

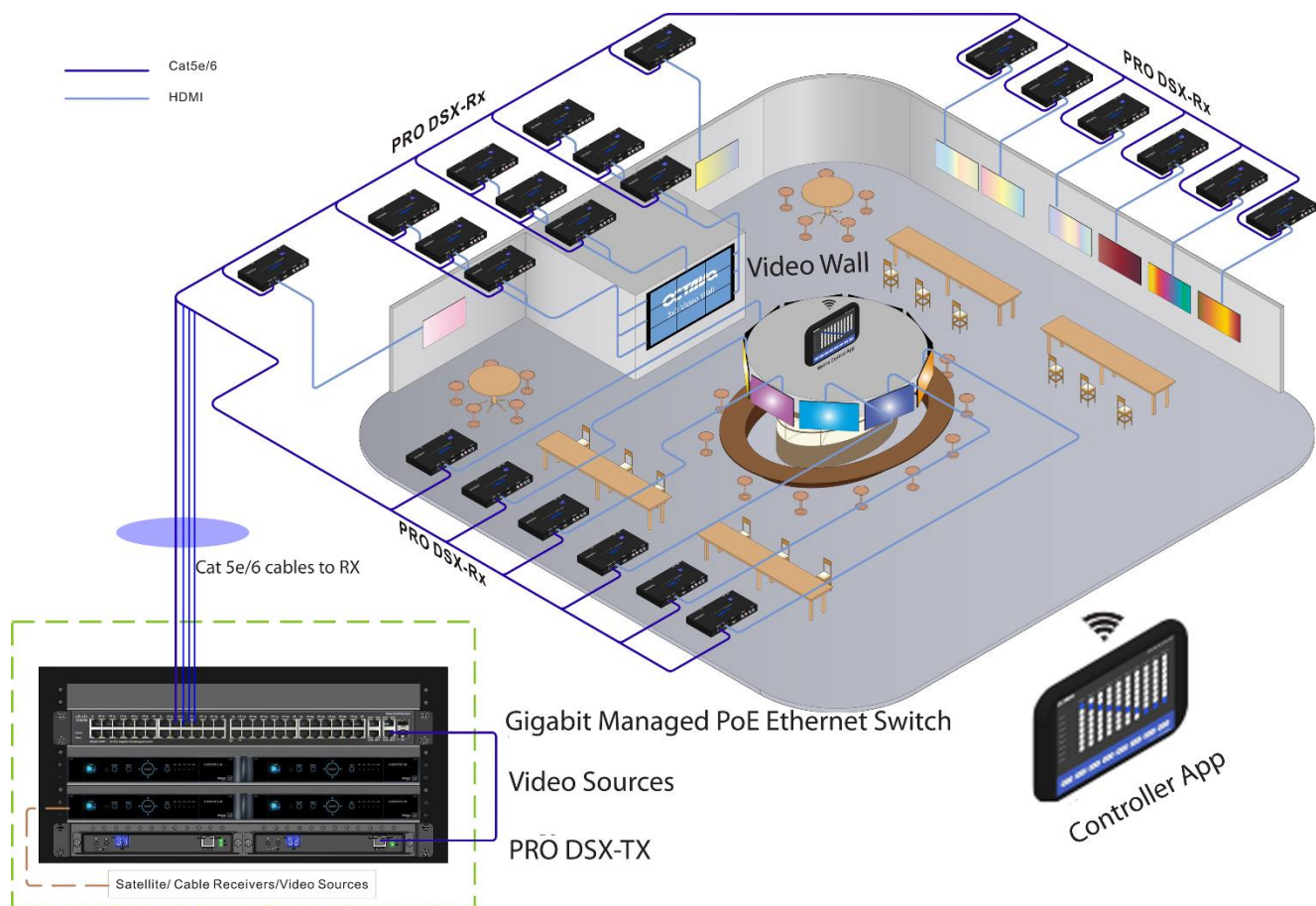
# PRO DSX Installation and Reference Guide Revision: 1.2review

For PRO DSX units with the 6.3.1 firmware suite

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## System Application Diagram : Video Distribution + Video Wall



Customizable Matrix Control App ( available for iOS, and Android Devices)

## Parts and Accessories :

The following details the various components of the PRO DSX system.

## Parts and Accessories: Recommended Ethernet Switches

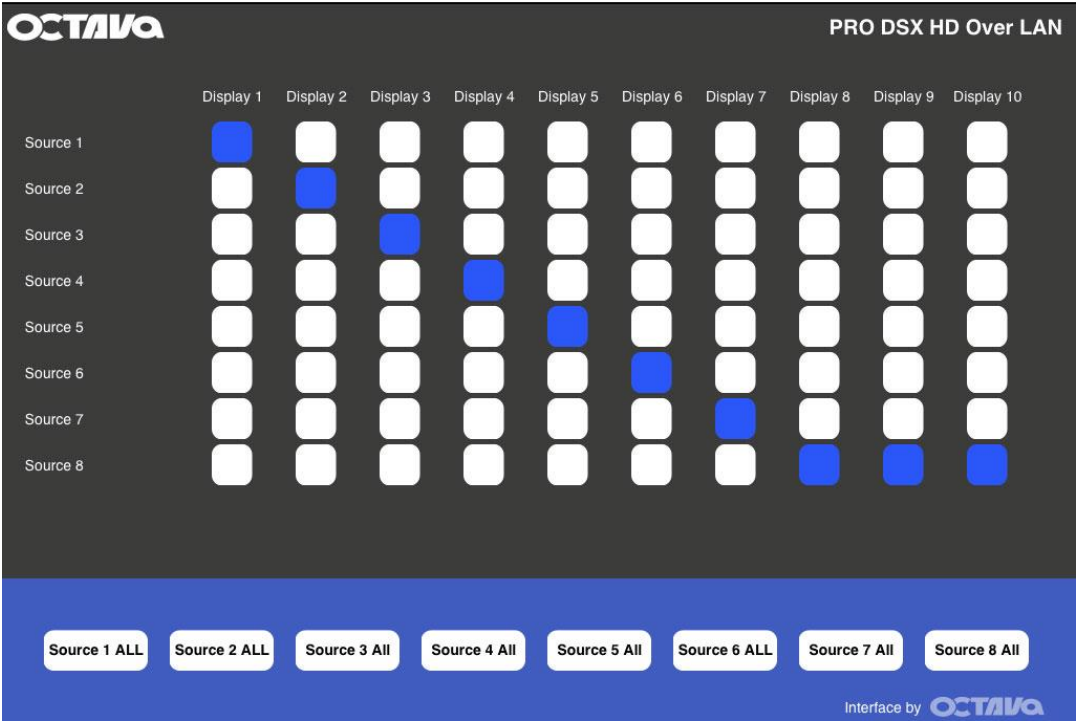
Below are some Ethernet switches for your reference. Equivalent models can be used.

For video Matrix applications, a 1G L2/L3 Managed Ethernet Switch with IGMP Snooping, Jumbo Frame(8K) support will be needed. PoE is recommended for ease of installation.

| Number of PRO DSX Devices ( TX + RX) | Recommend Switch                            |  |
|--------------------------------------|---|--|
| 1-8                                  | Cisco SG300-10P                             |  |
| 9-24                                 | Cisco SG300-28MP                            |  |
| 25-40                                | Cisco SG300-52P                             |  |
| 41-48                                | Cisco SG300-52MP                            |  |
| > 48                                 | Cisco SG500x-MP Contact us for consultation |  |
| Inter building/floor connections     | Cisco SG500x-MP Contact us for consultation |  |

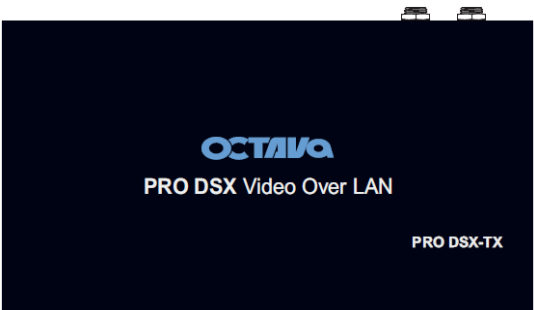
The recommended Cisco Managed switches require configuration for VLAN / Multicasting and other properties prior to using with the Octava PRO DSX. Contact us for info.

Parts and Accessories: Control Software and App



PRO DSX iOS/Android App

Parts and Accessories: Included Parts



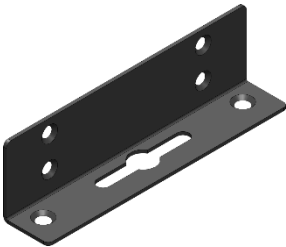
PRO DSX –TX Transmitter



PRO DSX –RX Receiver



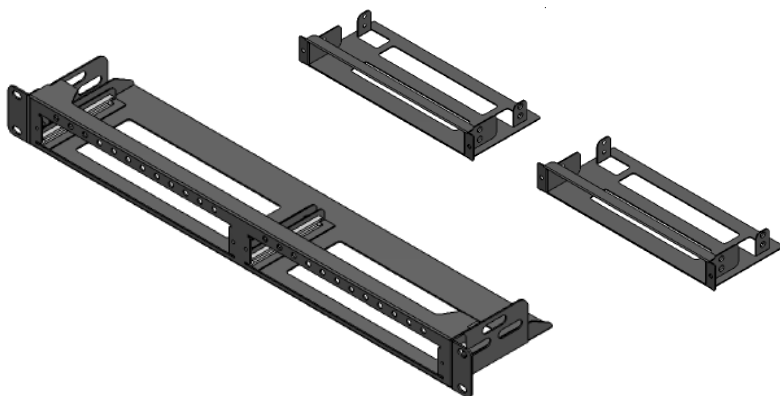
Phoenix Connector ( 3 position) for RS-232



Mounting Bracket

| Model       | Description                               | QTY |
|-------------|---|-----|
| PRO DSX- TX |   |     |
|             | Pro HD over LAN Video Encoder Transmitter | 1   |
|             | Phoenix Connector ( 3 position)           | 1   |
|             | Mounting Bracket                          | 2   |
| PRO DSX- RX |   |     |
|             | Pro HD over LAN Video Decoder Receiver    | 1   |
|             | Phoenix Connector ( 3 position)           | 1   |
|             | Mounting Bracket                          | 2   |

## Parts and Accessories: Optional Accessories



**PRO DSX TX 1 RU Mounting kit**



**PRO DSX IR Emitter Cable**



**PRO DSX IR Receiver Cable**



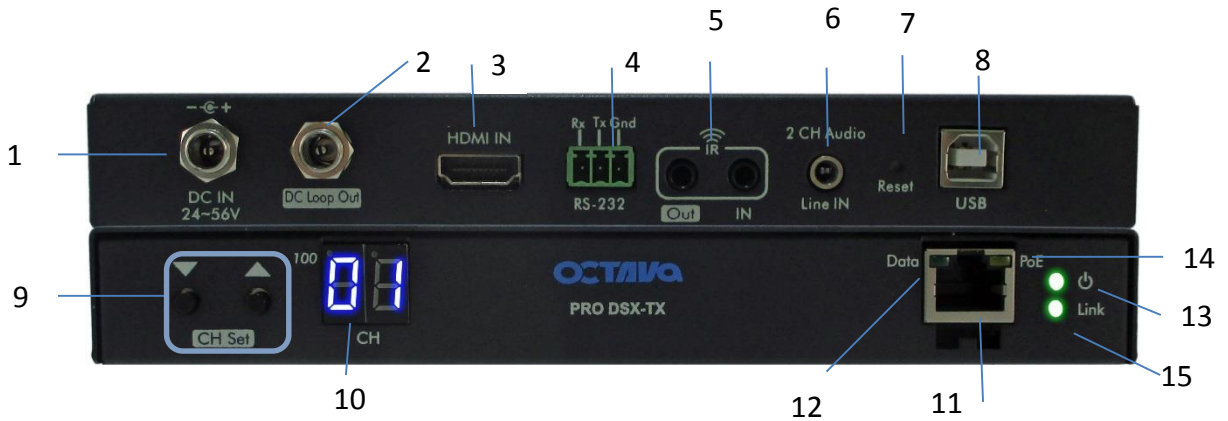
**PRO DSX Remote Control**



**PRO DSX DC Power Supply 48V, 0.5 Amps**

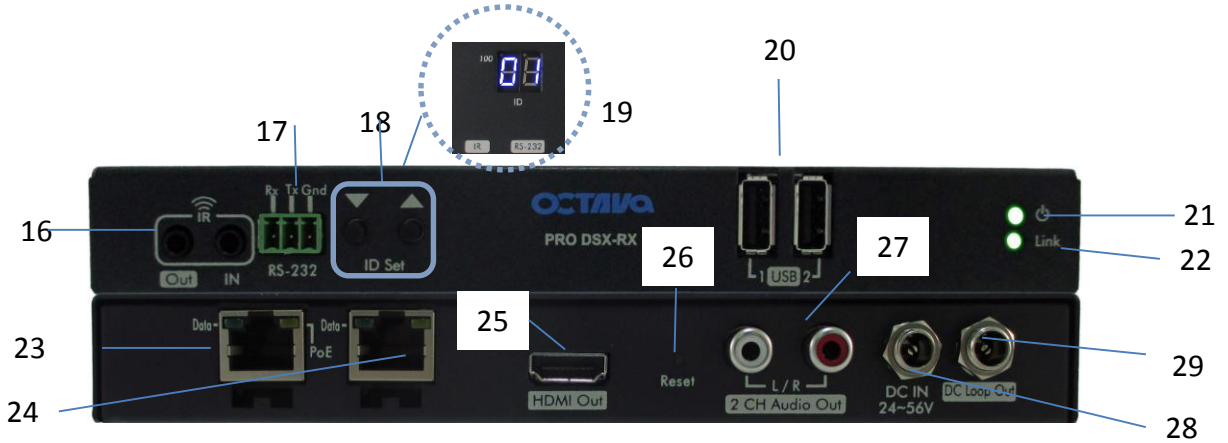


## I/O Descriptions: TX



|    | Port              | Description   |
|----|-------------------|---|
| 1  | DC-IN             | Local DC Power Supply Input . Optional, as Pro DSX-TX can be powered over PoE.                |
| 2  | DC Loop Out       | DC Power Loop Out . For powering additional PRO DSX-TX units. (Maximum = 4 PRO DSX-TX).       |
| 3  | HDMI IN           | HDMI Source Input   |
| 4  | RS-232 Port       | Serial Port. Supports up to 115200 bps. Type = Phoenix 3 port connect                         |
| 5  | IR Out and IN     | Infrared Cable Out , Infrared Cable IN<br>Wide Band 20-60KHz using supplied Octava IR cables. |
| 6  | 2CH Audio Line In | 3.5 mm 2 Ch. audio inject. Overrides HDM input audio  |
| 7  | Reset             | Hardware Reset of PRO DSX –TX unit  |
| 8  | USB               | USB 2.0 Port  |
| 9  | CH SET Button     | Set the PRO DSX Source ID ( 1-199)  |
| 10 | CH ID LED         | PRO DSX TX CH ID Indicator LED  |
| 11 | RJ-45 out /PoE IN | RJ-45 Port  |
| 12 | Data LED          | Data ok   |
| 13 | Power LED         | ON = PRO DSX-TX is powered  |
| 14 | PoE LED           | ON = PRO DSX-TX is by PoE   |
| 15 | Link LED          | ON = Video Link<br>Blink =Video Link not established to any PRO DSX -RX                       |

## I/O Descriptions: RX



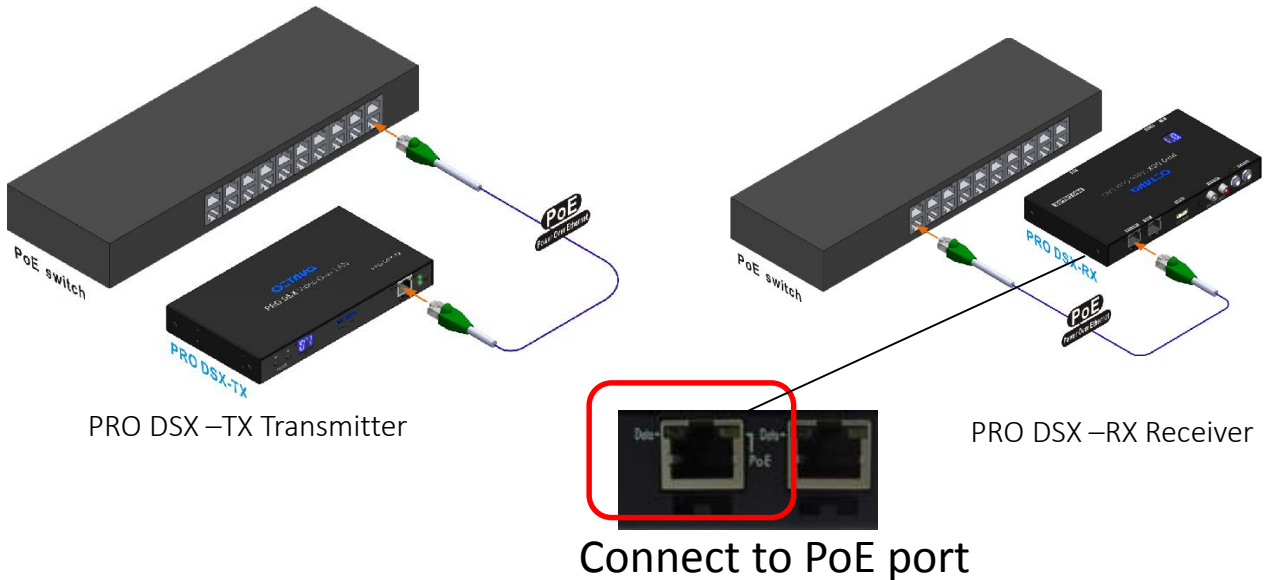
|    | Port              | Description   |
|----|-------------------|---|
| 16 | IR Out and IN     | Infrared Cable Out , Infrared Cable IN<br>Wide Band 20-60KHz using supplied Octava IR cables. |
| 17 | RS-232 Port       | Serial Port. Supports up to 115200 bps. Type = Phoenix 3 port connect                         |
| 18 | RX ID Button      | Set the PRO DSX RX ID ( 1-199)  |
| 19 | RX ID LED         | PRO DSX RX ID Indicator LED   |
| 20 | USB               | USB 2.0 Port  |
| 21 | Power LED         | ON = PRO DSX-RX is powered  |
| 22 | Link LED          | ON = Video Link<br>Blink =Video Link not established to any PRO DSX -TX                       |
| 23 | RJ-45 out /PoE IN | RJ-45 Port  |
| 24 | RJ-45 LOOP Out    | RJ-45 Port loop out port for cascading additional PRO DSX-RX .<br>(No PoE out)                |
| 25 | HDMI Out          | HDMI Out to Display   |
| 26 | Reset             | Hardware Reset of PRO DSX –RX unit  |
| 27 | 2CH Audio Out     | 2ch Audio Line Out  |
| 28 | DC-IN             | Local DC Power Supply Input . Optional, as Pro DSX-RX can be powered over PoE.                |
| 29 | DC Loop Out       | DC Power Loop Out . For powering additional PRO DSX-RX units.<br>(Maximum = 4 PRO DSX-RX).    |

## Basic Installation : Powering

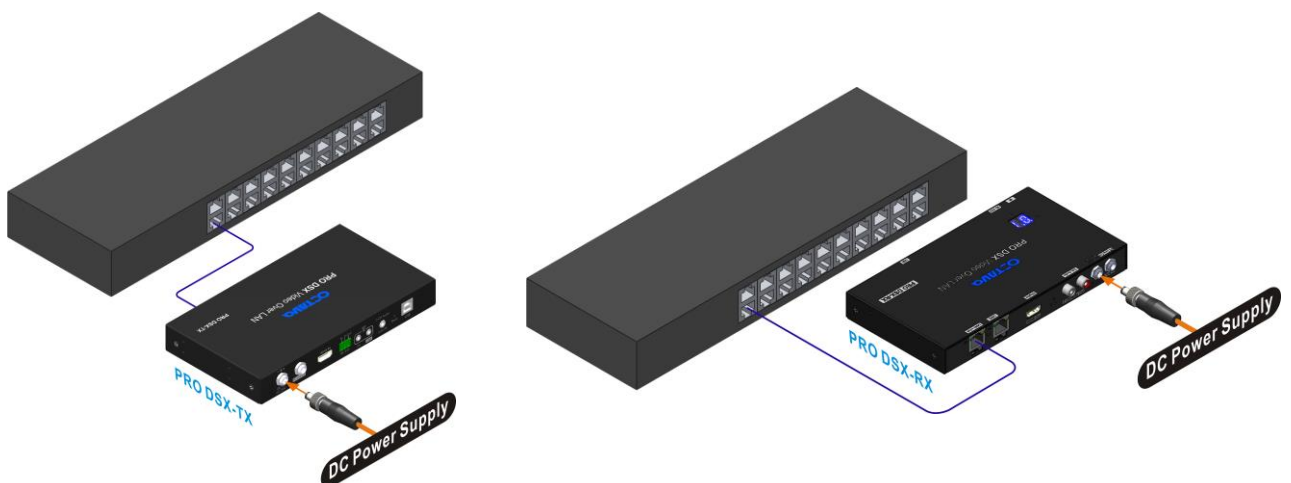
The PRO DSX can be PoE powered directly over the CATx LAN cables or using the DC power supply ( 48-56V).

### PoE Powered:

Use PoE Source conforming to IEEE 802.3af or IEEE 802.3at



### DC Power Supply Powered:



## Basic Installation : Connecting TX and RX

Connect the PRO DSX-TX and RX to a recommended Ethernet Switch per the following procedures:

|   | <b>PRO DSX- RX Installation</b>   |
|---|---|
| 1 | Connect a PRO DSX –RX to Ethernet switch and set the RX ID = 01<br>Refer to : <a href="#">“ID and IP Setup “</a>    |
| 2 | Connect the HDMI output to Display 1 of your system   |
| 3 | Connect a PRO DSX–RX to Ethernet switch and set the RX ID = 02  |
| 4 | Connect the HDMI output to Display 2 of your system   |
|   | Continue for all PRO DSX-RX needed in your system installation  |
|   | <b>PRO DSX- TX Installation</b>   |
| 5 | Connect a PRO DSX –TX to Ethernet switch and set the TX CH ID = 01<br>Refer to : <a href="#">“ID and IP Setup “</a> |
| 6 | Connect the HDMI in to Video source 1 of your system  |
| 7 | Connect a PRO DSX –TX to Ethernet switch and set the TX CH ID = 02  |
| 8 | Connect the HDMI in to Video source 2 of your system  |
|   | Continue for all PRO DSX-TX needed in your system installation  |
|   |   |

## Basic Installation : RX Check List

Note the RX ID , IP address and the connected Display for future reference.

| RX ID | RX IP | Display Name |
|-------|-------|--------------|
| RX 01 |       |              |
| RX 02 |       |              |
| RX 03 |       |              |
| RX 04 |       |              |
| RX 05 |       |              |
| RX 06 |       |              |
| RX 07 |       |              |
| RX 08 |       |              |
| RX 09 |       |              |
| RX 10 |       |              |
| RX 11 |       |              |
| RX 12 |       |              |
| RX 13 |       |              |
| RX 14 |       |              |
| RX 15 |       |              |
| RX 16 |       |              |
| RX 17 |       |              |
| RX 18 |       |              |
| RX 19 |       |              |
| RX 20 |       |              |

## Basic Installation : TX Check List

Note the TX CH ID , IP address and the connected Display for future reference.

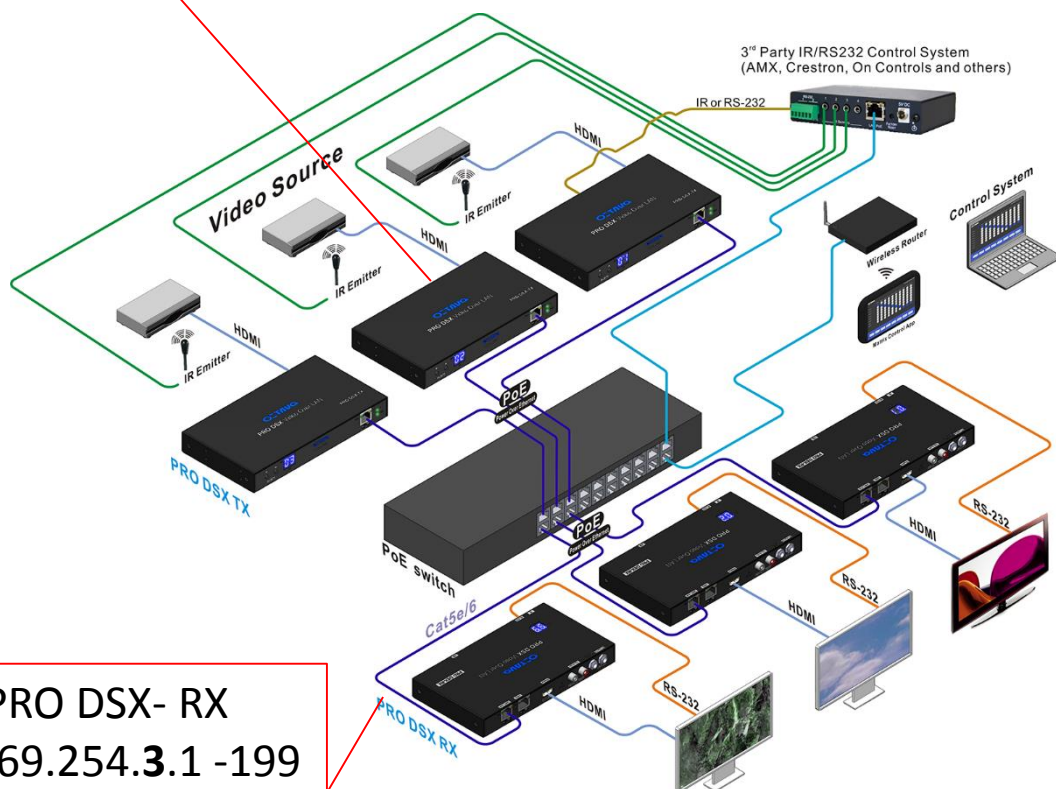
| TX CH ID | TX IP | Video Source Name |
|----------|-------|-------------------|
| TX 01    |       |                   |
| TX 02    |       |                   |
| TX 03    |       |                   |
| TX 04    |       |                   |
| TX 05    |       |                   |
| TX 06    |       |                   |
| TX 07    |       |                   |
| TX 08    |       |                   |
| TX 09    |       |                   |
| TX 10    |       |                   |
| TX 11    |       |                   |
| TX 12    |       |                   |
| TX 13    |       |                   |
| TX 14    |       |                   |
| TX 15    |       |                   |
| TX 16    |       |                   |
|          |       |                   |
|          |       |                   |
|          |       |                   |
|          |       |                   |

# Network Setup

The default Static IP Addresses range of the PRO DSX system is in the 169.254 or 172.31 subnet depending on preference.

- Other static IP address can be set by WEB Interface
- Contact us for info.

PRO DSX- TX  
IP :169.254.**2.1** -199  
OR  
IP : 172.31.**2.1**-199



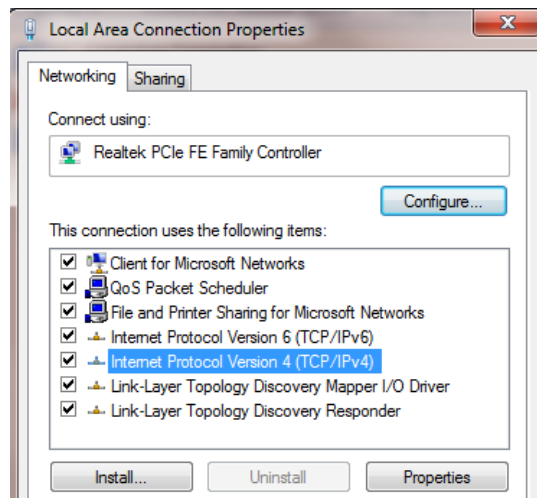
PRO DSX- RX  
IP :169.254.**3**.1 -199  
OR  
IP : 172.31.**3**.1-199

## Network Setup : PC Network Setting

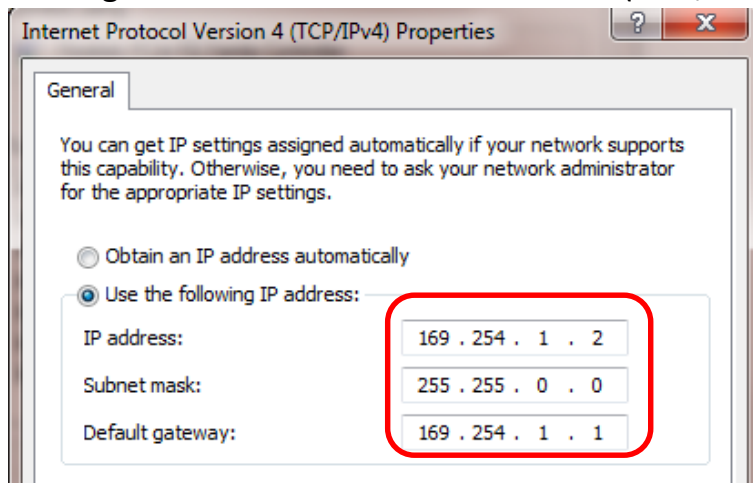
If you are using a PC to interface with the PRO DSX. Use the following recommended Network Settings:

### Windows PC LAN settings:

1. Go to Network Settings



2. Change the Internet Protocol Version 4 ( TCP/IPV4) settings:

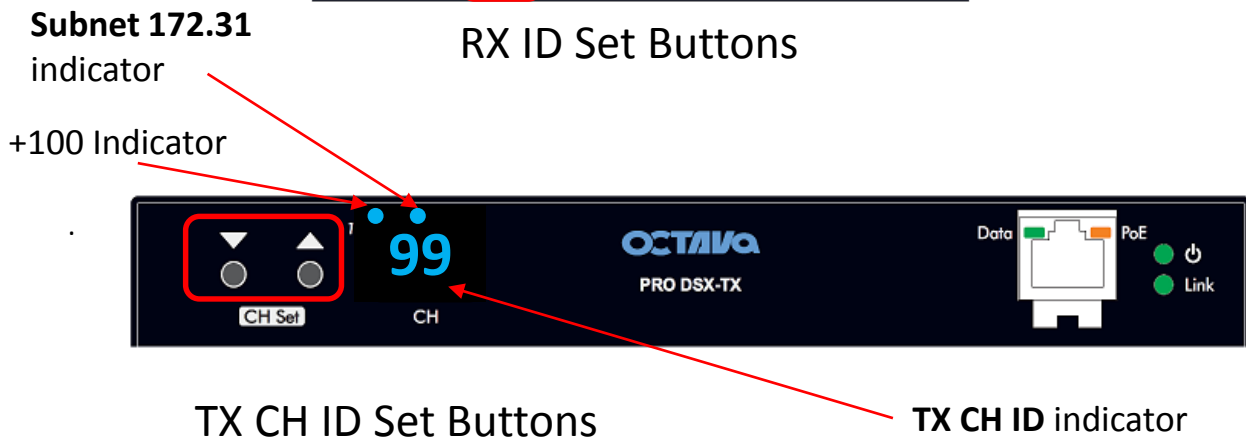


Use the following if your PRO DSX Devices are set to the 172.31.x.x subnet:  
IP =172.31.1.2  
Subnet Mask=255.255.0.0  
Gateway=172.31.1.1



## ID and IP Setup :

Each PRO DSX – TX and RX unit need to be set to a unique ID and IP address. For ease of installation, the ID and IP address can be set using the front panel push buttons.



A table showing the LED Indicators will help clarify

**NOTE:** The factory default RX ID is set to "199" . Resetting device to factory default will also initialize the RX ID to "199"

## RX ID LED Indicator 169.254.x.x subnet

Each RX includes a LED ID indicator to easily identify the RX.

The RX ID represents RX ID and the last octet of the RX IP address.

PRO DSX\_RX will have **RX ID in the range : 01-199**

PRO DSX\_RX can have **IP address: 169.254.3.xxx** OR **172.31.3.xxx** as set by the front panel buttons. ( Refer to [“ID IP Setting”](#) section)

RX LED Indicators indicating device has been set to **169.254.3.x** subnet is shown below

| RX ID | Pro DSX RX ID LED | RX IP Address |
|-------|-------------------|---------------|
| RX001 | 01                | 169.254.3.1   |
| RX002 | 02                | 169.254.3.2   |
| RX099 | 99                | 169.254.3.99  |
| RX100 | • 00              | 169.254.3.100 |
| RX101 | • 01              | 169.254.3.101 |
| RX199 | • 99              | 169.254.3.199 |
|       |                   |               |

## RX ID LED Indicator 172.31.3.x subnet

RX LED Indicators indicating device has been set to 172.31.3.x subnet is below

| RX ID | RX ID LED | RX IP Address |
|-------|-----------|---------------|
| RX001 | 01        | 172.31.3.1    |
| RX002 | 02        | 172.31.3.2    |
| RX099 | 99        | 172.31.3.99   |
| RX100 | 00        | 172.31.3.100  |
| RX101 | 01        | 172.31.3.101  |
| RX199 | 99        | 172.31.3.199  |
|       |           |               |
|       |           |               |

## TX ID LED Indicator

Each TX includes a LED ID indicator to easily identify the TX.

The TX ID represents TX CH ID and the last octet of the TX IP address.

PRO DSX\_TX will have **TX CH ID in the range : 01-199**







PRO DSX\_TX can have **IP address: 169.254.2.xxx OR 172.31.2.xxx** as set by the front panel buttons. ( Refer to [“ID IP Setting”](#) section)

TX LED Indicators indicating device has been set to **169.254.2.x** subnet is shown below

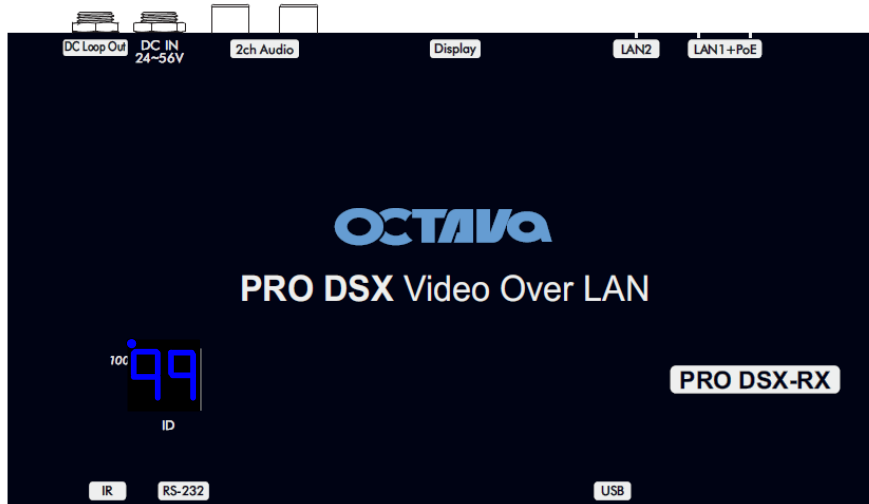
| TX CH ID  | TX CH ID LED | TX IP Address |
|-----------|--------------|---------------|
| TX CH 01  | 01           | 169.254.2.1   |
| TX CH 02  | 02           | 169.254.2.2   |
| TX CH 99  | 99           | 169.254.2.99  |
| TX CH 100 | • 00         | 169.254.2.100 |
| TX CH 101 | • 01         | 169.254.2.101 |
| TX CH 199 | • 99         | 169.254.2.199 |
|           |              |               |
|           |              |               |

TX ID LED Indicator 172.31.2.x subnet

TX LED Indicators indicating device has been set to **172.31.2.x** subnet is shown below

| TX CH ID  | TX CH ID LED  | TX IP Address |
|-----------|---|---------------|
| TX CH 01  |    | 172.31.2.1    |
| TX CH 02  |    | 172.31.2.2    |
| TX CH 99  |    | 172.31.2.99   |
| TX CH 100 |   | 172.31.2.100  |
| TX CH 101 |  | 172.31.2.101  |
| TX CH 199 |  | 172.31.2.199  |
|           |   |               |
|           |   |               |

## ID and IP Setup : RX ID and IP

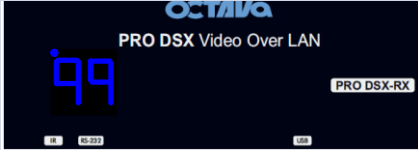


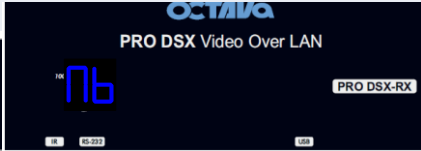


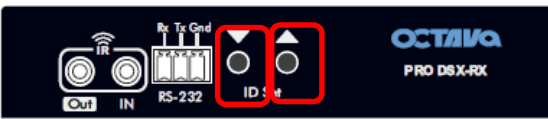
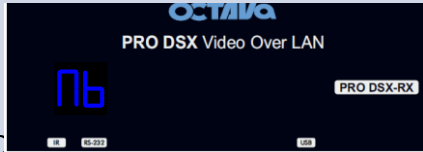


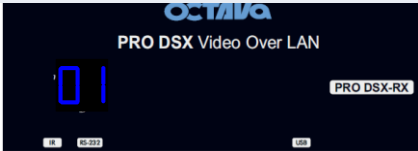


NOTE: The factory default is RX ID = 199 and IP = 169.254.3.199  
Resetting the RX will reset RX ID = 199 and IP = 169.254.3.199



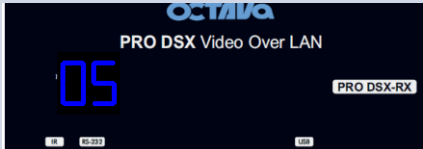



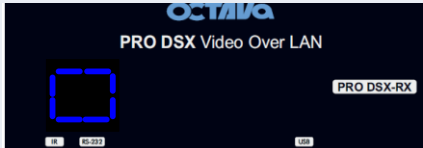
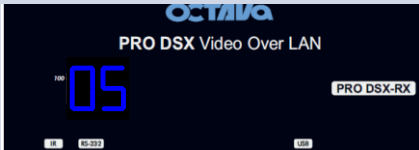
## ID and IP Setup : RX ID and IP

The PRO DSX-RX ID can be manually setup per procedure shown below

Example 1: Setting PRO DSX –RX to **ID = 5** and **IP = 169.254.3.5**

|   |  |
|---|--|
|   |  |
| 1 | <p>Connect PRO DSX –RX and verify it is powered up.</p>   |
| 2 | <p>PRESS HOLD the  button for ~ 5 seconds until the LED display indicates “N6” ( 169.254.3.x subnet mode).</p>     |
| 3 | <p>PRESS HOLD  +  button for ~ 5 seconds until LED blinks “N6”.</p>   |
| 4 | <p>Release the   button. LED will blink “01”</p>    |

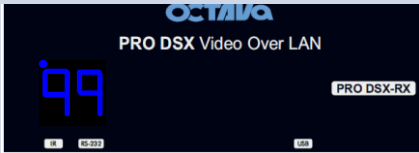

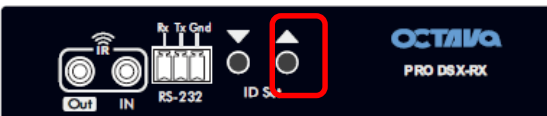
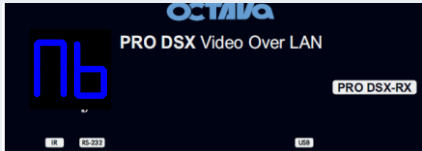


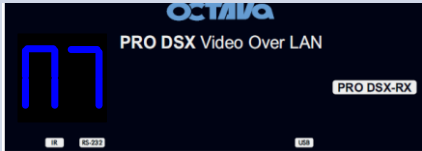


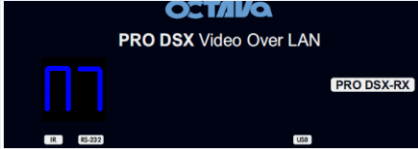
## ID and IP Setup : RX ID and IP

|   |   |
|---|---|
|   |   |
| 5 | <p>Press  button to increment from 01 to the desired RX ID.</p> <div>   </div>  |
| 6 | <p>PRESS HOLD both the  +  button for ~ 5 seconds until LED blinks.</p> <p>Release the buttons and LED will “cycle”</p> <div>   </div> |
| 7 | <p>RX will reboot and indicate the RX ID when complete</p> <div>  </div>   |
| 8 | <p>The above example has programmed the RX to<br/><b>RX ID = 5 and IP = 169.254.3.5</b></p>   |

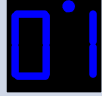
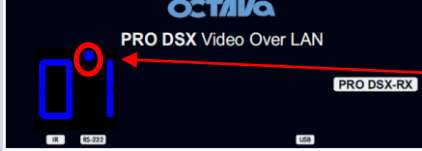

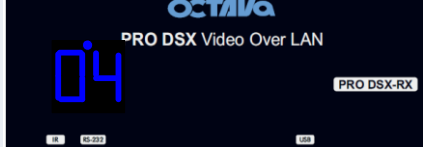
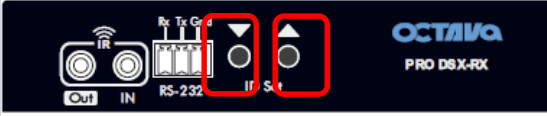
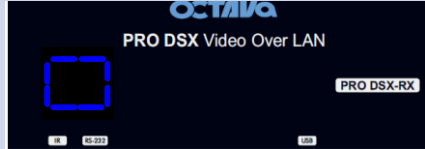
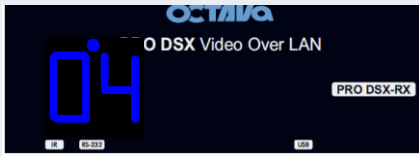


## ID and IP Setup : RX ID and IP

Example 2: Setting PRO DSX –RX to **ID = 4** and **IP = 172.231.3.4**

|   |   |
|---|---|
|   |   |
| 1 | <p>Connect PRO DSX –RX and verify it is powered up.</p>    |
| 2 | <p>PRESS HOLD the  button for ~ 5 seconds until the LED display indicates “N6”</p> <div>   </div> |
| 3 | <p>Press  to change to N7 ( 172.31.3.xx subnet mode)</p> <div>   </div>                       |
| 4 | <p>PRESS HOLD  +  button for ~ 5 seconds until LED blinks “N7”.</p>                            |

## ID and IP Setup : RX ID and IP

|   |  |
|---|--|
|   |  |
| 5 | <p>Release the ▽ ▲ button. LED will blink </p>  <p>Note the 172 subnet LED indicator is ON</p>                                 |
| 6 | <p>Press ▲ button to increment from 01 to the desired RX ID.</p>    |
| 7 | <p>PRESS HOLD both the ▽ + ▲ button for ~ 5 seconds until LED blinks.</p> <p>Release the buttons and LED will “cycle”</p>   |
| 8 | <p>RX will reboot and indicate the RX ID when complete</p>  <p>Note the 172 subnet LED indicator is ON</p>  |
| 9 | <p>The above example has programmed the RX to<br/><b>RX ID = 4 and IP = 172.31.3.4</b></p>   |

## ID and IP Setup : TX ID and IP












**NOTE:** The factory default is TX CH ID = 199 and IP = 169.254.2.199  
Resetting the TX will reset TX CH ID = 199 and IP = 169.254.2.199


## ID and IP Setup : TX ID and IP SETUP

The PRO DSX-TX CH can be manually setup per procedure shown below



Example 3: Setting PRO DSX –TX to **ID = 10** and **IP = 169.254.2.10**

|   |  |
|---|--|
|   |  |
| 1 | <p>Connect PRO DSX –TX and verify it is powered up</p>   |
| 2 | <p>PRESS HOLD the  button for ~ 5 seconds until the LED display indicates “N6” ( 169.254.2.x subnet mode).</p>    |
| 3 | <p>PRESS HOLD  +  button for ~ 5 seconds until LED blinks “N6”.</p>  |
| 4 | <p>Release the   button. LED will blink “01”</p>                      |

## ID and IP Setup : TX ID and IP SETUP

5 Press  button to increment from 01 to the desired TX CH ID.



6 PRESS HOLD both the  +  button for ~ 5 seconds until LED blinks.  
Release the buttons and LED will "cycle"



7 TX will reboot and indicate the TX CH ID when complete








8 The above example has programmed the TX to  
TX CH ID = 10 and IP = 169.254.2.10

## ID and IP Setup : TX ID and IP SETUP

Example 4: Setting PRO DSX –TX to ID = 05 and IP = 172.31.2.5

|   |   |
|---|---|
|   |   |
| 1 | <p>Connect PRO DSX –TX and verify it is powered up</p>  |
| 2 | <p>PRESS HOLD the  button for ~ 5 seconds until the LED display indicates “N6” ( 172.31.2.x subnet mode).</p> |
| 3 | <p>Press  to change to N7 ( 172.31.2.xx subnet mode)</p>  |
| 4 | <p>PRESS HOLD  +  button for ~ 5 seconds until LED blinks “N7”.</p>   |

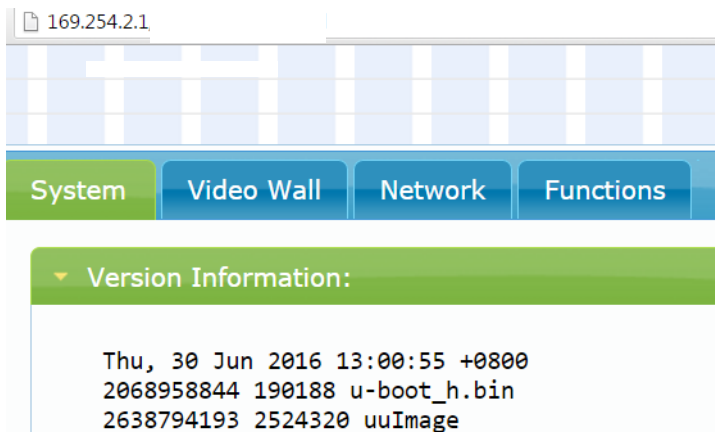
## ID and IP Setup : TX ID and IP SETUP

|   |  |
|---|--|
|   |  |
| 5 | <p>Release the ▽ ▲ button. LED will blink </p>  <p>Note the 172 subnet LED indicator is ON</p> |
| 6 | <p>Press ▲ button to increment from 01 to the desired TX CH ID.</p>    |
| 7 | <p>PRESS HOLD both the ▽ + ▲ button for ~ 5 seconds until LED blinks.<br/>Release the buttons and LED will “cycle”</p>   |
| 8 | <p>TX will reboot and indicate the TX CH ID when complete</p>  <p>Note the 172 subnet LED indicator is ON</p>  |
| 9 | <p>The above example has programmed the TX to<br/><b>TX CH ID = 05 and IP = 172.31.2.5</b></p>   |

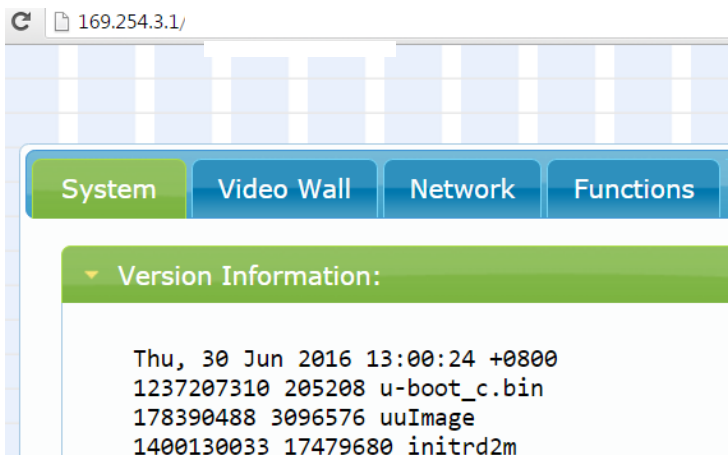
## WEB Interface Access

The PRO DSX- TX and RX has various features that can be enabled and modified by directly accessing the TX or RX web interface by entering the TX or RX IP address in a browser.

Access PRO DSX-TX by entering the IP address of the TX:



Access PRO DSX-RX by entering the IP address of the RX:





## Embedded Matrix Controller Access

The PRO DSX features a embedded matrix controller to easily switch devices

1.If your devices are configured to the 169.254 subnet

Access the Embedded Matrix Controller on the TX 01 by entering:

**169.254.2.1/switch169**

2.If your devices are configured to the 172.31 subnet

Access the Embedded Matrix Controller on the TX 01 by entering:

**172.31.2.1/switch172**

**OCTAVA** PRO DSX HD OVER LAN 172.31

Matrix Panel Select

| 4 Sources   | 6 Sources   | 8 Sources   | 10 Sources  | 12 Sources  | 16 Sources  | Big Screen Video Wall |
|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|
| 4 Displays  | 10 Displays | 10 Displays | 10 Display  | 40 Displays | 40 Displays | 2x2 Big Screen        |
| 8 Displays  | 20 Displays | 20 Displays | 20 Displays |             |             | 3x3 Big Screen        |
| 10 Displays | 30 Displays | 30 Displays | 30 Displays |             |             |                       |
| 20 Displays | 40 Displays | 40 Displays | 40 Displays |             |             |                       |
| 30 Displays |             |             |             |             |             |                       |
| 40 Displays |             |             |             |             |             |                       |

**OCTAVA** PRO DSX HD OVER LAN 172.31

| Display 1                | Display 2                | Display 3                | Display 4                | Display 5                | Display 6                | Display 7                | Display 8                | Display 9                | Display 10                |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| Source 01                | Source 01                | Source 01                | Source 01                | Source 01                | Source 01                | Source 01                | Source 01                | Source 01                | Source 01                 |
| Source 02                | Source 02                | Source 02                | Source 02                | Source 02                | Source 02                | Source 02                | Source 02                | Source 02                | Source 02                 |
| Source 03                | Source 03                | Source 03                | Source 03                | Source 03                | Source 03                | Source 03                | Source 03                | Source 03                | Source 03                 |
| Source 04                | Source 04                | Source 04                | Source 04                | Source 04                | Source 04                | Source 04                | Source 04                | Source 04                | Source 04                 |
| Source 05                | Source 05                | Source 05                | Source 05                | Source 05                | Source 05                | Source 05                | Source 05                | Source 05                | Source 05                 |
| Source 06                | Source 06                | Source 06                | Source 06                | Source 06                | Source 06                | Source 06                | Source 06                | Source 06                | Source 06                 |
| Source 07                | Source 07                | Source 07                | Source 07                | Source 07                | Source 07                | Source 07                | Source 07                | Source 07                | Source 07                 |
| Source 08                | Source 08                | Source 08                | Source 08                | Source 08                | Source 08                | Source 08                | Source 08                | Source 08                | Source 08                 |
| Source 09                | Source 09                | Source 09                | Source 09                | Source 09                | Source 09                | Source 09                | Source 09                | Source 09                | Source 09                 |
| Source 10                | Source 10                | Source 10                | Source 10                | Source 10                | Source 10                | Source 10                | Source 10                | Source 10                | Source 10                 |
| Display 1-10 to source 1 | Display 1-10 to source 2 | Display 1-10 to source 3 | Display 1-10 to source 4 | Display 1-10 to source 5 | Display 1-10 to source 6 | Display 1-10 to source 7 | Display 1-10 to source 8 | Display 1-10 to source 9 | Display 1-10 to source 10 |

**Main**

## Control Commands : Telnet Commands

The PRO DSX system can be integrated with 3<sup>rd</sup> party control systems by sending Telnet commands.

Telnet commands can sent to the desired device using port 24.

Example:

**telnet 169.254.x.xxx 24**

**Login: octava**

Example 1:

Accessing PRO DSX –RX unit 01 ( ip address = 169.254.3. 1)

telnet 169.254.3.1 24

Login: octava

Example 2:

Accessing PRO DSX –TX unit 02 ( ip address = 169.254.2. 2)

telnet 169.254.2.2 24

Login: octava

## System Commands

| Command              | Description                                 | Feedback  |
|----------------------|---|---|
| reset:default        | set back to factory default mode            |   |
| reboot               | reboot                                      |   |
| get:fw_version       | read back firmware version                  |   |
| get:rs232            | read rs-232 is on or off                    | RS-232 Over IP enable<br>RS-232 Over IP disable |
| get:ir               | read ir is on or off                        | USB Over IP enable<br>USB Over IP disable       |
| get :usb             | read usb is on or off                       | USB Over IP enable<br>USB Over IP disable       |
| get :i2s             | read i2s is on or off                       | Audio Over IP enable<br>Audio Over IP disable   |
| get:video            | read if video is on or off                  | Video Over IP enable<br>Video Over IP disable   |
| astparam g ch_select | read what TX CH PRO DSX RX is connected to. | 0001 for TX CH 01<br>00199 for TX CH 199        |

## Video Over IP Commands

| Command               | Description                           |
|-----------------------|---------------------------------------|
| rxswitch:nnn          | Connect/switch PRO DSX to TX CH nnn   |
| Examples shown below: |                                       |
| rxswitch:001          | Connect/switch PRO DSX to TX CH 01    |
| rxswitch:010          | Connect/switch PRO DSX to TX CH 10    |
| rxswitch:199          | Connect/switch PRO DSX to TX CH 199   |
| scale_rx:passthru     | Scale RX Video Output: pass thru      |
| scale_rx:1080@50      | Scale RX Video Output=:1080P@50Hz     |
| scale_rx:1080@60      | Scale RX Video Output: 1080P@60Hz     |
| scale_rx:1080@30      | Scale RX for 1080P@30Hz               |
| scale_rx:1080@25      | Scale RX for 1080P@25Hz               |
| scale_rx:3840@30      | Scale RX Video Output: 3840x2160@30Hz |
| scale_rx:3840@25      | Scale RX Video Output: 3840x2160@25Hz |
| scale_rx:720@60       | Scale RX Video Output: 1280x720@60Hz  |

## Video Over IP Commands

| Command    | Description                      |
|------------|----------------------------------|
| rotate:0   | rotate_0 degrees                 |
| rotate:90  | rotate_90 degrees                |
| rotate:180 | rotate_180 degrees               |
| rotate:270 | rotate_270 degrees               |
| rotate:0   | rotate_0 degrees                 |
|            |                                  |
| capture:on | Enable Screen Snap Shot          |
| video:on   | turn on video                    |
| video:off  | turn off video                   |
|            |                                  |
| hdr:on     | enable High Dynamic Range video  |
| hdr:off    | disable High Dynamic Range video |
|            |                                  |

## IR , RS-232, I2S Commands

| Command             | Description                         |
|---------------------|-------------------------------------|
|                     |                                     |
| rs232:on            | Enable RS-232                       |
| rs232 :off          | Disable RS-232                      |
|                     |                                     |
| kvm:on              | turn on KVM                         |
| kvm:off             | turn off KVM                        |
| get:kvm             | read if KVM is on or off            |
|                     |                                     |
| usb:on              | turn on usb                         |
| usb:off             | turn off usb                        |
|                     |                                     |
| ir:on               | turn on ir                          |
| ir:off              | turn off ir                         |
|                     |                                     |
|                     |                                     |
| i2s:on              | turn on I2S                         |
| i2s:off             | turn off I2S                        |
| get:i2s             | read if i2s is on or off            |
| a_io_select: auto   | auto select audio input source      |
| a_io_select: hdmi   | select hdmi as audio input source   |
| a_io_select: analog | select analog as audio input source |

## Video Wall Commands

|      |      |      |      |
|------|------|------|------|
| r1c1 | r1c2 | r1c3 | r1c4 |
| r2c1 | r2c2 | r2c3 | r2c4 |
| r3c1 | r3c2 | r3c3 | r3c4 |
| r4c1 | r4c2 | r4c3 | r4c4 |

r = row, c = column

A large screen video wall can be created with the PRO DSX.

## Video Wall Commands – 2x2

|      |      |      |      |
|------|------|------|------|
| r1c1 | r1c2 | r1c3 | r1c4 |
| r2c1 | r2c2 | r2c3 | r2c4 |
| r3c1 | r3c2 | r3c3 | r3c4 |
| r4c1 | r4c2 | r4c3 | r4c4 |

r = row, c = column

To render a 2x2 Video Wall. Send the 2x2\_rncn:on commands to each corresponding RX in the sequence desired.

To turn off the video wall. Send the vw:off mode to each corresponding RX in the sequence desired.

**Note the RX ID need to correspond to the Row and Column number of the Video Wall diagram above.**

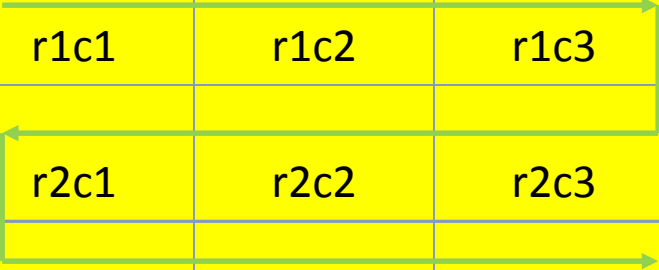


## Video Wall Commands – 2x2

| Command     | Description                                      | Note                       |
|-------------|--|----------------------------|
|             |  |                            |
| 2x2_r1c1:on | display row 1 column 1 of 2x2 V.W.               | Send command to RX at r1c1 |
| 2x2_r1c2:on | display row 1 column 2 of 2x2 V.W.               | Send command to RX at r1c2 |
| 2x2_r2c1:on | display row 2 column 1 of 2x2 V.W.               | Send command to RX at r2c1 |
| 2x2_r2c2:on | display row 2 column 2 of 2x2 V.W.               | Send command to RX at r2c2 |
|             |  |                            |
|             |  |                            |
| vw:off      | Turn off Video Wall for RX device<br><b>rncn</b> | Send Command to each RX    |

## Video Wall Commands – 3x3

|      |      |      |      |
|------|------|------|------|
| r1c1 | r1c2 | r1c3 | r1c4 |
| r2c1 | r2c2 | r2c3 | r2c4 |
| r3c1 | r3c2 | r3c3 | r3c4 |
| r4c1 | r4c2 | r4c3 | r4c4 |



r = row, c = column

To render a 3x3 Video Wall. Send the 3x3\_rncn:on commands to each corresponding RX in the sequence desired.

To turn off the video wall. Send the vw:off mode to each corresponding RX in the sequence desired.

**Note the RX ID need to correspond to the Row and Column number of the Video Wall diagram above.**

## Video Wall Commands – 3x3

| Command     | Description                                      | Note                       |
|-------------|--|----------------------------|
|             |  |                            |
|             |  |                            |
| 3x3_r1c1:on | display row 1 column 1 of 3x3 V.W.               | Send command to RX at r1c1 |
| 3x3_r1c2:on | display row 1 column 2 of 3x3 V.W.               | Send command to RX at r1c2 |
| 3x3_r1c3:on | display row 1 column 3 of 3x3 V.W.               | Send command to RX at r1c3 |
| 3x3_r2c1:on | display row 2 column 1 of 3x3 V.W.               | Send command to RX at r2c1 |
| 3x3_r2c2:on | display row 2 column 2 of 3x3 V.W.               | Send command to RX at r2c2 |
| 3x3_r2c3:on | display row 2 column 3 of 3x3 V.W.               | Send command to RX at r2c3 |
| 3x3_r3c1:on | display row 3 column 1 of 3x3 V.W.               | Send command to RX at r3c1 |
| 3x3_r3c2:on | display row 3 column 2 3x3 V.W.                  | Send command to RX at r3c2 |
| 3x3_r3c3:on | display row 3 column 3 of 3x3 V.W.               | Send command to RX at r3c3 |
|             |  |                            |
|             |  |                            |
|             |  |                            |
|             |  |                            |
|             |  |                            |
|             |  |                            |
|             |  |                            |
|             |  |                            |
| vw:off      | Turn off Video Wall for RX device<br><b>rncn</b> | Send Command to each RX    |

## Video Wall Commands – 4x4

|      |      |      |      |
|------|------|------|------|
| r1c1 | r1c2 | r1c3 | r1c4 |
| r2c1 | r2c2 | r2c3 | r2c4 |
| r3c1 | r3c2 | r3c3 | r3c4 |
| r4c1 | r4c2 | r4c3 | r4c4 |

r = row, c = column

To render a 4x4 Video Wall. Send the 4x4\_rncn:on commands to each corresponding RX in the sequence desired.

To turn off the video wall. Send the vw:off mode to each corresponding RX in the sequence desired.

**Note the RX ID need to correspond to the Row and Column number of the Video Wall diagram above.**

## Video Wall Commands – 4x4

| Command     | Description                        | Note                       |
|-------------|------------------------------------|----------------------------|
| 4x4_r1c1:on | display row 1 column 1 of 4x4 V.W. | Send command to RX at r1c1 |
| 4x4_r1c2:on | display row 1 column 2 of 4x4 V.W. | Send command to RX at r1c2 |
| 4x4_r1c3:on | display row 1 column 3 of 4x4 V.W. | Send command to RX at r1c3 |
| 4x4_r1c4:on | display row 1 column 4 of 4x4 V.W. | Send command to RX at r1c4 |
| 4x4_r2c1:on | display row 2 column 1 of 4x4 V.W. | Send command to RX at r2c1 |
| 4x4_r2c2:on | display row 2 column 2 of 4x4 V.W. | Send command to RX at r2c2 |
| 4x4_r2c3:on | display row 2 column 3 of 4x4 V.W. | Send command to RX at r2c3 |
| 4x4_r2c4:on | display row 2 column 4 4x4 V.W.    | Send command to RX at r2c4 |
| 4x4_r3c1:on | display row 3 column 1 of 4x4 V.W. | Send command to RX at r3c1 |
| 4x4_r3c2:on | display row 3 column 2 of 4x4 V.W. | Send command to RX at r3c2 |
| 4x4_r3c3:on | display row 3 column 3 of 4x4 V.W. | Send command to RX at r3c3 |
| 4x4_r3c4:on | display row 3 column 4 of 4x4 V.W. | Send command to RX at r3c4 |
| 4x4_r4c1:on | display row 4 column 1 of 4x4 V.W. | Send command to RX at r4c1 |
| 4x4_r4c2:on | display row 4 column 2 of 4x4 V.W. | Send command to RX at r4c2 |
| 4x4_r4c3:on | display row 4 column 3 of 4x4 V.W. | Send command to RX atr4c3  |
| 4x4_r4c4:on | display row 4 column 4 of 4x4 V.W. | Send command to RX at r4c4 |
|             |                                    |                            |
|             |                                    |                            |

## Example: Enabling a 4x4 Video Wall

| Step   |   | Command                 |
|--------|---|-------------------------|
| 1      | telnet to PRO DSX-RX corresponding to r1c1    | 4x4_r1c1:on             |
| 2      | telnet to PRO DSX-RX corresponding to r1c2    | 4x4_r1c2:on             |
| 3      | telnet to PRO DSX-RX corresponding to r1c3    | 4x4_r1c3:on             |
| 4      | telnet to PRO DSX-RX corresponding to r1c4    | 4x4_r1c4:on             |
| 5      | telnet to PRO DSX-RX corresponding to r2c1    | 4x4_r2c1:on             |
| 6      | telnet to PRO DSX-RX corresponding to r2c2    | 4x4_r2c2:on             |
| 7      | telnet to PRO DSX-RX corresponding to r2c3    | 4x4_r2c3:on             |
| 8      | telnet to PRO DSX-RX corresponding to r2c4    | 4x4_r2c4:on             |
| 9      | telnet to PRO DSX-RX corresponding to r3c1    | 4x4_r3c1:on             |
| 10     | telnet to PRO DSX-RX corresponding to r3c2    | 4x4_r3c2:on             |
| 11     | telnet to PRO DSX-RX corresponding to r3c3    | 4x4_r3c3:on             |
| 12     | telnet to PRO DSX-RX corresponding to r3c4    | 4x4_r3c4:on             |
| 13     | telnet to PRO DSX-RX corresponding to r4c1    | 4x4_r4c1:on             |
| 14     | telnet to PRO DSX-RX corresponding to r4c2    | 4x4_r4c2:on             |
| 15     | telnet to PRO DSX-RX corresponding to r4c3    | 4x4_r4c3:on             |
| 16     | telnet to PRO DSX-RX corresponding to r4c4    | 4x4_r4c4:on             |
|        |   |                         |
| vw:off | Turn off Video Wall for RX device <b>rncn</b> | Send Command to each RX |

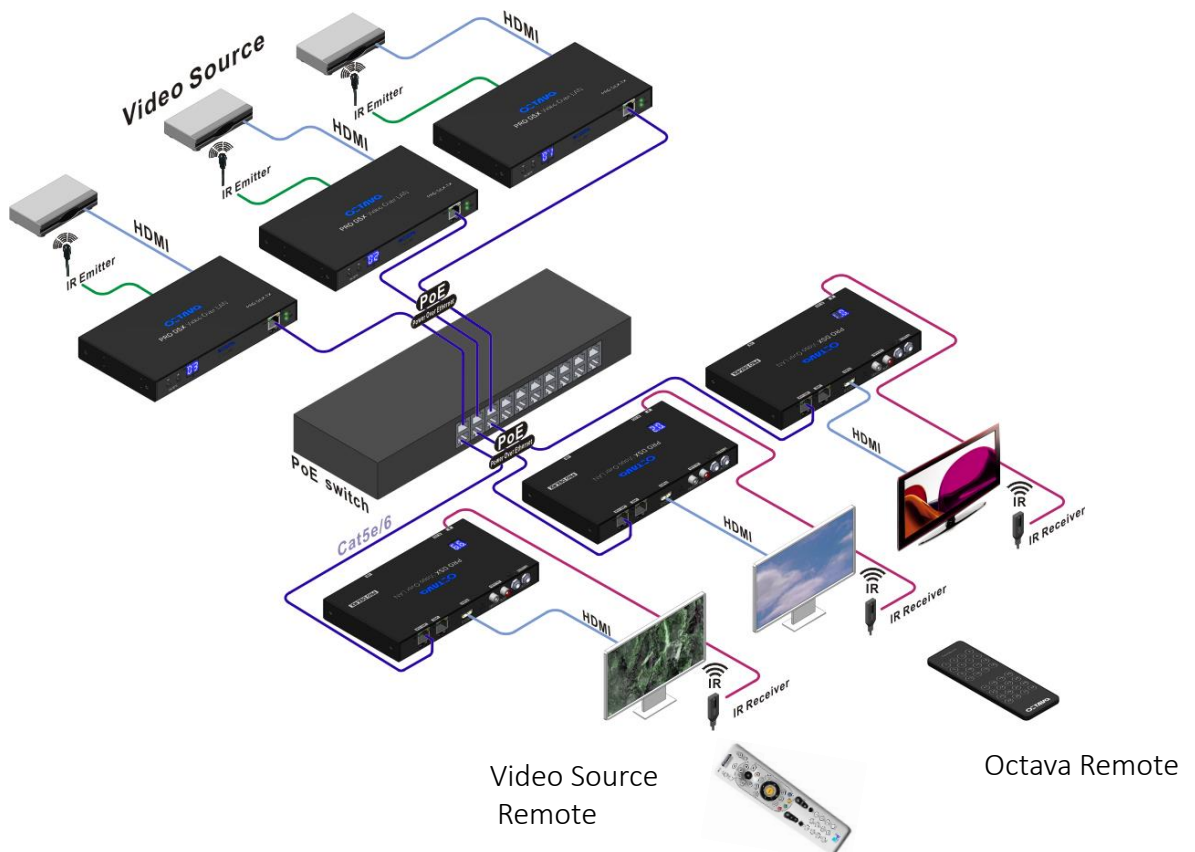
## IR

## Remote Control

The PRO DSX includes wideband IR in and out ports and can be used for:

1. changing the Zone receiver ( PRO DSX- RX) source selection.
2. controlling each video source

An example is shown below.



## IR

### IR Emitter and Receiver Connection

Connect the IR Emitter cable to the IR OUTPUT Port as shown.  
Place the IR Emitter over the IR Receiver of the Video Source



Connect the IR Receiver cable to the IR IN Port as shown.  
Place the IR Receiver cable so there is line of sight from remote control





## Human Interface Device : USB and KVM

### USB Connection

The Pro DSX USB ports can be used extend USB between the connected PRO DSX –TX and RX. For example, an application requiring KVM is shown below:



USB Mouse or device

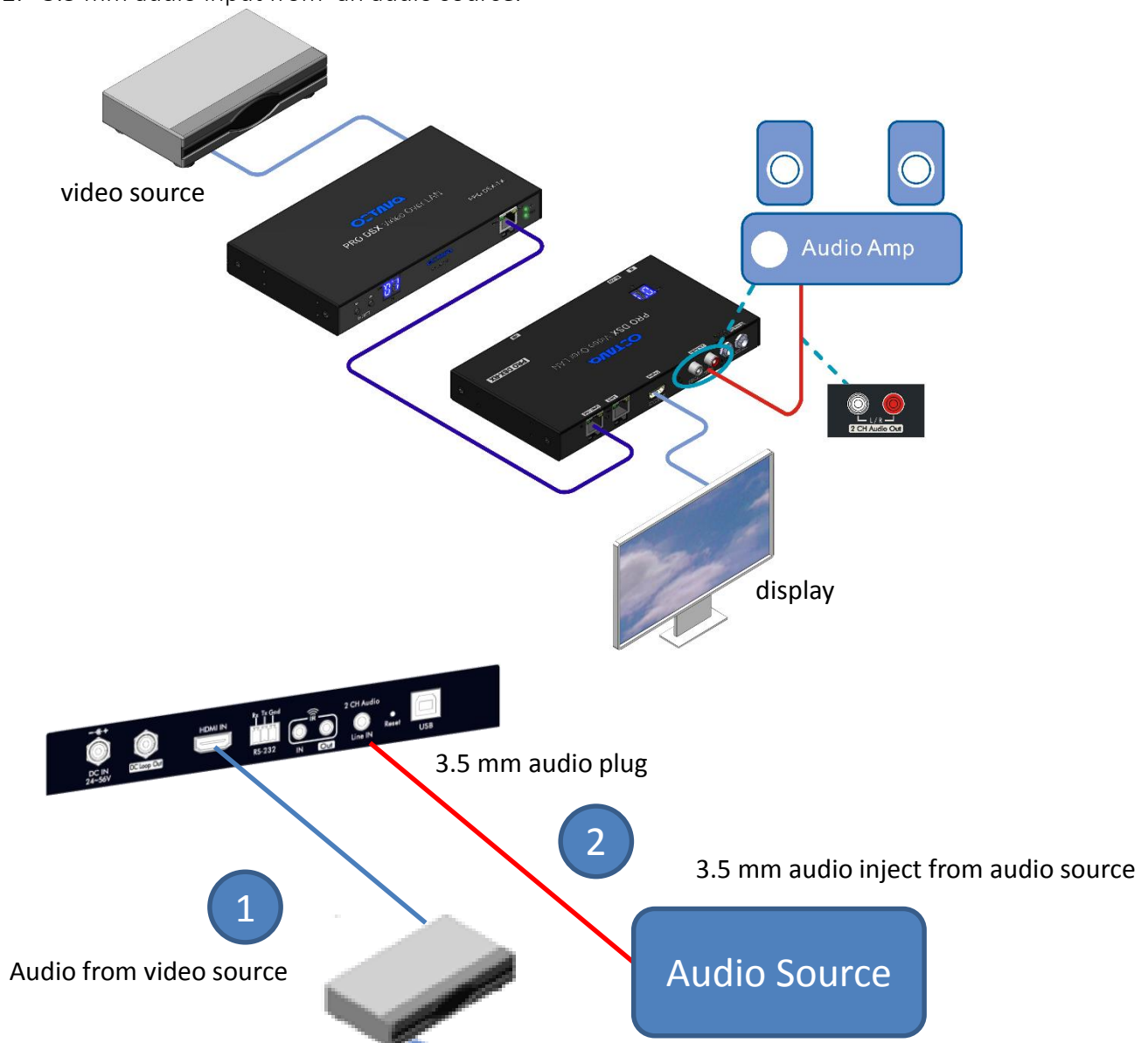
USB Keyboard or device

## AUX Audio and 2 Ch. Audio Out

### 2 CH Stereo Audio Ports:

The Pro DSX includes an optional 2ch audio line out on the PRO DSX-RX. The 2 Ch. Audio Line Out can extract audio in from 2 sources:

1. HDMI from Video Source  
OR
2. 3.5 mm audio input from an audio source.



## RS-232: Mode Types

The Octava PRO DSX allows serial RS-232 to be sent to connected devices. There are 2 operating modes for the RS-232 and are summarized here.

### RS-232 TYPE 2 Guest Mode

TYPE 2 Guest Mode enables you to address a specific target devices and send the RS-232 serial commands to that device using Telnet.

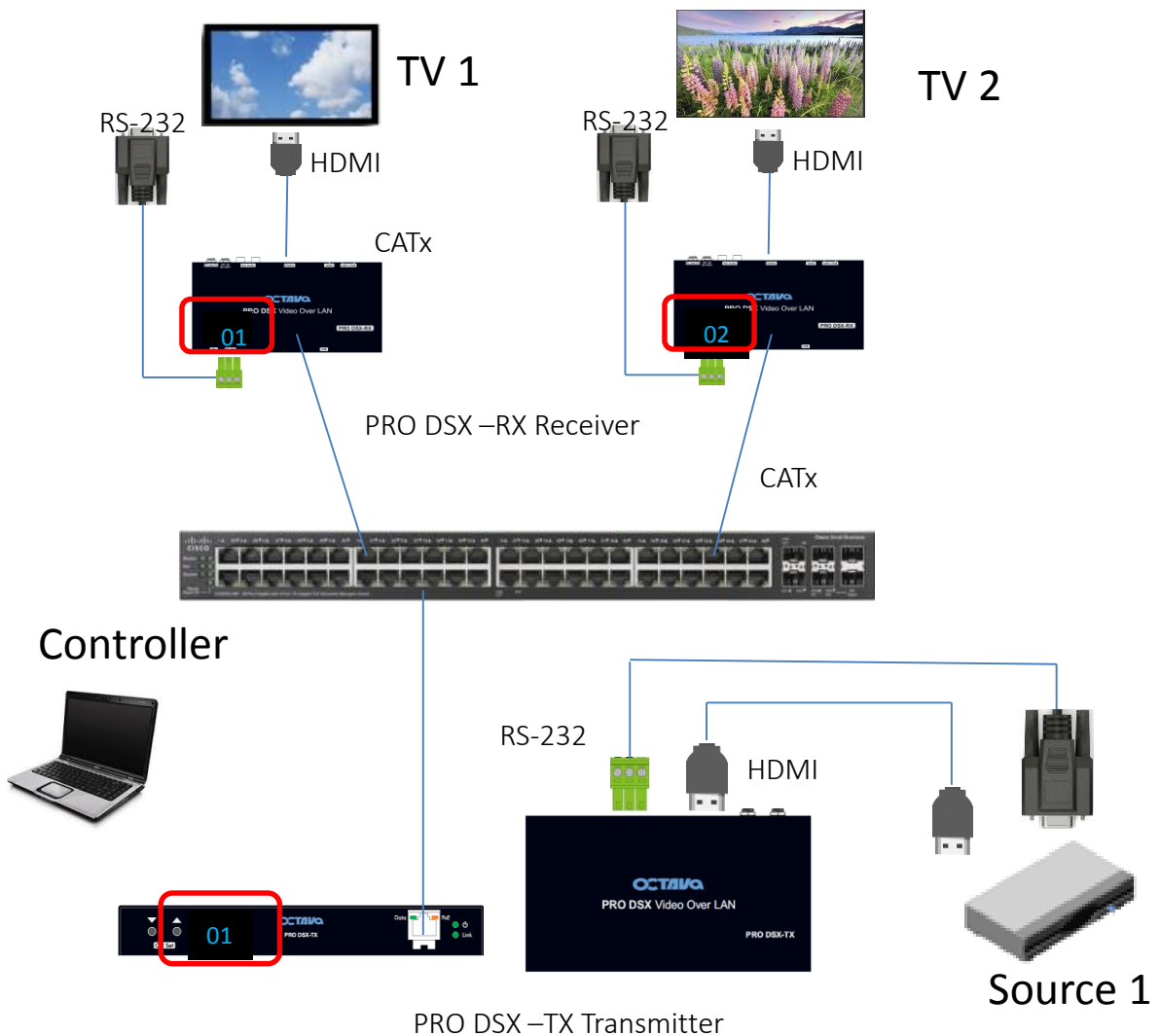
### RS-232 TYPE 2

The RS-232 commands are sent out to all devices from PRO DSX-TX to all the PRO DSX-RX that are in the PRO DSX-TX Multicast Group

## RS-232: TYPE 2 Guest Mode

### RS-232 TYPE 2 Guest Mode

For example, if you wish to send RS-232 commands to TV 1, then you will only need to Telnet the RS-232 to the PRO DSX-RX connected to TV1



## RS-232: TYPE 2 Guest Mode

## 1. Configure the PRO DSX-RX Serial IP to Type 2 GUEST Mode

Use browser to access the PRO DSX which you wish to send RS-232 commands to

The screenshot shows a web browser window titled "Web Setup" with the address bar displaying "169.254.3.1/". The interface has a top navigation bar with tabs: "System", "Video Wall", "Network", and "Functions". The "Functions" tab is selected and highlighted with a red box. Below the tabs, the "Video over IP" section is visible, with checkboxes for "Enable Video over IP" and "Enable Video Wall", both of which are checked. The "Serial over IP" section is expanded, showing a checkbox for "Enable Serial over IP" which is also checked and highlighted with a red box. A red arrow points from the text "Enable Serial Over IP" to this checkbox. Below this, the "Operation Mode:" section has three radio button options: "Type 1 (Need extra control instruction. For advanced usage.)", "Type 2 (Recommended. Dumb redirection.)", and "Type 1 guest mode". The "Type 2 guest mode" option is selected and highlighted with a red box. A red arrow points from the text "Select Type 2 Guest" to this option. Below the operation mode, the "Baudrate Setting for Type 2:" section is highlighted with a red box. It contains four dropdown menus: "Baudrate" (set to 9600), "Data bits" (set to 8), "Parity" (set to None), and "Stop bits" (set to 1). A red arrow points from the text "Set the Baud rate settings per requirements." to this section. At the bottom right, there is an "Apply" button, which is also highlighted with a red box.

Web Setup

169.254.3.1/

System Video Wall Network **Functions**

**Video over IP**

- ☒ Enable Video over IP
- ☒ Enable Video Wall

**Serial over IP**

- ☒ Enable Serial over IP

Operation Mode:

- ☐ Type 1 (Need extra control instruction. For advanced usage.)
- ☐ Type 2 (Recommended. Dumb redirection.)
- ☐ Type 1 guest mode
- ☒ Type 2 guest mode

Baudrate Setting for Type 2:

Baudrate: 9600

Data bits: 8

Parity: None

Stop bits: 1

Apply

Enable Serial Over IP

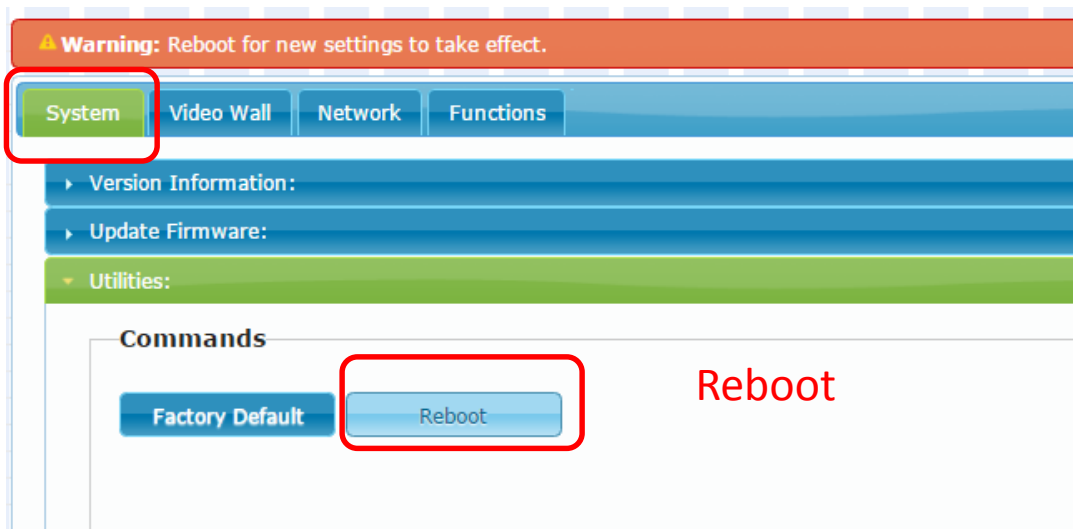
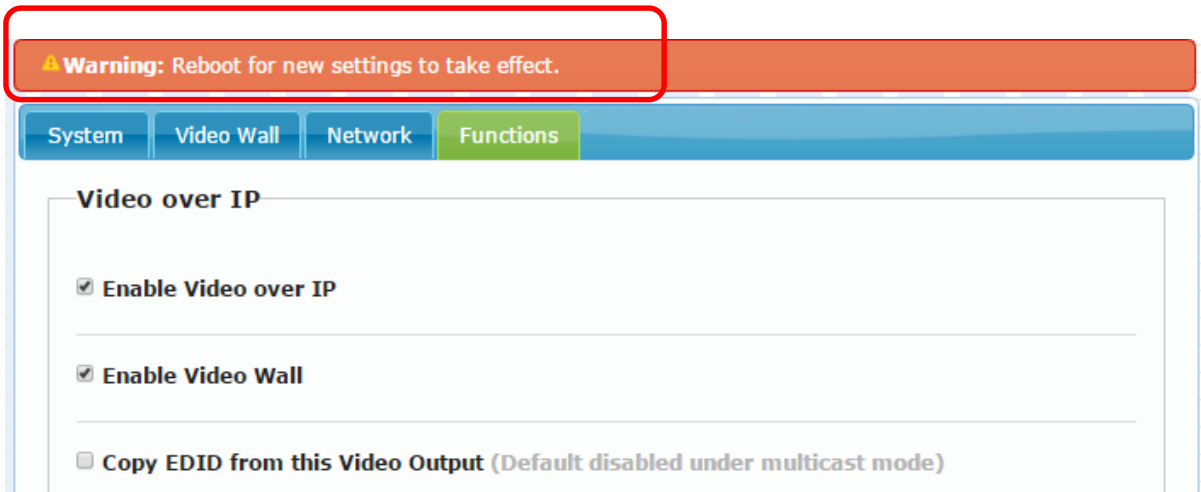
Select Type 2 Guest

Set the Baud rate settings per requirements.

## RS-232: TYPE 2 Guest Mode

## 2. Apply and Reboot

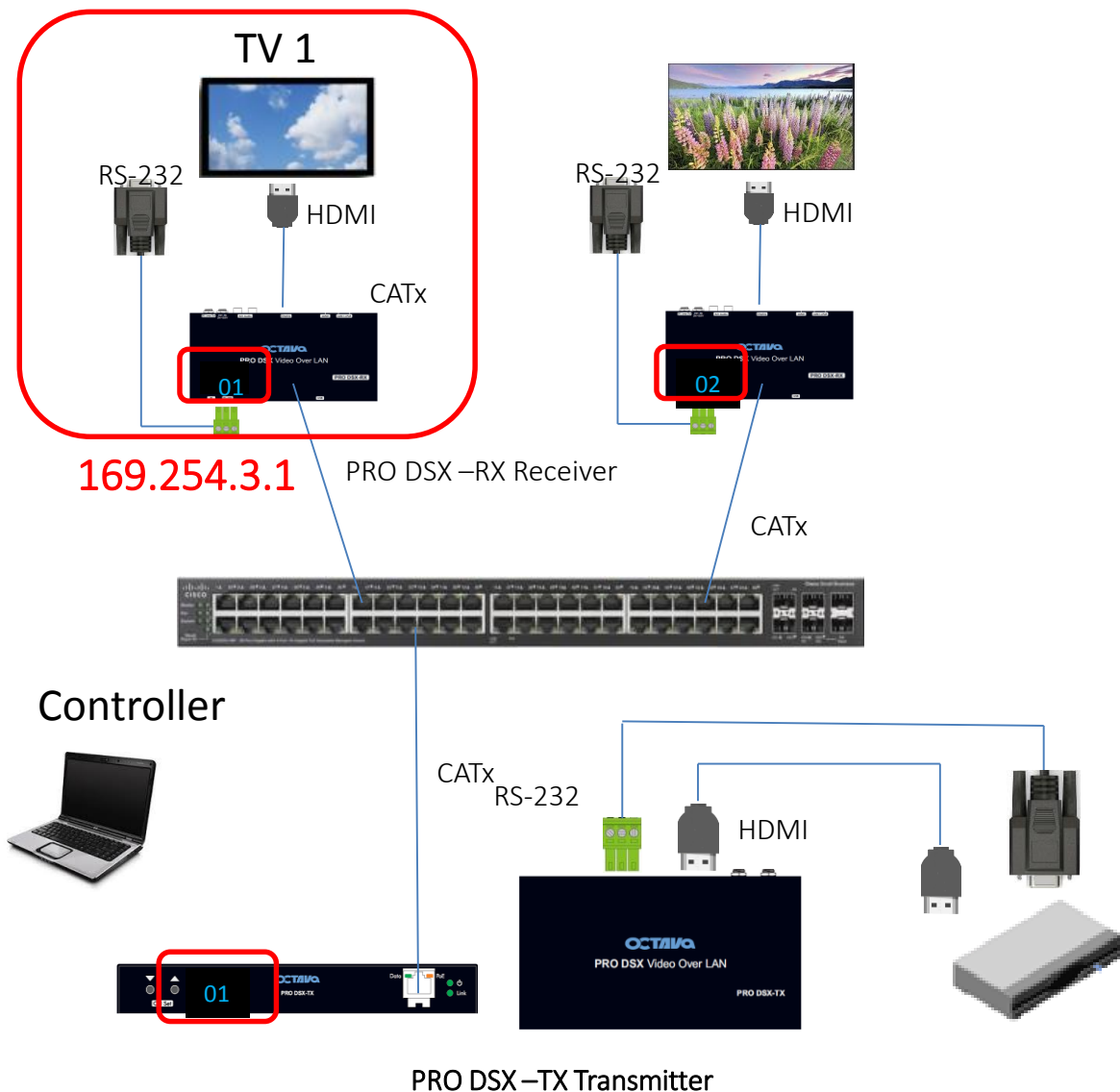
You will need to Reboot to save the TYPE 2 Guest Mode Settings



## RS-232: TYPE 2 Guest Mode

### EXAMPLE 1 : Sending RS-232 commands to TV 1 to turn ON or OFF

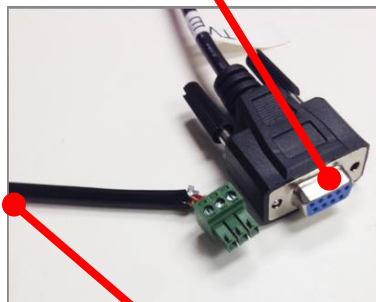
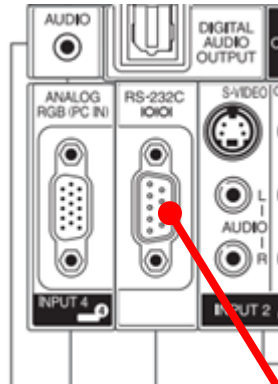
The IP Address of the PRO DSX attached to TV1 in this example is **169.254.3.1**



## RS-232: TYPE 2 Guest Mode

### EXAMPLE 1 continued: Connect RS-232 cables to TV and PRO DSX\_RX

If your TV has a RS-232 DB-9 connector ( male) as shown. Connect to the PRO-DSX-RX RS-232 Port as shown using the indicated cables.



RS-232 Female to Phoenix cable





## RS-232: TYPE 2 Guest Mode

**EXAMPLE 1 continued: Telnet to the desired PRO DSX-TX via port 6752 and enter the control commands**

Enter:

**telnet 169.254.2.1 6752**

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Octava>telnet 169.254.2.1 6752
```

**Enter the ASCII control codes for the device**

```
POWR0
OK
POWR1
OK
```

## RS-232: TYPE 2 Guest Mode

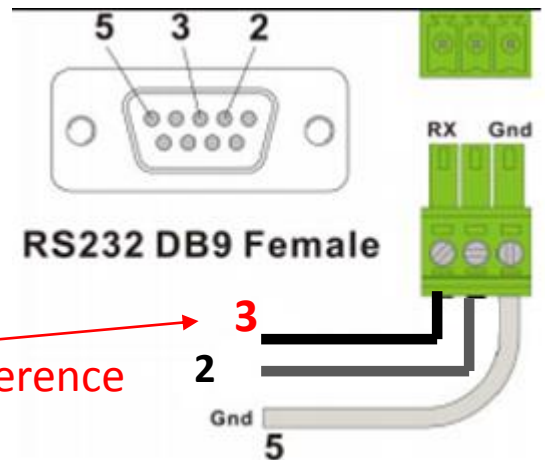
### RS-232 ( DB-9 to Phoenix cable)

The Cabling used in the above example is shown below.

DB-9 FEMALE to Phoenix cable ( RS-232F-P)



Note the difference



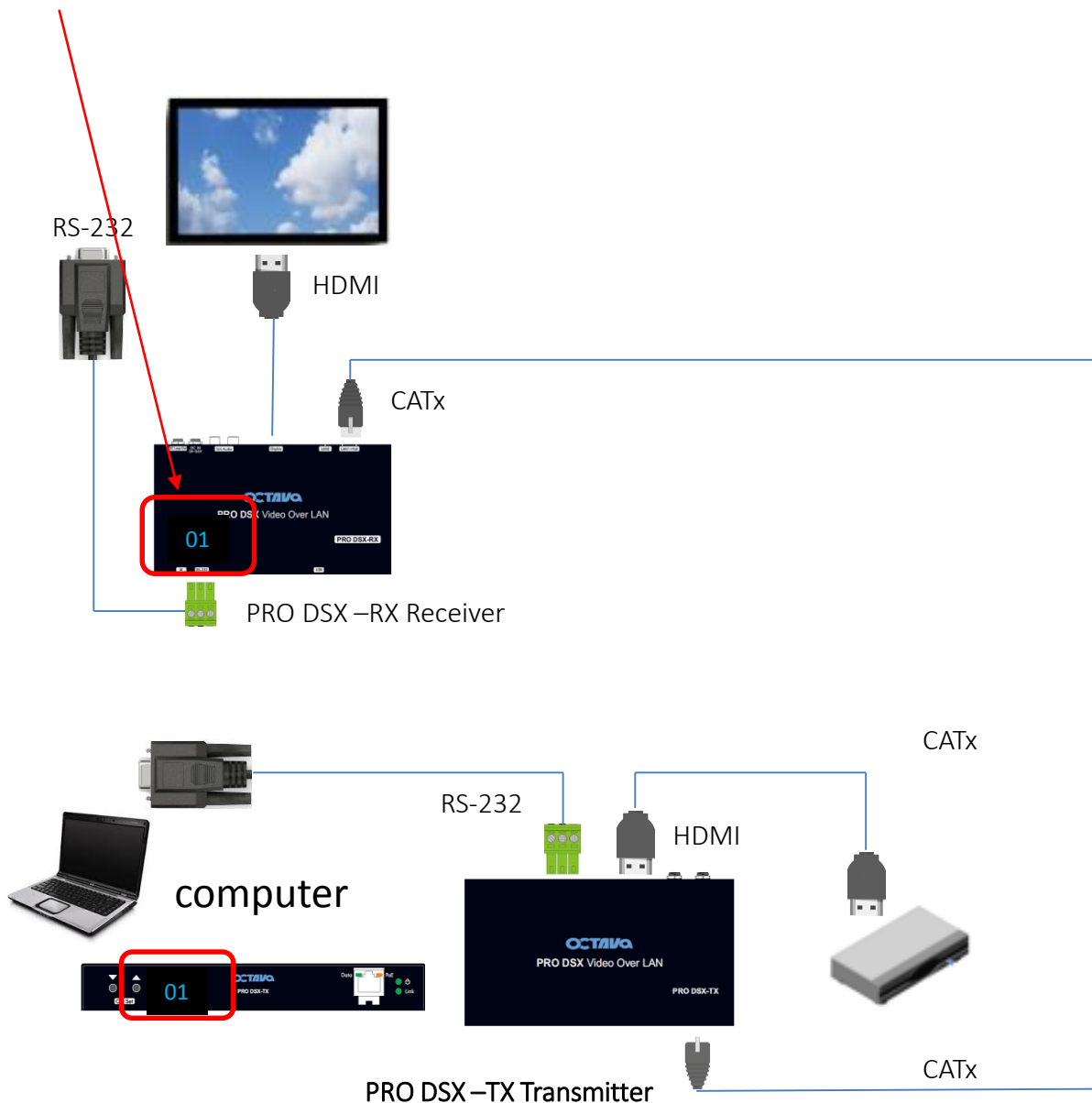
DB-9 FEMALE to Phoenix cable ( RS-232F-P)

## RS-232: TYPE 2

### RS-232

The PRO DSX allows RS-232 communications for device controls. A simple direct link is shown here.

For Simple 1 to 1 link, we recommend setting the PRO DSX –TX and PRO DSX-RX both to CH 1 and ID 1.



## RS-232: TYPE 2

## 1. Configure the PRO DSX-TX Serial IP to Type 2

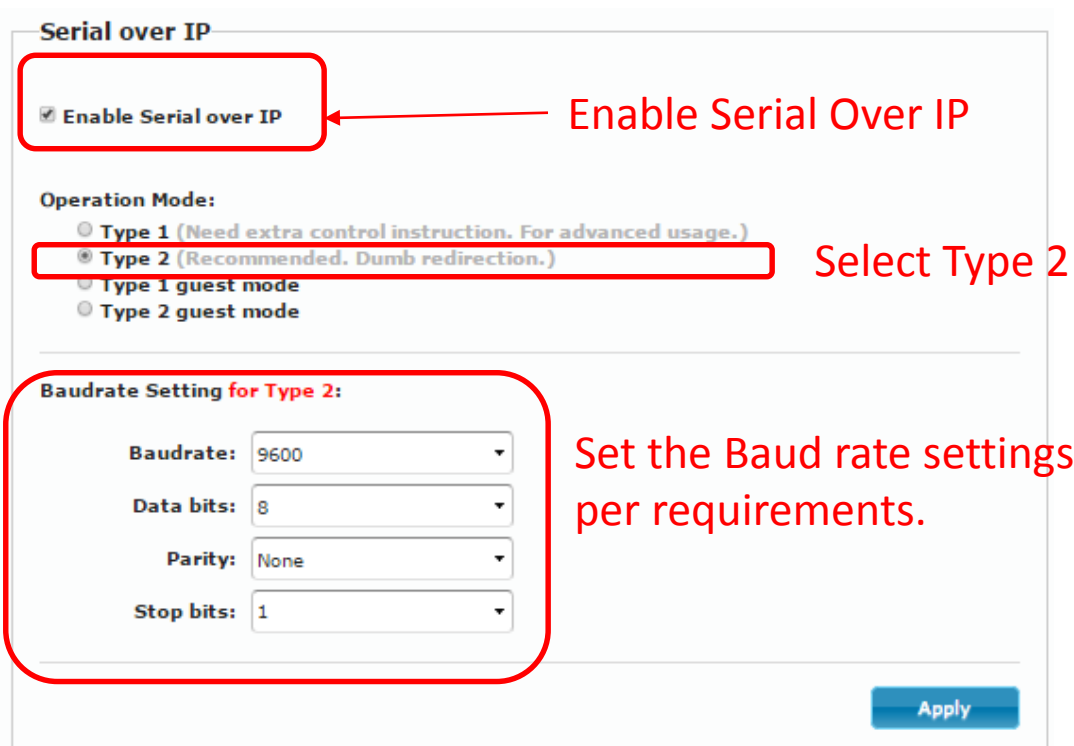
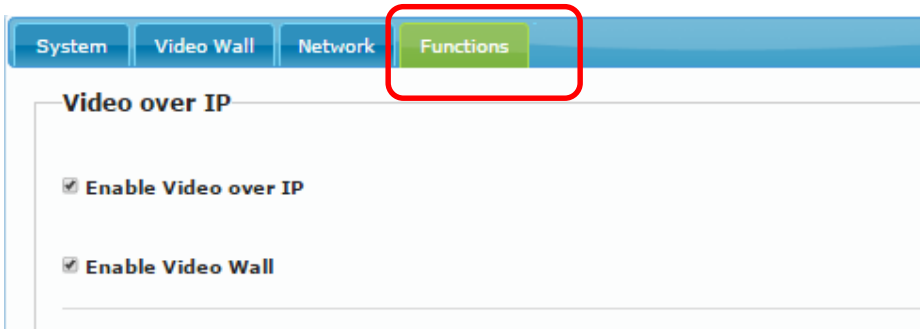
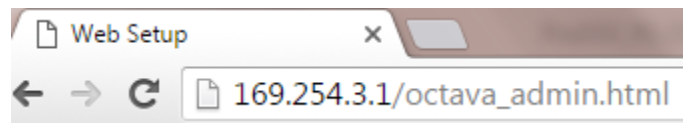
use browser to access the PRO DSX-TX: 169.254.2. 1

The screenshot shows a web browser window titled "Web Setup" with the address bar displaying "169.254.2.1/octava\_admin.html". The interface has a navigation bar with tabs: "System", "Video Wall", "Network", and "Functions". The "Functions" tab is selected and highlighted with a red box. Below the navigation bar, the "Video over IP" section is visible, with checkboxes for "Enable Video over IP" and "Enable Video Wall", both of which are checked. Below this, the "Enable Serial over IP" checkbox is also checked and highlighted with a red box, with the text "Enable Serial Over IP" written in red to its right. Under the "Operation Mode:" section, four radio button options are listed: "Type 1 (Need extra control instruction. For advanced usage.)", "Type 2 (Recommended. Dumb redirection.)", "Type 1 guest mode", and "Type 2 guest mode". The "Type 2 (Recommended. Dumb redirection.)" option is selected and highlighted with a red box, with the text "Select Type 2" written in red to its right. Below the "Operation Mode" section, the "Baudrate Setting for Type 2:" section is shown, containing four dropdown menus: "Baudrate" (set to 9600), "Data bits" (set to 8), "Parity" (set to None), and "Stop bits" (set to 1). This entire section is highlighted with a red box, with the text "Set the Baud rate settings per requirements." written in red to its right. At the bottom right of the interface, there is an "Apply" button.

## RS-232: TYPE 2

## 2. Configure the PRO DSX-RX Serial IP to Type 2

use browser to access the PRO DSX-TX: 169.254.3. 1

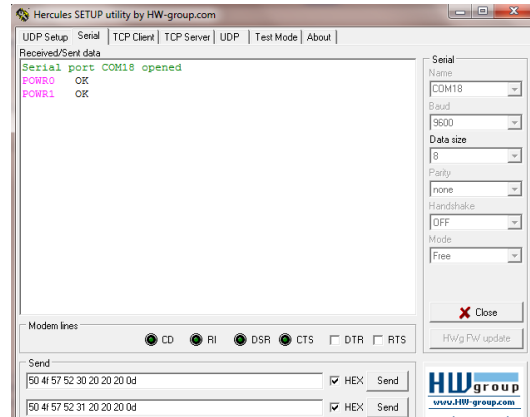


## RS-232: TYPE 2

### 3 Connecting PC to PRO DSX-TX using a USB to RS-232 Adapter

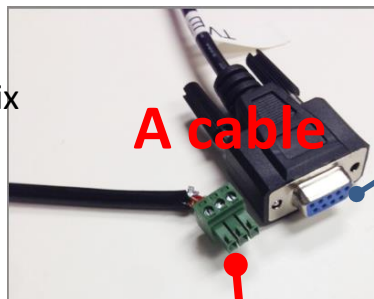


USB to RS-232 Adapter  
"PROLIFIC" CP-US-03



Serial Terminal Program

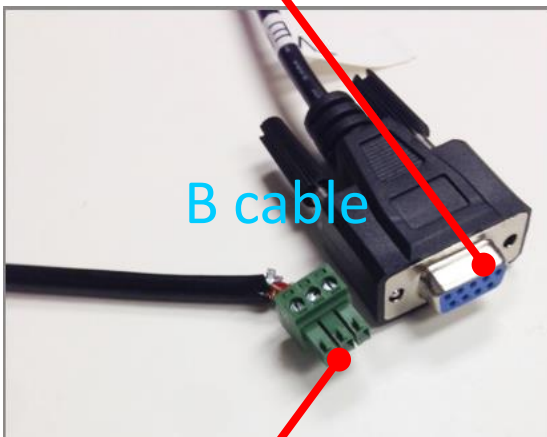
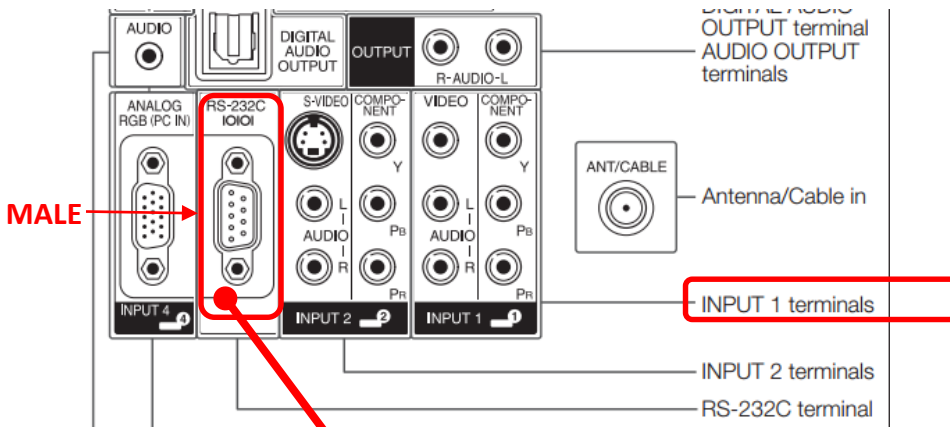
RS-232 Female to Phoenix  
cable



## RS-232: TYPE 2

### 4 Connecting RS-232 to TV with RS-232

If your TV has a RS-232 DB-9 connector ( male) as shown. Connect to the PRO-DSX-RX RS-232 Port as shown using the indicated cables.



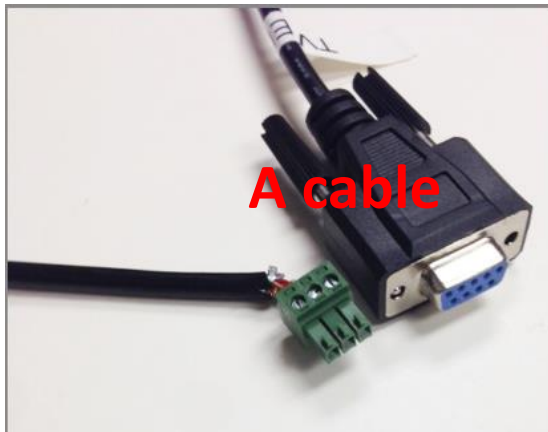
RS-232 Female to Phoenix cable



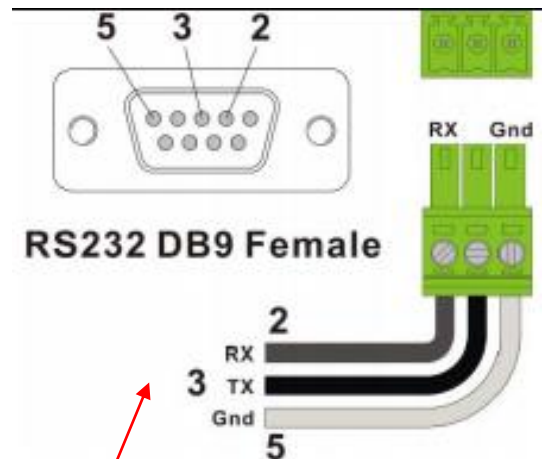
## RS-232: TYPE 2

### RS-232 ( DB-9 to Phoenix cable)

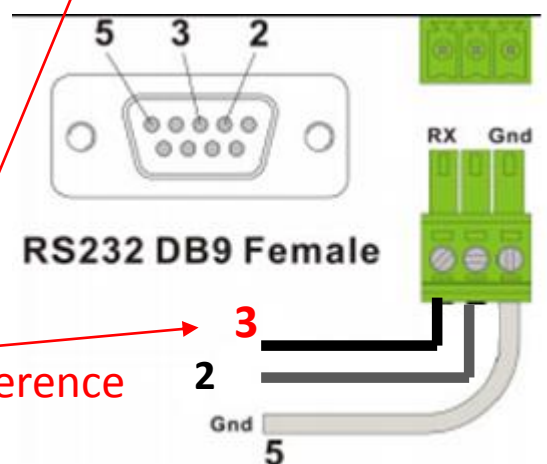
The Cabling used in the above example is shown below.



DB-9 FEMALE to Phoenix cable ( RS-232F-P)



DB-9 FEMALE to Phoenix cable ( RS-232F-P)



Note the difference



## On Screen Display

The PRO DSX-RX will display some on screen messages to indicate status of the connection and basic diagnostics.



The PRO DSX-RX will display orange screen indicating that the video source is not connected/ or not available. Check the video source and connection.



The PRO DSX-RX will display green screen indicating that the selected TX is not connected or not available. Check if the TX is selected and connected correctly.

## Safety Information

### Safety Information:



#### Electrical safety

- Use only the power supplies and the AC power cord that were included with your product.
- Use of other power supplies could damage the product or cause shock, or other hazards
- For Indoor Use only
- Avoid excessive humidity, or temperature extremes
- Do not place the product in any area where it may become wet.
- Unplug the power supplies and the AC power cord before cleaning, or removing any panels for servicing. |
- When adding or removing devices to or from the product, disconnect all power cables from the existing product before you add a device.

#### Operation safety

- Install the product in a well ventilated location. Keep ventilation opening free of obstructions.
- Don't block any ventilation openings on the unit.
- Avoid dust, humidity, and temperature extremes.
- Do not place the product in any area where it may become wet.

## Contact Information

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