # 534810
 Sheet 2 of 3
 Rev 1

Part Number	Description	Revisions		Date	Approved
		Zn	Ltr			Description
582028-01	KEYBOARD SHIPPING ASSY. A4000T7040 US		1	4-23-73	A. K. S.
582028-02	KEYBOARD SHIPPING ASSY. A4000T7040 CN				
582028-03	KEYBOARD SHIPPING ASSY. A4000T7040 UK				
582028-04	KEYBOARD SHIPPING ASSY. A4000T7040 GR				
582028-05	KEYBOARD SHIPPING ASSY. A4000T7040 FR				
582028-06	KEYBOARD SHIPPING ASSY. A4000T7040 IT				
582028-07	KEYBOARD SHIPPING ASSY. A4000T7040 SP				
582028-08	KEYBOARD SHIPPING ASSY. A4000T7040 SF				
582028-09	KEYBOARD SHIPPING ASSY. A4000T7040 SG				
582028-10	KEYBOARD SHIPPING ASSY. A4000T7040 AU				
582028-11	KEYBOARD SHIPPING ASSY. A4000T7040 NR				
582028-12	KEYBOARD SHIPPING ASSY. A4000T7040 SD				
582028-13	KEYBOARD SHIPPING ASSY. A4000T7040 FN				
582028-14	KEYBOARD SHIPPING ASSY. A4000T7040 NE				
582028-15	KEYBOARD SHIPPING ASSY. A4000T7040 DN				
582028-16	KEYBOARD SHIPPING ASSY. A4000T7040 BF				
582028-17	KEYBOARD SHIPPING ASSY. A4000T7040 BD				
582028-18	KEYBOARD SHIPPING ASSY. A4000T7040 AL				
582028-19	KEYBOARD SHIPPING ASSY. A4000T7040 CEF				
582028-20	KEYBOARD SHIPPING ASSY. A4000T7040 PG				
582028-21	KEYBOARD SHIPPING ASSY. A4000T7040 JP				
582028-22	KEYBOARD SHIPPING ASSY. A4000T7040 INT NOT USED				
582028-23	KEYBOARD SHIPPING ASSY. A4000T7040 LA NTSC				
582028-24	KEYBOARD SHIPPING ASSY. A4000T7040 PD NOT USED				
582028-25	KEYBOARD SHIPPING ASSY. A4000T7040 LA PAL				
582028-26	KEYBOARD SHIPPING ASSY. A4000T7040 BRAZIL				
582028-27	KEYBOARD SHIPPING ASSY. A4000T7040 SI				

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Commodore	Title: KEYBOARD SHIPPING ASSEMBLY, A4000T7040	Drawn by:	APH	Drawing #	582028
				Sheet 1 of 3	

Item #	Quantity Required Per Dash Number												Part Number	Description	Reference Designators/ Notes				
	17	16	15	14	13	12	11	10	09	08	07	06				05	04	03	02	01
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-01	KEYBOARD ASSEMBLY, A4000T/040	US
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-02	KEYBOARD ASSEMBLY, A4000T/040	UK
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-03	KEYBOARD ASSEMBLY, A4000T/040	GR
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-04	KEYBOARD ASSEMBLY, A4000T/040	FR
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-05	KEYBOARD ASSEMBLY, A4000T/040	IT
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-06	KEYBOARD ASSEMBLY, A4000T/040	SP
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-07	KEYBOARD ASSEMBLY, A4000T/040	SWISS
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-08	KEYBOARD ASSEMBLY, A4000T/040	NR
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-09	KEYBOARD ASSEMBLY, A4000T/040	SD/FH
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365347-10	KEYBOARD ASSEMBLY, A4000T/040	DN
37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ENDCAP		
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	BOX SHIPPING		
39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DRG. FLAT, 500mm x 250mm		
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TAPE, ADHESIVE, TRANSPARENT, 50mm		
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MOUSE ASSEMBLY, 2.4M WITH FERRITE		
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MOUSE ASSEMBLY, 2.4M W/O FERRITE		
43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SW ASSEMBLY, AMIGA, LEVEL-3, V3.1	ENGLISH	
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
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99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Commodore
 Title: KEYBOARD SHIPPING ASSY., A4000T/040
 Drawn by: APH
 Drawing #: 592020
 Rev: 1
 Sheet 2 of 3

Item #	Quantity Required Per Dash Number										Part Number	Description	Reference Designators/ Notes
	27	28	29	30	31	32	33	34	35	36				37
51	1	1	1	1	1	1	1	1	1	1	371186-01	USER'S GUIDE, A400T/O40	ENGLISH
52													
53													
54													
55													
56													
57													
58													
59											371235-01	MANUAL, HARD DISK USER'S GUIDE	ENGLISH
60	1	1	1	1	1	1	1	1	1	1			
61													
62													
63													
64													
65													
66													
67													
68													
69													
70													
71													
72													
73											356981-01	CARTON LABEL	US
74											366981-02	CARTON LABEL	CN
75											356981-03	CARTON LABEL	UK
76											356981-04	CARTON LABEL	GR
77											366981-05	CARTON LABEL	FR
78											366981-06	CARTON LABEL	IT
79											366981-07	CARTON LABEL	SP
80											366981-08	CARTON LABEL	SG
81											366981-09	CARTON LABEL	SF
82											366981-10	CARTON LABEL	AU
83											366981-11	CARTON LABEL	NR
84											366981-12	CARTON LABEL	SD
85											366981-13	CARTON LABEL	FN
86											366981-14	CARTON LABEL	NE
87											366981-15	CARTON LABEL	DN
88											366981-16	CARTON LABEL	BF
89											366981-17	CARTON LABEL	BD
90											366981-18	CARTON LABEL	AL
91											366981-19	CARTON LABEL	CEL
92											366981-20	CARTON LABEL	FG
93											366981-21	CARTON LABEL	JP
94											366981-22	CARTON LABEL	LA NTSC
95											366981-23	CARTON LABEL	LA PAL
96											366981-24	CARTON LABEL	IA PAL
97											366981-25	CARTON LABEL	BZ
98											366981-26	CARTON LABEL	SI
99													
100													

Commodore

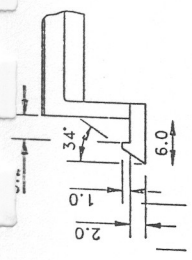
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Drawn by APH

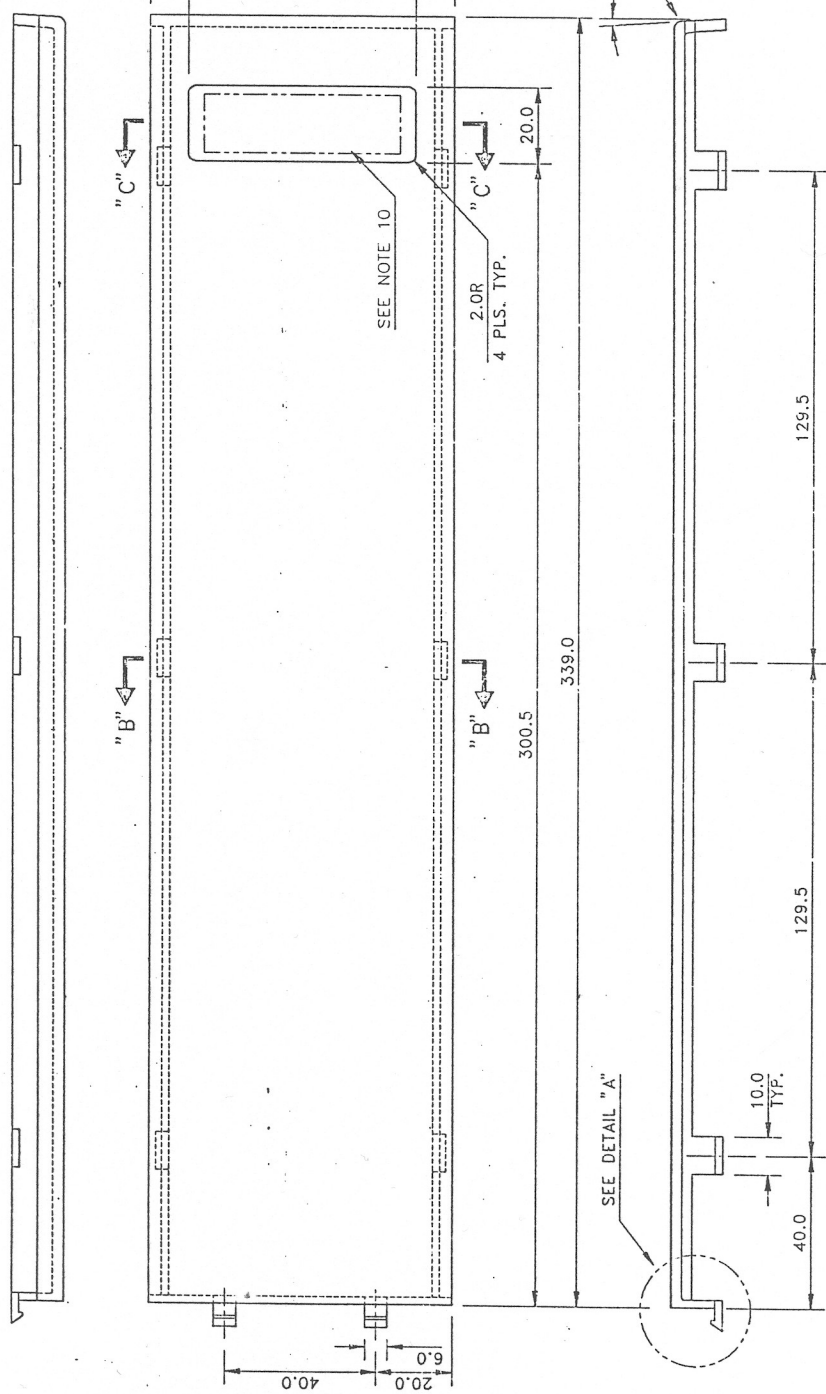
Drawing # 582020

Rev 1

Sheet 3 of 3

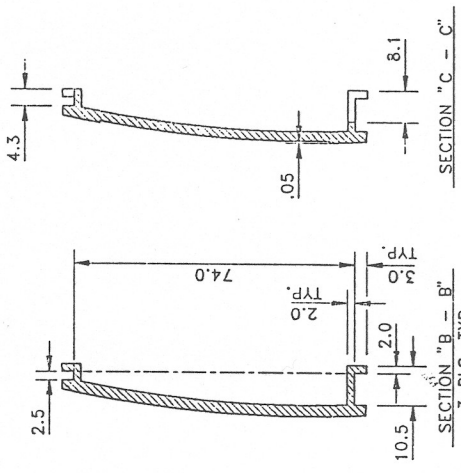


DETAIL - "A"
SCALE 2/1, 2 PLS. TYP.



- NOTES: UNLESS OTHERWISE SPECIFIED:
- 1.) ALL RADII TO BE 1.0 MM.
 - 2.) ALL DIMENSIONS ARE IN MILLIMETRES.
 - 3.) WALL THICKNESS TO BE 3.0 MM.
 - 4.) DRAFT ANGLES ARE TO BE 2° MAX.
 - 5.) 1° DRAFT ON ALL BOSSES AND CORED HOLES.
 - 6.) MATERIAL: ACRYLIC, ACRYLIC LN-084 40% TRANSPARENCY. COLOR IS TO BE GRAY SMOKE.
 - 7.) FINISH: HIGH GLOSS POLISHED FINISH.
 - 8.) PART IS TO BE FREE TO EXCESSIVE SINK MARKS, FLASH AND ALL OTHER MOLD DEFECTS.
 - 10.) MOLD IN COMMODORE PART NUMBER, REVISION NUMBER, AND DATE ON THE INSIDE SURFACE. ALSO ADD ACRYLIC RECYCLING SYMBOL APPROX. WHERE SHOWN.
 - 11.) LETTERS ARE TO BE HELVETICA REGULAR, RAISED 0.3, 2.0 MM HIGH.
 - 12.) PROTECT OUTSIDE SURFACE WITH SELF-ADHESIVE CLEAR PLASTIC CELLOPHANE.

ZONE	LTR	DESCRIPTION	DATE	APPROVED
1		PRELIMINARY ENGINEERING RELEASE		
2		ADDED COMMODORE PART NUMBER		
3		ADVANCE ENGINEERING RELEASE		<i>[Signature]</i>



UNLESS OTHERWISE SPECIFIED		TOLERANCES ON DIMENSIONS	
UNDER 30	±0.1	30 TO 300	±0.2
OVER 300	±0.4		

C.A.D. GENERATED	NO MANUAL CHANGES ARE TO BE MADE TO THIS DOCUMENT.
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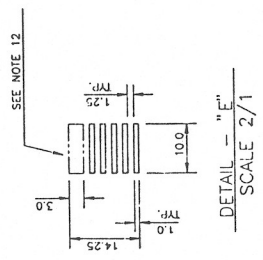
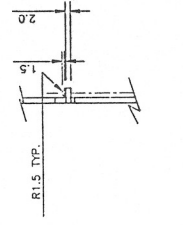
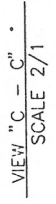
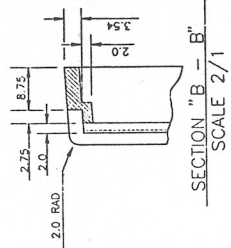
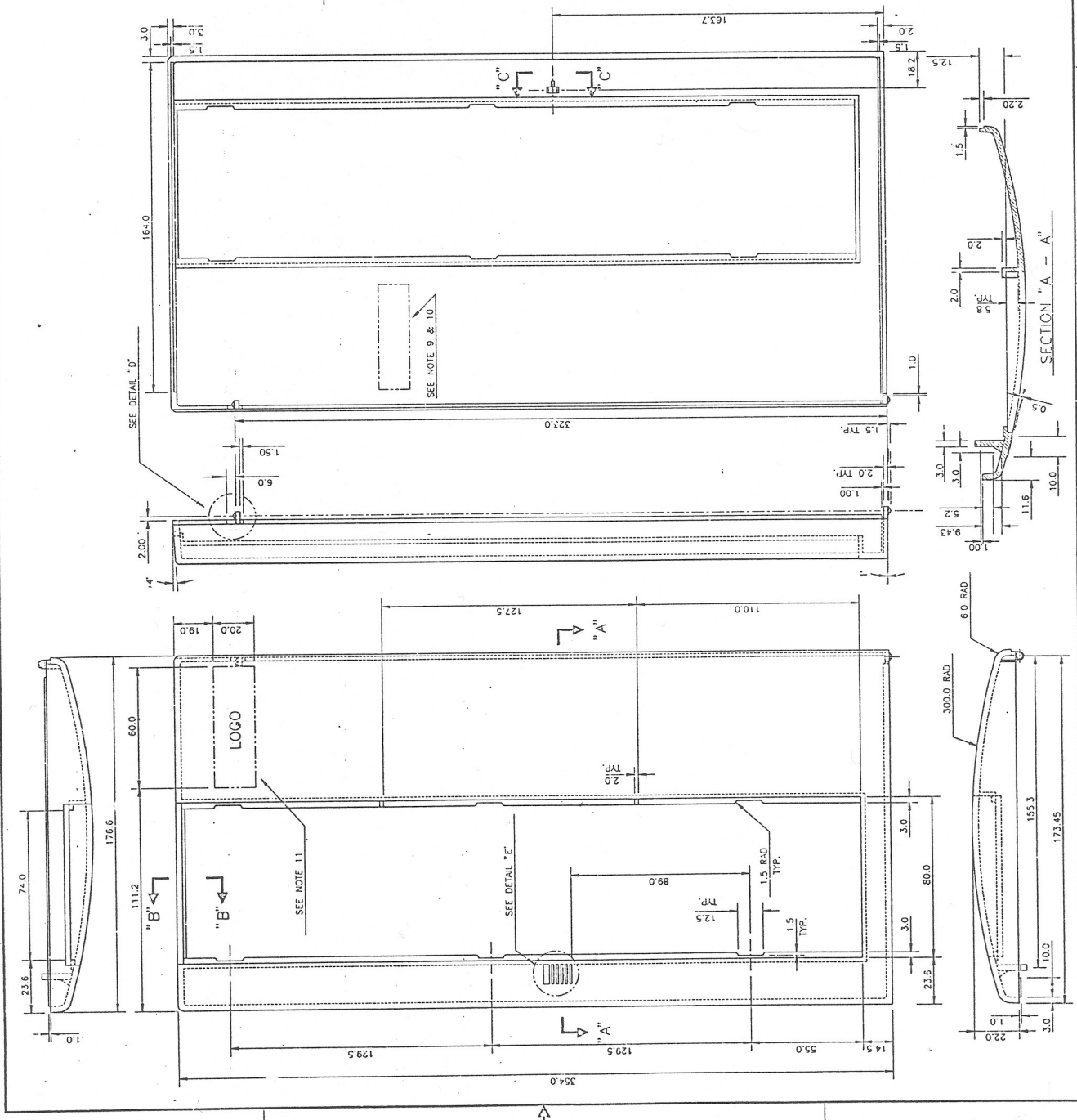
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CHKD: [Signature]	ENGR: [Signature]
APPR: [Signature]	ENGR (CCL) BY: JFH
USED ON: NEAR ASST	DATE: 12-22-92

MATERIAL: SEE NOTE 6	FINISH: SEE NOTE 7
----------------------	--------------------

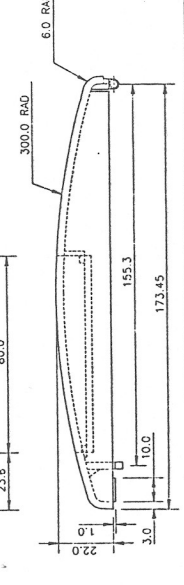
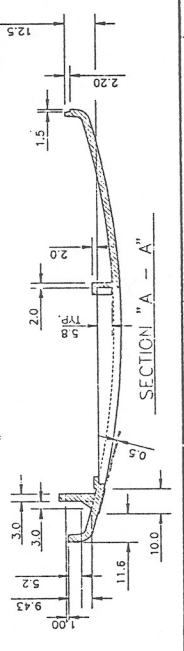
SCALE: 1:1	SHEET: 1	OF: 1
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COMMODORE	
WEST CHESTER, PA 19380	
(215) 431-6100	
SIZE: C	REV: 3
365316	365309
DOOR WINDOW	

REVISEL ITR	DESCRIPTION	DATE	APPROVED
1	PRELIMINARY ENGINEERING RELEASE		
2	HINGE MODIFICATIONS		
3	ADDED COMMODORE PART NUMBER		
4	ADVANCE ENGINEERING RELEASE		



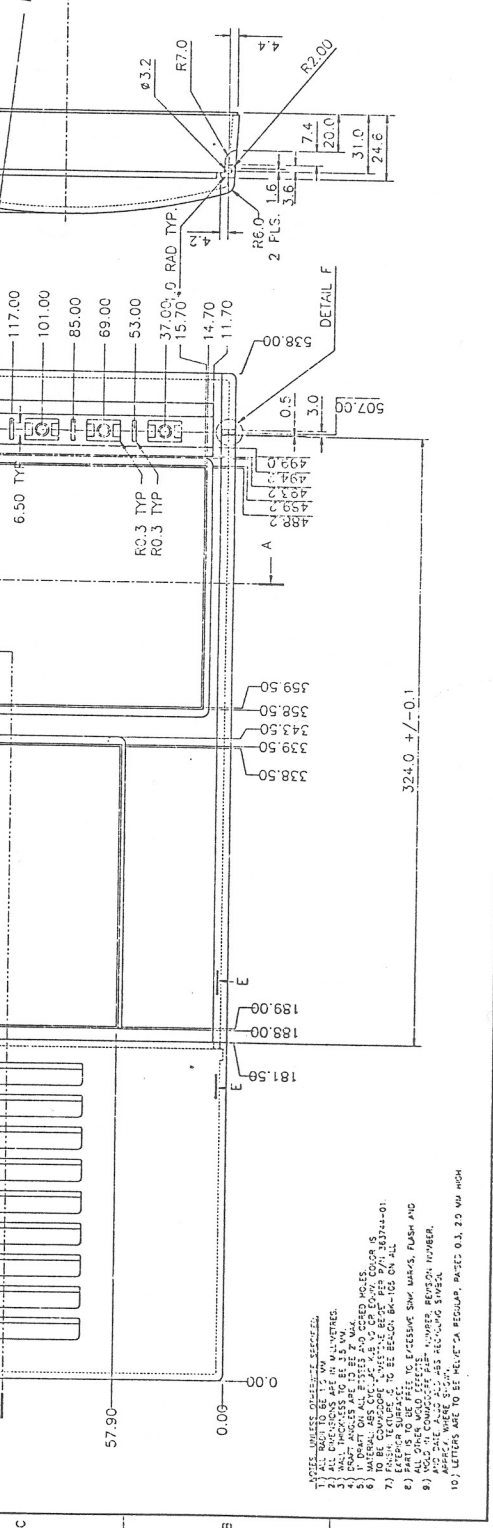
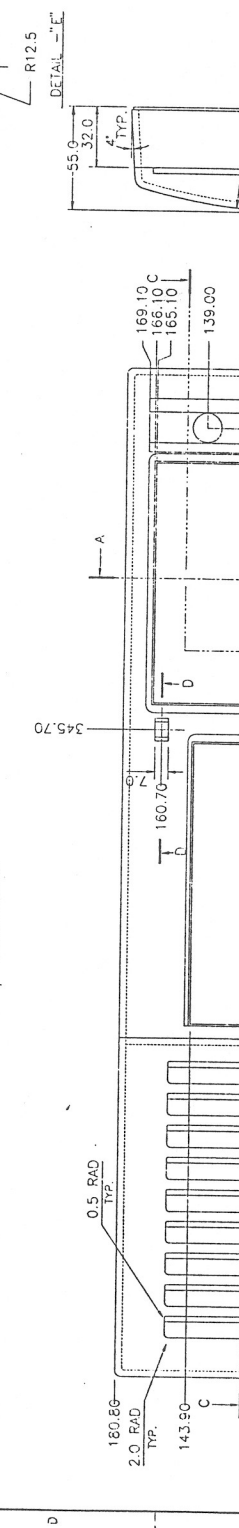
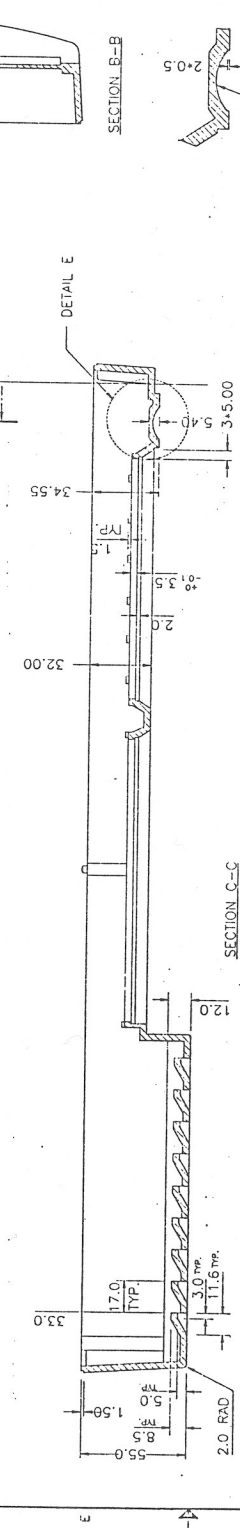
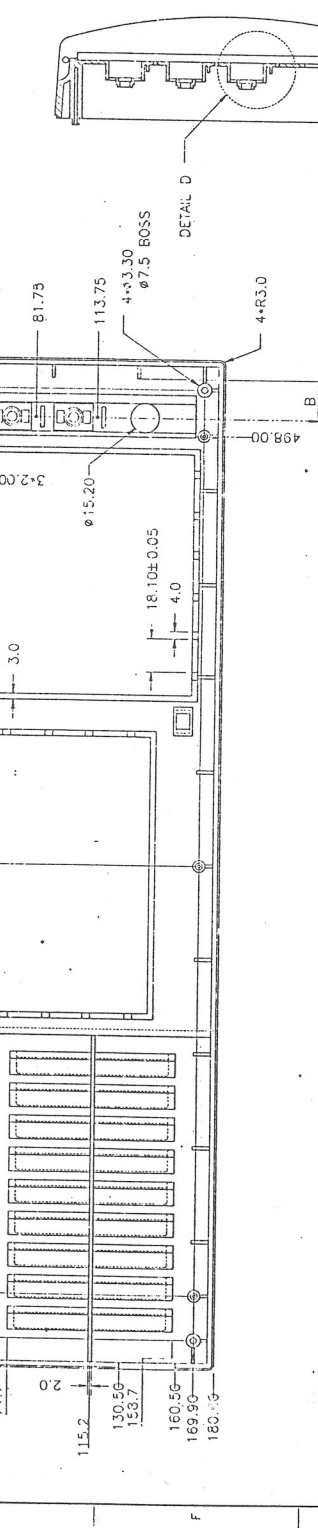
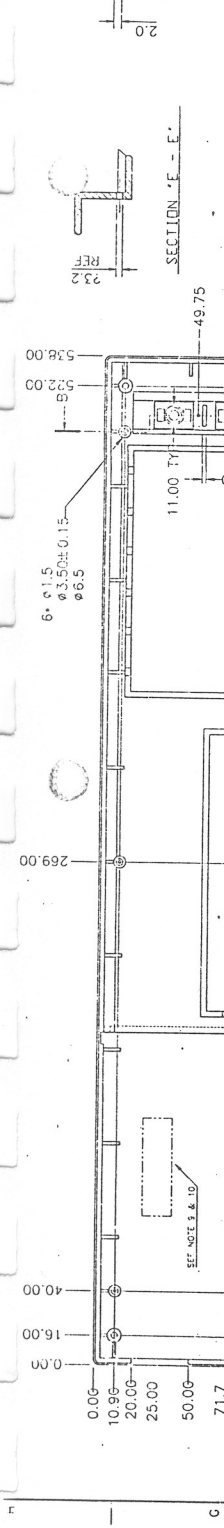
- NOTES, UNLESS OTHERWISE SPECIFIED,
- 1) ALL RADII TO BE 1.0 MM UNLESS SPECIFIED.
 - 2) ALL DIMENSIONS ARE IN MILLIMETRES.
 - 3) WALL THICKNESS TO BE 3.0 MM.
 - 4) DRAFT ANGLES ARE TO BE 2° MAX.
 - 5) 1° DRAFT ON ALL BOSSSES AND CORED HOLES.
 - 6) TO BE POLISHED TO AN ABS GLOSS FINISH.
 - 7) TO BE ANODIZED ALUMINUM BEZE PER P/N 363744-01.
 - 8) FINISH: TEXTURE IS TO BE BEALON BK-105 ON ALL EXTERIOR SURFACES.
 - 9) PART IS TO BE FREE TO EXCESSIVE SINK MARKS, FLASH AND BURRS.
 - 10) THE COMMODORE PART NUMBER, REVISION NUMBER, AND DATE, ALSO ADD ABS RECYCLING SYMBOL.
 - 11) THE WORD "AMIGA" SHOULD BE HELVETICA REGULAR, RAISED 0.3, 2.0 MM HIGH. THE WORD "COMMODORE" SHOULD BE HELVETICA REGULAR, RAISED 0.3, 2.0 MM HIGH AND BE 3.0 MM HIGH.
 - 12) (ARTWORK TO BE SUPPLIED BY COMMODORE)



UNLESS OTHERWISE SPECIFIED	UNIT	SYMBOL	REVISION	DATE	BY	CHKD	APP'D
ALL DIMENSIONS	MM						
UNLESS OTHERWISE SPECIFIED	IN						
DATE							
BY							
CHKD							
APP'D							
<p>COMMODORE COMMODORE INTERNATIONAL CORPORATION 12000 N. MISSION AVE. SUITE 100 SANTA ANA, CA 92705-5050 TEL: 714/261-0000 FAX: 714/261-0001</p>			<p>DATE: 11/23/88 BY: J. BOGNER CHKD: J. BOGNER APP'D: J. BOGNER</p>			<p>REV. 01 DATE: 11/23/88 BY: J. BOGNER CHKD: J. BOGNER APP'D: J. BOGNER</p>	
<p>SECTION: METRIC</p>							<p>SCALE: 1:1</p>
<p>DESCRIPTION: BEZEL DOOR</p>							<p>PART NUMBER: 365310</p>
<p>REVISION: 4</p>							<p>DATE: 11/23/88</p>

1	WARRANTY	...
2	...	...
3	...	...
4	...	...
5	...	...

1	...	...	...
2	...	...	...
3	...	...	...
4	...	...	...
5	...	...	...
6	...	...	...
7	...	...	...
8	...	...	...
9	...	...	...
10	...	...	...



- 1) ALL DIMS TO BE AS SHOWN UNLESS OTHERWISE SPECIFIED.
- 2) ALL DIMS TO BE IN MILLIMETERS.
- 3) ALL THICKNESSES TO BE 1.5 MM.
- 4) ALL CORNERS TO BE R1.0 TYP UNLESS OTHERWISE SPECIFIED.
- 5) 1 POINT ON ALL SURFACES AND DRILLED HOLES.
- 6) UNLESS OTHERWISE SPECIFIED ALL SURFACES AND DRILLED HOLES.
- 7) FINISH TO BE MILL AND TO BE BLANK FOR IDENTIFICATION.
- 8) PART IS TO BE FREE TO EITHER SIDE SHOWN UNLESS SPECIFIED OTHERWISE.
- 9) ALL DIMS TO BE TO THE CENTER UNLESS SPECIFIED OTHERWISE.
- 10) ALL LETTERS ARE TO BE HELVETICA REGULAR, BUNZIG 0.1, 2.0 MM HIGH.

METRIC

Comptecore

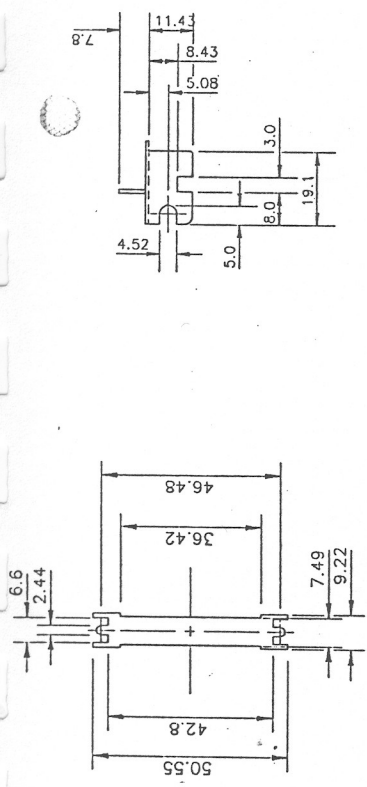
365312

FRONT BEZEL

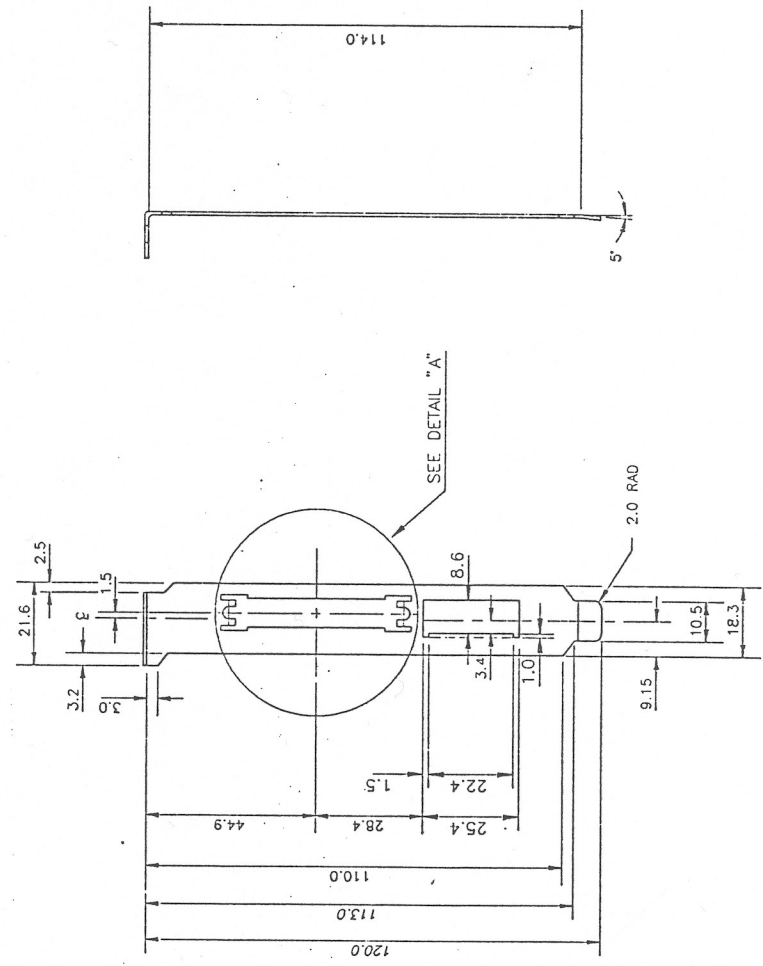
SEE NOTE 6

SEE NOTE 7

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	1	PRELIMINARY ENGINEERING RELEASE	3-10-91	J. HOOPER
	2	ADDED COMMODORE PART NUMBER	3-29-91	J. HOOPER
	3	ADVANCE ENGINEERING RELEASE	4/26/91	J. HOOPER



DETAIL "A"



- NOTES: UNLESS OTHERWISE SPECIFIED.
 1. MATERIAL: 0.8 THK. C.R.S. ZINC PLATED.
 2. FINISH: BRIGHT NICKEL.
 3. ALL DIMENSIONS ARE IN MILLIMETERS.
 4. REMOVE ALL BURRS & SHARP EDGES.

UNLESS OTHERWISE SPECIFIED		CALL	DATE	APPROVED
DRAWN BY: J. HOOPER		3-10-91	3-10-91	J. HOOPER
TOLERANCES ON DIMENSIONS				
UNDER 30	±0.1			
30 TO 300	±0.2			
OVER 300	±0.4			
MATERIAL: A4000T		HEAT ASSY		
SEE NOTE #1				
FINISH: SEE NOTE #2				
SEE NOTE #3				

METRIC
 C.A.D. GENERATED
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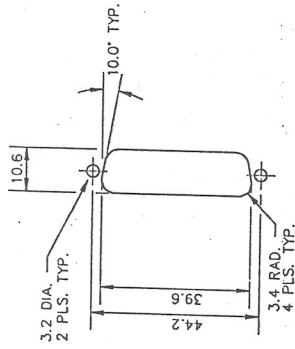
COMMODORE
 1740 W. LAMAR DRIVE
 WEST CHESTER, PA 19380
 (215) 431-3100

OPTION CARD
 BRACKET

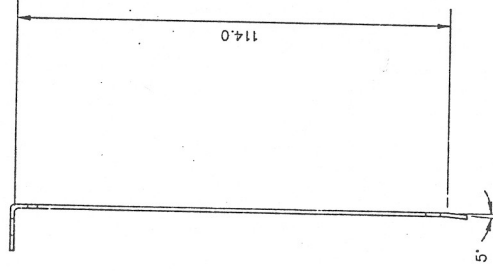
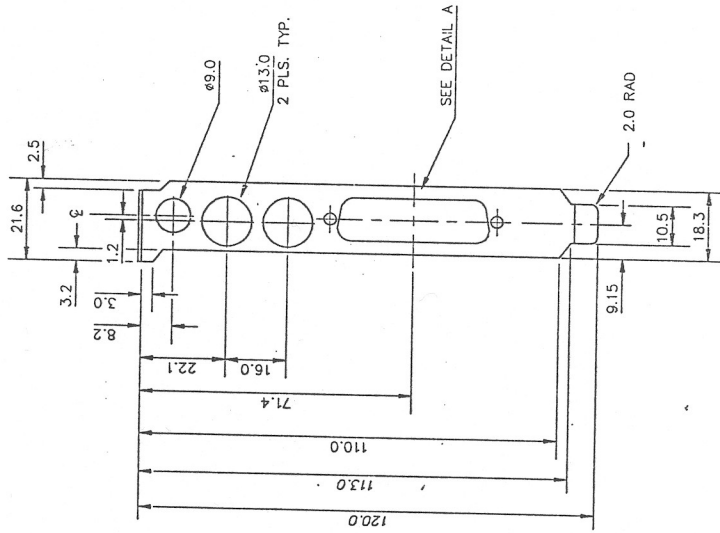
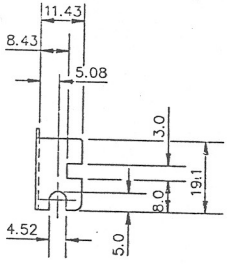
SIZE: C
 SCALE: 1:1
 SHEET: 1 OF 1
 REV: 3

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
1		PRELIMINARY ENGINEERING RELEASE	3-9-93	J. HOOPER
2		ADDED COMMODORE PART NUMBER	3-29-93	J. HOOPER
3		ADVANCE ENGINEERING RELEASE	4-14-93	J. HOOPER



DETAIL "A"
SCALE 1 : 1



NOTES: UNLESS OTHERWISE SPECIFIED.
 ⚠ MATERIAL: 0.8 THK. C.R.S. ZINC PLATED.
 ⚠ FINISH: BRIGHT NICKEL.
 3.) ALL DIMENSIONS ARE IN MILLIMETERS.
 4.) REMOVE ALL BURRS & SHARP EDGES.

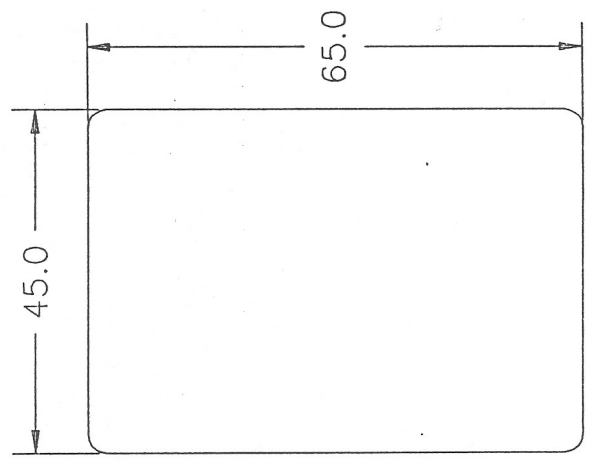
METRIC
 C.A.D. GENERATED
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COMMODORE
 WEST CHESTER, PA 19380
 OPTION CARD
 BRACKET
 SIZE C 365348
 SCALE 1:1 SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED	DRAWN BY J. HOOPER	DATE 3-9-93
TOLERANCES ON DIMENSIONS UNLESS NOTED	CHKD:	
30 TO 300 ±0.1	ETGR:	
OVER 300 ±0.2	APPR:	
OVER 300 ±0.4	ENTR'D (C/D) BY: JFH	3-9-93
MATERIAL: SEE NOTE # Δ	USED ON	NEXT ASSY
FINISH: SEE NOTE # Δ	A4000T	

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PART NUMBER	DESCRIPTION	MADE IN	REVISIONS			
			ZONE REV	DESCRIPTION	DATE	APPROVED
369644-01	NORTH AMERICAN VERSION	PHILIPPINES	1	ADVANCE ENGINEERING RELEASE	4-23-93	JCB
369644-02	EUROPEAN AND AUSTRALIAN VERSION	PHILIPPINES				
369644-03	BRAZILIAN VERSION	PHILIPPINES				



- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. ALL TOLERANCES ARE $\pm .02\text{mm}$
 3. PRINT SEQUENTIAL SERIAL NUMBERS AS SPECIFIED BY PURCHASE ORDER.
 4. MATERIAL: ADHESIVE BACKED, P.V.C., 0.010 THICK MATTE FINISH.
 5. FINISH: BY COMMODORE.
 6. LOCATE GRAPHIC AS SHOWN. PRINT PER ARTWORK SUPPLIED BY COMMODORE.
 7. ALL LINES TO BE .010 WIDE.
 8. SEE SHEET 2 FOR REFERENCE ARTWORK.

UNLESS OTHERWISE SPECIFIED		DRAWN BY: N. ALCOTT		DATE: 4/21/93
TOLERANCES ON:		CHKD:	ENGR:	
DECIMALS		APPR:	ENTERED (CAD) BY: NCA	4/21/93
.X	±		USED ON	NEXT ASSY
.XX	±		A4000T	
.XXX	±		SIZE	A
MATERIAL:			RATING LABEL,	A4000T
FINISH:			REV	1

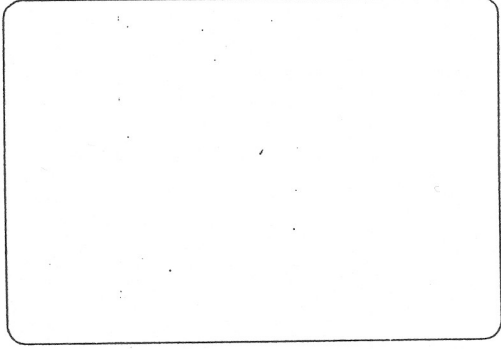
COMMODORE
 COMMODORE ELECTRONICS LTD.
 WEST COASTWAY, P.O. BOX 300
 (215) 431-9100

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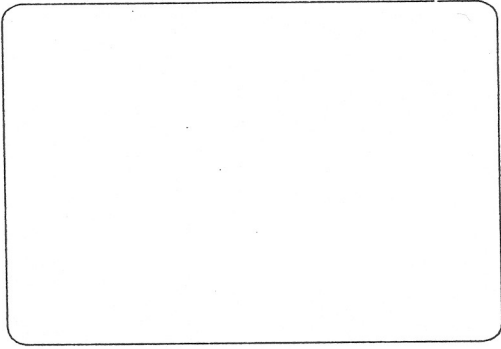
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REVOLUTIONS		DATE	APPROVED
ZONE REV	DESCRIPTION		
	SEE SHEET ONE		

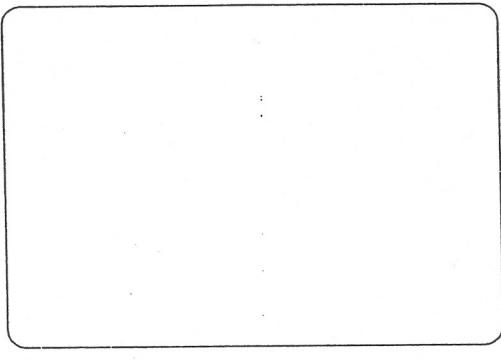
*** ARTWORK TO BE SUPPLIED AT A LATER DATE ***



-01 SHOWN



-02 SHOWN



-03 SHOWN

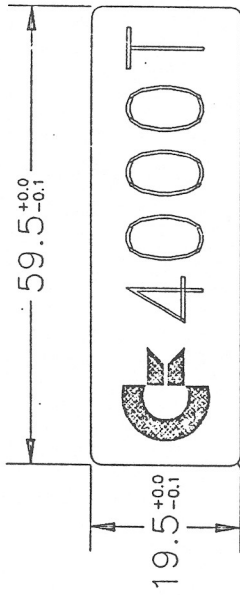
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UNLESS OTHERWISE SPECIFIED		DATE	4/21/93
TOLERANCES ON: DECIMALS		DRAWN BY:	N. ALCOTT
.X	±	CHKD:	
.XX	±	ENGR:	
.XXX	±	APPR:	
∠S	±	ENTERED (C/D) BY:	NCA
±	±	USED ON	NEXT ASSY
MATERIAL:		A4000T	
FINISH:		RATING LABEL, A4000T	
C.A.D. GENERATED		SIZE	A
NO MANUAL CHANGES ARE TO BE MADE TO THIS DOCUMENT.		REV	1

Commodore
MILLEN DRIVE
WEST CHESTER, PA 19380
(215) 431-8100

REVISIONS		
ZONE	REV	DESCRIPTION
	1	ADVANCE ENGINEERING RELEASE
		DATE: 4-23-93
		APPROVED: JCB



1.5R
4 PLS. TYP.

- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. NAMEPLATE IS BLACK WITH DIAMOND CUT LOGO AND LETTERING.
 3. MATERIAL: 0.5 THINK ALUMINUM WITH ADHESIVE BACK.

UNLESS OTHERWISE SPECIFIED TOLERANCES ON: DECIMALS		DATE: 4/15/93	Commodore 1200 WILSON DRIVE WEST CHESTER, PA. 19380 (215) 431-9100
.X	.XX	.XXX	
±	±	±	NAMEPLATE, A4000T
MATERIAL:		USED ON: A4000T	SIZE: A
FINISH:		ENTERED (CAD) BY: NCA	REV: 1
C.A.D. GENERATED NO MANUAL CHANGES ARE TO BE MADE TO THIS DOCUMENT.		ENTERED: 4/15/93	365311
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