Quick Start Guide
TITAN 3D Displays

This guide applies to all 3D Titans of Production Version F or higher.

Version F projectors can be identified by inspecting Input 8 for the new BNC type Sync connectors.

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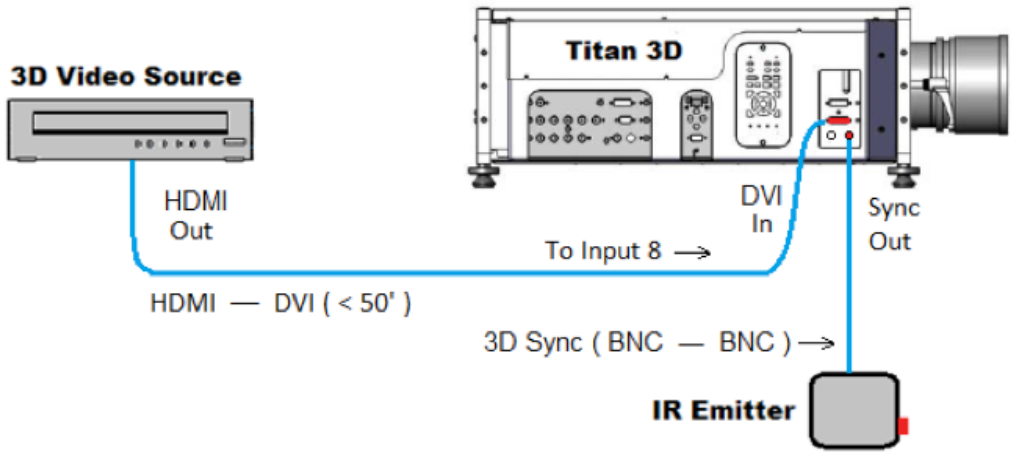
1 Connect the Components

a. Plug in and power all devices.
b. Set the 3D source to output the desired resolution.
c. Connect a BNC – BNC cable from the projector's Sync Out to the Sync IR Emitter.
d. Connect an "HDMI to DVI" cable from the source to the projector.

The HDMI Cable length should not exceed 50ft. If "Sparkles", digital noise, or missing picture occurs, then use a shorter cable, replace it with a higher quality cable, or consider a HDMI Extender. HDMI to DVI adaptors are not recommended since they attenuate and can degrade the signal. Also, even short cables may result in image artifacts if they are of poor quality.

Note – Although it is not visible from the Input 8 Panel, the projector's DVI connection incorporates an HDMI 1.4a Receiver. To connect to the HDMI 1.4a receiver, **the "Sub" DVI connector on Input 8 must be used.** The DVI "Sub" connector is the only connection with an HDMI 1.4a receiver.



- Use the "Sub" connector on Input 8 if your 3D content is provided by Consumer 3D sources, such as a 3D Blu-Ray player or cable / satellite tuners with 3D capabilities.
- Use the "Main" connector on Input 8 if computers serve as your 3D sources, and their output is sequential video at high frame rates, such as 120 Hz.
- Use both "Main" and "Sub" if the output of your 3D source is "Dual Pipe", which is delivered via distinct left and right eye cables.

Special Considerations for Placement of the 3D IR Emitter

- Special consideration should be taken when installing the 3D IR Emitter. It should be either located at the screen pointing towards the viewer, or it should be placed near the projector pointing toward the screen. Testing should be done to ensure the IR sync pulses are reflected back to the viewer's 3D glasses. The 3D glasses will not operate properly if they do not receive the IR sync pulses.
- When the 3D IR Emitter is active, it is very important to note that the IR emission or "blast" may "jam" the IR receivers of local electronic devices that are in direct line of site with the emitter. If the IR blast from the 3D emitter jams the IR receiver on the projector, the projector may not function properly and control via the wireless remote control and the built-in keypad may be disrupted. Therefore, for 3D applications with IR emitters, we recommended the use of control via Serial or IP based control devices. When controlling the projector via Serial or IP based devices, the projector's IR receivers should be disabled by plugging a 3.5mm mini connector into the hardwire input, or by covering the IR receivers with opaque material.
- If it is not possible to employ Serial or IP control of the projector, and the IR receivers in the projector are being overloaded or jammed by the 3D IR emitter, we recommend employing a hardwire connection between the remote control and the projector. Connecting the 3.5mm hard-wire cable will disable the IR receivers on the projector.
- When finished with 3D viewing, and switching back to 2D, the projector's 3D Mode should be reset to the "Off" position. This will turn off the 3D IR emitter, and it will prevent any 2D content from possibly being displayed with 3D settings.

2 Understanding and Selecting your 3D Mode

a. Set the projector's **3D Mode** in the **3D menu. Go to : Menu / Setup / 3D**

3D SETUP	
3D Mode	Professional
3D Input Assign	8. DVI (Main/Sub)
3D Format	Sequential
Dark Time	120uS - +
Frame Dominance	Left
3D Sync Delay	-40uS - +
3D Sync Source	External
3D Sync Output Polarity	Positive
Output Shuttering	x1

3D SETUP	
3D Mode	Commercial
3D Input Assign	8. DVI (Main/Sub)
3D Format	Frame Packing
Dark Time	120uS - +
Frame Dominance	Left
3D Sync Delay	-40uS - +
3D Sync Source	External
3D Sync Output Polarity	Positive
Output Shuttering	x 3

Press the *left* and *right* arrows to select 3D Mode. Press the *up* and *t* arrows to select.

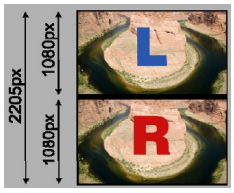
Possible 3D Modes include:

- **Off** – 3D circuitry is turned off. No 3D imagery will be displayed.
- **Professional** – All options will be available for adjustment.
- **Consumer** – 3D Input Assign, 3D Format and Output Shuttering will be unavailable.

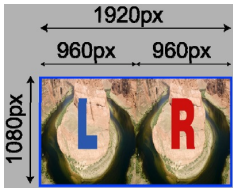
The following comments will help you determine which 3D Mode is appropriate for your application:

- In **Professional** mode, all 3D formats, including Side by Side 1080p60, Frame Sequential and Dual-Pipe can be used. It is important to note that Frame Sequential must use the "Main" DVI connector on Input 8 if the vertical frame rate of the source is greater than 60hz.
- In **Consumer** mode, the projector will automatically detect the following common 3D standards on Input 8:

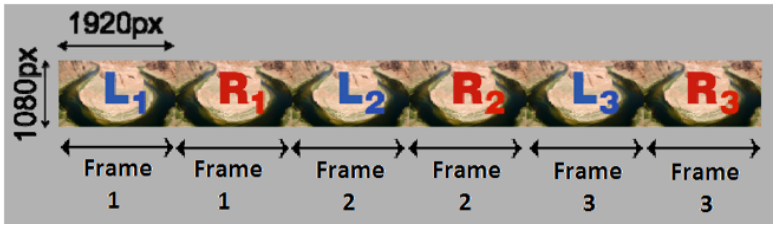
Frame Packing : 2205p24, 720p50, 720p60



Side by Side : 1080i60, 1080p24



Frame Sequential – 1080p



3 Defining your 3D Settings

3D Input Assign - Select the desired Input. The choices are Input 3 and Input 8. Please note that this setting is not available in *Consumer Mode:*

- Input 3: This input can be used in *Professional Mode* and is appropriate for standard bandwidth 3D source that do not require HDMI 1.4a compatibility, but do require utilization of the projector's internal scaling. Input 3 is not recommended for consumer 3D applications.
- Input 8: Recommended for both Consumer and Professional 3D applications, the "sub" connector on this input incorporates the HDMI 1.4a receiver. In addition, this input also provides the ability to accept high frame rate 3D signals and Dual Pipe signals, as might be used in more critical Professional applications.
  Please note – Input 8 does not provide image scaling. Therefore, if the native resolution of the source is something other than the projector's native resolution, an external scaler should be used if full display resolution is desired. An external scaler is also required when using an anamorphic lens in combination with a source connected to input 8.

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3 Defining your 3D Settings (continued)

3D Format – Select from Frame *Packing, Side-By-Side (Half), Sequential, Top-And-Bottom,* or *Dual Pipe,* as appropriate for your 3D source. Please note, this setting is not available in *Consumer Mode*, as the 3D format is automatically detected by the HDMI 1.4a receiver.

Dark Time – Image Ghosting can be caused by the left-eye and right-eye images overlapping during the time that the Z screen or 3D glasses are switching. Set the Dark Time to a value appropriate for the glasses or Z-screen. Try 1000 µS. Optimizing the Dark Time setting and 3D Sync Delay (detailed below) will help to minimize ghosting.

Frame Dominance – The 3D frames are presented to the projector in pairs, and for proper viewing, the dominant frame needs to be presented on-screen first. Set Frame Dominance to match the incoming 3D video frame sequence. If the 3D content is uncomfortable to view, Frame Dominance may be set incorrectly.

3D Sync Delay – The sync signal from the 3D source will be "in phase" with the frames generated by its graphics processor. To compensate for processing delays in the projector, the 3D Sync Delay control is provided to introduce a delay to the sync output signal sent to the Z-Screen or 3D glasses. Adjust the Sync Delay time to minimize ghosting and achieve a smooth grey-scale.

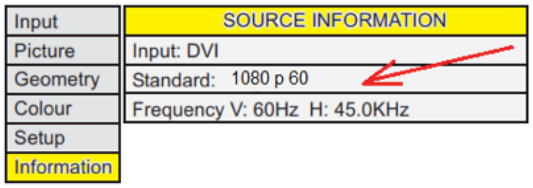
3D Sync Source – Whenever possible, select "External". In general, you should only select "internal" if your 3D source does not generate 3D sync.

3D Sync Output Polarity – Toggle this setting if the left-eye and right-eye images appear to be swapped.

Output Shuttering (Frame Rate Multiplication) – If the 3D content is only available from the source at low frame rates, it will be necessary to multiply the frame rate to reduce image flicker. For example, a 60Hz 3D frame rate (30 Hz per eye) can be doubled to 120Hz (60 Hz per eye), or a 48Hz 3D frame rate (24 Hz per eye) can be tripled to 144Hz (72 Hz per eye). Please note, this setting is not available in *Consumer Mode,* as output shuttering is automatically set based on the format detected by the HDMI 1.4a receiver.

4 Troubleshooting

a) If there is no 3D image present, then using the projector's menu, verify that the signal is being received from the Source. If it is present, the resolution will appear in the "Source Information". If it is not, check the sources output settings, any processors in the path, and the cabling.



b) If any digital noise or artifacts are present in the image, then test and verify the quality of the HDMI to DVI cable. If other external devices or extenders are suspected, bypass each and then test again.

c) If the Output Shuttering is set too high for the selected source, then the vertical size will be compressed.

d) If the 3D format is not automatically detected when in Consumer Mode, then change the 3D Mode to **Professional**, and manually select the 3D Input, the 3D Format, and the 3D Output Shuttering. Go to : Menu / Information / Source Information.

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