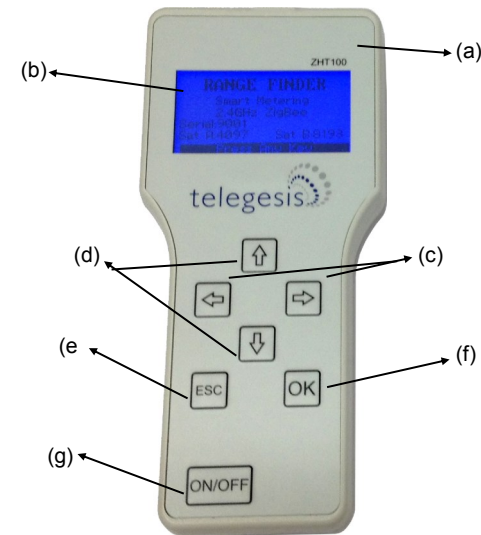
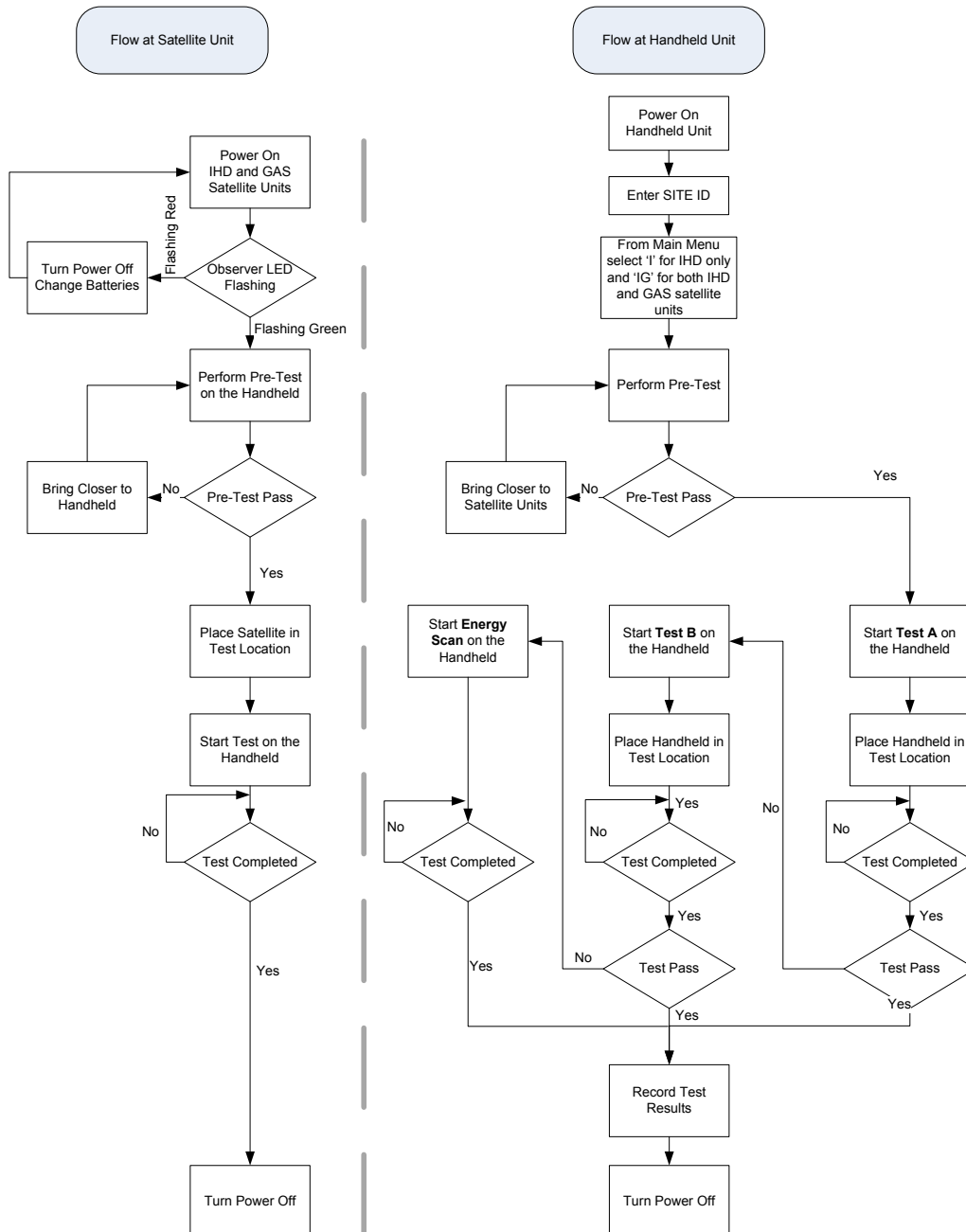


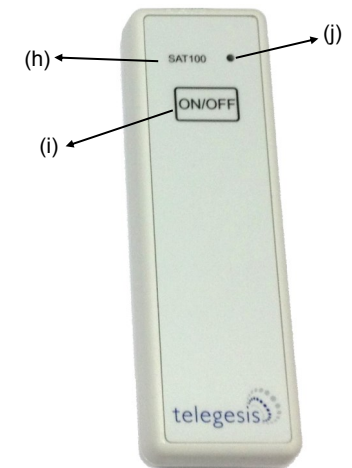
ZigBee RangeFinder

Quick Start Guide



Handheld (HHT)

- (a) Product Model Number
- (b) LCD Display
- (c) Navigation Keys
- (d) Value Change Keys
- (e) Escape (Back) Key
- (f) Enter (Activate) Key
- (g) Power On/Off Key



Satellite (IHD and GAS)

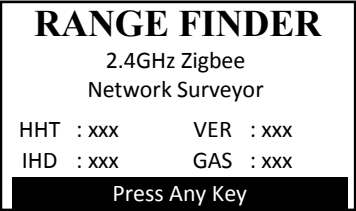
- (h) Product Model Number
- (i) Power On/Off Key
- (j) Activity and Battery Status Indicator

Using the Range Finder
Power On/Off

- To power on press the Power Key (g) for about 3 seconds until the Welcome Screen is displayed
- To power off press the Power Key (g) until the screen goes blank

Welcome Screen

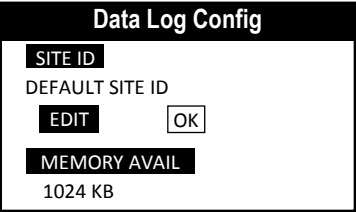
Upon power up the welcome screen pops up displaying information about the device firmware and the serial numbers of devices paired as shown below. Press any key to exit from this screen.



Data Logging Configuration (Data Logger)

The HHT will record the results from Test-A/B and Energy Scan into built-in storage. After exiting the welcome screen the data logging config screen will appear which enables the operator to enter the SITE ID for the current session. The SITE ID will be stored with the test results of the current session (more details in the user manual). At every new site, change the SITE ID by navigating to EDIT option on screen using navigation keys and press OK. The SITE ID is an alphanumeric field of 16 characters and can be edited by using keys.

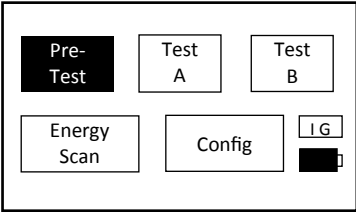
Once the SITE ID is changed press OK key on keypad to hear a beep from device as confirmation.



Please enter a unique SITE ID for each location as this is used as record identifier in the data logs. This option can also be accessed by selecting "Data Logger" menu option on Menu Screen 2.

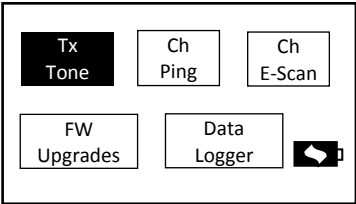
Main Menu Screen 1

Use navigation keys to scroll through various menu options. Use up/down keys to scroll between 'IG' and 'I' option.



IG To use both IHD and GAS for test.
I To use only IHD for test.
Press OK to use the setting for the current session or to select any menu option.

Main Menu Screen 2



The battery symbol indicates the capacity or charging status of the battery of the handheld. Further details of Menu Screen 2 options can be found in the user manual.

Pre-Test

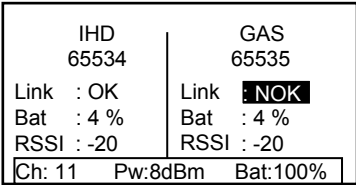
This is used to test the link between the Range Finder handheld unit and the satellites IHD and GAS.

The results are shown in the following screen and include:

- Serial number of the IHD or GAS unit.
- Battery capacity at IHD and GAS units.
- RSSI level measure during the Pre-Test.
- Overall result of 'OK' or 'NOK' for Pre-Test Pass or Fail.

The bottom row shows:

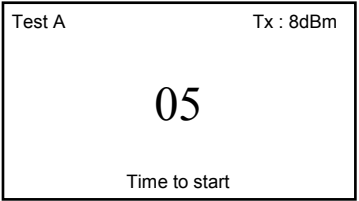
- The Zigbee RF channel used for Pre-Test.
- The transmit power used for Pre-Test.
- The battery status of handheld unit.



Pre-Test transfers all the test settings from HHT to the IHD and GAS units for current session, so it is **important** to get an OK from this test in order to perform any further tests. Press ESC key to exit the test and go back to menu screen.

Test A

Test A checks the link between HHT and the IHD and GAS units on channels 11, 14, 15 and 19. At the start of test a countdown timer gives the operator a chance to place the HHT unit in the test location and move away. Count down time can be changed in the Configuration Settings Screen.



A link PASS or FAIL is indicated by a checkmark or cross respectively in the right hand column and the link which failed is highlighted. The red backlight turns ON if link failure occurs on two or more channels.
Values under label 'T' - RSSI in dBm at HHT
'S' - RSSI in dBm at SAT

Test A			Tx : 8dBm		
Ch	IHD		GAS		
	T	S	T	S	
11	-54	-55	-58	-60	✓
14	-53	-55	-62	-63	✓
15	-58	-58	-64	-64	✓
19	-51	-90	-85	-86	✗

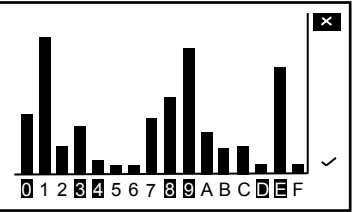
Test B

Test B is similar to Test A except it tests the link between the HHT and the IHD and GAS units on channels 20, 24 and 25. The result screen is as shown:

Test B			Tx : 8dBm		
Ch	IHD		GAS		
	T	S	T	S	
20	-53	-55	-62	-63	✓
24	-58	-58	-64	-64	✓
25	-51	-90	-85	-86	✗

Energy Scan

An energy scan across all channels specified by the 2.4GHz 802.15.4 standard is performed and the result is shown. The Energy Scan results for each channel are painted on the screen as the scan progresses.

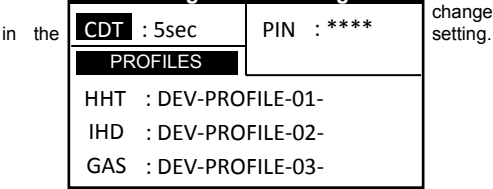


The channel number '0' corresponds to channel 11 of the ZigBee 2.4GHz RF spectrum. The channels which are tested in Test A and B are highlighted.

Configuration Settings Screen (Config)

Use navigation keys to scroll through different settings. Press OK to select the setting and keys to edit it.

Once edited again press OK to set the value for the configuration setting. If the value is set correctly the device will beep once to confirm.



The 'CDT' option has a valid range of 10 to 120 seconds. This value is the countdown time used during Test A and Test B. If this setting is changed here, the change will be volatile (i.e. CDT will be reset to the default value after power up) The PIN protected configuration settings are described in detail in the user manual.

The RangeFinder has 10 built-in profiles of all the settings which are required to perform tests which could be assigned to each device (HHT/IHD/GAS) individually. To assign the setting to any device navigate to the device name using navigation keys and press OK.

Specifications:

RF Interface:
Wireless Standard: 2.4GHz IEEE802.15.4
Output Power: - 9 to +8dBm
RF Channels: 11, 14, 15, 19, 20, 24, 25

Antenna:
Half Wave Dipole Antenna with 2dBi Gain

Electrical:
Battery Handheld
Type: 2x 1.2V 2000mAh NiMH rechargeable
Expected Life: 5 Days [150 x 15 min cycles]
Charging: 5 Volts @ 300mA
via USB Micro Connector

Battery Satellite
Type: 2x 1.5V Alkaline
Expected Life: 5 Days [150 x 15 min cycles]

Environmental:
Operating Temperature: 0 to 50C
Humidity: 95% RH non-condensing
IP Rating: IP54

Note : On all menu screens the up/down keys will adjust the contrast of the display. Be careful while changing the contrast as it might lead to a blank or completely dark screen.