

Installation & Operations Manual

Local Network Management System (NMS)

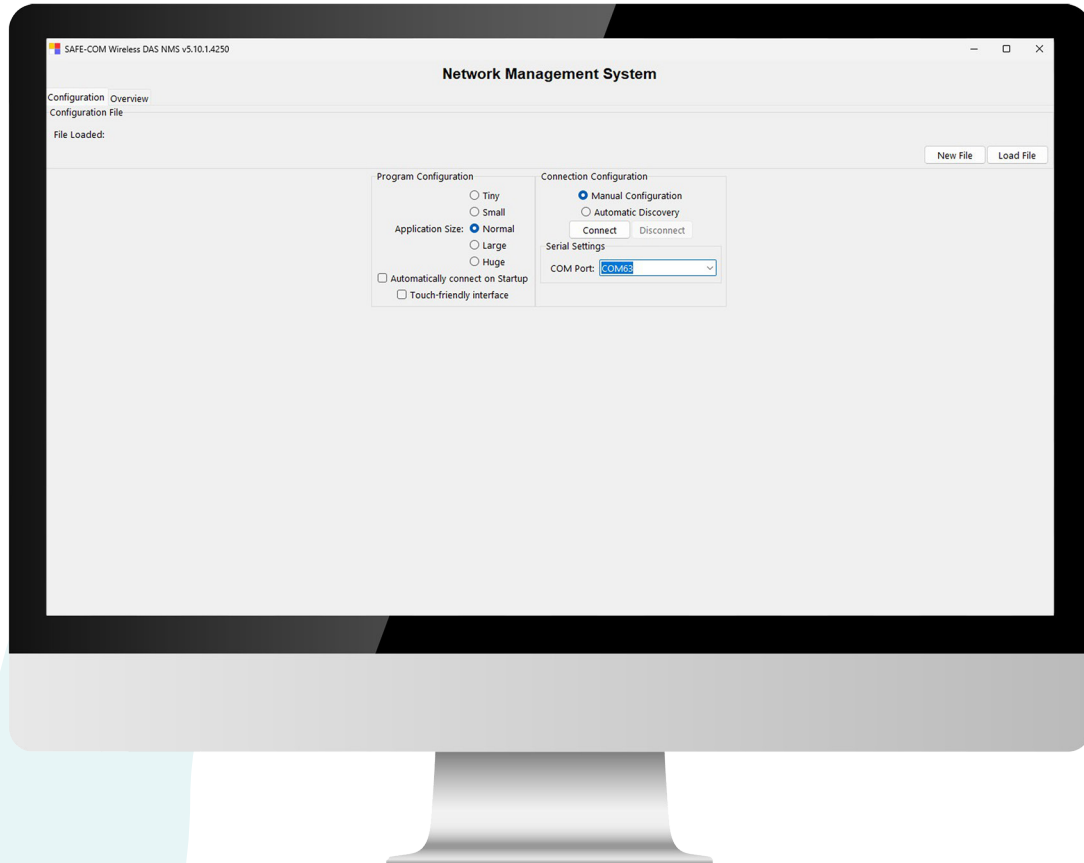


Table of Contents

Step 1	Page 4
Installing the Software	
Step 2	Page 5
Connecting the BDA or Fiber DAS Units to the NMS	
Step 3	Page 8
Verifying Connection	
Step 4	Page 9
Understanding Your System Settings	
Step 5	Page 12
Managing Settings (Sensitivity, Gain, Output Power & Squelch)	

Step 1

Installing the Software

This version of the Safe-Com Network Management System (NMS) software runs locally on a Windows PC and allows you to interact with (configure and monitor) the BDA or fiber DAS head-end, remote units and all associated alarms.

Getting started:

1. **Locate the USB memory stick:** The software is provided on a red USB memory stick that is attached to the front panel of the BDA or head-end. If the USB memory stick is missing or lost, contact the Technical Support team for a secure link to download the software.
2. **Confirm which operating system you are using:**
 - If using Windows 10 or later: All necessary drivers are provided by the operating system. The software will load and operate properly.
 - If using versions earlier than Windows 10: You may need additional drivers that are not available on an older operating system. Please contact Technical Support and the required drivers can be provided.
3. **Install the software:** Plug the USB drive into your PC. Locate the corresponding drive and open it to reveal the software program. Click on it and follow the prompts to run and install the .exe file.
4. **Pin it:** Once complete, pin the icon to your desktop or another convenient location for easy access if you choose.

Please contact technical support for questions regarding installation.



800-451-1460, extension 3



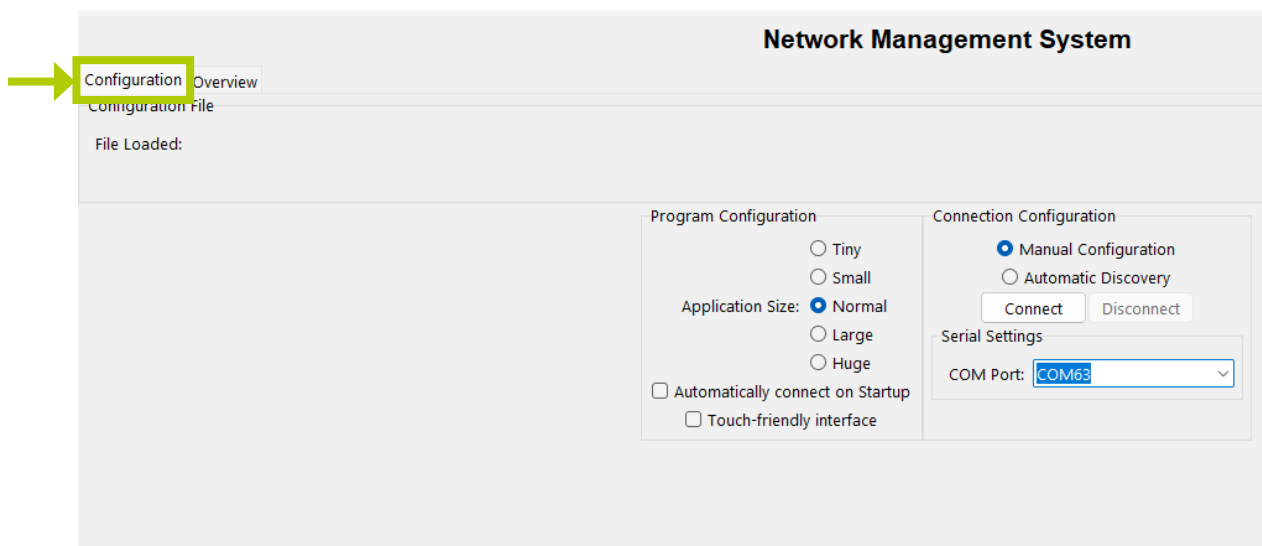
techsupport.us@avire-global.com

Step 2

Connecting the BDA or Fiber DAS Units to the NMS

Attention: To connect the BDA or fiber DAS to your NMS software, the software must be loaded onto your PC (Step 1). The BDA or fiber DAS should be powered on and your PC connected to the BDA using USB (USB-A to USB-B) cable provided with your equipment. (You will need to be in the location of the BDA or head-end.)

1. Using the USB cord provided (6 ft), connect your Windows PC to the BDA/head-end front panel.
2. On your computer, open the Safe-Com Network Management Software. The screen below will be displayed, opening on the “Configuration” tab.



3. Select “Manual Configuration” and use the drop-down box to select your COM Port.

Note: The software will always present 2 COM Ports. One is used for internal factory setup. The other is the COM Port you will use. You may need to try both to determine the correct port (this is a Windows 10 limitation).

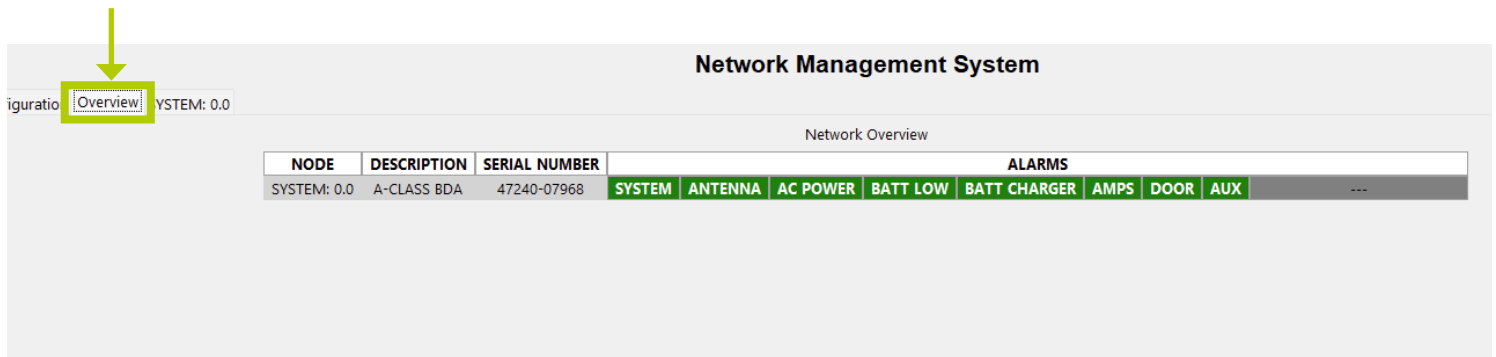
4. Once the COM Port is selected, click the “Connect” button to pair the software with the SAFE-1030 BDA or fiber DAS (SAFE-1020/SAFE-1015).
5. If the COM Port you selected doesn't open the BDA Overview window shown below, click “Disconnect” and try the other COM Port.

Connecting a SAFE-1030 BDA

Once the connection to the BDA is complete, the software will automatically advance to the “Overview” tab.

Verify your system information:

- Your BDA description and serial number will appear in the table on the “Overview” screen.
- The “Alarms” next to the BDA should be green, indicating they have been set up, but no alarms have been triggered in the system.
 - If the alarms boxes are gray, they have not been set up.
- Once operational, any triggered alarm within the BDA or its associated battery backup system would turn the boxes red.



Network Management System

Configuration Overview SYSTEM: 0.0

Network Overview

NODE	DESCRIPTION	SERIAL NUMBER	ALARMS								
SYSTEM: 0.0	A-CLASS BDA	47240-07968	SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS	DOOR	AUX	---

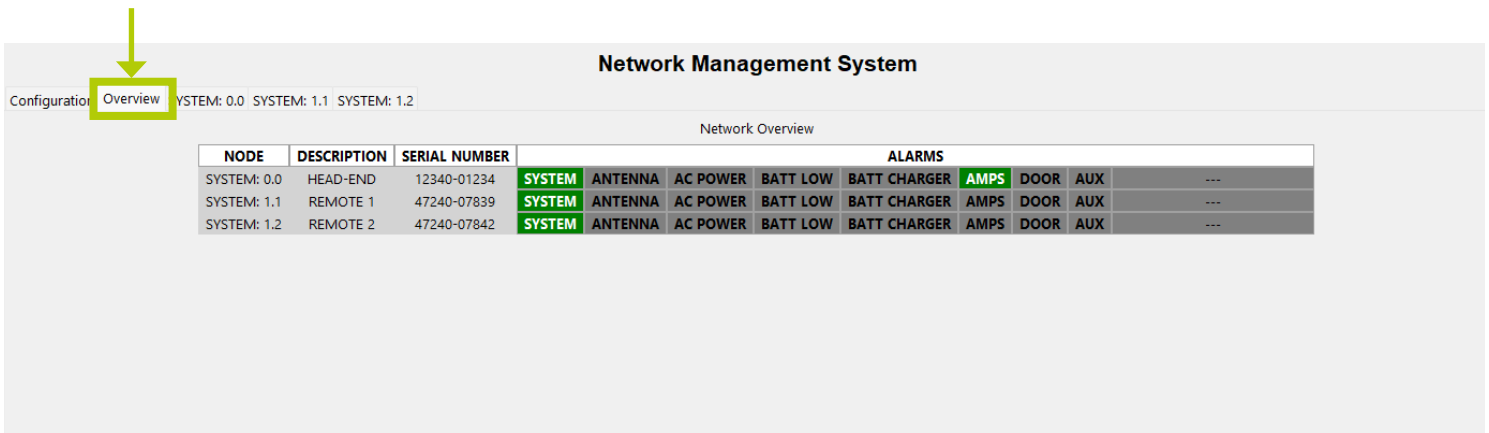
Note: If the system did not connect, click on the other COM Port as referenced in Step 3. If neither COM Port connects, check to ensure the BDA is powered up and the cable connections are secure. If the BDA was not turned on when you clicked “Connect” you may need to click on “Disconnect” close the program and restart and try the other COM Port.

Connecting a SAFE-1020/SAFE-1015 Fiber DAS

The software will identify the head-end (SAFE-1020) and all remote units (SAFE-1015) and automatically advance to the “Overview” tab once the connection is complete.

Verify your system information:

- In the case of a fiber DAS, the “Overview” tab will show all the units and serial numbers attached to the fiber network, including the SAFE-1020 head-end and any SAFE-1015 remote units.
- The “Alarms” next to each unit should be green, indicating the alarms have been set up, but no alarms have been triggered in the system.
 - If the alarms boxes are gray, they have not been set up.
- Once operational, any triggered alarm within the BDA or its associated battery backup system would turn the boxes red.



NODE	DESCRIPTION	SERIAL NUMBER	ALARMS								
			SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS	DOOR	AUX	
SYSTEM: 0.0	HEAD-END	12340-01234	SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS	DOOR	AUX	---
SYSTEM: 1.1	REMOTE 1	47240-07839	SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS	DOOR	AUX	---
SYSTEM: 1.2	REMOTE 2	47240-07842	SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS	DOOR	AUX	---

Here we have an example of a head-end unit with two remotes.

Note: If the system did not connect, click on the other COM Port as referenced in Step 3. If neither COM Port connects, check to ensure the system is powered up and the cable connections are secure. If the BDA was not turned on when you clicked “Connect” you may need to click on “Disconnect” close the program and restart and try the other COM Port.

Step 3

Verifying Connection

1. Click on the 3rd tab (BDA or head-end).

2. Look for the flashing message:

- When connected, each tab in the NMS will display a scrolling message in the bottom left corner to indicate the NMS is communicating properly with the BDA. The message will contain the product identification information and will scroll continuously.
- If the message stops scrolling or does not appear, this is an indication that the USB connection has dropped. Restart the program.

Network Management System

Configuration Overview SYSTEM: 0.0

A-CLASS BDA Setup...
SN:47240-07968 Power Supply: 11.8V
FW: v5.10.3.1590 Beta

Alarms

Current:	SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS	DOOR	AUX	---
History:	SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS	DOOR	AUX	---

Cage 1

SLOT	STATUS	DEVICE	DESCRIPTION	DIR	BAND	FILTER BW	RF INPUT	GAIN	TARGET OUT	RF OUTPUT	RF STATUS	
1	GOOD	CHC 6.4	A-class 769-775 DL FW: v5.10.2.1125 Beta	DL	700 MHz	6000 kHz	-71 dBm	86 dB	25 dBm	14 dBm	ON	Configure...
2	---											
3	---											
4	GOOD	CHC 6.4	A-class 851-861 DL FW: v5.10.2.1125 Beta	DL	800 MHz	10000 kHz	--	--	25 dBm	--	SQUELCH	Configure...
5	---											
6	---											
7	GOOD	CHC 6.4	A-class 799-816 UL FW: v5.10.2.1125 Beta	UL	700 MHz	16000 kHz	--	84 dB	22 dBm	-7 dBm	ON	Configure...
8	---											
9	---											
10	---											

PORT	STATUS	DEVICE	DESCRIPTION	DIR	BAND	AMP STATUS	RF INPUT	GAIN	TARGET OUT	RF OUTPUT	RF STATUS	
A	GOOD	DFA 1.2	GT Kiryas Joel FW: v5.0.1010 Beta									
B	GOOD	PAC 3.3	700MHz DL POWER AMP FW: v5.10.0.1272 Beta	DL	700 MHz	ON	--				ON	
C	GOOD	PAC 3.3	800MHz DL POWER AMP FW: v5.10.0.1272 Beta	DL	800 MHz	ON	--				ON	
D	GOOD	PAC 3.3	7/800 UL POWER AMP FW: v5.10.0.1272 Beta	UL	700/800 MHz	ON	--				ON	
PIO	GOOD	PIO 5.5	PWR+/I/O FRONT PANEL FW: v5.10.0.1224 Beta									

ANTENNA 1
700/800 MHz
GOOD

Received: [SYSTEM: 0.0-1] SN:47240-07968 DVC:SYS RecordEndOfList-v5

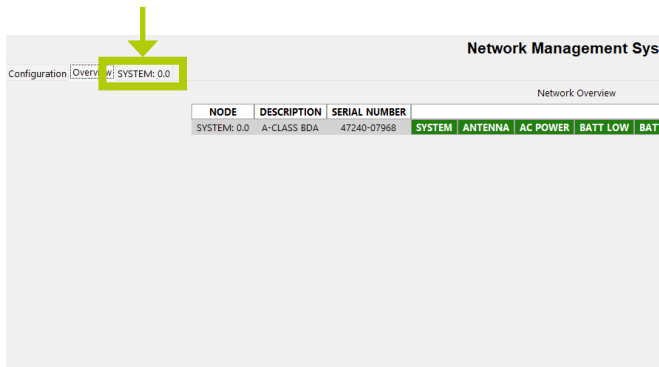
Note: If the USB connection has dropped:

- Check to ensure the USB cord is still plugged in to both the front panel of the BDA/head-end and your laptop and that the system is still powered on.
- Revert to the first "Configuration" tab and repeat the connection steps to reconnect to the BDA or fiber DAS.
- If that does not work, you may need to close the program and restart, then repeat the steps to connect.

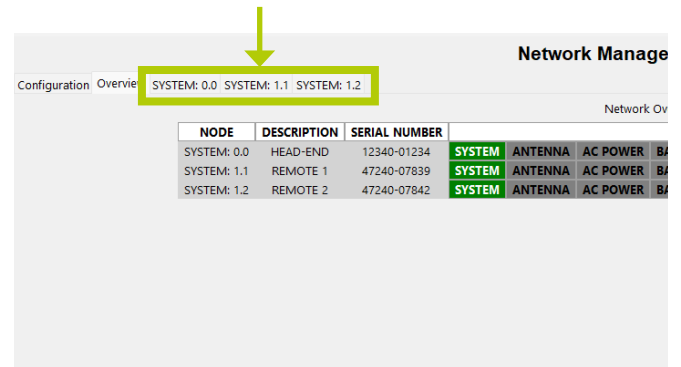
Step 4

Understanding Your System Settings

The third tab, and subsequent tabs, in the NMS are the control center for the system.



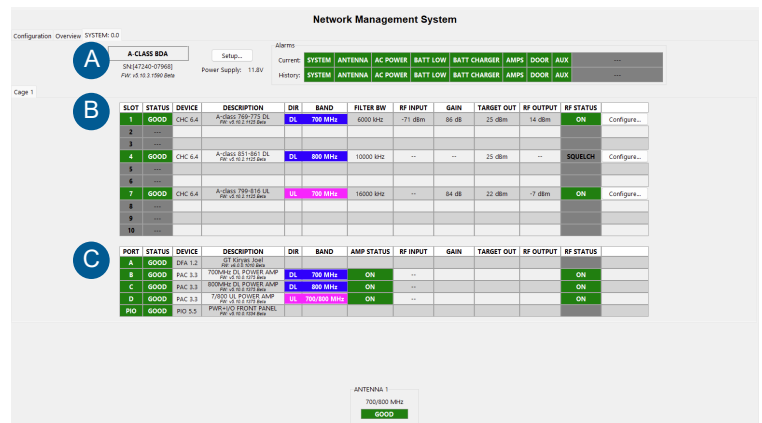
A **SAFE-1030 BDA** will have a single tab to control the BDA settings.



A **fiber DAS (SAFE-1020/SAFE-1015)** will display a tab for the head-end (third position) and each remote unit in the network.

On this third tab you will see:

- A top section with general information about the BDA/head end and alarms.
- A middle table with detailed information on each channelizer card.
- A bottom table with information related to your power amplifier (PAC), front input/output panel (PIO) or digital filter array module (DFA).

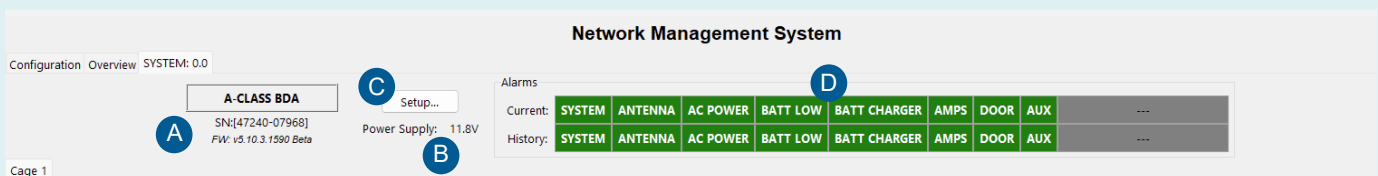


On this tab you can:

- View the detailed information for the BDA and each plug-in card.
- See the DC voltage level input through the front panel connector.
- View current and past alarms.
- Configure settings of the BDA or fiber DAS units.

Get to Know Your System

The configuration tab of the NMS features a variety of settings that can either be view-only or can be modified at user discretion. All settings are configured to defaults at the factory. For any questions about system settings, please contact the RATH by AVIRE applications support team.



- A. The description and serial number of the connected device (the BDA or fiber DAS head-end) loads automatically.
- B. DC power supply voltage (internally AC powered or externally battery powered) is displayed.
- C. The “Setup” button allows you to change the antenna timeout period. (This is the period that the BDA looks at the downlink card for a signal. If a signal doesn’t open squelch within that time, the ANTENNA alarm will trigger.)
- D. The current and historical state of each alarm is shown. Grey indicates an alarm has not been activated via the DIP switch on the front panel of the BDA or head-end.
 - The top row displays current alarms (green is active but not alarmed, red is alarmed). Green will return automatically once the alarm condition is removed.
 - The bottom row shows alarm history. Upon an alarm, the green background in each row turns red. The top row will revert back to green if the alarm condition is corrected; however, the bottom row alarm remains RED even after alarm condition ends.
 - Once the alarm is cleared, the user must left click on the red cell in the bottom row to clear the alarm.

Get to Know Your System (Continued)

E. SLOTS are counted from the left side of the enclosure and indicate the position a card is placed. Each populated card is shown, with the exception of the fiber optic transmitter (FOTX and FORX). This is a passive card and does not report to the NMS.

F. The DEVICE and DESCRIPTION fields are automatically populated upon connection.

G. The DIR field indicates whether a card is downlink (DL) or uplink (UL).

Net

A-CLASS BDA Setup...

SN:[47240-07968] Power Supply: 11.8V
FW: v5.10.3.1590 Beta

Alarms
Current: **SYSTEM**
History: **SYSTEM**

SLOT	STATUS	DEVICE	DESCRIPTION	DIR	BAND
1	GOOD	CHC 6.4	A-class 769-775 DL FW: v5.10.2.1125 Beta	DL	700 MHz
2	---				
3	---				
4	GOOD	CHC 6.4	A-class 851-861 DL FW: v5.10.2.1125 Beta	DL	800 MHz
5	---				
6	---				
7	GOOD	CHC 6.4	A-class 799-816 UL FW: v5.10.2.1125 Beta	UL	700 MHz
8	---				
9	---				
10	---				

PORT	STATUS	DEVICE	DESCRIPTION	DIR	BAND
------	--------	--------	-------------	-----	------

H. The frequency band and filter bandwidth are shown for each card, where applicable.

I. RF INPUT reflects the dBm level injected into the donor N connector (DL).

J. Once an RF signal is present at the BDA Ports, the GAIN, RF INPUT and TARGET OUTPUT are populated with actual values.

K. The TARGET OUT shows the programmed maximum output level.

SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS
SYSTEM	ANTENNA	AC POWER	BATT LOW	BATT CHARGER	AMPS

BAND	FILTER BW	RF INPUT	GAIN	TARGET OUT	RF
700 MHz	6000 kHz	-71 dBm	86 dB	25 dBm	
800 MHz	10000 kHz	--	--	25 dBm	
700 MHz	16000 kHz	--	84 dB	22 dBm	

BAND	AMP STATUS	RF INPUT	GAIN	TARGET OUT	RF
700 MHz	ON	--			
800 MHz	ON	--			
700/800 MHz	ON	--			

Step 5

Managing Settings (Sensitivity, Gain, Output Power & Squelch)

Note: The sensitivity, gain, squelch and RF output power come pre-set from the factory. It is advised to consult the RATH by AVIRE applications support team before making any changes to these settings.

1. To access these settings, navigate to the third (and subsequent) tabs of the NMS and click the “Configure” button.

Network Management System

Overview SYSTEM: 0.0

A-CLASS BDA
SN:47240-07968
FW: v5.10.3.1590 Beta

Power Supply: 11.8V

Alarms

Current: SYSTEM ANTENNA AC POWER BATT LOW BATT CHARGER AMPS DOOR AUX ---

History: SYSTEM ANTENNA AC POWER BATT LOW BATT CHARGER AMPS DOOR AUX ---

SLOT	STATUS	DEVICE	DESCRIPTION	DIR	BAND	FILTER BW	RF INPUT	GAIN	TARGET OUT	RF OUTPUT	RF STATUS	
1	GOOD	CHC 6.4	A-class 769-775 DL FW: v5.10.2.1125 Beta	DL	700 MHz	6000 kHz	-71 dBm	86 dB	25 dBm	14 dBm	ON	Configure...
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	GOOD	CHC 6.4	A-class 851-861 DL FW: v5.10.2.1125 Beta	DL	800 MHz	10000 kHz	---	---	25 dBm	---	SQUELCH	Configure...
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	GOOD	CHC 6.4	A-class 799-816 UL FW: v5.10.2.1125 Beta	UL	700 MHz	16000 kHz	---	84 dB	22 dBm	-7 dBm	ON	Configure...
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---

PORT	STATUS	DEVICE	DESCRIPTION	DIR	BAND	AMP STATUS	RF INPUT	GAIN	TARGET OUT	RF OUTPUT	RF STATUS
A	GOOD	DFA 1.2	GT Kings J201 FW: v5.10.1.1010 Beta	---	---	---	---	---	---	---	---
B	GOOD	PAC 3.3	700MHz DL POWER AMP FW: v5.10.1.1010 Beta	DL	700 MHz	ON	---	---	---	---	ON
C	GOOD	PAC 3.3	800MHz DL POWER AMP FW: v5.10.1.1010 Beta	DL	800 MHz	ON	---	---	---	---	ON
D	GOOD	PAC 3.3	7/800 UL POWER AMP FW: v5.10.1.1010 Beta	UL	700/800 MHz	ON	---	---	---	---	ON
PIO	GOOD	PIO 5.5	PWR+IO FRONT PANEL FW: v5.10.1.1010 Beta	---	---	---	---	---	---	---	---

“Configure” button.

2. A new window will pop up, allowing you modify gain, output power and squelch (which are all set to a safe maximum at the factory).

Card Configuration

A-class 483.4-484.48

Product Number : 11CA26C
Device Type : CHC
Firmware Version : v5.10.2.1125 Beta

Serial Number : 14250-07823
REV : 6.40

CH 1 [UHF]

Gain limit **A**
Gain limit: 30.0 dB
Valid range: -20.0 dB to 100.0 dB

Output target **B**
Output target: -20.0 dBm
Valid range: -50.0 dBm to 40.0 dBm

Squelch **C**
☒ Squelch Enabled
Squelch threshold: -85.0
Valid range: -90.0 dBm to 0.0 dBm

OK Cancel

DeviceData-v5

- A. The gain limit can be adjusted.
- B. RF OUTPUT is controlled automatically by an Automatic Level Control (ALC) circuit within the cards. The user can set the output power to no more than the maximum determined at the factory.
- C. “Squelch” is the setpoint below which the channel path is disabled. This ensures that the output does not transmit noise when a valid signal is not present. It is used in both uplink and downlink channelizer cards.

Notes



N56 W24720 N. Corporate Circle • Sussex, WI 53089
800-451-1460
avire-global.com/en-us