

# Configuration Guide

## Connecting an IDU-E to an ODU-E over IP

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# Requirements

## Hardware

You will require a minimum of the following:

- 1 x IDU-E and associated power supply.
- 1 x ODU-E and associated power supply (could be via 12v XLR or PoE enabled network switch)
- Ethernet Cable(s).
- A laptop could be useful as it would enable the use of the web setup pages for the IDU-E and ODU-E as well as troubleshoot any network issues.

## Licence Options

No special licence options are needed to operate the camera control system in this way.

## Networking

Please note, this guide pre-supposes a reasonable level of background networking knowledge. If you are unfamiliar with the terms used in this guide please seek clarification before commencing you set up procedure.

## Getting Started

Connecting to an ODU-E via IP can be useful in situations where existing networking infrastructure can be used, or situations where running a single cable to your ODU-E providing both power and data could be advantageous.

### Introduction – Pre and Post IDU v141 software version

The IP connectivity has been integrated as a means of easily passing Videosys camera control data over an IP path in either a simple point to point fashion, as in Uni-cast or multiple ODUs as in Multi-cast.

Originally IP data out was used by the Videosys Camera Control system as a means to cascade camera control data from one IDU-E into one or more IDU-E's and out to a single ODU over serial, allowing in excess of four cameras to be controlled over a single UHF channel. This is useful in high traffic areas such as large golf events or other such large-scale events where RF spectrum is at a premium.

- **Prior to v141 IDU software** - Due to IP cascade's legacy it did not contain the data required to change the ODU-E's frequency from the IDU-E front panel meaning the ODU-E front panel had to be used to change the frequency and power output level. Also, if a cascade's address was entered into the IDU, the serial data out port on the rear of the IDU became inoperative. This can lead to problems when the equipment was re-deployed onto another job if the cascade address was not reset to 0.0.0.0 the user would think the serial data out was broken.
- **IDU software v141 onwards** - Addresses the issues raised with previous versions. v141 onwards contains separate ODU IP setup menus to allow the ODU-E to be set up from the front panel of the IDU and even if a cascade address entered, the serial data port is still operational.

# Configuration

## Initial Setup

Both the IDU-E and the ODU-E should be connected to the same Local Area Network. In practice this means making sure that the primary IP address of both the IDU-E and ODU-E fall within ranges permitted by their subnet masks. A fairly typical set up could be:

### ODU-E

- IP Address: 192.168.1.240
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.1.254

### IDU-E

- IP Address: 192.168.1.200
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.1.254

## ODU-E

To use the IP data input feature, the ODU-E will need to be configured to operate in either 'Locked IP' or 'Auto Any' input mode. The input mode menu can be found under Main Menu > System > Input mode.

## IDU-E - Unicast Mode

Make sure that the transmitted data type from the IDU-E is Cola V2 CRC16 as follows:

Main Menu > System > Data Link Version.

Set the ODU connection to IP and enter the IP address of the ODU:

ODU > ODU Connection > IP > Unicast Settings > ODU IP Address.

Upon setting the address, the IDU will then attempt to connect to the ODU-E and start sending data immediately.

## Multicast Mode

Multicast is used when connecting multiple ODU's to the network. This allows for a powerful 'cellular' style topography for covering large areas such as golf courses, marathons etc.

Extra special care should be taken selecting the frequencies as each ODU is set to avoid intermodulation issues. Once the user has decided the structure and frequency plan, each ODU should be programmed with it's own static IP address **and** then enter Multicast Group Address.

### On the ODU:

Network > IP Address > ENTER static IP Address.

Network > Multicast Group Address > Enter Multicast Group Address.

To use the system in Multicast mode, on the IDU set the ODU connection as follows and enter the Multicast group address:

ODU > ODU Connection > IP > Multicast Settings > Multicast Group Address.

Once set the data should stream out to all ODU's in the Multicast group.

**NOTE:** In Multicast mode the ODU status cannot be displayed on the IDU. To set the frequency and power output you must use either the ODU front panel or the web browser page of the ODU in question.

## Troubleshooting

Once the IDU-E and ODU-E have been configured, the ODU-E should display the words “Transmitting” on its main status page almost immediately, if it does not then something might have been misconfigured.

Troubleshooting checklist:

- Network parameters configured correctly for the IDU-E.
- Network parameters configured correctly for the ODU-E.
- Both the IDU-E and the ODU-E are configured to operate within the same subnet.
- The existing IP network does not cause issues for the for these parameters - there are no address collisions etc.
- If PoE is used, that it meets the 802.3af specifications and that the cable length from the PoE switch to the ODU-E is not excessive (<100m).
- IDU-E is in Cola V2 Link mode.
- IDU-E has its ‘Cascade master IP’ address set to the IP address of the ODU-E.
- The ODU-E input selection mode is set to allow IP camera control data input.