

## **BHT Initialisation & Programming**

This manual provides a step-by-step guide to initialise units and set them up for the first time, upgrade existing units and correct communication problems.

### **IMPORTANT**

This manual covers Denso OS devices BHT-8000, BHT-300, BHT-500, BHT-600 and BHT-800. The set-up and programming of all these devices is similar across these ranges with one major exception. The BHT-8000 application has a **.PD3** file extension and can be loaded using the BHT-Protocol. All the others have a **.PD4** file extension, which uses the YMODEM protocol to load application.

**It is important that once the new application has been loaded that the protocol is switched back to BHT-Protocol in order for the day-to-day standard data transfer to work.**

To upgrade the software there are 3 areas to consider and all must be configured the same in order for the upgrade to work.

- a) PC/Host software. This is used to transmit the application to the BHT.
- b) Comms Hardware. This is either a cradle or cable connected via USB or Serial (RS232)
- c) BHT. The device itself to receive the application.

How to use this manual?

### **To program a new unit**

- 1) Set-up the hardware. Section 1.
- 2) Initialise the BHT. Section 2.
- 3) Set-up the BHT. Section 3.
- 4) Set-up the PC ready to send the program. Section 4.
- 5) Receive the program on the BHT. Section 5.
- 6) Activate the software. Section 6

### **Upgrade on an existing working system.**

- 1) Identify the hardware. Section 1.
- 2) Check/Set the BHT. Section 3.
- 3) Set-up the PC ready to send the program. Section 4.
- 4) Receive the program on the BHT. Section 5.
- 5) Activate the software. Section 6

### **Resolve Comms Issues.**

- 1) Check the hardware. Section 1.
- 2) Check the set-up of the BHT. Section 3.
- 3) Check the set-up of the PC is correct for the hardware/BHT. Section 4.

Section 7 contains details of others settings, including Date/Time, Resume and RF settings.

Please note some of the screens in the following sections may vary slightly depending on the range and model of BHT.

## BHT System Menu Structure

The following menu structure shows the key menu options in the BHT SYSTEM MENU

### SYSTEM MENU

#### 2: DOWNLOAD

- 1: FILE - Load Program from PC

#### 4: SET SYSTEM

- 1:EXECUTE PROGRAM - Set the default Boot program
- 3:DATE/TIME - Set system date/time
- 5:COMMUNICATION
  - 1:OPTICAL - Settings for cradle connection
  - 2:CONNECTOR - Settings for IFC cable connection
  - 3:COM PORT - Set the default port (Optical to Connector)
  - 4:PROTOCOL TYPE - Set the Protocol
- 7:RESUME - Set Resume function on/off

#### 8: RF (Only on some units)

- 1:PARAMETER
  - 1:RF NETWORK
    - 1:NETWORK PARAMETER - Set Radio SSID
    - 2:RF OPTION - RF Options
  - 2:SECURITY
    - 1:SECURITY MODE - Set Security Mode
    - 2:CONFIGURATION - Set Security Configuration
  - 3:INITIALIZE - Reset RF parameters
- 2:SITE SURVEY - Site Survey to check the RF Connection
- 3:VERSION - RF Version & MAC

## Comms Check List

For Program upload problems ensure the following have been set as per the instructions below.

- 1) PC Com port identified
- 2) If using a cradle, comms speed identified from DIP switches
- 3) New program saved to PC (in an appropriate folder)
- 4) Shortcut to Winartu3 (or Program Loader) configured correctly
  - If the shortcut displays an error immediately it is run then note the error message and check the following.
    - a. Path to the new program
    - b. Port number (remember +P0 = COM1, +P1 = COM2 etc)
    - c. Speed to suit cradle (if used)
- 5) BHT Configured
  - a. For Cradle - Optical set Transfer Speed to match Winartu3/Cradle speed
  - b. For Cable - Connector set Transfer Speed to match Winartu3 speed
  - c. Port - Set to Optical for cradle OR Connector for Cable
  - d. Protocol - BHT8000 BHT Protocol, Other BHTs YMODEM Protocol

## Section 1. Identify the Comms Hardware

Before loading the BHT with new software or to resolve comms problems first identify the hardware used.

### **CRADLE or CABLE**

Is the BHT connected to the PC/Host using a cradle or direct connect IFC cable? If using a cradle then you will need to make sure the **Optical** Settings in the BHT are correct and the baud rate (speed) is set see below. For Cable connection the **Connector** Settings are used.

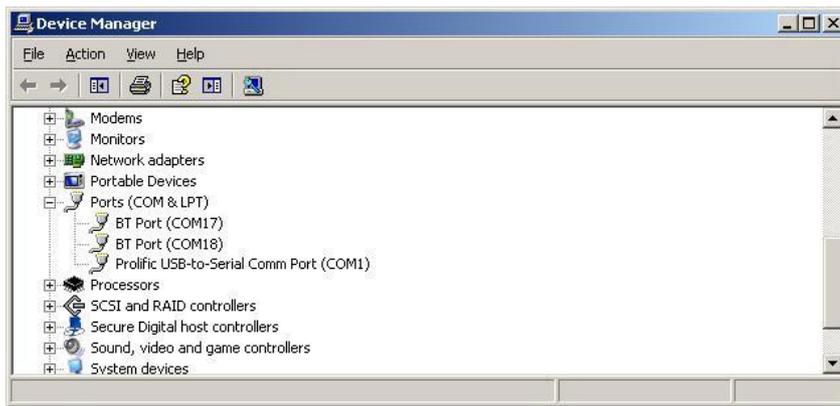
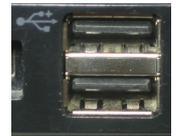
### **COMM PORT**

The cradle or IFC cable will be connected to the PC/Host using an RS232 or USB connection.

RS232 connection, check what port the cable is connected to on the back on the PC case, or if there is only one then it will be COM1.

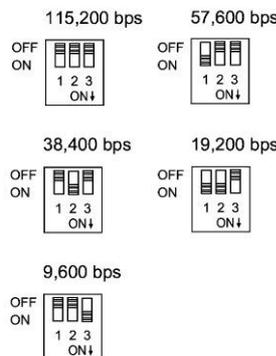
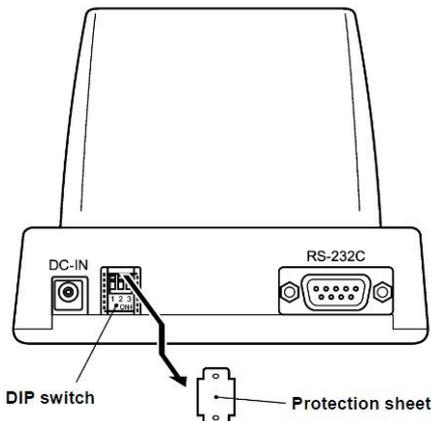


USB Connection. If using a USB cradle (or RS232 to USB adaptor) then check the virtual com port number in the system properties. To find this from the **Start Menu, Settings, Control Panel**, select **System** then select the **Hardware** tab then **Device Manager**. In the **Ports (COM & LPT)** section the port number will be listed (Com 1 in this example).



### **SPEED**

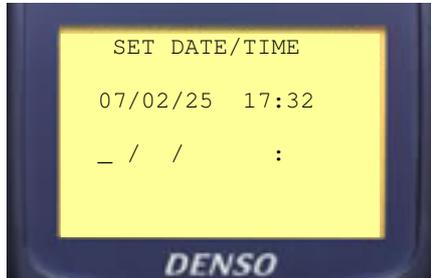
If using a cradle then identify the comms speed, or for a new install check that the comms speed is set to the application requirements (in most instances this should be 115,200)



## Section 2. BHT Initialisation

### INITIAL DATE/TIME

- 1) When a brand new unit is powered on for the first time you may be prompted to set the date/time. Enter this as YY/MM/DD HH:SS using the keypad then press ENT. The BS key can be used to correct entries.



**Note**, if the unit has been used before this screen will **NOT** be displayed. The date & time can be Set System Screen (See below).

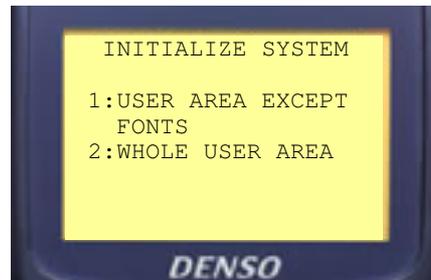
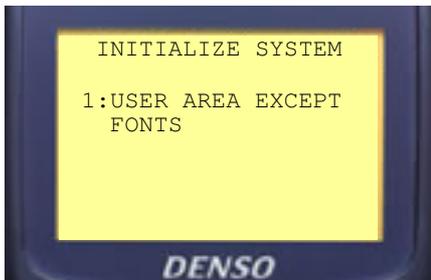
### INITIALISE

- 2) This option is used to clear a pre-used unit and reset the system to the defaults.

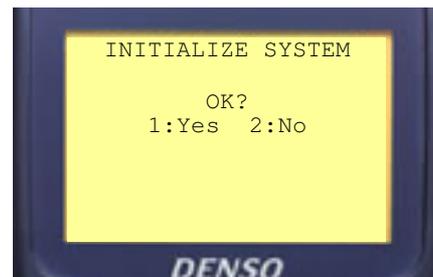
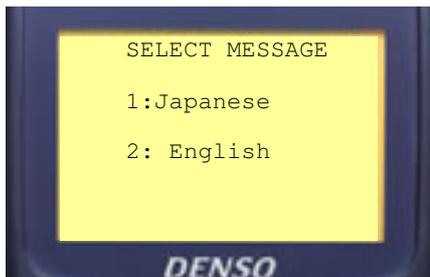
**Note**, this is not required on a new unit or if you are about to upgrade a working unit with a new version of the program.

Press and hold down the **SF** , **M1** and **0** keys then press **PW** to display the INITIALIZE SYSTEM screen.

Now press **1** **ENT** **OR** if the unit needs a complete wipe then press **SF** and **2** then press **2** **ENT**



At the SELECT MESSAGE display press **2** **ENT** to select English, then press **1** **ENT** to confirm the initialise process.

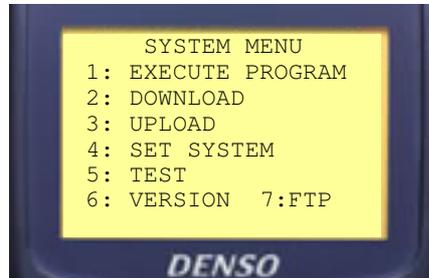


### Section 3. BHT Program Loading

#### PREPARE THE UNIT FOR PROGRAMING

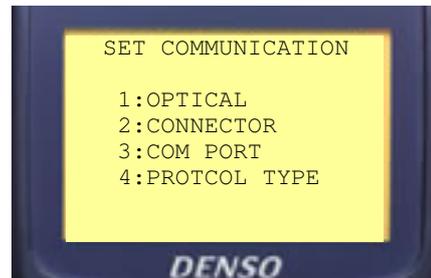
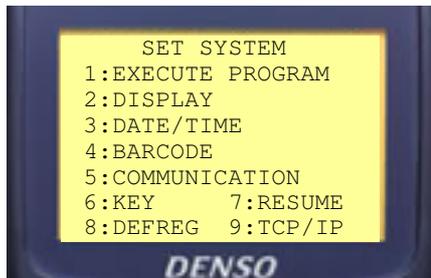
1) Press and hold down the **SF** and **1** keys + **PW** to enter the SYSTEM MENU.

**Note**, this screen may be slightly different depending on the model.



#### COMMUNICATIONS

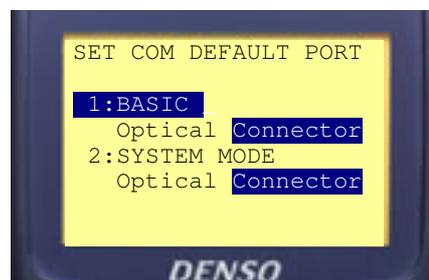
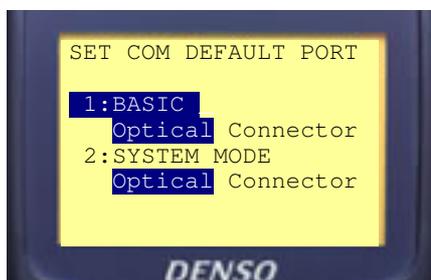
2) From the system menu press **4 ENT** for the SET SYSTEM menu then **5 ENT** to display the COMMUNICATION MENU.



#### CONNECTION

Press **3 ENT** for the SET COM menu. Now check that the default port is as required; for cradle set to **Optical** and for IFC Cable set to **Connector**.

To change these use the cursor keys (typically **F5** to **F8**) and set both options to match the comms hardware used.

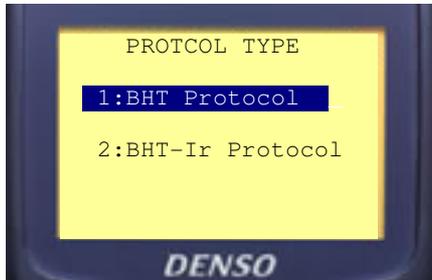


Then press **ENT** to return to the COMMUNICATION MENU.

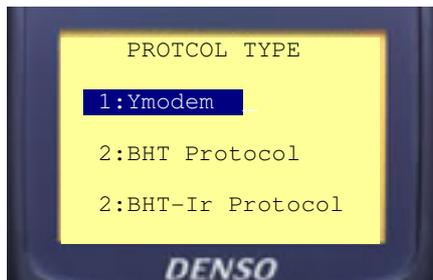
**PROTOCOL**

From the COMMUNICATION MENU press **4 ENT** to display the PROTOCOL TYPE menu. Check that this is correct; for BHT8000 this should be **BHT PROTOCOL** and all others BHTs should be **Ymodem**. If this requires changes..

On **BHT8000** press **1 ENT** to set **BHT PROTOCOL**, then press **C C** to return to the SYSTEM MENU.



For **BHT3/5/6/800** press **1 ENT** to set **Ymodem**, then press **C C C** to return to the SYSTEM MENU

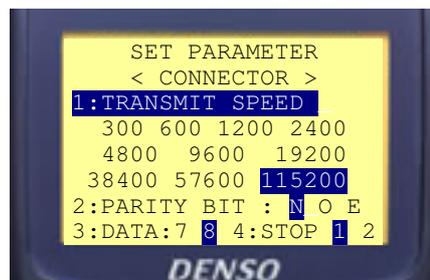


**Important** Once the new program has been loaded, the protocol on the BHT3/5/6/800 must be set back to **BHT PROTOCOL** in order for the day to day data transfers to work correctly.

**SPEED**

From the Communication Menu press **1 ENT** for **Optical** (Cradle) **OR 2 ENT** for **Connector** (Cable). Now press **1 ENT** for the Parameters and check the speed is correct.

Using the cursor keys (typically **F5** to **F8**) set the **Transmit Speed** to the required options. Then press **C C** to return to the communication menu.



## **Section 4. Setup the PC to send the program**

### **Save new Application**

Before configuring the application to send the program you must first save the new BHT program file (MyProg.pd3 or MyProg.PD4) to a folder on the PC. e.g. "C:\BHTPROG\"

**Note**, the communications utilities do not accept folder names that are longer than 8 chars or have spaces in them. E.g. "My Desktop" or "NewBHTprogramFile" are not acceptable.

### **PC Utilities**

There are two ways to transmit the program from the PC, either using the Winartu3 application or using Program Loader. The Winartu3 program can also be used to receive data from the BHT (see section 8 for details).

### **Winartu3 Install**

If the Winartu3 program has not been installed before then extract the files from the installation package run the setup.exe program, then follow the on screen prompts.

Once installed run the program from the START MENU and it will prompt you that it is a Demo Version. Click OK, then About, and Unlock. Contact the BancTec ServiceFirst call centre on 01753 778899 and provide them with the Serial Number, Auth Code and Computer ID. Enter the passcode provided to activate the program.

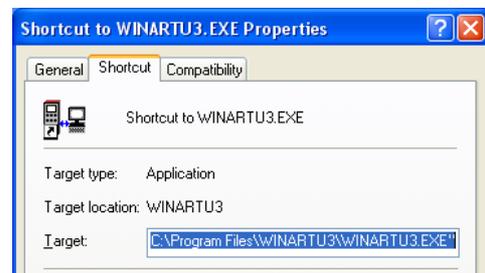
### **Configure Winartu3 Setup to Send Program**

Create a shortcut to Winartu3.exe on the desktop. To do this Right Click on the desktop then select **New** then select **Shortcut**. In the new shortcut wizard **Browse** to the Winartu3 program, this can normally be found in "My Computer", "Local Disk C:", "C:\program files\winartu3\" folder (unless a different one was selected during install.)

Then Click **Next** and enter a title for the shortcut i.e. Send Program, then click **Finish**.

Now edit the properties of the shortcut by right clicking on the shortcut then select properties. Modify the Target box, add a space after the ...INARTU3.EXE" then the following (Please note the spaces between the parameters.)

C:\BHTPROG\MyProg.pd3 +ex +B115200 +p0



(Where C:\BHTPROG\ is the folder where the new program was saved, from above)

e.g. new target

"C:\Program Files\WINARTU3\WINARTU3.EXE" C:\BHTPROG\MyProg.pd3 +ex +p0 +B115200

**PORT** If the connection is not COM1 then change the **+P0** parameter as follows, for COM2 use **+P1** in the target, for COM3 use **+P2** etc, etc.

**SPEED/BAUD** If the required speed is at 19200 then change the parameter to **+B19200**

Now press **APPLY** and **OK** to save the shortcut settings

For more information on the Winartu3 parameters please refer to the manual included in the installation.

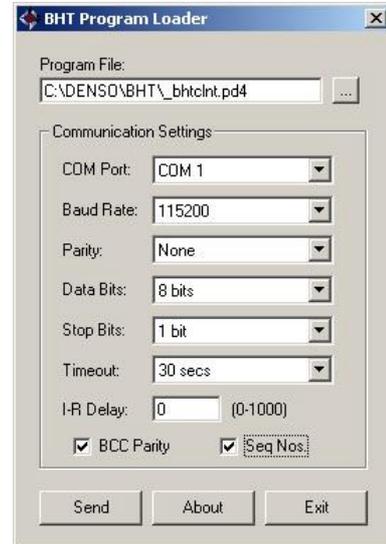
Once the BHT is ready to receive the program run this shortcut.

### **Program Loader Install**

If the Program Loader has not been installed before then extract the files from the installation package run the setup.exe program, then follow the on screen prompts.

Once installed, run the Program Loader. Select the options required. The parity, Data Bits, Stop Bits, Timeout, BCC and Seq Nos should all be left as defaults unless specifically instructed otherwise.

Press the Program File button and select the program required.



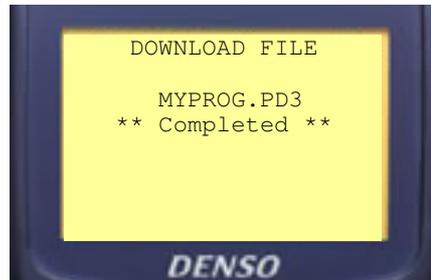
Once the BHT is ready to receive the program press the send button.

**Section 5. Loading the program**

- 1) Once the PC is ready to send the program enter the system menu (press **SF** and **1** keys + **PW**) then press **2 ENT** for the Download Menu then **1 ENT**.



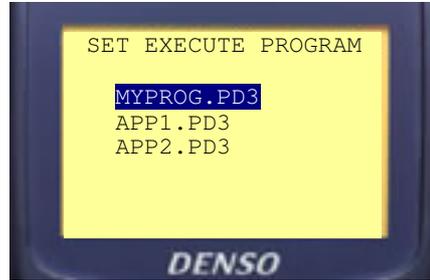
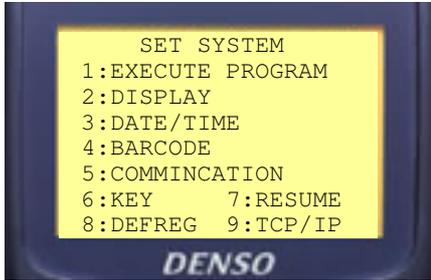
- 2) Transfer the new program (PD3 or PD4) file from the PC by running the Winartu3 shortcut (or selecting send on the Program Loader). The display will show the transfer progress and BEEP twice when completed. Now press **C C** to return to the SYSTEM MENU.



- 3) Once the program has been transferred you will need to activate it. Please refer to section 6 (below)

## Section 6. Activate the program

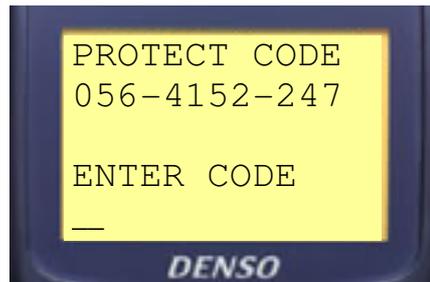
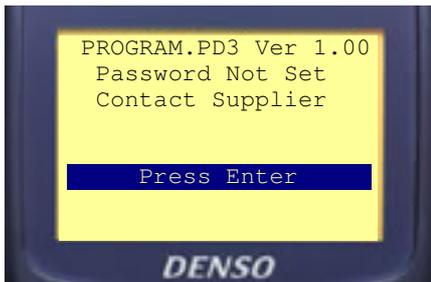
- 1) From the system menu press **4** **ENT** for the SET SYSTEM menu then **1** **ENT** to display the SET EXECUTE PROGRAM menu.



Ensure the loaded program is highlighted then press **ENT** now switch the unit off press **PW**.

### Password

- 2) When the program is run for the first time it will prompt for a password.



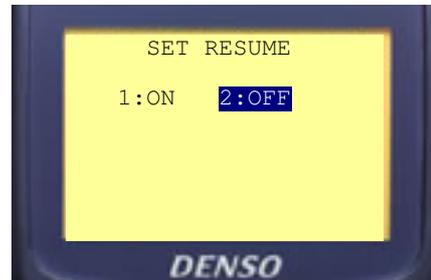
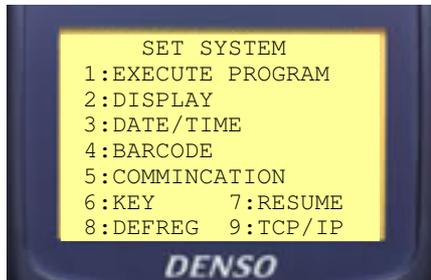
Contact the BancTec ServiceFirst call centre on 01753 778899. Enter the passcode provided to activate the program

## **Section 7. Other Settings**

Depending on the application it may be important that the Resume function and Date/Time is set correctly.

### **RESUME**

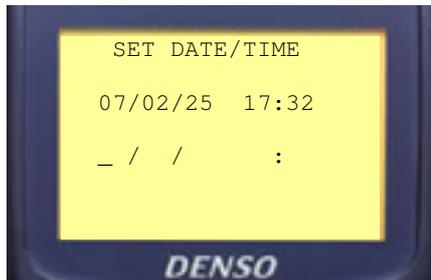
From the system menu press **4 ENT** for the SET SYSTEM menu then **7 ENT** to display the SET RESUME menu.



Now press **2 ENT** to set resume off, then press **C** to return to the SYSTEM MENU

### **DATE/TIME**

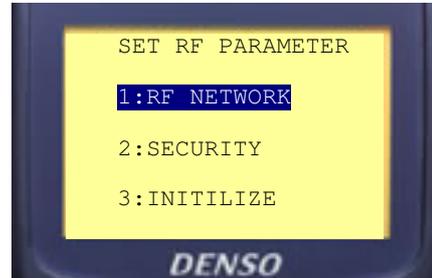
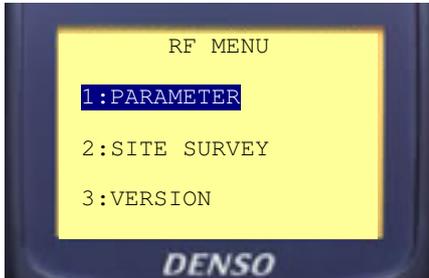
From the system menu press **4 ENT** for the SET SYSTEM menu then **3 ENT** to display the SET DATE/TIME menu. Enter this as YY/MM/DD HH:SS using the keypad then press ENT. Note to delete incorrect entries use BS key.



**RF SETTINGS**

Some applications require WiFi connection. This section describes the settings for WPA-PSK (TKIP), WPA2-PSK (TKIP) and WEP Configuration. For other RF Security options please refer to your supplier.

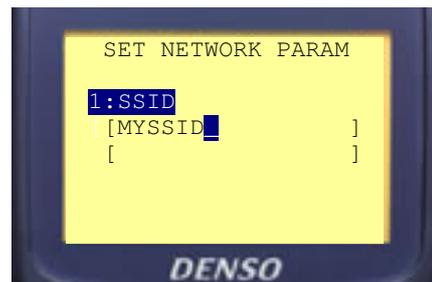
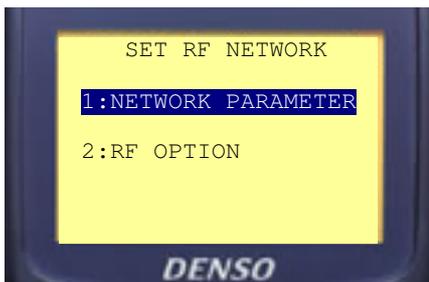
From the system menu press **8 ENT** for the RF MENU then **1 ENT** to display the SET RF PAREMTER menu.



Now press **1 ENT** to enter the RF NETWORK Menu

**SSID**

From the RF NETWORK Menu press **1 ENT** to display the SET NETWORK PARAM menu.



To enter a new SSID press **ENT** then key in the SSID.

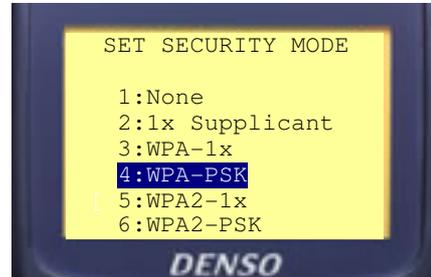
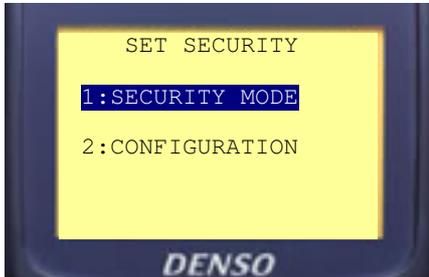
Notes, If Alpha entry is required press the **SF** key, To clear the field press the **C** key, To delete the last character press the **BS** key.

Once complete press **ENT** (the cursor will disappear) then press the **C** key. The screen will prompt "Set up? 1:Yes 2:No ". If the new SSID is correct press **1 ENT** to return to the SET NETWORK PARAM menu.

Press **C** to return to the SET RF PAREMTER menu.

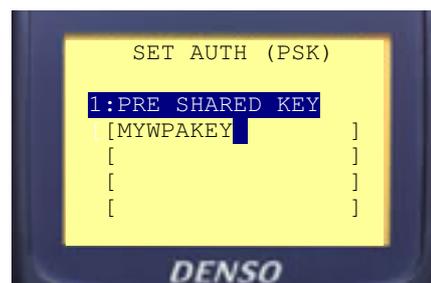
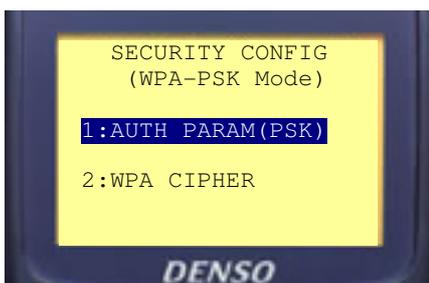
**SECURITY WPA-PSK (TKIP)**

From the SET RF PAREMTER menu press **2 ENT** to display the SET SECURITY menu then press **1 ENT** to display the SET SECURITY MODE menu.



For WPA-PSK press **4 ENT** (or WPA2-PSK press **6 ENT**). The screen will prompt "Set up? 1:Yes 2:No". If the new mode is correct press **1 ENT** to return to the SET SECURITY menu.

Now press **2 ENT** to display the SECURITY CONFIG menu then press **1 ENT** to display the SET AUTH(PSK) menu.



To enter a new Key **ENT** then key in the PSK.

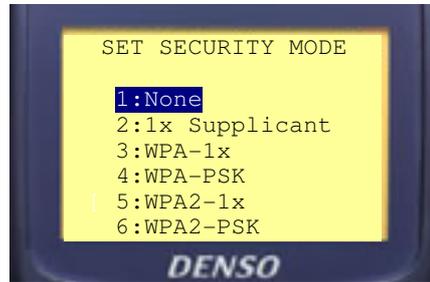
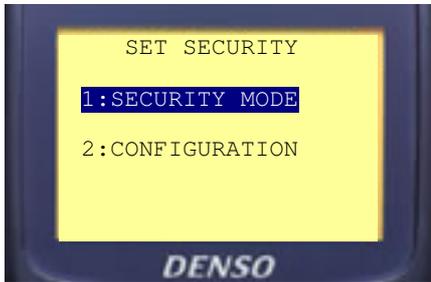
Notes, If Alpha entry is required press the **SF** key, To clear the field press the **C** key, To delete the last character press the **BS** key.

Once complete press **ENT** (the cursor will disappear) then press the **C** key. The screen will prompt "Set up? 1:Yes 2:No". If the new Key is correct press **1 ENT** to return to the SET AUTH(PSK) menu.

This completes the WPA Settings, press the **C** key until back at the RF MENU. Now press **2 ENT** to enter the SITE SURVEY, then press **1 ENT** to enter LINK STATUS to test the connection.

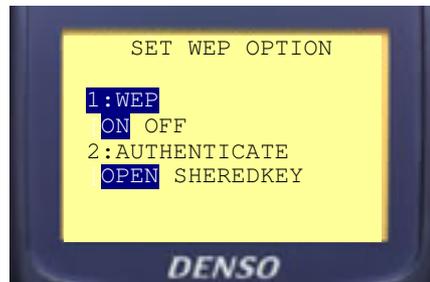
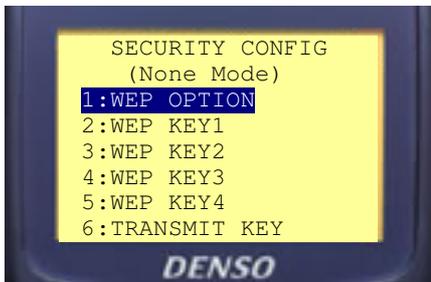
**SECURITY WEP**

From the SET RF PAREMTER menu press **2 ENT** to display the SET SECURITY menu then press **1 ENT** to display the SET SECURITY MODE menu.



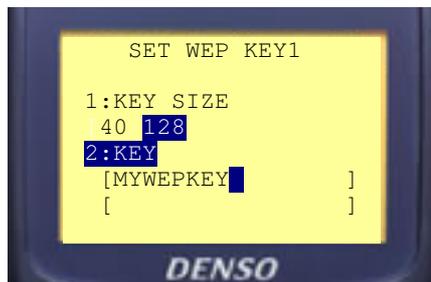
For WEP press **1 ENT**. The screen will prompt "Set up? 1:Yes **2:No**". If the new mode is correct press **1 ENT** to return to the SET SECURITY menu.

Now press **2 ENT** to display the SECURITY CONFIG menu then press **1 ENT** to display the SET WEP OPTION menu.



Use the Cursor Keys to Turn WEP ON and set the appropriate Authentication mode then press the **C** key. The screen will prompt "Set up? 1:Yes **2:No**". If the new settings are correct press **1 ENT** to return to the SECURITY CONFIG menu.

Depending on the WEP Key to be used press **2, 3, 4** or **5** then **ENT** (for KEY1, KEY2, KEY3 or KEY4 respectively).



Press **1** then using the cursor keys select the Key Size required, then press **2**. To enter a new Key **ENT** then key in the WEP. Notes, To clear the field press the **C** key, To delete the last character press the **BS** key.

Once complete press **ENT** (the cursor will disappear) then press the **C** key. The screen will prompt "Set up? 1:Yes **2:No**". If the new Key is correct press **1 ENT** to return to the SECURITY CONFIG menu.

At the SECURITY CONFIG menu press **6 ENT** to enter the SET TRANSMIT KEY menu.

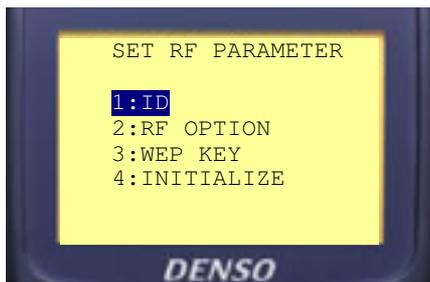


Use the Cursor keys to select the appropriate key then press the **C** key. The screen will prompt "Set up? 1:Yes **2:No**". If the new Key is correct press **1 ENT** to return to the SECURITY CONFIG menu.

This completes the WEP Settings, press the **C** key until back at the RF MENU. Now press **2 ENT** to enter the SITE SURVEY, then press **1 ENT** to enter LINK STATUS to test the connection.

#### OLD WEP ONLY UNITS

The menus on older WEP only devices are similar.



Option 1 to set the SSID as above.

Option 2 to set the WEP on/off and AUTHENTICATE mode as above.

Option 3 to set the WEP KEY (1-4) and TRANSMIT KEY as above.

Once complete, press the **C** key until back at the RF MENU. Now press **2 ENT** to enter the SITE SURVEY, then press **1 ENT** to enter LINK STATUS to test the connection.

## **Section 8. Winartu3 Receive Data**

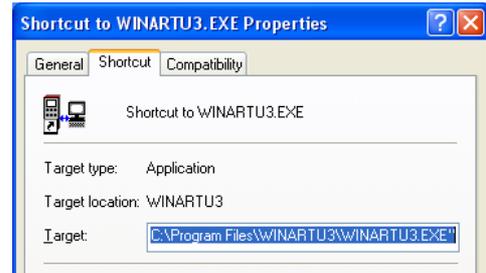
The Winartu3 program can also be used to receive data from the BHT.

Create a shortcut to Winartu3.exe on the desktop. To do this Right Click on the desktop then select **New** then select **Shortcut**. In the new shortcut wizard **Browse** to the Winartu3 program, this can normally be found in "My Computer", "Local Disk C:", "C:\program files\winartu3\" folder (unless a different one was selected during install.)

Then Click **Next** and enter a title for the shortcut i.e. Rx Data, then click **Finish**.

Now edit the properties of the shortcut by right clicking on the shortcut then select properties. Modify the Target box, add a space after the ...INARTU3.EXE" then the following (Please note the spaces between the parameters.)

C:\BHTDATA\ +ex +B115200 +p0



Where C:\BHTDATA\ is the required folder for the data to be received to.

e.g. new target

"C:\Program Files\WINARTU3\WINARTU3.EXE" C:\BHTDATA\ +ex +p0 +B115200

**PORT** If the connection is not COM1 then change the **+P0** parameter as follows, for COM2 use **+P1** in the target, for COM3 use **+P2** etc, etc.

**SPEED/BAUD** If the required speed is at 19200 then change the parameter to **+B19200**

Now press **APPLY** and **OK** to save the shortcut settings

For more information on the Winartu3 parameters please refer to the manual included in the installation.