

Bi-Directional Control

Overview

The Videosys Bi-Directional control allows use of all a Camera manufacturer features that may be limited in Uni-Directional mode.

The Control can be broken down into four main data paths, each of which must be configured for correct operation, Videosys has added diagnostic information to the CCIDU to assist in the configuration of the equipment.

Bi-Directional control can have up to four* RCP/OCPs connected to the CCIDU when operating in Ethernet* mode, and two* RCP/OCPs connected in Serial/Legacy* mode. (*Licence dependant)

The four data paths are:

- Return Data Path: This is the data path that is returned from the camera to the Panel via the CCCAM and CCIDU, this data path is usual sent via a video transmitter using the data/RS232 path.
- Forward Data Path: This is the data path Sent from the RCP/OCP to the Camera via the CCIDU, CCODU and CCCAM.
- Panel Connection: This is the connection between the RCP/OCP and the CCIDU
- Camera Connection: This is the connection between the Camera and the CCCAM

Requirements:

To use Bi-Directional control the requirements are:

- CCIDU E (with Legacy option card) or CCIDU E/L
- CCCAM-RXSM or DTC OBTX with Camera Control option
- Video transmitter and receiver with configurable data path
- Data cable for CCCAM to Video Transmitter (Not required for OBTX with built in camera control)
- Data cable for Video receiver to CCIDU.
- CCIDU RCP/OCP cables or Ethernet connections for Panels
- CCCAM Camera cables.

Bi Directional is an additional feature that may require an additional licence.

Return Data Path

The return data path is an RS232 9600 baud signal that needs to be sent from the CCCAM to the CCIDU.

The RS232 signal is found on the tally connector on the CCCAM-RXSM. A range of cables are available from Videosys to allow connections to DTC transmitters. Videosys can also assist with connections to other products.

If using a DTC transmitter and external CCCAM with data cable, the "Data" port must be switched to On, Baud rate set to 9600, with no Parity.

If using an OBTX with built in camera control, the "Data" port must be switched off.

The video receiver data output must be connected to the CCIDU via a cable, the connection is via the RCP inputs (Generic connectors only) or, if fitted in the D9 connector.

Cables are available for connecting a ProRx B or D receiver to a CCIDU. Videosys can also assist with connections to other products.

There are four RS232 ports fitted to the CCIDU, these are shared with the RCP/OCP legacy connectors. If fitted, the D9 connector gives easy access to all four of these RS232 ports; if not fitted the Generic RCP/OCP connectors must be used for the return data.

If connecting the RCP/OCP to the CCIDU via Ethernet; and 4 Ethernet returns are in use (see Bi-Directional Mode Settings): Channel 1 return data is connected to port 1; Channel 2 return data is connected to port 2 etc.

If connecting the RCP/OCP to the CCIDU via Ethernet; and 2 Ethernet returns are in use (see Bi-Directional Mode Settings): Channel 1 return data is connected to port 2, Channel 3 return data is connected to port 4. Channels 2 and 4 are unavailable.

If connecting the RCP/OCP to the CCIDU via legacy cables: Channel 1 panel connects to port 1 and return data to port 2. Channel 3 panel connects to port 3 and return data to port 4; Channels 2 and 4 are unavailable.

Forward Data Path

The forward data path is from the CCIDU to the CCCAM via a CCODU

Selecting Bi Directional Mode

To select Bi-Directional mode on the CCIDU, go to "Camera Manufacturer" menu. Select the desired manufacturer and, if available, select desired connection mode, then select "Bi-Directional".

A warning may be displayed saying this is a Beta function.

A warning may be displayed saying the licence is invalid. If so, please contact Videosys broadcast, with the unit serial number, Part 1 and Part 2 of the licence key from the system menu.

The Bi-Directional selection is automatic on the CCCAM, except for Grass Valley cameras, where the correct camera type must be selected in the "Camera Manufacturer" menu: "GV BiDir". A grass valley camera should be repowered when switching between Uni/Bi Directional.

Bi Directional Mode settings

The CCIDU has some additional settings for use in Bi-Directional mode:

BiDir Panel Drop: This is found under the "System" menu. This option allows the CCIDU to keep the connection to the panel established even if the Bi-Directional link is broken, or the camera is disconnected/repowered. This is useful as some panels can take a while to become fully operational after a connection reset. An intermittent RF forward/return path, or a battery change can cause a panel to reset. The time of 0s is used to disable the panel drop completely, keeping the panel connected to the CCIDU indefinitely.

BiDir Ethernet Returns: This is found under the "System" menu. This allows the CCIDU to have a maximum of either 2 or 4 channels in use when in Ethernet mode. The purpose of this feature is to keep bi-directional return wiring the same when using Legacy or Ethernet OCP/RCPs.

CCIDU Diagnostics information

The main screen gives an overall view of how the each channel is operating. Scrolling down, there is further pages of more detailed diagnostics.

The main screen possible diagnostics are:

- Not Ready: At least one of the four data paths is not currently connected/configured correctly.
- Sync: All four data paths are connected, but there is some initialising still occurring.
- Active: The system is initialised and operation.

The next page shows the status of the return data link, the possible diagnostics are:

- Return Not OK: There is no valid data being received on the return port. Check connections and settings from CCCAM all the way through to the CCIDU
- Return ID ??: There is valid data but the Camera ID being returned from the CCCAM does not match the Channel number on the CCIDU.
- Return OK: The return path appears to be connected correctly

The next page shows the status of the forward data link, the possible diagnostics are:

- Forward ??: The state of the forward link cannot be determined as the return path is not correct
- Forward Not OK: The forward link is known not to be OK. Check connections from the CCIDU to the CCODU and camera control radio frequencies
- Forward OK: Both Return and Forward links are both OK. The Bi-Directional link is established.

The next page shows the status of the connection to the Panel, the possible diagnostics are:

- Panel ??: The status of the connection to the panel cannot be determined. This could be due to the "BiDir Panel Drop" option being enabled.
- Panel Not Ok: The connection to the panel is not established
- Panel Sync: The connection the panel is established, but not yet initialised.
- Panel Ok: The connection is OK and read to be used by an operator

The next page shows the status of the connection to the Camera, the possible diagnostics are:

- Camera ??: The status of the connection to the camera cannot be determined. This is likely to be due to the Bi-Directional link not being established
- Camera Type?: The CCCAM has an invalid camera type selected.
- Camera Not OK: The connection between the CCCAM and the camera is not established
- Camera Sync: The connection to the camera is established, but not yet initialised.
- Camera OK: The connection is OK and read to be used by an operator.