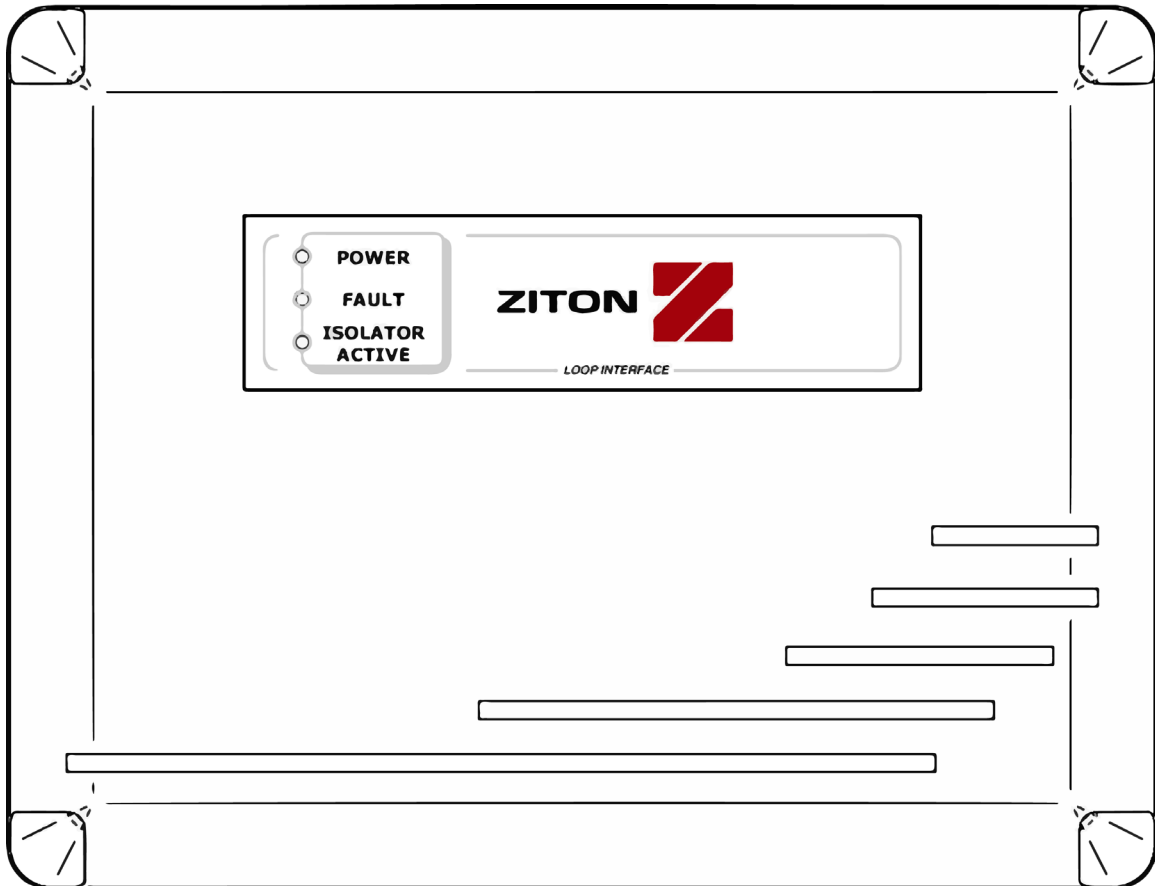




RADIO LOOP MODULE



PROGRAMMING MANUAL

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1.0 INTRODUCTION

This manual provides a programming guide for the Ziton Radio Loop Module.

The Ziton Radio Loop Module comprises of a radio transceiver capable of receiving 31 radio devices. An LCD display is provided along with function buttons to allow programming and diagnostics to be carried out for associated devices.

The Ziton Radio Loop Module is capable of connection to a ZP Protocol Fire Alarm Control Panels Loop via its Loop in and out connection terminals. The Radio Loop Module is addressed on the loop via its onboard 8 way DIP switch. A total of 2 Radio Loop Modules can be fitted onto a Fire Alarm Control Panels Loop.

Compatible products for use with the Ziton Radio Loop Module are as follows;

Part Number – ZR485-3	Radio manual call point
Part Number – ZR432-2	Radio multisensor detector
Part Number – ZR455-3R	Red radio sounder
Part Number – ZR455-3W	White radio sounder
Part Number – ZR455V-3RC	Red radio sounder with clear beacon
Part Number – ZR455V-3RR	Red radio sounder and red beacon
Part Number – ZR455V-3RA	Red radio sounder with amber beacon
Part Number – ZR451-3	Single input output unit



For correct functionality of Ziton wireless equipment, connected ZP2 fire panels must have firmware v3.7.23B or above.

1.1 System Design

All installation work should be carried out in accordance with the survey and system design.

It is recommended that the Ziton Radio Loop Module and peripheral devices are located in accordance with the radio survey and system design. This should be established before installation work commences.

1.2 Handling Precautions

General; Care should be taken when handling Ziton Radio Loop Module. Avoid dropping any of the parts onto hard surfaces, as damage may occur to the case and internal circuitry.

ESD Precautions; Ziton Radio Loop Module includes components that are susceptible to damage from Electro-Static Discharge (ESD). Permanent damage may be caused to these components through routine handling if precautions are not observed. To reduce the risk of damage from ESD, the following precautions should be observed.

Minimise the handling of PCB's which contain static sensitive devices. Where handling is unavoidable, always ensure that you have taken adequate earthing precautions. An earthed wrist strap is recommended.

When storing or transporting a "loose" PCB, always use a container, which has been designed and manufactured with ESD protective properties.

Avoid placing static sensitive devices on plastic surfaces, which may increase the risk of a static discharge.

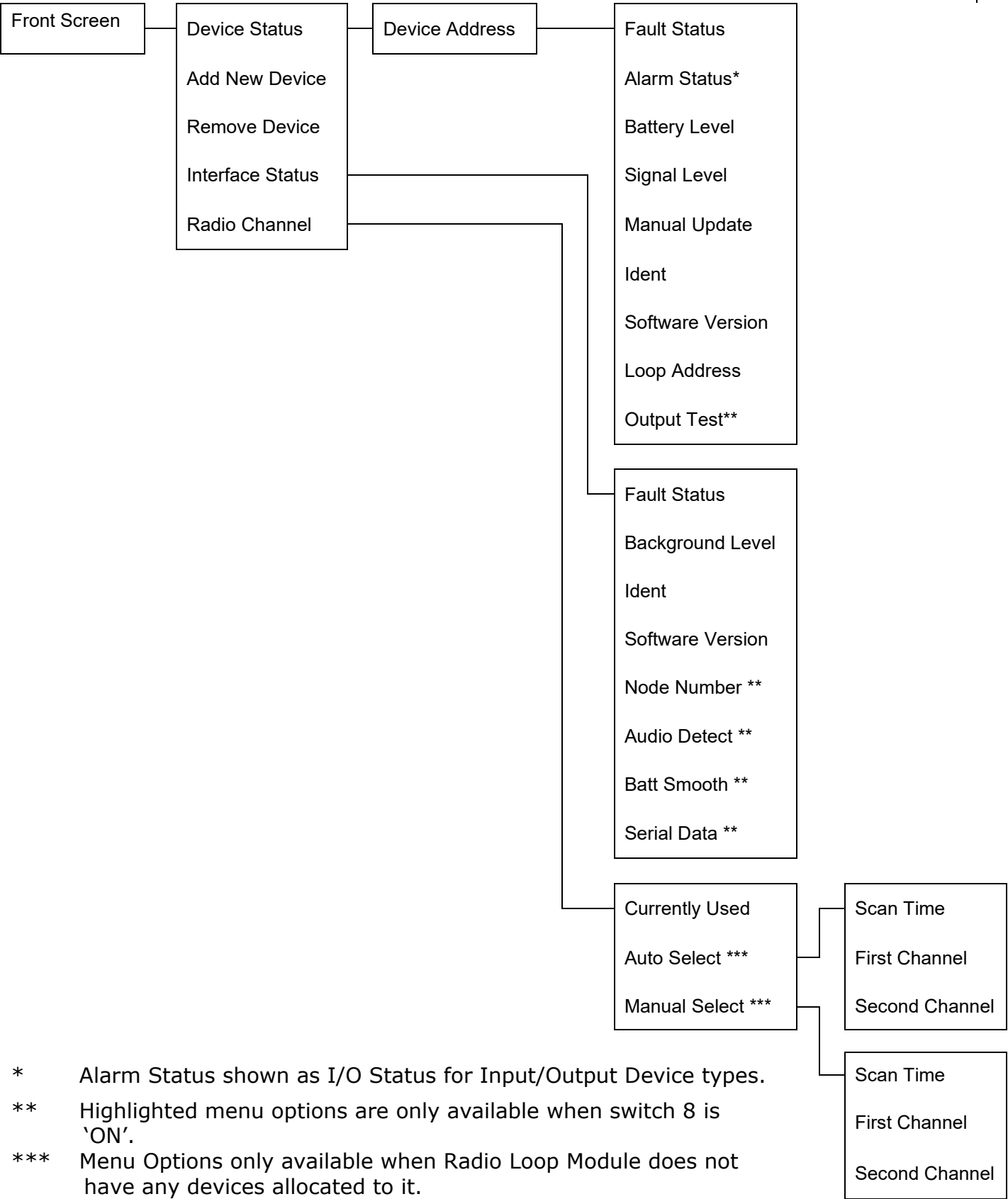
1.3 Packaging:

All products should be kept in their packaging until they are due to be installed, to minimise the risk of damage. Retain all packaging until the installation activities have been completed. Should any product be found to be surplus to requirements, or require returning, the original packaging should be used.

2.0 MENU STRUCTURE

The menu structure is shown overleaf and is entered by pressing the Rotary Control button. Further menu options are entered by also pressing the Rotary Control button. To exit the menus the back button can be pressed or the menus will automatically exit one step at a time at 30 second time intervals.

2.1 Menu Structure Layout



3.0 MENU EXPLANATION

3.1 Device Status

This function allows the current status of the allocated devices on the Radio Loop Module to be viewed (Maximum of 31 devices). The devices are shown in the menu indicating their loop address number, its logged on status and the device type. Further information on the device can be obtained by pressing the Rotary Control button. This enables the following details to be viewed:- Fault status, Alarm Status, Battery Level, Signal Level, unique 5 digit ident number, software version and also allows a manual signal level update to take place.

A typical display is shown below;

Addr 067 L Multi

The descriptions for the shown display are as follows;

Addr 067 – In this example this indicates the devices loop address number which has been selected. Available options are between 1 and 127.

L – In this example this field indicates the devices logged on or fault status.
Available options are;

L = Logged On and in a normal condition.

! = Logged On with fault(s) present.



= Logged On with a fire alarm present.



= Logged On with a pre alarm present.

Multi – This field indicates the device type. Available options are:

Radio = Ziton Radio Loop Module

Multi = Multisensor Detector

Optic = Optical Detector

Heat = Heat Detector

HTemp = Heat Detector

MCP = Manual Callpoint

Sound = Sounder Device

I/O = Input/Output Device

??? = Unknown Device

Further Device Status Information on the displayed device is available by pressing the Rotary Control button. This allows the following menus to be viewed;

Fault Status – this menu when entered, shows detailed information on the fault status of the device.

Note; If multiple faults are applicable to a device the rotary control can be turned to view the total fault listing and a down arrow will be present to indicate that there is more than one fault present

The available fault descriptions are described overleaf;

No Fault Present – this description indicates that the device is not in any fault condition and is operating correctly.

The analogue value seen on the Fire Alarm Control Panel in their normal status will vary depended upon the signal strength readings. The range of values is shown below:

	Analogue Value Signal Strength GOOD (Slot 5)	Analogue Value Signal Strength MEDIUM (Slot 5)	Analogue Value Signal Strength LOW (Slot 5)	Analogue Value Signal Strength CAUTION (Slot 5)
Detector	090	085	080	075
Manual Call Point	090	085	080	075
Sounder	090	085	080	075
Input/Output	090	085	080	075

In Tamper – this indicates that the devices tamper switch is not currently making contact against the ceiling or wall mounted base plate.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	(Slot 5)	(Slot 6)
Detector	N/A	181
Manual Call Point	N/A	181
Sounder	N/A	181
Input/Output	N/A	181

Head Missing – this indicates that the detectors head is not currently fitted on the detector base.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	(Slot 3)	(Slot 6)
Detector	244	118
Manual Call Point	N/A	N/A
Sounder	N/A	N/A
Input/Output	N/A	N/A

Sounder Missing – this indicates that the sounder, strobe only or sounder/strobe head is not currently fitted on the sounder base.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	(Slot 3)	(Slot 6)
Detector	N/A	N/A
Manual Call Point	N/A	N/A
Sounder	244	118
Input/Output	N/A	N/A

Signal Fault – this indicates that there has currently not been any communication between the device and the Radio Loop Module for 300 seconds. This is indicated as an analogue value of 020 on the fire alarm control panel.

This will be shown on the Fire Alarm Control Panel as if the device had been removed from the system as it does not respond to polls on the loop i.e Disconnect fault.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	Slot 5	Slot 6
Detector	020	N/A
Manual Call Point	020	N/A
Sounder	020	N/A
Input/Output	020	N/A

Battery Fault – this shows that the device has either a low battery and has a minimum operational life of 7- 30 days or has a battery missing.

The analogue value seen on the Fire Alarm Control Panel for devices with low batteries is;

	Analogue Value	
	Slot 5	Slot 6
Detector	N/A	213
Manual Call Point	N/A	213
Sounder	N/A	213
Input/Output	N/A	213

The analogue value seen on the Fire Alarm Control Panel for devices with a battery missing is;

	Analogue Value	
	Slot 5	Slot 6
Detector	N/A	020
Manual Call Point	N/A	020
Sounder	N/A	020
Input/Output	N/A	020

This will be shown as Idle High on the Fire Alarm Control Panel as if the device has a fault.

No Sndr Audio – this indicates that a sounder device has given no audio output or a low audio output when sounding. This is selectable via a DIP switch on the sounder head and must be disabled when using strobe only devices.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	Slot 3	Slot 6
Detector	N/A	N/A
Manual Call Point	N/A	N/A
Sounder	244	152
Input/Output	N/A	N/A

Head Fault – this indicates that a detectors head has a fault i.e no communication between the head and the radio base.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	Slot 3	Slot 6
Detector	244	152
Manual Call Point	N/A	N/A
Sounder	N/A	N/A
Input/Output	N/A	N/A

Short Circuit – this indicates that an input has a short circuit wiring fault.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	Slot 5	Slot 6
Detector	N/A	N/A
Manual Call Point	N/A	N/A
Sounder	N/A	N/A
Input/Output	N/A	118

Open Circuit – this indicates that an input has a short circuit wiring fault.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	Slot 5	Slot 6
Detector	N/A	N/A
Manual Call Point	N/A	N/A
Sounder	N/A	N/A
Input/Output	N/A	118

Alarm Status – this menu when entered shows information on the current alarm status of the device. The available alarm descriptions are described below;

No Alarm Present – this indicates the device is currently not in an alarm or pre-alarm condition.

In Fire – this indicates the device is currently in a fire alarm condition.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	Slot 5	Slot 6
Detector	181	N/A
Manual Call Point	181	N/A
Sounder	N/A	N/A
Input/Output	213	N/A

In Pre-Alarm – this indicates the device is currently in a Pre-alarm condition.

The analogue value seen on the Fire Alarm Control Panel for devices in this state is;

	Analogue Value	
	Slot 5	Slot 6
Detector	152	N/A
Manual Call Point	N/A	N/A
Sounder	N/A	N/A
Input/Output	N/A	N/A

I/O Status – this menu replaces the Alarm Status menu for Input/Output devices. When entered this shows information on the current status of the two inputs for the device. The available status descriptions are described below;

IN1: 0 – this indicates that input 1 is in the open (normal) state.

IN1: 1 – this indicates that input 1 is in the closed (activated) state.

IN2: 0 – this indicates that input 2 is in the open (normal) state.

IN2: 1 – this indicates that input 2 is in the closed (activated) state.

The analogue value seen on the Fire Alarm Control Panel for devices with inputs in the normal state is;

	Analogue Value	
	Slot 5	Slot 6
Detector	N/A	N/A
Manual Call Point	N/A	N/A
Sounder	N/A	N/A
Input/Output	090	244

The analogue value seen on the Fire Alarm Control Panel for devices with inputs in the closed state is;

	Analogue Value	
	Slot 5	Slot 6
Detector	N/A	N/A
Manual Call Point	N/A	N/A
Sounder	N/A	N/A
Input/Output	213	N/A

Battery Level – this menu when entered shows information on the battery pack status for a device. A device has 2 packs, the status of each of these can be viewed from this menu. The status of the pack is updated whenever there is a status change or automatically updated every 6 hours. The available battery descriptions are described below;

Pack 1 OK – this indicates a good battery voltage is present in Pack 1. This is represented by displaying a full battery icon.

Pack 1 Warning – this indicates the battery voltage is low in Pack 1 and is a 30 day warning indication. The batteries must be changed on the device within 30 days for continued reliable operation. This is represented by displaying a half full battery icon.

Pack 1 Low – this indicates the battery voltage is low in Pack 1 and is a 7 day warning indication. The batteries must be changed on the device within 7 days for continued reliable operation. This is represented by displaying an empty battery icon.

Pack 1 Missing – this indicates a battery from Pack 1 is missing. The battery must be inserted on the device for continued reliable operation. This is represented by displaying an X symbol.

Pack 2 OK – this indicates a good battery voltage is present in Pack 2. This is represented by displaying a full battery icon.

Pack 2 Warning – this indicates the battery voltage is low in Pack 2 and is a 30 day warning indication. The batteries must be changed on the device within 30 days for continued reliable operation. This is represented by displaying a half full battery icon.

Pack 2 Low – this indicates the battery voltage is low in Pack 2 and is a 7 day warning indication. The batteries must be changed on the device within 7 days for continued reliable operation. This is represented by displaying an empty battery icon.

Pack 2 Missing – this indicates a battery from Pack 2 is missing. The battery must be inserted on the device for continued reliable operation. This is represented by displaying an X symbol.

Signal Level – this menu when entered shows information on the two signalling channels used by the Radio Loop Module in both directions, as the devices are bi-directional. The received signal strength at the Radio Loop Module from the device is shown as an LI ← Dev level, therefore indicating the signal that has been sent from the device to the Radio Loop Module. The LI ← Dev level is updated on every poll response (123 seconds). The forward signal strength received at a device from the Radio Loop Module is shown as an LI → Dev level, therefore indicating the signal that has been sent from the Radio Loop Module to the device. The LI → Dev level is updated every 6 hours or when requested manually by selecting the Manual Update Option from the menu.

Ch 1 LI ← Dev – this indicates the received signal strength at the Radio Loop Module from the device on the first frequency channel used by the system. A level from 100 -0 is shown to indicate the levels, a table of which is shown at the end of this section.

Ch 2 LI ← Dev – this indicates the received signal strength at the Radio Loop Module from the device on the second frequency channel used by the system. A level from 100 -0 is shown to indicate the levels, a table of which is shown at the end of this section.

Ch 1 LI → Dev – this indicates the forward signal strength received at the device from the Radio Loop Module on the first frequency channel used by the system. A level from 100 -0 is shown to indicate the levels, a table of which is shown at the end of this section.

Ch 2 LI → Dev – this indicates the forward signal strength received at the device from the Radio Loop Module on the second frequency channel used by the system. A level from 100 -0 is shown to indicate the levels, a table of which is shown at the end of this section.

The individual devices have signal levels available for both of their operating channels (Ch1 and Ch2) and also for both directions (Radio Loop Module to Device (LI → Dev) and Device to Radio Loop Module (LI ← Dev)) as the devices are bi-directional. The signal levels shown range from 100 - 0 with 100 being the highest signal to 0 where no signal is being seen, as shown below;

100	Shown indicates Good Signal Level
90	Shown indicates Good Signal Level
80	Shown indicates Good Signal Level
70	Shown indicates Good Signal Level
60	Shown indicates Good Signal Level
50	Shown indicates Good Signal Level
40	Shown indicates Medium Signal Level
30	Shown indicates Low Signal Level
20	Shown indicates Caution Signal Level
10	Shown indicates Caution Signal Level
0	Shown indicates No Signal Level Received

An algorithm incorporating both channels and the channels background is employed to indicate the analogue values displayed at the associated control panel and therefore determining the devices signal strength. This is shown in the table below.

<u>Analogue Value Displayed at Control Panel</u>		Radio Device Type	Device Signal Strength Level
Slot 5	Slot 6		
020	N/A	All Device Types	No Radio Signal received. Device Missing
075	N/A	All Device Types	Radio Signal strength caution.
080	N/A	All Device Types	Radio Signal strength low.
085	N/A	Detector	Radio Signal strength medium.
090	N/A	Detector	Radio Signal strength good.

The device to Radio Loop Module information is updated every time the device responds to a poll which is every 123 seconds. The Radio Loop Module to device information is automatically updated every 6 hours or if a manual update is requested.

The minimum recommend level is 50 points or above on each channel.

Manual Update – This menu when entered will automatically send signals from the Radio Loop Module to the individual device and ask for its current signal level status to be transmitted back to the Radio Loop Module. This will then automatically update the Signal level fields for the device. If a signal level field is still awaiting an update from a channel 0 will be shown in the field.

Ident – This menu shows the unique 5 digit identification number for the device.

Software Version – This menu shows the software version currently installed in the device.

Node Number – This menu should only be used when two Radio Loop Modules are connected to one of the Control Panels loops. The first Radio Loop Modules Node Number should be set as 1 whilst the second Radio Loop Modules Node Number should be set as 2.

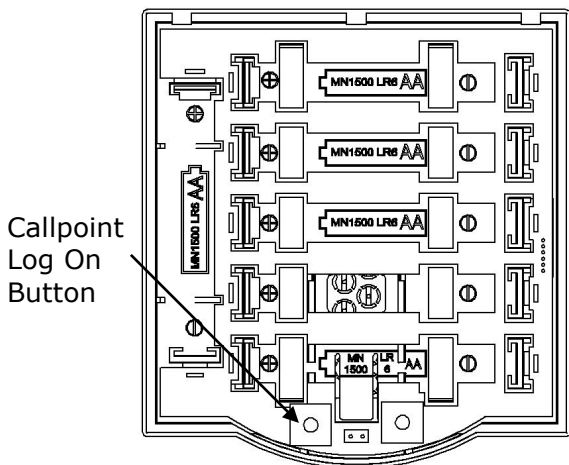
Loop Address – This menu allows you to view the device's current loop address. A new device loop address can be selected by pressing the rotary control, thus choosing an alternative address.

Output Test – This menu allows you to turn device LED's on.

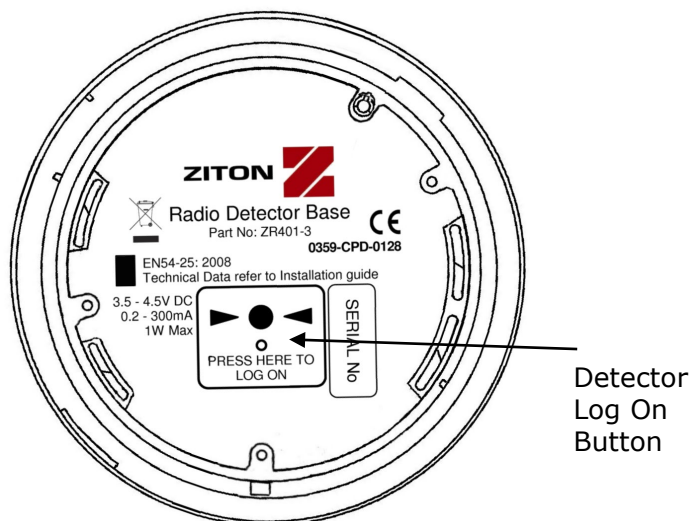
3.2 Add New device

This menu allows the adding of new radio devices to the Radio Loop Module. A maximum of 31 devices are allowed. When this menu is entered the log on button must be pressed on the new device. A confirmation of the device ident number is requested and when accepted will add the device to the Radio Loop Module. The log on button can be found on the devices in the following locations;

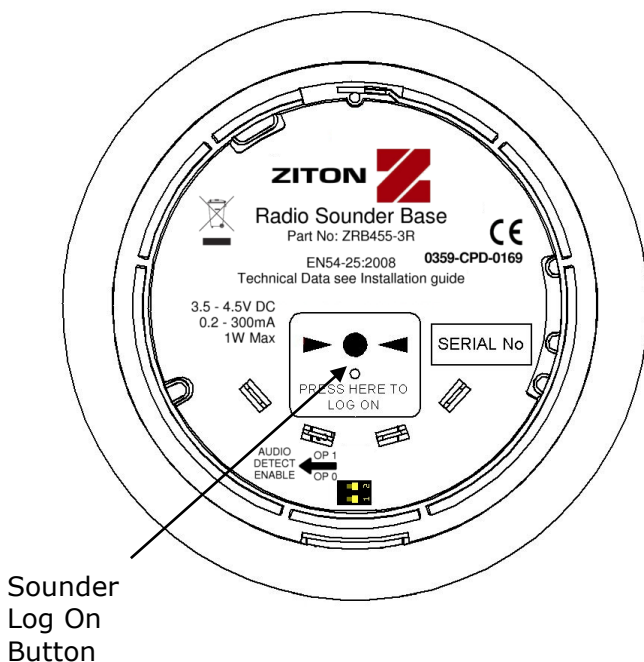
Radio Callpoint



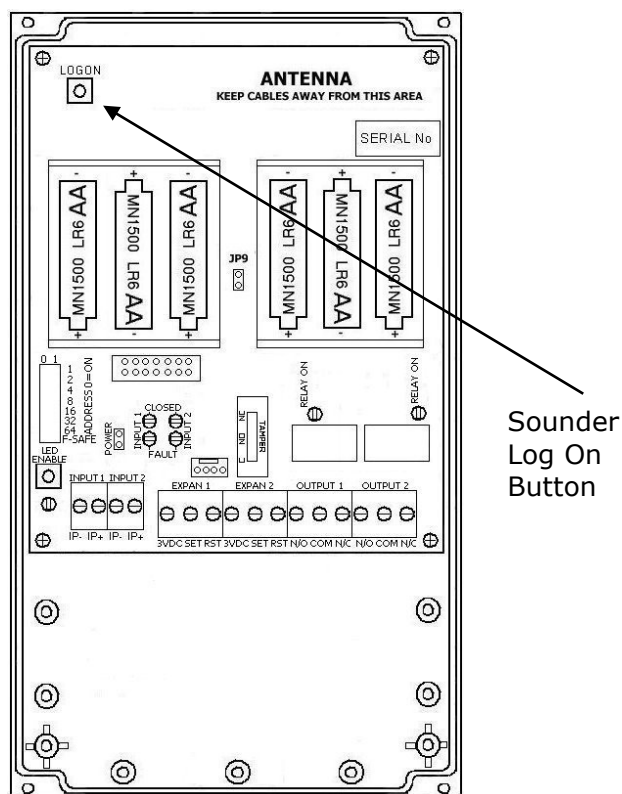
Radio Multisensor



Radio Sounder



Radio Input Output Unit



3.3 Remove device

This menu allows removal of devices from the Radio Loop Module. A list of devices on the Radio Loop Module are shown and the applicable device to be removed can be selected. A confirmation of the device to be removed is required prior to removal.

3.4 Interface Status

This function allows the current status of the Radio Loop Module to be viewed. Available options are: - Fault status, Background Level, Unique ident number and Software version. Additional more detailed options are available by pressing the Navigation button on the required item. This allows the following menus to be viewed;

Fault Status – this menu when entered shows detailed information on the fault status of the Radio Loop Module. If multiple faults are outstanding for the Radio Loop Module then by turning the rotary control they can be individually viewed. The available fault descriptions are described below;

No Fault Present – this description indicates that the Radio Loop Module is not in any fault and is operating normally.

The analogue value seen on the Fire Alarm Control Panel for this state is;

	Analogue Value	
	Slot 5	Slot 6
Radio Loop Module	090	244

Ch1RFI Det – this description indicates that a radio frequency interference signal has been detected on radio channel 1 that the system is operating on.

Ch2 RFI Det– this description indicates that a radio frequency interference signal has been detected on radio channel 2 that the system is operating on.

The analogue value seen on the Fire Alarm Control Panel for when both Ch 1 and Ch 2 are in this state is;

	Analogue Value	
	Slot 5	Slot 6
Ziton Radio Loop Module	181	118

Background Level – this menu when entered shows the background radio signal level on the two signalling channels used by the Ziton Radio Loop Module. The available background level descriptions are described below;

Ch 1 – this indicates the background level at the Radio Loop Module on the first frequency channel used by the system. A range from 100 – 0 is shown to indicate the levels, a table of which is shown at the end of this section.

Ch 2 – this indicates the background level at the Radio Loop Module on the second frequency channel used by the system. A range from 100 – 0 is shown to indicate the levels, a table of which is shown at the end of this section.

100 shown indicates VERY HIGH
75 shown indicates HIGH
50 shown indicates MEDIUM
25 shown indicates LOW
0 shown indicates GOOD.

Ident – this menu shows the unique identification number for the device.

Software Version – This menu details the software version of the Radio Loop Module.

Legacy Mode – To ensure correct operation of devices reporting to the Control Panel, Legacy Mode must be correctly selected.

Legacy Mode 'ON' is to be selected when the Ziton Radio Loop Module is connected to a ZP3 Panel.

Legacy Mode 'OFF' is to be selected when the Ziton Radio Loop Module is connected to a ZP2 (2010) Panel.

3.5 Radio Channels

This menu allows the two frequency channels currently used by the Radio Loop Module to be viewed and also allows the channels used to be selected either manually or automatically. 32 channels are available for use on the system and these are as follows;

Ch1: 868.048 MHz	Ch9: 868.248 MHz	Ch17: 868.749 MHz	Ch25: 868.950 MHz
Ch2: 868.073 MHz	Ch10: 868.273 MHz	Ch18: 868.774 MHz	Ch26: 868.975 MHz
Ch3: 868.098 MHz	Ch11: 868.298 MHz	Ch19: 868.800 MHz	Ch27: 869.000 MHz
Ch4: 868.123 MHz	Ch12: 868.323 MHz	Ch20: 868.825 MHz	Ch28: 869.025 MHz
Ch5: 868.148 MHz	Ch13: 868.349 MHz	Ch21: 868.850 MHz	Ch29: 869.050 MHz
Ch6: 868.173 MHz	Ch14: 868.374 MHz	Ch22: 868.875 MHz	Ch30: 869.075 MHz
Ch7: 868.198 MHz	Ch15: 868.399 MHz	Ch23: 868.900 MHz	Ch31: 869.100 MHz
Ch8: 868.223 MHz	Ch16: 868.424 MHz	Ch24: 868.925 MHz	Ch32: 869.125 MHz

4.0 FRONT DISPLAY OF RADIO LOOP MODULE

- The front display of the Ziton Radio Loop Module will show the number of devices that are allocated it, along with the total number of current alarm and fault conditions. The DEV field shows the total number of devices allocated between 00-31. The AL field shows the amount of devices currently with outstanding Alarms and Pre-alarms ranging between 00-31. The FT field shows the amount of devices currently with outstanding Faults ranging between 00-31. An example display will show;

DEV01 AL00 FT00

5.0 ACCESSING THE RADIO LOOP MODULES MENUS

- To access the Users menu's from the front display screen , follow the steps listed below:

DEV01 AL00 FT00

- Press the rotary control. The display will change to show;

Device Status

- The Menu structure can be viewed by scrolling through the menu by turning the rotary control. Entry into the required menu is achieved by locating the required menu on the display and pressing the rotary control. Exiting from a menu option is achieved automatically after 30 seconds or by pressing the Radio Loop Modules back button.

5.1 Viewing the Device Status

- Enter the menu structure by pressing the rotary control.
- Turn the Rotary control until the display shows;

Device Status

- Press the rotary control and the display will change to show the devices allocated onto the Ziton Radio Loop Module and their current status. The list can be viewed by turning the rotary control. The information is shown in the following format;

Addr 067 L Multi

Addr 067 – In this example this indicates the devices loop address number (067). Available options are between 1 and 127.

L – In this example this field indicates the devices logged on or fault status. Available options are;

L= Logged On and in a normal condition.

! = Logged On with fault(s) present.

 = Logged On with a fire alarm present.

 = Logged On with a pre alarm present.

Multi – This field indicates the device type. Available options are:

Radio = Radio Loop Module Module

Multi = Multisensor Detector

Optic = Optical Detector

Heat = Heat Detector

HTemp = Heat Detector

MCP = Manual Callpoint

Sound = Sounder Device

I/O = Input/Output Device

??? = Unknown Device

- For more detailed information on the device displayed press the Rotary control. This information will always be available regardless of the status identifier of the device. The list of available information is shown in the following format;

Fault Status

Alarm Status *

Battery Level

Signal Level

Manual Update

Ident xxxxx

Software xxxxx

Set Loop Address

Output

* Alarm Status shown as Input Status for Input/Output Device types.

- To enter the Fault Status Menu press the rotary control with the Fault Status text displayed. The display will change to show the current Fault status of the device an example is shown below;

In Tamper ↓

Available Options are;

No Fault Present
In Tamper
Head Missing
Sounder Missing
Signal Fault
Battery Fault
Head Dirty
No Sndr Audio
Head Fault
Short Circuit
Open Circuit

Note: If multiple faults are applicable to a device the rotary control can be turned to view the total fault listing and a down arrow will be present to indicate that there is more than one fault present.

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To enter the Alarm Status Menu press the rotary control with the Alarm Status text displayed. The display will change to show the current Alarm status of the device an example is shown below;

In Fire

Available Options are;

No Alarm Present
In Fire
In Pre-Alarm

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To enter the Input Status Menu (This is only available for Input/Output device types) press the rotary control with the Input Status text displayed. The display will change to show the current Input status of the device an example is shown below;

IN: 0 - 0 OUT: 0 - 0

Available Options are;

IN: 0-0 (Inputs 1 + 2 normal/open state)
IN: 1-0 (Input 1 activated/closed state, Input 2 normal/open state)
IN: 0-1 (Input 1 normal/open state, Input 2 activated/closed state)
IN: 1-1 (Inputs 1 + 2 activated/closed state)
OUT: 0-0 (Output 1 + 2 normal/open state)
OUT: 1-0 (Output 1 active closed state, Output 2 normal/open state)
OUT: 0-1 (Output 1 normal open state, Output 2 active closed state)
OUT: 1-1 (Outputs 1 + 2 active closed state)

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.

- To enter the Battery Level Menu press the rotary control with the Battery Level text displayed. The display will change to show the current Battery Level for the individual packs of each device an example is shown below;

Pack 1 OK ■ ↓

Available Options are;

- Pack 1 OK (With full battery icon shown)
- Pack 1 Warning (With half full battery icon shown)
- Pack 1 Low (With empty battery icon shown)
- Pack 1 Missing (With X shown)
- Pack 2 OK (With full battery icon shown)
- Pack 2 Warning (With half full battery icon shown)
- Pack 2 Low (With empty battery icon shown)
- Pack 2 Missing (With X shown)

Note: Turn the rotary control to view the status of all associated battery packs for a particular device.

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To enter the Signal Level Menu press the rotary control with the Signal Level text displayed. The display will change to show the last Signal Level for the two channels used. The received signal strength at the Ziton Radio Loop Module from the device is shown as an LI ← Dev level, therefore indicating the signal that has been sent from the device to the Radio Loop Module. The LI ← Dev level is updated every poll (123 seconds). The forward signal strength received at a device from the Radio Loop Module is shown as an LI → Dev level, therefore indicating the signal that has been sent from the Radio Loop Module to the device. The LI → Dev level is updated every 6 hours or when requested manually by selecting the Manual Update Option from the menu.
- An example display is shown below;

Ch1 LI←Dev 100

Available Options are;

- Ch1 LI←Dev (With Levels 100 -0 displayed)
- Ch2 LI←Dev (With Levels 100 -0 displayed)
- Ch1 LI→Dev (With Levels 100 -0 displayed)
- Ch2 LI→Dev (With Levels 100 -0 displayed)

The signal levels shown range from 100 - 0 with 100 being the highest signal to 0 where no signal is being seen, as shown below;

100	Shown indicates Good Signal Level		
90	Shown indicates Good Signal Level	40	Shown indicates Low Signal Level
80	Shown indicates Good Signal Level	30	Shown indicates Caution Signal Level
70	Shown indicates Good Signal Level	20	Shown indicates Caution Signal Level
60	Shown indicates Good Signal Level	10	Shown indicates Caution Signal Level
50	Shown indicates Medium Signal Level	0	Shown indicates No Signal Level Received

The minimum recommend level is 50 points or above on each channel.

Note: Turn the rotary control to view the status of all associated signal levels for a particular device.

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.

- To view the Devices Unique Ident rotate the rotary control whilst in the Device Status Menu until the following example display is shown;

Ident: 12345

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To view the Devices Software Version installed rotate the rotary control whilst in the Device Status Menu until the following example display is shown;

Software V 1.77

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To select the Manual Update function turn the rotary control whilst in the Device Status Menu until the following example display is shown;

Manual Update

- Press the rotary control button to initiate the manual update function. The display will show updating for a few seconds and then revert back to the Manual Update Menu.

Note: Following a manual update the Signal Level Menu should be checked for the device. This will indicate the signal levels seen. If 00 is shown then a signal has not been seen from the device in question on that particular channel as yet.

5.2 Output Test

- Enter the menu structure by pressing the rotary control
- Turn the rotary control until the display shows;

Device Status

- Press the rotary control and the display will change to show the devices on the system; e.g;

Addr 01 L Radio

- Turn the rotary control until the display shows the desired device number;

Addr 67 L Multi

- Press the rotary control. The following screen should be displayed;

Fault Status

- Turn the rotary control until the display shows;

Output Test

- Press the rotary control and the display will change to show;

Output OFF

- To switch on the output, turn the rotary control until the display shows;

Output ON

- The devices LED should activate;
- To switch the output off, turn the rotary control until the display shows;

Output OFF

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- **NOTE:** If this step is not performed, the output will time out after 30 seconds and the LED will thus switch off

5.3 Adding New Devices to the System

- Enter the menu structure by pressing the rotary control
- Turn the rotary control until the display shows;

Add New Device

- Press the rotary control and the display will change to show;

Press Dev Log On

Note: If 31 devices are already allocated to the Ziton Radio Loop Module, the display will show 'Dev Table Full' instead of the above screen.

- Press the log on button on the new device. The display will change to show;

Add Dev xxxxx N?

- If the device is not required to be added press the rotary control. If the correct ident is shown and the device is to be added turn the rotary control until the display shows;

Add Dev xxxxx Y?

- To add the device press the rotary control and the display will change to show;

Adding

- The screen will now display;

Address 002

- Turn the rotary control until the desired device number is shown;

Address 007

- Press the rotary control and the display will change to show;

Detector Added

01 represents the device slot in which the new device has been allocated. Available options are between 01-31. The Det represents the new device allocated being recognised as a Detector type.

OR

MCP Added

01 represents the device slot in which the new device has been allocated. Available options are between 01-31. The Mcp represents the new device allocated being recognised as a Callpoint type.

OR

Sounder Added

01 represents the device slot in which the new device has been allocated. Available options are between 01-31. The Sounder represents the new device allocated being recognised as a Sounder type.

OR

I/O Added

01 represents the device slot in which the new device has been allocated. Available options are between 01-31. The I/O represents the new device allocated being recognised as a Input/Output type.

- The menu will automatically show the following display;

Set Address XXX

XXX represents the next available unused address number ranging from 1-126.

- Turn the rotary control until the display shows the address number required to be selected. Press the rotary control to select and the display will change to show;

Selected XXX

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- If the log on command is not received at any time during this procedure or received incorrectly the following messages will be displayed;

Please Retry

The Log On button can be pressed with this display shown and the procedure continued or alternatively press the Back button to revert to the Add Device Menu.

5.4 Removing Device from the System

- Enter the menu structure by pressing the rotary control
- Turn the rotary control until the display shows;

Remove Device

- Press the rotary control and the display will change to show the devices allocated onto the Radio Loop Module. The list can be viewed by turning the rotary control. The information is shown in the following format

Addr 067 L 12345

Note: Pressing the Help button with the above display shown will indicate the device type. E.g. "Multi".

- To remove any devices press the rotary control the display will change to show;

Remove 12345 N?

- If the device is not required to be removed press the rotary control. If the correct ident is shown and the device is to be removed turn the rotary control until the display shows;

Remove 12345 Y?

- To remove the device press the rotary control and the display will change to show Removing Device for 2 seconds and then confirm the removal;

Removing Device

Followed by

Removed Multi

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.

5.5 Viewing the Radio Loop Modules Status

- Enter the menu structure by pressing the rotary control.
- Turn the rotary control until the display shows;

Interface Status

- For more detailed information on the device displayed press the rotary control. The list of available information is shown in the following format;

Fault Status
Background Level
Ident xxxxx
Software Vxx.xx
Serial Data

Note: The Serial Data option is only available when the Ziton Radio Loop Module has switch 8 on. This enables Serial Data to be seen on a terminal programme via the onboard serial port. If either of these options are selected it is important NOT to leave the Radio Loop Module in this diagnostic / operational mode.

- To enter the Fault Status Menu press the rotary control with the Fault Status text displayed. The display will change to show the current Fault status of the Radio Loop Module, an example is shown below;

No Fault Present

Available Options are;
No Fault Present
Aerial Tamper
Ch1 RFI Det
Ch2 RFI Det

Note: If multiple faults are applicable to the Radio Loop Module the rotary control can be turned to view the total fault listing and a down arrow will be present to indicate that there is more than one fault present.

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To enter the Background Level Menu press the rotary control with the Background Level text displayed. The display will change to show the current Background Level for the two channels used. The levels are updated in real time. An example display is shown below;

Ch1 0

Available Options are;
Ch1 (With Levels 100 -0 displayed)
Ch2 (With Levels 100 -0 displayed)

- The Levels shown represent 5 levels these are interrupted as follows;
 - 100 shown indicates VERY HIGH
 - 75 shown indicates HIGH
 - 50 shown indicates MEDIUM
 - 25 shown indicates LOW
 - 0 Bar shown indicates GOOD.

Note: Turn the rotary control to view the background level of the second channel used.

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To view the Radio Loop Modules Unique Ident rotate the rotary control whilst in the Interface Status Menu until the following example display is shown;

Ident: 12345

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To view the Radio Loop Modules current software version rotate the rotary control whilst in the Interface Status Menu until the following example display is shown;

Software V XX.XX

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To change the Serial Data menu rotate the rotary control whilst in the Interface Status Menu until the following example display is shown;

Serial Data OFF

- Press the rotary control button to toggle the option between OFF and ON.
- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.

Note: The Serial Data option is only available when the Ziton Radio Loop Module has switch 8 on. This enables Serial Data to be seen on a terminal programme via the onboard serial port. If either of these options are selected it is important NOT to leave the Radio Loop Module in this diagnostic / operational mode.

5.6 Radio Channels

- Enter the menu structure by pressing the rotary control.
- Turn the rotary control until the display shows;

Radio Channels

- Press the rotary control and the display will change to show the radio channels sub menu.

Currently Used
Auto Select
Manual Select

Note: The Auto Select and Manual Select options are only available when the Ziton Radio Loop Module does not have any devices allocated to it.

- To select the currently used radio channels menu. Turn the rotary control until the display shows;

Currently Used

- Press the rotary control and the display will change to show the first radio channels currently used by the Radio Loop Module. An example is shown below;

Ch1 19 868.800Mhz

Note: The Ch1 field indicates the first channel used. The next field indicates the channel number along with the frequency used.

- Available channels are shown below;

Ch1: 868.048 MHz	Ch9: 868.248 MHz	Ch17: 868.749 MHz	Ch25: 868.950 MHz
Ch2: 868.073 MHz	Ch10: 868.273 MHz	Ch18: 868.774 MHz	Ch26: 868.975 MHz
Ch3: 868.098 MHz	Ch11: 868.298 MHz	Ch19: 868.800 MHz	Ch27: 869.000 MHz
Ch4: 868.123 MHz	Ch12: 868.323 MHz	Ch20: 868.825 MHz	Ch28: 869.025 MHz
Ch5: 868.148 MHz	Ch13: 868.349 MHz	Ch21: 868.850 MHz	Ch29: 869.050 MHz
Ch6: 868.173 MHz	Ch14: 868.374 MHz	Ch22: 868.875 MHz	Ch30: 869.075 MHz
Ch7: 868.198 MHz	Ch15: 868.399 MHz	Ch23: 868.900 MHz	Ch31: 869.100 MHz
Ch8: 868.223 MHz	Ch16: 868.424 MHz	Ch24: 868.925 MHz	Ch32: 869.125 MHz

- Turn the rotary control to show the second radio channel currently used by the Ziton Radio Loop Module. An example is shown below;

Ch2 31 869.100Mhz

- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To select the auto select option from the radio channels menu. Turn the rotary control until the display shows;

Auto Select

- Press the rotary control and the display will change to show the time duration the scan is to take place for. An example is shown below;

Scan Time 1min

- Available Options are:

1 min
5 min
10 min
20 min
30 min
60 min

- Turn the rotary control until the required duration is shown and press the rotary control to select. The display will change to show the time duration remaining whilst the scan is taking place. An example is shown below;

00:59secs - - - - -

- Once the scan is completed the 2 channels with the least background RSSI seen during the scan will be automatically selected. The display will change to show the following;

Auto Ch xx Ch xx

If the scan is required to be stopped prior to the scan being completed this can be achieved by pressing the rotary control again. The same display will then be shown.

- Press the rotary control and the display will show;

View Results N?

- If the results are not required to be viewed press the rotary control again and the display will return to the radio channels menu. If the results are required to be viewed turn the rotary control until the display shows,

View Results Y?

- Press the rotary control to select and the display will change to show;

Ch2 [Bar Chart]

- Turn the rotary control to view all 32 available channels. Each channel will have a bar chart which denotes the amount of background signal seen on that channel whilst the scan was taking place.
- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.
- To select the manual select option from the radio channels menu. Turn the rotary control until the display shows;

Manual Select

- Press the rotary control and the display will change to show;

First Channel

- Available Options are:

First Channel
Second Channel

- Turn the rotary control until the required channel is shown and press the rotary control to select. The display will change to show the 32 available channels in the following format,

Ch1 868.048Mhz

- Available channels for selection are shown below;

Ch1: 868.048 MHz	Ch9: 868.248 MHz	Ch17: 868.749 MHz	Ch25: 868.950 MHz
Ch2: 868.073 MHz	Ch10: 868.273 MHz	Ch18: 868.774 MHz	Ch26: 868.975 MHz
Ch3: 868.098 MHz	Ch11: 868.298 MHz	Ch19: 868.800 MHz	Ch27: 869.000 MHz
Ch4: 868.123 MHz	Ch12: 868.323 MHz	Ch20: 868.825 MHz	Ch28: 869.025 MHz
Ch5: 868.148 MHz	Ch13: 868.349 MHz	Ch21: 868.850 MHz	Ch29: 869.050 MHz
Ch6: 868.173 MHz	Ch14: 868.374 MHz	Ch22: 868.875 MHz	Ch30: 869.075 MHz
Ch7: 868.198 MHz	Ch15: 868.399 MHz	Ch23: 868.900 MHz	Ch31: 869.100 MHz
Ch8: 868.223 MHz	Ch16: 868.424 MHz	Ch24: 868.925 MHz	Ch32: 869.125 MHz

- Press the rotary control to select the chosen frequency and the display will confirm the choice that has been made by displaying this on the screen in the following format;

Ch1 Selected

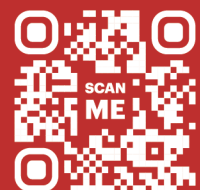
- Repeat the above procedure for selecting the Second Channel.
- The menu will timeout after 30 seconds or alternatively press the Back button to immediately return to the previous Menu.



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