



### **Tally Controller TLC-6 For the NewTek TriCaster™ , VT[4]™ and VT[5]™**

The Tally Light Controller TLC-6 adds a sophisticated tally system to your TriCaster or VT. Compatible with all TriCaster models with 2.0 or higher software and VT[4] and above. The TLC - 6 in conjunction with our TL-1 tally lights adds status and 'talent' tally lights to any camera.

Each of the six output channels gives you four LED outputs - Program (Live), Preview and Effects bus indicators. Plus an output for a separately controlled tally for the on camera 'talent'. The Talent tally can be software selected to illuminate when the camera is on the program bus, the preview bus, the effects bus or any combination.

In addition to the LED outputs each channel also includes two contact closure outputs that can be connected to most camera CCUs for program and preview tally.

If you're not using CCUs (which usually provide intercom connections) you can configure the TLC-6 to pass through intercom signals over the tally cable. The TLC-6 has an XLR connector to connect directly into your intercom system.

The Aux output can be assigned to any switcher channel, such as a seventh camera on a VT or a DDR on a TriCaster. The contact closure outputs on the Aux connector have been replaced with two GPI outputs. These can be configured to fire when a chosen input is selected on either the program or effects bus. You can use these outputs to trigger any GPI compatible outboard equipment.

VT users who have more than six cameras can connect up to four TLC-6 controllers for a total of 24 outputs.

The TLC-6 uses inexpensive RJ-45 (Ethernet type) cables to make it easy to build custom length cables using off the shelf parts and requiring no soldering skills.

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## System Requirements

TriCaster, TriCaster Duo, TriCaster Pro, TriCaster Studio, TriCaster Broadcast, VT[4], or VT[5] All TriCaster models require 2.x or higher software  
Free USB port  
Windows XP, Vista or Win7

## Automatic Installation

### TriCaster Installation

1. If necessary adjust the configuration jumpers on the TLC-6 circuit board (see: *Setting the Tally / Contact Closure Jumpers*)
2. Exit the TriCaster interface to the 'Admin' screen (Windows Desktop)
3. Insert the Flash drive into a USB port on your TriCaster
4. Connect the TLC-6 to a USB port on your TriCaster
5. The Found New Hardware Wizard should start
6. Select "No not at this time" when asked if you want to search for drivers on the Internet.
7. Select Install from a particular location
8. Navigate to the USB Tally Driver folder on the flash drive (probably drive e:) and Click OK
9. The driver should only take a few seconds to install
10. Once the hardware driver is installed double click the 'My Computer' icon on the desktop.
11. In 'My Computer' double click the metaSETZ logo icon that represents the flash drive.
12. Double click the Tally Setup icon.
13. The setup wizard should identify which model TriCaster you have and install the various files into the correct locations. There are no user options.

## VT Installation

1. If necessary adjust the configuration jumpers on the TLC-6 circuit board (see: *Setting the Tally / Contact Closure Jumpers*)
2. Exit the VT software if it is running
3. Insert the Flash drive into a USB port on your computer
4. Connect the TLC-6 to a USB port on your computer
5. The Found New Hardware Wizard should start
6. Select "No not at this time" when asked if you want to search for drivers on the Internet.
7. Select Install from a particular location
8. Navigate to the USB Tally Driver folder on the flash drive and Click OK
9. The driver should only take a few seconds to install
10. Once the hardware driver is installed double click the 'My Computer' icon on the desktop.
11. In 'My Computer' double click the metaSETZ logo icon that represents the flash drive.
12. Double click the Tally Setup icon.
13. The setup wizard should install the various files into the correct locations. There are no user options.

## Configuring the Software

To configure the com port address of the Tally Controller go to the Windows 'Start' menu and select 'Run'. In the blank type: tallycontrol setup and press enter. This will initiate a search for the controller and insert it's address in the tally.ini configuration file. The program will report any errors. The automatic installation should have done this for you.

You can control how the 'Talent' tallys, aux out and GPIs work by editing the tally.ini file. The file is saved in the Windows directory, use notepad to open it.

The file looks something like this:

```
[Setup]
MaxInput=6
Brite=1
Aux=0
GPIa=A
GPIb=A

[Unit1]
ComPort=8
```

Brite = 1 Sets the 'Talent' tally to follow the Program bus (factory default)

Brite = 0 Disables the 'Talent' tally

Brite = 5 Sets it to follows both Program and Effects

Other possible settings are:

2 Follows Preview

3 Follows Program and Preview

4 Follows Effects

6 Follows Preview and Effects

7 Follows Program Preview and Effects

Aux=0 sets which switcher input fires the auxiliary output. Valid values are 0 through 24, 0 is off.

GPIa=A sets which *program* bus input fires the 'a' GPI out (on the Aux connector) 0-24 and A are valid. 0 is off, A is all (any change to the program bus will fire the GPI).

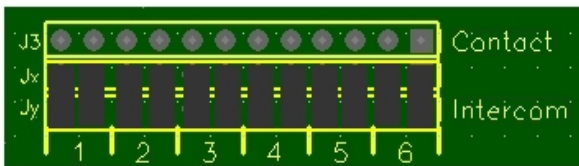
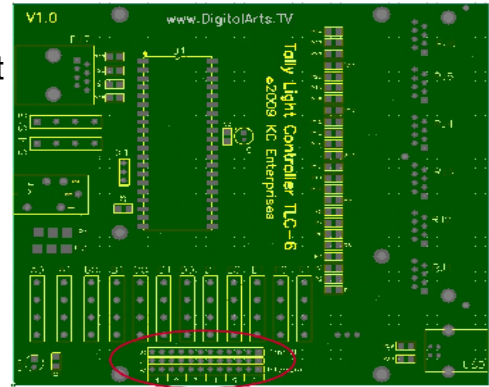
GPIb=A sets which *effects* bus input fires the 'b' GPI out (on the Aux connector) 0-24 and A are valid. 0 is off, A is all (any change to the effects bus will fire the GPI).

The [Unit 1] ComPort = 8 setting is used to configure on which port the software expects to find your controller. Normally this is set automatically during the installation or by using the `tallycontrol setup` command.

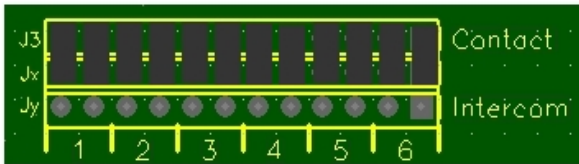
## Setting the Tally / Contact Closure Jumpers

Each output has two jumpers that set whether the contact closure or Intercom pass-through is active for that output

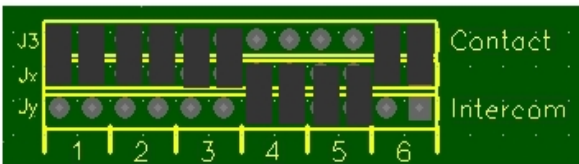
The jumpers are clearly labeled, just be sure to move both jumpers if you need to make any changes. Improper jumper settings may damage the TLC-6, tally lights or connected intercom equipment



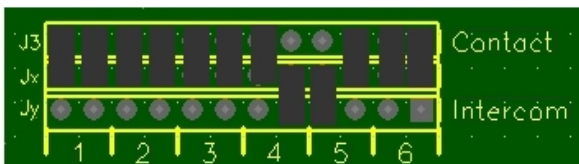
All six outputs set to Intercom Pass Through  
(This is how the TLC-6 ships)



All six outputs set to Contact Closure



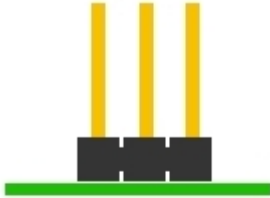
Outputs 1, 2, 3 and 6 set to Contact Closure  
Outputs 4 and 5 set to Intercom Pass Through



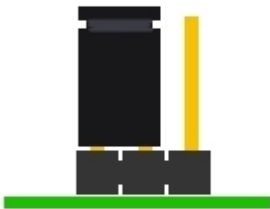
Outputs 4 and 5 set incorrectly, equipment damage may occur.

## How To Work Jumpers

In the old days we would expect that you knew how to do this but it's a new (mostly) jumperless millennium so we'll explain:



The purpose of the jumper or shorting block is to connect together two pins that stick up from the circuit board. Most of the time there will be two (or more) possible "positions" for the jumper giving a choice of which two pins get connected together.



In this case we've connected the center pin and the left pin.



Or we can connect the center pin with the right pin.

Basically jumpers act as a simple switch, the TLC-6 has a block of twelve jumpers that are used to select which signals get routed to a pair of wires on each of the RJ-45 jacks on the front panel.

### **Using Contact Closure with a CCU (Camera Control Unit)**

Each of the six output jacks on the TLC-6 have connections for up to four LEDs plus two contact closure connections. The contact closures can be connected to most CCUs and other devices (monitors etc.) that have tally input connections. Because of the vast array of connectors used on CCUs we don't provide cables for this so you will need to have these made locally.

### **Interfacing with CCU tally connections**

Most CCUs expect contact closure for their tally inputs. Simply build a cable that connects pin 8 and pin 1 of the desired TLC-6 output to the program (Red) tally inputs and Pin 8 and Pin 2 to the preview (green) tally inputs. Polarity generally doesn't matter but if a terminal is indicated as common or ground - connect it to pin 8 of the RJ-45 on the TLC-6. Different CCU models will use different connectors for the tally inputs as there are no industry standards.

Some example cases:

Sony CCU-TX50 - 25 pin D-Sub Pin 11 and 12 red Tally, Pins 24 and 25 green tally

Sony CCUM5A - Screw terminals labeled R, G and X

Sony CCU-D50 - 15 pin D-Sub pin 2 tally common, pin 3 red tally, pin 10 green tally

JVC RM-HP250 - Wireclips labeled PGM, PVW, C

Panasonic AK-HCU931P - Hirose JR25K-24P connector (good luck) Pin 11 tally common, Pin 10 red tally, pin 12 green tally

You may also see 15 Pin HD D-Subs, DIN or XLR connectors.

Check your CCUs manual it should have the tally connection information and see the Custom Wiring Section on how the RJ-45s are wired. Pins 1, 2 and 8 on each RJ-45 have the tally contact closure lines.

### **Using the Aux Output**

The first six outputs on the TLC-6 are hardwired to the first six channels on the TriCaster/VTs switcher while the Aux output provides a seventh tally output that can be assigned to any switcher channel. This is configured by the Aux setting in the Tally.ini file.

Rather than the normal contact closure the Aux port has GPI (General Purpose Interface) outputs. These do a 150 mS contact closure pulse whenever the corresponding switcher channel is selected.

The two GPIs are configured independently in the Tally.ini file and can be set to any channel or to fire with *any* change to the bus. GPIa (pin 1) is fired with the program bus and GPIb (pin 2) is fired with the effects bus. Note that GPIa, GPIb and Aux can all be set to different channels in the Tally.ini file.

If you need normal contact closure on the Aux port contact us about a simple modification.

### Using the Intercom Pass Through Connection

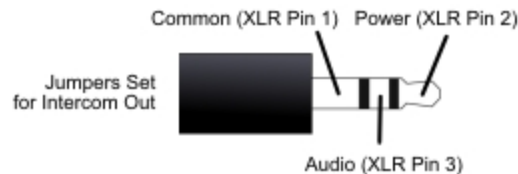
If you are **not** using the contact closure on a particular output you can configure jumpers on the main circuit board to use those connections on the RJ-45 output jack to either pass through standard “two wire” intercom signals or feed audio out to your camera position over the same twisted pair cable that carries the tally signals



Intercom

Signals from the three pins on the xlr are sent in parallel to any of the RJ45 outputs that are jumpered to the Intercom position on the main circuit board of the TLC-6.

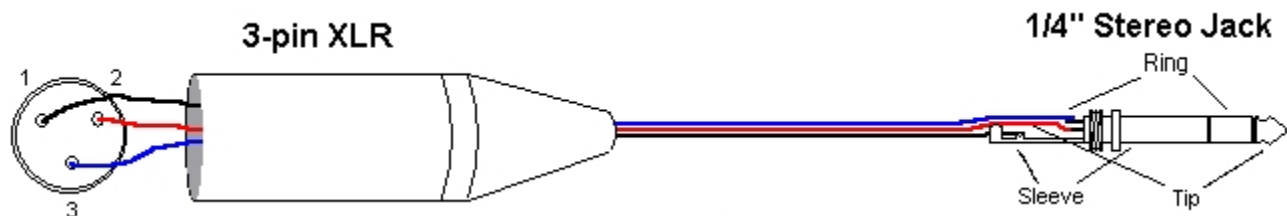
If you are using TL-1 or TL-XD tally lights the intercom lines break out on the light's Multi-Purpose jack like this:



This is audio industry “standard” so off-the-shelf 1/8” to XLR adapters should work. They are wired the same as the 1/4” to XLR adapters shown below.

### Feeding audio to the camera positions using the “Intercom” connection

Use a standard XLR to Stereo Phone plug adapter to feed stereo audio to the camera positions via the “Ethernet” cable. This can be used as a poor mans, one way intercom system etc. The adapter should be wired like this:



Then simply plug in headphones to the multi-purpose jack on the TL-1 lights

Sleeve and pin 1 are ground, ring and pin 3 are right channel while tip and pin 2 are left channel.

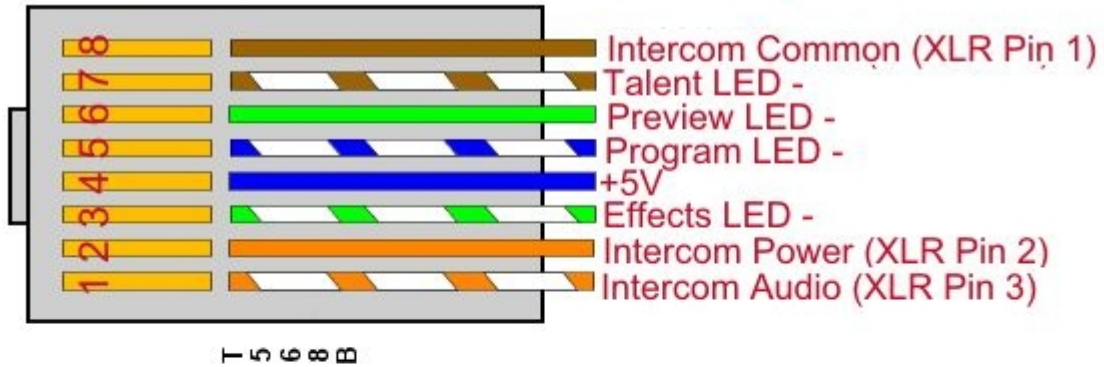
If you are driving multiple headphones you may need a dedicated headphone amp to provide enough signal without distortion.



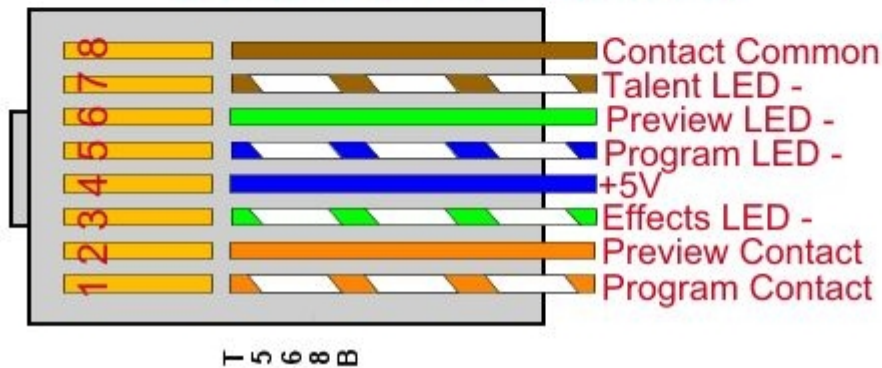
### Custom Wiring / Pin Outs

If you need to make cables to do custom connections the RJ-45 connectors on the TLC-6 are wired like this:

#### Controller Set for Intercom Passthrough



#### Controller Set for Contact Closure



#### Aux Connector

