



HLS-1500

(Version 1.6)

Programming Manual for the HL-1500 Series Radios



TecNet International Inc.
11535 West 83rd Terrace • Lenexa, Kansas • 66214
Telephone: 913-859-9515 • Fax: 913-859-9550
Website: www.tecnetusa.com • Email: tecnet@tecnetusa.com



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System Requirements

- CPU: Pentium or higher
- OS: Windows 98 or later

Program Installation

1. Insert the CD-ROM into the drive. If it set for auto-run go to step 3.
2. Go to My Computer and double click on the CD-ROM drive. Typically this is labeled with the drive letter D, however it may be different on some computers. There are three files on the disk, two files used for setting up the program and the other is this manual in PDF format.



3. Double click on Setup.exe as shown above. This will bring up the following Setup Wizard.



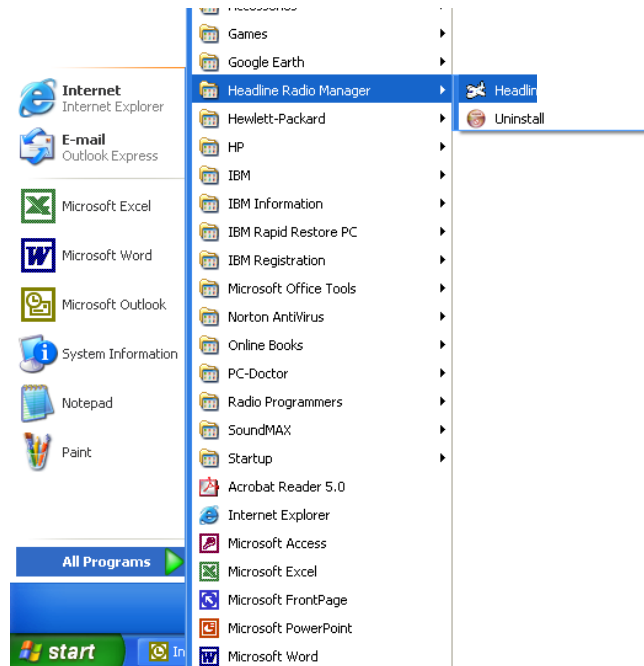
4. Follow the on-screen instructions to install the program.

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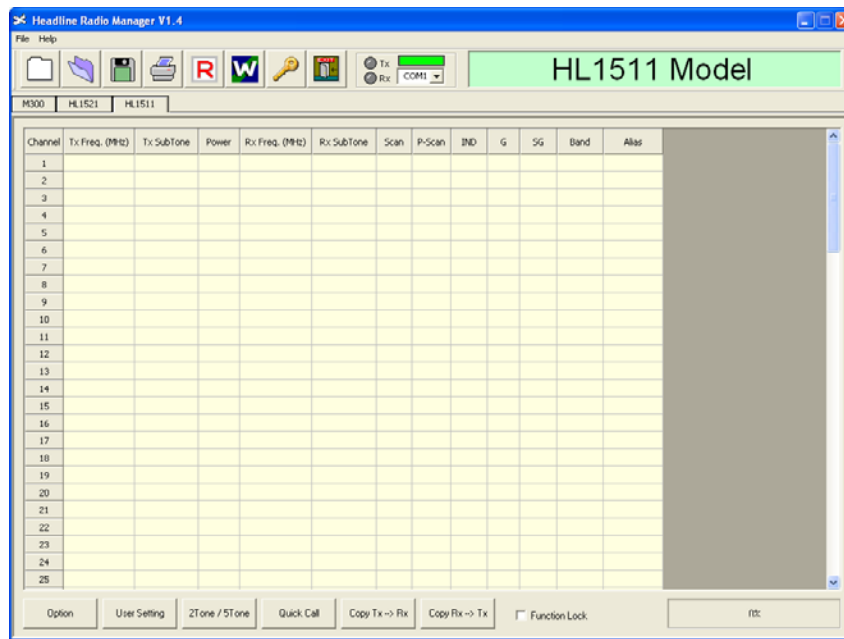
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Running the program

1. The program will be installed off of the Start bar. Go to Start/ All Programs/Headline Radio Manager\Headline Radio Manager.



2. The following will be displayed when the program opens.



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 11535 West 83rd Terrace ▪ Lenexa, Kansas ▪ 66214
 Telephone: 913-859-9515 ▪ Fax: 913-859-9550
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3. When opening the program for the first time it is probably best to read a radio and save the file for future reference. This will verify the programming cable and software are all working together.

Reading the radio

1. First install a charged battery on the radio and remove the accessory jack cover. Connect one end of the HLC-1000 programming cable to an available DB9 communication port on the computer. If the computer you're using does not have a DB9 serial port, a USB to serial adapter will be necessary. The adapter can be purchased from most computer stores. Next plug the other end into the accessory jack on top of the radio
2. Select the proper communication port from the pull-down menu as shown below.



3. Press and hold the monitor button on the side of the radio then turn the radio on. Release the monitor button when the display reads "Prog 150". Click on the  icon to begin reading the radio.
4. The status indicator should show the reading progress as represented by a blue bar on the bottom right corner of the screen. The address being read will be displayed in the upper right corner. If it does not work, repeat the procedure. Double-check all connections and the communications port setting.

Saving a file

At this point you may wish to save the file as the factory default program file. Click on the "File" drop down menu and select "Save". Under "File name" type a file name and click on the "Save" button to save the file.

You can also get to the save function by clicking on the  icon.



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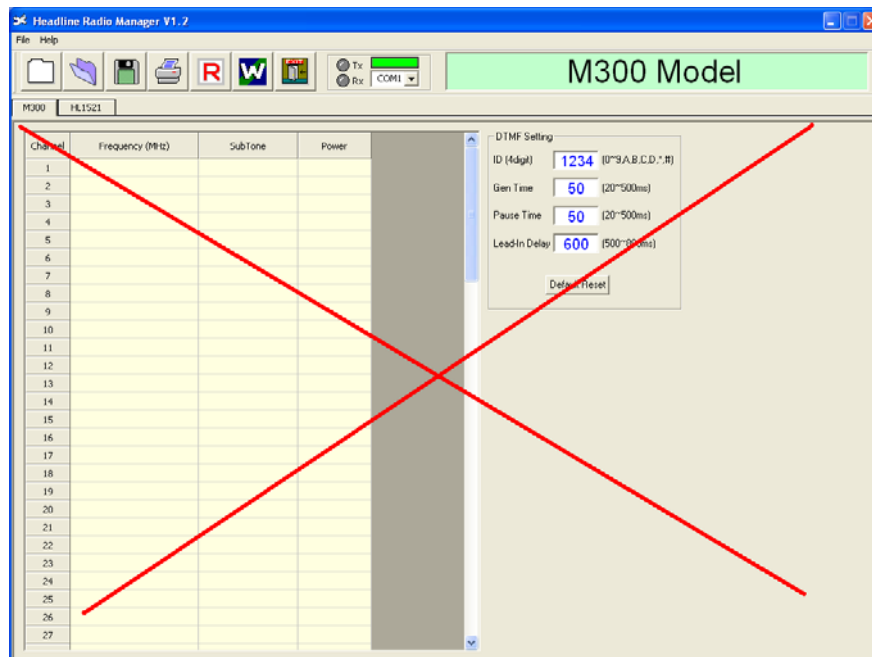
Creating a new file

Before creating a new file make sure the correct radio model is selected by clicking on the appropriate tab.



M300 Tab

Note: This tab is not used for programming the HL-1500 series. Do not add information to this section.



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HL-1521 or HL-1511 Tab

Channel	Tx Freq. (MHz)	Tx SubTone	Power	Rx Freq. (MHz)	Rx SubTone	Scan	P-Scan	IND	G	SG	Band	Alias
1												
2												

Tx Freq (MHz)

Type in the desired transmit frequency in megahertz such as 460.625 and press Enter.

Tx SubTone

Click in this field and using the drop down box select the desired CTCSS or DCS for the transmitter.

Power

Click in this field and using the drop down box select either High (4W UHF / 5W VHF) or Low (1W) transmit power.

Rx Freq (MHz)

Click in this field and type the desired receive frequency in megahertz such as 455.625 and press Enter.

Rx SubTone

Click in this field and using the drop down box select the desired CTCSS or DCS for the receiver.

Scan

Selecting "Yes" in this field adds the channel to the scan list.

P_Scan

Up to two priority channels can be selected using the programmer. P1 is Priority Channel 1 and P2 is Priority Channel 2.

IND

Two-tone paging can be used on any desired channel. Selecting IND1 or IND2 sets the channel up for Quick Call. The paging format is set using the "Quick Call" button at the bottom of the screen. This is explained later in the document.

G

Two-tone Group paging can be used on any desired channel. Selecting "Yes" from the drop-down box enables group calling for the programmed channel.

SG

Two-tone Super Group paging can be used on any desired channel. Selecting "Yes" from the drop-down box enables group calling for the programmed channel.

Note: **IND**, **G**, and **SG** can all be used on one channel if desired.

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Band

Each channel can be selected as a NARROW (12.5KHz) or a WIDE (25KHz) band channel.

Alias

A channel name can be applied to a channel. The radio can display up to 8 alpha-numeric characters. If no Alias is used, the channel number will be displayed.

Channel	Tx Freq. (MHz)	Tx SubTone	Power	Rx Freq. (MHz)	Rx SubTone	Scan	P-Scan	IND	G	SG	Band	Alias
1	460.625000	CTC_1 (67)	HIGH	455.625000	CTC_1 (67)	NO	NO	OFF	YES	NO	WIDE	Police
2												

Option

Clicking on the Option Button at the bottom left of the HL1521/1511 tab opens up the following screen.

The 'Option' menu is a dialog box with a blue title bar and a close button (X) in the top right corner. It contains ten settings, each with a label and two radio buttons. The settings are arranged in two columns. At the bottom, there are three buttons: 'OK', 'Cancel', and 'Default Reset'.

Setting	Option 1	Option 2
SQUELCH	Normal	Tight
KEY LOCK	Unlock	Lock
KEY BEEP	On	Off
DTMF ANI	On	Off
LOW BATT BEEP	On	Off
VOX MODE	On	Off
BCLO	Enable	Disable
TOT	Enable	Disable
BCLO TYPE	Carrier	Repeater
SCAN TYPE	SA Combi	Carrier

Squelch

Checking Normal sets the squelch to open around 12dB Sinad. Checking Tight will help reduce unwanted interference from distant communications.

Key Beep

Checking On enables a beep tone each time one of the four following buttons is pressed. Up, Function, Down, or Monitor. PTT will beep when it is pressed to exit the menu. The note symbol will be displayed when enabled.

Low Batt Beep

This enables a double beep when the battery voltage drops to an unusable level. Recharge the battery when this occurs.

**BCLO**

BCLO stands for "Busy Channel Lockout". Transmit is not allowed if the channel is busy receiving.

BCLO Type

Note: This function is not available and can not be selected in the programmer.

Key Lock

Enabling Key Lock temporarily disables the three buttons on the front of the radio. This prevents accidental channel change or entering the menu. To disable key lock when using the radio, press and hold the function button for approximately 3 seconds.

DTMF ANI

Enabling DTMF sends the 4-digit ANI sequence each time PTT is pressed.

VOX Mode

VOX stands for Voice Operated Transmit. When enabled it allows VOX to work with an optional headset. Note: PTT is disabled when VOX is on.

TOT

TOT stands for Timeout Timer. When enabled the radio will transmit for a predetermined time. The timer is used to save battery life and allow the radio to cool if PTT is accidentally pressed for long periods of time. See User Settings to set time duration.

Scan Type

SA Combi: When enabled and in scan mode, the radio will stop on the received channel only if the correct CTCSS or DCS code is present.

Carrier: When enabled and in scan mode, the radio will stop on the received channel if the carrier frequency is present regardless of the tone programmed into the radio.



User Settings

Clicking on this button brings up the following screen.

The 'User Setting Values' dialog box contains the following settings:

Category	Setting	Value	Range
Power Save Time	ON Time	0	(100~300ms)
	OFF Time	0	(50~300ms)
	Active Time	0	(3sec~30sec)
TOT Time	TOT Time	0	(5sec~200sec)
	Penalty Time	0	(1sec~60sec)
	DTMF	ID (4digit)	0000
DTMF	Gen Time	0	(20~500ms)
	Pause	0	(20~500ms)
	Lead-In Delay	0	(100~500ms)
	SCAN	Carrier Scan Time	0
SCAN	Sub Tone Scan Time	0	(250~300ms)
	Dwell Time	0	(1sec~20sec)
SCAN	TX Type	Home CH	
VOX	Sensitivity	1	
	Delay Time	0.0	(0.5sec~5sec)

Buttons: OK, Cancel, Default Reset

Power Save Time

Power save switches the receiver on and off to conserve battery power.

On Time

This is the time the receiver is on. Range is from 100ms to 300ms. Default setting is 200ms.

Off Time

This is the time the receiver is off conserving power. Range is from 50ms to 300ms. Default setting is 150ms.

Active Time

This is the time the radio waits after RX or TX before going back into Power Save. Range is from 3s to 30s.

TOT Time

The length of time the radio will transmit before timing out. Range is from 5s to 200s. Default setting is 100s.

Penalty Time

After the TOT Time has expired, this is the length of time before transmission can resume. It is also known as the "cool down" time. Range is from 1s to 60s. Default setting is 2s.

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**DTMF**

This stands for Dual Tone Multi-Frequency. It is used to send ANI to a base station or other radios.

ID (4digit)

4 digits are used when sending ANI. The digits are 0 ~ 9, A, B, C, D, #, and *.

Gen Time

This is the length of time each digit is sent. Range is from 20ms to 500ms.

Pause

This is the length of time between digits. Range is from 20ms to 500ms.

Lead-In Delay

This is the time from which PTT is pressed until the first digit is sent. Range is from 100ms to 500ms.

Scan

Scan is used to check each channel in the scan list of activity.

Carrier Scan Time

This is the length of time the radio checks the channel for the proper carrier frequency. Range is from 150ms to 300ms.

Sub Tone Scan

This is the length of time the radio checks the channel for the proper carrier frequency and tone. Range is from 250ms to 300ms.

Dwell

This is the length of time the radio waits before resuming scan after a transmission or reception. Range is from 1s to 20s.

TX Type

There are 5 types of scan. They are:

Home CH: The radio will only transmit on the channel from which scan was initiated, even when a call is received on another channel.

Last Received CH: Radio always transmits on the last channel it received.

Scanning CH: When initiating a call, the radio transmits on the first available channel in the scan list. When a call is received, TX is allowed on the received channel during the Scan Dwell time.

Note: The following Priority Scans are only available on radios with firmware version 150 and higher. This is displayed on the radio when it is in program mode.

Priority Scan TX: When initiating a call, the radio transmits on the Priority 1 channel. When a call is received, TX is allowed on the received channel during the Scan Dwell time.

Priority Only TX: Whenever the radio transmits, it always transmits on the Priority 1 channel regardless of the channel received.



2Tone / 5Tone (SelCal only)

Clicking on this button brings up the following screen:

2Tone / 5Tone Setting

2Tone

ID: 2Tone (0~9,A)

☐ ANI Enable

TYPE: Show Tone

OPTION:

Lead_in Delay Time msec(100~500)

Tone Generation Time msec(10~500)

5Tone

ID LIST:

TYPE: Show Tone

OPTION:

Lead-in Delay Time msec(100~500)

1st Tone Length Time msec(10~500)

2nd Tone Length Time msec(10~500)

1st/2nd Tone Delay Time msec(50~200)

OK Cancel Default Reset

2Tone

ID: Input the 2 digits 0 ~ 9 and A for the desired 2 Tone.

ANI Enable: Check this box to send the 2 Tone at each PTT press.

Type

Tone Type is set to EEA and cannot be changed.

Option

Lead_In Delay Time: This is the length of time from which PTT is pressed until the first digit is sent. Range is from 100ms to 500ms.

Tone Generation Time

This is the length of time for each digit. Range is from 10ms to 500ms.

5Tone

Note: This function is not available.



Quick Call

Clicking on this button brings up the following screen.

Section	Tone 1 Freq. (Hz)	Tone 1 Duration (msec)	Gap Time (msec)	Tone 2 Disable	Tone 2 Freq. (Hz)	Tone 2 Duration (msec)
Individual Tone 1	368.5	1000	0	<input type="checkbox"/>	634.5	3000
Individual Tone 2	300.0	1000	200	<input type="checkbox"/>	300.0	200
Group Tone	634.5	8000	0	<input checked="" type="checkbox"/>	300.0	200
Super Group Tone	300.0	1000	200	<input type="checkbox"/>	300.0	200

Note: There are four separate groups of 2-Tone that can be used for the radio. Each group is setup in the same manner. Typical Individual Quick Call settings are; 1st tone 1 second, no gap, and 2nd tone 3 seconds. Typical Group Calling is 8 seconds of the 2nd tone.

For radio operation pressing the holding the Function Button will enable or disable 2-Tone.

Tone 1 Freq. (Hz)

Type in the A tone in hertz. Range is from 300Hz to 3000Hz.

Tone 1 Duration (msec)

This is the length of the A tone. Range is from 100ms to 10s.

Gap Time (msec)

This is the time between the A tone and B tone. Range is from 1ms to 10s.

Tone 2 Disable

Checking this box disables the B tone. Typically used for group calling when only one long tone is needed.

Tone 2 Freq. (Hz)

Type in the B tone in hertz. Range is from 300Hz to 3000Hz.

Tone 2 Duration (msec)

This is the length of the B tone. Range is from 100ms to 10s

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Copy TX → RX

This shortcut key will copy the TX frequency entered and place it in the RX frequency cell.

Copy RX → TX

This shortcut key will copy the RX frequency entered and place it in the TX frequency cell.

Password Mode

A 4 to 7 key-press password can be entered into the radio to prevent unauthorized use of the radio. Entering the password is based upon the sequence of the monitor button, down button, function button, and up button. "N-PASS" stands for New Password and "R-PASS" stands for Confirm Password. When "PASS" is displayed, the radio already has a saved password and will need the correct password entered to become operational.

Entering a New Password

To set, change, or delete the password, press and hold the "Down" button while powering on the radio. The following will be displayed.



To enter a password for the first time, determine the number and sequence of buttons you wish to use. Next press the desired set of buttons. A dash will be displayed for each key press. Press PTT once. The display will now show "R-PASS". Re-enter the password to confirm and press PTT. "SUCCESS" will be displayed.

Note: If the password is 7 digits in length, the PTT button does not need to be pressed.



Changing the Password

To change the password press and hold the monitor button while powering up the radio. The display will show "PASS". Enter the current password. The display will now show "N-PASS". Next enter the new password as described above. Now the display will show "R-PASS". Re-enter the new password. "SUCCESS" will now be displayed and the radio will ask for the new password by displaying "PASS". Enter the new password for the unit to become operational.

Deleting the Password

To delete the password press and hold the monitor button while powering up the radio. "PASS" will be displayed. Enter the password and then "N-PASS" will be displayed. Press PTT once and "N-PASS" will be displayed. Press PTT again and "DEL" will be displayed indicating the password has been deleted.

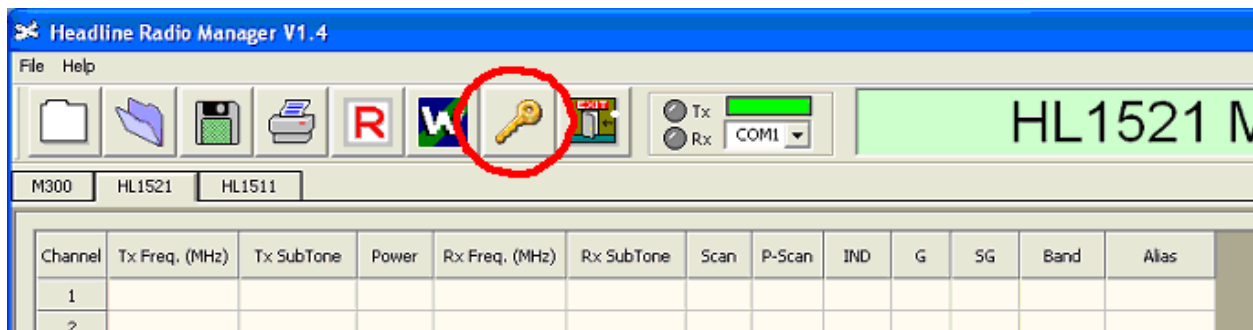
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Password Cracker

If the password is unknown the only way to remove it and make the radio usable again is by using the "Password Cracker" in the software. First the radio must be placed into program mode by holding the monitor button in and turning on power to the radio. Next connect the programming cable to the radio. Then click on the key icon to remove the password.



EDITING THE CHANNEL SCAN LIST



- To confirm the status of scan channels, press and hold the Up button while powering on the radio. If channels are already registered in channel scan list, the "SC" icon will be indicated on the display screen as shown in the picture above. If the channel is not registered, the "SC" icon will not be displayed.
 - Change channels by pressing the Up/Down buttons.
 - To add or remove a channel in the scan list, press the function button.
 - To set a channel as a priority channel, press the monitor button. Pressing monitor will toggle from P1, P2, and SCL. To set Priority Channel 1, press monitor to display P1- XXX where the X's represent the channel number. Use the up/down buttons to select the desired channel. Press the function button to store the channel.
 - "Assign Priority Channel 1" ("SC" icon will appear) or "Cancel" (no "SC").
- Note: If a Priority Channel has already been assigned, it must be deselected first before a new Priority Channel can be set. An error chime will be indicated if the key-presses are incorrect.

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- To select Priority Channel 2, Press monitor to display P2 and use the up/down buttons to select the desired channel. Use the function button to set the channel.
- "Assign Priority Channel 2" ("SC" icon will appear) or "Cancel" (no "SC")



- After completing the registration / deletion of priority channels, turn off the power. To use, turn it on again.



HL-1000 Cloning Instructions

Purpose:

Cloning is taking the programming information from one radio and transferring it to another unit without the aid of a computer.

Equipment Needed:

HLC-1000C Cloning Cable.

Procedure:

Note: Before you begin, make sure both radios are of the same model and the batteries are fully charged.

"Master Unit" refers to the programmed radio that will be sending the data. "Slave Unit" refers to the radio receiving the new program.

1. Turn on the power of the "Master Unit" while holding the PTT button. "CLON" will be displayed. Release the PTT button.
2. Turn on the power of the "Slave Unit" while holding the Monitor button. "PROG-XXX" will be displayed. Note: the three X's represent the version of firmware currently in the radio. Release the monitor button.
3. Plug the HLC-1000C into the accessory jack of each radio.
4. Press and release the function button on the "Master Unit" to begin transferring the data. The LED on the "Master Unit" will blink red and the LCD display will register its progress with dashed lines. The LED on the "Slave Unit" will blink green.
5. When finished, the "Master Unit" will display "SUCCESS".
6. Turn off both radios and disconnect the cable. If errors occur, repeat the procedure.