Agilis

EMS Software

Installation and Operation Manual

IM02960173 Rev.C

Agilis

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Table of Contents

Chapter 1 Product Overview 1
1.1 About The EMS 1
1.2 Pre-Requisites for Agilis EMS Installation 1
1.3 Definitions, Acronyms & Abbreviations 2
1.4 Device Types 3
1.5 Devices Supported by Agilis EMS 4
1.6 Conventions Used 5

Chapter 2 Installation Steps 7
2.1 Installation Procedures 7
2.2 Cable Connection and Pin Configurations 10

Chapter 3 Operational Manual 11
3.1 Getting Started 11
3.2 Main User Interface 13
3.3 Types of Users 13
3.4 Color Legend 14
3.5 Features – Menu Bar & Tree View 15
3.6 Device Configuration 16
3.7 Features – Control Panel 27
3.8 Functions of an Admin User 38
3.9 Analog Charts 39
3.10 Debug Tool 40
3.11 Purging Historical Analog and Alarm Data 41
3.12 Device Setup 42
3.13 Troubleshooting 64
3.14 Agilis EMS Equipment Parameters 66

Appendix A Document Revision Log 69

List of Figures

Figure 2.1 Device and PC connection through USB/RS-485 converter 10
Figure 3.1 Agilis EMS User Interface 13
Figure 3.2 Device Configuration Link 16
Figure 3.3 Device Configuration Window 16
Figure 3.4 Communication Settings 18
Figure 3.5 Invalid Device Combination Error 21
Figure 3.6 Control Panel 27
Figure 3.7 Status button 28
Figure 3.8 Configuration button 29
Figure 3.9 Info button 30
Figure 3.10 Alarm button 30
Figure 3.11 Audible alarm icon 31
Figure 3.12 Audible alarm icon 31
Figure 3.13 Switching Mode Configuration Window 32
Figure 3.14 Path Selection window 37
Figure 3.15 User Management tab 38
Figure 3.16 Analog Chart window 39
Figure 3.17 Debug Tool window 40
Figure 3.18 BUC Standalone 43
Figure 3.19 SSPA Standalone 44
Figure 3.20 MBUC Standalone 45
Figure 3.21 iBUC Standalone 46
Figure 3.22 RCU (Rx) Standalone 47
Figure 3.23 RCU Tx Standalone 48
Figure 3.24 RCU (Tx&Rx) 49
Figure 3.25 SPT Standalone 50
Figure 3.26 AUC Standalone 51
Figure 3.27 BUC + SSPA Integrated Mode 52

Figure 3.28 BUC + RCU (Tx) 53
Figure 3.29 BUC + RCU (Tx&Rx) 54
Figure 3.30 SSPA + RCU (Tx) 55
Figure 3.31 SSPA + RCU (Tx&Rx) 56
Figure 3.32 BUC + SSPA + RCU (Tx) 57
Figure 3.33 BUC + SSPA + RCU (Tx&Rx) 58
Figure 3.34 1:1 iBUC 59
Figure 3.35 LNB + RCU (Rx) 60
Figure 3.36 LNB + RCU (1:2) Rx 61
Figure 3.37 BUC + RCU (1:2) Tx 62
Figure 3.38 MBUC + RCU (1:2) Tx 63

List of Tables

Table 1-1 Definitions of Acronyms 2

Table 1-2 Device Types 3

Table 1-3 Devices Supported by Agilis EMS 4

Table 2-1 M&C cable pin signal assignment 10

Table 3-1 User Table 13

Table 3-2 Combination of Devices for each mode 17

Table 3-3 Combination of Devices for each mode 42

Table 3-4 Equipment Parameters 67

Chapter 1 Product Overview

Agilis, a global leader in the design, development and manufacturing of quality satellite products for various applications, introduces the EMS Software.

1.1 About The EMS

Agilis EMS Software is a lightweight network management software that provides monitoring and controlling support for Agilis Products (BUC, MBUC, iBUC, SSPA, LNB, RCU, AUC, SPT and OHT).

This user manual provides detailed information to system integrators and end users on how to install, set-up and operate the Agilis EMS Software. This document consists of two sections, Installation and Operational Guide. The procedures indicated in this manual must be followed to ensure the proper functionality of the Agilis EMS Software.

1.2 Pre-Requisites for Agilis EMS Installation

1.2.1 Software Requirements

1. AgilisEMS.exe
2. Windows XP / Windows 7
3. IE 7 or later versions
4. WinZip/Winrar to extract the zip files
5. Acrobat Reader to view the historic data
6. Adobe Flash Player for viewing Agilis EMS control panel
7. ODBC Driver

1.2.2 Hardware Requirements

1. Windows based PC
2. Pentium 4 and above
3. 2GB RAM (Recommended)
4. At least 1GB Hard Disk free space
5. M&C Interface cable (For pin configurations, refer to respective Product Manuals)

1.3 Definitions, Acronyms & Abbreviations

Abbreviation	Description
Attn	Attenuation
BUC	Block Up Converter Available for two different frequencies: Ku-band (Ku-BUC) and C-band (C-BUC)
C-BUC	ALB180xxxx C-band Block Up Converter
D/C LO	Down-Converter Local Oscillator
Freq	Frequency
Global Address	An address that will be responded by any ODU, disregarding its assigned address. For Ku-SPT, FC-SPT, EC-SPT, BUC, AUC28 and OHT, the global address is 000.
KU-BUC	ALB128xxxx Ku-band Block Up Converter
LNB	Low Noise Block Converter
ODU	Out Door Unit Could be RCU, Ku-SPT, C-SPT, FC-SPT, EC-SPT, C-BUC, Ku-BUC, AUC28 and OHT
RCU	Redundancy Control Unit
SSPA	Solid State Power Amplifier or Booster
VB	Visual Basic
HMI	Human Machine Interface

Table 1-1 Definitions of Acronyms

1.4 Device Types

Abbreviation	Description
BUC	**FM-Integrated** – Feedmount-Integrated BUC (<80W) These models have a single BUC RF module and M&C. CBUC – ALBx80xxxx and ALBx90xxxx KuBUC – ALBx28xxxx XBUC – ALBx50xxxx
MBUC	**FM-Modular** – Feedmount-Modular BUC (<80W) These models have modular BUC driver and a separate SSPA module in a single package. KuBUC – ALBx29xxxx
iBUC	**Integrated RCU BUC** – These models are with additional integrated RCU and redundant capable (for Hi-Pwr BUC, 80W and above) CBUC – ALBx80xxxx and ALBx90xxxx KUBUC – ALBx28xxxx and ALBx29xxxx
iBUC-RM	**Integrated RCU BUC - Rack Mount**
SSPA	**Sold-State-Power-Amplifier** These models are C-Band and Ku-Band RF Boosters AAAxxxxxxx
LNB	Low Noise Block Converter
RCU	**Redundancy Control Unit** These models are External Redundancy Controllers for 1+1 and 2+1 systems. AAV61xxxxx and AAV62xxxxx
RCU (1:2)	
RCU (Rev 2)	
AUC	Agilis-Up-Convertor Indoor
SPT	Single-Package-Transceiver
OHT	One-Housing-Transceiver

Table 1-2 Device Types

1.5 Devices Supported by Agilis EMS

BUC	iBUC	SSPA	LNB	RCU	AUC	SPT	OHT
ALBX28XXXX-XXXXX-X	ALBX28-XX	AAAXXXXXXX-X-X	ACAXXXXXXX-X	AAV610X-T	AUC2840X	AAVXXXXXXX-X	AAV980XXXXX-X
ALB1282X	ALBX80-XX	AAAxxxxxxx-M	ACAXXXXXXX-X-X	AAV610X-R	AUC284LX		
ALB1283X	ALBX29XXX-XX				AUC284KX		
ALB1285X					AUC285LX		
ALB128xxxx-VO					AUC38XXXXXX-X		
ALB180AX					AUC68XXXXXX-X		
ALB180BX							
ALB180CX							
ALB180FX							
ALB180xxCx							

Table 1-3 Devices Supported by Agilis EMS

***Note: if the RCU is a legacy version, the following has to be done:**

i) Go to this folder: **Agilis EMS \Driver\Configurations\Factory\Legacy**

ii) Copy the 2 files: **rcu_tx_config.xml** and **rcu_tx_protocol.xml**

iii) Replace the 2 files in this folder:

Agilis EMS\Driver\Configurations\Factory

iv) Copy of the new version is found in this folder:

Agilis EMS \Driver\Configurations\Factory\New

Hence, the files can be replaced back when necessary.

1.6 Conventions Used

The following icons/fonts are used in this document:

 : Points to take note of.

 : Warning! Failure to adhere to the warnings may result in adverse effects.

Italics: Notes

BOLD: Elements that require human intervention to be executed or names of main options.

'BOLD': Agilis EMS options in bold text within quotes.

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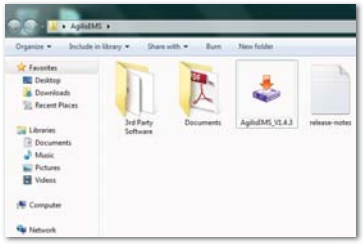
Chapter 2 Installation Procedures

This chapter provides information on how to install the Agilis EMS software in the user PC. Cable connections and pin configurations are also covered in this chapter.

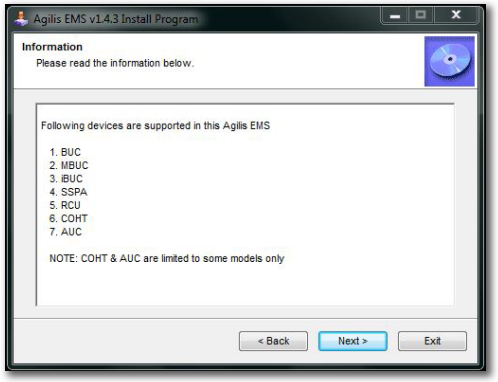
2.1 Installation Steps

1. Navigate to the folder where the '**AgilisEMS.exe**' is located.



2. Click on '**AgilisEMS.exe'** to run the installation.
3. Click '**Next'**.

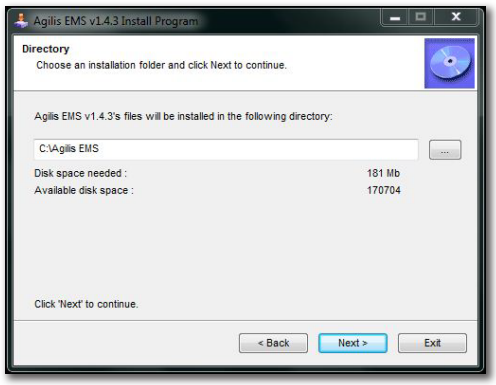
4. Click '**Next'**.



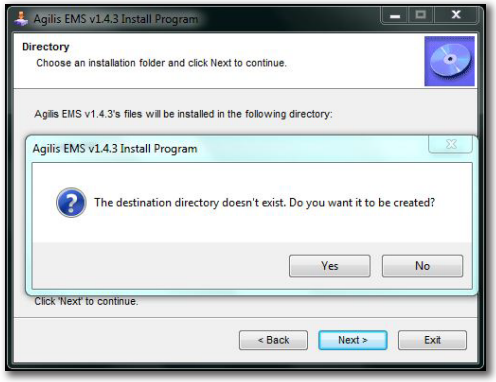
5. It is advisable to leave the Destination Folder as it is, **C:\Agilis EMS**.

DO NOT select paths that have spaces in between such as (Program Files).

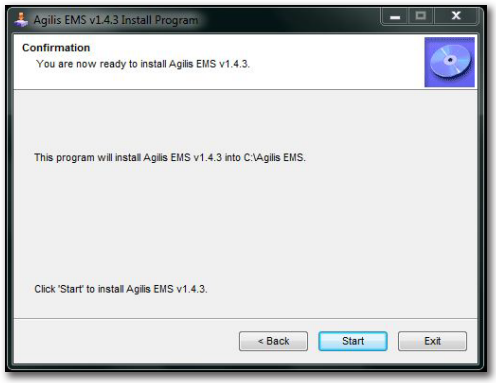
6. Click '**Next'**.



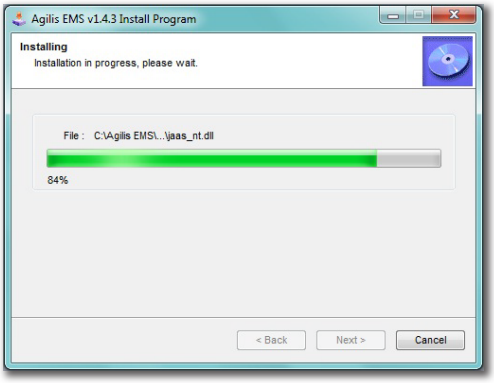
7. If the destination folder does not exist, a pop-up window will prompt to create the folder. Click '**Yes'** to continue.



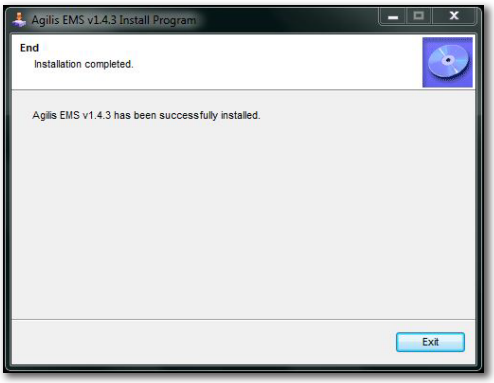
8. Click '**Start'**.



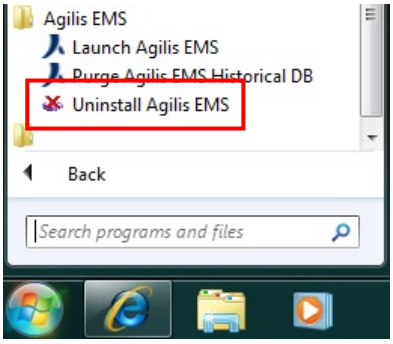
9. Installation process would be initiated.



10. Click '**Exit'** to complete the installation.



11. Verify that the folder Agilis EMS has been created in **C:**.
12. The following 3rd party applications should be installed before launch Agilis EMS application, Adobe Reader, Flash Player and ODBC driver.
13. To uninstall the software, simply click on **Uninstall Agilis EMS** from **Start** > **All Programs** > **Agilis EMS**.



If the 3rd party applications were already installed, you would be prompted that you are having the latest, therefore click on the prompts as required cancelling the installation.

2.2 Cable Connection and Pin Configurations

All Agilis devices support RS485 communication. When the product is communicating on RS-485, a USB to RS485 converter is needed to connect the Agilis device to a PC, as shown in Figure 2.1.

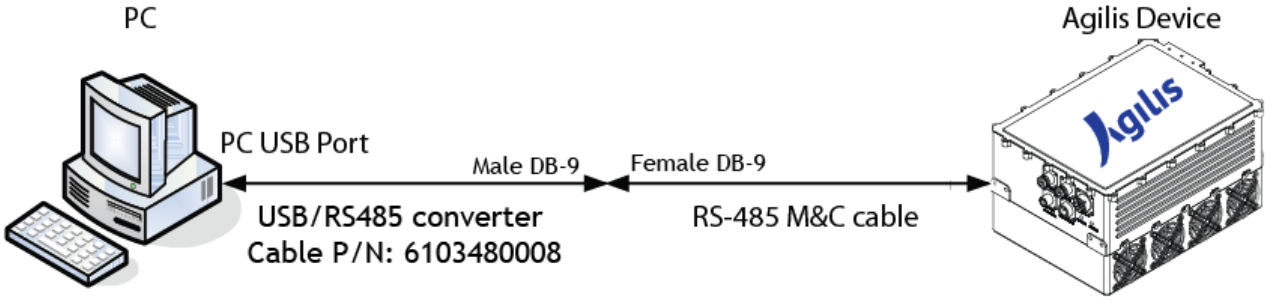


Figure 2.1 Device and PC connection through USB/RS-485 converter

The driver for the RS485 to USB converter must be installed to establish serial communication between the device and the PC.

2.2.2 RS-485 M&C Cables

The table below indicate the pin signal assignment of the M&C cables used for different types of Agilis devices.

No	Female Circular (19-pin and 8-pin)	Female DB-9	Signal Description
1	Pin E	2	Data +
2	Pin F	1	Data -
3	Pin B	5	Ground

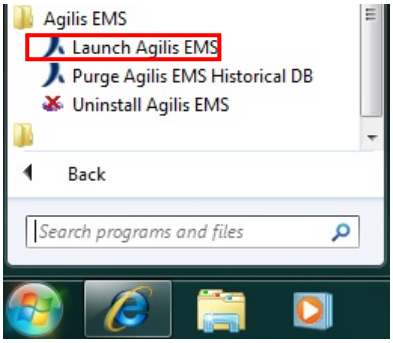
Table 2-1 M&C cable pin signal assignment

Chapter 3 EMS Operations Manual

This chapter provides information on how to use and configure the Agilis EMS software.

3.1 Getting Started

To Launch the Agilis EMS Software, click on **Start** > **All Programs** > **Agilis EMS**, click on the **Launch Agilis EMS** to start Agilis EMS.



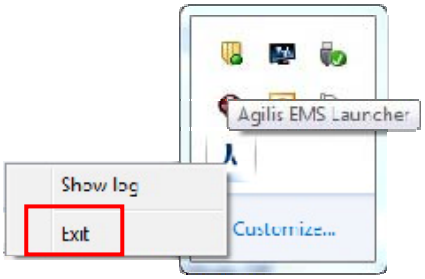
Once all the required services are started, an Agilis icon would be displayed in the notification area usually found in the bottom right hand corner. This would indicate that the startup of services has been initiated.

An IE (Internet Explorer) window will automatically pop-up upon successful startup.

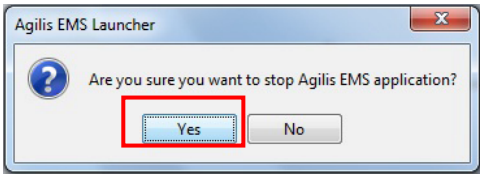
3.1.1 Exiting the application

If the Agilis EMS application needs to be stopped, follow these steps:

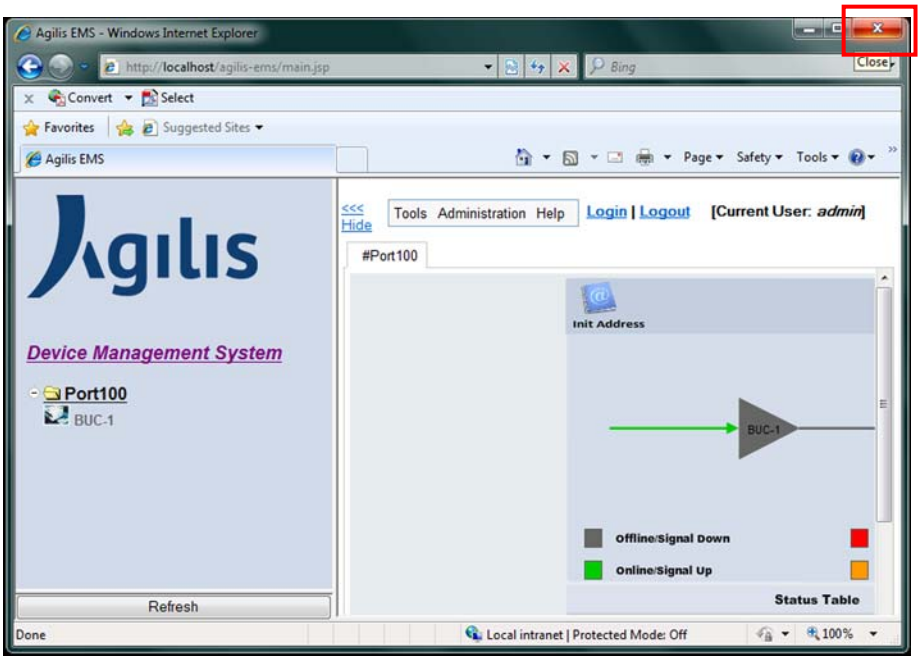
1. Right click on the Agilis icon and select '**Exit**'.



2. Click '**Yes**' to confirm program exit.



3. Close the IE browser displaying the EMS Software.



3.2 Main User Interface

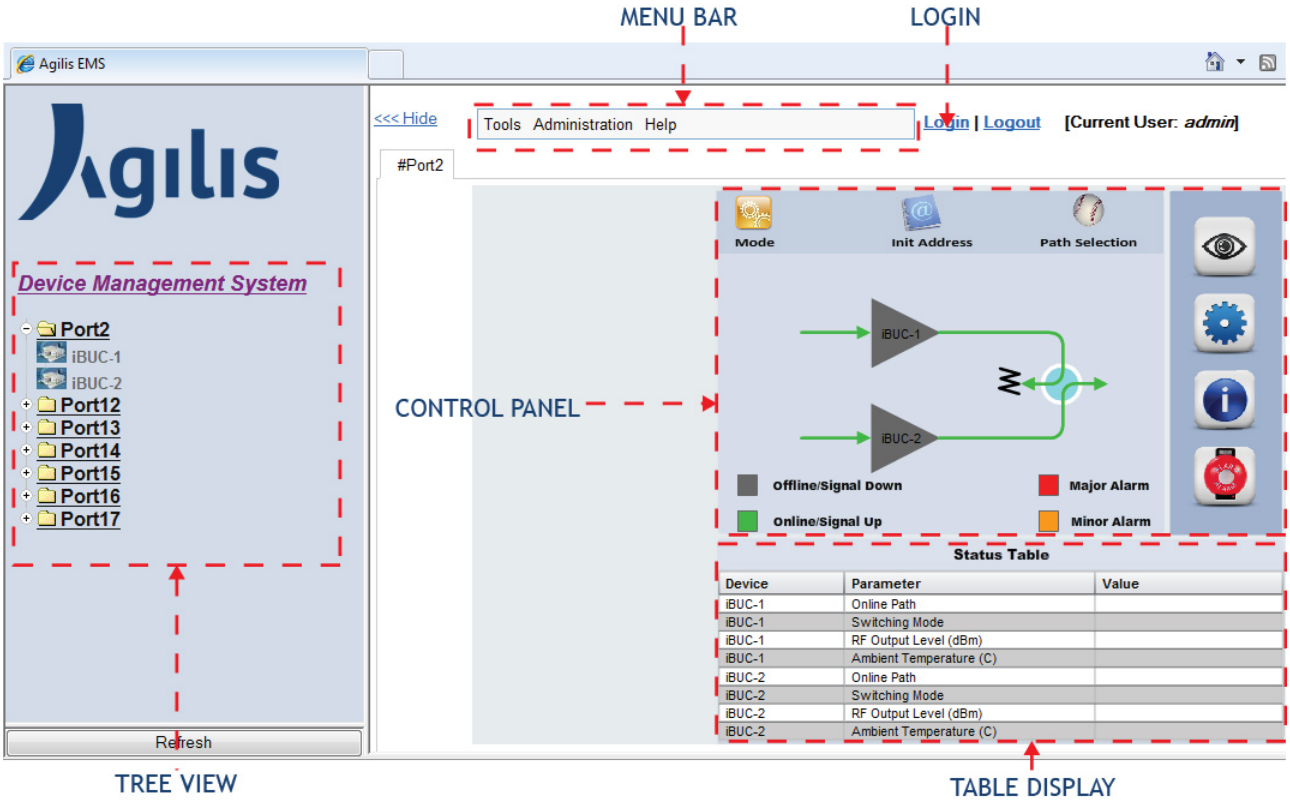


Figure 3.1 Agilis EMS User Interface

3.3 Types of Users

By default, the current user is an Operator (Guest) with no administrative rights. The table below would summarize the types of user, password details and their rights.

User	Password	Options Available
Operator (Guest)	NA	• Analog Charts • Device Configuration
admin	admin	• Analog Charts • Device Configuration • User Management

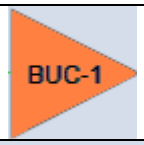
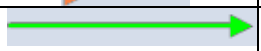
Table 3-1 User Table

The user logged in as an 'Operator' can use the 'Device Configuration' but can only see the device configuration changes after exiting and re-launching the Agilis EMS application.

3.4 Color Legend

The following color conventions are used to indicate the status of the equipment. The conditions are tabulated below.

Do take note that the RF Input is always showed as Green.

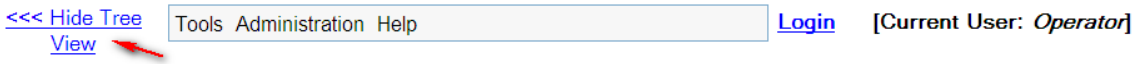
Device Name	Condition	Color Convention	Possible Alarm Condition
BUC (Stand Alone)	Offline		Equipment is not connected or switched ON
	Online		No Alarms Present
	Major Alarm		- BUC FET Bias Alarm - BUC LO Alarm - BUC Temperature Alarm - BUC RF Output Alarm - BUC 10 MHz Reference Alarm - BUC Driver Alarm - SSPA Temperature Alarm - SSPA Reflected Power Alarm
	Minor Alarm		- SSPA RF Output Power Low Alarm
	Signal Up		RF ON
	Signal Down		RF OFF

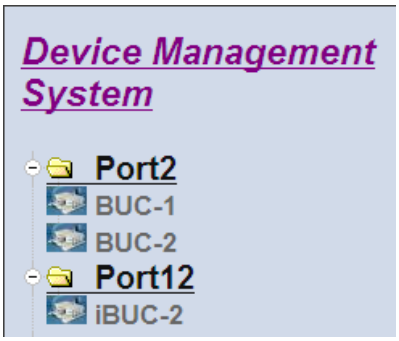
The color convention applies to all the devices supported by Agilis EMS but alarms may differ.

Refer to 'Table 3-4 Equipment Parameters' to view the complete list of Alarms.

3.5 Features – Menu Bar & Tree View

The Tree View is a vertically expandable menu found on the left hand side of the webpage. The Tree View can be hidden as well if not required. The **Show/Hide Tree View** option is found on the Menu Bar. The Menu Bar options would dynamically change according to the user logged in. The information about the dropdown list of the Menu Bar can be found in Table 3-1 '**User Table**'.





Each time a device configuration is added, it is displayed in the Tree View. Clicking on the '**-**' sign would collapse the Port while the '**+**' sign would expand the Port to reveal the status of the devices configured. The status is color coded and it is the same as reflected in the Legend table shown in the Control Panel.

Clicking on the '**Device Management System**' would refresh the Tree View.

3.6 Device Configuration

Device configuration allows the user to add/configure equipment that needs to be monitored and controlled. The option is accessible from the top menu namely '**Administration**' > '**Device Configuration**'. A new window will pop up when the '**Device Configuration**' option is clicked.

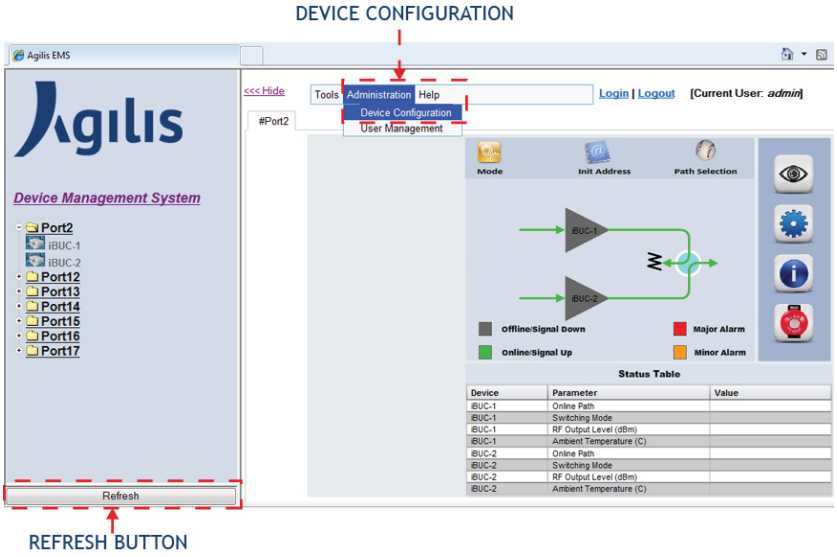


Figure 3.2 Device Configuration Link

Log-in as an administrator to add a new device. Click on '**Add device configuration**' link on top of the device configuration screen. To update the configuration for an existing device, click on '**Edit**' link corresponding to the device in the table. To delete the existing monitored device, click on '**Delete**' link that corresponds to the device in the table. (Refer Figure 3.3).

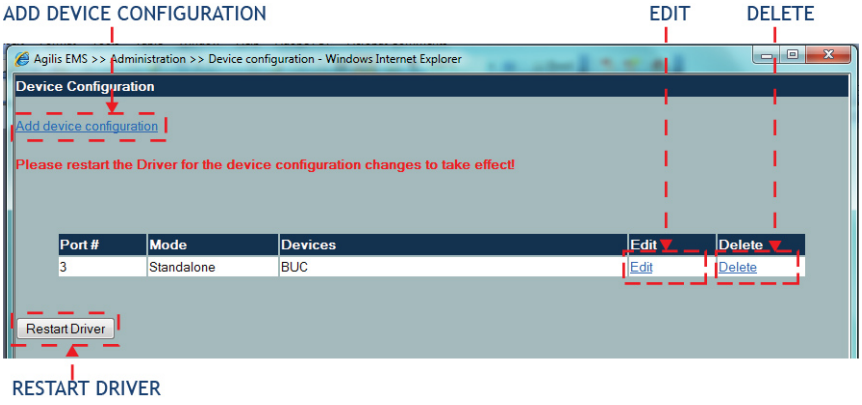


Figure 3.3 Device Configuration Window

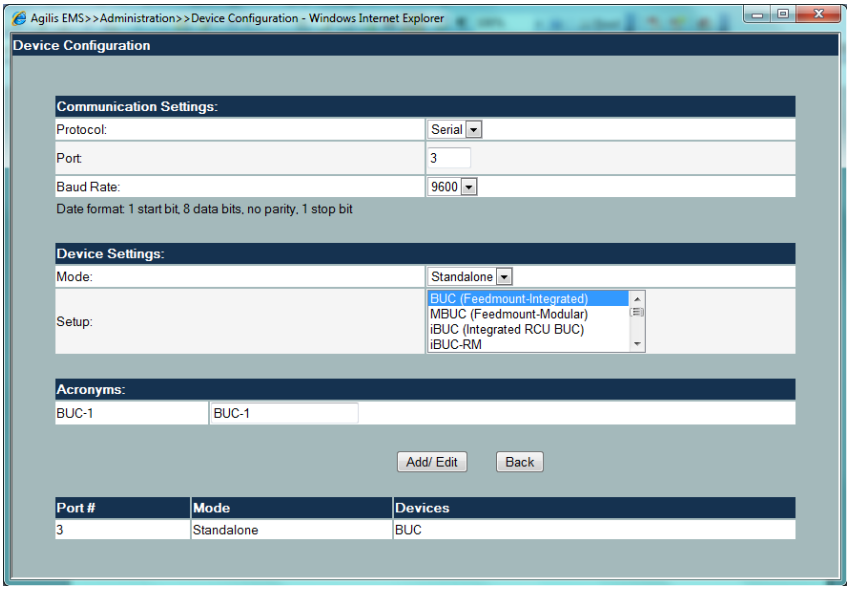
Always click the 'Restart Driver' button after configuring a device for the configuration changes to take effect (Refer to Figure 3.3).

Click the 'Refresh' button located at the bottom left part of the Agilis EMS IE Window to refresh the display in the window and to see the configuration changes (Refer to Figure 3.2). Screen refresh usually takes about 5-10 seconds after the refresh button is clicked, or if there are changes in the system operation.

A new window will pop up when the '**Add device configuration**' option is clicked.

The parameters that can be configured are:

1. Communication Settings
2. Device Settings
3. Acronyms



Agilis EMS is capable to monitor and control a '**Stand Alone**' device (simple transceiver) or '**Integrated Systems**' or a '**Redundancy System**' (i.e. 1:1 hot standby system). Each mode has its own combination of devices (Refer to **Table 3-2**).

Standalone	Integrated	1:1	1:2
▪ BUC	▪ BUC + SSPA	▪ BUC+RCU(Tx)	▪ LNB+RCU (Rx)
▪ SSPA		▪ BUC+RCU (Tx&Rx)	
▪ MBUC		▪ MBUC+RCU(Tx)	
▪ iBUC		▪ SSPA+RCU(Tx)	▪ BUC+RCU (Tx)
▪ RCU (Rx)		▪ SSPA+RCU (Tx&Rx)	
▪ RCU (Tx)		▪ BUC+SSPA+RCU (Tx)	
▪ RCU (Tx&Rx)		▪ BUC+SSPA+RCU (Tx&Rx)	▪ MBUC+RCU (Tx)
▪ SPT		▪ iBUC	
▪ AUC		▪ LNB+RCU(Rx)	

Table 3-2 Combination of Devices for each mode

Refer to section '3.12 Device Setup' for the different combination of devices that can be selected on the 'Setup' option of the Device Configuration Window.

3.6.2 Communication Settings

To monitor the device using COM port, select '**Serial**' in '**Protocol**' dropdown and enter the COM port number in the '**Port**' textbox.

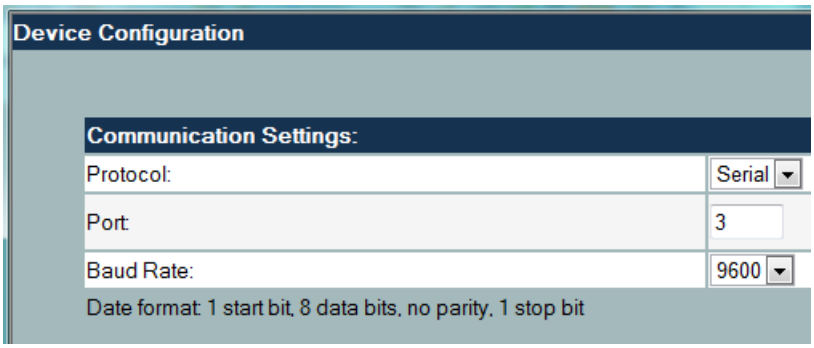


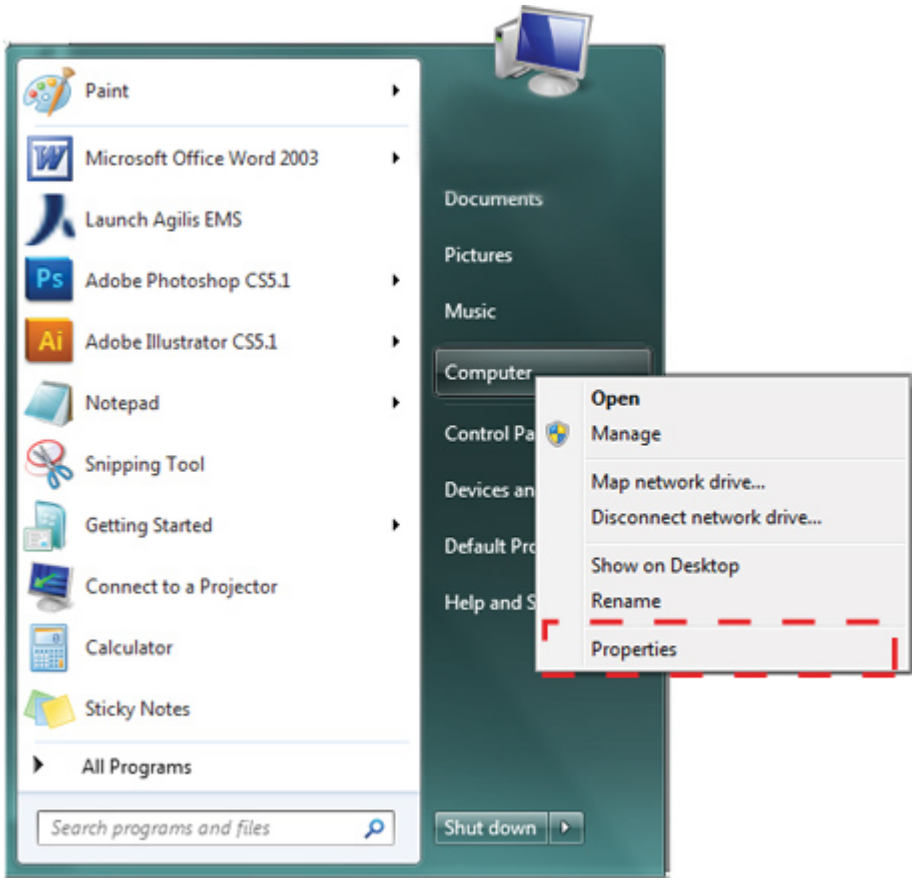
Figure 3.4 Communication Settings

The driver for the RS485 to USB converter must be installed to establish serial communication between the device and the PC.

The examples shown on this document uses Com Port number 3. Follow the procedure below to identify the actual COM port number assigned to your Agilis device.

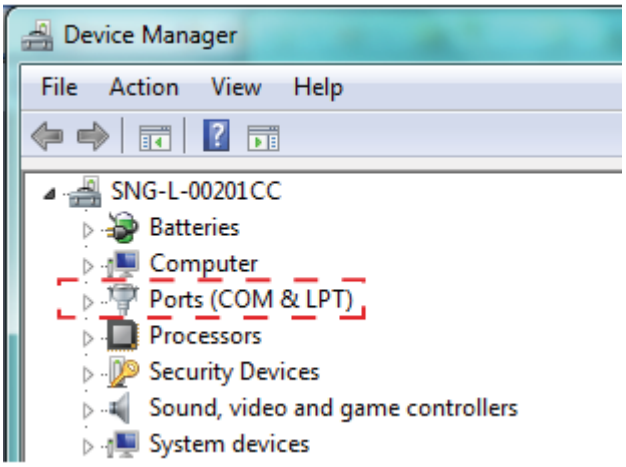
To identify COM Port number, follow these steps:

1. Right click '**Computer**', and select '**Properties**'.



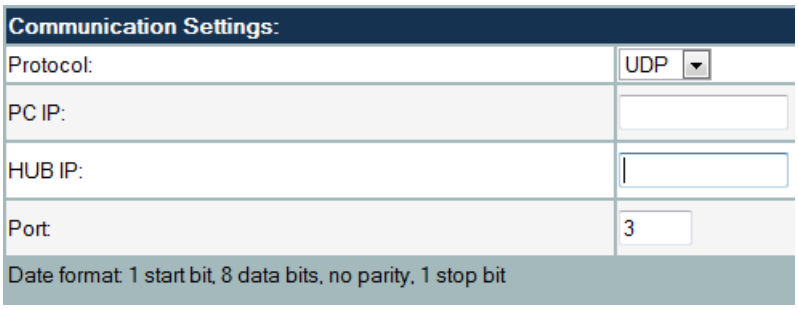
2. Click '**Device Manager**'.

3. Double-click '**Ports (COM & LPT)**' and take note of the Port number assigned to the device.



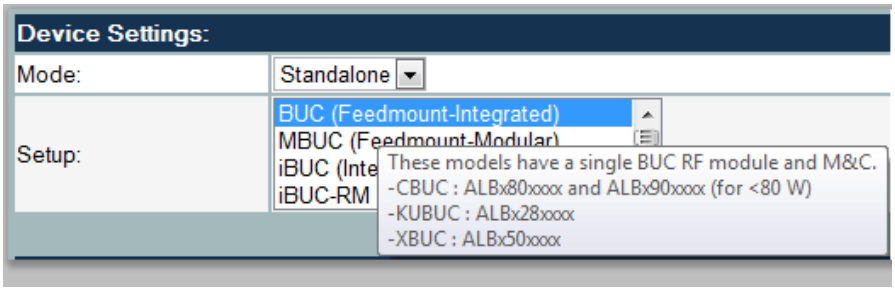
To change the '**Baud Rate**' settings click on the drop down button and choose from the drop down list (Refer to Figure 3.4).

To monitor the device using Ethernet port, click on '**Protocol'** dropdown and select 'UDP' and enter details in '**PC IP'** and **'HUB IP'**.



3.6.3 Device Settings

Device settings option allows the user to choose the device, operational mode and RCU type of the equipment that you want to monitor. Agilis EMS supports standalone mode, redundant mode and integrated mode. The device configuration settings must be properly set to enable the Agilis EMS application to communicate with the Agilis device, otherwise, no communication between the PC and the device will be established.

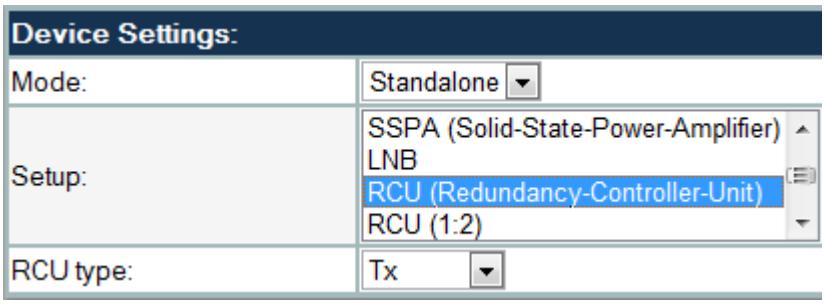


When selecting a device on the 'Setup' list, a text box will appear temporarily to provide a description of the device being selected.

3.6.3.1 Standalone Mode

Select '**Standalone**' mode in the dropdown list and click on the device that you want to monitor in '**Setup**' list box.

When the RCU device is selected, '**RCU type**' dropdown will show on the screen to select Transmit and Receive Modes. For users who want to connect both transmitter and receiver units or just connect one of the two parts they can choose modes from this dropdown.



3.6.3.2 1:1 Redundancy Mode

In redundancy mode, Agilis EMS uses one specific port to monitor and control the combined devices in this mode.

Select **'1:1'** mode in the dropdown list and **Click** the device that you want to monitor in **'Setup'** list box. (Refer to **Table 3-2** for the valid combinations.)

To select multiple items, hold **CTRL** and **Click** the devices in **'Setup'** list box. An error will appear when the user clicks '**Add/Edit**' on the Device Configuration Window if the combination of devices is invalid.

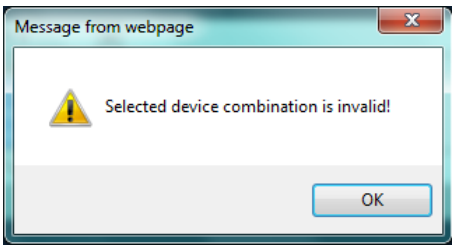
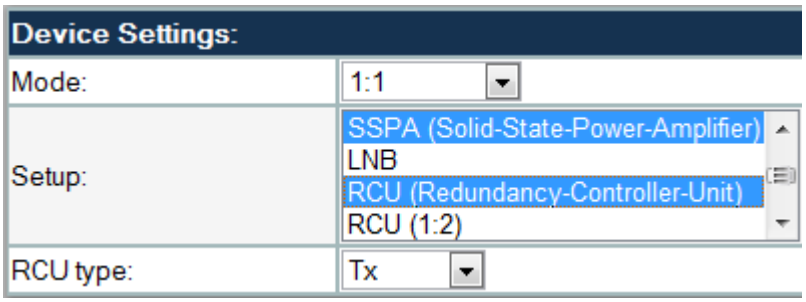


Figure 3.5 Invalid Device Combination Error

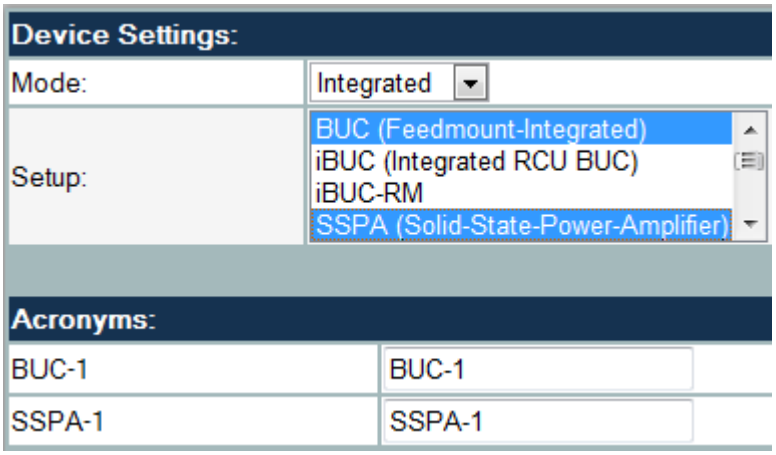
When the RCU device is selected, **'RCU type'** dropdown will show on the screen to select Transmit and Receive Modes. For users who want to connect both transmitter and receiver units or just connect one of the two parts they can choose modes from this dropdown.



Address Initialization should be done for redundancy program to function. To initialize the addresses, (Refer to section 3.7.7 '**Init Address**').

3.6.3.3 Integrated Mode

Select '**Integrated**' mode in the dropdown list and select '**BUC**' and '**SSPA**' in '**Setup**' list box. To select multiple items, hold **CTRL** and **Click** the device in list box.



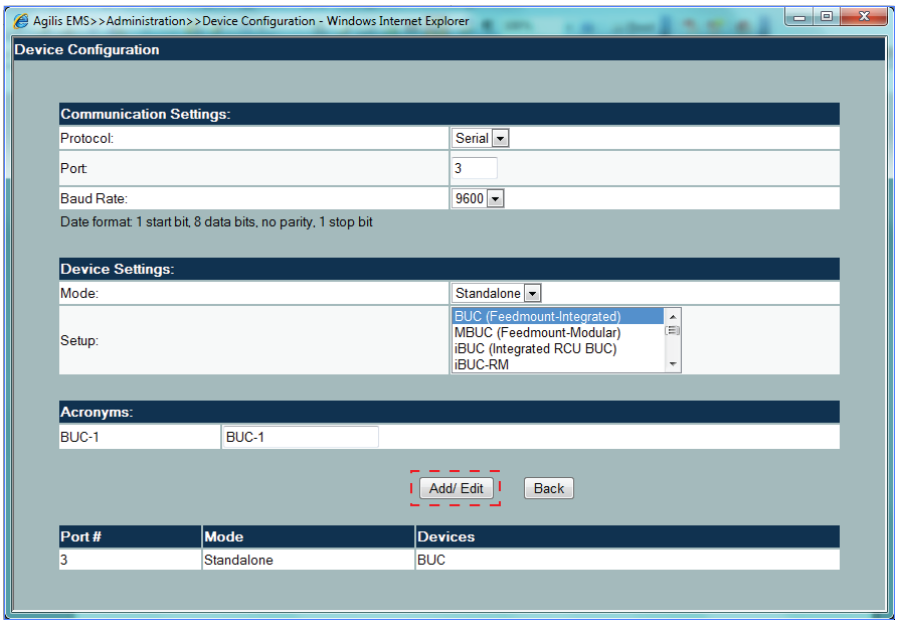
3.6.4 Acronyms

Acronyms allow the user to choose the title for the selected equipment.

In Acronyms text box, special characters are not allowed except the – [hyphen] symbol.

3.6.5 Saving the Device Configuration Settings

To save the device configuration settings, click on '**Add/Edit**' button. Table will be updated with the new/updated device setting in device configuration screen.



Changes will take effect only after the '**Restart Driver**' is clicked (Refer to Figure 3.3). Click the '**Refresh**' button shown to Figure 3.2, to refresh the Agilis EMS Window.

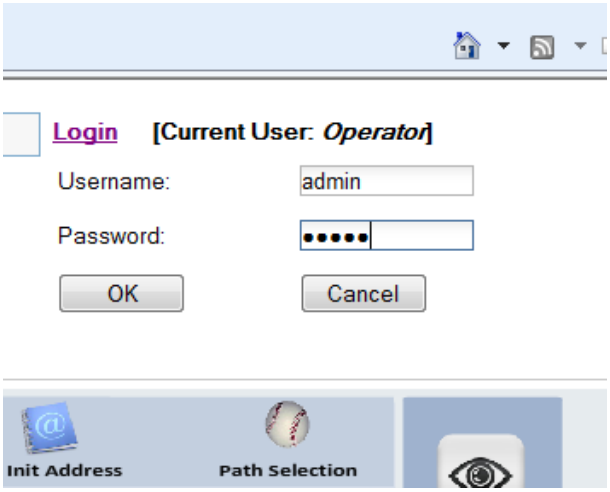
In Agilis EMS main screen, the tree view will show the new device configuration identified by the port number.

If the changes are not reflected after the 'Restart Driver' and 'Refresh' is clicked, restart Agilis EMS application. Refer to '**3.1.1 Exiting the application**' and re-launch the Agilis EMS Software after 5-10 seconds.

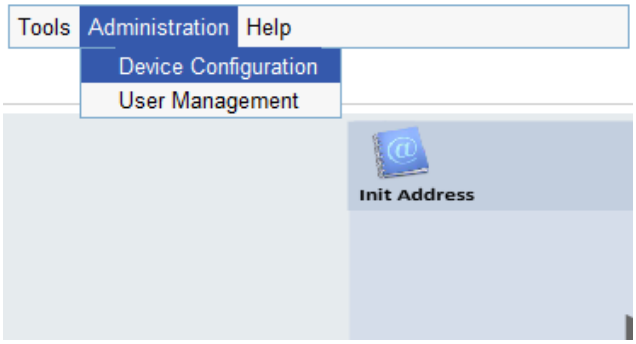
When a new device is connected and identified, the device has to be initialized for the first time only.

3.6.6 Example: Configuring a Standalone BUC

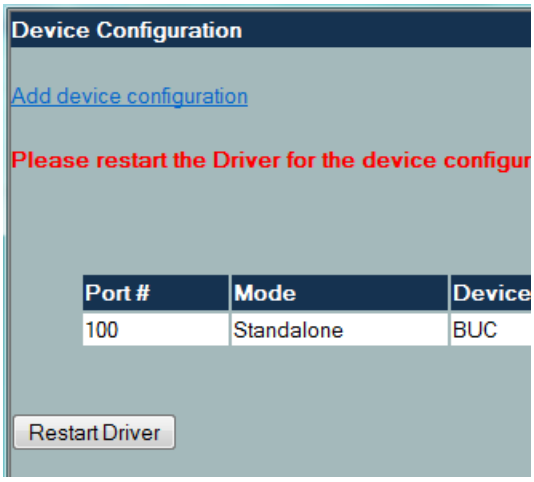
1. Login as an '**admin'**.



2. Click '**Device Configuration**' under the Administration option in the Menu Bar.

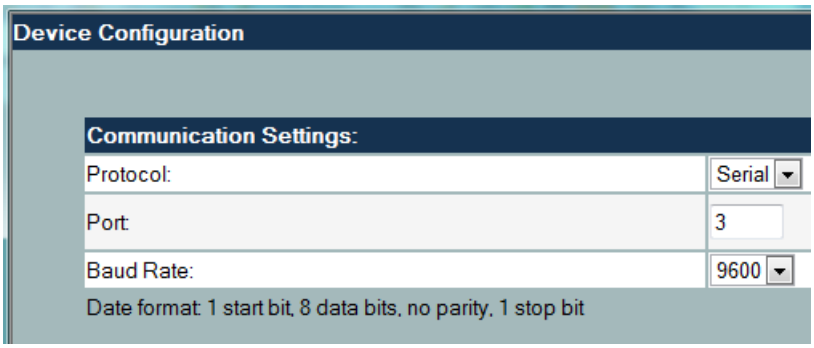


3. Click on the '**Add device configuration**' option in the Device Configuration window.



4. Configure the **Communication Settings**.

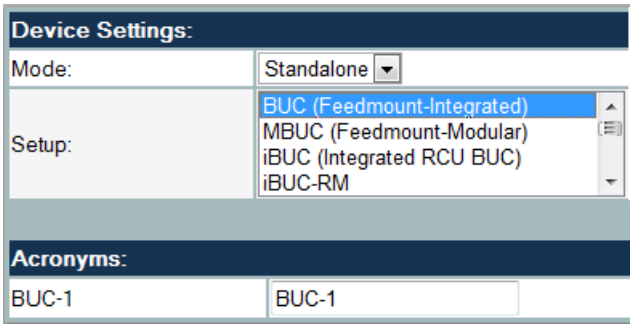
   For this example, the Protocol used is '**Serial**', the COM Port assigned is **3** and the Baud Rate is **9600**.



The COM Port used for the examples in this document is 3. Refer to section '3.6.2 Communication Settings' to identify the specific port assigned to your Agilis device.

5. Configure the **Device Settings**.

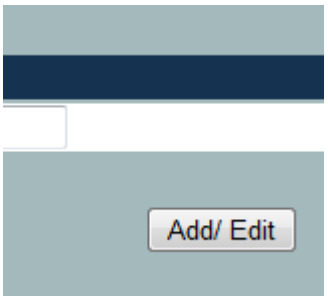
   For this example, the Mode selected is '**Standalone**' and the device selected on the Setup list is '**BUC (Feedmount-Integrated)**'.



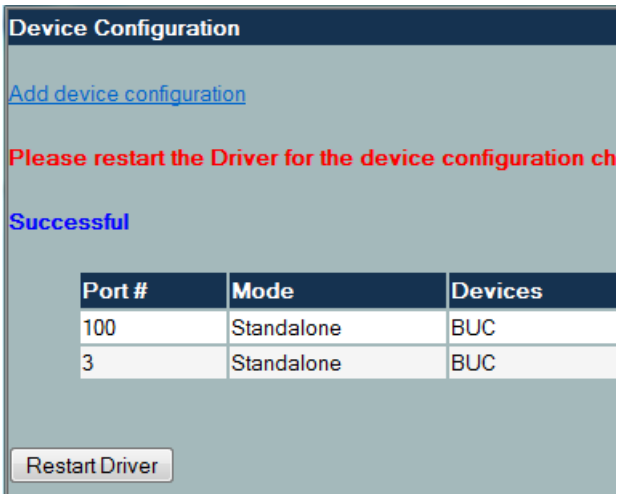
The '**Acronyms**' used in this example is the default '**BUC-1**'.

Refer to section '3.12 Device Setup' for the Device Settings information.

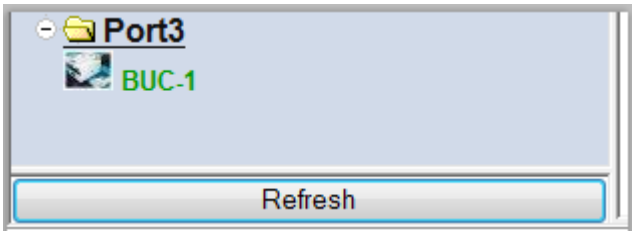
6. Click '**Add/Edit**' button.



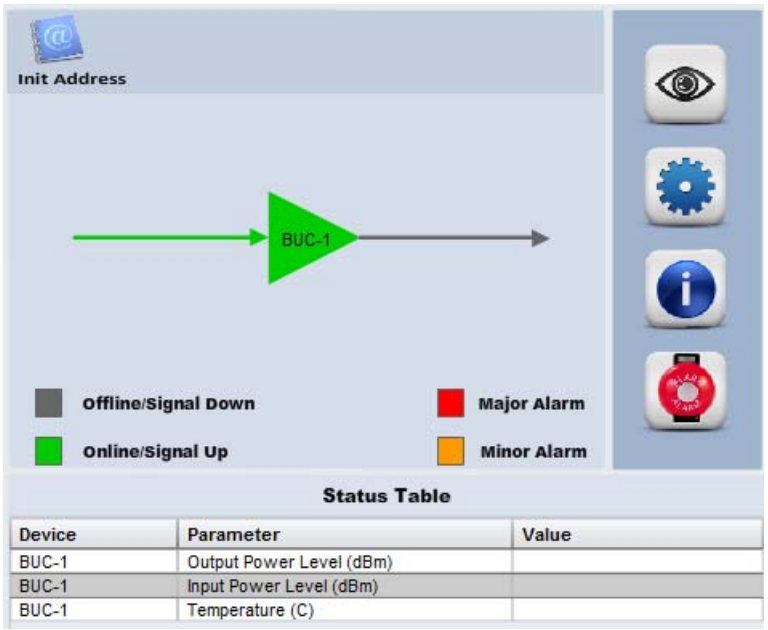
7. Click '**Restart Driver**' for the changes to take effect.



8. Click '**Refresh**' to refresh the display on the Agilis EMS main window. The Tree Menu should display the newly configured device along with the port number.



9. The block diagram of the newly configured device will now be displayed on the Agilis EMS main window.



3.7 Features – Control Panel

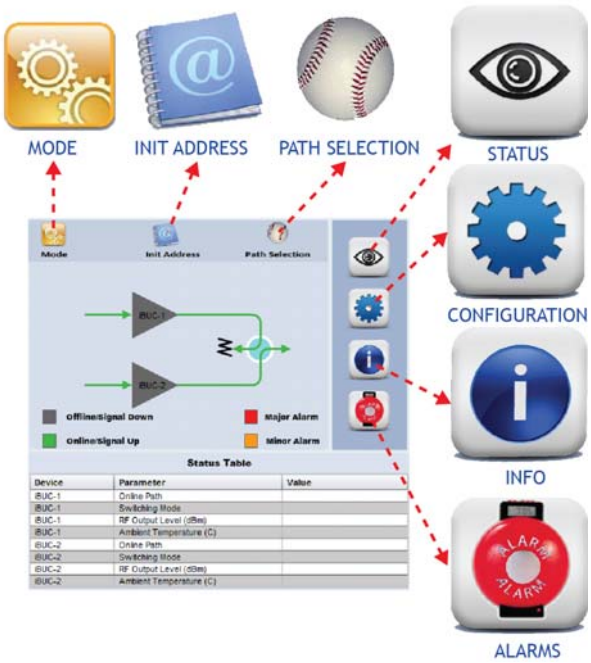


Figure 3.6 Control Panel

The control panel, shown in Figure 3.6, is where the status and configuration parameters are read. There are many different combinations of the screen apart from what is shown here.

The following are the four main icons located at the right of the control panel:

1. Status
2. Configuration
3. Info
4. Alarms

The icons when clicked will refresh the table in the lower part of the control panel. (Refer to Table 3.3 for a more detailed list.).

Status	Configuration	Info	Alarms
▪ Device Status, not configurable	▪ Configuration Parameters subjective to equipment type	▪ Device Address	▪ Device Alarms
		▪ Model Number	▪ Severity
		▪ Serial Number	▪ Timestamp
		▪ Firmware Version	

3.7.2 Status

Click on the '**Status**' icon to check the device setup of a configured device/combination of devices. User would be able to see all the status parameters in '**Status Table**'.

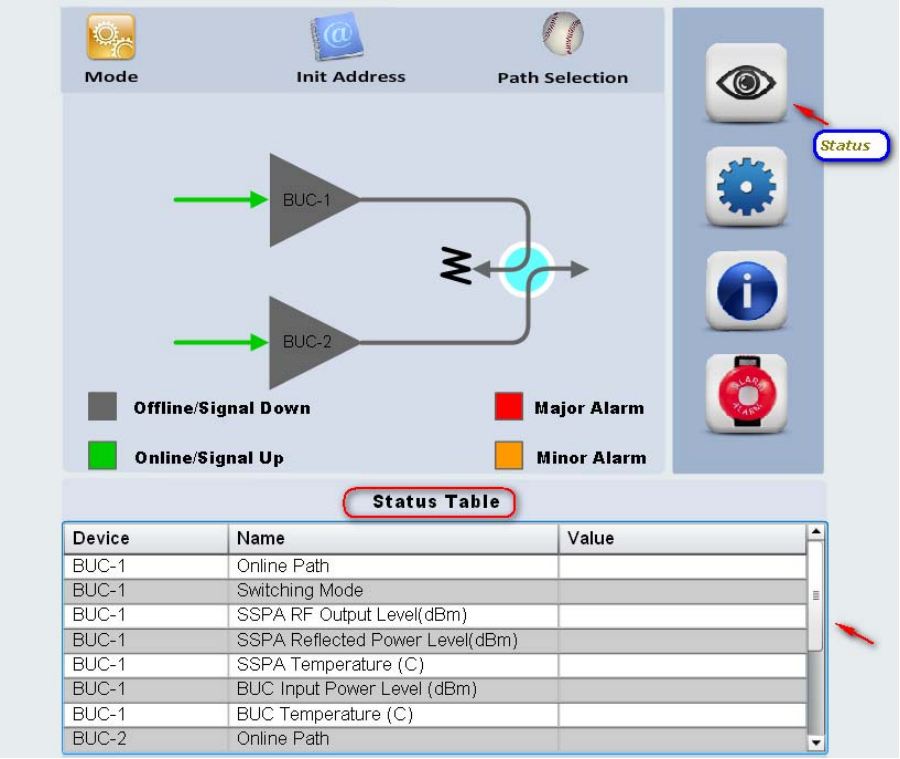


Figure 3.7 Status button

3.7.3 Configuration

Click on the '**Configuration**' icon from the control panel to SET device configuration parameters.

To change the values of the device, simply click on the boxes where the present values are being displayed. A new window would pop up for the user to enter/select the desired value. Configuration parameters are subjective to equipment type, as shown on Table 3-4 Equipment Parameters).

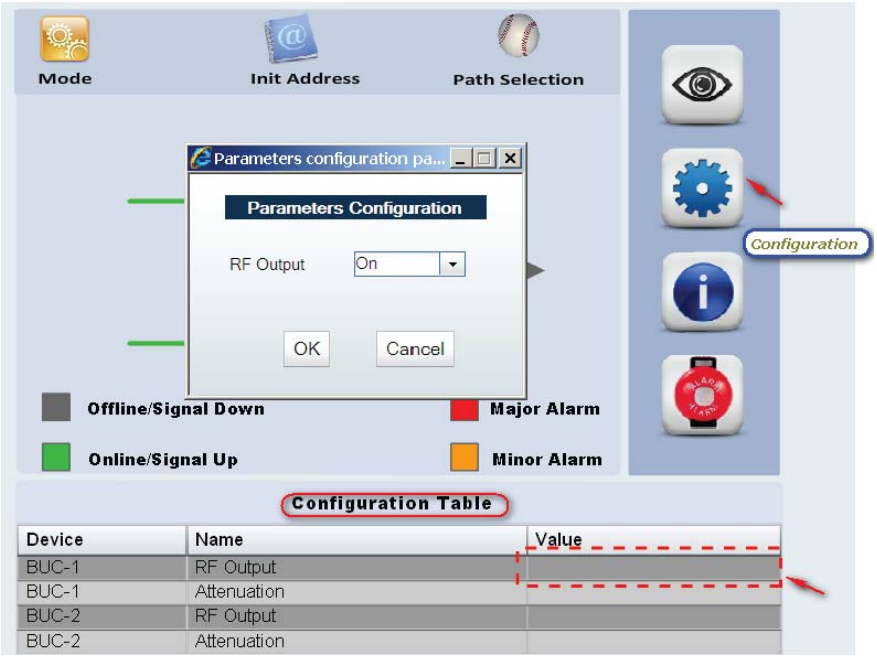


Figure 3.8 Configuration button

3.7.4 Info

Click on the '**Info**' icon to check the device information. User would be able to see all the device information in '**Info table**'.

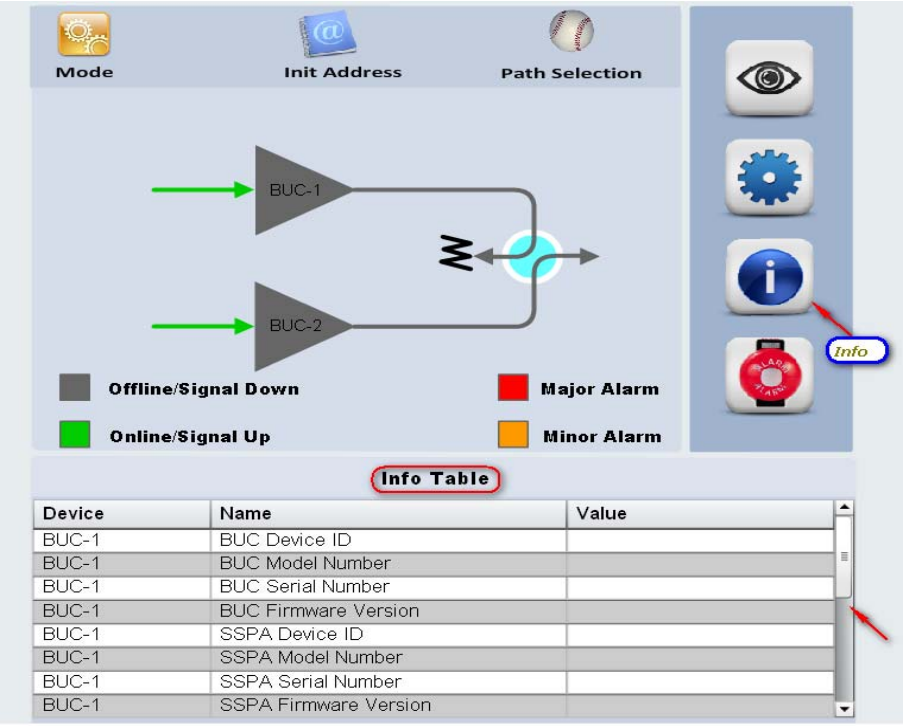


Figure 3.9 Info button

3.7.5 Alarm

Click on the '**Alarm**' icon to check the existing alarm. User would be able to see all the alarms information in '**Alarms table**'.

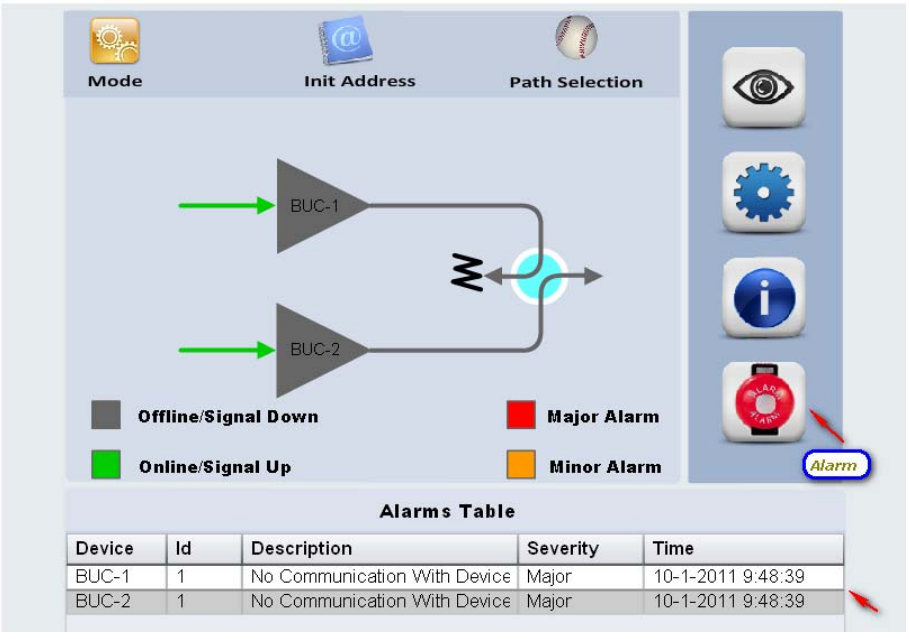


Figure 3.10 Alarm button

Click on the '**Speaker**' icon on the left hand side of the Agilis EMS (Figure 3.8 and Figure 3.9) to toggle the Audible Alarm. When this feature is enabled, a continuous beeping sound will be heard whenever there's a major alarm in the system.

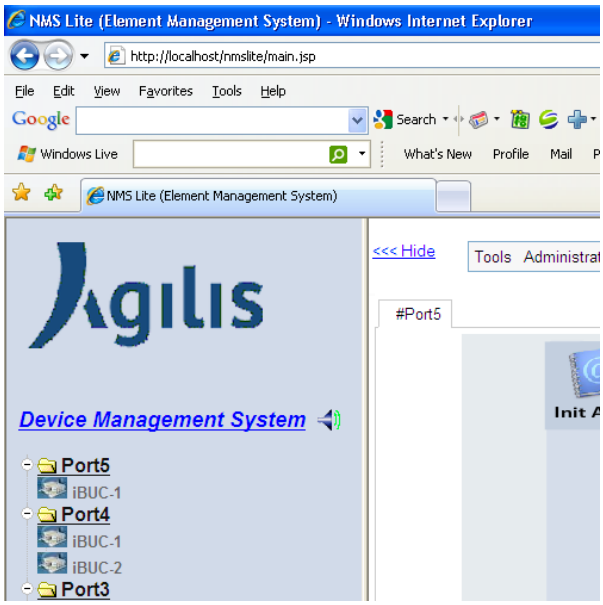


Figure 3.11 Audible alarm icon

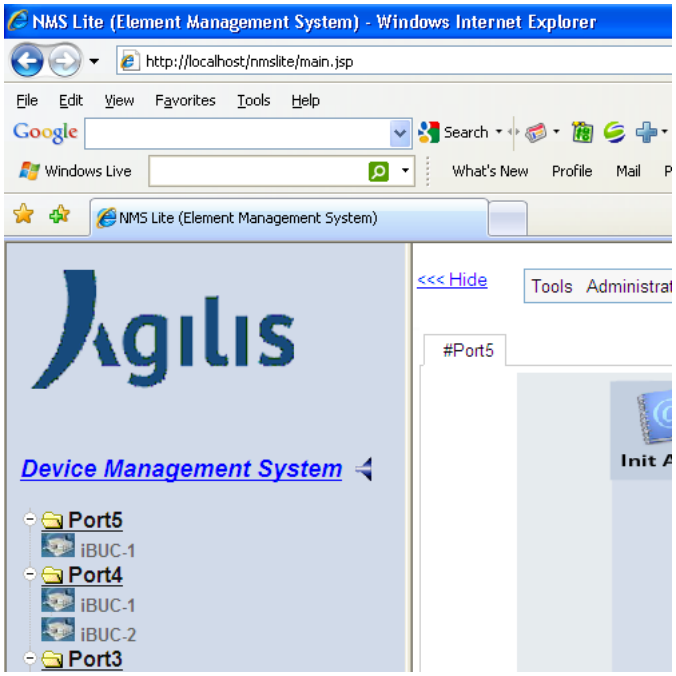


Figure 3.12 Audible alarm icon

3.7.6 Mode

User would be able to set the switching mode configuration by click on the '**Mode**' icon. A new window would pop up for the user to enter/select the desired value.

The mode icon will not appear in the top menu if the BUC (Standalone), SSPA (Standalone), iBUC (Standalone), BUC+SSPA (Integrated), AUC (Standalone), SPT (Standalone)

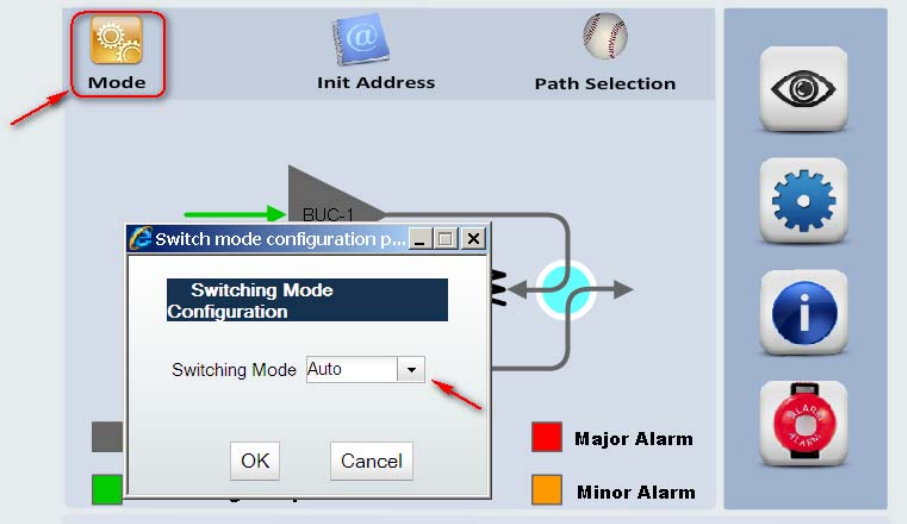


Figure 3.13 Switching Mode Configuration Window

Only applies to redundancy system configurations.

3.7.7 Init Address

For Ku-BUC and C-BUC, the address of ODU A is 001 and ODU B is 002. The method of the address-initialization is done by broadcasting a change of ID command. Every device connected to the RS485 bus (except for RCU) will change its address accordingly. Therefore, during the initialization, only the device desired to be have its ID changed (booster with M&C option, etc.) should be connected to the RCU.

Please note that in Receiver Only Redundancy Mode "**Rx Alone**", the initialize address function is not available, since there are no BUCs or booster physically connected in this mode.

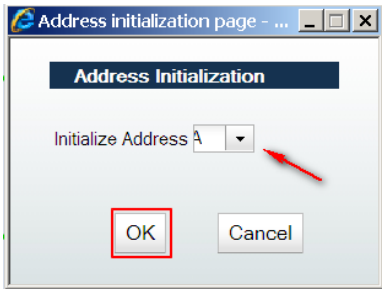
There are two types of redundancy system.

1. Internal Redundancy Control Unit
2. External Redundancy Control Unit

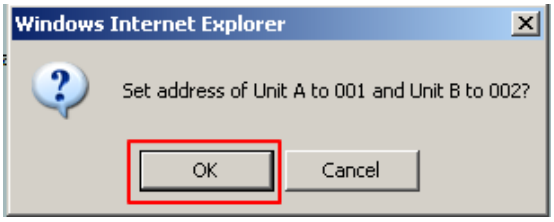
3.7.6.1 Configuration steps for internal redundancy control unit.

1. Click on "**Init Address**" button.

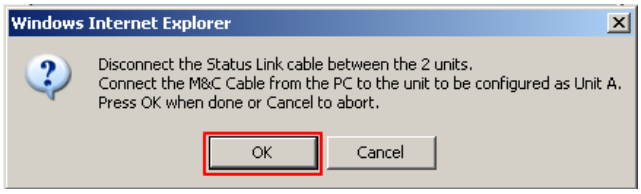
2. A new window would pop up for the user to enter/select the desired value. Select "**A**" and click '**OK**'.



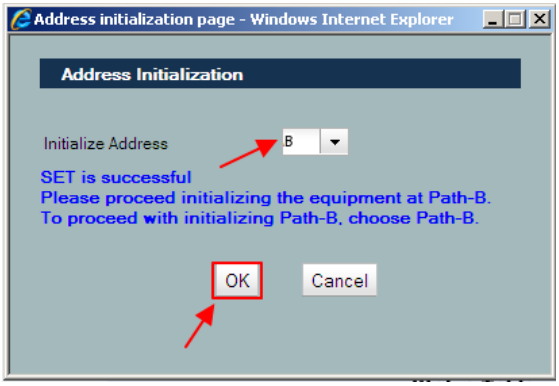
3. A dialog box would pop up for the user to confirm "Set address of Unit A to 001 and Unit B to 002". Select '**OK**'.



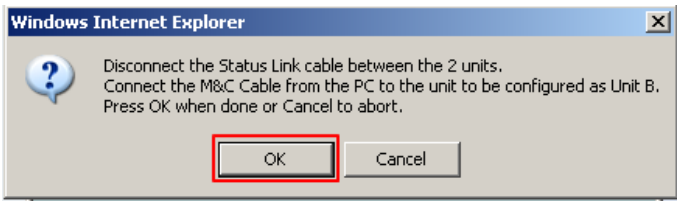
4. Another dialog box would popup for the user to confirm before initialize the address disconnect the Status link cable between the 2 units. Connect the M&C cable from the PC to the unit to be configured as Unit A. Select '**OK**'.



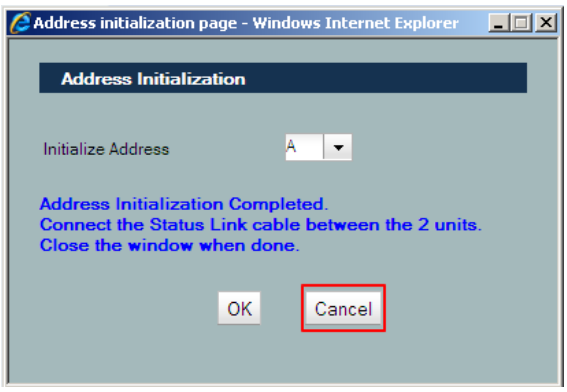
5. Success message would display after initialize Unit A. To initialize Unit B, Select "**B**" and click '**OK**'.



6. A new dialog box would pop up for the user to confirm before initialize the address disconnect the Status link cable between the 2 units. Connect the M&C cable from the PC to the unit to be configured as Unit B. Select '**OK**'.



7. Success message would display after initialize Unit B. Click '**Cancel**' or close the window.

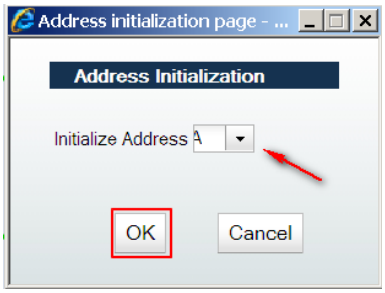


Only applies to redundancy system configurations.

3.7.6.2 Configuration steps for external redundancy control unit.

1. Click on "**Init Address**" button.

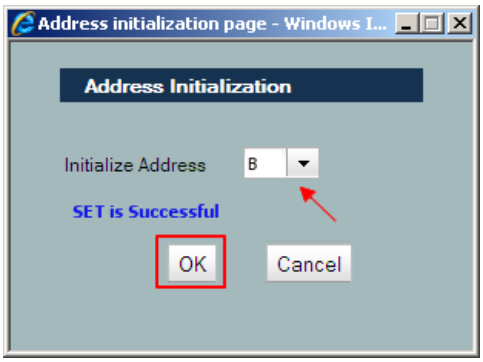
2. A new window would pop up for the user to enter/select the desired value. Select "**A**" and click '**OK**'.



3. A dialog box would pop up for the user to confirm the settings. Select '**OK**'.

4. Another dialog box would popup for the user to confirm before initialize the address connect Unit A to Status A of RCU and disconnect the other ODU form RCU. Select '**OK**'.

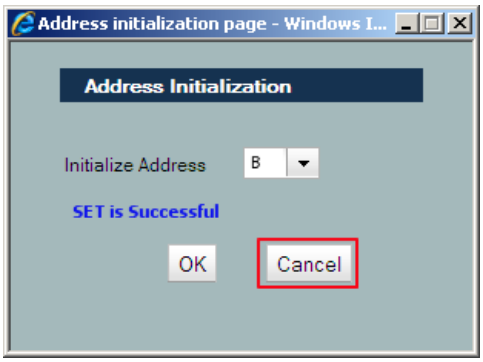
5. Success message would display after initialize Unit A. To initialize Unit B, Select "**B**" and click '**OK**'.



6. A dialog box would pop up for the user to confirm the settings. Select '**OK**'.

7. Another dialog box would popup for the user to confirm before initialize the address connect Unit B to Status B of RCU and disconnect the other ODU form RCU. Select '**OK**'

8. Success message would display after initialize Unit B. Click '**Cancel'** or close the window.



Only applies to redundancy system configurations.

3.7.8 Path Selection

User would be able to configure the Tx Path by click on the '**Path Selection**' icon. A new window would pop up for the user to enter/select the desired value.

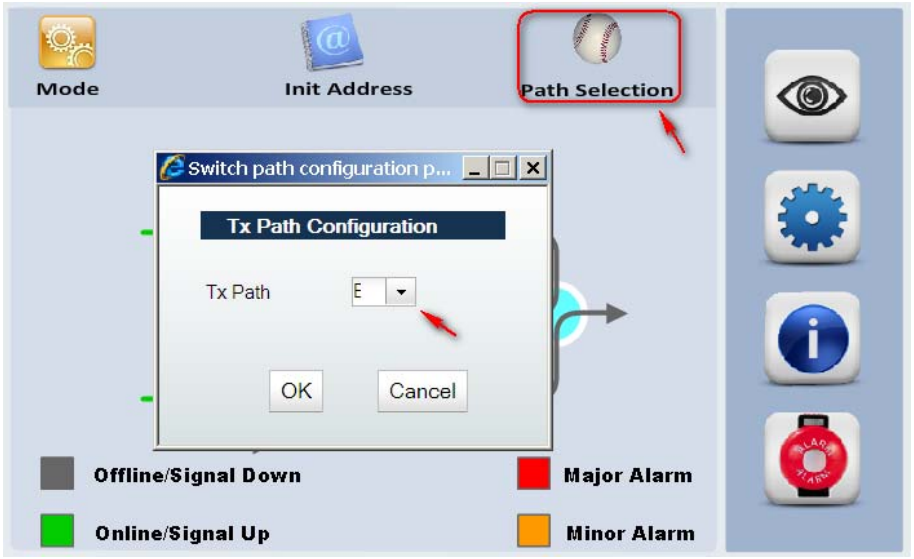


Figure 3.14 Path Selection window

Only applies to redundancy system configurations.

3.8 Functions of an Admin User

When logged is as an Admin user, (login details found in Table 1 – User Table) there are a number of administrative functions that can be done. Under the '**Administration**' tab found in the menu bar, '**Device Configuration**', and '**User Management**' are available. Apart from viewing analog charts and configure device, the admin user is able to add/update/delete the application users.

3.8.1 User Management – Add/Edit/Delete User

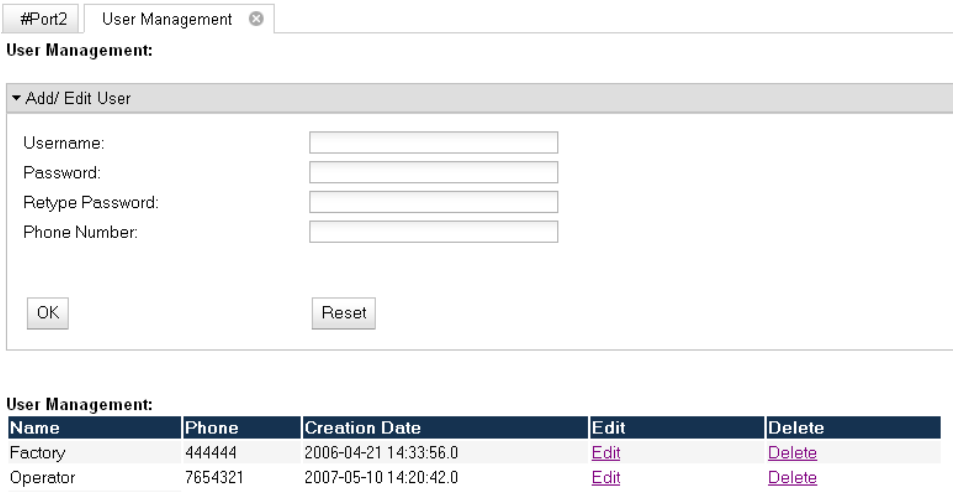


Figure 3.15 User Management tab

The User Management window shown above allows the adding of a new user. Simply,

1. Fill in '**Username**' field
2. Fill in '**Password**' field
3. Retype '**Password**'
4. Fill in '**Phone Number**' (Optional)
5. Click '**OK**' to add

The new user would be added to the system and the details would be reflected in the User Management table.

In order to add another user, click on the 'Reset' button before proceeding.

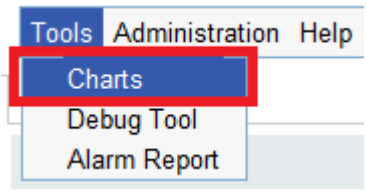
To edit a current user, click on the '**Edit**' option found in the user table of a particular user that needs update. Upon clicking, the user information would be displayed in the textboxes. After editing, click on the '**OK**' button to save the changes. The updated information of the user would be refreshed in the table.

Only User Name and Phone Number are visible. The password field will not be available for viewing.

In order to delete a user, click the '**Delete**' option to execute the deletion of the user.

3.9 Analog Charts

Analog charts allow the user to view selected parameters over time in a graph. The option is accessible from the top menu namely '**Tools**' >'**Charts**'. A new window will pop up when the '**Chart**' option is clicked.



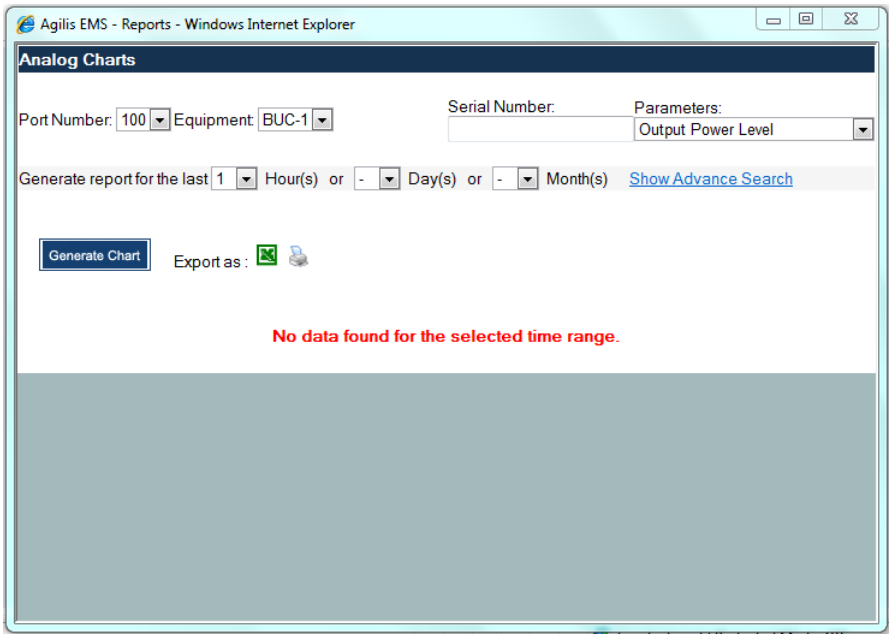


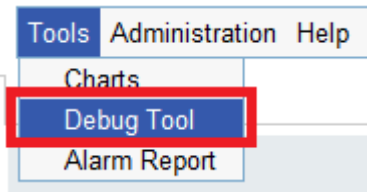
Figure 3.16 Analog Chart window

To view the status over a period of time, do the following:

1. Select '**Port Number**'
2. Select '**Equipment**'
3. Enter the device '**Serial Number**'
4. Select desired '**Parameters**'
5. Set desired time frame via '**Hour**', '**Day**' or '**Month**' list box
6. Click on '**Generate Report**'

3.10 Debug Tool

Debug Tool allows the user to monitor the selected port. The option is accessible from the top menu namely '**Tools'** > '**Debug Tool'**. A new window would pop up when the '**Debug Tool**' option is clicked.



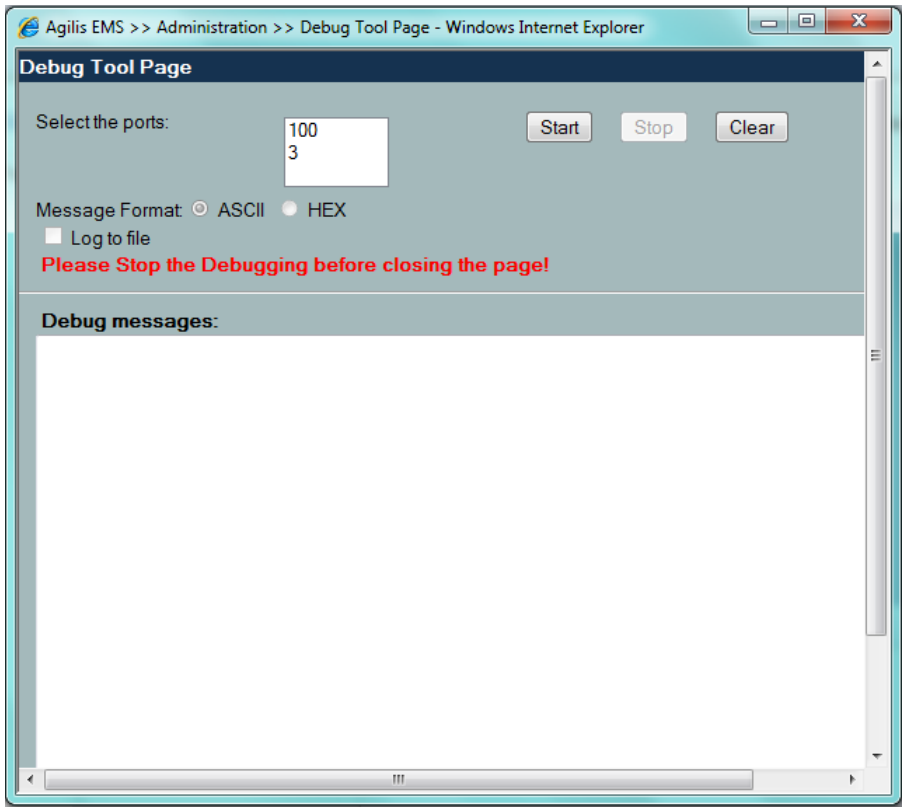


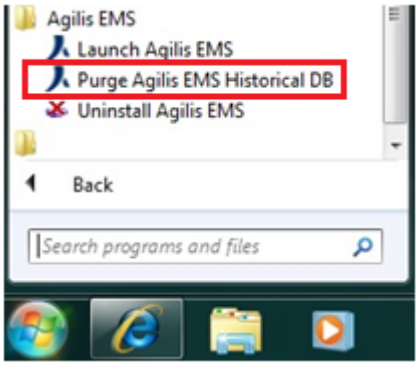
Figure 3.17 Debug Tool window

3.11 Purging Historical Analog and Alarm Data

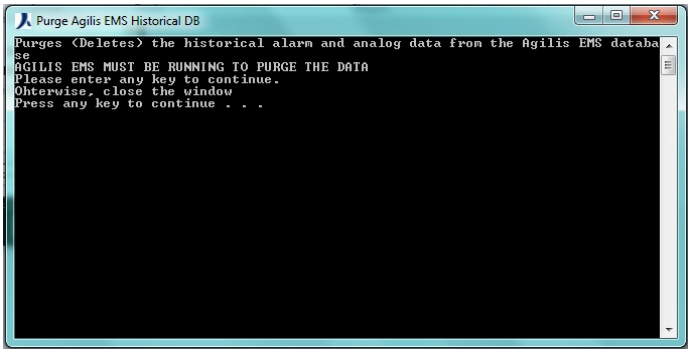
When Agilis EMS is running over a certain period of time, (for e.g. about 1 month), the used analog and alarm data gets accumulated in the database. Hence, it should be cleared occasionally to avoid unnecessary hard disk space consumption.

To clear the historical analog and alarms data, follow the steps below:

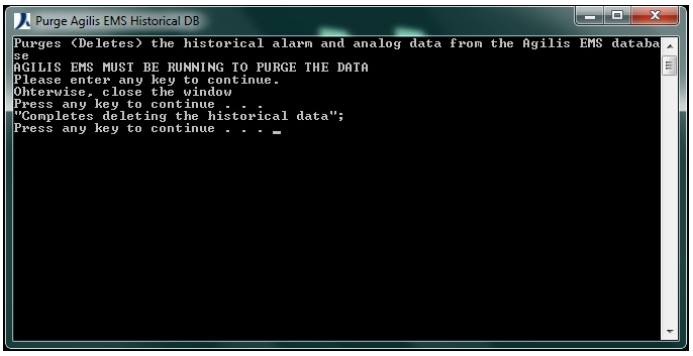
1. Click **Start** > **All Programs** > **Agilis EMS**, Select '**Purge Agilis EMS Historical DB**'.



2. A command prompt window will pop-up. **Press any key to continue**.



3. The command prompt window will again indicate to **Press any key to continue**. Pressing any key will complete the purging process and the command prompt window will automatically close.



Agilis EMS has to run during this purging process.

3.12 Device Setup

The Agilis EMS software displays the block diagrams of the configured devices on the control panel. The block diagrams displayed on the control panel will depend on the combination of devices selected during device configuration.

The figures shown below are the block diagrams of the different combinations of devices on Standalone mode, Integrated mode, and 1:1 Redundancy mode.

<table>
<tr><th>Standalone</th><th>Integrated</th><th>1:1</th><th>1:2</th></tr>
<tr><td>▪ BUC</td><td rowspan="10">▪ BUC + SSPA</td><td>▪ BUC+RCU(Tx)</td><td rowspan="3">▪ LNB+RCU (Rx)</td></tr>
<tr><td>▪ SSPA</td><td>▪ BUC+RCU (Tx&Rx)</td></tr>
<tr><td>▪ MBUC</td><td>▪ MBUC+RCU(Tx)</td></tr>
<tr><td>▪ iBUC</td><td>▪ SSPA+RCU(Tx)</td><td rowspan="3">▪ BUC+RCU (Tx)</td></tr>
<tr><td>▪ RCU (Rx)</td><td>▪ SSPA+RCU (Tx&Rx)</td></tr>
<tr><td>▪ RCU (Tx)</td><td>▪ BUC+SSPA+RCU (Tx)</td></tr>
<tr><td>▪ RCU (Tx&Rx)</td><td>▪ BUC+SSPA+RCU (Tx&Rx)</td><td rowspan="3">▪ MBUC+RCU (Tx)</td></tr>
<tr><td>▪ SPT</td><td>▪ iBUC</td></tr>
<tr><td>▪ AUC</td><td>▪ LNB+RCU(Rx)</td></tr>
</table>

Table 3-3 Combination of Devices for each mode

Configuring a device or a combination of devices for different modes will require the user to follow **steps 1-4** in section '**3.6.6 Example: Configuring a Standalone BUC**'.

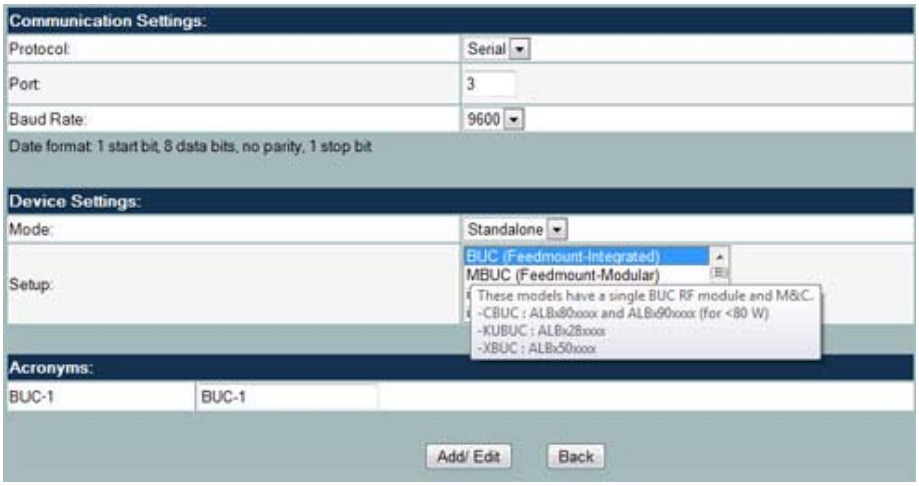
On the '**Device Settings**' portion (**step 5**), use the examples below as reference for the different device combinations that needs to be set-up.

Follow **steps 6-9** in section '**3.6.6 Example: Configuring a Standalone BUC**' to finish the configuration process.

3.12.2 Standalone Mode

1. BUC Standalone Configuration

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: BUC (Feedmount-Integrated)



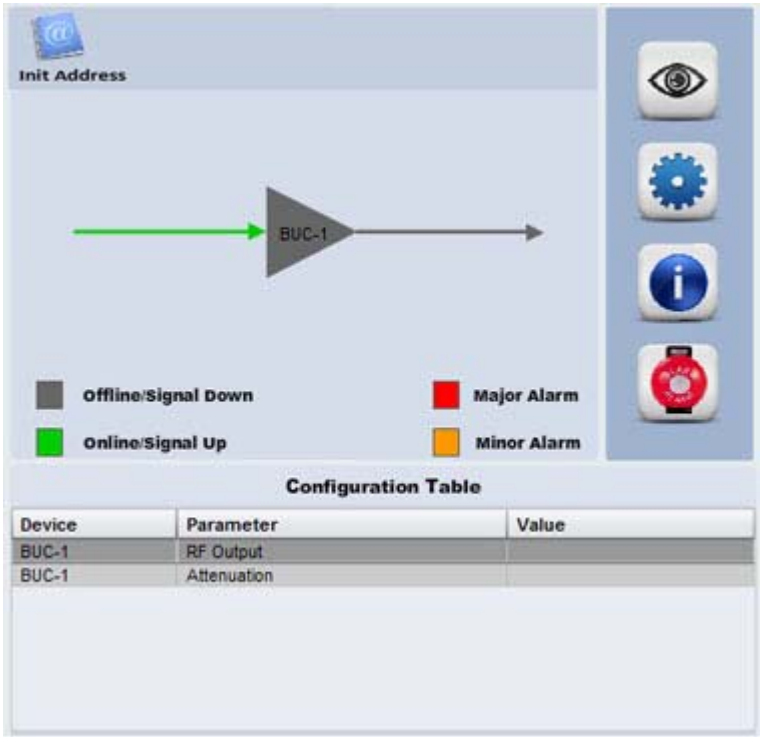
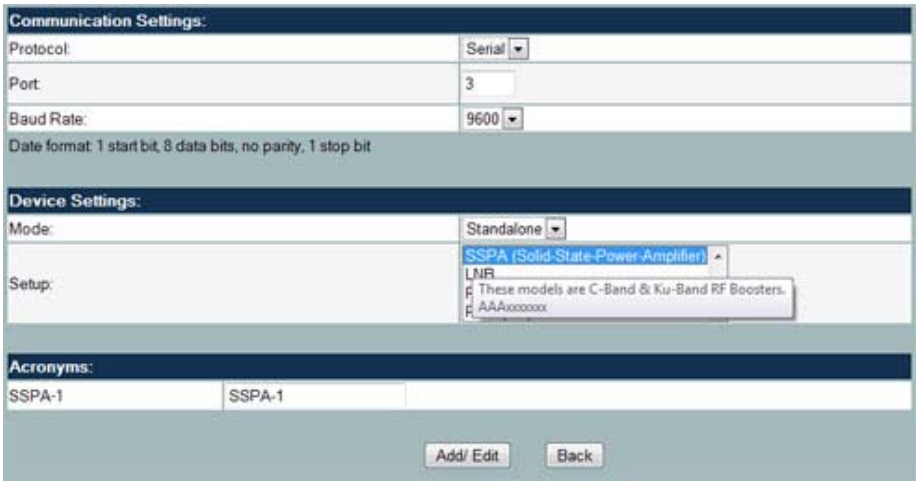


Figure 3.18 BUC Standalone

2. SSPA Standalone Configuration

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: SSPA (Solid-State-Power-Amplifier)



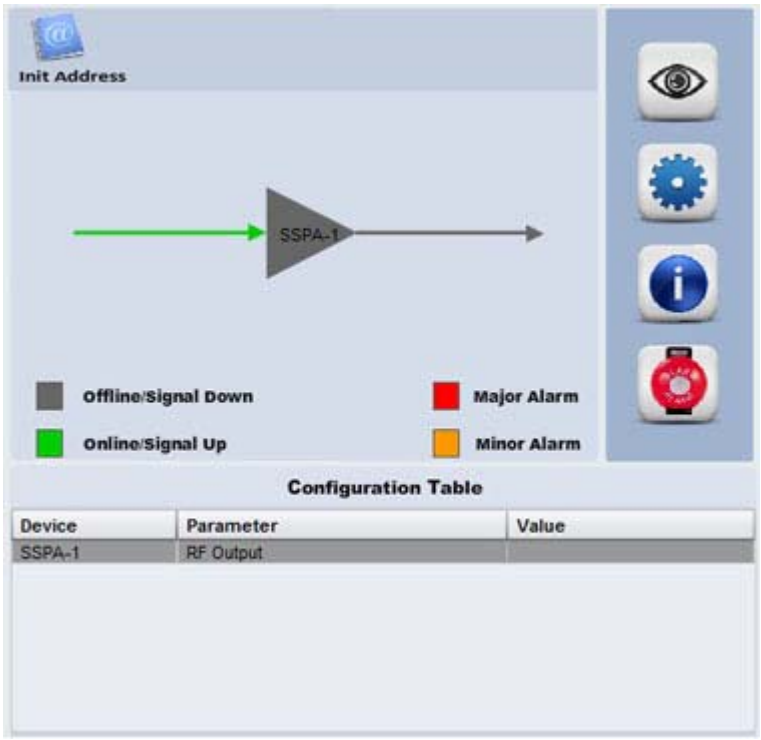
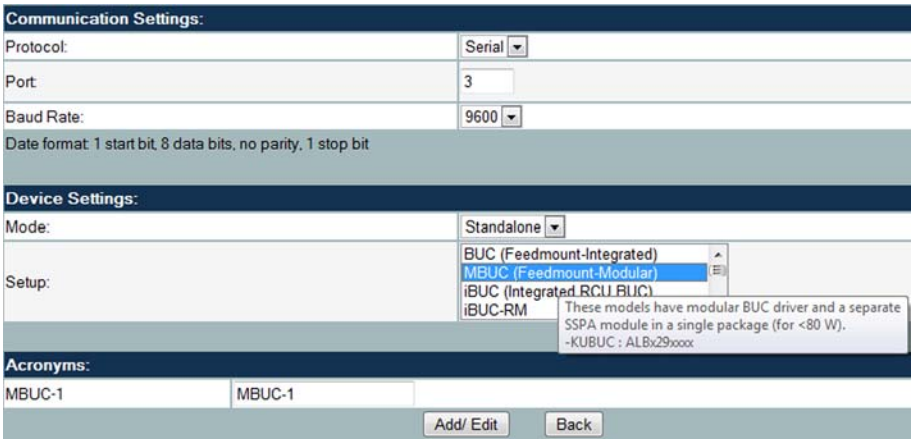


Figure 3.19 SSPA Standalone

3. MBUC Standalone Configuration

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: MBUC (Feedmount-Modular)



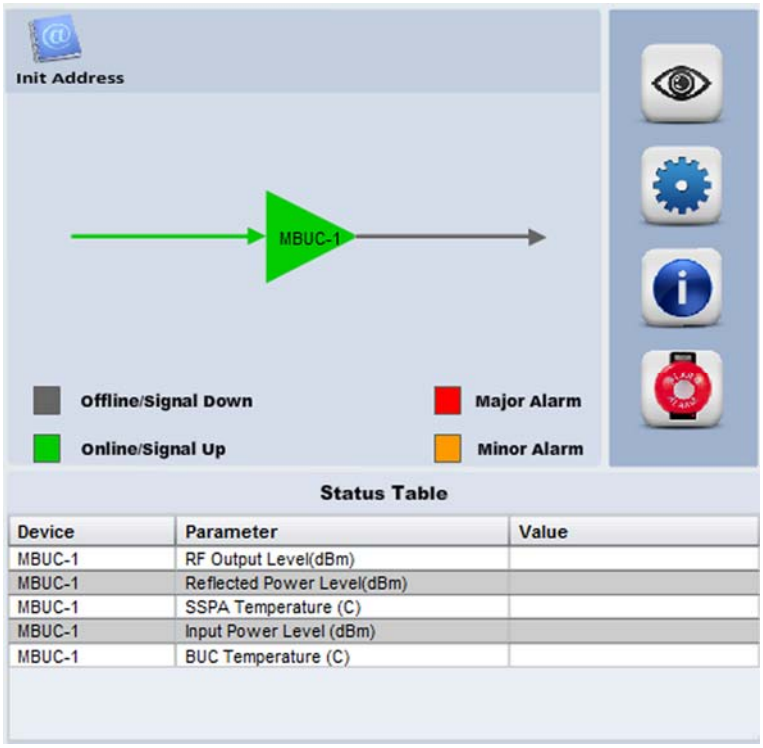
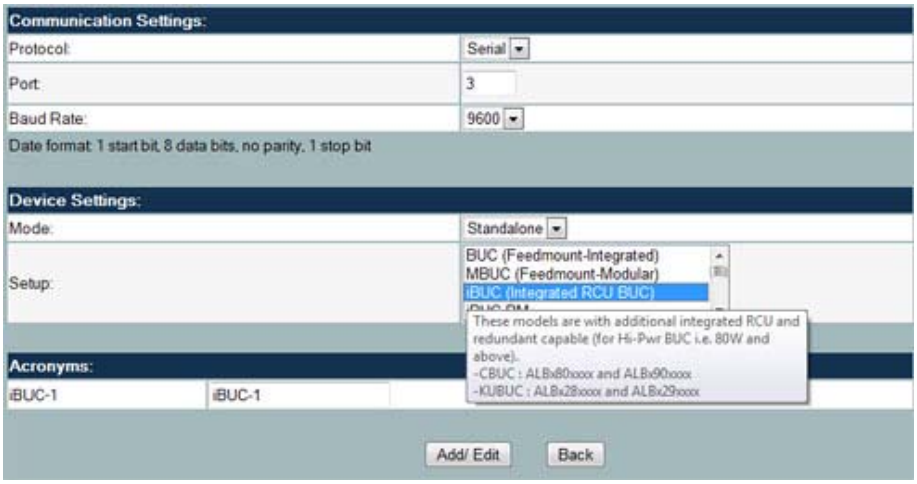


Figure 3.20 MBUC Standalone

4. iBUC Standalone Configuration

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: iBUC (Integrated RCU BUC)



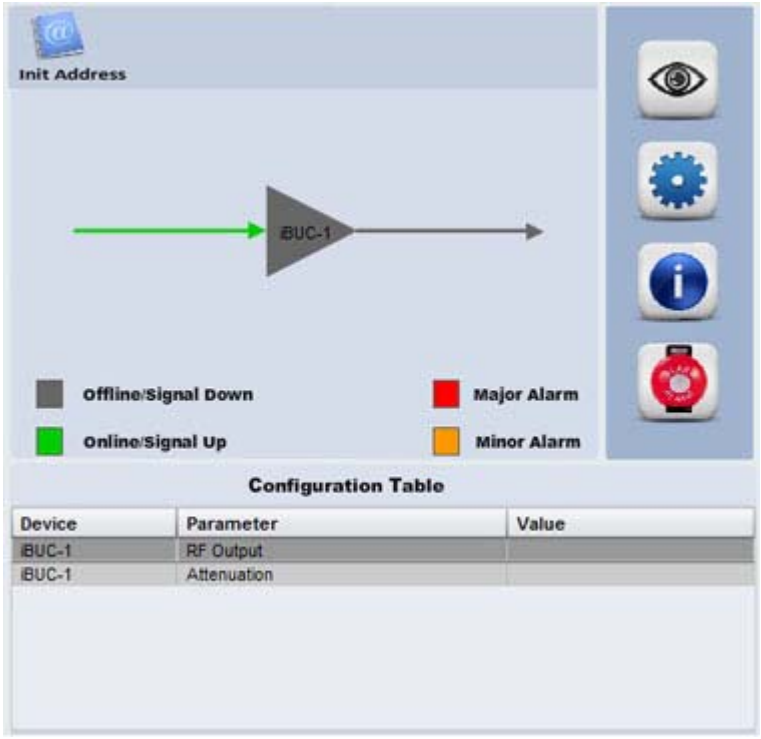
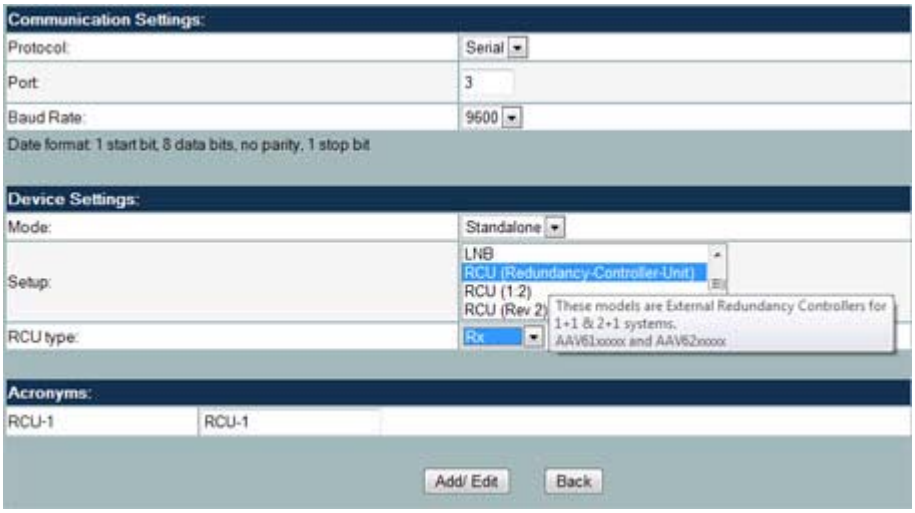


Figure 3.21 iBUC Standalone

5. RCU (Rx) Standalone

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: RCU (Redundancy-Controller-Unit)
RCU type: Rx



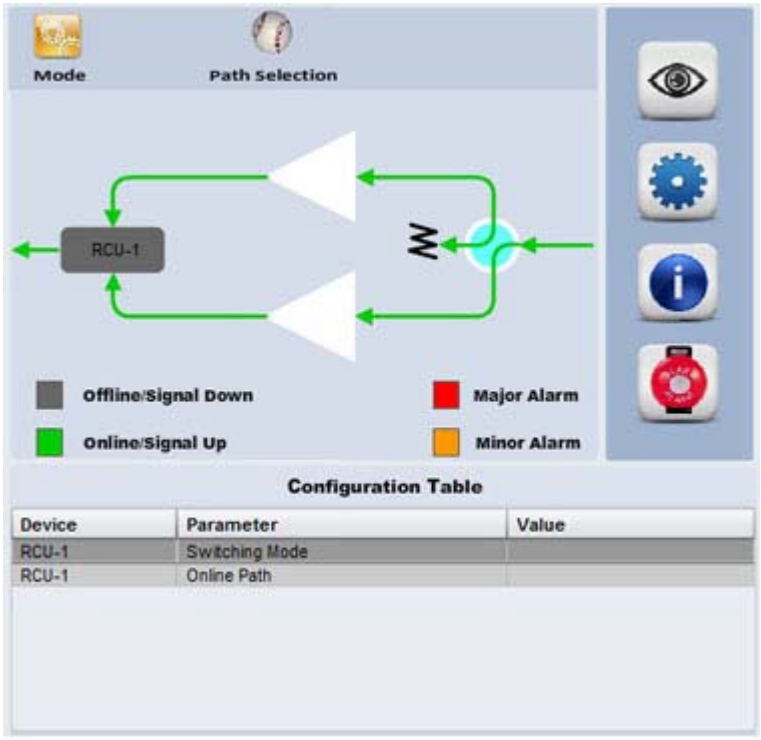
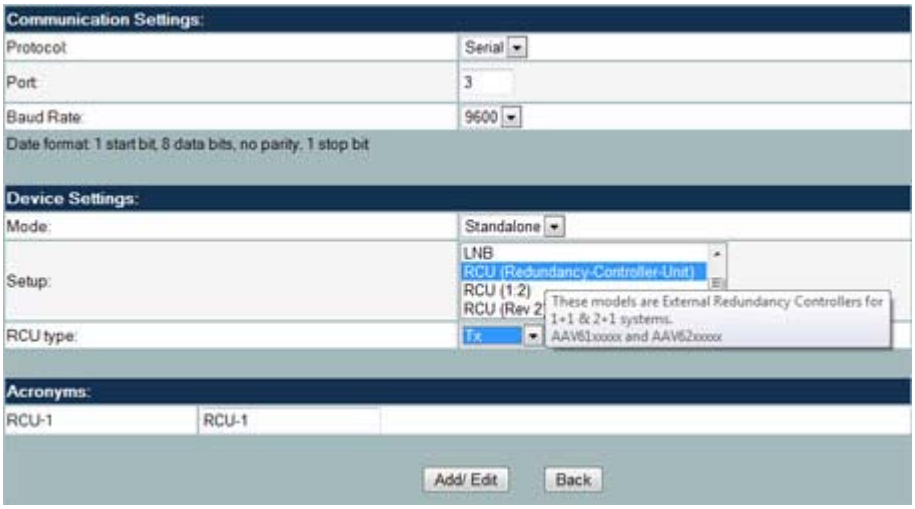


Figure 3.22 RCU (Rx) Standalone

6. RCU (Tx) Standalone

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: RCU (Redundancy-Controller-Unit)
RCU type: Tx



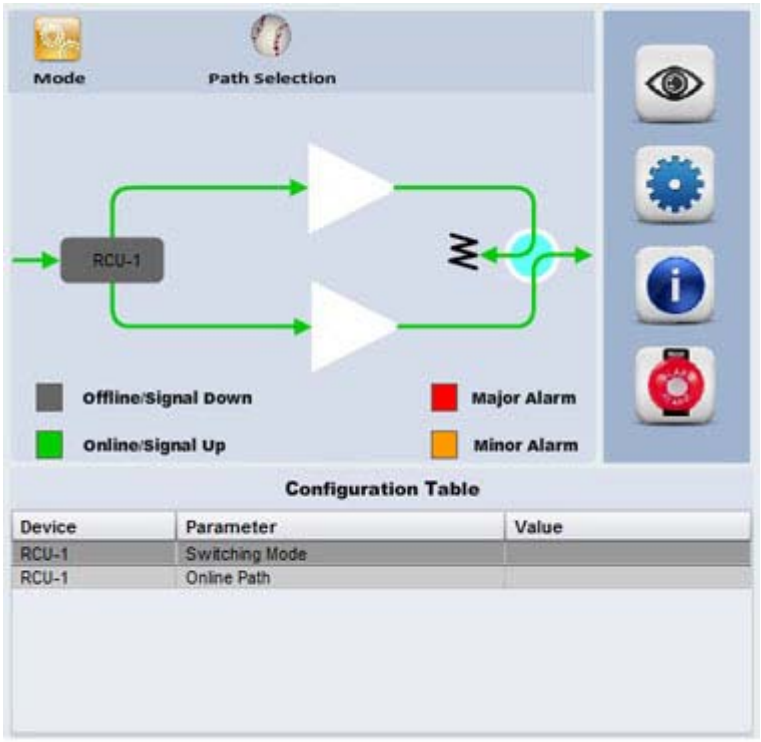
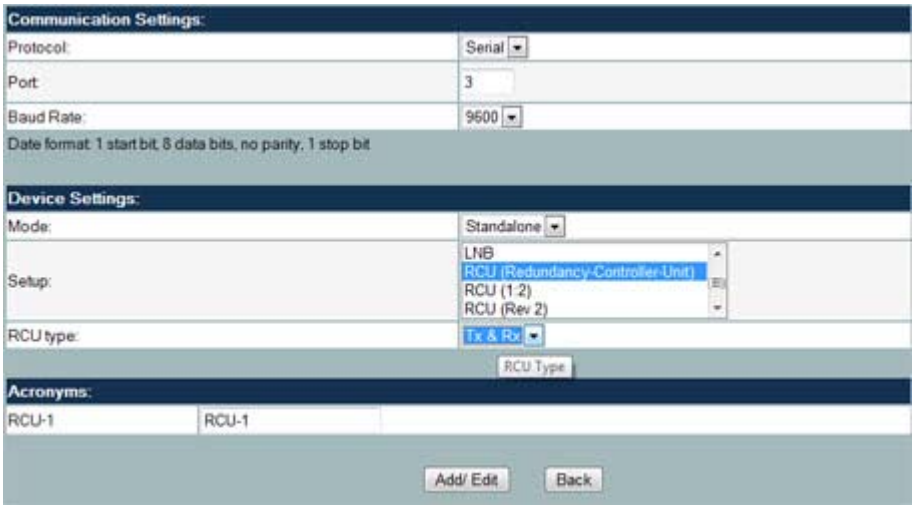


Figure 3.23 RCU Tx Standalone

7. RCU (Tx&Rx)

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: RCU (Redundancy-Controller-Unit)
RCU type: Tx & Rx



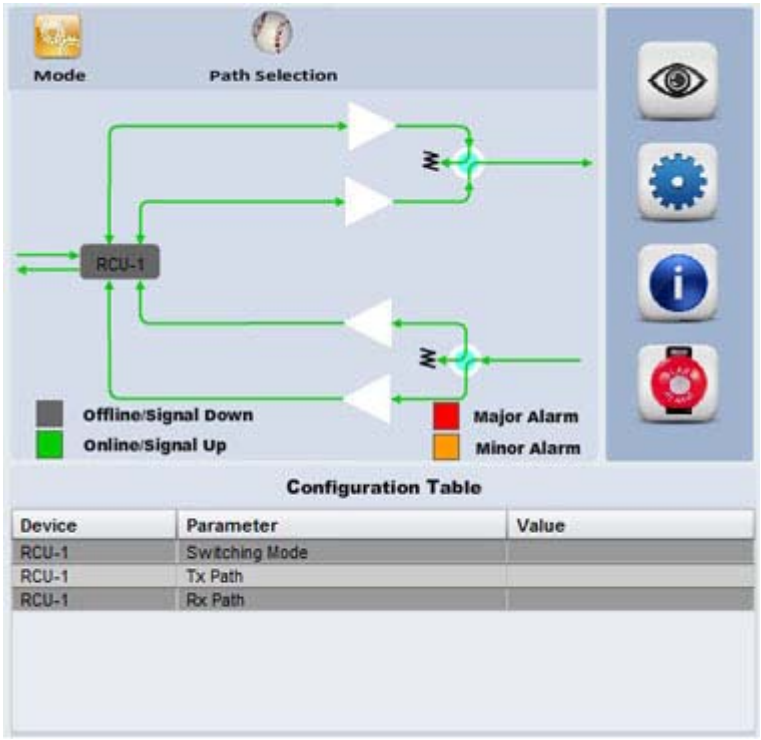
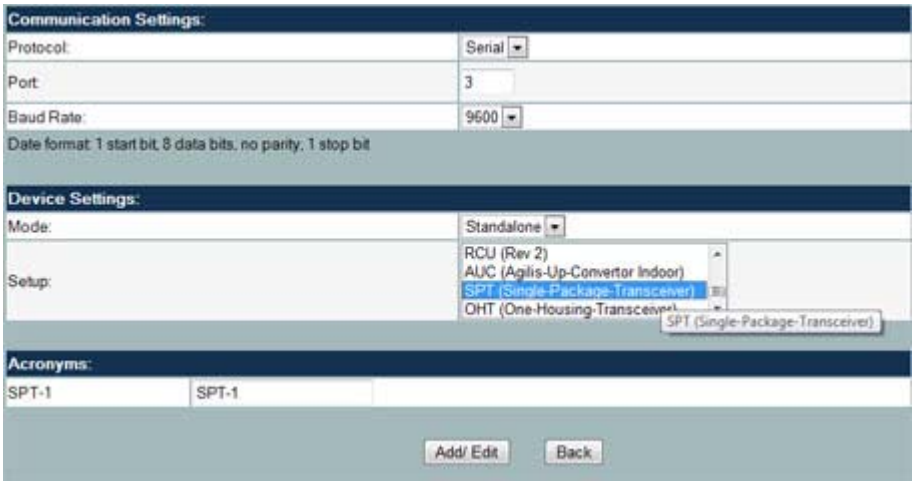


Figure 3.24 RCU (Tx&Rx)

8. SPT Standalone

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: SPT (Single-Package-Transceiver)



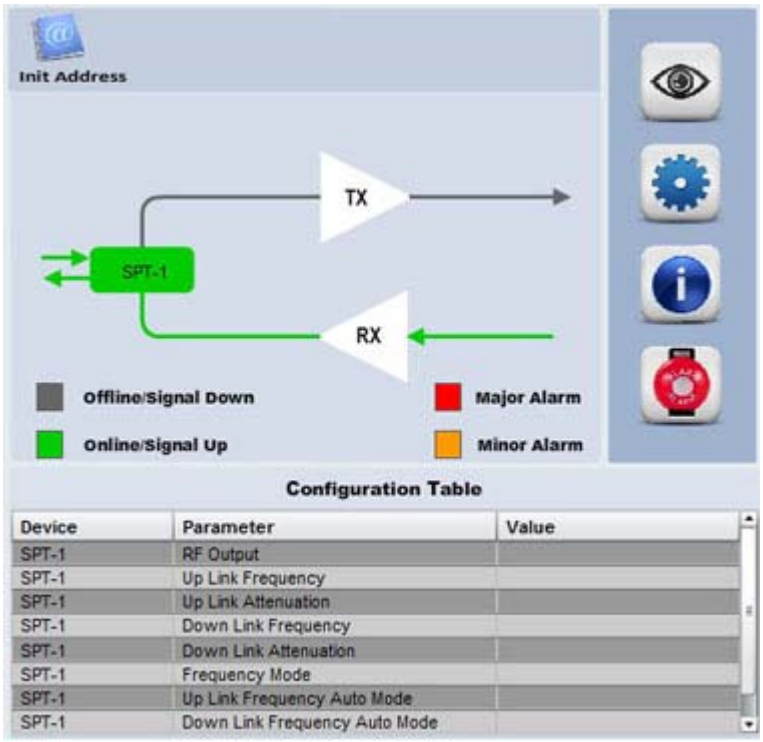
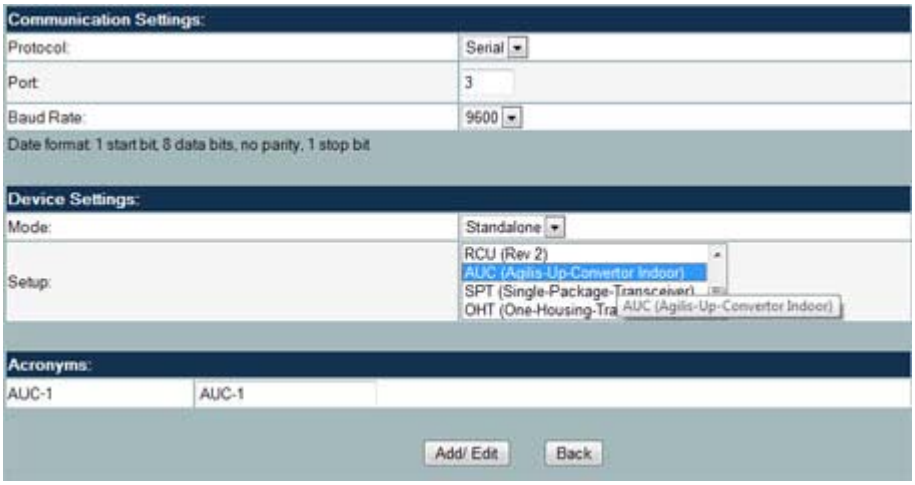


Figure 3.25 SPT Standalone

9. AUC Standalone

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: Standalone
Setup: AUC (Agilis-Up-Convertor Indoor)



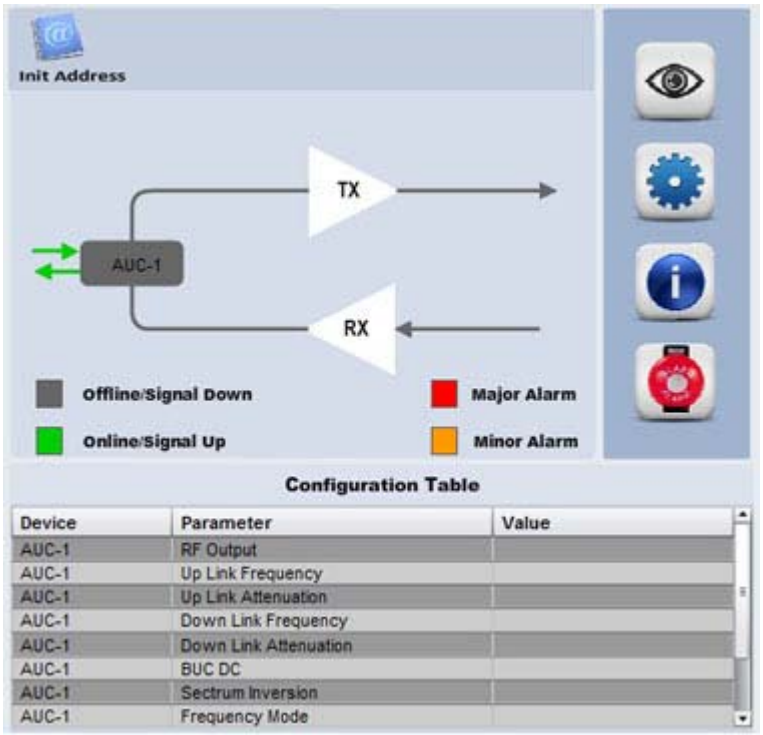
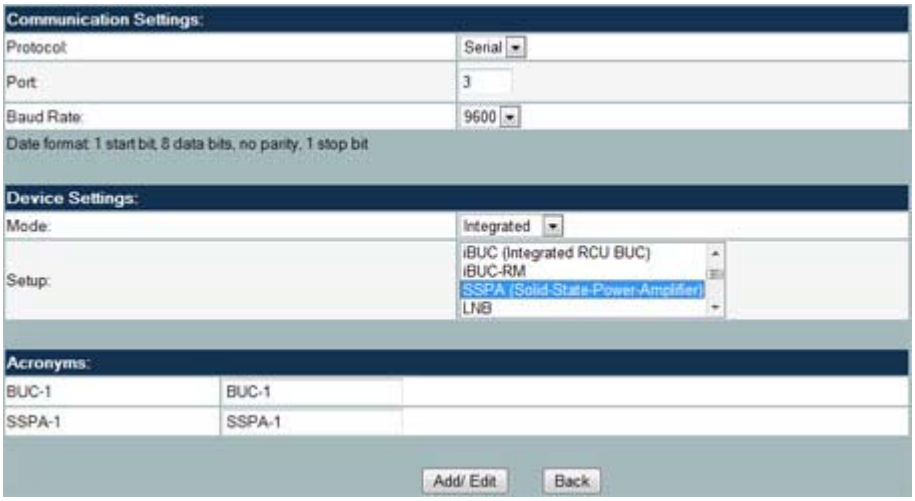


Figure 3.26 AUC Standalone

3.12.3 Integrated Mode

1. BUC + SSPA Integrated Mode

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: Integrated	
Setup: BUC + SSPA	(click **BUC** + Hold '**Ctrl**' and click **SSPA)**



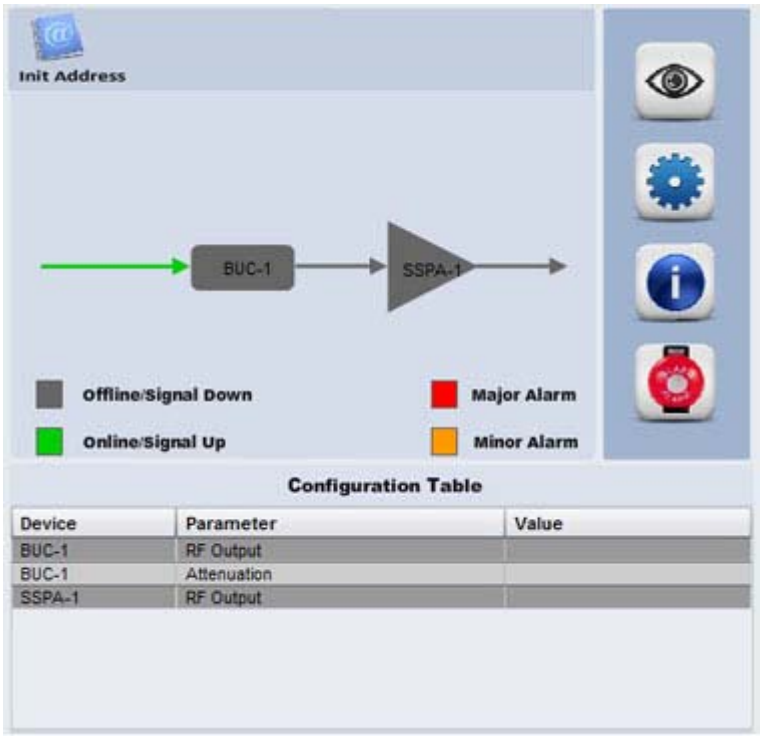
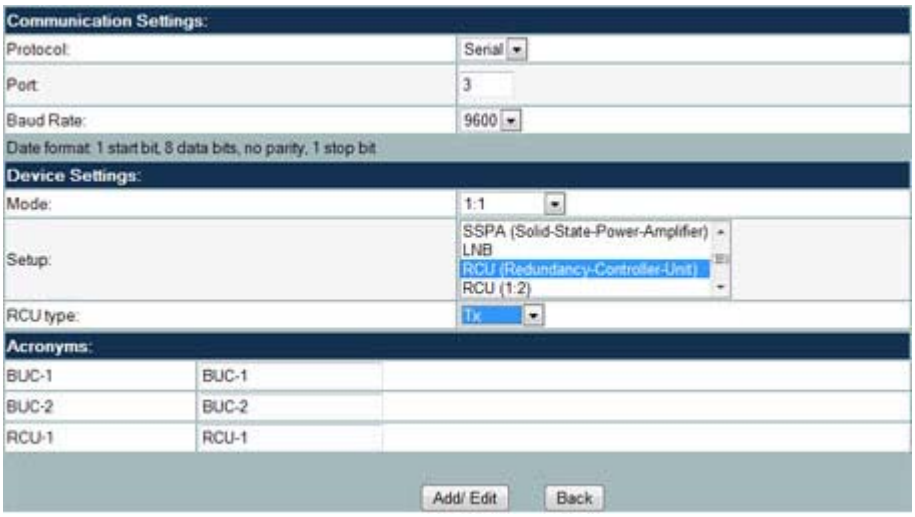


Figure 3.27 BUC + SSPA Integrated Mode

3.12.4 1:1 Redundancy Mode

1. BUC + RCU (Tx)

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:1	
Setup: BUC + RCU	(click **BUC** + Hold '**Ctrl**' and click **RCU)**
RCU type: Tx	



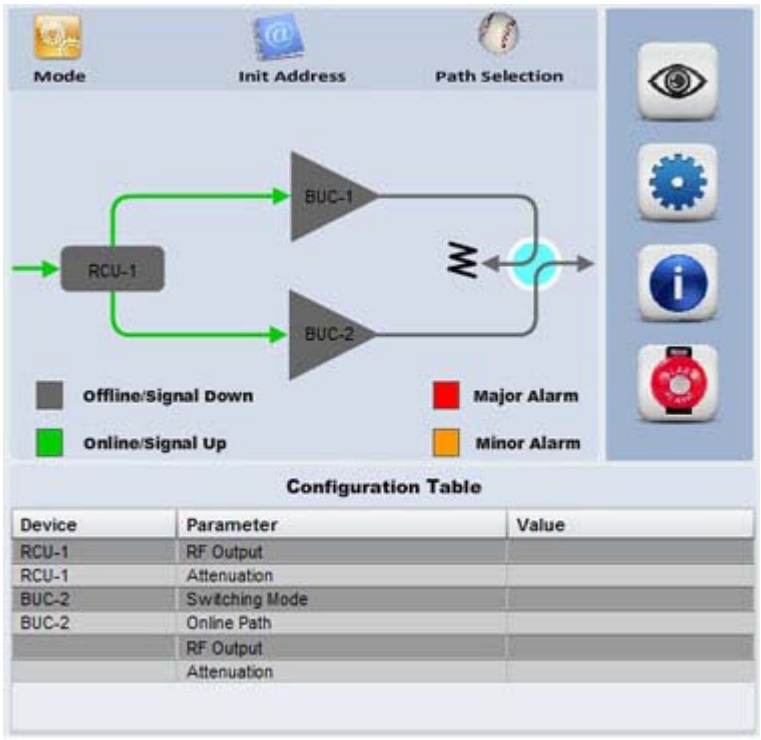
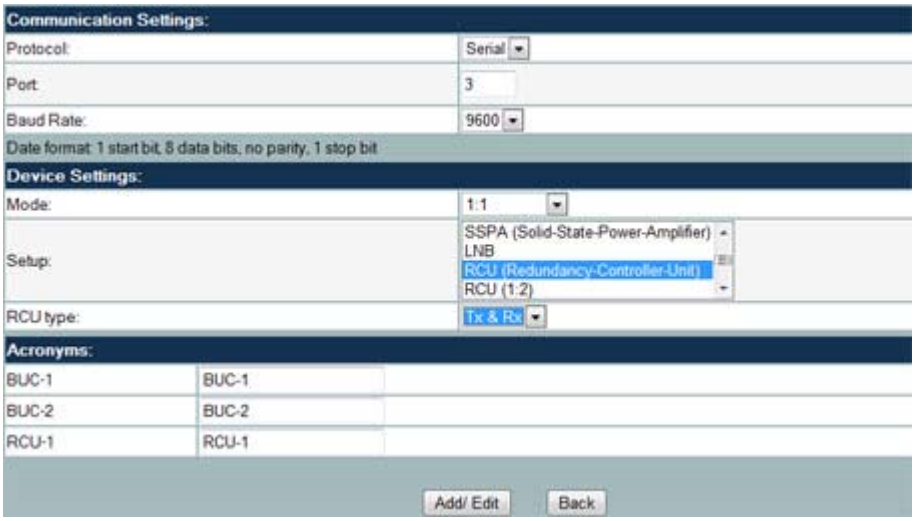


Figure 3.28 BUC + RCU (Tx)

2. BUC + RCU (Tx&Rx)

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:1	
Setup: BUC + RCU	(click **BUC** + Hold '**Ctrl**' and click **RCU)**
RCU type: Tx & Rx	



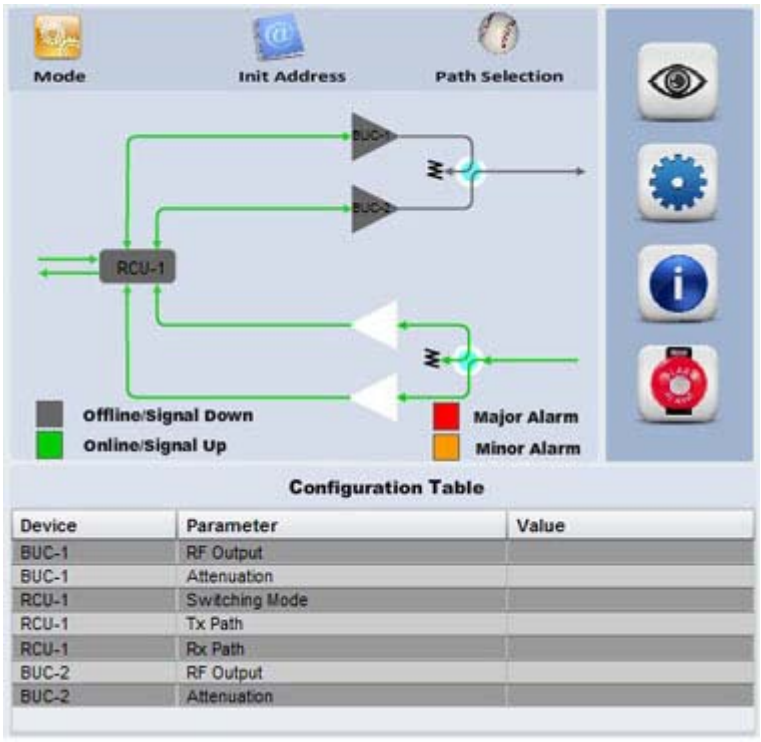
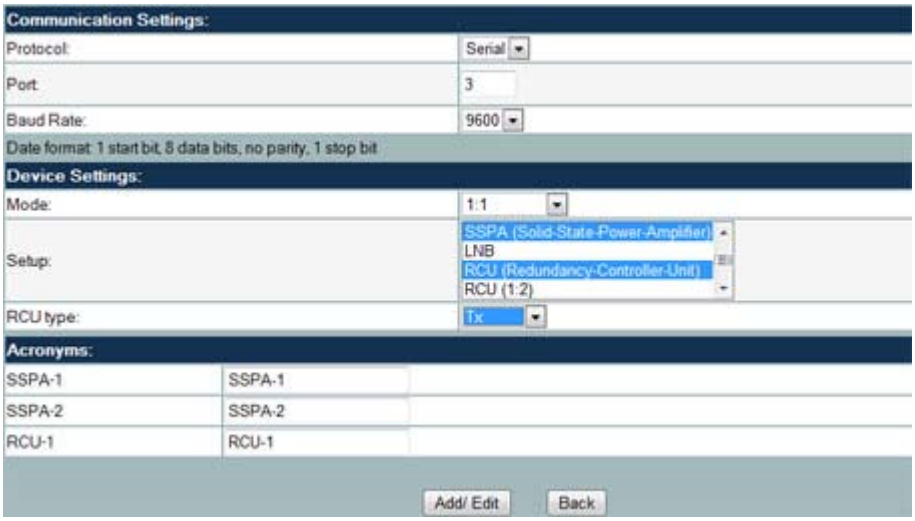


Figure 3.29 BUC + RCU (Tx&Rx)

3. SSPA + RCU (Tx)

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:1	
Setup: SSPA + RCU	(click **SSPA** + Hold '**Ctrl**' and click **RCU)**
RCU type: Tx	



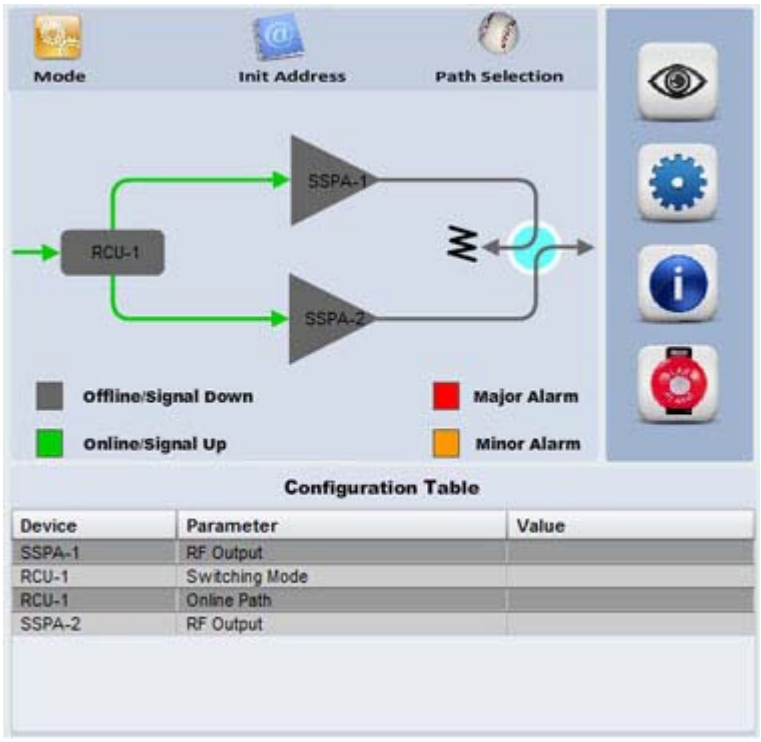
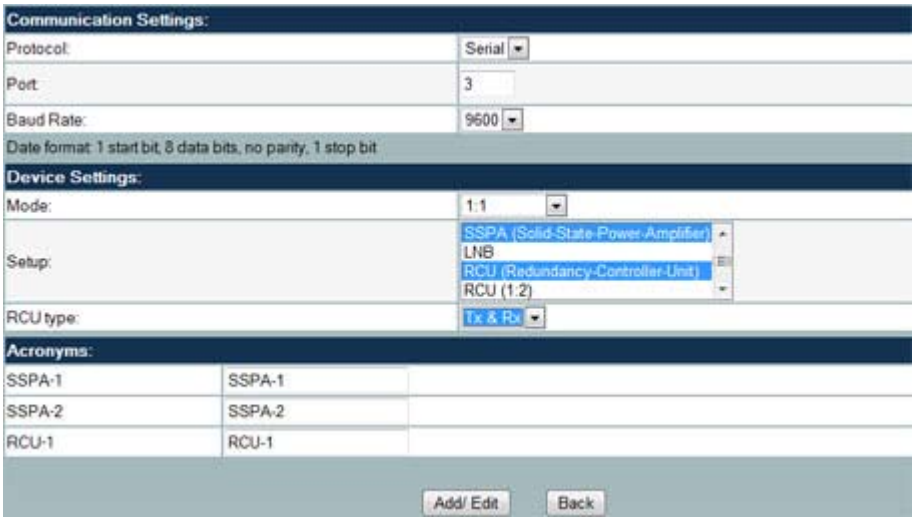


Figure 3.30 SSPA + RCU (Tx)

4. SSPA + RCU (Tx&Rx)

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:1	
Setup: SSPA + RCU	(click **SSPA** + Hold '**Ctrl**' and click **RCU)**
RCU type: Tx & Rx	



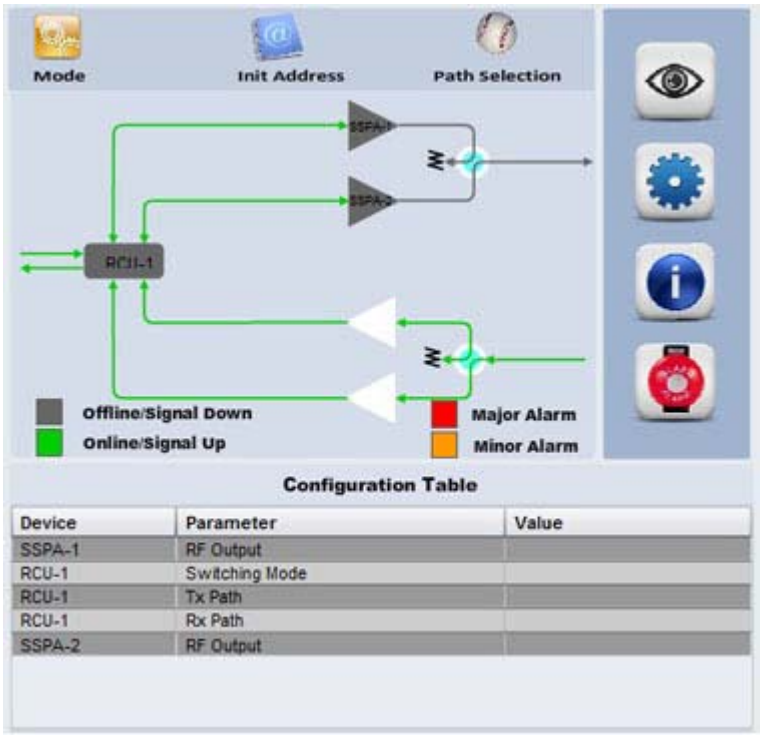
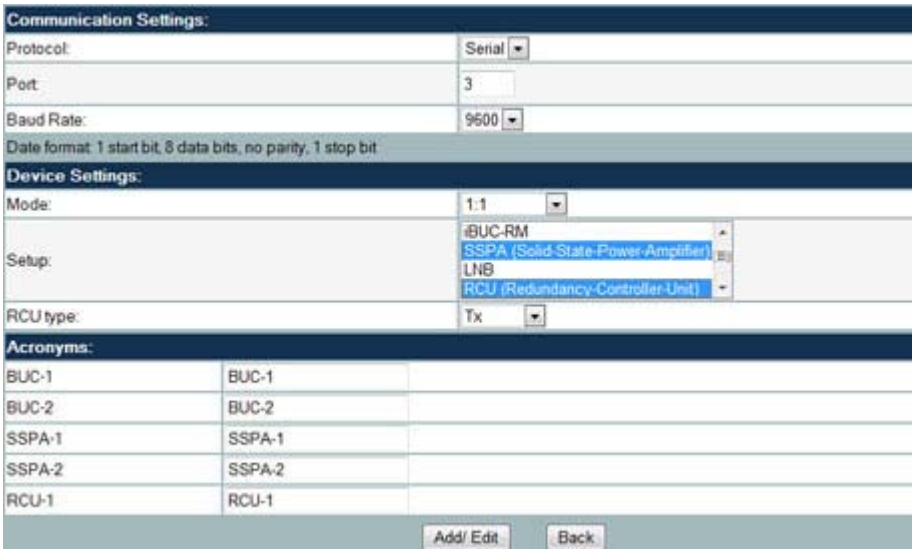


Figure 3.31 SSPA + RCU (Tx&Rx)

5. BUC + SSPA + RCU (Tx)

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:1	
Setup: BUC + SSPA + RCU	(click BUC + Hold '**Ctrl**' and click **SSPA** + Hold '**Ctrl**' and click **RCU)**
RCU type: Tx	



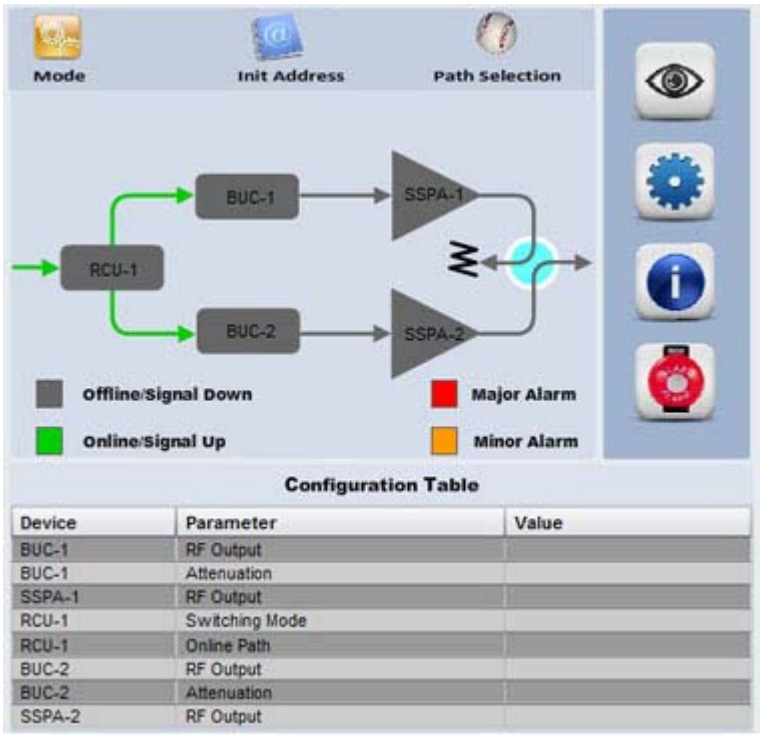
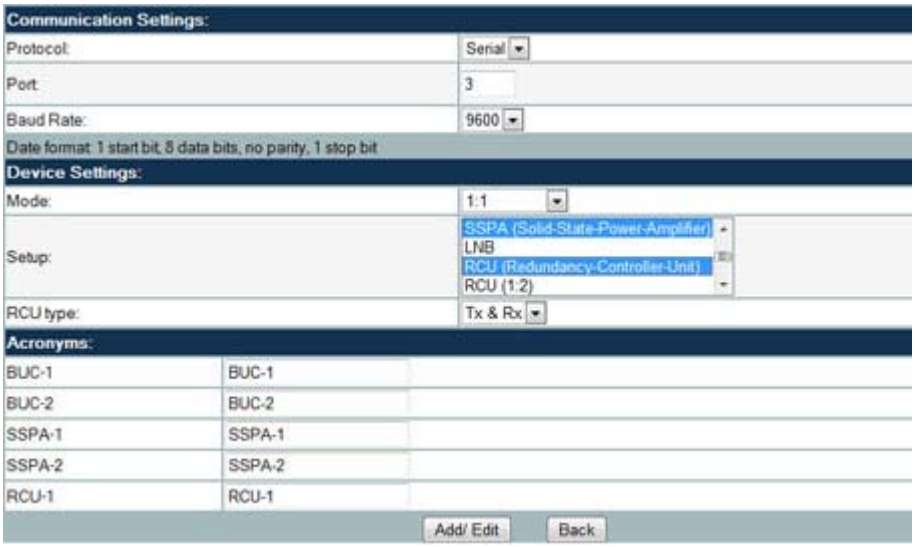


Figure 3.32 BUC + SSPA + RCU (Tx)

6. BUC + SSPA + RCU (Tx & Rx)

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:1	
Setup: BUC + SSPA + RCU	(click BUC + Hold '**Ctrl**' and click **SSPA** + Hold '**Ctrl**' and click **RCU)**
RCU type: Tx & Rx	



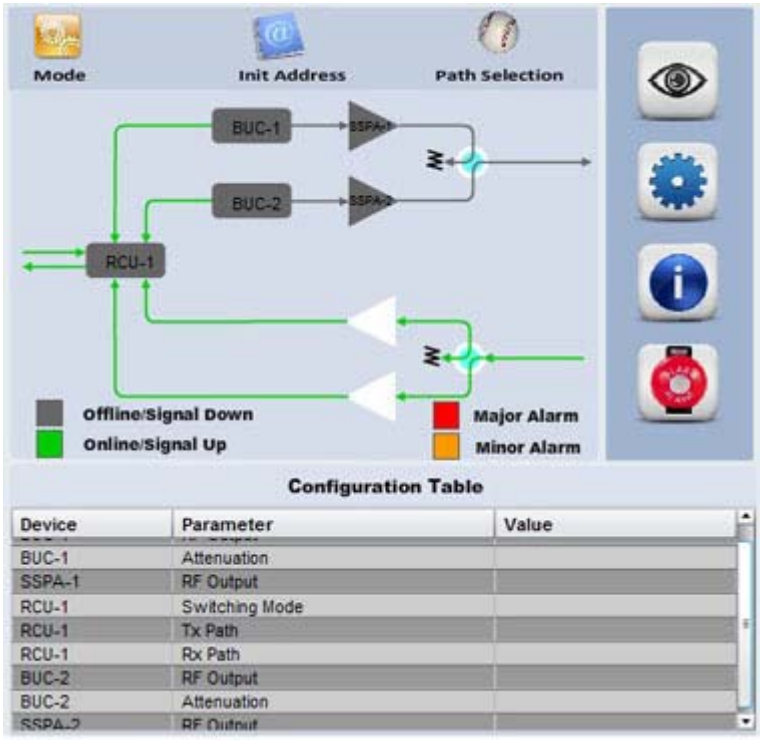
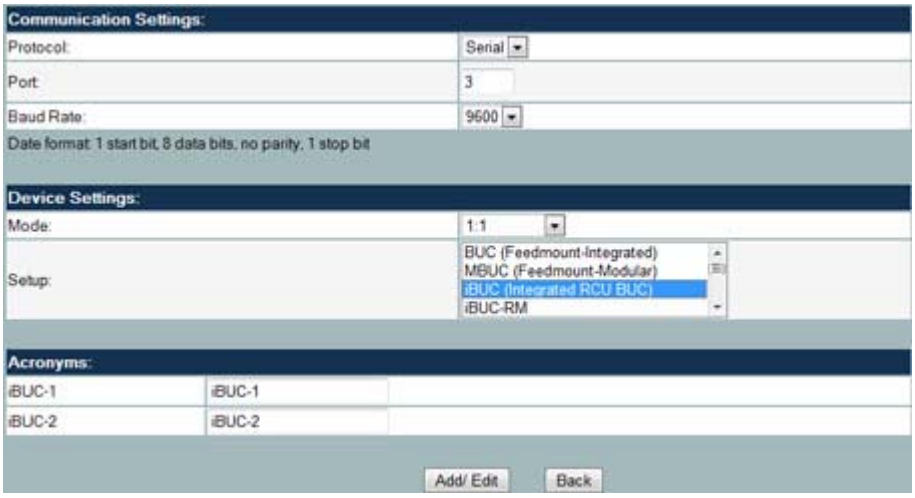


Figure 3.33 BUC + SSPA + RCU (Tx&Rx)

7. iBUC

Communication Settings:
Protocol: Serial
Port: 3
Baud Rate: 9600
Device Settings:
Mode: 1:1
Setup: iBUC (Integrated RCU BUC)



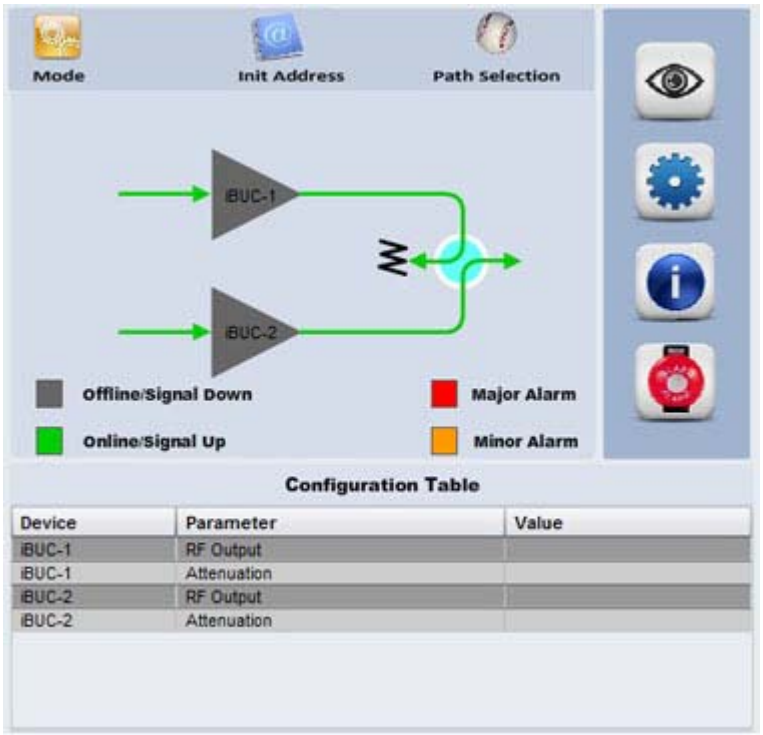
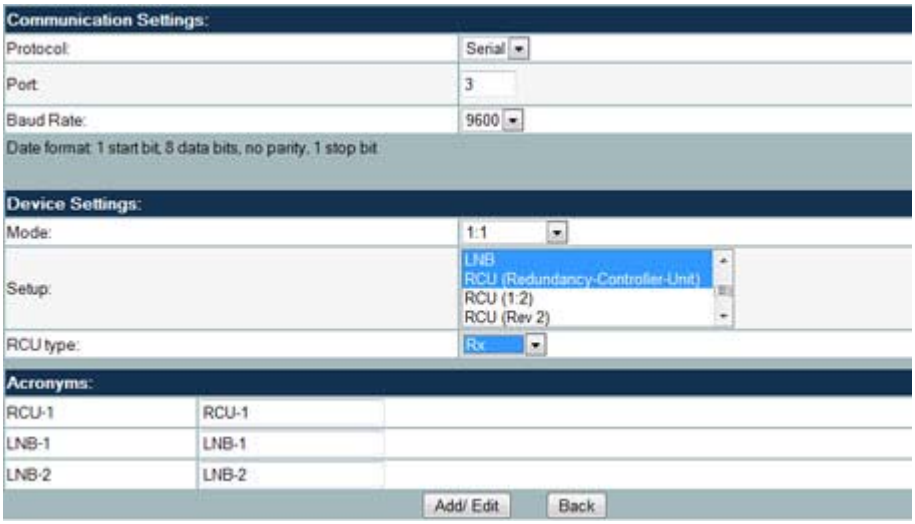


Figure 3.34 1:1 iBUC

8. LNB + RCU (Rx)

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:1	
Setup: LNB + RCU	(click **LNB** + Hold '**Ctrl**' and click **RCU)**
RCU Type: Rx	



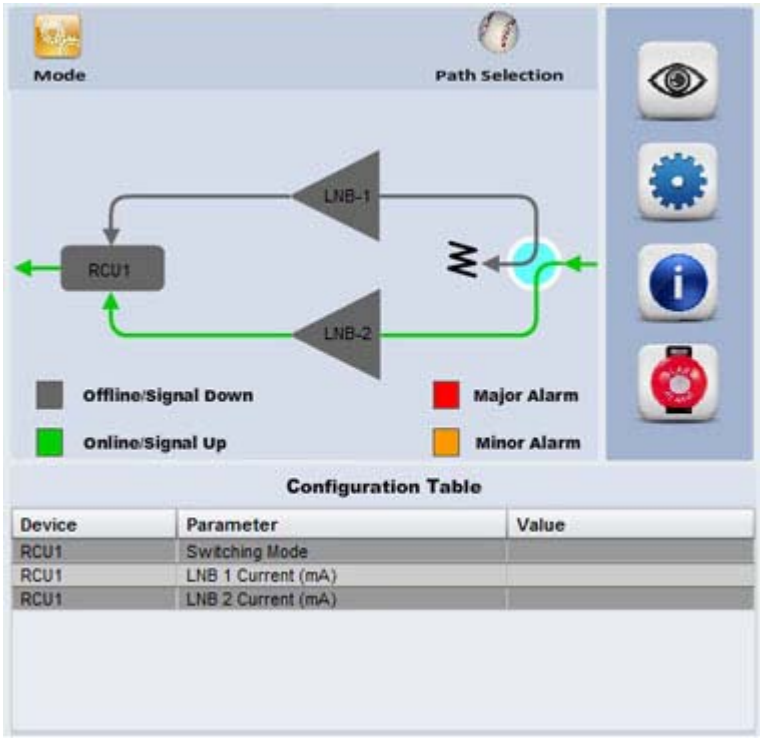


Figure 3.35 LNB + RCU (Rx)

3.12.5 1:2 Redundancy Mode

1. LNB + RCU (1:2) Rx

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:2	
Setup: LNB + RCU (1:2)	(click **LNB** + Hold '**Ctrl**' and click **RCU (1:2))**
RCU Type: Rx	

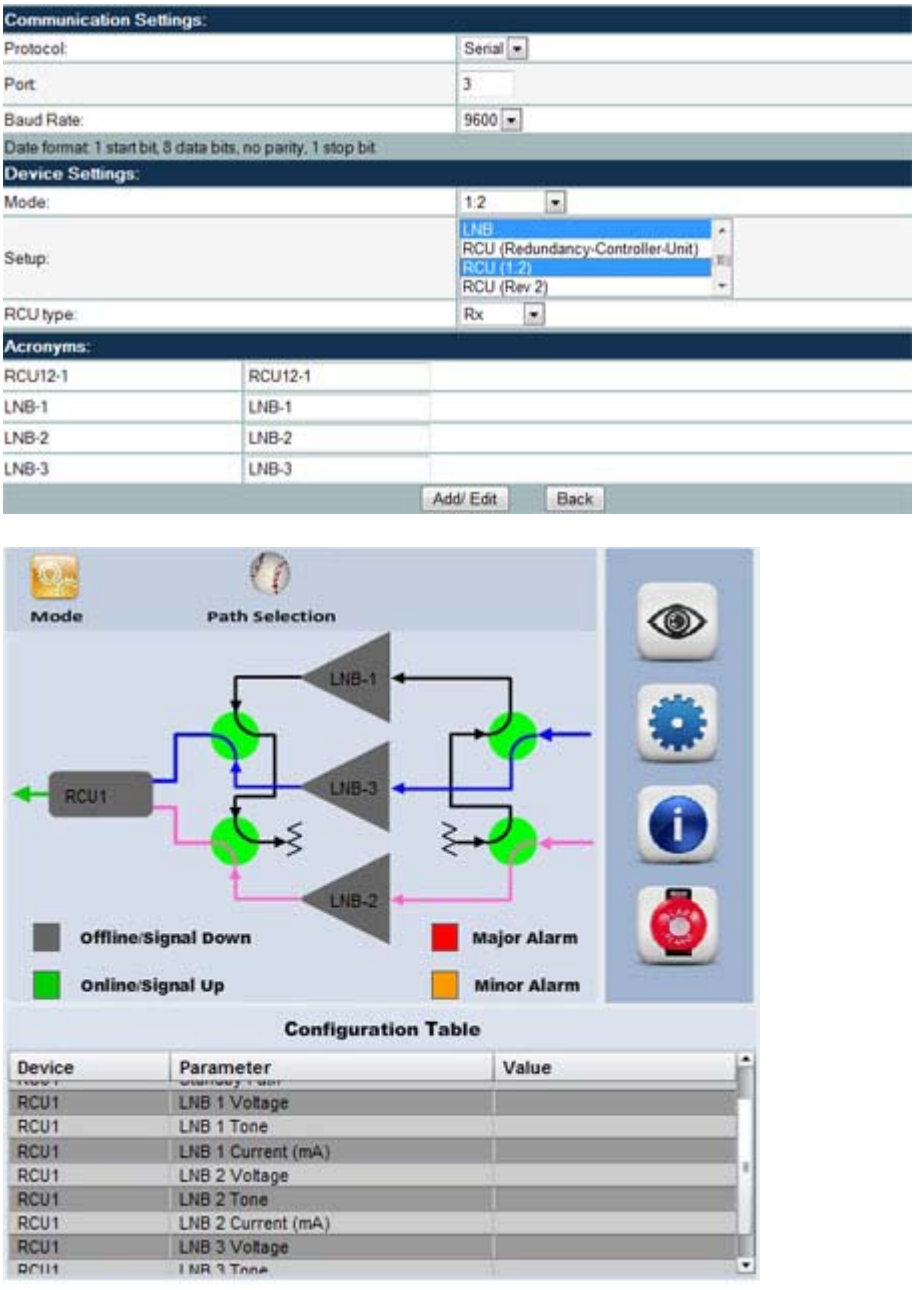
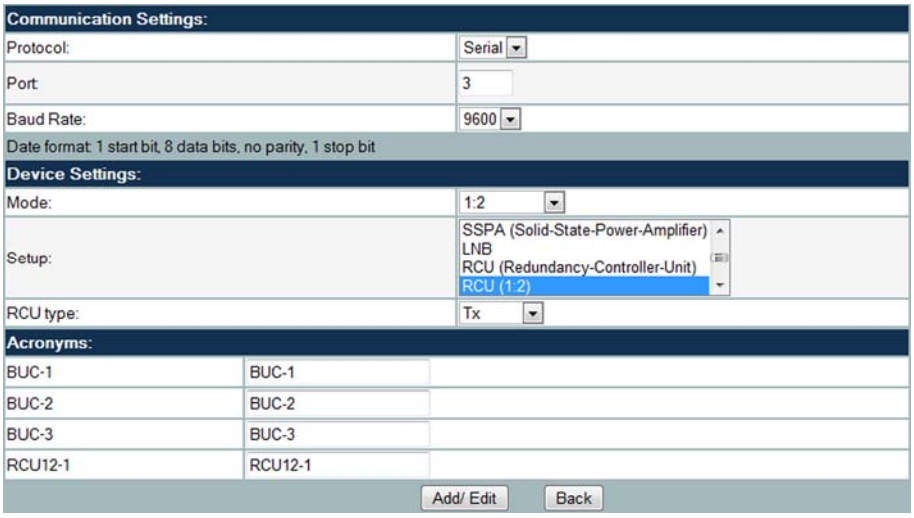


Figure 3.36 LNB + RCU (1:2) Rx

2. BUC + RCU (1:2) Tx

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:2	
Setup: BUC + RCU (1:2)	(click **BUC** + Hold '**Ctrl**' and click **RCU (1:2))**
RCU Type: Tx	



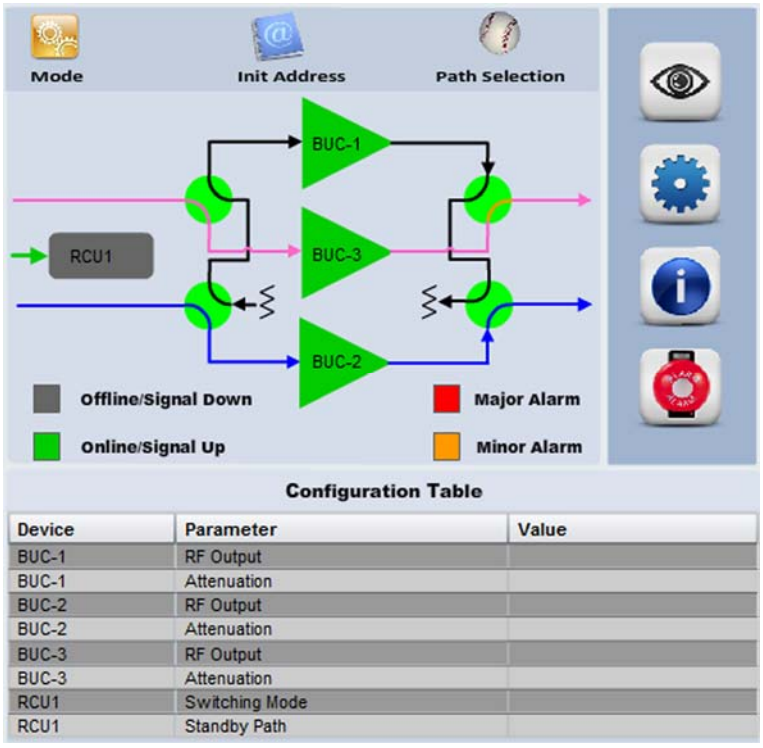
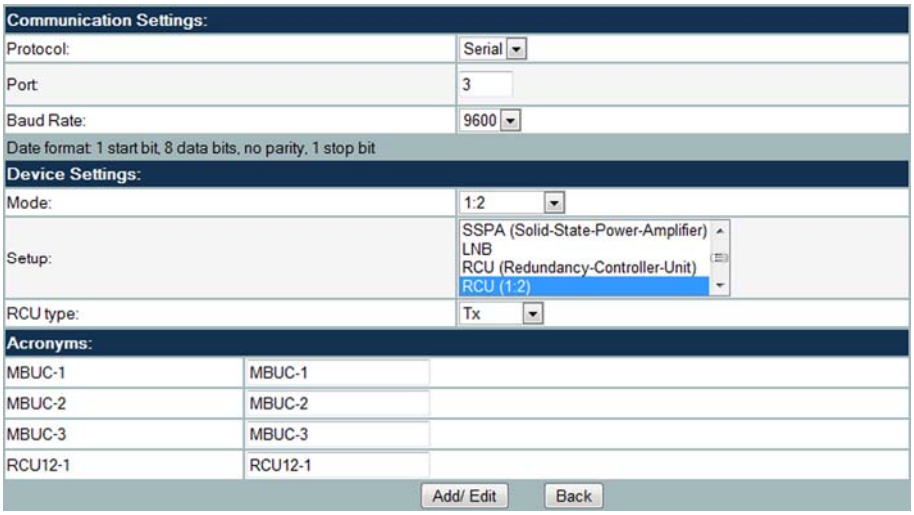


Figure 3.37 BUC + RCU (1:2) Tx

3. MBUC + RCU (1:2) Tx

Communication Settings:	
Protocol: Serial	
Port: 3	
Baud Rate: 9600	
Device Settings:	
Mode: 1:2	
Setup: MBUC + RCU (1:2)	(click **MBUC** + Hold '**Ctrl**' and click **RCU (1:2))**
RCU Type: Tx	



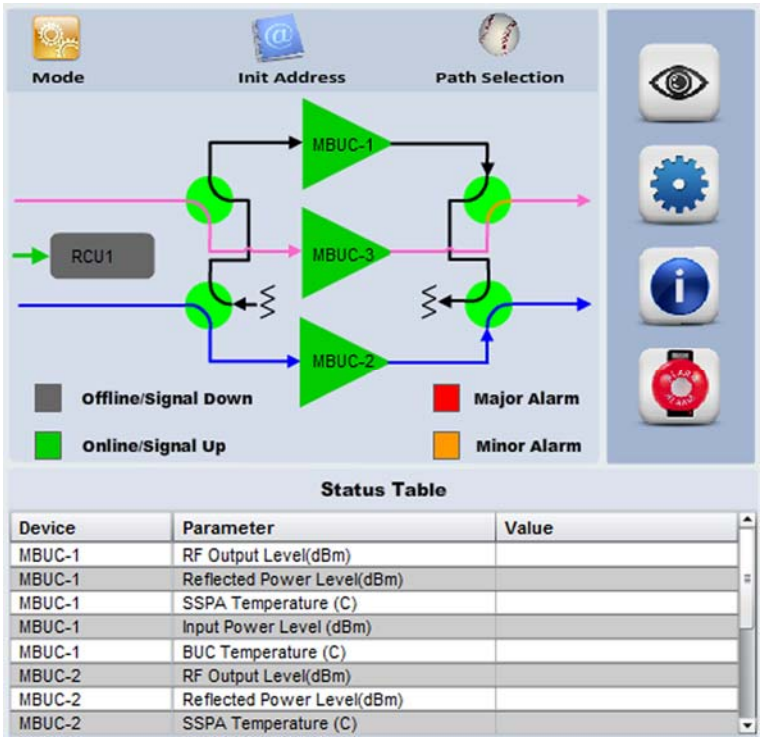


Figure 3.38 MBUC + RCU (1:2) Tx

3.13 Troubleshooting

The following steps could be used when faced with problems communicating with the PC, Agilis EMS application not able to run and etc.

Problem(s) faced	Possible Cause(s)	How to Rectify	Remarks
Agilis EMS is not starting	Installation was not done properly	Reinstall the application again as stated in this document	It is important that all the steps mentioned are duly followed
	Windows Firewall	Shut down the Windows Firewall service	NA
	Port 80 is being utilized by another application	Shut down the application that is using port 80	From the logs folder, open the file nmslitelauncher.log and you would see the following message if port 80 is being used: *java.net.BindException: Address already in use: JVM_Bind:80*
Agilis EMS started but the flash images are not shown	Flash plug-in may be outdated	Reinstall Flash Player preferably from http://get.adobe.com/flashplayer/	The flash player bundled together in the software package is usually the latest
Agilis EMS is not logging alarm details /analog parameters	MYSQL ODBC connecter is not installed/corrupted	Install the application from EMS CD (/3rd Party Software/mysql-connector-odbc-3.51.14-win32.exe)	NA
PC is not showing the COM number	M&C cable driver is not installed	Install the drivers that came together with the purchased M&C cable (RS232 to USB or RS485 to USB)	NA
M&C cable is connected and COM number is seen but still there's no communication	M&C cable could be faulty	Replace cable and try again	If problem still persists, refer to the next point below
	Wrong M&C cable is used	Refer to the product manual and ensure that the pin configuration is correct i.e. RS232 or RS485	NA
	For standalone mode, the address must be set to 'A'.	Start the application; click the Init Address button to set the device address to 'A'.	NA

Problem(s) faced	Possible Cause(s)	How to Rectify	Remarks
'Another instance of Agilis EMS is running' message is displayed when I try to start the application	Agilis EMS application is already started	Open IE and type http://localhost/agilis-ems in the URL	Alternatively, you may choose to end the current session by stopping the Agilis EMS and start a new one
How do I find out the current version number?	NA	Start the application, click on Help, click on About Us	This version number would be used whenever an issue needs to be reported
Equipment is not displaying its status properly (e.g. Status toggling online and offline in EV)	Equipment Initializing is not done	Start the application, click the Init Address button.	Once equipment is connected, check for the port number and add the correct device. After that, initialize the equipment with the correct addresses.
	Equipment Configuration could be wrong	Refer to the system manual to make sure the correct configuration is set.	
RCU is not going online	The protocol might be a different version	Refer to section 1.5 for the various versions for RCU and how to replace the protocol files if necessary	N.A.
System Slowing down	Analog and Alarm data is not cleared in the database	Purge the historical Analog and Alarm data in the database. See Section 3.11 for more information	It is advisable to purge the historical data occasionally to avoid unnecessary hard disk space consumption

3.14 Agilis EMS Equipment Parameters

The table below indicates the parameters of each Agilis Products.

	Status	Configuration	Information	Alarms
BUC	• Output Power Level(dBm) • Input Power Level (dBm) • Temperature (C)	• RF Output • Attenuation	• Device ID • Model Number • Serial Number • Firmware Version • Input Signal Frequency • Output Signal Frequency	• FET Bias Alarm (Major) • LO Alarm (Major) • Temperature Alarm (Major) • RF Output Alarm (Major)
iBUC	• Online path • Switching Mode • RF Output Level (dBm) • BUC ambient temperature (C)	• RF Output • Attenuation	• Device ID • Input signal frequency range • Output signal frequency range • Model Number • Serial Number • Firmware version 1 • Firmware version 2	• Tx Path A alarm (Major) • Tx Path B alarm (Major) • LO Alarm (Major) • BUC Temperature Alarm (Major) • BUC Driver Alarm (Major) • SSPA Temperature Alarm (Major) • RF Output Power Low Alarm (Minor) • Reflected Power Alarm (Major)
SSPA	• Temperature (C) • Reflected Power Level (dBm)	• RF Output	• Device ID • Model Number • Serial Number • Firmware Version	• Temperature Alarm (Major) • RF Output Power Low Alarm (Minor) • Reflected Power Alarm (Major) • BUC Driver Alarm (Major) • RF Off Alarm (Major)
RCU		• Switch Mode • Online Path	• Device ID • Firmware Version	• Tx/Rx Path A alarm • Tx/Rx Path B alarm
SPT	• Tx RF Output Level(Voltage) • Tx IF Input Level (Voltage) • Rx IF Output Level(Voltage) • Rx RF Input Level (Voltage) • 12V Detection(Volts) • SSPA Temperature (C) • Temperature (C) • Tx Adj Sync (Volts) • Tx Adj Fixed (Volts) • Rx Adj Sync (Volts) • Rx Adj Fixed (Volts)	• RF Output • UP Link Frequency • Up Link Attenuation • Down Link Frequency • Down Link Attenuation • Frequency Mode • Up Link Frequency Auto Mode • Down Link Frequency Auto Mode • Auto Gain	• Device ID • Firmware Version • Model Number • Serial Number • Input Signal Frequency • Output Signal Frequency	• SSPA Temperature • Fix • No RF In • No RF Out • SSPA • Block Up • Down Converter (Minor) • Up Converter (Minor)

	Status	Configuration	Information	Alarms
AUC	• Tx RF Output Level(Voltage) • Tx IF Input Level (Voltage) • Rx IF Output Level(Voltage) • Rx RF Input Level (Voltage) • BUC Current (Amp) • LNB Current (Amp) • 12V Detection(Volts) • Temperature (C) • RF Input	• RF Output • UP Link Frequency • Up Link Attenuation • Down Link Frequency • Down Link Attenuation • Frequency Mode • Up Link Frequency Auto Mode • Down Link Frequency Auto Mode • Auto Gain • BUC DC • Spectrum Inversion	• Device ID • Firmware Version • Model Number • Serial Number	• SSPA Temperature • Fix • No RF In • No RF Out • BUC DC Power (Minor) • LNB DC Power (Minor) • Down Converter (Minor) • Up Converter (Minor)
OHT	• Tx RF Output Level(Voltage) • Tx IF Input Level (Voltage) • Rx IF Output Level(Voltage) • Rx RF Input Level (Voltage) • -5V Detection(Volts) • Temperature (C) • RF Input	• RF Output • UP Link Frequency • Up Link Attenuation • Down Link Frequency • Down Link Attenuation • Frequency Mode	• Device ID • Firmware Version • Model Number • Serial Number • Input Signal Frequency • Output Signal Frequency	• SSPA Temperature • Fix • No RF In • No RF Out • -5 V detection • LNA detection • Down Converter (Minor) • Up Converter (Minor)
MBUC	• Output Power Level(dBm) • Input Power Level (dBm) • Temperature (C) • Reflected Power Level (dBm)	• RF Output • Attenuation	• Device ID • Model Number • Serial Number • Firmware Version • Input Signal Frequency • Output Signal Frequency	• FET Bias Alarm (Major) • LO Alarm (Major) • Temperature Alarm (Major) • RF Output Low Alarm (Major) • Driver Alarm (Major) • Reflected Power Alarm • Rf Off Alarm (Major)

Table 3-4 Equipment Parameters

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Appendix A Document Revision Log

Revision	Date	Author	Description
A/01	August 2010	Eddie	Initial Draft
A/02	March 2011	Mustafa	
A/03	May 2011	A. Mustafa	
A/04	July 2011	Raja PV	
B	December 2011	Raja PV	Updated supported devices matrix table
C	August 2012	J. Serrano	Updated manual template and format. Added device configuration information.