USER MANUAL

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Zaxcom URX/TX/RX8 GUI

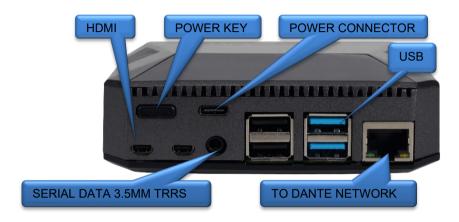
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GUI BRIDGE Overview

What is the GUI Bridge

The Zaxcom Zaxnet GUI Bridge is an all-in-one networking interface that provides set up and control of the parameters of an RX8, its associated transmitters, multiple URX and VRX units. Connections and control can be made locally on the GUI Bridge itself, or via a smart phone, tablet, or computer.

(Note: outdated graphic below - NEEDS HDMI PORT)



GUI Bridge Setup

The Zaxnet GUI Bridge is designed to provide global control of multiple TRX and URX units via Camera Link, control of RX8D receivers over network, and can program VRX units via USB. The system is designed to be plug-and-play, all the software is built in to the GUI Bridge, and is simple to navigate. The GUI Bridge is interfaced either directly with a USB mouse/keyboard and HDMI monitor, via LAN with a connected computer with internet browser, or via Wi-Fi, hosted by the GUI Bridge itself.

- Power Connector Plug the GUI Bridge either into the included power supply, or a compatible USB-C power supply
- If operating the GUI bridge directly, plug a mouse and keyboard into the USB ports, and a compatible monitor into the HDMI output. If the GUI Bridge is powered up without a keyboard connected, an on screen keyboard will pop up on selected fields.
- Press the power key to turn on . The GUI Bridge front green and red LEDs will blink on boot up, and slowly beat red while on.

To operate the GUI Bridge via LAN or external WAN, connect the GUI Bridge to a network via its RJ45 port. Any computer connected to that network can access the GUI Bridge with an internet browser. Alternately, To access the GUI Bridge via its built-in WAN, the factory default password settings are:

- SSID: Zax
- PASSWORD: zaxcom2023.

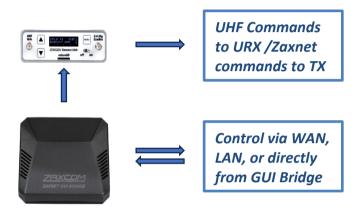
Upon successful connection to the GUI Bridge WAN or LAN, direct the web browser on the smart phone, tablet, or computer to **http//zaxcom.local** to access the remote software.

GUI BRIDGE Overview

Connection examples

The GUI bridge is capable of sending commands via RS422 to a TRXCL3, TRXCL4, TRXCL5, IFB200 or IFB300. Commands originating at the GUI Bridge can be then pushed either to URX units or Zaxnet enabled transmitters wirelessly. The GUI bridge is also capable of remotely controlling any RX8D Connected to its network. A connected RX8D is also capable of sending the GUI Bridge's commands via RS422 to a TRXCL3, TRXCL4, TRXCL5, IFB200 or IFB300, providing the user the option of operating a control transmitter remotely from the cart via Dante. The GUI Bridge is also able to program VRX units directly via USB.

EXAMPLE 1: GUI Bridge to Camera Link/IFB Transmitter for remote commands

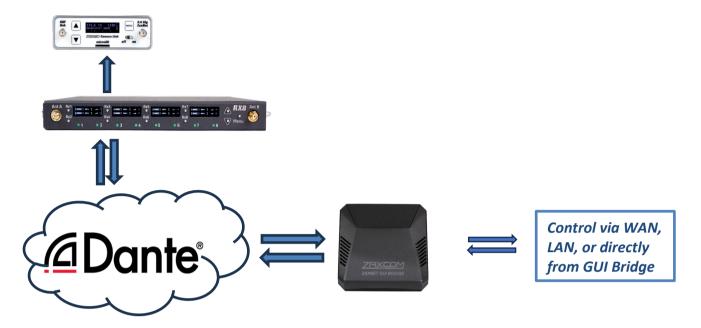


EXAMPLE 2: GUI Bridge paired with Camera Link/IFB Transmitter at cart and RX8D remote



GUI BRIDGE Overview

EXAMPLE 3: GUI Bridge paired with Camera Link/IFB Transmitter and RX8D both remote



Connecting to a TRXCL3, TRXCL4, TRXCL5, IFB200 or IFB300

- If using a TRXCL3/IFB200, connect it either to the Zaxcom GUI Bridge GPIO port or the RX8's RS422 port via
 the TA5 connector. If connecting to the GUI Bridge, in TX/URX Settings Menu, set Legacy Mode for CL/IFB to
 ON. Adjust the channel 2 input of the TRXCL3 until the signal from the GUI Bridge or RX8 reads 10dBFS. In
 the Setup menu on the TRXCL3 set RS422 MODE to INVERT L=AUDIO R=DATA.
- If using a TRXCL4 / IFB300, connect it to the Zaxcom GUI Bridge via the RS422 port on the TRXCL4/IFB300. In the **Setup** menu on the TRXCL4/IFB300 set the **RS422 MODE** to **EXTERNAL (NORMAL)**
- A TRXCL5 / IFB300 can be connected directly to the RX8 via the RS422 ports using a standard USB type A connector. In the Setup menu on the TRXCL4 / IFB300 set the RS422 MODE to EXTERNAL RX8
 In all of the above scenarios, proper connection can be confirmed by observing the the PACKETS count increasing in the Setup menu of the TRX/IFB. If you see BYTES but no packets set the desired mode to (INVERTED). If this fails, check the wiring of the interconnects used against the diagrams below, and check your network settings.

Connecting to a RX-8D

• The GUI Bridge is programmed to automatically connect to any networked RX-8D via its ethernet port and can support multiple RX8D units.

Connecting to a VRX

• The GUI Bridge will read and program one VRX unit at a time via USB connection.

URX Remote Menus

Menus

To access the GUI, log in to the GUI's wifi and type http://zaxcom.local in your browser.

Selecting RX8 will take you to the RX8 Control page, while selecting TX or URX will take you to the transmitter and URX settings menus.



Settings Menu

Both the URX Remote Settings menu and the Transmitter Settings Menu provide an interface to is where the global parameters are set for the GUI bridge.

At the bottom of the screen:

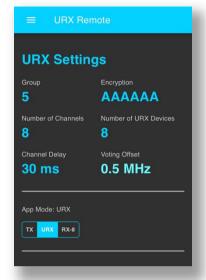
- Connection Status This reflects the communication status between your device and the GUI bridge.
- App Mode accesses system settings for URX or TX control. Selection of RX8 will take you directly to the RX8 control screen.
- Password, SSID, Channel, and Country Changes the wifi parameters to connect to the GUI bridge.
 - Password: Changes the password to login to the GUI Bridge
 - o SSID: Changes the name of the GUI Bridge's wireless network
 - Channel: Selects the WIFI channel used for the GUI Bridge's wireless network
 - Country Code: Selects the country code for the GUI Bridge's wireless network.
- **GUI Bridge Radio** Turns off the WIFI on the GUI bridge. Please note that the GUI Bridge needs to be power cycled to reconnect the WIFI.
- Save and Shut Down When selected the GUI Bridge will save its settings and power down
- Legacy Mode for CL/IFB When ON, the GUI Bridge will optimize its RS422 output baud rate for compatibility with IFB200/CL3 Zaxnet transmitters.



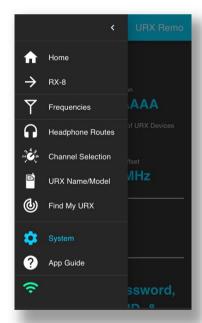
URX control mode

When App Mode is set to URX:

- **Group Code** URXs can be grouped together so they can operate in the same system. This is where the app will be assigned which group of URX receivers it will control.
- **Encryption** This is currently not enabled, and the encryption needs to be set at each individual unit.
- **Number of Channels** Sets how many transmitter channels will be in the system.
- **Number of URX Devices** Sets how many URX receiver groups will be in the system
- Channel Delay Sets the audio delay time in milliseconds. The delay setting is global, this means that all URX's will receive the same delay when delay is engaged in the Frequencies Menu.
- Voting Offset Sets how many MHz the voting offset will be.



Select the three lines on the top of the screen to open the drop-down menu.



URX Frequency Control

The frequency page is where the transmitter frequencies are assigned to each URX channel. Each channel can also be named for easy identification. In addition, voting and delay can be enabled/disabled.

Click on the desired channel.

Click on the frequency or name to open the **Update Channel** dialog box. When the dialog box is open type in the desired name and frequency. Click on UPDATE when done.

If desired delay and Voting can be enabled.



URX Headphone Routing

The Headphone Routing page is where each URX gets its headphone assignment.

- To adjust an individual receiver, select the desired receiver.
- To adjust all like receivers simultaneously select either **Adjust All URX100s** or **Adjust All URX50s**.



URX100

Audio from both sides of a stereo transmitter, a mono transmitter and the walkie interface can be assigned to the left, center (both) or right ear.

URX50

When receiving audio from a stereo transmitter each URX50 can be assigned to listen to the left, right or, both (summed to mono) sides of the signal. The internal speaker can also be enabled or disabled from this menu.



Channels Selection

The channel selection page is where each URX will be given permission as to which transmitters it can listen to.

Please note that the number of available channels that appear in this menu are set in the **System Menu**



Naming the URX

The Naming page is where each URX can be assigned a name and identify if that unit is a URX100 or a URX50.

Please note that the number of available URX's that appear in this menu are set in the **System Menu**



Find My URX

When the **Find Me Sound** is turned on, the selected URX50 will emit a tone from the speaker to aid in locating the unit. If **Adjust All** is turned on all URX50's will emit tone simultaneously.

Please note that the URX50 needs to be turned on and it needs to be on the data channel for the unit to receive the find me command.

Troubleshooting

- When the URX receives signal from a TRXCL3/4 it will automatically download the parameters that were set up in the remote app.
- SCAN ON BOOT (located in the SETUP menu of the URX) is set to on.

• The URX can be set to automatically search for the data from the TRXCL3/4 when

- When the URX boots up it will check preset position #1 for data from the TRXCL3/4. If it is not there the URX will then scan and look for the data.
- For the URX to automatically see the data from the TRXCL3 the UNIT ID code on the camera link needs to be set to 99 and transmit frequency needs to be set to a whole MHz frequency (for example any frequency like 550.00 MHz or 551.000 MHz will work a frequency like 550.100 MHz will not work).
- Each URX, in its Setup Menu, needs to be assigned a unique unit code so it can be individually controlled from the URX remote. So, for example settings changes made to URX 1 will control the settings for the URX that has its unit code set to 1. If desired multiple URX's can share the same unit code, those units will be grouped and will share the same settings.



TX Page

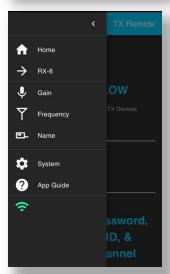
When App Mode is set to TX:

• Group code – This corresponds to the desired Zaxnet Group ID# on the transmitters in use.

- Encryption Changing the encryption settings will push to the camera link attached. Encryption settings will still need to be adjusted at the transmitter.
- Transport currently disabled feature
- Number of TX devices Sets how many transmitters will be in the system.

Select the three lines on the top of the screen to access the pull down menu.





TX Gain

• The gain control page is where gain values for each transmitter can be sent according to its Zaxnet ID# The TX remote will retain the last used assignments from the transmitters. When a transmitter is broadcasting and paired with a receiver, that information will be updated.

- Click on the desired channel
- Click the arrow buttons to increase or decrease the gain value



TX Frequency Control

The frequency control page is where frequency commands for each transmitter can be sent according to its Zaxnet ID#. As in the TX Gain page, the last used assignments from the transmitters are displayed here, and will be updated as a transmitter is broadcasting and paired with a receiver.

- Click on the desired Zaxnet ID#, frequency, or name to open the Update
 Frequency dialog box.
- When the dialog box is open, type in the desired frequency in MHz.
- Click on UPDATE when done.





TX Control

In the Tx Control page, the transmitters' transport states can be controlled either globally to all transmitters receiving a Zaxnet Signal, or individually to a selected transmitter. Global commands are at the top of the page, marked **TX Global Power and Transport**.

- **ON** The GUI Bridge transmits an ON command to the transmitters. Any transmitters individually placed into LOW or STANDBY mode will continue to stay in LOW or STANDBY when the global transport switch is set to **ON**.
- WAKE The GUI Bridge will transmit a continuous WAKE command. Any
 transmitters on STANDBY or LOW will power up to full transmitting power.
 Best practice is to wait to confirm that all transmitters have begun
 transmitting, then switch the global control to ON.
- **LOW** The GUI Bridge will transmit a continuous LOW command.
- STANDBY The GUI Bridge will transmit a continuous STANDBY command.
- If **REC** is selected, the GUI Bridge will transmit a continuous record command.
- If **STOP** is selected, the GUI Bridge will transmit a continuous stop command.
- If NONE is selected, the GUI Bridge will not transmit any transport commands. This setting will prevent the GUI Bridge from altering the state of any transmitters being operated manually.



Click on a desired transmitter to individually control its status. Below its TX# in the upper left of the screen, you can select **ON**, **WAKE**, **LOW**, or **STANDBY** for that transmitter.

As a reminder, if a TRX transmitter is set to **STANDBY** it will power up to a non-transmitting low power mode and will use approximately 25% of the power of normal operation. A **LOW** setting will disable the RF power amplifier, RF board and microphone preamp on the transmitter, which will save approximately 50% of its normal operating power.

TX Name

The transmitter name page is where each transmitter can be sent a name corresponding to its Zaxnet ID. When selected, this name will be pushed to the transmitter and its record folder name will be changed accordingly.

- Click on the desired Zaxnet ID#, frequency, or name to open the **Update Name** dialog box.
- When the dialog box is open, type in the desired name for the transmitter.
- Click on UPDATE when done.

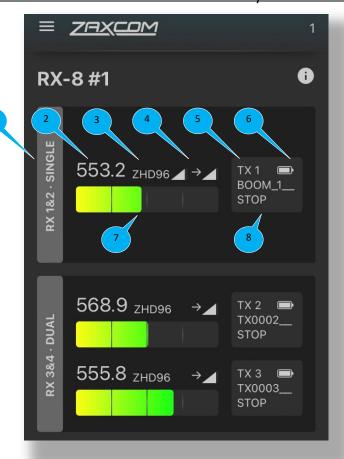




RX-8 Control Screen

The RX-8 control screen can be accessed from the main menu by clicking on the icon "RX8", or by selecting it from the drop down menu on the upper left hand corner of the screen. This screen provides a graphic status display for all active receivers in the RX8 chassis, including:

- 1. Receiver Mode Single/Dual
- 2. Receiver Frequency
- 3. Receiver Modulation
- 4. RF Strength and Antenna/receiver Phase
- 5. Transmitter ID/Name
- 6. Transmitter Battery Level
- 7. Receiver Audio Meter Bridge
- 8. Transmitter Transport Status



Receiver bank settings

There are submenus for control of each individual receiver bank, encryption settings, and setting the 35mhz bandpass filter on the RX8. Click on an individual receiver bank to access its settings.

- Click on the Mode icon SINGLE or DUAL to toggle the receiver between single and dual mode
- Click on the Modulation icon ZHD96 or XR/STEREO to choose the desired modulation setting for the RX8 only. Note that changing the modulation on the receiver will require a reboot at the receiver, and any corresponding modulation changes will need to be made manually at the transmitter.
- Click on the Frequency for the desired receiver to open the Update RX Frequency dialog box. Input the desired frequency for the RX8 to receive, then click on UPDATE when finished.
- The **RX TX ID** pulldown allows the user to pair a transmitter to a receiver in the RX8. If a transmitter ID number other than "0" is set the system will automatically pass on frequency commands from the RX8 to the selected transmitter ID number. For best results:
 - Power on all devices that will be used.
 - Set receiver frequencies that will be used.
 - o Set receiver pairing ID's and wait for all transmitters to connect.
 - Go to the TX Control page and make any further adjustments.

Encryption Settings

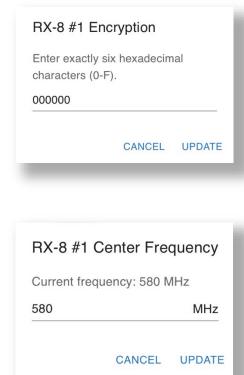
To change the encryption settings for the RX8:

 Click on the Encryption tab or the encryption number at the bottom of the RX8 control screen to open the RX-8 Encryption dialog box.

Enter the desired six character encryption key

Click on UPDATE when finished.





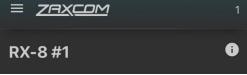
Setting Center Frequency

Setting a proper center frequency for the RX8 front-end filter is essential for proper RF performance. The front-end filter is a 35MHz wide bandpass filter. Frequencies 17.5MHz above and 17.5MHz below the center frequency will be within the operating range of the RX-8. Both the transmitters and receivers will need to operate within the set 35MHz window. If the selected frequencies fall outside the this window, RF performance will be significantly reduced.

To change the center frequency for the RX8:

- Click on the **Center Frequency** tab or the frequency number at the bottom of the RX8 control screen to open the Center Frequency dialog box
- Enter the desired center frequency in MHz
- Click on **UPDATE** when finished.

Receiver firmware information



For each RX8 in use on the network, there is an information icon located on the upper right hand corner of that receiver's control screen. Click on it for a display of current firmware on all mrx units in use.

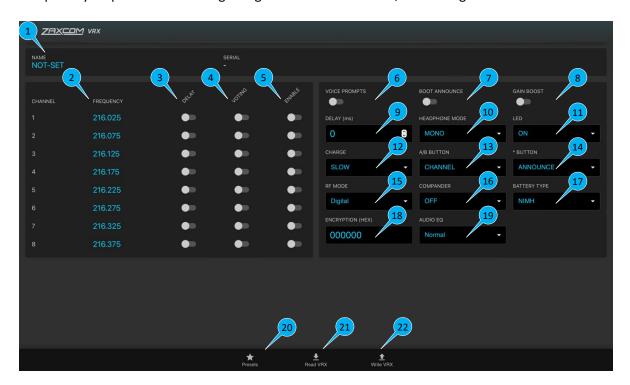
VRX Control Screen

To program a URX via the GUI Bridge, plug a single URX or multiple URX via USB port to a Zaxcom GUI Bridge with most recent firmware.

The VRX control screen can be accessed from the main menu by clicking on the VRX icon, or by selecting it from the drop down menu on the upper left hand corner of the screen. This menu allows the user to program individual VRX units.

The last saved status of an individual VRX can be displayed by selecting **Read VRX**. When **Read VRX** is selected, the name of the device will be displayed, and all its parameters will be shown in blue. Any changed or new settings will toggle to green as they are selected. When **Write VRX** is selected, the desired settings will be flashed to the VRX unit. Presets can be saved and recalled by selecting **Presets**.

When the VRX Control Screen is initially selected, it defaults to ALL_DEVICES in the transmitter name. When ALL_DEVICES is selected, the desired setup can be selected and written globally to any connected VRX units. This is especially helpful when handling a large number of VRX units, or working in batches.



1. Name/Serial Number

Displays the Name and Serial number of the individual unit. The name can be edited by clicking on this field. The serial number cannot be edited.

2. Frequency

Each individual VRX is capable of holding up to ten frequencies in its memory, marked as channels.

3. Delay

Applies the programmed delay value to the audio received at that channel.

4. Voting

Selecting channels for voting will enable the VRX to automatically tune to the strongest received frequency from the list of enabled frequency channels. Minimum channel spacing for voting in Analog mode is 100KHz. If the **A/B** or * Button is set to **CHANNEL**, pressing that button will still cycle between enabled frequencies.

5. Enable

Enables the VRX to tune to the desired channel.

6. Voice Prompts

Activates/Deactivates internal voice prompts on the VRX unit. Some basic voice prompts, such as a low battery indication, or a bootup announcement will still be enabled.

7. Boot Announce

Activates/Deactivates the bootup announcements on the VRX unit.

8. Gain Boost

Activates +10db gain on the headphone output.

9. Delay Value

Determines the amount of delay in ms applied to channels where delay is enabled.

10. Headphone Mode

Toggles mono/stereo headphone output.

11. LED

Activates/deactivates/dims the external LED on the VRX unit.

12. Charge Rate

Toggles a slow/fast charge state for the VRX when plugged into a charger.

13. A/B Button

Programs the behavior of the **A/B** key on the VRX. **CHANNEL** – the **A/B** key will cycle through enabled channels as it is pressed. **DELAY** – the **A/B** key will enable/disable delay on the current channel. **ANNOUNCE** – the **A/B** key will prompt the VRX to announce its current channel selection.

14. * Button

Programs the behavior of the key on the VRX. **CHANNEL** – the * key will cycle through enabled channels as it is pressed. **DELAY** – the * key will enable/disable delay on the current channel. **ANNOUNCE** – the * key will prompt the VRX to announce its current channel selection.

15. RF Mode

Toggles between FM Analog and Digital reception modes.

16. Compander

Toggles adjustment of the compander settings for the receiver unit.

17. Battery Type

Adjusts the battery metering for NIMH, Alkaline, or Lithium AA batteries.

18. Encryption

Sets receiver encryption for digital reception mode.

19. Audio EQ

Toggles audio EQ profiles for the VRX unit.

20. Presets

Loads saved preset settings for VRX.

21. Read VRX

Displays the saved settings in the connected VRX unit

22. Write VRX

Writes selected settings to the connected VRX unit.

Firmware Updates

The Zaxcom GUI Bridge firmware can be updated using a thumb drive with an updater file on it, or the GUI Bridge's MicroSD card can be updated with Raspberry Pi installer.

Install GUI Bridge Firmware Using A Thumb Drive:

- Place update-bundle-********.raucb file on a FAT32 formatted USB thumb drive.
- Make sure the GUI Bridge is fully powered up and running.
- Insert thumb drive into one of the blue USB ports on the back of the GUI Bridge.
- In a few moments the green activity light on the front of the GUI Bridge will flicker then go solid.
- After the update has been successfully installed, the update file will be deleted from the thumb drive and the GUI Bridge will power off.
- Remove the thumb drive.
- Update process is now complete.

Install GUI Bridge Firmware In the MicroSD Card:

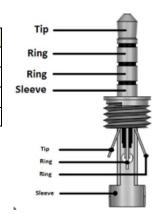
- Place the MicroSD card into reader connected to computer.
- Open Raspberry Pi Imager
- Click "CHOOSE OS" button
- Scroll down and click "Use custom" button
- Navigate to and select the ******.wic.gz file and click open.
- Click the "Choose" button under "Storage"
- Select the drive of the MicroSD card.
- Click the "WRITE" button.
- After writing is completed the software will read back and verify the card.
- The software will inform you when it is safe to remove the card, at that point remove the card and insert it into the slot on the lower front of the GUI Bridge.
- Power on the GUI Bridge with the card installed.

Cables and Connections

CL4/CL5 RS422 Pinout	In "RX8" Mode	In "EXT Normal" Mode	In "GUI Bridge" Mode
PIN 1 - Red	RX- (Data IN) (Normally Low)	TX+ (Data OUT) (Normally High)	TX+ (data out) (normally high)
PIN 2 - White	TX- (Data OUT) (Normally Low)	RX- (Data IN) (Normally Low)	RX+ (data in) (normally high)
PIN 3 - Green	TX+ (Data OUT) (Normally High)	RX+ (Data IN) (Normally High)	RX- (data in) (normally low)
PIN 4 - Black	RX+ (Data IN) (Normally High)	TX- (Data OUT) (Normally Low)	TX- (data out) (normally low)
PIN 5 - Shield	GROUND	GROUND	GROUND

RX8 RS422 Pinout	In all RS422 modes: "PC-NOVA", "QRX-235", and
	"Camera Link"
PIN 1 - Red	TX- (Data OUT) (Normally Low)
PIN 2 - White	RX- (Data IN) (Normally Low)
PIN 3 - Green	RX+ (Data IN) (Normally High)
PIN 4 - Black	TX+ (Data OUT) (Normally High)
PIN 5 - Shield	GROUND

GUI Bridge 3.5 mm Jack	RS422 Data
Tip	TX+ (data out)(normally high)
Ring 1	TX- (data out)(normally low)
Ring 2	TX- (data out)(normally low)
Sleeve	GROUND



URX Remote

CABLE: GUI bridge TRRS to TRXCL3/IFB200 TA5 audio connector:

Check that you see audio bursts on CH2 come up to about -10dB on the audio meter. Adjust CL's input gain if needed.

GUI Bridge 3.5 mm Jack	TRXCL3/IFB200 TA5 Connector
Tip	TA5 pin 5
Ring 1	TA5 pin 4
Ring 2	NULL
Sleeve	TA5 pin 1 (ground)

CABLE: GUI bridge TRRS to TRXCL4/TRXCL5/IFB300 RS422 connector:

Set device to RS422 "GUI BRIDGE" mode or "EXT NORMAL INVERT" mode. Proper connection can be confirmed by observing the the **PACKETS** count increasing in the Setup menu of the device.

GUI Bridge 3.5 mm Jack	TRXCL4/TRXCL5/IFB300 RS422 Connector
Tip	USB pin 2: White
Ring 1	USB pin 3: Green
Ring 2	NULL
Sleeve	USB pin 5: Shield (ground)

CABLE: RX8 RS422 to TRXCL3/IFB200 TA5 audio connector:

Check that you see audio bursts on CH2 come up to about -10dB on the audio meter. Adjust CL's input gain if needed.

RX8 RS422 Pinout	TRXCL3/IFB200 TA5 Connector
PIN 1 – Red	TA5 pin 4
PIN 2 – White	
PIN 3 - Green	
PIN 4 - Black	TA5 pin 5
PIN 5 - Shield	TA5 pin 1 (ground)

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