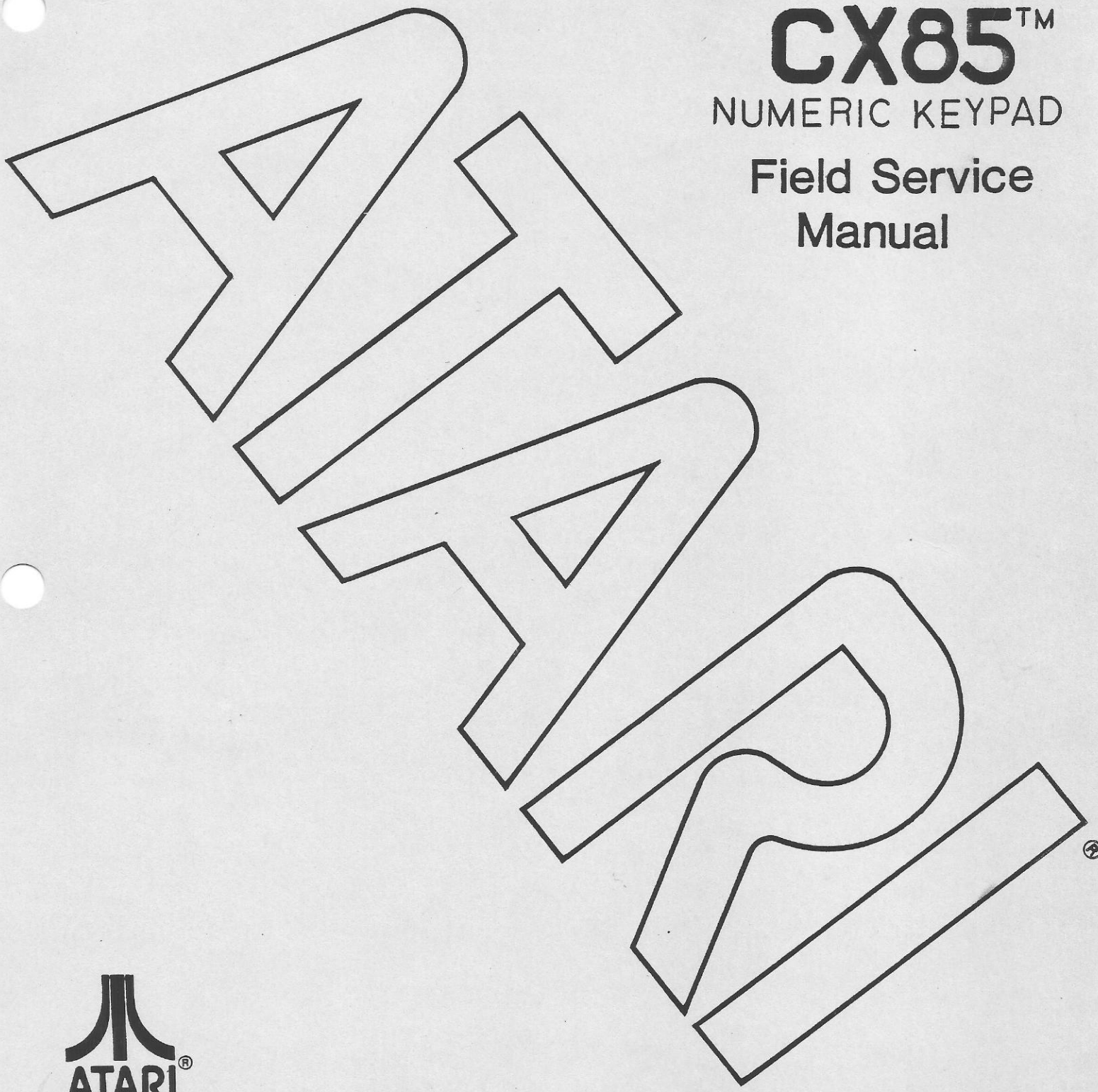




CX85TM
NUMERIC KEYPAD
**Field Service
Manual**



A Warner Communications Company

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November, 1982

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ATARI

CX85TM NUMERIC KEYPAD

REPAIR MANUAL

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Correspondence regarding this document should be forwarded to Manager of Technical Support, Consumer Product Service, Atari, Incorporated, 845 Maude Avenue, Sunnyvale, CA 94086, U. S. A.

CX85™ NUMERIC KEYPAD

OVERVIEW

To troubleshoot and repair the ATARI CX85™ Numeric Keypad, you need no special tools or test equipment. You need an ATARI 400™ Computer.

This information packet contains a listing a of a short test program, test procedures, troubleshoot procedures, an assembly drawing (Figure 1), a schematic (Figure 2), and a parts list.

TEST PROGRAM

The following BASIC program must be input into the computer in order for the CX85 Keypad to be tested. Save the program on cassette tape or floppy diskette for future use.

NOTE: This program disables the computer keyboard, except for the BREAK and SYSTEM RESET.

```
10 GRAPHICS 0:DIM FUNC$(10):PRINT:PRINT
20 POKE 755,0:IF PEEK(645)=1 THEN 20
30 POKE 77,0:STICK1=PEEK(633)
40 ALLPOT=PEEK(53768):IF ALLPOT=0 THEN 40
50 IF ALLPOT=255 AND STICK1=12 THEN STICK1=16
60 FOR X=0 TO STICK1:READ A:NEXT X:IF A > 9 THEN 80
70 PRINT A;" ";GOTO 90
80 RESTORE 200:FOR X=0 TO A-10:READ FUNC$:NEXT X:PRINT FUNC$;" ";
90 FOR T=0 TO 50:NEXT T:RESTORE:GOTO 20
100 DATA 10,4,5,6,11,7,8,9,12,1,2,3,0,13,14,15,16
200 DATA DELETE,NO,YES,.,+ ENTER,-,ESCAPE
```

TEST PROCEDURE

Plug the keypad into controller port #2 on the computer.

Run the BASIC program above.

Press each key on the keypad once and look for the correct response on the screen (eg...1=1,-=-,NO=NO etc...).

NOTE: If key is held down it will automatically repeat.

If all the keys respond correctly, then the keypad is OK. Be sure the customer is following the Operator's Manual correctly, and that the keypad is being plugged into port #2. If the customer still complains of a problem, it could be a faulty "Keypad Handler Diskette" or the computer.

If the keys do not respond correctly, then double check the BASIC Program to make sure it has been copied correctly and that the keypad connector is properly inserted in controller port #2.

Use the **TROUBLESHOOTING GUIDE** to find the possible cause of a problem.

NOTE: Repair is restricted to the replacement of the Cable or the Numeric Keypad board assembly.

TROUBLESHOOTING GUIDE

No Response From Any Keys

Check for proper wiring of cable to keypad board. (Color Coded — see Figure 1.)

Connect a DVOM between Pin 7, violet (+5v), and Pin 8, grey (ground). If there is no +5v, replace the cable assembly.

Check for +5v at Pin 1 of IC1 and Pin 20 of IC2. If incorrect, look on the bottom of the keypad board for a cold solder joint or a cut trace. If neither of these can be found, replace the Keypad assembly board.

No Response From 1 or 2 Keys

Pull off the keycap(s) and make sure spring contacts are working properly (making contact when key is depressed).

Improper Response From All Keys

Make sure that the cable is connected according to the Color Code on Figure 1.

Keypad board may have a defective IC. Replace Keypad Assembly (CA060140).

Check the **TEST PROGRAM** for accuracy.

Improper Response From 1 or 2 Keys

Check for proper cable connections at keypad board (color coded).

Check for solder bridge on bottom of keypad board.

Display Continues to Respond When Key is Released

Make sure key is not rubbing against plastic enclosure.

Check for a solder bridge or cold solder joint on the bottom of the numeric keypad assembly board.

See if key switch contact is stuck closed.

Intermittant Operation

Make sure all cable connections are tight.

Check key switches for loose contact.

TROUBLE REPORTING

If you have any questions or problems, contact the ATARI Tech Line Specialist.

Inside California
(800) 672-1466

Outside California
(800) 538-1535

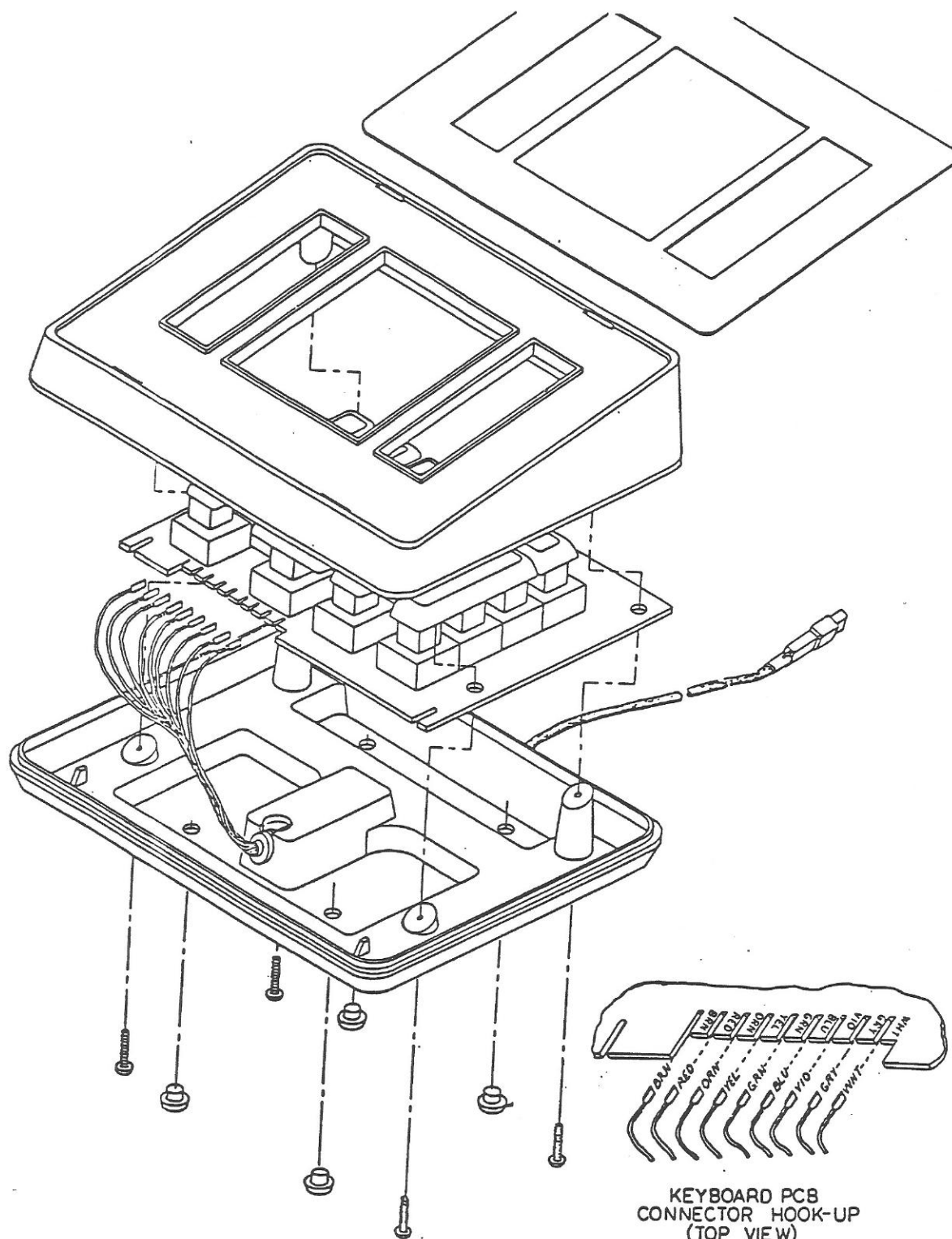
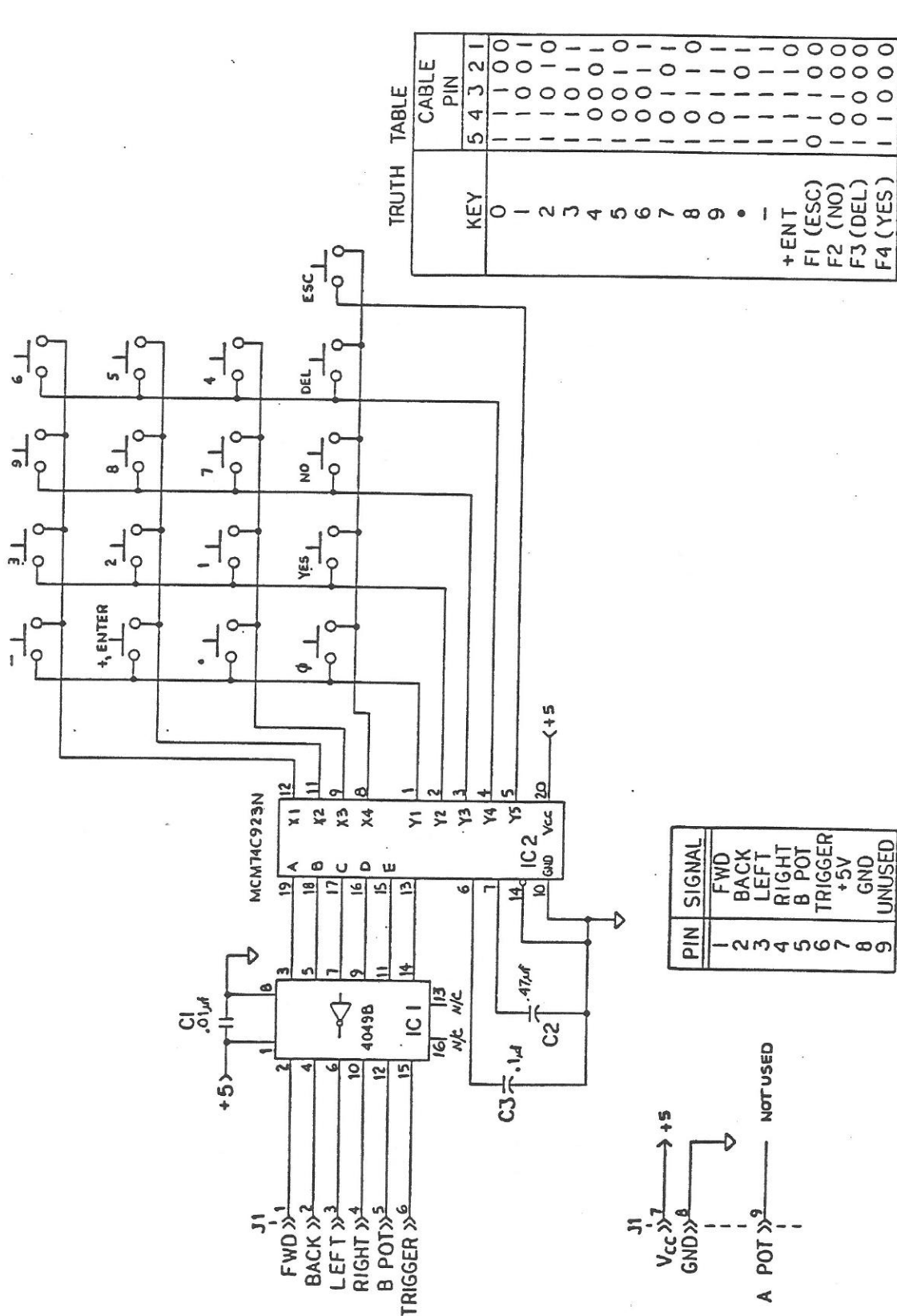


Figure 1. CX85 Assembly Drawing



KEY	CABLE PIN			
	5	4	3	2
0	1	1	1	0
1	1	1	0	0
2	1	1	0	1
3	1	0	1	0
4	1	0	1	1
5	1	0	0	0
6	1	0	0	1
7	1	0	1	0
8	1	0	1	1
9	1	0	1	0
.	1	1	0	1
-	1	1	1	0
+ENT	0	1	1	0
F1 (ESC)	0	1	0	0
F2 (NO)	0	1	0	0
F3 (DEL)	0	0	0	0
F4 (YES)	1	1	0	0

SIGNAL DEFINITION

LOGIC "0" ≤ 0.4V AT 3.2mA.
 LOGIC "1" ≥ 4.0V AT -0.7mA.

Figure 2. CX85 Schematic

ATARI CX85 KEYPAD PARTS LIST

<u>LOCATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
	<u>ATARI HCD CX85 Keypad</u>	<u>CA060143-01</u>
	<u>Bottom Enclosure</u>	<u>C060141</u>
	<u>Cable Assy</u>	<u>CA060158-XX</u>
	<u>Numeric Keypad Assy</u>	<u>CA060140-XX</u>
	<u>Top Enclosure</u>	<u>C060142</u>

<u>LOCATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
	<u>ATARI HCD CX85 KEYPAD</u>	
	BOTTOM ENCLOSURE	C060141
	Rubber Foot	88-1006
	FCC Label (Made in Hong Kong)	C061195
	FCC Label (Made in USA)	C060168
	Screw #6 x 3/4 Pan Head Philips	72-F612
	CABLE ASSY	CA060158-XX
	Cable Assy Alternate listed	CA060158-01
	Cable Assy Alternate for P/N CA060158-01	CA060158-02
	NUMERIC KEYPAD ASSY	CA060140-XX
	Numeric Keypad Assy (Made in HI-TEK)	CA060140-01
	Numeric Keypad Assy (Made by ATARI WONG)	CA060140-02
C1 Alternate listed	Cap. Ceramic Disc .01uF (12V)	2B-007
Alternate for P/N 2B-007	Cap. Ceramic Axial .01uF (25V)	C014181-02
C2	Cap. Ceramic Axial .47uF (25V)	C014181-07
C3 Alternate listed	Cap. Ceramic Disc .1uF (12V)	2C-001
Alternate for P/N 2C-001	Cap. Ceramic Axial .1uF	C014181-03
IC1	IC (40498)	
IC2	IC (MCM74C923N)	
	TOP ENCLOSURE	C060142
	Top Enclosure	C060142
	Label CX85 Keypad	C060139

