Comba CriticalPoint V1 Annunciator Panel

Installation Guide

Version 1.0.6

BBU Software Firmware Requirements:

BBU V1 – Original MCU Board (PSU-9248 or CPBBUV1-48055-UL): V8E01

BBU V1 – Modified MCU Board (PSU-9248 or CPBBUV1-48055-UL): V8701 or newer

BBU V2 (CPBBUV2-48100-UL): V8501 or newer

NG BDA V3 (RXXXV3-A33XXP0-SX): V1-17_5 or newer

See V1/V2 BBU or V3 BDA Manual for updating BBU Firmware

Comba
keeps you connected

Content:

V1 Annunciator Panel Description:

The Comba CriticalPoint V1 Annunciator Panel is powered and controlled by the Comba V1/V2 Battery Backup Unit, or the V3 BDA/MU/RU. It uses a proprietary RS-485 three-wire communication circuit between the Comba V1/V2 BBU or V3 BDA/MU/RU devices and the V1 annunciator panel. NOTE: The front panel indicators and labels are based on UL2524, October 19, 2018 standards.

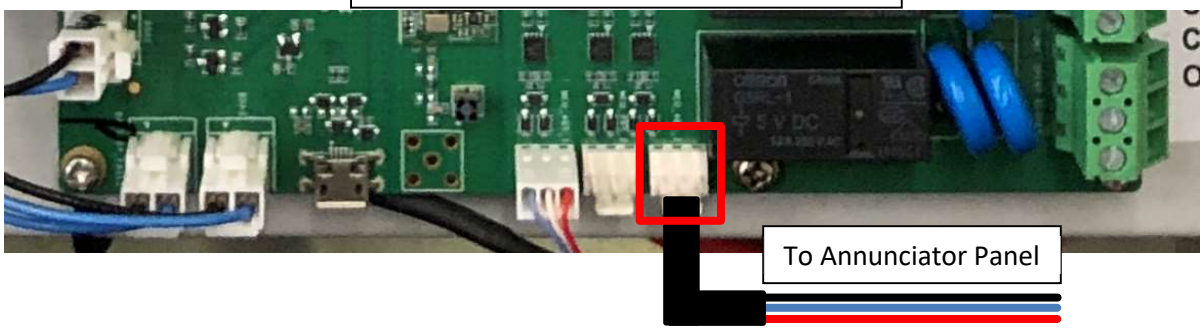
Connecting the V1 BBU or V2 BBU to the V1 Annunciator Panel:

1. **Switch off the AC/DC power supply in the V1/V2 BBU and the power switch in annunciator panel before performing any cabling!**

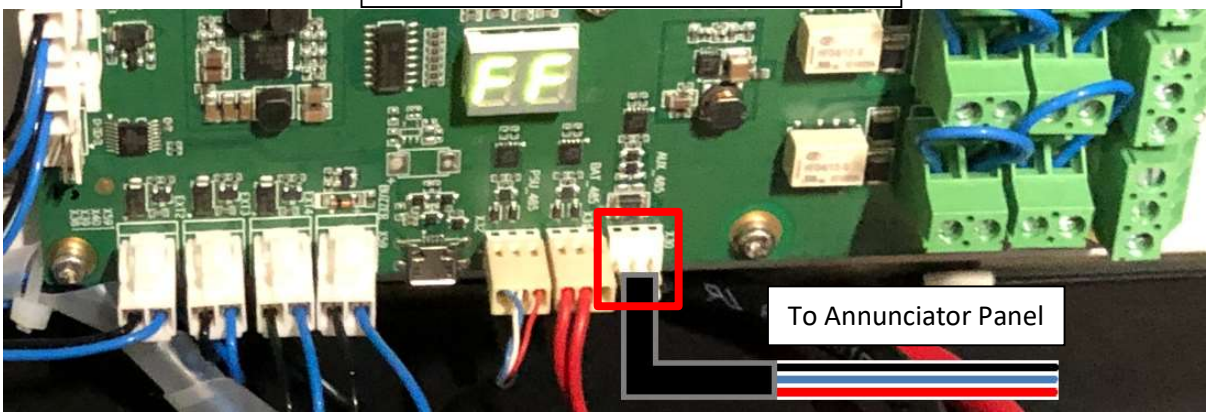
2. **V1 BBU & Early Model V2 BBU Communication Cable (Pig Tail)**

A three-wire communications cable comes with the annunciator panel accessories kit and is used to connect the V1 BBU and some early models V2 BBU MCU control boards to the annunciator panel. The 3-pin header is located at the bottom of the MCU control board and to the far right, see picture below. Extend the three-wire pigtail cable to the annunciator panel (extension provided by the system integrator). Note: Max distance using 24-gauge wire is 2000 feet. Max distance using 18-gauge wire is 4000 feet.

V1 BBU MCU Bottom Side – Non-Modified



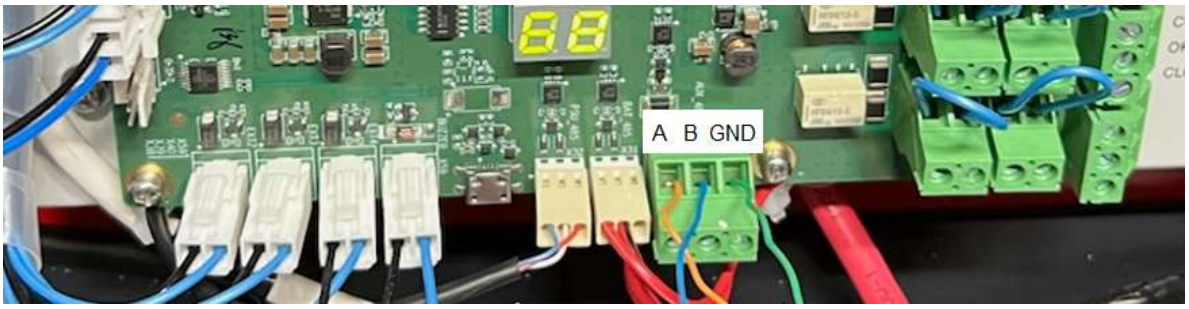
V2 BBU MCU Bottom Side – Early Models



3. V2 BBU Existing Model Communication Cable (Pig Tail Not Required)

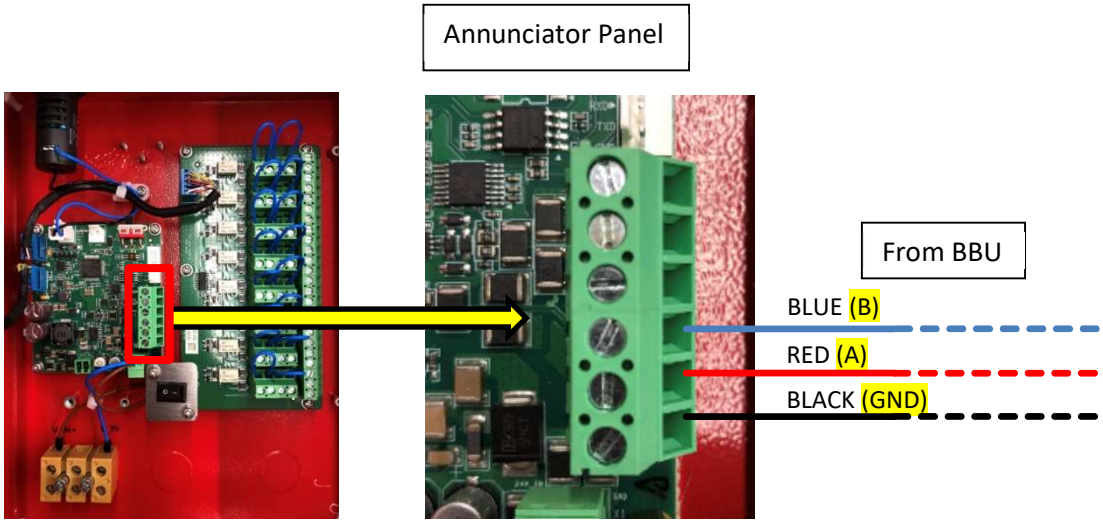
The existing V2 BBU MCU control board does not require the three-wire communications cable, as it uses a three terminal phoenix connector to connect the A/B/Gnd wires to the annunciator panel.

BBU V2 MCU Bottom Side – Existing Models



4. Annunciator Panel Communications Terminal

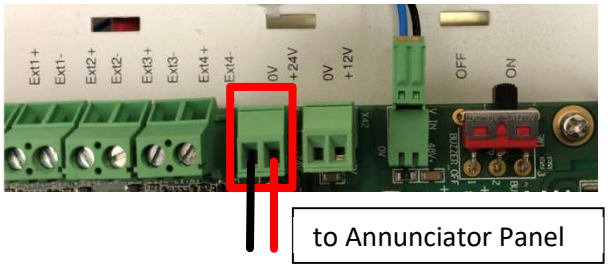
At the annunciator panel, connect the communication cable extension as shown below. Be sure to note RED (A), BLUE (B) and BLACK (GND) when configuring the pigtail/extension to the phoenix connector located in the annunciator panel.



5. Power Cable

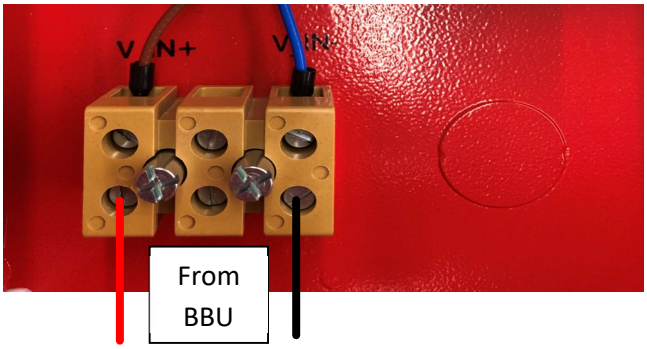
For BBU V1, the power will be provided from one of three LOAD outputs. Choose an open load output and connect the power cable to the + and – ports. The same communications extension cable can be used for power (for example, CAT5 cable, with 3 wires for communication and 2 for power).

For the BBU V2, power can be sourced from the MCU control board 12VDC, 24VDC or Equipment Load Terminals



At the annunciator panel:

Power Connections from BBU V1	
BBU V1 Connection	Annunciator Panel Connection
Load +	V_IN+
Load -	V_IN-
Power Connections from BBU V2	
BBU V2 Connection(s)	Annunciator Panel Connection
+12VDC, +24VDC or Load +	V_IN+
0V or Load -	V_IN-



6. Connection Verification

Once all connections have been installed and verified, turn on the BBU breakers and switch on the V1 annunciator panel.

Annunciator Panel Visual & Audible Alarms and Dry Contact Outputs:

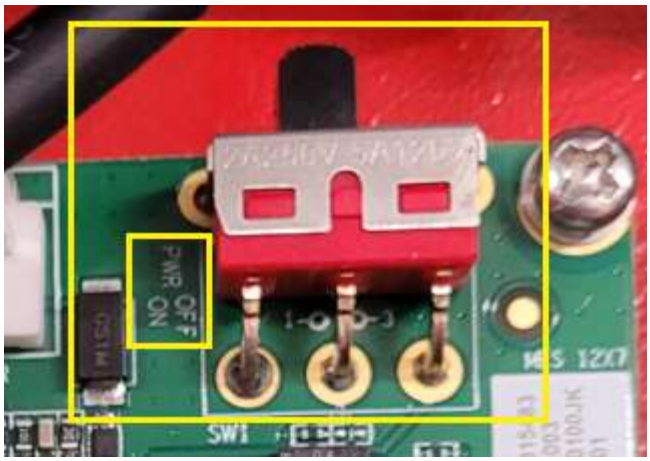
1. **Annunciator Panel Alarms**
   The annunciator panel visual and dry contact alarms are synchronized to the Battery Backup Unit dry contacts. The dry contact alarm configurations are performed in BBU GUI. (Refer to the V1 or V2 Battery Backup Unit user manual)

2. **Audible Buzzer**
   There is an audible buzzer located at the top of the annunciator panel enclosure and will sound if an alarm is detected at the annunciator panel (assuming the annunciator panel is powered on).

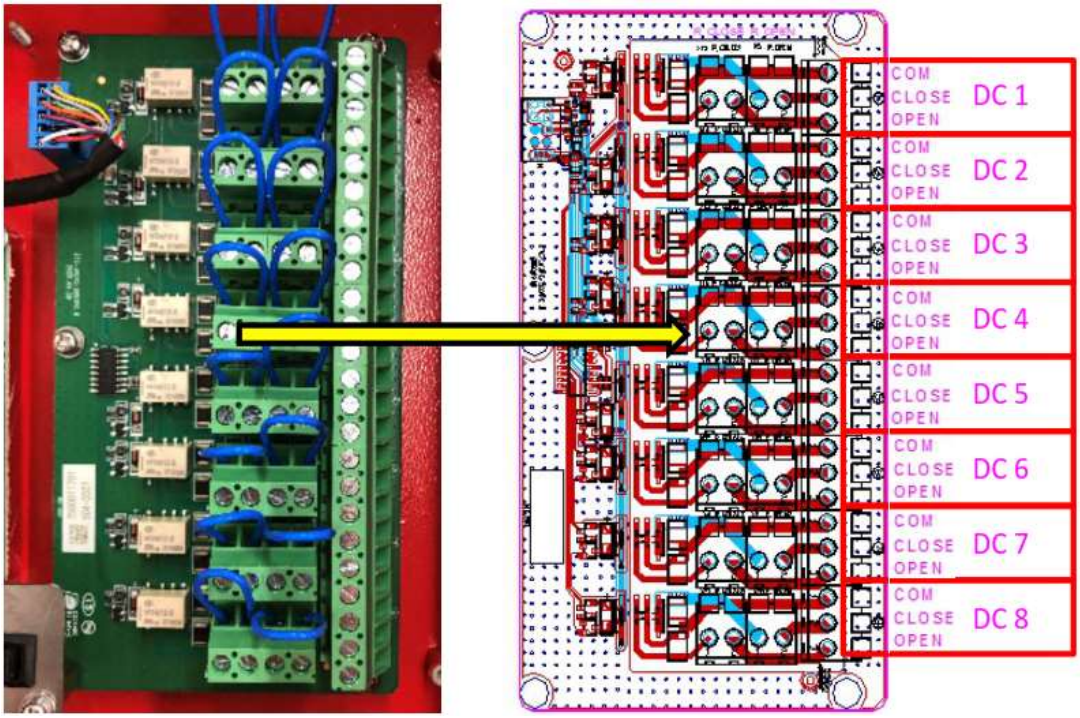
3. **Silencing the Audible Buzzer**
   The audible buzzer can be temporarily silenced for up to 24 hours, and after 24 hours it will begin to "chirp" to advise that the switch needs to be placed back into the ON/Normal position.

   NOTE: If the audible buzzer is silenced, and the alarm is cleared prior to the 24-hour period, the buzzer will "chirp" to alert the individual onsite that the switch needs to be placed back into the ON/Normal state.

   - ON/Normal – Slide switch to the Left
   - OFF/Temporary Silence - Slide switch to the Right



4. **Dry Contact Outputs**
   - V1 & V2 BBU Equipment
     - The V1 annunciator panel dry contacts 1 through 7 mimics the V1 & V2 BBU dry contacts 1 through 7.
   - V3 BDA/MU/RU Equipment
     - The V1 annunciator panel dry contacts 1 through 7 mimics the V3 BDA dry contacts 2 through 8 (UL 2524 October 19, 2018 standards).
   - The V1 annunciator panel dry contact 8 can be configured to monitor the annunciator panel or cable integrity between the V1/V2 BBU and V3 BDA/MU/RU and the annunciator panel (RS-485 communication fault alarm) and/or used to trigger an over temperature alarm within the annunciator panel. This is software configurable via V1/V2 BBU GUI and V3 BDA/MU/RU GUI.

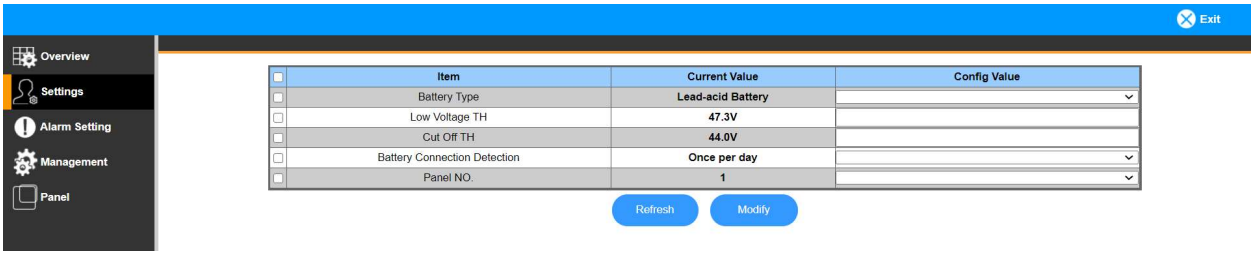


Relay board COM/CLOSE/OPEN terminals are shown when annunciator panel is powered ON and no alarms.

V1/V2 BBU Software Configurations:

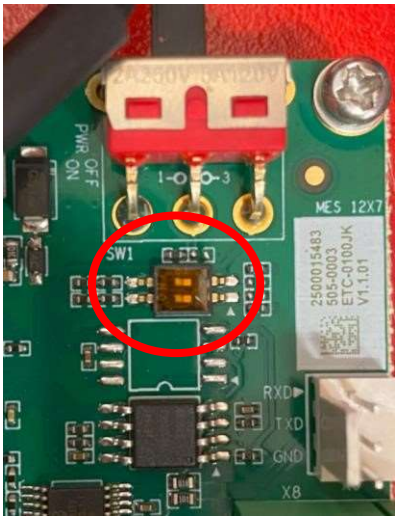
1. Linking the Annunciator Panel to the BBU

Log into the Battery Backup Unit (follow the BBU QIG for instructions) and activate the BBU to link the annunciator panel. This is done in the "Settings" tab, "Panel NO.", "Config Value" select "1", then click on "Modify"/ "Refresh" and verify "1" is now showing as "Current Value". If two annunciator panels are being used in parallel, repeat the process, and select "2", see NOTE below.



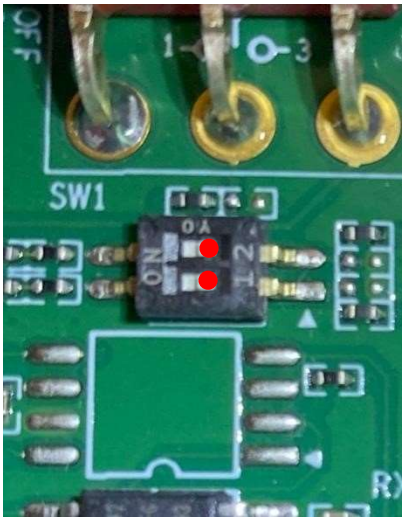
NOTE: The RS-485 A/B/GND communications circuit MUST be wired in parallel when using two annunciator panels. A DIP switch, located on the annunciator panel circuit board under the silence switch, is used to determine the annunciator panel configuration. The annunciator panel is factory defaulted as a primary unit (OFF+OFF) and must be manually configured as (OFF+ON) when used in parallel as a secondary unit, see DIP switch example below.

RS-485 Address Setting for First & Second AP



Remove the protective layer

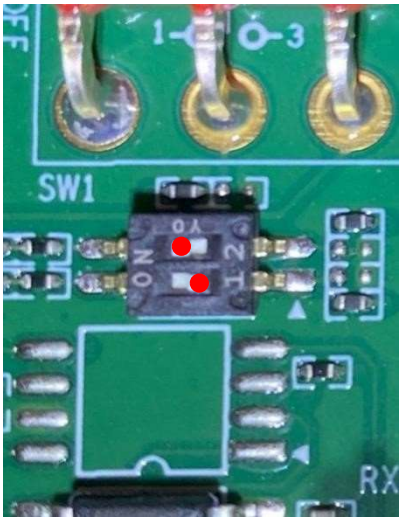
From the Dip Switch



For the First AP:

DIP 1: OFF (Default)

DIP 2: OFF (Default)



For the Second AP:

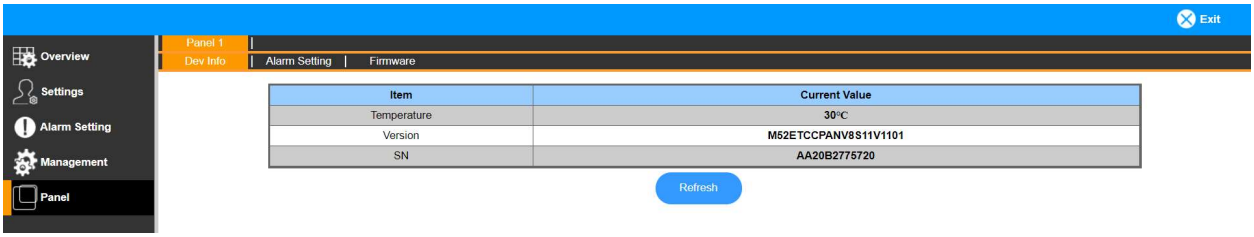
DIP 1: OFF

DIP 2: ON

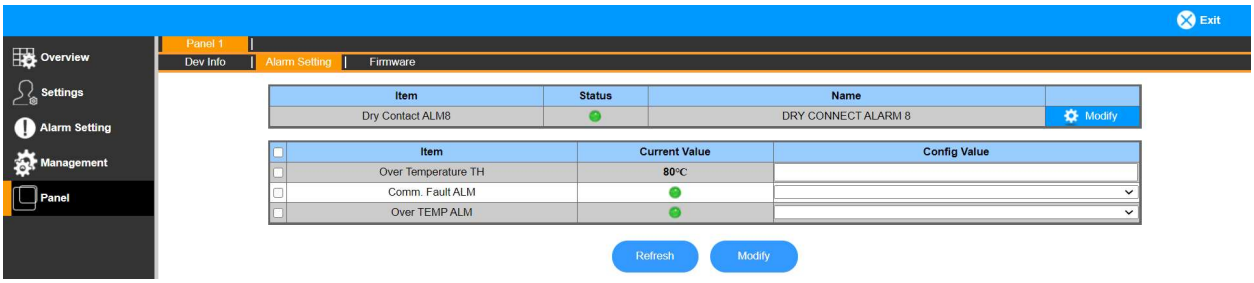
2. Configuring the Annunciator Panel in the BBU

Once the annunciator panel has been linked, the BBU GUI will show a “Panel” tab. This tab will provide:

- Dev Info - Shows the device information, including device temperature, firmware version and the serial number. If using a second annunciator panel, click on the “Panel 2” tab and verify the information is populated.

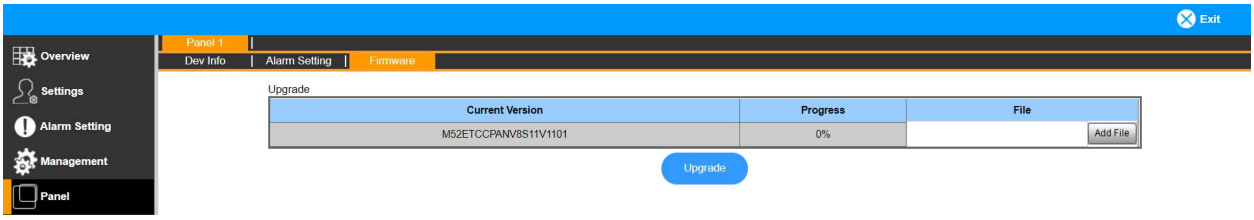


- Alarm Setting - The alarm indications on the annunciator panel(s) will always be synchronized with the Battery Backup Unit. Users cannot change the first 7 dry contact alarms. There are two other alarms “Comm Fault ALM” and “Over TEMP ALM”. They can be enabled or disabled and can be configured to trigger “Dry Contact Alarm 8” at the annunciator panel(s)



Note: Many jurisdictions require that you monitor the integrity of the RS-485 circuit between the BBU and the annunciator panel. Dry contact 8 at the annunciator panel, “Comm. Fault ALM”, will fulfill this requirement.

- Firmware – This is where the annunciator panel firmware will be performed.

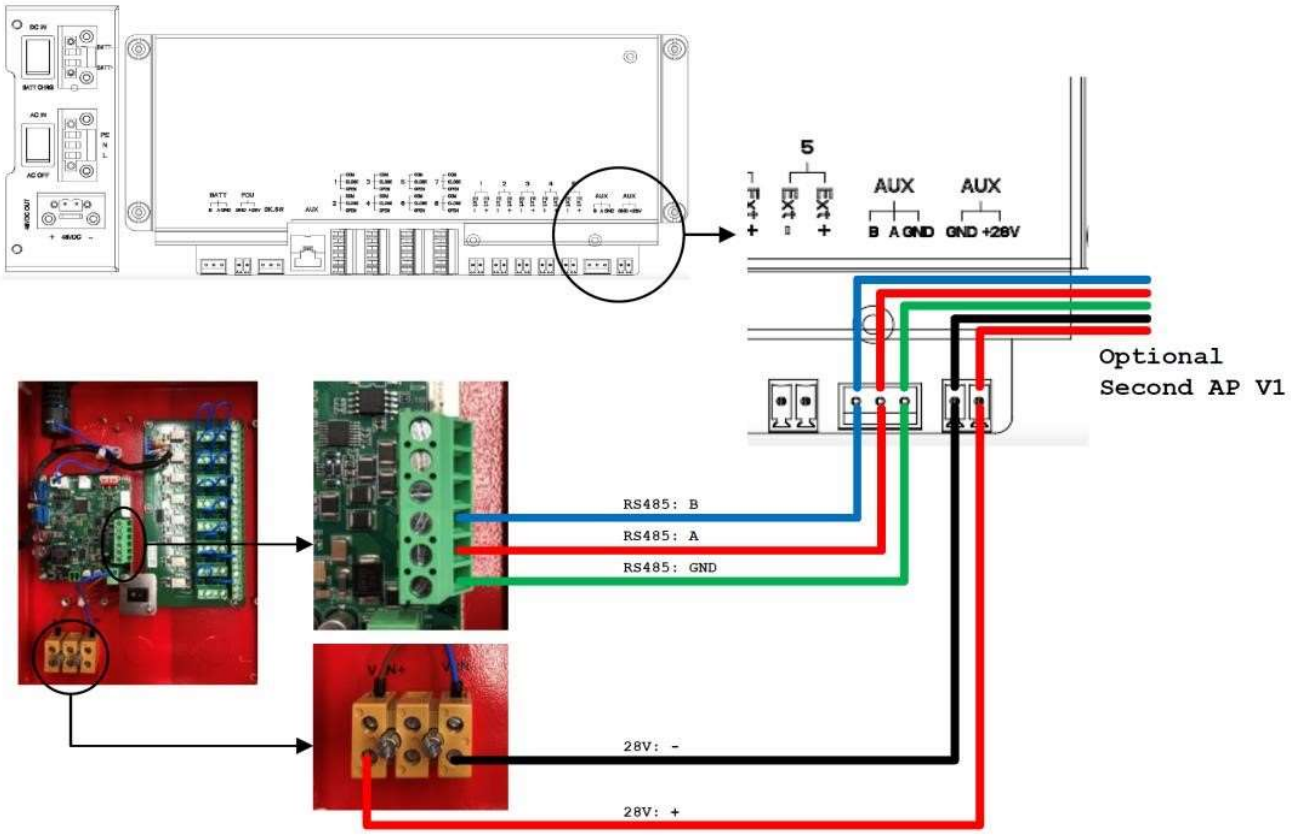


To upgrade the annunciator panel firmware: Click on “Add File”, select the new firmware file from your file explorer, then click on “Upgrade”. The annunciator panel will upgrade then reboot. Once completed, verify the firmware was successful. If a second annunciator panel is used, be sure to update that firmware by clicking on “Panel 2” tab.

NG V3 BDA/MU/RU Installations:

1. **Power OFF the V3 BDA and V1 Annunciator Panel before installation!**
   - Turn OFF BDA V3. Refer to Section 3.1 for Power OFF switches.
   - Switch off the V1 annunciator panel power switch inside the enclosure.

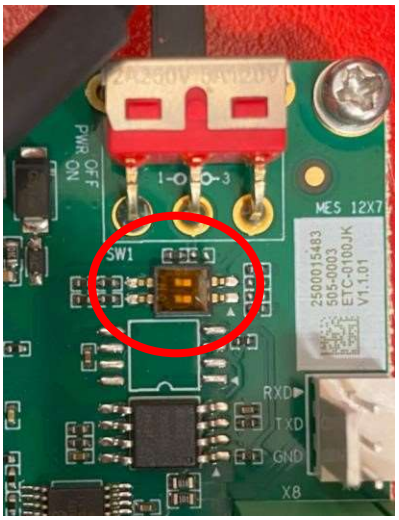
2. **Wiring Configuration:**
   - V3 BDA/MU/RU RS-485 AUX B to V1 AP B
   - V3 BDA/MU/RU RS-485 AUX A to V1 AP A
   - V3 BDA/MU/RU RS-485 AUX GND to V1 AP GND
   - V3 BDA/MU/RU AUX GND to V1 AP V IN –
   - V3 BDA/MU/RU AUX GND to V1 AP V IN +



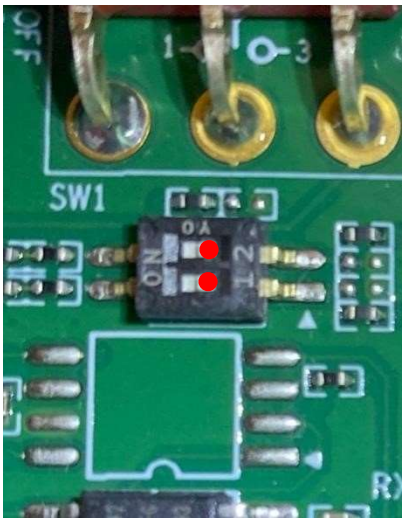
V1 Annunciator Panel to V3 BDA/MU/RU Connection

3. RS-485 Address Configuration

Only required when a second annunciator panel is used.



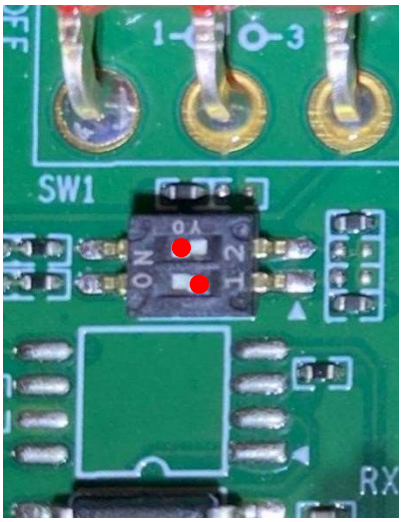
Remove the protective layer from the Dip Switch



First AP:

DIP 1: OFF (Default)

DIP 2: OFF (Default)



Second AP:

DIP 1: OFF

DIP 2: ON

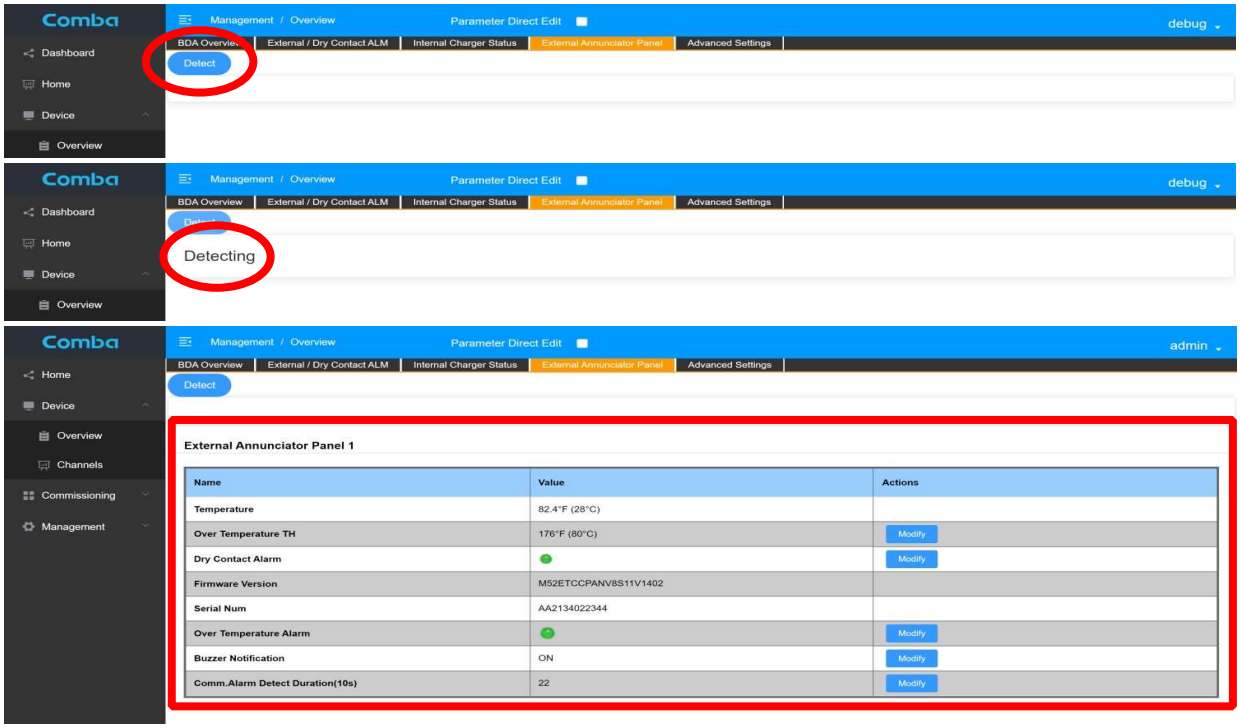
4. Connection Verification

Once all connections have been installed and verified, turn on the V3 BDA/MU/RU and switch on the V1 annunciator panel.

NG V3 BDA/MU/RU Software Configurations:

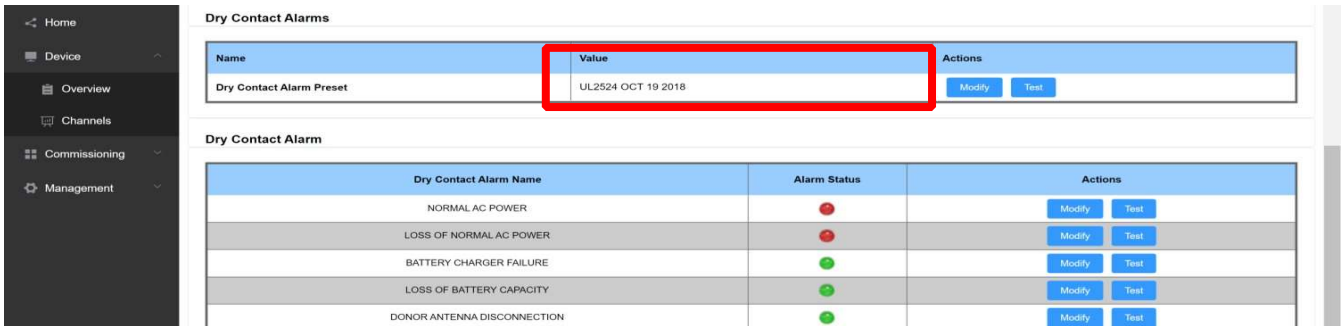
Discover V1 annunciator panel in V3 BDA/MU/RU WEB GUI:

- Device -> Overview -> External Annunciator Panel
- Click Detect and the V1 annunciator panel will self-populate



V3 BDA/MU/RU External Annunciator Panel Web GUI

The V1 annunciator panel Alarm Definition and Display uses UL2524 and is non-configurable. For the best matching, select <UL2524 OCT 19 2018> in the V3 BDA/MU/RU software, and replace with the <UL2524> Alarm Plate on the V3 BDA/MU/RU front panel.



Alarm Match Setting in V3 BDA/MU/RU WEB GUI

Troubleshooting - V1/V2 BBU:

If annunciator does not power on or does not appear in GUI after wiring has been confirmed, use a multimeter to check the following pins for resistance and voltage according to the below instructions.

BBU V1 and V2 BBU Control Board Measurements (note BBU version when testing)

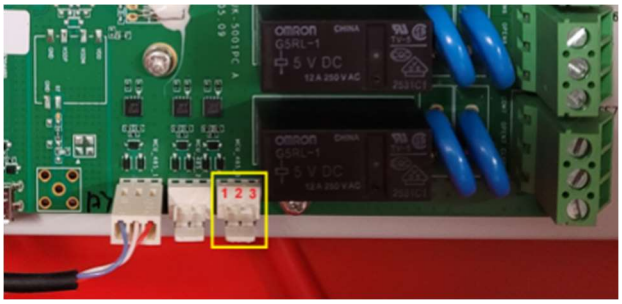
1. Turn on the BBU.
2. Measure voltage from 1->3 and 2->3

1 to 3	~ 1.65 VDC
2 to 3	~ 1.65 VDC

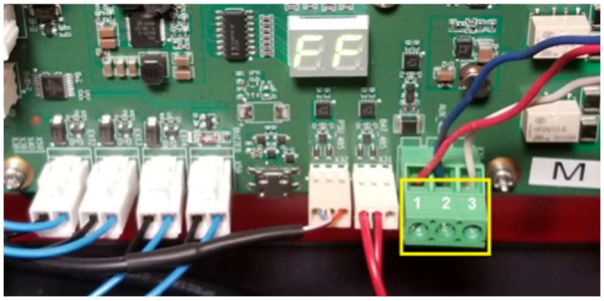
1. Turn off the BBU.
2. Unplug the three-wire jumper (V1 BBU) or disconnect the three data wire (V2 BBU) on the BBU control board that feeds the annunciator panel.
3. Measure the resistance from 1->3, 2->3, and 1->2

BBU V1	
1 to 3	~ 450 Ohms
2 to 3	~ 450 Ohms
1 to 2	~ 50 Ohms

BBU V2	
1 to 3	~ 2.2k Ohms
2 to 3	~ 2.2k Ohms
1 to 2	~ 130 Ohms



BBU V1



BBU V2

Troubleshooting – NG V3 BDA/MU/RU

If annunciator does not power on or does not appear in GUI after wiring has been confirmed, use a multimeter to check the following pins for resistance and voltage according to the below instructions.

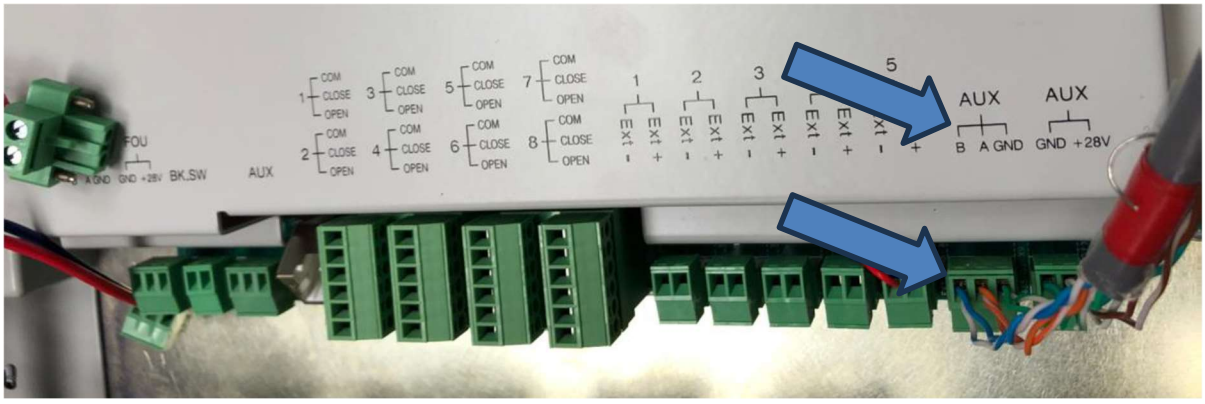
NG V3 BDA/MU/RU Measurements

1. Turn on the V3 unit.
2. Measure voltage from B->GND and A->GND

B - GND	~ 0.0 VDC
A - GND	~ 3.2 VDC

1. Turn off the V3 unit.
2. Disconnect the three data wires that feed the annunciator panel.
3. Measure the resistance from B->GND, A->GND, and B->A

B - GND	~ 2.3k Ohms
A - GND	~ 3.5k Ohms
B - A	~ 6.3k Ohms



NG V3 BDA/MU/RU

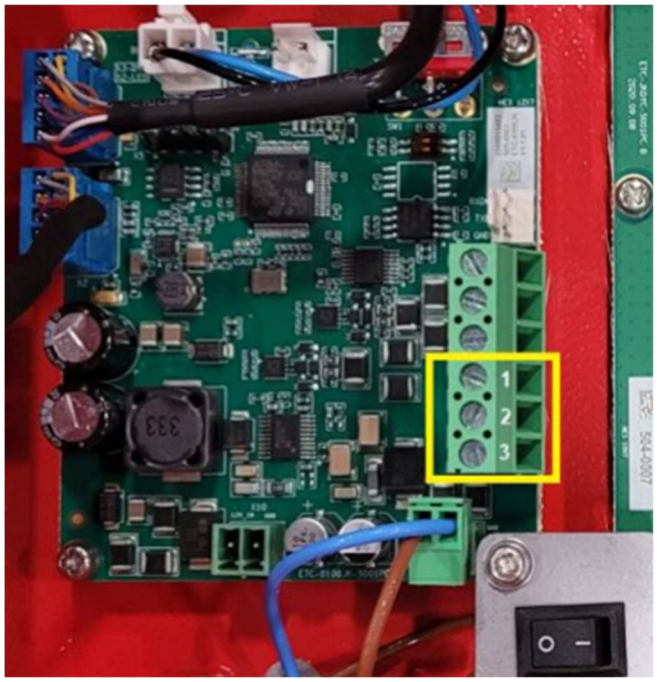
Troubleshooting – Annunciator Panel Measurements

1. Turn ON the annunciator panel.
2. Measure voltages across 1->3 and 2->3
   Voltage should be around 1.65V +- 0.05V

1 to 3	~ 1.65 VDC
2 to 3	~ 1.65 VDC

1. Turn off the power to the annunciator panel.
2. Disconnect the three data cables at the annunciator panel control board.
3. Measure the resistance from 1->3, 2->3, and 1->2

1 to 3	~ 2.2k Ohms
2 to 3	~ 2.2k Ohms
1 to 2	~ 130 Ohms



Annunciator Panel Control Board

Revision History

Version	Date	Comments
1.0.0	1/18/21	Document Creation
1.0.1	6/13/22	Updated for firmware change to BBU & AP
1.0.2	6/28/22	Updated with R232 troubleshooting
1.0.3	1/13/23	Updated for dual annunciator panel operation and Comba Support contact information
1.0.4	1/16/23	Updated RS232 troubleshooting guide to include BBU V2 control board connection
1.0.5	9/14/23	Update page 6 dry contact relay COM/CLOSE/OPEN picture for energized relay board
1.0.6	4/22/24	Add NG V3 BDA/MU/RU