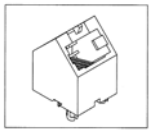
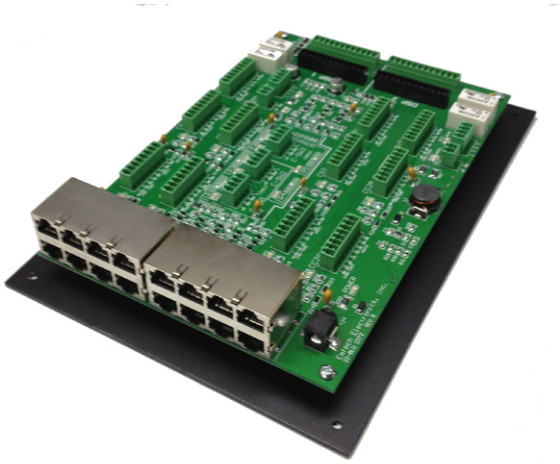


BLU- CIF2 Interface Board



The BLU-CIF2 Interface Board simplifies the wiring of all of the BLU products to two ***BSS Audio London Series Digital Signal Processors***. It allows for Cat5e wiring termination, as well as, termination to 3.5mm euro-style blocks. The BLU-CIF2 accommodates connections for two BLU-CC, two BLU-CP, two BLU-CS, up to five BLU-IR, or up to seven BLU-SV / BLU-SV8 plus ***Emtech*** MSC-C modules for providing audio in overflow areas. It is designed for mounting on the back door of a 19" rack.

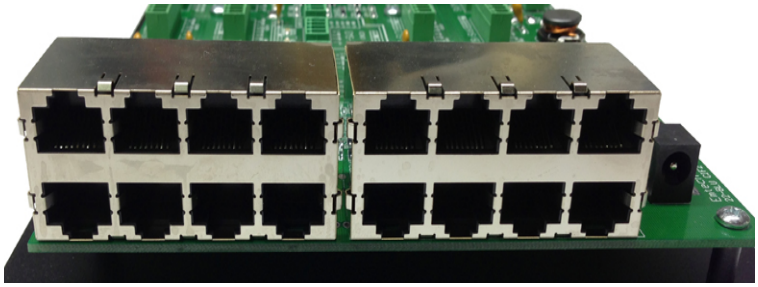
BLU-CIF2 Cat5e Wiring Instructions

IMPORTANT: IF you are using CAT5e wiring termination with the BLU-CIF2, then the RJ-45 connectors need to be crimped to TIA/EIA 568B Standards (see below) on both ends of the cable. **You must crimp and test the wiring with an approved CAT5 568A/B tester before connecting any cable between the BLU Products and the BLU-CIF2 Interface Board.** Failure to crimp wiring to the correct standard could possibly lead to component damage.

EIA/TIA568B

1. White-Orange
2. Orange
3. White-Green
4. Blue
5. White-Blue
6. Green
7. White-Brown
8. Brown

On the left side of the BLU-CIF2 Interface Board are two 2 X 4 blocks of RJ-45 connectors for terminating the BLU products via Cat5e wiring. The BLU products connect in this order (left to right), starting with Block 1:



BLOCK 1 BLOCK 2

BLU-CIF RJ-45 CONNECTIONS

TOP ROW	BLU-CP1	BLU-CC1A	BLU-SV2	BLU-IR2	BLOCK 1
BTTM ROW	BLU-CS/SV1	BLU-CC1B	BLU-IR1	BLU-IR3	

TOP ROW	BLU-IR4	BLU-CP2	BLU-SV4	BLU-CC2A/SV5	BLOCK 2
BTTM ROW	BLU-IR5	BLU-CS2/SV3	BLU-SV7	BLU-CC2B/SV6	

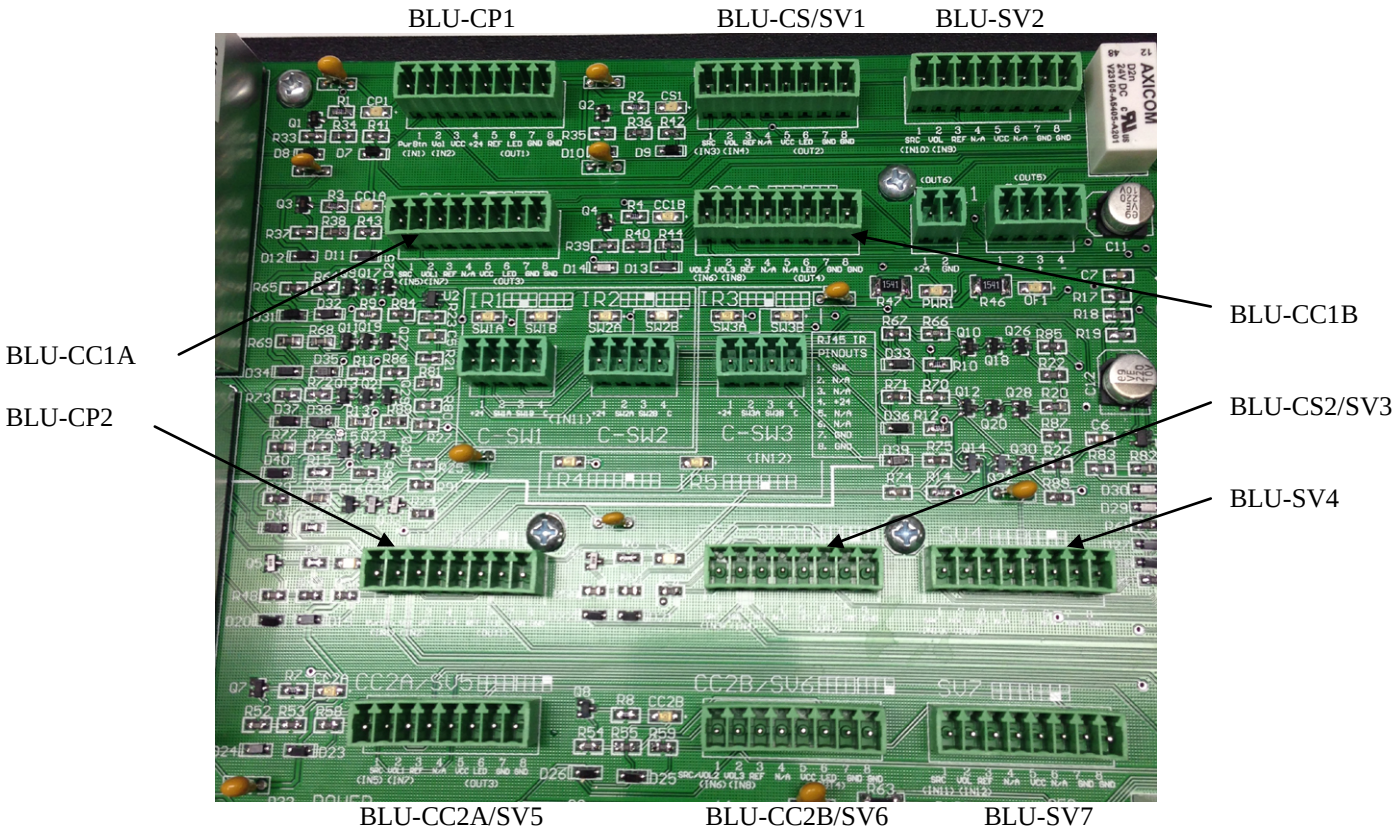
IMPORTANT: If you use the RJ-45 blocks for connecting the BLU-CC, BLU-CP, BLU-CS, BLU-IR and BLU-SV(8) modules, then do not use any of the 3.5mm euro-style connectors for these accessories. If you are using the BLU-IR Infrared Sensors for combining audio in overflow areas, then you have a choice to use either the RJ-45 connections in their blocks or the 3.5mm euro-style connectors. Wiring the BLU-IR Infrared Sensors into the 3.5mm connectors will be covered later on in this document.

A legend for the BLU-CIF2 RJ-45 connections has been silkscreened on the Interface Board next to the corresponding block of connectors.

BLU-CIF2 3.5mm Euro-block Wiring Instructions

The 3.5mm euro-block connectors have been provided for easy installation of the BSS Audio equipment into older buildings with existing analog wiring. Connectors for the BLU-CC, BLU-CP, BLU-CS and BLU-SV have

8-pins, and are located behind the RJ-45 blocks on the top half of the board for DSP1, and on the bottom half of the board for DSP2 .



The legends for identifying and wiring these euro-style connectors have all been silkscreened on the CIF2 Board at the top and bottom side of each connector. The pin-outs for each connector are listed below:

<u>BLU-CP1 & CP2</u>

1. Power Button (IN1)
2. Volume (IN2)
3. VCC
4. +24V
5. Ref
6. LED (OUT1)
7. GND
8. GND

<u>BLU-CS1/SV1 & CS2/SV3</u>

1. Power Button (IN3)
2. Volume (IN4)
3. Ref
4. N/A
5. VCC
6. LED (OUT2)
7. GND
8. GND

BLU-CC1A & CC2A/SV5
1. Power Button (IN5)
2. Volume (IN7)
3. Ref
4. N/A
5. VCC
6. LED (OUT3)
7. CHIP GND
8. EARTH GND

BLU-CC1B & CC2B/SV6
1. Volume (IN6)
2. Volume (IN8)
3. Ref
4. N/A
5. N/A (CC1B) or VCC (CC2B/SV6)
6. LED (OUT4)
7. GND
8. N/A

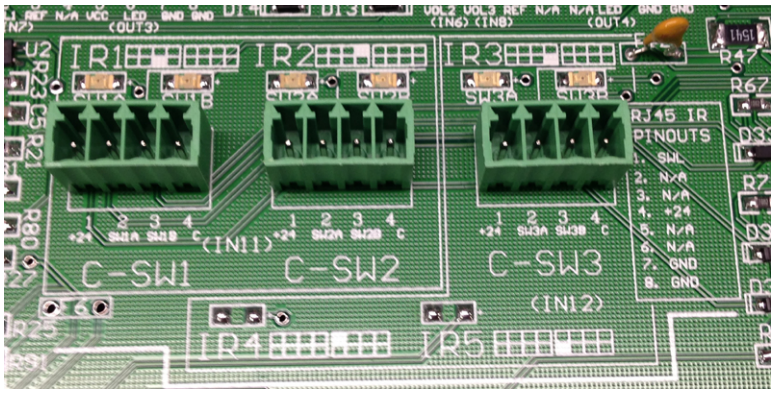
BLU-SV2 & SV4
1. SRC (IN10)
2. Volume (IN9)
3. Ref
4. N/A
5. VCC
6. N/A
7. GND
8. GND

BLU-SV7
1. SRC (IN11)
2. Volume (IN12)
3. Ref
4. N/A
5. VCC
6. N/A
7. GND
8. GND

A remote control can be used for controlling the volume of the various microphone inputs in the cultural hall. When wiring for a remote application wire to IN5 thru IN9, Ref and GND on CC1A, CC1B and SV2.

BLU-CIF2 / MSC-C Wiring Instructions

Some existing buildings already use ***Emtech*** MSC-C modules to provide chapel audio for the cultural hall and overflow areas. The BLU-CIF2 is designed to allow these existing modules to interface with the ***BSS Audio DSP.*** Located through the middle section of the CIF Board are three 4-pin euro-style connectors. Each connector has identification and wiring designations silkscreened below it.



There are no switches associated with the C switch connectors on the new version of CIF2 board. IN11 and IN12 are bit encoded with 4 bits each. C-SW1 and C-SW2 map to IN11, and C-SW3 and IR4-5 map to IN12. When either a C switch or IR get wired to the CIF board, the device will be automatically detected. The pin-outs on the C switch connectors are:

C-SW1 thru 3

1. **+24V**
2. **SW1**
3. **SW2**
4. **Common**

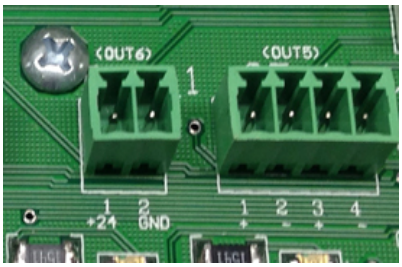
USING the C-SW INPUTS WITH BLU-IR INFRARED SENSORS

The BLU-IR Infrared Sensors can be wired to the 4-pin C-Switch euro-style connectors. Wire each IR sensor to its' corresponding 4-pin connector using this pin-out:

C-SW1 thru 3

1. **Red**
2. **Green**
3. **N/A**
4. **Black**

BLU-CIF2 PWR RELAY & OF RELAY Wiring Instructions



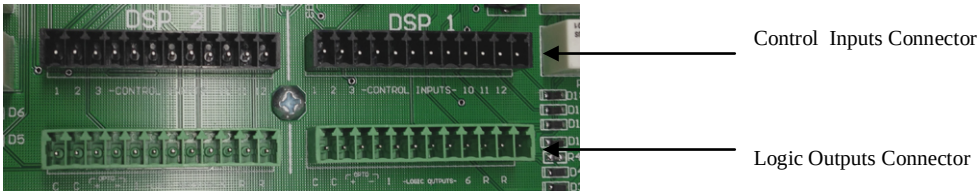
There are four separate relay connectors on the right side of the CIF2 board. The 2-pin PWR_1 & PWR_2 connections are used to power on external equipment. This connection will supply +24VDC @ 100mA on the "+24" pin when logic output 6 on the DSP is triggered.

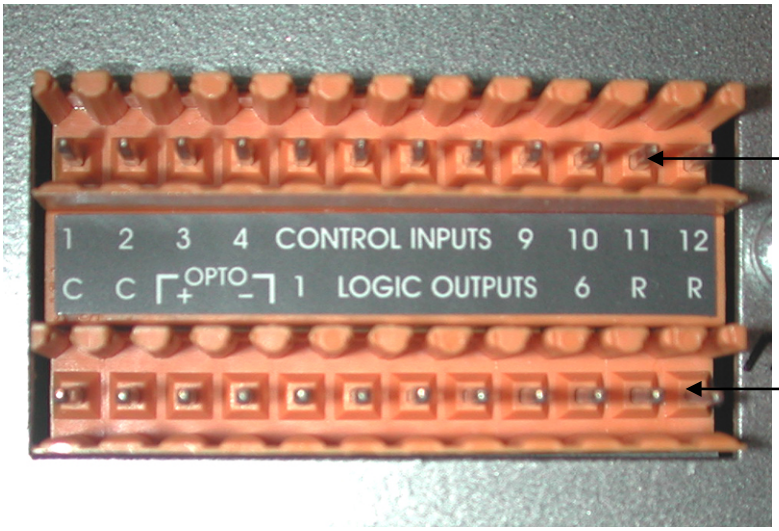
The voltage from the +24 pin is typically connected to an external power relay coil, which will then switch 120VAC on to the external equipment. The PWR RELAY output is thermo-fuse protected, so it will stop supplying power when the +24 pin exceeds 100mA. The circuit will reset automatically once the load is disconnected.

The 4-pin OF_1 & OF_2 overflow relay connections are 2-pole "dry contacts" that are normally open. These contacts will close connecting the "+" (pin 1) to the "+" (pin 3), and the "-" (pin 2) to the "-" (pin 4), when output port 5 on the DSP is triggered. This is typically used to switch speaker level signals, so an overflow room can be fed directly from an amplifier without needing its own dedicated amplifier channel.

Connecting the BLU-CIF2 to the BSS Audio London Series DSP

The BLU-CIF2 ships with four pre-fabricated 12-conductor cables. Each cable has 3.5mm connectors on both ends. On one end, the 3.5mm connectors are color-coded green and black, so they match up with either the Control Port 1 for DSP 1 & Control Port 2 for DSP 2 (Black) connector or the Logic Inputs (Green) connectors for DSP1 & DSP2 on the far right side of the CIF2 Board.





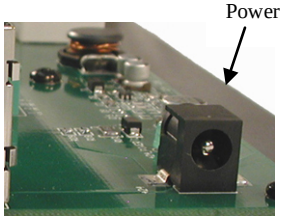
Control Inputs connector mates with the cable with Control_Port1 (Black) connector.

Logic Outputs connector mates with the cable with Logic Inputs (Green) connector.

The 3.5mm connectors on the opposite end of each cable are orange. They match the color of the mating connector on the back of the DSP and are labeled "top" and "bottom", so make sure that the cables are connected correctly on the DSP side. **Another way to remember : Black on the board goes to the top connection on the DSP, and Green on the board goes to the bottom connection on the DSP. Make sure that the cables are not crossed – DSP1 Control & Logic go to the first DSP and DSP2 Control & Logic go to the second DSP.**

BLU-CIF2 Power

The power jack for the BLU-CIF2 is located on the bottom left side of the board; below the RJ-45 blocks. The BLU-CIF2 is shipped with a universal desktop power supply that plugs into the power jack, and supplies it with 24VDC @ 1.67A. The power cord on the supply plugs into a standard 120VAC outlet.

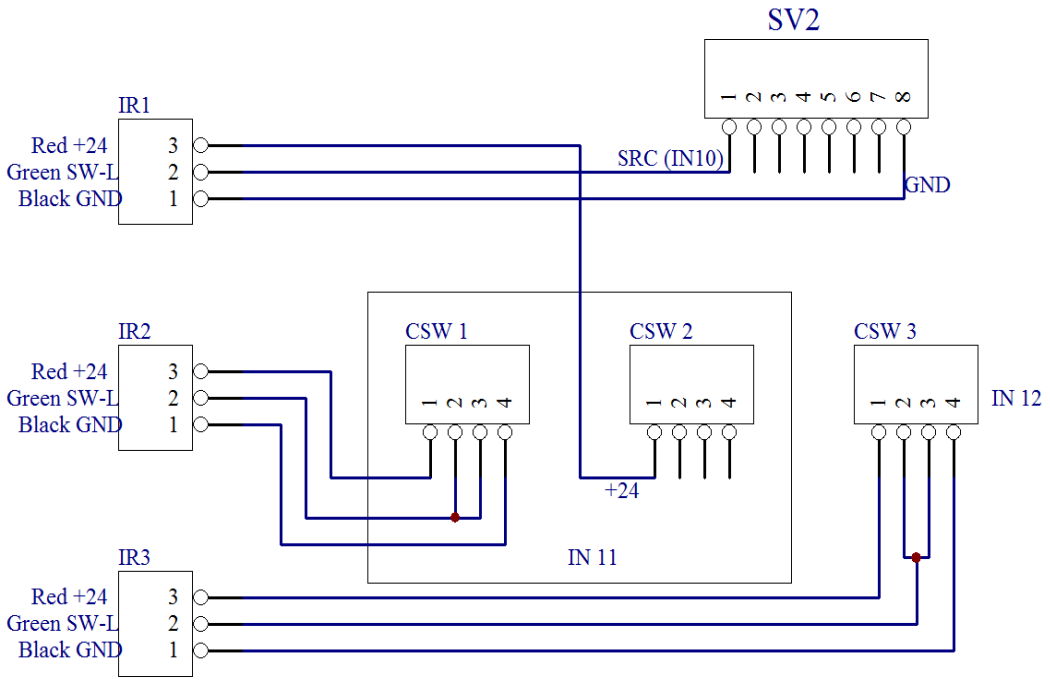


OLDER ACCESSORIES & THE NEW CIF2 BOARD

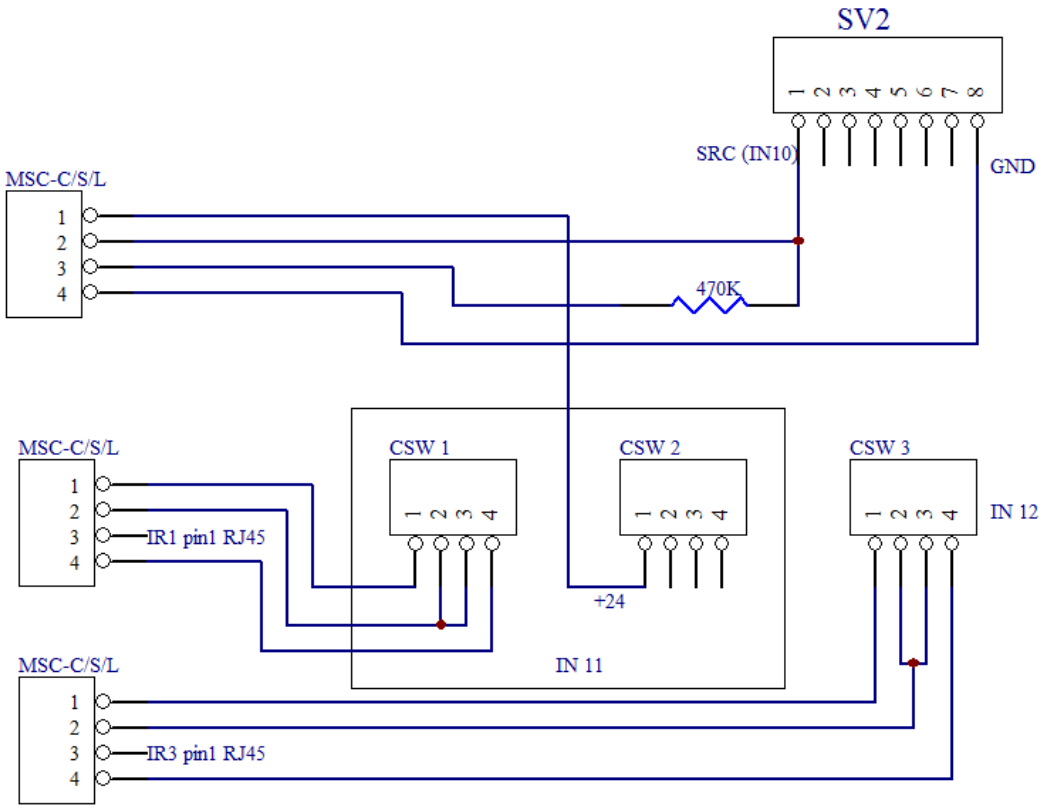
When using the new BLU-CIF2 board with older versions of the BLU-CC, BLU-IR or the MSC-C switches there will be some additional

wiring that must be done on the new BLU-CIF2 board for these to work properly with the old template. No additional wiring needs to be done when using the older versions of the BLU-CP and BLU-CS with the new BLUCIF2 board. When using the new BLU-CC2 with the new BLU-CIF2 board, new templates are required but not additional wiring. Contact BSS Audio for new templates.

BLU-IR with new BLU-CIF2 using old template:



MSC-C Switches with new BLU-CIF2 using old template:



Old BLU-CC with new BLU-CIF2 using old template