

dTS 1500A

## SD TRIAX CAMERA CONTROL SYSTEM

### USER GUIDE

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dTs

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# 1 General Description

The 1510 base unit (CCU) is used with the 1520 Triax Camera Adaptor (TCA) to form a compact low power and economical remote, standard definition, camera control system for a variety of different colour TV cameras. Both Triax or Biax (coax) cable may be used between the base unit and camera with camera power being provided from the base unit through the cable. External power is available from the TCA which is capable of powering additional external equipment such as a monitor, pan and tilt head, prompter etc.

## 2 Safety

### 2.1 Mains Input

The mains input must be wired in accordance with the following:

Green and Yellow	- EARTH
Blue	- NEUTRAL
Brown	- LIVE

The CCU **MUST** be earthed. Check that either the power i/p cable has a suitable robust earth connection or use the additional earthing point provided. This is located adjacent to the power i/p connector on the rear panel.

### 2.2 Triax/Biax Connectors

WARNING NOTE:

The Triax System is provided with both Triax and Biax (BNC) connectors for the customers convenience and versatility.

With no TCA connected the voltage applied to the Triax/Biax cable centre contact is 40 Volts DC **maximum**. This is applied alternately between the Triax and Biax connectors whilst the CCU searches for a TCA. When the TCA is correctly functioning with the CCU, **270 Volts DC** approximately is applied to the centre conductor of the connector in use. A coded signal from TCA to CCU keeps this voltage active. If the connection is broken, the signal is lost and the CCU discharges the line voltage rapidly. The open unused connector has zero voltage.

**If the Biax (BNC) is being used, do NOT use a 'T' adaptor or other such access means whilst the system is working otherwise it will expose a LIFE THREATENING VOLTAGE.**

It is the customers/users responsibility to be aware of this potential hazard and operate procedures for health and safety as necessary for the particular installation.

If the Biax facility is being used we recommend the following:

- 1 Use a visually different Biax (coax) cable to normal video.
- 2 If a standard cable is used, do not have any intermediate connectors, just a BNC at each end
- 3 Clearly mark the cable appropriately at each end with a warning sleeve.

If the customer is in any doubt whatsoever, it is recommended that the Triax connectors are used. The Biax connectors then become inoperative. If preferred, the Biax connectors may be easily disconnected internally both in the CCU and TCA. The TCA can be externally powered with a 12VDC supply.

### 3 Configuration

The Triax/Biax system is capable of being configured for use with many different cameras and OCPs from different camera manufacturers.

The system has been configured at the factory for the particular camera and OCP specified when ordering. Because cameras and OCPs have different interface specifications, a change of camera/OCP may require a system reconfiguration at the factory. This may involve a different software download and/or hardware changes.

Consult the factory if you wish to change the system for use with a different camera/OCP.

### 4 Installation

#### 4.1 CCU - Camera Control Unit (Base Unit)

This unit has been designed to fit into a standard 19 inch rack frame. All four front screws should be fitted together with a support for the rear of the unit. A bracket is available for this purpose. Consideration should be given to the significant weight of cabling which can be attached to the rear panel.

The only restriction on mounting space is that the right hand side ventilation exhaust patterns must have at least 20mm clearance from obstructions and have a free flow of air. The air inlet at the front must not be covered or restricted.

The low power dissipation together with front air intake and side exhaust ventilation allows CCUs to be stacked directly one on top of another. The front air intake filter is easily accessible from inside the front panel for cleaning.

## 4.2 TCA - Triax Camera Adaptor

The TCA has been designed to be robust whilst being functional and aesthetically pleasing. A docking interface must be used between the TCA and the camera head/camcorder.

The TCA will normally have been configured and calibrated during factory testing for the particular camera type, so no TCA internal setting up is required. It is the users responsibility to ensure the camera is adjusted for the correct levels into the TCA.

The factory will set-up the camera to TCA free of charge providing the camera/camcorder is supplied prior to final calibration.

## 4.3 Power

The CCU has a universal mains input, but must be within the ranges defined in the specification. Connect the power i/p connector via a suitable cable to the power source.

The CCU should be connected to a 'clean' mains supply. The unit has a mains input filter which removes some mains borne noise. An excessively noisy supply should be avoided.

The mains input must be wired in accordance with the following:

Green and Yellow	- EARTH
Blue	- NEUTRAL
Brown	- LIVE

The CCU **MUST** be earthed. Check that either the power i/p cable has a suitable robust earth connection or use the additional earthing point provided. This is located adjacent to the power i/p connector on the rear panel.

The TCA is powered by the CCU via the Triax or Biax cable. If using the Biax facility, care must be taken that the correct TCA BNC connector is used. Bear in mind that an open Biax cable which is connected to a powered CCU has 30VDC switched intermittently onto the centre contact whilst the CCU searches for a TCA! When operating the Biax (coax) centre conductor carries 270 VDC!!

## 4.4 Environmental

As with all electronic equipment, both high and low extremes of temperature should be avoided as well as the ingress of moisture and dust. The units are rugged in construction but sharp shocks and high levels of vibration must also be avoided.

## 5 External Interfaces

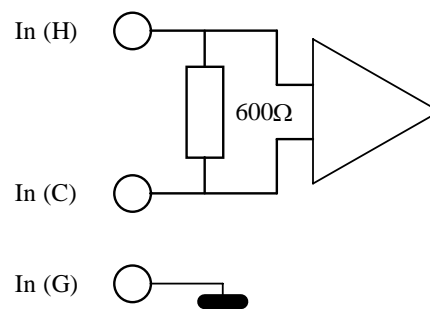
### 5.1 Video Inputs

Loop-through 10K $\Omega$  BNC

### 5.2 Video Outputs

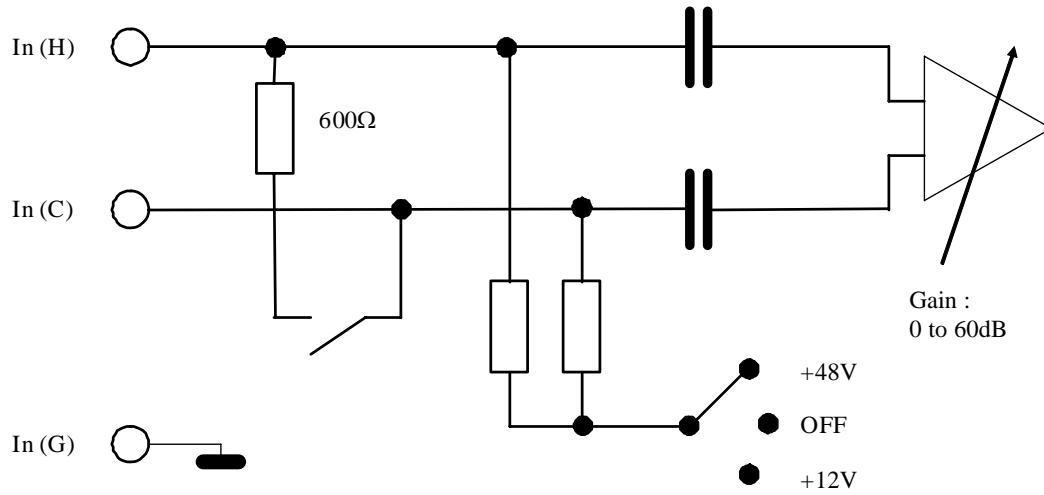
75 $\Omega$  BNC

### 5.3 TCA Mic1 Input (from camera)



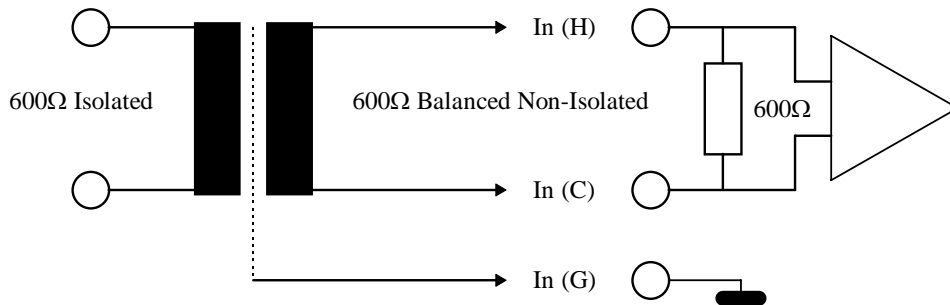
Balanced non-isolated input 0dBm.

## 5.4 TCA Mic2 Input



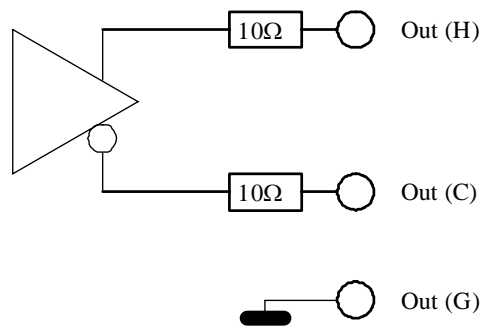
Balanced input -60 to 0dBm. Output 0dBm.

## 5.5 CCU Talkback Intercom Inputs

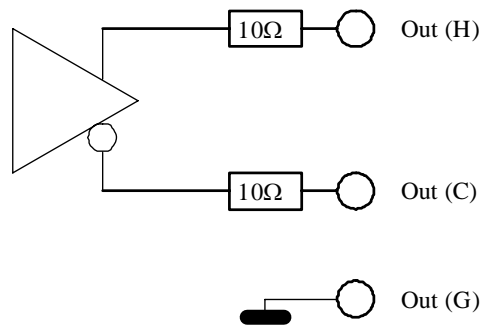


If isolated intercom inputs are required, an external transformer must be added.

## 5.6 CCU Intercom Outputs (Rear panel)

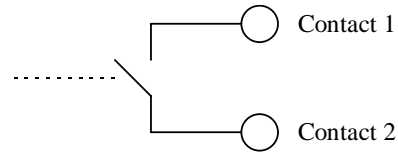


## 5.7 CCU Mic1 and Mic2 Outputs



## 5.8 CCU Intercom Call Output (option dependant)

Solid state isolated relay -



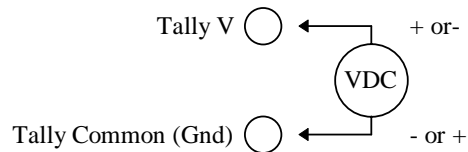
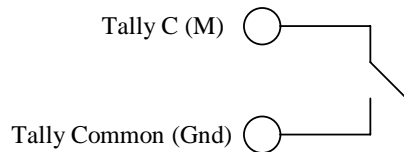
Isolation : 100VAC RMS  
Contacts : 120mA AC, 250mA DC max. load current  
100V max. load voltage

Switch contacts **Call Eng** made when call from either CCU or TCA

## 5.9 Headset Intercom Outputs

CCU Front panel and TCA XLR5 Sockets - 100Ω single ended each earpiece

## 5.10 Tally



Tally indication is made with either volt-free contact closure or voltage input of either polarity.

Red and Green tally are available. When Tally is asserted, the CCU front panel Tally, TCA rear indicators and the Cam Tally indicators illuminate.

## 6 System Start-up Checks

### 6.1 CCU Only Check

It is only necessary to have a mains input connection for checking that the CCU powers up correctly.

On power up, the display will activate and the CCU will go through a series of internal checks and setting up routines. The display will finally show that the CAM is 'OFF Line'.

With no other external connections (except power) all other front panel indicators should be off.

Pressing the INCOM PD button should illuminate the indicator and allow comms between the INCOM socket and the rear incom PD connections. Pressing the INCOM CAM will not function.

In this condition if a genlock signal is present on the GL i/p, the video o/ps will have GL sync superimposed (if switched on via Menu). The encoded o/ps will have black burst. The Genlock indicator on the front panel should be green. If flashing green/red the colour subcarrier is not locked - check the VBS or black burst source for frequency accuracy. Once locked, Subcarrier phase can be adjusted via Menu.

**Please note:** without a correctly connected TCA (Triax Cam Adaptor), H phase adjustment and all Cam related Menus are not available.

A faint 'click' will be heard approximately every 2 seconds whilst the CCU searches the Triax and BiAx connectors for the presence of a TCA. Each connector will have approx. 30VDC switched to the centre pin in turn. If a faulty (short circuit) cable is connected to either of these, the 'Fault' indicator will show **red** on the front panel. Once the faulty condition has been removed, the indicator should go out. No reset or power cycle is necessary. If this indicator shows red (or flashes) without an external cable connected then there is an internal fault. Refer to Service Manual.

### 6.2 CCU with TCA Check

If the CCU finds a TCA connected to either the Triax or BiAx connectors the TCA will 'Log on' to the CCU. This procedure takes a few seconds and will culminate with the CCU Main display showing the Cam Type, or if not available 'TCA' and 'On Line'. For any other message refer to the Service Manual.

The TCA is now operational. The TCA power indicator shows green. The internal Genlock system H & V is now switched in. H phase adjustment and the relevant Cam Menus will be available, including 'CA Bars' which provide EBU 75% colour bars from the TCA. This signal can be used to check the system from the TCA front end without a camera being attached.