EVS APPLICATION NOTE
X-ONE & CEREBRUM TALLY MANAGEMENT

VERSION 1.1

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CONTENTS

CONTENTS 2
REVISION HISTORY 2
INTRODUCTION 3
HARDWARE & SOFTWARE REQUIREMENTS 3
X-ONE 3
CEREBRUM 4
TALLY PROCESSING WITHIN X-ONE 4
CEREBRUM CONFIGURATION 4
SETTING UP TALLY MANAGEMENT IN CEREBRUM 4
X-ONE CONFIGURATION 8
ENABLING TALLY CONTROL IN X-ONE 8
CONFIGURATION TESTING 9

REVISION HISTORY

Document Version	Revision Date	Author	Change Description
1.0	03-11-2021	F.Gillet	Document creation
1.1	07-02-2022	A.Barier	Review

INTRODUCTION

A tally light is a small light mounted on a production camera. It is used to make the camera operator aware that their camera feed is being previewed in the production studio (= PRV) or put 'on air' (= PGM). The tally indicator lights up in a specific color (green = PRV, red = PGM).

You can configure X-One so that each time you send a camera feed to the Preview or Program channel in the Live interface of your X-One Client, the tally light on the corresponding camera lights up in the correct color.

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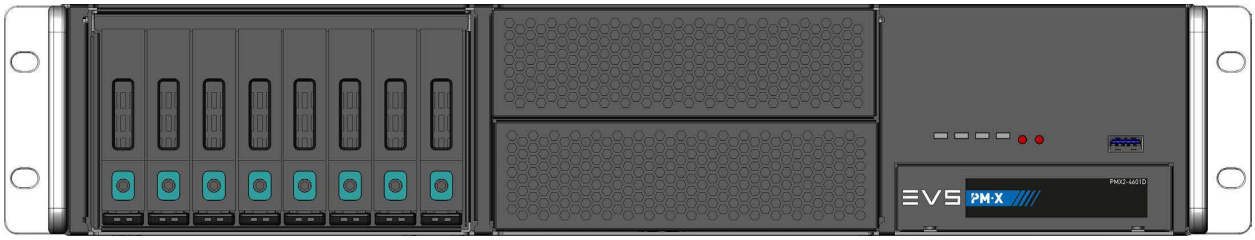
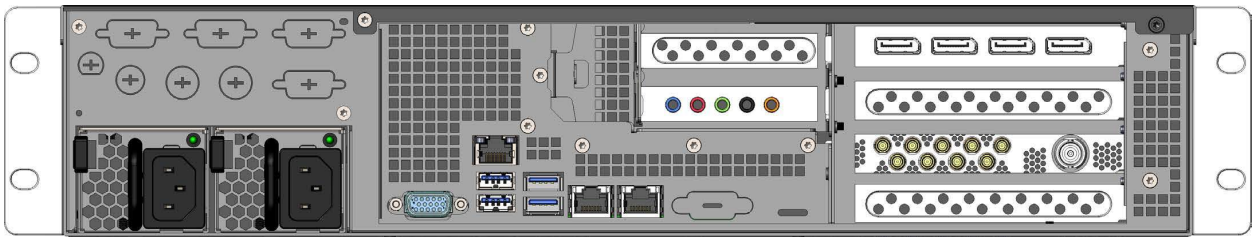
HARDWARE & SOFTWARE REQUIREMENTS

X-ONE

HARDWARE

X-One runs on a PM-X server, which is therefore also required to be able to use the Tally feature.





The X-One server has the following technical specifications:

- Chassis Dimensions: 2U chassis - rack mountable
- Power Supply: Redundant and hot-swappable
- Motherboard: Supermicro X10DRW-i
- GPU: Nvidia Quadro P4000
- CPU: 2 x Intel Xeon E5-2680 v4 (2.40 GHz, 14C/28T, 35M, LGA2011-3)
- RAM: 8 x 8GB (DDR4-2400 ECC Registered)
- System disk: Micron SATA SSD MTFDDAK240TCC-1AR1ZABYY 200GB 2.5"
- Live PAM disk: Micron SATA SSD MTFDDAK240TCC-1AR1ZABYY 200GB 2.5"
- RAID: 8 x 450GB 2.5" HDD - SAS12G 10K 128 MB (HGST Ultrastar C10K1800) or 8 x 900GB 2.5" HDD - SAS12G 10K 128MB (HGST Ultrastar C10K1800) (optional)
- SDI In: 8 x 3G-SDI

- OS: CentOS (Linux)
- I/O Board: Deltacast Compact versatile 8-channel SDI card + LTC + 2 brackets
- USB: 4 x 3.0 at the back, 1 USB 3.0 port on the front
- Network ports: 2 x 1 Gigabit ethernet port, 2 x SFP+ 10 Gigabit dual ethernet port (optional)

SOFTWARE REQUIREMENTS

Any X-One release as from version 1.0 is compatible. However, we recommend that our customers use the latest version available.

CEREBRUM

A Cerebrum standalone system is required to use Tally over IP. This standalone system runs on any Windows device and could for instance be installed on the same hardware that is used for the graphics management system.
In addition, you will need 4 GD points to perform the procedure below.

TALLY PROCESSING WITHIN X-ONE

In X-One it is possible to configure 2 tallies. You can use X-One together with an external tally control system (e.g. a BFE GPIO Controller) to turn the camera tally lights on and off during your production. When using Cerebrum for the tally workflow, it is possible to share X-One tally information with various kinds of devices, including TSL devices, over an IP network.

CEREBRUM CONFIGURATION

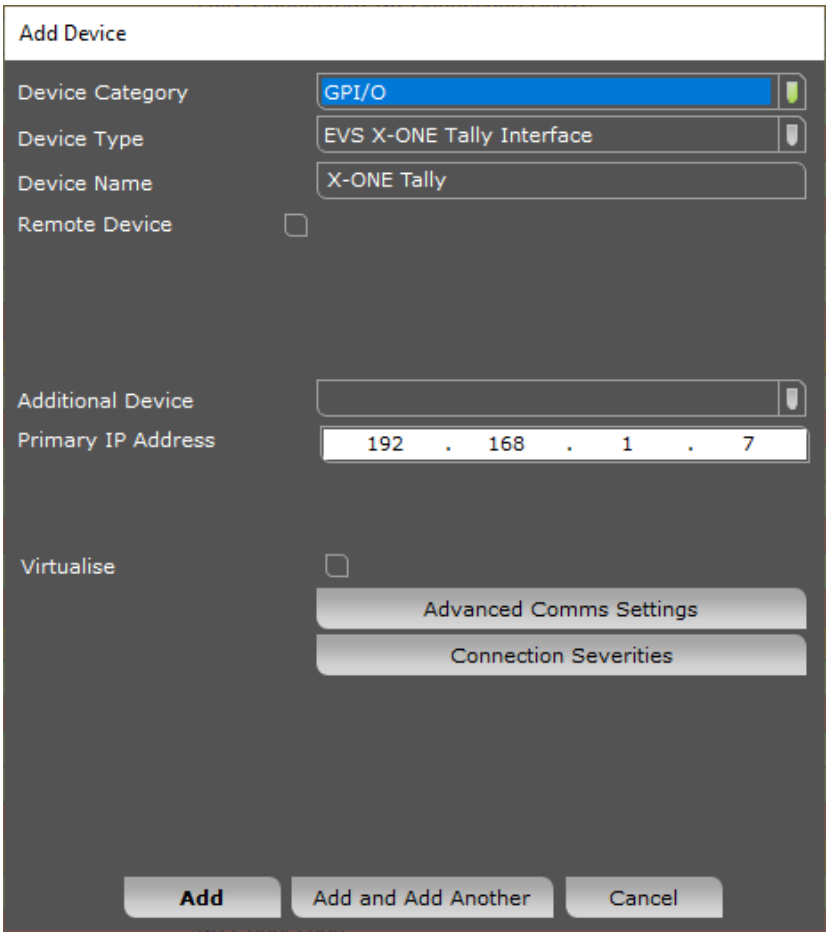
SETTING UP TALLY MANAGEMENT IN CEREBRUM

ADDING A GPI/O DEVICE

1. From the **Network** tab, select **Add Network Device** to open the Add Device dialog, then enter the following:

Device Category	GPI/O
Device Type	EVS X-ONE Tally Interface
Device Name	X-ONE Tally (Please note that this field is case sensitive !!!)

2. Confirm using the **Add** button.

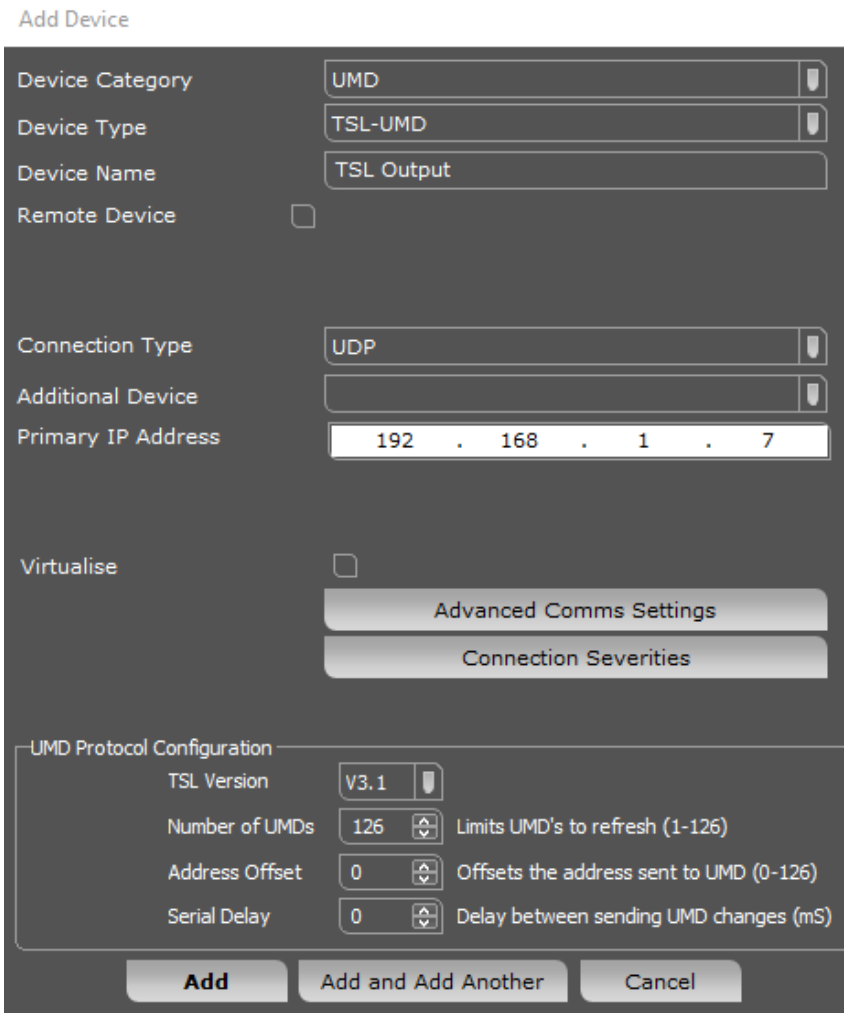


ADDING A UMD DEVICE

1. In the **Add Network Device** window, select the following:

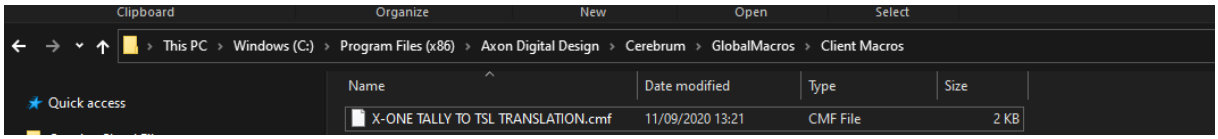
Device Category	UMD
Device Type	Select a TSL-UMD type, e.g. TSL-UMD
Device Name	TSL Output (Please note that this field is case sensitive !!!)

2. Confirm using the **Add** button.



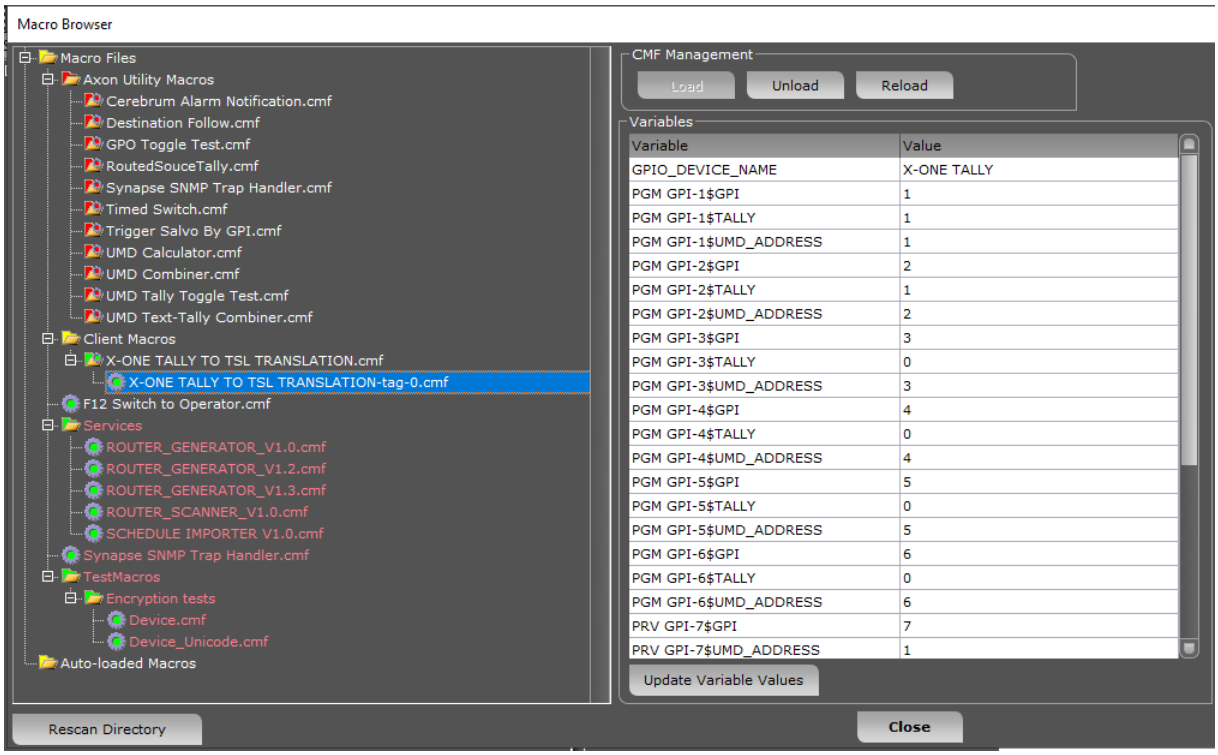
IMPORTING X-ONE TALLY MACROS

Open a Windows File Explorer and copy/paste the "X-ONE TALLY TO TSL TRANSLATION.cmf" macro to the "C:\Program Files (x86)\Axon Digital Design\Cerebrum\GlobalMacros\Client Macros" folder.



INSERTING X-ONE TALLY MACROS IN CEREBRUM

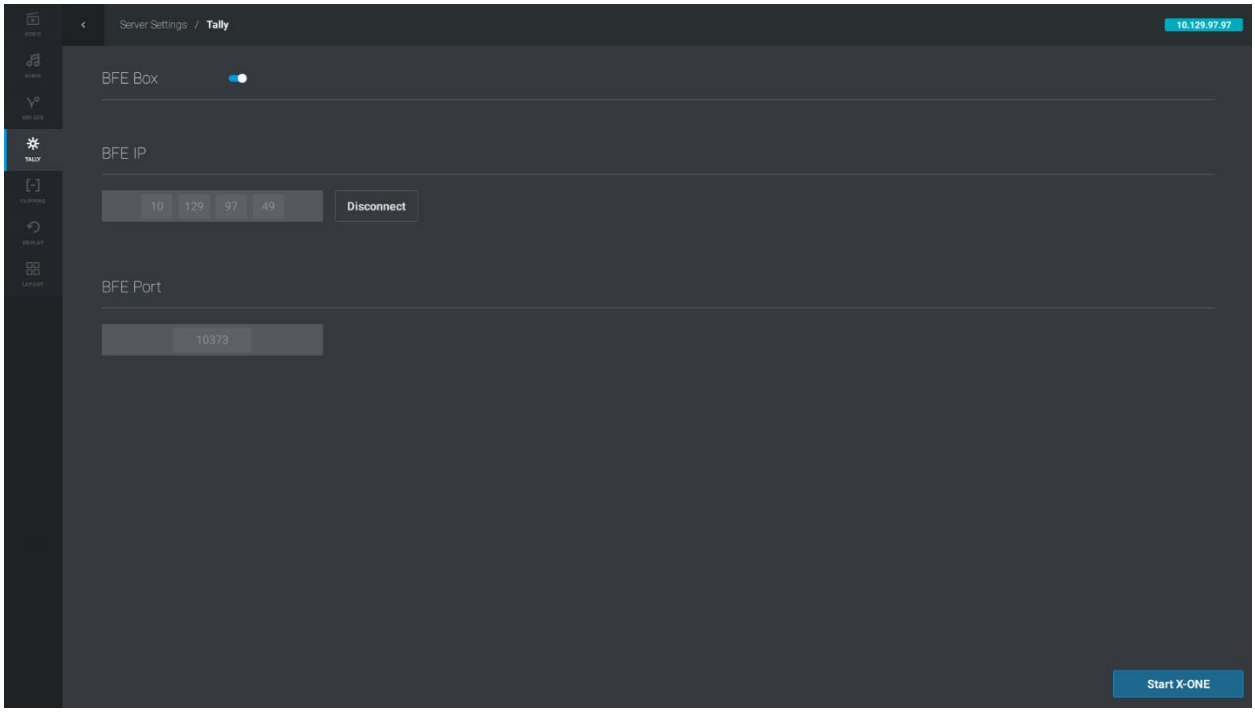
From the menu, select **Configuration** > **Macro Browser**. Select the macro from the Client Macros folder displayed in the tree structure (if it is not visible, click the **Rescan Directory** button at the bottom of the window).



X-ONE CONFIGURATION

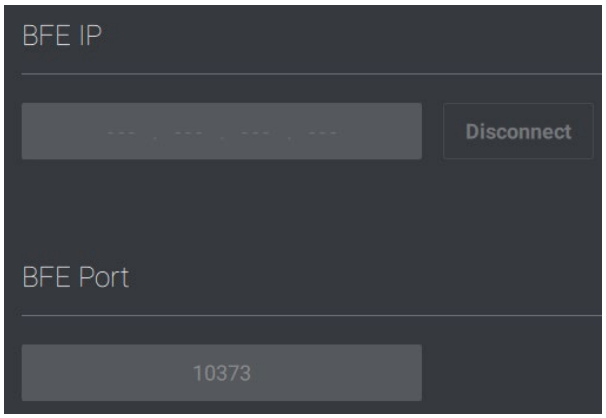
ENABLING TALLY CONTROL IN X-ONE

In the X-One configuration, the Tally tab allows you to manage the tally control feature and to configure the connection with the Cerebrum Client application.



Turn on the **BFE Box** switch at the top of the Tally tab. By default, the switch is disabled.

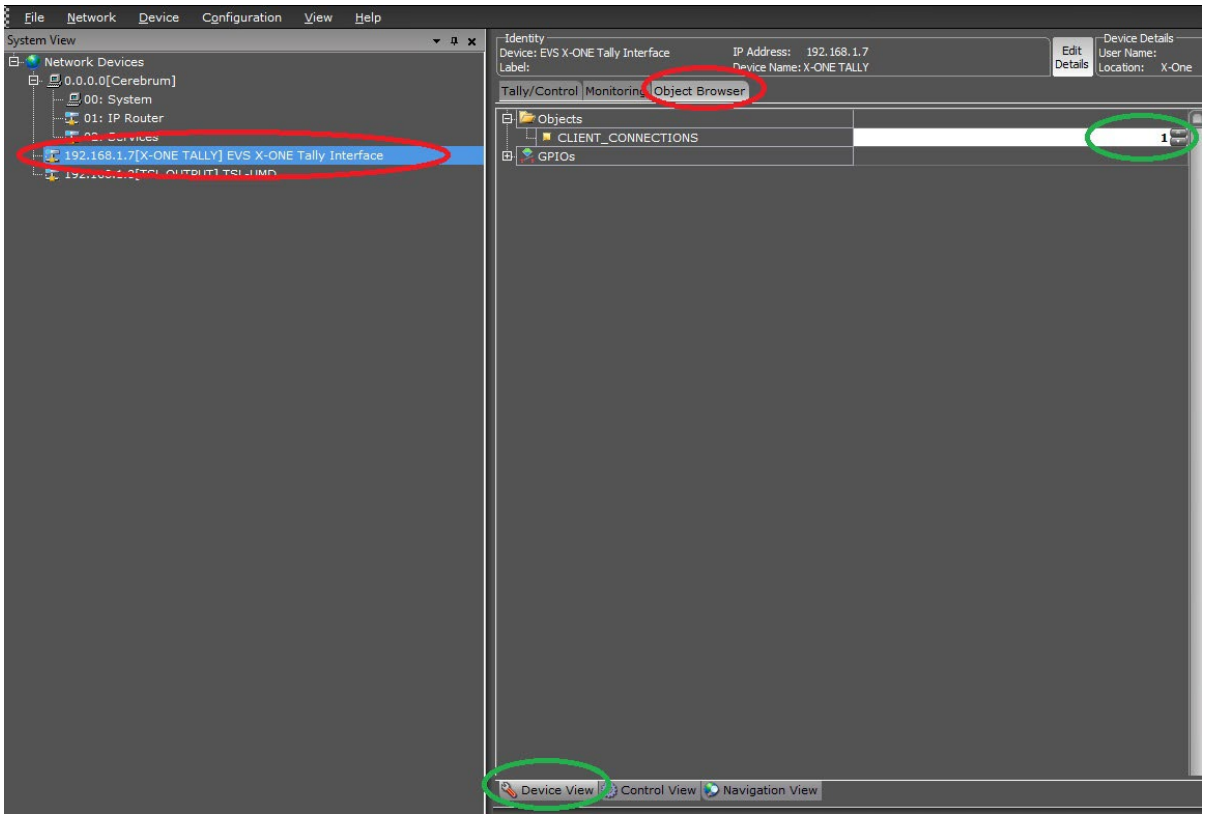
As soon as you have turned on the **BFE Box** switch, the **BFE IP** and **BFE Port** field will appear. The default LAN port number of the BFE GPIO Controller, i.e. 10373, is already provided.



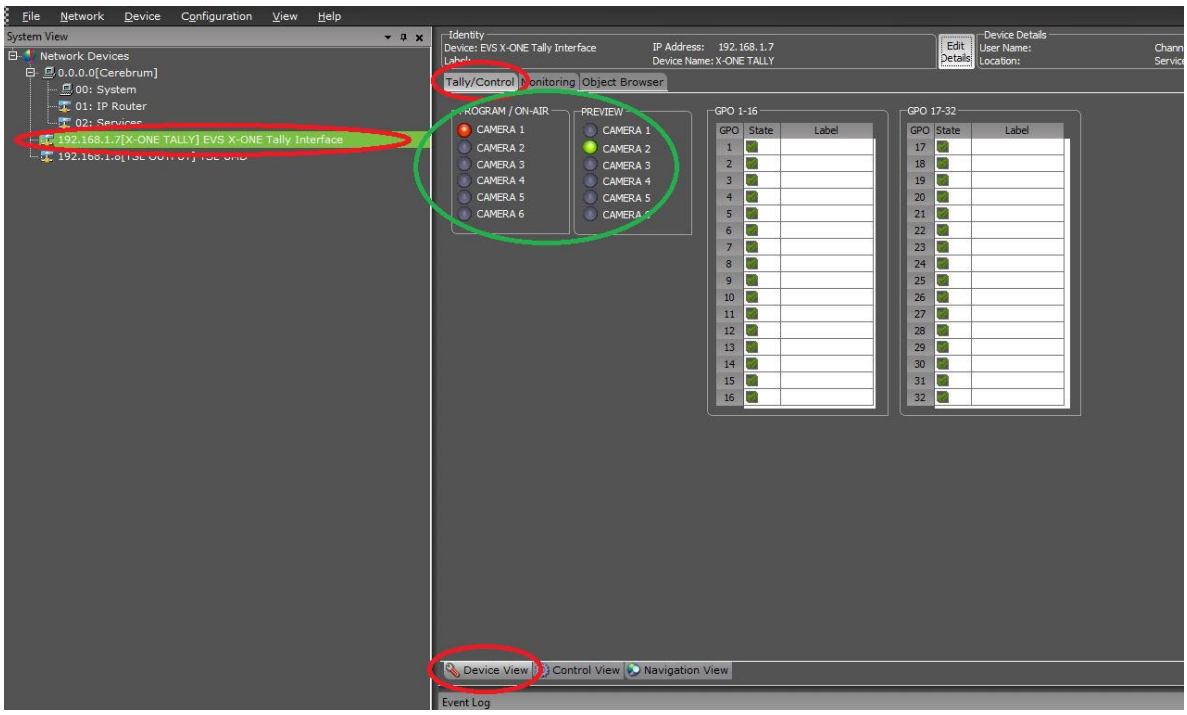
Enter the IP address set during the configuration and click **Connect** to make the connection.

CONFIGURATION TESTING

1. Connect your X-One server (tally configuration) to your Cerebrum IP address, using the default port number (10373).
   In Cerebrum, select the EVS X-ONE Tally Interface, then Device View, then the Object Browser tab. In the Objects folder, check the CLIENT_CONNECTIONS value. If equal to 1, then your X-One is connected to Cerebrum. If not, please check the settings again.



2. Switch to the Tally/Control tab and change the PGM or PRV cameras in your X-One. You will see the lights changing accordingly.



3. If you now look at the TSL UMD device in the Control tab of the Device View, you can see that the tallies are following your X-One PGM/PRV thanks to the macro.