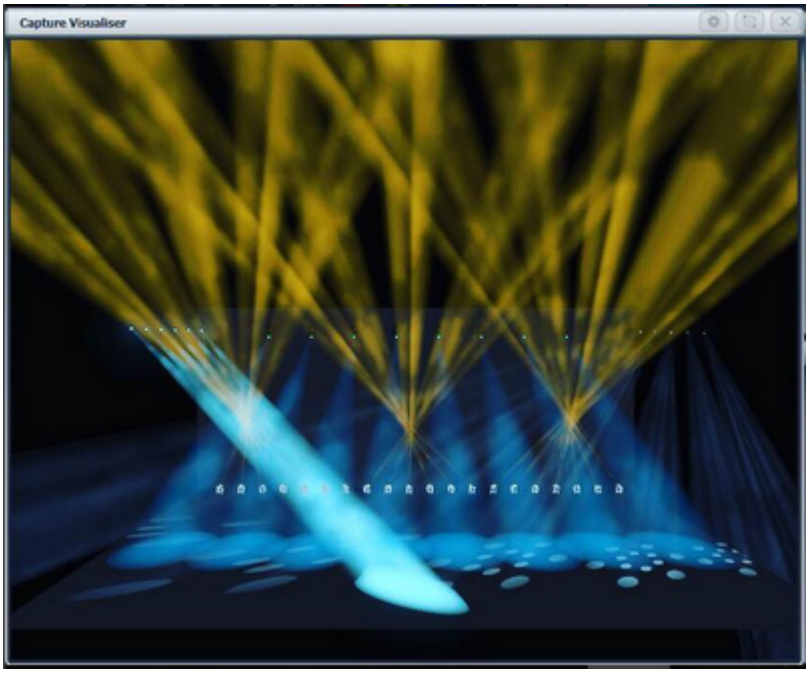
14 Capture Visualiser

14.1 Capture Visualiser Introduction

The Capture visualiser engine is integrated into the Titan consoles. This can provide a realistic simulation of your lighting which is really useful for pre-programming or making changes in blind mode during a show.

This chapter also has a section on linking the console to an external full version of Capture (Section 14.5) which can be useful if you need to visualise a set or a full venue, as the internal Capture engine has limited modelling facilities.



To open the visualiser, select [Capture Visualiser] from the [Open Workspace Window] menu (see Open Workspace Window (Section 5.2.1.1)).

> Always **pre-program using palettes**, because things never quite line up the same in a visualiser as they do in the real world. Using palettes means that you just need to reprogram a few palettes when you get onto the real rig, rather than having to change lots of cues separately.

14.2 Setting up the Rig

14.2.1 Setting up the Stage and Rigging

To help you see what your rig will really look like you can add fixed elements of staging and rigging.

Open the Capture Visualiser Settings window by double pressing <Open/View>, then select Visualiser Settings from the window select buttons (or you can use the {Open Settings} context button in the Capture window.) Click the **Stage** tab.

“Floor” and **“Back Wall”** are provided by default. You can add other objects by clicking the {+} button at the bottom of the list.

Click on the object in the list on the left hand side to position and angle the object using the controls on the right. You can either type exact numbers by clicking on the buttons down the right hand side or use the sliders. You can set a legend and colour for each object.

14.2.2 Setting up Fixtures

Fixtures are automatically placed into the visualiser when they are patched if the Auto Update switch in the Capture Settings (Section 14.2.1) **“Show”** tab is set to On.

If you load a Titan show (Section 5.8.2) from a previous version, or have some patched fixtures which are not placed in Capture, use the [Edit Fixtures] [Update Personality] option on the Patch menu (Section 6.3.1) to

place missing fixtures into the visualiser. The Exchange Fixtures (Section 6.3.9) function may also be used to help with this situation.

Fixtures are positioned using the wheels. Select one or more fixtures using the Fixture select or Group buttons (Section 7.1.1) and turn them on by pressing <Locate> (Section 7.1.2). Press the {Position - Orientation} context menu button to switch the wheels to Visualiser mode *(or press Softkey G at the top level menu until the display shows Wheels-Visualiser)*.

Select <Position> attribute, then use the wheels to change the X/Y/Z position of the fixture(s). If you select multiple fixtures, pressing the {Scale-Fan} context menu button or the <Fan> button allows you to evenly spread out the fixtures. The Fan curve/group/split options (Section 7.2.10) also work.

Touch above or below the wheel value to nudge the setting up or down by one step. For rotation this will be 45 degrees.

If you are viewing the stage from the front then:

Axis	Action
X	moves left and right
Y	moves up and down
Z	moves towards and away from you

Press <Position> a second time to switch the wheels to Orientation mode. The wheels will now pivot the fixtures in the X/Y/Z axes. Again you can use the Fan (Section 7.2.10) button to give a spread of angles on multiple fixtures.

The X/Y/Z rotation operates like a 3-axis camera gimbal - imagine the fixture within three pivoting rings (see left hand picture below). In some orientations, the X and Z rotation will seem to do the same thing and some rotations seem to be impossible to achieve - this is called gimbal lock and happens when two of the “rings” are lined up with each other (right hand picture below). Change the Y rotation by 90 degrees to enable you to achieve other angles.

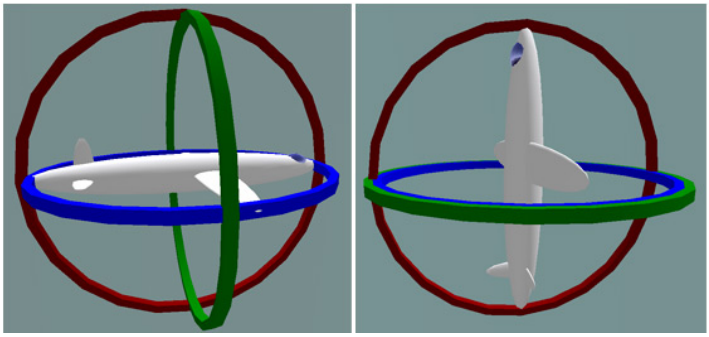


Illustration by MathsPoetry

Press <Position> a third time to switch the wheels to Rotation mode. Rotation mode only works if you have multiple fixtures selected, and the fixtures rotate as a group about the middle fixture.

- For rotating single fixtures you need to select **Orientation** mode. **Rotation** mode only works when multiple fixtures are selected, it does nothing when a single fixture is selected.

> It's easier to see what position fixtures are in if you change the tilt angle so they aren't pointing straight down (or up). It's always useful if you can have an actual fixture of each type connected to help you get them pointing the right way, but you can change this later if not.

Setting Fixture Options

You can set some options within the visualiser which control how the simulated fixture works. Different options are available depending on the type of fixture.

To set these options, press the bottom softkey at the top level menu until the option shows [Wheels=Visualiser], or press the {Position-Orientation} context menu button. Then select one or more fixtures to set and use the wheels to adjust the settings.

Dimmers (generic fixtures)

Attribute	Wheel	Function
Colour	A/B/C	RGB light colour - Allows the colour of the light to be set (if the real-life fixture has a colour filter fitted)
Beam	A	Zoom - Sets simulated beam angle from 5 to 90 degrees

Attribute	Wheel	Function
”	B	Focus - Sets simulated focus
”	C	Throws Light (see note below)
Effect	A	Horizontal Frost - spreads the beam horizontally
”	B	Vertical Frost - spreads the beam vertically

Other fixtures

Attribute	Wheel	Function
Beam	A	Throws Light
”	B	Invert Pan
”	C	Invert Tilt

- The *Throws Light* option can be useful with pixel/eye-candy type fixtures to reduce rendering load on the console - only the illumination of the fixture itself is shown, the light cast by the fixture is not shown.
- The *Invert Pan / Tilt* options can be used to change the simulated fixture so it responds in the same directions as the real fixture.

14.2.3 Setting up Cameras (Views)

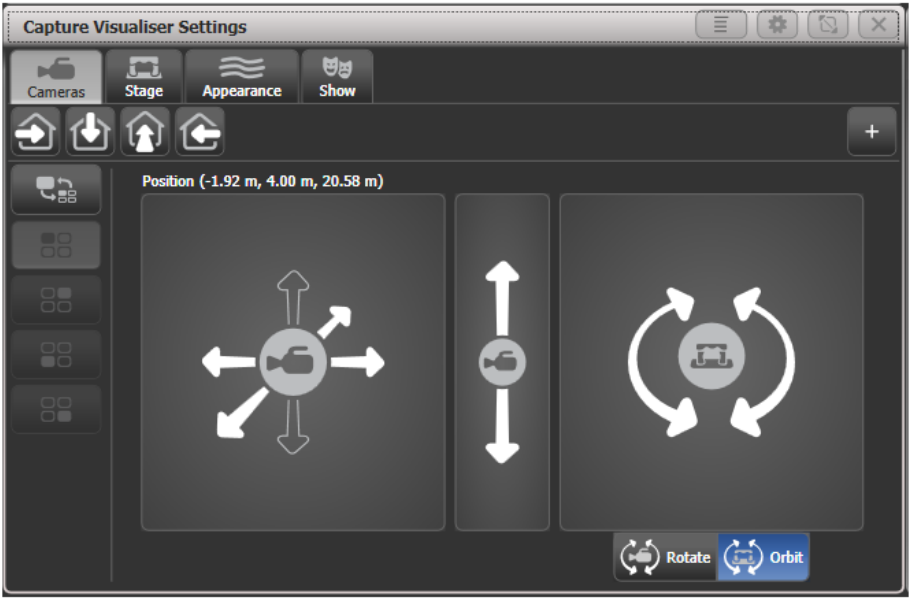
Four cameras (selectable views) are provided by default but you can add more.

The context menu buttons provide camera options.

Camera controls are in the Capture Visualiser Settings window (Section 14.2.1) which you can open by double pressing <Open/View> to show the workspace window buttons, or using the {Open Settings} context button.

The view buttons across the top select the four default views *(shown below)*. Press the {+} button at the right hand side to add a new view.

The top button on the left toggles between single view or quad split mode. If quad split is selected, the other 4 buttons select which view you are controlling.



The left hand pad moves the camera **left and right**, and towards and away from the stage.

The middle pad moves the camera **up and down**.

The right hand pad can be set to rotate or orbit mode

- **Rotate:** turns the camera to face left, right, up, down
- **Orbit:** orbits the camera around the stage in a circular path keeping it pointed at the same object.

Press the {Move Camera} context button to link camera movement to the wheels. This also opens the **Set Coordinates** menu with softkeys allowing you to enter numeric camera positions.

Press the {Rotate Camera} or {Orbit Camera} context buttons to link camera rotation or orbit to the wheels and allow numeric entry on the softkeys.

14.2.4 Capture Appearance options

The Appearance tab of the Settings window (Section 14.2.1) allows you to set the following parameters:

- **Ambient lighting** (background light level)
- **Smoke density** (called Atmosphere in full Capture))
- **Smoke variation** (also called Atmosphere contrast - mix between haze and moving smoke effects - 0%=all haze, 100%=all smoke)
- **Smoke speed** (also called Atmosphere speed - rate of change of moving smoke effect)
- **Exposure adjustment** (camera brightness control)
- **Bloom amount** (visible halo around lights)
- **Rendering settings detail** (this affects the refresh rate of the simulator. If you have a lot of beams visible you may need to change this to Low to improve the refresh rate).

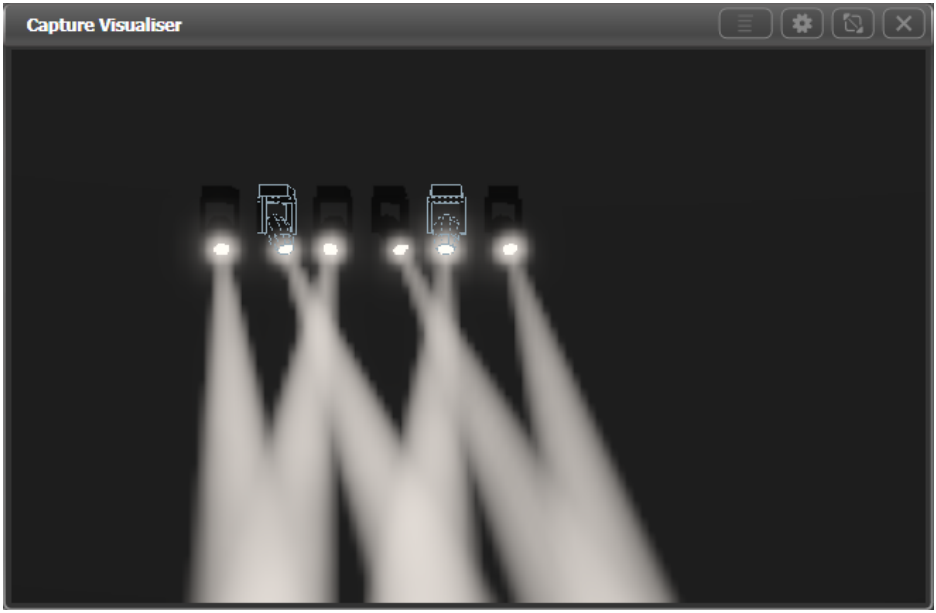
14.3 Visualising using Capture

Mostly you don't have to do anything special with Capture once you have it set up. Just operate the console as normal and Capture will show you what would be happening on the stage.

> If you use the visualiser a lot, it's very handy to have an external monitor to show it on. Otherwise you constantly have to switch between the workspace windows and the visualiser window.

14.3.1 Fixture Selection

If you select fixtures (Section 7.1.1) on the console, the fixtures will highlight in Capture so you can see where they are in real life.



14.3.2 Camera Views

Capture lets you can see how the lighting will look from any seat in the house. Even if you're in the venue with the full rig in front of you this means you can see the look without having to run all over the venue.

Set up multiple cameras as described in the previous section (Section 14.2.3) and you can either click between them or show the 4 standard camera views as a quad split.

14.4 Capture Show Files

The Capture stage is automatically saved within the Titan showfile. The Capture stage can also be exported and imported separately from the Titan show. This allows standard stages or rigs to be transferred between Titan shows, or to be loaded into the full version of Capture for further editing.

Select the **Show** tab in the **Capture Visualiser Settings** window to export and import shows.

14.4.1 Exporting Shows

Exported Capture shows can be loaded into other Titan shows or into the full version of Capture for producing documentation.

14.4.2 Importing Shows

Shows can be imported from the full version of Capture, this can be useful to import existing stage structures or rigging designs.

For Titan to list your Capture show files for import, you need to have them in either of the following locations: - Titan show file folder (normally `Documents\Titan\Shows`). - The root directory of a USB drive.

> The internal Capture engine uses the Capture 2020 version *(in Titan v13 and v12, Capture 2018 was used; in Titan v11 and below, Capture Atlas was used)*. You will not be able to import files from newer versions of Capture - use the **"Export for Capture 2020"** function in the File menu of the full version of Capture to save the file as a version which can then be imported.

When importing shows from full Capture you need to ensure that all fixtures in the show have been correctly patched in Capture to match the patch on the console. There is no way to edit an externally created Capture patch on the console.

You will need to turn off the **Auto Update** option in the Capture Settings window on Titan, otherwise Titan will move all the fixtures about according to layout settings in the Titan show.

- Some fixture types and other Capture elements may not work when you import a show that has been created in full Capture. You can use the auto-patch function (Section 6.2.4) to allow the console to patch fixtures into an imported Capture show, but you will then need to manually position them using the Titan controls.

14.4.3 Clearing the Capture Show

The Wipe button at the bottom of the Show tab will clear the current Capture show.

If the **Auto Update** option is set to **On** (the default setting) then the Capture show will be repopulated with the fixtures in the Titan show.

You can manually reload patched fixtures from your Titan show into Capture by selecting the [Edit Fixtures] [Update Personality] option on the Patch menu (Section 6.3.1). This is particularly useful if a capture representation is added to fixtures which previously weren't available in Capture but are already patched in Titan.

14.5 Linking the Console to Stand

Sometimes the extra capabilities of the full version of Capture are needed, and the console is linked to a PC running full Capture. The fixture patch details and fixture selection will sync between the console and Capture.

When the PC is connected to the same network as the console, you should be able to see the console listed at the bottom of the **"Universes"** tab in Capture. The console should link automatically, but if not or if there are multiple Titan consoles on the network, you can manually select one from the list.

You need to have Art-Net or sACN output enabled on the console universes that you want to see in Capture. See Configuring DMX Outputs (Section 19.6.1).

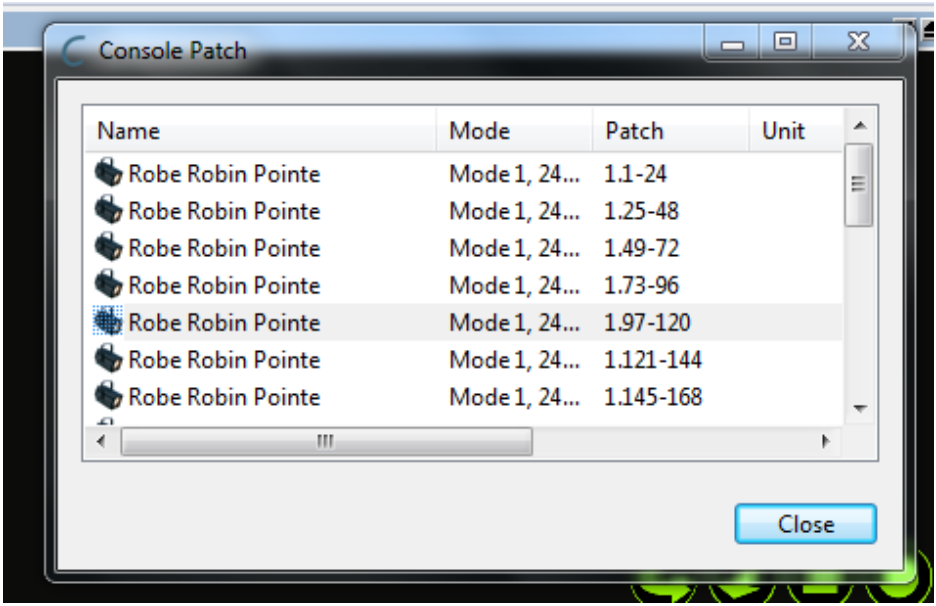
> For linking/sync to work properly the external Capture version must be 2020, 2018 or the last version of Nexum. Older versions of Capture will only partially work.

While Capture is connected, the console will attempt to keep its show synchronised to the Capture show. If you add a fixture or change patch details in Capture the changes will automatically be made on the console. If you add a fixture or make changes to the patch on the console, then Capture will update. Selecting a fixture on one will select the fixture on the other. If you don't want this to happen you can turn off the **"Console Link"** function in Capture - simulation will continue to operate whether the console is linked or not.

14.5.1 Patching Console Fixtures into Capture

When you first connect the console to Capture, or if you load a show (Section 5.8.2) on the console or patch a new fixture (Section 6.2), the Console Patch dialog will be shown in Capture. This contains a list of the fixtures which are on the console and need inserting into the Capture show.

You have to drag the fixture(s) from the Console Patch window to one of the Capture viewports to place it in the Capture show, the DMX address will be set from the Titan show. You can select and drag multiple fixtures.



Fixtures already placed in the internal Capture simulator will appear in the same position and orientation in the stand-alone Capture. Changes to position, orientation, legend and user number will sync between the console and stand-alone Capture.

> Fixture Legend in Titan links to the **"Unit"** property on the Capture fixture, and User Number in Titan links to the **"Channel"** property in Capture.

14.5.2 Patching Capture Fixtures onto the Console

If fixtures have already been added in Capture before the console was linked, you can patch them on the console using Active Fixtures like this

1. Press <Patch>, [Active Fixtures].
2. Select [CITP Visualisers].
3. You should see the Capture computer as a softkey option, press it.
4. Select an empty handle to start patching, or press [Patch Capture @ …] to patch automatically.

> If any fixtures can't be patched (unsupported fixture type, or duplicate user number) then a blank handle will be left and a warning softkey will be shown at the end; clicking this will show a list of problems found.

To fix duplicate user numbers, edit the value in the **"Channel"** field in Capture to be a unique number. To fix unsupported fixtures, first try updating your Titan fixture library (Section 20.1.2). If this doesn't help, you

can submit a personality request (Section 20.1.4) on the Avolites website and select “Capture Visualiser (.c2o)” from the Desk Type options.

14.5.3 Creating playback legends from Capture screenshots

You can grab a screenshot from Capture to use as a legend for a playback/palette using the CITP link. This can give you a quick reference to the look you stored in the playback without having to try to describe it in words.

Create a picture legend as normal and change to the “network” tab in the legend editor. On this tab will be a thumbnail image of the Alpha view within Capture, you can select this image to set it as a legend.