

# THE COMMODORE DIAGNOSTICIAN™

A symptomatic chart for diagnosing faulty IC components on Commodore Computers and peripherals



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## COMMODORE C-64 Reference Aid #4

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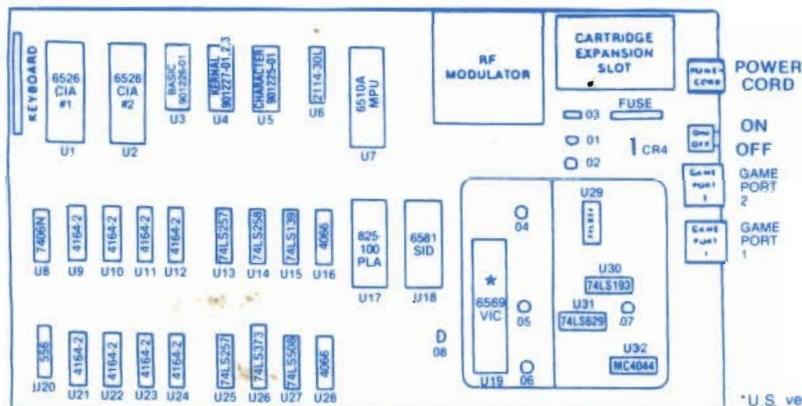
SYMPTOMS	POSSIBLE SOLUTION									
	6510	6526	6581	6567	PLA	ROM 226	ROM 227	ROM 225	8701	
Cursor jumps back to home position.	X									
Abnormal colours appear in the letters.					X					
Different characters are displayed and cursor is locked when turned on and off.	X			X						
System does not reset and the 'RESTORE' key does not work.	X				X		X			
Cursor disappears after the system warms up.		X								
SYNTAX ERROR displayed after system warms up.						X				
The system resets when it warms up and long programs do not load.	X					X				
Keyboard does not operate correctly when the system warms up.		X				X				
Cassette motor keeps running.	X									
The cursor disappears when the cassette is plugged in.	X									
Cassette runs extremely slow. The program seems to load but will not run.	X									
Blank screen on power up.	X			X	X					X
No cursor displayed. Intermittent blank screen. Intermittent graphics.	X									
Powers up with 'PRESS PLAY ON TAPE' message and the display blanks.	X									
On power up the cursor locks up.	X			X						
When 'RETURN' is pressed after a run command, the cursor goes back to home position.						X				
Poke command does not work.						X				
Joystick does not operate correctly.		X								
No character lettering is displayed on the screen.		X		X	X					X
Graphic characters instead of letters displayed.		X		X						
Power up message appears but no cursor.		X				X				
DEVICE NOT PRESENT ERROR is displayed when disk is used.	X	X								
Disk drives continue to search when trying to load.		X								
Incorrect screen colours or no colour at all.				X	X					
Keyboard does not function.		X								
Cassette recorder problem.	X	X								
Flashing colour or blocks.					X					
Game Cartridge does not function.					X		X			
Unit dead (30-40% possibility PLA).					X					X
User port does not function (eg. modem).		X								
No sound.			X							
Missing notes.			X							
Game paddles do not function.		X	X							
White band scrolls down the screen (60 HZ HUM).										Check power supply and VR2 regulator.
Wavy screen after the system warms up.										Check external power supply and 6567 chip.
Black band scrolls through screen when system warms up.										Check external power supply and VR2 regulator.
Out of memory error on power up.										Check Rams 4164 U9-U12, U21-U24.
Powers up with graphic display and blinking cursor.										Check U14.
Powers up with all the characters displayed as blocks.										Check U26.
Unit completely dead.										Possible power supply failure.
After a few minutes, characters are all over the screen, then the unit locks up.										Possible power supply problem.

Note—PLA chip is an 82S100, ROM chips are 901226-01 (Basic), 901227-03 (Kernal), 901225-01 (Character)

# COMMODORE 1541/1571 FLOPPY DRIVE

SYMPTOMS	POSSIBLE SOLUTION							
	6502	6522	ROM 32530201	ROM 90122905	LM311	592	9602	ROM 32557201
Error LED stays on all the time.	X		X	X				
Drive motor runs continuously and red LED stays on.		X						
Drive motor runs continuously and red LED stays off.	X			X				
After the drive warms up the motor runs continuously.		X						
Does not load when hot or LED flashed 3 times.			X	X	X			
Searches with LED flashing continuously.				X				
Searching with no red LED.			X					
Drive fails to read.					X	X	X	
Fails to format disk.		X						X
Stepper Motor does not step forward.	X	X						X
Will not save when the drive heats up.	X	X						
Lights stay on, motor runs continuously.				X				
No LED's on power up.	Is Power cord plugged into wall outlet correctly? Is Power cord plugged into disk drive correctly? Check line fuse and power switch. Check +5/12 volt lines.							
Error LED flashes on power up.	Check all RAM and ROM locations.							
Drive motor runs continuously with no red or green LED's.	Check VR2. Check Power Transformer.							
Loads programs with red LED flashing.	Check drive speed. Check stepper motor.							
Loading is intermittent.	Check ROM's and drive alignment.							
Message of 'FILE NOT FOUND' is displayed.	Clean drive head w/alcohol. Check 0 stop adjustment. Check alignment.							
Drive speed will not stabilize.	Check DC motor.							
Locks-up when loading.	Check serial port components. Check 901229-05.							
Fails the performance test and displays a 21 read error.	Check test diskette. Check Drive Motor.							
Fails the performance test and displays a 27 read error.	Check stop adjust.							
Passes performance test to track 18 then displays 21 read errors.	Check read/write head.							
Passes the performance test but will not load certain programs.	Check stepper motor.							
Flashing light on and off during loading.	An alignment problem or bad diskette.							

## C-64 CHIP LAYOUT



- HINTS:**
- 1) Over 50% of faulty computers are caused by the external power supply delivering excessive voltages.
  - 2) Check power supply to see if your unit has a fuse which could be changed.
  - 3) Check all interconnecting cables.

Replacement Chips (IC's) can be obtained reasonably from:

**Europe—**  
HRS Electronics Ltd.  
Birmingham, England  
Tel. # (02)17712525

**USA—**  
(Commodore) National Repair Ctn.  
Toll Free 800-248-2983  
(800-BIT BYTE)

**Asia—**  
Saysun Electronics Ltd.  
Hong Kong  
Tel.# (05)767757

**Disclaimer:** I hereby disclaim any responsibility for the accuracy of the information on this chart and disclaim all liability for the use thereof. This chart is supplied as an adjunct to Commodore computer users. It is intended for assistance in isolating a faulty chip and is to be used by persons experienced in the repair of computers and computer related devices.