BLUE CHIP
ELECTRONICS

COMMODORE
PRINTER
INTERFACE

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INTRODUCTION

Congratulations on your purchase of the Commodore Interface by Blue Chip Electronics.

Your Commodore Interface lets you use your M120/10 personal printer with the VIC-20 or C-64 Computers by Commodore.

The Commodore Interface features easy-to-use print modes.

Please read this manual completely before attempting to use your new interface.

INSTALLATION

Connecting your Commodore Interface is as easy as plugging in a cable. However, please follow these few steps in order to prevent any damage to your printer, computer, or interface.

Step 1. Turn off the power to both your printer and computer.

Step 2. Insert the small, round plug at the end of the cable leading from one end of the interface box into the six pin connector on the back of your computer. Please note that the plug is "keyed" so that it will only fit one way. If you have a disk drive, you should insert this plug into the vacant six pin connector on the back of the disk drive.

Step 3. Insert the larger, oval plug on the end of the other cable leading from the interface box into the parallel interface connector on the back of your printer. Please do not attempt to force this connection; it will only fit one way. Fasten the clips on the printer's connector to the cable connection.

Step 4. Locate the thin cable coming out of your interface box that has a small, thin edge connector wired to it. This is your power cable and plugs directly into the cassette slot on your VIC-20 or C-64 computer. Insure that the white connector is on top of the small printed circuit board. This allows the slot in the cassette port and the small circuit board to line up. Please insert connector. You may attach a cassette cable to this printer if you are using one.

INTERFACE CONTROL MODES

The Blue Chip Commodore Interface has several different modes of operation. These modes let you print out either applications software, or programs you write yourself.

This interface has a CBM mode that copies the Commodore printers and a Transparent mode which permits the use of all of the features of your Blue Chip personal printer. There is also a Listing mode which translates Commodore special codes into a printable form.

The different modes are accessed by the third number used in an "OPEN" statement in the computer program (also called a "secondary address").

EXAMPLE: OPEN 4,4,X X=0 through 10

The following paragraphs will show you how to use these different modes.

CBM Compatibility Mode A (normal upper/graphics)

This mode actually has two parts: The first type we will call CBM compatible A. With type A, all characters are the same as Commodore computer upper/case graphics.

1. CHR$(17) changes your interface from A type to B type mode and is not outputted to the printer, only for duration of current print statement or until CHR$(145). Use of CHR$(145) changes back to "A" type.

CBM Compatibility Mode B (normal upper/lower)

When you are in CBM Compatible B Mode, ASCII (American Standard Code for Information Interchange) character values 65 through 90 are converted to ASCII character values 97 through 122 and vice versa. All other characters are the same as upper case/lower case on Commodore computer.

1. CHR$(145) changes your interface from B type to A type mode and is not outputted to your printer. A CHR$(17) changes the interface back to B mode.

Enter these modes with: OPEN 4,4,0 for CBM mode A normal upper/graphics with line feed

OR   OPEN 4,4,1 for CBM mode A normal upper/graphics without line feed

OR   OPEN 4,4,7 for CBM mode B normal upper/lower with line feed

OR   OPEN 4,4,8 for CBM mode B normal upper/lower without line feed

HEX MODE

This mode passes all characters received from your computer. As characters are received, the interface performs ASCII code to hexidecimal conversion.

Enter this mode with: OPEN 4,4,4

TRANSPARENT MODE

This mode passes each code received from the computer directly through the interface (as though it was not there, e.g. "transparent") to the printer without any alterations to those codes.

Enter this mode with: OPEN 4,4,5 for TRANSPARENT without line feed

OR   OPEN 4,4,6 for TRANSPARENT with line feed

LISTING MODE

The listing mode will trap special codes (see special code interpretation list) interpret them into printable codes and transmit the interpretation to the printer. Non-special codes are passed directly to the printer. This mode will facilitate the printing of program lists into an easily readable form.

Enter this mode with: OPEN 4,4,2 (Listing upper/graphics without line feed)

OR   OPEN 4,4,3 (Listing upper/graphics with line feed)

OR   OPEN 4,4,9 (Listing upper/lower without line feed)

OR   OPEN 4,4,10 (Listing upper/lower with line feed)

SUMMARY OF CONTROL MODES

Secondary Address	Character Set	Auto LF*2	Mode
0	upper/graphics *5	YES	normal *1
1	upper/graphics	NO	normal
2	upper/graphics	NO	listing *3
3	upper/graphics	YES	listing
4	alphanumeric	NO	hex *4
5	printer chr set	NO	transparent *5
6	printer chr set	YES	transparent
7	upper/lower *6	YES	normal
8	upper/lower	NO	normal
9	upper/lower	NO	listing
10	upper/lower	YES	listing
11 to 15	upper/lower	NO	normal

*1. The normal mode converts the printer to CBM compatibility for control codes sent to printer.

*2. A line feed is automatically sent after a carriage return.

*3. The listing mode traps all special codes and interprets them.

*4. The hex mode prints the hexidecimal value of characters sent to the printer.

*5. The transparent mode sends all codes straight to printer without alteration or conversion.

*6. Upper/lower means upper case are changed to lower case and graphics are changed to upper case. Upper/graphics means all alphanumeric keys are the same as the ones on the computer.

SPECIAL CODE INTERPRETATIONS

Listing Mode Only

(SHRT)	switch to upper case	(BLK)	black
(SWUC)	switch to upper case	(BRN)	brown
(SWLC)	switch to lower case	(LRD)	light red
(CRUP)	cursor up	(WHT)	white
(CRDN)	cursor down	(RED)	red
(CRR)	cursor right	(GRN)	green
(CRL)	cursor left	(LGN)	light green
(ROF)	reverse off	(BLU)	blue
(RON)	reverse on	(ORN)	orange
(CLR)	clear	(GR1)	gray 1
(???)	undefined character	(GR2)	gray 2
(HOME)	home	(GR3)	gray 3
(INST)	insert	(LBL)	light blue
(DEL)	delete	(PUR)	purple
(SHSP)	shift space	(YEL)	yellow
		(CYN)	cyan

(F1)	f1	(F5)	f5
(F2)	f2	(F6)	f6
(F3)	f3	(F7)	f7
(F4)	f4	(F8)	f8

At this point, you might wish to turn to your Commodore computer manual and try some sample programs with the appropriate "OPEN" statement.

Just in case you do not have a program handy, here is one you might find useful. It will give you a table of the standard character set with decimal equivilents; some good practice and useful fun.

```
10  OPEN 4,4,5
20  PRINT #4, CHR$(14); "BLUE CHIP CHARACTER
        SET"; CHR$(10)
30  PRINT #4, CHR$(14); "STANDARD ASCII
        CHARACTERS"
40  MIN-32: MAX-27
50  LINES=(MAX-MIN+1)/8
60  FOR I=MIN + LINES-1
70  FOR J= I to I +7* LINES STEP LINES
80  IF J    100, THEN PRINT #4, " ";
90  PRINT #4, J; "-"; CHR$ (J); CHR$(9);
100 NEXT J
110 PRINT #4, " "
120 NEXT I
490 PRINT #4, CHR$ (12)
500 PRINT #4: CLOSE 4
```

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