



HJL-57 Keyboard Kit

Installation Instructions

IMPORTANT

Before attempting installation: Be sure you have ordered the proper keyboard kit version for your computer.

In approximately October, 1982, Tandy Corporation changed to a new type of keyboard in the TRS-80* Color Computer, and the TDP-100*. This keyboard uses conductive rubber technology and has a membrane flex tail for ease of insertion into the connector. This version of computer often is referred to as the "F" version.

The old style computer uses a gray cable with a nylon female connector which mates with male pins on the computer board. The HJL-57 has a blue connector supplied from HJL for use in the original version.

At this point, it should be obvious to you whether or not you have ordered the proper version of the HJL-57 Keyboard Kit. If you have inadvertently ordered the wrong kit, please carefully repack and return it to us for an immediate exchange.

YOU CANNOT CUT OFF THE CONNECTOR OR ADD A CONNECTOR YOURSELF—any attempt to do so will void all warranties from HJL Products Inc.

Installing an HJL-57 Keyboard Kit in your TRS-80 Color Computer or TDP-100 is a very simple procedure. However, you should be aware that you must open the case, which will void your 90-day warranty from Radio Shack.

If, after reading through these instructions, you decide that you would rather not install the HJL-57 Keyboard Kit yourself, just send your computer, keyboard kit, and a check or money order for \$15.00 and we will install it for you.

INSTALLATION PROCEDURE

TOOLS REQUIRED

- Phillips head screwdriver
- Diagonal or similar type cutters

STEP 1 Familiarize yourself with the kit - pre-read instructions. Kit includes:

- (1) Keyboard with termination determined by computer.(see above)
- (1) Hardware kit including:
 - 2 plastic spacers
 - 8 metal fastener clips
 - 4 white plastic washers
- (1) Black plastic finish bezel

STEP 2 Unplug computer from power and disconnect all cables and accessories.

STEP 3 Turn computer upside-down (on a soft surface so as not to scratch your computer case). Remove seven (7) black Phillips head screws which hold bottom and top halves of case together. One screw (center) is located under the small warranty label. If you have not had your computer apart previously, you will have to break through this label with your screwdriver.

Note location of these screws, as they are of different lengths and must be replaced in the proper holes.

STEP 4 Holding two halves of computer together, turn computer over again. Remove top cover.

STEP 5 Carefully disconnect and lift out the old keyboard. If you have the original version computer, you will see a white plastic connector. Using both hands, and wiggling the connector if necessary, remove the connector from the pins. If you have the "F" version or TDP-100, carefully using both hands pull the flex tail out of the black connector.

STEP 6 When old keyboard is removed, you will see there is a post in the center of the keyboard area. The upper part (smaller diameter) of this post must be removed to accommodate installation of the HJL-57 keyboard. Using diagonal cutters or similar tool, cut this post at the point where the smaller diameter upper portion meets the base portion.

Do not be concerned about the removal of this post as it is not necessary even for the old keyboard.

- STEP 7** Place two (2) white plastic spacers over the two upper mounting posts. They will rest on the base portion and provide the exact mounting height required for the HJL-57 Keyboard.
- STEP 8** Place keyboard, right side up, on top of computer board. **Without twisting or creasing tail**, connect keyboard to computer, as follows:
- (a) Original color computer—Thin blue connector simply pushes over 16 pins on board. Grasping blue connector with both hands (one on each side), push connector on while wiggling slightly from side to side.
 - (b) "F" version or FDP-100—Flex cable with stiffener pushes directly into black female connector on computer. Grasping flex tail about 1/2 inch from end with both hands (one on each side), push and wiggle side to side. Be sure that tail pushes in about 1/4 inch and is firmly seated. Be careful not to crease tail.
- STEP 9** Now carefully lift keyboard and place over four mounting posts as allowed by four holes in aluminum plate. Your keyboard is now in place.
- STEP 10** Place four (4) white plastic washers, one each, over the four mounting posts. Push metal fastener clips firmly down over the posts to hold keyboard down. Note: these fasteners are removable either by turning off as you would a nut with a pair of pliers, or by prying off using small holes in clips with a 1/64 Allen wrench.
- STEP 11** Look at the black plastic finish bezel. This will mount in the computer top cover simply by placing over the mounting posts. Be sure that you install it so that the dull (hair-cell) finish side is up, and the side with only one notch for computer key is to the left as you look at the case top. It will be obvious if you have oriented it improperly. Firmly push one (1) clip fastener over each of the four posts to hold finish bezel in place.
- STEP 12** With the finish bezel installed in the top cover, place the cover over the computer with the HJL-57 keyboard installed. The two case halves should fit together easily and the bezel should not bind on any of the keys.
- STEP 13** Turn computer upside down and re-install seven (7) screws. Do not tighten two (2) screws in holes at lower (front) portion of the case too tightly. Just screw them down until they snug up, but don't force the two case sections together in these two locations.

Your HJL-57 keyboard is now installed and you are ready for the professional feel of a real keyboard.

FUNCTION KEY CODES

The four function keys provided on your HJL-57 keyboard produce the following decimal codes:

| Key | Unshifted | Shifted |
|-----|-----------|---------|
| F1 | 64 | -- |
| F2 | 189 | 1 |
| F3 | 103 | 52 |
| F4 | 4 | 214 |

WARRANTY

HJL Products Inc. warrants that the HJL-57 Keyboard Kit will be free of defects in materials and workmanship for a period of one (1) year from the date of purchase. HJL Products will not be responsible for any problems resulting from misuse, abuse, or improper installation of the keyboard. HJL Products Inc. also will not be responsible for damages to your computer due to installation of the HJL-57. For warranty claims, return keyboard kit with description of problem, your name, address, and telephone number, along with proof of purchase date for prompt repair or replacement.



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Function Keys

by HJL Products Inc.

The following listing will provide a very useful program for the four function keys of your HJL-57 Professional Keyboard. It can be used with standard or extended BASIC, and with disc or tape storage. When this program is loaded into your color computer and run, it will provide the following functions:

F1—When pressed with the ENTER key, will print the contents of the text screen to the printer.

F2—When latched, any key will repeat itself when held down.

F3—Switches from upper to lower and lower to upper case.

F4—Control key. When pressed with an alphabetic key, will subtract 64 from the ASCII value.

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10 CLEAR200,(PEEK(116)*256+PEEK(117))-213
20 EX=(PEEK(116)*256+PEEK(117))-212
30 CLS:PRINT "FUNCTION KEYS - BY HJL PRODUCTS"
40 PRINT:PRINT "F1 - WHEN PRESSED WITH THE          ENTER KEY, WILL PRINT THE
      CONTENTS OF THE TEXT          SCREEN TO THE PRINTER."
50 PRINT"F2 - WHEN LATCHED, ANY KEY WILL          REPEAT ITSELF WHEN HELD          DO
WN."
60 PRINT"F3 - SWITCHES FROM UPPER TO          LOWER AND LOWER TO UPPER          CA
SE"
70 PRINT"F4 - CONTROL KEY. WHEN          PRESSED WITH AN ALPHABETIC          KE
Y, WILL SUBTRACT 64 FROM          THE ASCII VALUE.";
80 YY=EX
90 READ ZZ$:PRINT @41,"loading";CHR$(128);"code":GOSUB180
   IF ZZ$="999" THEN EXEC EX:PRINT@480,"":END
110 POKE YY,ZZ:YY=YY+1
120 GOTO 90
130 DATA FC,01,6B,DD,F8,31,8D,00,0A,10,BF,01,6B,86,7E,B7,01,6A,39,32,62,34,06,CC
,45,58,10,B3,80,00,26,08,35,06,AD,9F,00,F8,20,02,35,06,0F,70,0D,6F,27,03,7E,A1,7
F,BD,A1,B1,81,BD,27,F9,81,04
140 DATA 27,F5,81,67,27,4E,81,0D,27,5A,34,02,B6,01,56,85,40,26,2A,34,10,8E,28,00
,30,1F,26,FC,35,10,86,FF,B7,01,52,B7,01,53,B7,01,54,B7,01,55,B7,01,57,B7,01,58,B
7,01,59,86,BF,B7,01,56,35,02
150 DATA 39,B6,01,58,85,40,26,0D,35,02,81,41,25,06,81,5B,24,02,80,40,39,35,02,39
,34,02,B6,01,57,85,40,26,AF,35,02,73,01,1A,4F,39,34,16,B6,01,55,85,40,26,27,8E,0
4,00,C6,20,A6,80,81,60,25,04
160 DATA 80,40,20,06,81,1F,2E,02,8B,60,84,7F,BD,A2,BF,5A,26,E8,86,0D,BD,A2,BF,8C
,06,00,26,DC,35,96,45
170 DATA 999
180 ZZ=0:D$(0)=LEFT$(ZZ$,1):D$(1)=RIGHT$(ZZ$,1)
190 V(0)=16:V(1)=1
200 FOR DG=0TO1:D=ASC(D$(DG))
210 IF D>=48 AND D<=57 THEN ZZ=ZZ+((D-48)*V(DG))
220 IF D>=65 AND D<=90 THEN ZZ=ZZ+((D-55)*V(DG))
230 NEXT DG
240 PRINT@41,"LOADING CODE":RETURN
250 END

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Any BASIC program can then be loaded to utilize the function keys.

NOTE: This program listing is intended to function with all versions of the TRS-80 color computer. However, due to the many ROM version and memory capacity combinations and various upgrades, HJL Products Inc. cannot guarantee that it will perform as intended on every TRS-80 color computer. Disassembled source code is available on written request.

*An adaptation of a program written by Bob Rose