

# Command Update (August 1988)

for the

**Heathkit®**

**PACKKIT®**

Model HK-232

## INTRODUCTION

This Command Update describes the February 23, 1988 firmware release, which has added some new commands and changed a few of the existing commands.

A new feature, the NAVTEX Mode, is also available. NAVTEX is a relatively new marine weather broadcast service that is rapidly being installed in coastal areas around the world. NAVTEX broadcasts navigation and weather information to ships on 518 kHz.

NOTE: This release causes the Controller's sign-on message to indicate a checksum of \$A7.

## NEW COMMANDS

**AF AFILTER ON/OFF***Default: OFF*

Modes: All

Parameters:

- ON** The ASCII characters that are specified in the MFILTER list are filtered out and never sent to the terminal or computer.
- OFF** Characters in the MFILTER list are filtered only from monitored packets.

Some terminals and computers use special characters to clear the screen or perform other special functions. To prevent the Controller from sending these characters, enter them in the MFILTER list and then turn AFILTER ON.

**NOTE:** If ECHO is ON and the terminal or computer sends a filtered character, the Controller will echo it back to the terminal or computer.

AFILTER works in all modes and is not affected by the CONNECT/CONVERSE/TRANSPARENT status.

**BBS BBSMSGs ON/OFF***Default: OFF*

Mode: Packet

Parameters:

- ON** Makes the Controller's status messages look like the TAPR-style output.
- OFF** The Controller's status messages work normally.

When BBSMSGs is ON, some of the status messages change or are suppressed. This may improve operation of the Controller with some BBS software. The following Controller status messages are suppressed if BBSMSGs is ON:

- No "(parm) now (value)"
- Connect messages: No "; v2; 1 unACKed"
- No "xxx in progress: (dest) via (digis)"
- No space after the comma in digipeater lists
- "VIA" appears in upper case
- If MRPT is ON, digi paths are displayed in TAPR format

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In addition, when BBSMSG is ON, the following status messages are deleted or changed:

- No "\*\*\*\* connect request:"
- No "\*\*\*\* retry count exceeded"
- Controller sends a carriage return before all other "\*\*\*\*"
- No "(parm) was (value)"
- No "(call sign) busy" message

**NAVM NAVMSG all, none, yes/no letter1[,letter2..]**

*Default: all*

Mode: NAVTEX

Parameters:

**letter** All, none, YES list, No list. The list can contain up to thirteen letters, which may or may not be separated by spaces, commas, or TABs, although you can also type them with no spaces.

NAVMSG uses letter arguments to determine which type of NAVTEX messages your Controller will print. NAVTEX messages are grouped into classifications by the second letter in the preamble (see "The NAVTEX Mode" beginning on Page 9). These classifications are currently defined as:

- A. Navigational warnings.
- B. Meteorological warnings (storm warnings).
- C. Ice reports.
- D. Search and rescue information.
- E. Weather forecasts.
- F. Pilot service messages.
- G. DECCA system information.
- H. LORAN-C system information.
- I. Omega system messages.
- J. SATNAV system messages.
- K-Z. Reserved for future use.

The NAVMSG command allows ALL, NONE, or a list of up to thirteen letters that represent the types of messages you wish to monitor or reject. For example, to exclude SATNAV and Omega System messages (message classes I and J), you would enter:

**NAVMSG NO IJ**

This causes the Controller to ignore message classes I and J from all NAVTEX transmitting stations, but it will still print all other classes.

NOTE: Message classes A, B, and D **cannot** be excluded and will always print as long as the transmitting station is enabled by the NAVSTN command.

Clear NAVMSG with "%", "&", or "OFF" as the argument.

**NAVS**      **NAVSTN all, none, yes/no letter1[,letter2..]**      *Default: all*

Mode: NAVTEX

Parameters:

**letter**      All, none, YES list, NO list. The list can contain up to thirteen letters, which may or may not be separated by spaces, commas, or TABs, although you can also type them without spaces.

The NAVSTN command allows ALL, NONE, or a list of up to thirteen letters that represent the NAVTEX transmitting stations you wish to monitor or reject. NAVTEX stations are identified by the first letter in the preamble (see "The NAVTEX Mode" beginning on Page 9). For example, if you wish to monitor NAVTEX stations E, G, and C because they are near you, you would enter:

**NAVSTN YES EGC**

This causes the Controller to monitor only NAVTEX transmitters C, E, and G and ignore messages from all others.

Clear NAVSTN with "%", "&", or "OFF" as the argument.

**NA**      **NAVTEX**      *Immediate Command*

Mode: Command

NAVTEX is an immediate command that switches your Controller into the NAVTEX receive mode. At present, all NAVTEX stations operate on 518 kHz.

NAVTEX is a special form of Mode B (FEC) SITOR that does not output data to the computer or printer until the letters "ZCZC" and a preamble are received intact. The preamble consists of two letters and two numerals. The Controller continues printing until it receives an "NNNN" end-of-message indicator.

The first two letters of the preamble define the transmitting station and the message class. The next two numerals form a serial number that the Controller remembers when it copies a message intact. The Controller remembers the preambles of the last 200 printed messages and will not reprint a message with the same preamble except:

1. Any preamble with a serial number of 00 is considered an emergency message and will always be printed.
2. Any message with more than 1/8 of its characters received in error is not saved and may be reprinted.

To clear the preamble memory, exit and then re-enter the NAVTEX mode.

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The Controller can accept or lock-out certain message classes and transmitting stations with the NAVMSG and NAVSTN commands.

For logging purposes, the NAVTEX mode uses the setting of DAYTIME to print the date and/or time in front of the preamble (if MSTAMP and/or DAYTIME are ON).

**MODIFIED COMMANDS**

**CB      CBELL ON/OFF** *Default: OFF*

Mode: Packet

Parameters:

**ON**      Three BELL characters <CTRL-G> (\$07) are sent to your terminal with the "\*\*\*\* CONNECTED to (all sign)" or "\*\*\*\*DISCONNECTD from (call sign)" message.

**OFF**      BELLS are NOT sent with the CONNECTED or DISCONNECTED message.

CBELL now sends BELL characters on DISCONNECT as well as CONNECT. Previously, BELL characters were only sent at a CONNECT. Refer to the User Manual for other information about the BELL command.

**COD      CODE "n"** *Default: 0 (International)*

Modes: Morse, Baudot RTTY, and AMTOR.

Parameters:

**"n"**      0 to 5 set the type of alphabet (refer to the "CODE" command in the User Manual for a list of alphabets).

For the International Morse alphabet (CODE 0), the following characters are now available for receiving and transmitting:

ASCII	CHARACTER	DESCRIPTION
\$40 (@)	....	
\$5B (I)	..-	Formerly received as aa.
\$5C (\)	---	Formerly received as oe.
\$5D (J)	...-	
\$5E (^)	...-	Formerly received as ue.

These new characters are for the Swedish alphabet, but also have applications in the German alphabet. Refer to the CODE command in the User Manual for more information about the various alphabets that are available.

**HELP HELP***Immediate Command*

Mode: Command

While in the Command Mode, type the command "H" to read the abbreviated on-line HELP file.

Your monitor displays the following brief list:

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cmd:help
HELP:
AMTOR      PACKET      ASCII
  ARQ      CONNECT     BAUDOT
  ALIST     DISCONNE    MORSE
  FEC       MHEARD      DISPLAY
  ACHG      CSTATUS     CALIBRAT
NAVTEX     DSC
SIGNAL     FAX
CONVERSE   TRANS
XMIT       RCVE        LOCK
RESTART    RESET       TCLEAR
  
```

cmd:

You can exit from your present operating mode and enter the Command Mode at any time to list the HELP text. This does not affect AMTOR or Packet operation.

**HOST HOST ON/OFF***Default: OFF*

Mode: All

Parameters:

- ON**     The Controller operates with a host computer or other special applications program.
- OFF**    The Controller operates as a normal TNC.

If you turn the Controller on or perform a RESTART while the Controller is in the HOST mode (HOST ON), it will issue a RESTART response (\$01 \$4F R T \$00 \$17). Refer to the User and Technical Manuals for more information about the HOST command.

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**KI**      **KISS ON/OFF**

*Default: OFF*

Mode: Packet

Parameters:

**ON**      Causes the Controller to operate as a KISS TNC.

**OFF**      Causes the Controller to operate as a normal AX.25 Level 2 TNC.

When there is communication activity on the RS-232 link in the KISS and raw HDLC modes, the STA and CON LEDs light to indicate this:

Host to Controller communication: STA LED lights.

Controller to Host communication: CON LED lights.

The KISS mode is usually used to run Phil Karn's TCP/IP. In addition to setting KISS to ON, there are other commands that must be set to enable TCP/IP operation.

Enter these commands only if the terminal word length and parity is something other than 8-bits and No parity:

AWLEN 8

PARITY 0

RESTART

Enter these commands if you changed their defaults:

TRACE OFF

HID OFF

BEACON EVERY 0

PACKET

Now enter these commands (make sure HOST ON is the last command you enter):

CONMODE TRANS

PPERSIST ON

RAW ON

HPOLL OFF

KISS ON

HOST ON

Refer to the User and Technical Manuals for more information about the KISS command.

**MFI**      **MFILTER n1[,n2[,n3[,n4]]]***Default: \$80*

Modes: Morse, Baudot, ASCII RTTY, AMTOR, and Packet.

Parameters:

"n"      0 to \$80 (0 to 128 decimal) specifies the ASCII character code. Up to four characters may be specified.

\$80 is a special value that causes all characters between \$80 and \$FF and all control characters except carriage return (\$0D), Linefeed (\$0A), and TAB (\$09) to be filtered out. NOTE: Previously, MFILTER \$80 also filtered out TAB characters. Refer to MFILTER in the User Manual for more information.

**PRT**      **PRTYPE "n"***Default: 2 (Epson)*

Mode: FAX

Parameter:

"n"      0 to 255 specifies a code for the type of dot graphics sequences that are used by your printer.

NOTE: PRTYPE 48 — 51 (Miscellaneous) now supports the HP ThinkJet printer in addition to those shown in the User Manual.

New codes that are presently supported:

PRTYPE	PRINTER	"ENTER GRAPHICS" SEQUENCE
52	Citizen	CHR\$(27) K n1 n2
56	NEC	CHR\$(27) > CHR\$(27) M CHR\$(27) S0960
60	Anadex	CHR\$(28)

New values of PRTYPE are:

**PRTYPE 52 — 55, Citizen:**

Typical graphics code:	<ESC>	'K'	n1	n2
New-line code (7 bits):	<ESC>	'A'	7	(no LF)
New-line code (8 bits):	<ESC>	'A'	8	(no LF)
Printer reset code:	<ESC>	'@'	CR	LF

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GRAPHICS	Dot density		CODE
	PRTYPE 0,2	PRTYPE 1,3	
0	60 dpi	60 dpi	ESC 'K'
1	120 dpi	120 dpi	ESC 'L'
2	fast 120 dpi	fast 120 dpi	ESC 'Y'
3	240 dpi		ESC 'Z'
4	80 dpi	80 dpi	ESC '*' 4
5	72 dpi	72 dpi	ESC '*' 5
6	90 dpi	90 dpi	ESC '*' 6

NOTE: Not all GRAPHICS settings are implemented on some models of Citizen printers.

## PRTYPE 56 — 59, NEC:

Typical graphics code: <ESC> '>' <ESC> 'M' ESC 'S0960'  
 New-line code (7 bits): <CR> <ESC> 'T11' <LF>  
 New-line code (8 bits): <CR> <ESC> 'T13' <LF>  
 Printer reset code: <ESC> 'A' <ESC> ']' <CR> <LF>

GRAPHICS	Dot Density		CODE
	PRTYPE 56, 58	PRTYPE 57, 59	
1	120 dpi	120 dpi	ESC ">" ESC 'M'
3	160 dpi		ESC '>' ESC 'M'
4	80 dpi	80 dpi	ESC '>' ESC 'D'

## PRTYPE 60 — 61, Anadex:

Typical graphics code: 28  
 New-line code (6 bits): '6'  
 Printer reset code: 29 <CR> <LF>

GRAPHICS	Dot density		PRINTERS
	PRTYPE 60	PRTYPE 61	
0	60 dpi	60 dpi	DP-9000, DP-9500
5	75 dpi	75 dpi	DP-9001, DP-9501

## OTHER COMMAND CHANGES

The defaults for the following commands were changed:

- MPROTO was OFF and is now ON.
- PERSIST was 127 (50%) and is now 63 (25%).
- PPERSIST was OFF and is now ON.
- RESPTIME was 10 and is now 5.

## THE NAVTEX MODE

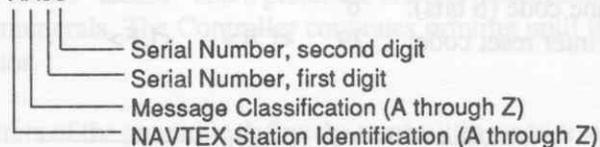
NAVTEX (Navigational Telex) is an international communication system used by ships. It is a direct-printing service that distributes navigational and meteorological warnings and other urgent information.

As a relatively new service, NAVTEX is not yet fully operational in all areas of the world. At present, NAVTEX covers most of Europe and the east coast of the United States. Stations that will cover the west coast of the United States are under construction and are scheduled to be operational in 1988.

NAVTEX is broadcast in Mode-B (SITOR) on 518 kHz, which has been agreed upon as the world-wide standard. Receiving stations can selectively monitor NAVTEX so that a vessel will see only the information it wishes and will never see the same message twice. Your Controller uses this unique NAVTEX feature, along with the NAVSTN and NAVMSG commands, to allow you to monitor only those messages of importance.

All NAVTEX messages have a four-character "ZCZC" preface, followed by a four-character preamble:

ZCZC AA99



The first character of the preamble identifies the NAVTEX transmitter. Transmitter Identification characters can be any letter between A and Z, which limits the number of NAVTEX stations to 26. The NAVSTN command of your Controller allows you to use this letter to selectively monitor or reject certain NAVTEX transmitters.

The second character of the preamble is the NAVTEX classification (refer to the NAVMSG command on Page 3 of this Update for a list of message classifications). The letters A through J define currently-available message classes, while K through Z are reserved for future use. The NAVMSG command allows you to selectively monitor or reject certain NAVTEX message classes.

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The last two numbers of the preamble form a serial number between 0 and 99, which is different for each NAVTEX message. Your Controller remembers the preamble of the 200 most-recent messages, so it will not reprint a message that has the same preamble (if it was already received without many errors).

Stations are currently active in the United States and Canada at the following locations:

Sydney, Nova Scotia	Boston, Massachusetts
Portsmouth, Virginia	Miami, Florida
New Orleans, Louisiana	

Additional stations are planned at:

San Francisco, California	Long Beach, California
Astoria, Oregon	Kodiak, Alaska
Adak, Alaska	Honolulu, Hawaii

## INTRODUCTION

This document updates the February 23, 1998 document which has added some new information and changed a few of the existing documents.

A new feature, the NAVTEX Mode, is also available. NAVTEX is a related new marine weather broadcast service that is rapidly being installed in coastal areas around the world. NAVTEX broadcasts navigation and weather information to ships on 214 MHz.

NAVTEX also carries the Controller's signature and includes a checksum of NAV.