

Instructions

for the



TNC HF HEADER KIT

Model HDA-4040-2

INTRODUCTION

This kit is designed to provide you with optimum response when you operate your TNC with SSB HF transceivers. It provides best operation on the HF bands at data rates below 1200 baud. For VHF FM operation, you will have to reinstall your FM-optimized filter normally supplied with your TNC.

PARTS LIST

Your kit contains the following parts. For service and parts ordering information, refer to your TNC Manual.

HEATH Part No.	QTY.	DESCRIPTION
-------------------	------	-------------

RESISTORS

NOTE: The following resistors unless otherwise stated, are rated at 1/4-watt, with a 1% tolerance and have five color bands. The last band is brown and will not be called out.

6-1002-12	4	10 k Ω (brn-blk-blk-red)
6-1132-12	1	11.3 k Ω (brn-brn-org-red)
6-2212-12	1	22.1 k Ω (red-red-brn-red)
6-1003-12	1	100 k Ω (brn-blk-blk-org)
6-2103-12	1	210 k Ω (red-brn-blk-org)
6-514-12	1	510 k Ω , 5% (grn-brn-yel)
6-2372-12	1	23.7 k Ω (red-org-viol-red)
6-3832-12	1	38.3 k Ω (org-gray-org-red)
6-4322-12	1	43.2 k Ω (yel-org-red-red)

HEATH Part No.	QTY.	DESCRIPTION
-------------------	------	-------------

CAPACITORS

27-147	1	.0056 μ F Mylar [®]
27-127	1	.022 μ F Mylar
27-161	1	.01 μ F Mylar

OTHER PARTS

346-1	1"	Sleeving
432-1012	2	16-pin plug
	1	Blue and white label
		Solder
		Instruction sheet (See lower right-hand corner for part number.)

ASSEMBLY AND INSTALLATION

Refer to Pictorial 1 Part A for the following steps.

- (✓) Position one of the 16-pin plugs with the notch (see insert) or beveled edge as shown. Then cut off pin 4 as close to the plug body as possible.

NOTE: In the following steps you will connect resistors between the lugs of the 16-pin plug. First, position the resistor leads down into the indicated lug notches. Then solder the connections and cut off the excess lead lengths.

- (✓) 23.7 k Ω (red-org-viol-red) resistor between lugs 1 and 16.
- (✓) 10 k Ω (brn-blk-blk-red) resistor between lugs 2 and 15.
- (✓) 11.3 k Ω (brn-brn-org-red) resistor between lugs 3 and 14.

NOTE: Perform the next step carefully. It is different from the others.

- (✓) 10 k Ω (brn-blk-blk-red) resistor between lugs 4 and 13. Solder the connections and cut off the excess lead only from lug 13. Do NOT cut off the excess lead coming from lug 4.
- (✓) 43.2 k Ω (yel-org-red-red) resistor between lugs 5 and 12.
- (✓) 10 k Ω (brn-blk-blk-red) resistor between lugs 6 and 11.
- (✓) 38.3 k Ω (org-gray-org-red) resistor between lugs 7 and 10.
- (✓) 10 k Ω (brn-blk-blk-red) resistor between lugs 8 and 9.
- (✓) Cut the excess lead coming from lug 4 to 5/16" as shown.

- () Cut a 1/4" length of sleeving and slide it over the excess lead coming from lug 4. Then connect and solder the free end of this lead to lug 7, where another resistor is already connected.

- () Turn off your TNC, if this has not already been done.

- () Remove the two front screws from the sides of your TNC and raise the front edge of the cabinet top.

Refer to Pictorial 2 for the following steps.

- (✓) Remove the filter network from location U30 and set it aside.
- (✓) Be sure the plug leads are straight. Then install the new filter network at U30. Position the notch or beveled edge as shown in the Pictorial.

Refer to Pictorial 1 Part B for the following steps.

- () Position the remaining 16-pin plug with the notch or leveled edge as shown.

Connect the following components between the lugs of the 16-pin plug in the same manner as with the previous plug. Solder the connections and cut off the excess lead lengths.

NOTE: You will not install a component between pins 1 and 16.

- () C22: .022 μ F (223K) Mylar capacitor between pins 2 and 15.
- (✓) R47: 22.1 k Ω , 1% (red-red-brn-red) resistor between pins 3 and 14.
- (✓) R46: 210 k Ω , 1% (red-brn-blk-org) resistor between pins 4 and 13.

Heathkit®

- (✓) C20: .0056 μ F Mylar capacitor between pins 5 and 12.
- (✓) C21: .01 μ F Mylar capacitor between pins 6 and 11.
- (✓) R45: 100 k Ω , 1% (brn-blk-blk-org) resistor between pins 7 and 10.
- (✓) R44: 510 k Ω (grn-brn-yel) resistor between pins 8 and 9.

Refer to Pictorial 2 for the following steps.

- () Remove the filter network from location U34 and set it aside.
- (-) Be sure the plug leads are straight. Then install the new filter network at U34 with the notch or beveled edge as shown in the Pictorial.
- () N/A Remove the protective backing from the blue and white label. Then press the label onto a suitable area on the bottom of your TNC. Always mention the model and series numbers on this label in any communications you have with Heath Company about this kit.

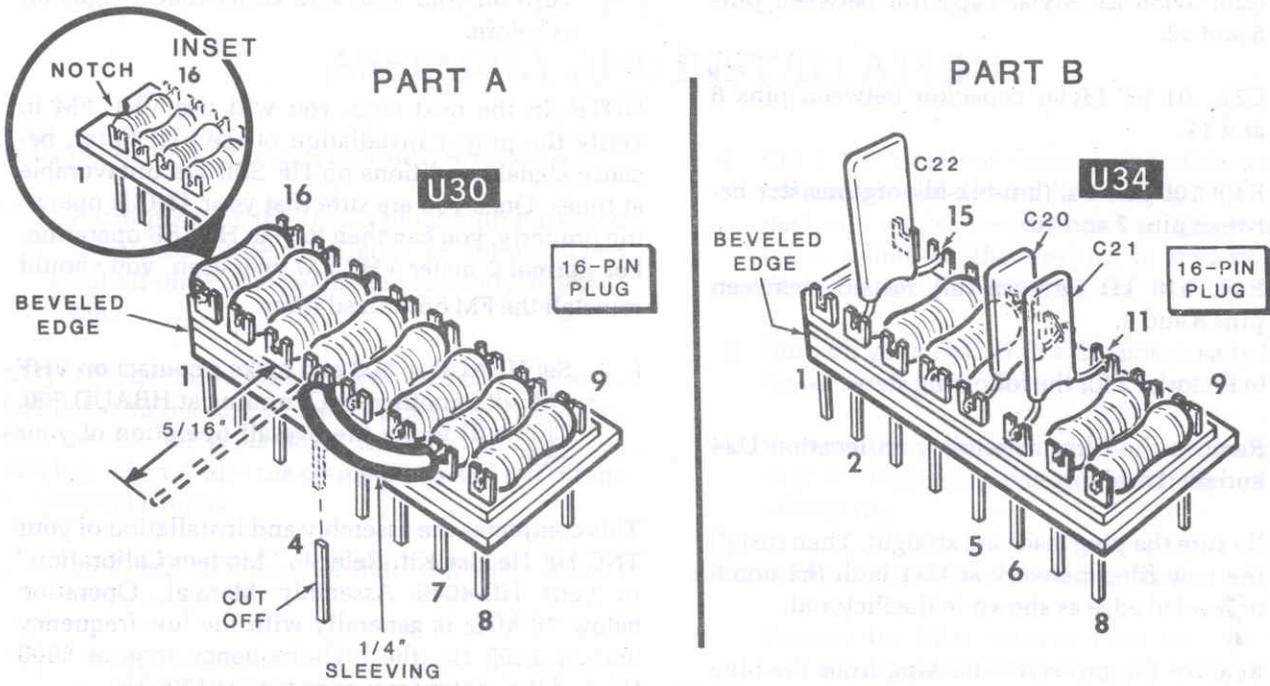
- (✓) Turn on your TNC and verify that it signs on as before.

NOTE: In the next step, you will use VHF FM to verify the proper installation of the Flat Filter, because signal conditions on HF SSB are unfavorable at times. Once you are sure that your TNC is operating properly, you can then turn to HF SSB operation. For normal 2 meter VHF FM operation, you should reinstall the FM optimized filter.

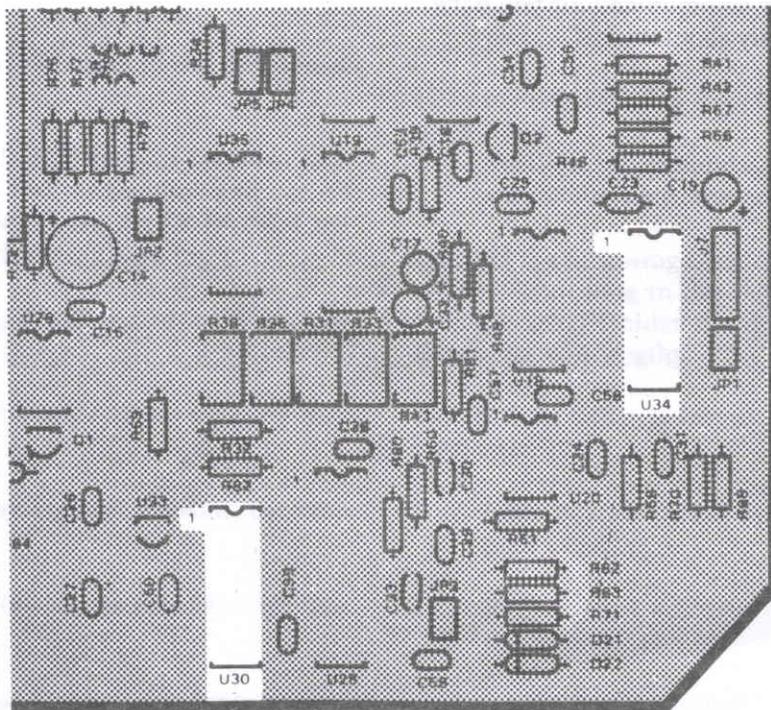
- () Set HBAUD to 300 and make a contact on VHF FM with another TNC running at HBAUD 300. This will verify the overall operation of your TNC.

This completes the assembly and installation of your TNC HF Header Kit. Refer to "Modem Calibration" in your HD-4040 Assembly Manual. Operation below 28 MHz is generally with the low-frequency tone at 1400 Hz, the high-frequency tone at 2000 Hz, and the center-frequency tone at 1700 Hz.

- () Close the cabinet top and replace the screws.



PICTORIAL 1



PICTORIAL 2





IMPORTANT NOTICE

Please make the following changes in your Instruction Booklet before you start to assemble your kit.

Page 2 — Left column, first step. Change the word leveled to beveled. ✓

— Right column, fifth and sixth steps. Change the word leveled to beveled. ✓

Page 3 — Left column, sixth step. Change the word leveled to beveled. ✓

— Cut out the new right column, supplied below, and tape it over the right column on this Page.

Thank you,

HEATH COMPANY

- Turn on your TNC and verify that it signs on as before.

NOTE: In the next step, you will use VHF FM to verify the proper installation of the Flat Filter, because signal conditions on HF SSB are unfavorable at times. Once you are sure that your TNC is operating properly, you can then turn to HF SSB operation. For normal 2 meter VHF FM operation, you should reinstall the FM optimized filter.

- Set HBAUD to 300 and make a contact on VHF FM with another TNC running at HBAUD 300. This will verify the overall operation of your TNC.

This completes the assembly and installation of your TNC HF Header Kit. Refer to "Modem Calibration" (Non-default Tones) in your HD-4040 Assembly Manual. Operation below 28 MHz can be either a 200 Hz shift with the low-frequency tone at 1600 Hz, and the high-frequency tone at 1800 Hz, or a 600 Hz shift with tones at 1400 Hz and 2000 Hz and the center-frequency tone at 1700 Hz.

- Close the cabinet top and replace the screws.