

## SERVICE MANUAL

# 1541/1541-II DISK DRIVE

MARCH, 1988

PN-314862-01

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# SPECIFICATIONS OF THE 1541-II DISK DRIVE

## STORAGE

Total formatted capacity	174848 bytes per diskette
Maximum Sequential file size	168656 bytes per diskette
Maximum Relative file size	167132 bytes per diskette
Records per file	65535
Files per diskette	144
Tracks per diskette	35
Sectors per track	17-21
Sectors per diskette	683 total 664 free for data
Bytes per sector	256

## INTEGRATED CIRCUIT CHIPS USED

1	6502	microprocessor
	Used for overall control	
2	6522 VIA	Versatile Interface Adapters
	Used for input and output, and as internal timers	
1	6116 RAM	Random Access Memory
	Used as 2K of buffers	
1	16K ROM	Read-Only Memory
	Contains a 16K Disk Operating System (DOS)	

## INTERFACE USED

Commodore serial bus with two 6-pin DIN connectors

Device number	selectable from 8-11
Secondary addresses	0-15

## PHYSICAL DIMENSIONS

Height	77 mm
Width	184 mm
Depth	256 mm

## ELECTRICAL REQUIREMENTS

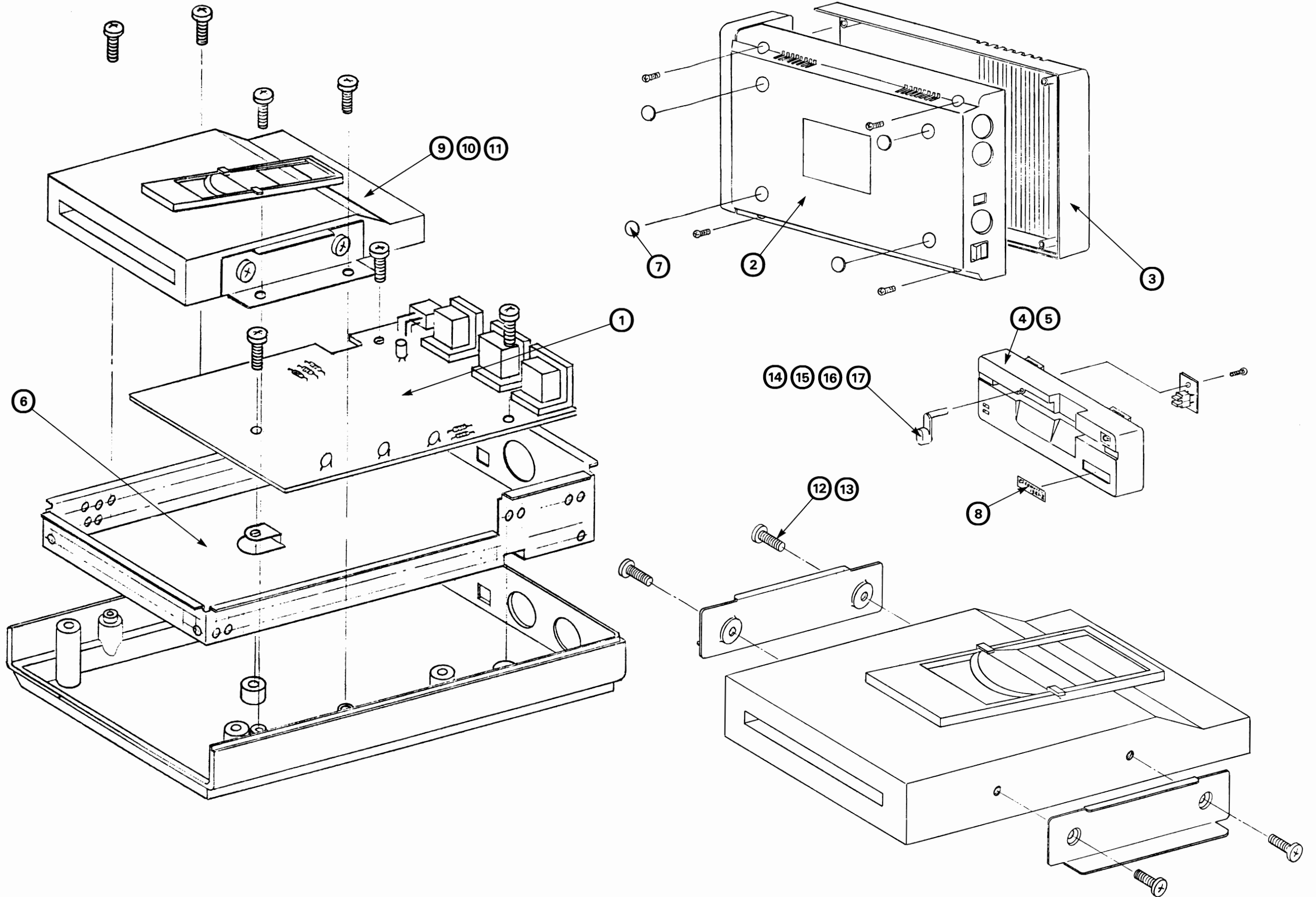
Three wire-grounded detachable power cable.

Voltage	U.S.	100-120 VAC
	Export	220-240 VAC
Frequency	U.S.	60 HZ
	Export	50 HZ
Power Used		25 Watts

## MEDIA

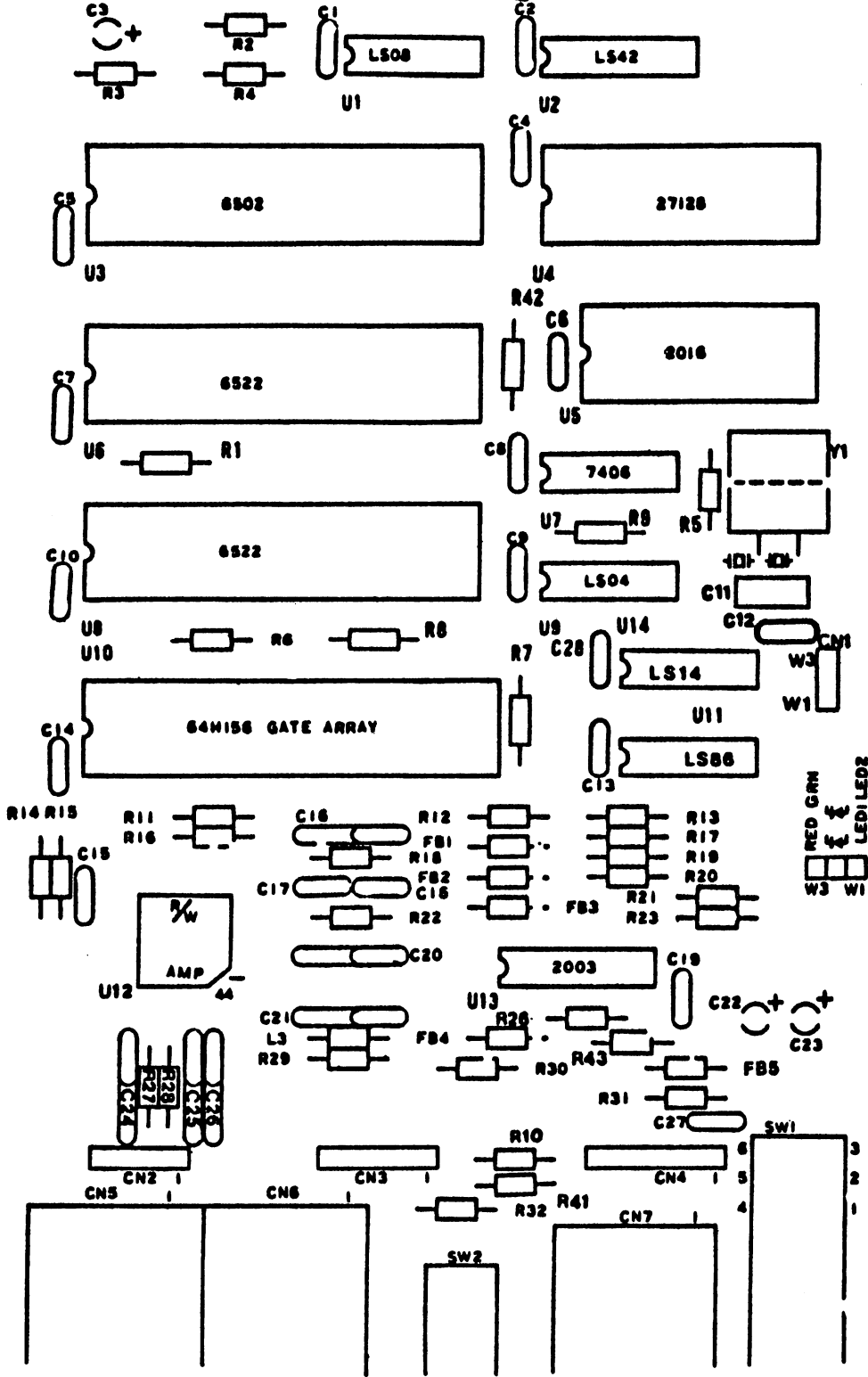
Any good quality 5¼ inch diskette may be used (Commodore diskettes are recommended.)

# 1541-II SERVICE REFERENCE DIAGRAM



1541-~~X~~ DISK

ASS'Y NO 340503  
REV 619879 TAIWAN

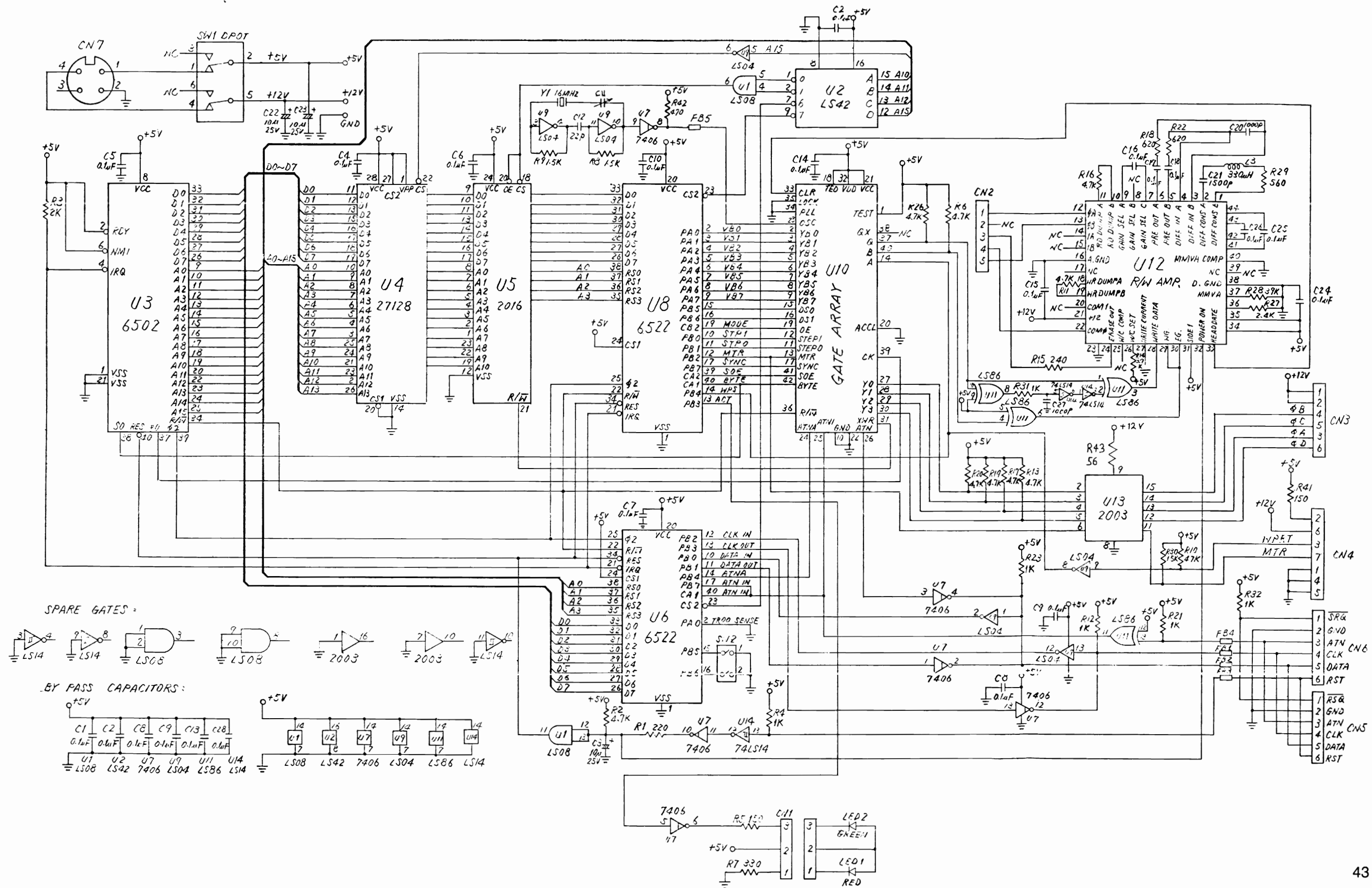


BOARD LAYOUT

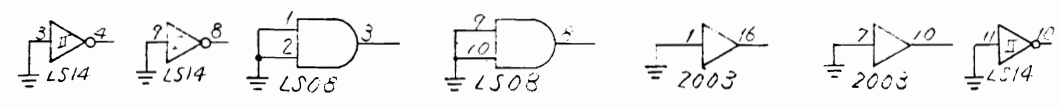
# COMPONENT PARTS LIST

Commodore part numbers are provided for reference only and do not indicate the availability of parts from Commodore. Industry standard parts (Resistors, Capacitors, Connectors) should be secured locally. Approved cross-references for TTL chips, Transistors, etc. are available in manual form through the Service Department, order #314000-01.

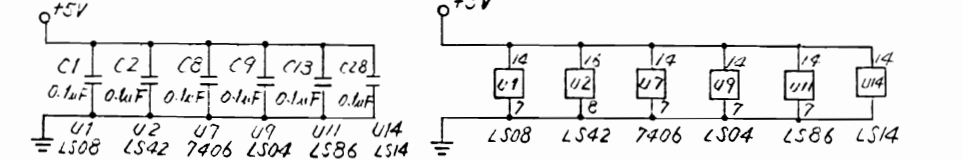
INTEGRATED CIRCUITS			CAPACITORS		
U2	74LS42 DEC	901521-17	C12	RAD CER 50V 10% SL 22P	251072-14
U11	74LS86 EXL/OR	901521-32	C20,27	RAD CER 50V Z5U 1000P	900010-25
U9	74LS04 INV	901521-02	C21	RAD CER 50V 10% Y5P 1500P	251069-10
U1	74LS08	901521-03	C1,2,4-10,13- 19,24-26,28	RAD CER 16V Z5U 0.1 U	252036-02
U7	7406	901522-06		Sub: RAD CER 25V Z5U 0.1 U	900010-61
U3	MPU 6502	901435-01		C3,22,23	ELEC 25V 10 U
U6,8	VIA 6522	901437-01	C11	TRIMMER 7.5-50pF	251029-04
U4	DOS ROM	C251968-03		Sub: TRIMMER 6.8-45pF	251029-06
U5	S-RAM TMM 2016P	325502-03	<b>MISCELLANEOUS</b>		
U10	64H156 GATE ARRAY Sub: GATE ARRAY	251828-01 251828-02	Y1	CRYSTAL 16MHZ Sub: CRYSTAL 16MHZ	900556-02 900557-01
U13	MPA 2003C	C251871-01	FBI-5	FERRITE BEAD	903025-01
U12	FDD R/W AMP (CX20185) Sub: FDD R/W AMP (MC2871P) Sub: FDD R/W AMP (LA8200M)	C252308-01 252308-02 252308-03	L1	CHOKE 330 UH	252369-39
U14	74LS14	901521-30	SW1	SWITCH ROCKER	252182-01
U4	Socket, 28 Pin	904150-05	SW2	SWITCH DIP 2 POS	252144-02
<b>RESISTORS</b> — All are 5%, 1/4W — unless otherwise noted			<b>CONNECTORS</b>		
R4,12,21, 23,31,32	1K	901550-01	CN2	HEADER 4 PIN	251065-04
R5,41	150 OHM (R41 used W/ FDD 359901-02 only)	901550-89	CN4	HEADER 5 PIN	325562-05
R8,9,30	1.5K OHM	901550-69	CN3	HEADER 6 PIN	325562-06
R3	2K OHM	901550-53	CN4	HEADER 7 PIN Sub: Use W/ FDD 359901-02 only	325562-07
R1	220 OHM	901550-52	CN5,6	6 PIN SHIELDED Sub: 6 PIN SHIELDED	903361-02 903361-03
R15	240 OHM	901550-29	CN7	4 PIN SHIELDED	390272-01
R37	2.4K OHM	901550-85	LED 1	RED 1 x 5mm	355810-01
R7	330 OHM	901550-14	LED 2	GREEN 1 x 5mm	355810-02
R14	3.9K OHM	901550-39			
R28	39K OHM	901550-21			
R2,6,11,13, 16,17,19, 20,26	4.7K OHM	901550-19			
R10	47K OHM	901550-22			
R29	560 OHM	901550-30			
R18,22	620 OHM	901550-40			
R42	470 OHM	901550-58			
R43	56 OHM	901550-131			



SPARE GATES =



BY PASS CAPACITORS:



# MAJOR PARTS LIST 1541-II

1	PCB ASSEMBLY 1541-II	340503-01
	CABLE 6P DIN	C1540027-01
	SUB: CABLE 6P DIN	351409-02
	MANUAL — USER	C354139-01
	MANUAL — SERVICE	C314862-01
	DISKETTE DEMO C64	C359800-08
	DISKETTE DEMO 1551/1541	C359800-09
	POWER SUPPLY	C340031-01
	SCREW TAPPING M3X10L (TOP/BOTTOM CASE)	906883-04
	SCREW TAPPING M3X8L (LED/BEZEL) (PCB/SHIELD/BOTTOM CASE)	906883-01
	SCREW TAPPING M3X6L (BRACKET/BOTTOM CASE)	906883-03
	SCREW MACHINE M3X8L (BRACKET/MECHANISM)	906800-03
2	CASE — BOTTOM	C353413-01
3	CASE — TOP	C353412-01
4	BEZEL — NEWT	C353308-01
5	BEZEL — CHINON	C353308-02
6	SHIELD — BOTTOM	351607-01
	CABLE — GROUND	252154-01
7	FOOT — RUBBER	950150-03
8	NAME PLATE	352604-01
9	DRIVE ASSY NEWT D500 (WO/BRACKET)	C359901-01
10	DRIVE ASSY CHINON FZ-501 (WO/BRACKET)	C359902-01
11	DRIVE ASSY TYPE-R (WO/BRACKET)	359901-02
12	BRACKET NEWT	C351523-01
13	BRACKET CHINON	C351523-02
14	KNOB (LEVER) NEWT	C353307-03
15	KNOB (LEVER) CHINON	C353307-02
16	KNOB (LEVER) (N) 02.9 TYPE-R ONLY	C353307-01
17	KNOB (LEVER) (N) 03.0 TYPE-R ONLY	C353307-04