



be there

FocalPoint Camera Control System User Manual



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Conventions

NOTE: Notes are used to convey additional information.

-  CAUTION: Cautionary notes are given where potential equipment damage could occur.
-  WARNING: Warnings are shown where there is potential for personal danger or death. This warning should be read and understood before attempting to carry out any work on any equipment attached or related to the equipment in use. The danger is real and not understanding the warning could lead to injury, harm or potential death.

Document History

Issue	Date	Changes
A	April 2015	First issue
B	07/10/2015	Useful Part numbers – Change OCP5 Reference
C	13/11/2015	Added GV Data cable information SAR safety recommendations added
D	11/01/2016	Ikegami information added
E	11/02/2016	'Scan' mode information added
F	22/02/2016	8.1 LDK Part Number updated. Updated the document template and layout - non -technical changes.
G	18/04/2016	'Send All' information added. Ethernet connection between IDU to IDU information added. Grass Valley 'one to one' information added. Data connection changed from 5pin to 3pin XLR.
H	18/5/2016	Included information for Sony PXW-X320 camera Included Hitachi "send-all" information
I	3/6/2016	Added Section 1.6 Emissions for FCC compliance.
J	24/8/2016	Included Sony HDC-1700 Camera information. Included Ikegami HDK-97C Camera & OCP-100 Controller information. Sony 'Auto RCP Off' Information added. Grass Valley Cable added.
K	29/11/2016	Included Sony HDC-4300 Camera information. Included FC/UPC model variant. Updated System Configuration image. Included Panasonic PTZ information. Updated Grass Valley information. Included Sony Scene File recall information.
L	29/3/2017	Included Sony PDW-700 Camera information Updated Grass Valley 'Multiplexing' information Updated Panasonic PTZ Return Data information Updated Ethernet connection information Included 'Transparent Mode' information Included L1700 Data Rx information Included Grass Valley RS422 Multiplexing cable Included G Valley OCP400 Multiplex cable and defined the Non-Multiplex cable in Table 7-2.
M	14/09/2017	Corrected Section 3.4 to update the software menu list

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1. General Information

1.1. General Safety Information

To ensure awareness of potential hazards, personnel concerned with the operation or maintenance of the equipment must read and understand the following information, together with local site regulations.


-  **WARNING:** RF Power Hazard - High levels of RF power are present in the Camera Control Data Transmitter unit. Exposure to RF or microwave power can cause burns and may be harmful to health. Always switch off the power before removing covers or disconnecting RF cables and before inspecting damaged cables or antennas.
-  **WARNING:** Avoid standing in front of high gain antennas (such as a dish) and never look into the open end of a waveguide or cable where RF power may be present.
-  **WARNING:** We strongly recommend returning equipment requiring RF servicing to Vislink.
-  **WARNING:** GaAs / BIO Hazard - Certain internal components contain Gallium Arsenide and Beryllium Oxide, which are **toxic substances**. While safe to handle under normal circumstances, individual components **must not** be cut, broken apart, incinerated or chemically processed. In the case of Beryllium Oxide, a white ceramic material, the principal hazard is from the dust or fumes which are carcinogenic if ingested, inhaled or enter the body via damaged skin.
-  **WARNING:** Connecting to the AC supply and protective earth: The Camera Racking Interface Unit is a Class 1 device and must be connected to a protective earth when used with an AC supply. Failure to provide this earth may result in high voltage on the unit chassis. Always install in-line with local wiring regulations.
-  **WARNING:** Tantalum Capacitors: When these components are subjected to reverse or excess forward voltage, ripple current or temperatures, they may rupture and cause personal injury.
-  **CAUTION:** This system contains MOS devices. Electro-Static Discharge (ESD) precautions should be employed to prevent accidental damage.

1.2. Environmental

The FocalPoint System is IPX0 rated. It should not be exposed to dripping or splashing water/liquid. When used outdoors, a suitable rain cover is required to protect the unit.

1.3. Disposal Instructions

DO NOT dispose of any equipment, including batteries, as household waste. The equipment and batteries are not bio-degradable in landfill sites.

 **WARNING:** DO NOT incinerate Batteries. Batteries can suddenly explode under extreme temperature and cause personal injury.

Vislink offer a battery disposal service. Before shipping, you are required to advise the Vislink sales team (Hemel Hempstead, UK) of your intent to return any batteries.


To do this call on: +44 1442 431 300

The equipment is supplied with an AC supply connector and cord assembly. The wires in the cord are colored in accordance with the following convention:

Wire Color	Wire Function
Green and yellow	Earth (Ground)
Blue	Neutral
Brown	Live

Table 1-1 AC Input Wire Configuration

Always ensure that the equipment is correctly connected. Failure to connect the equipment correctly may render protective devices inoperable. If in doubt consult a qualified electrician.

 **CAUTION:** The front panel DC power switch is a standby function only, some of the components remain powered.

An AC isolator switch is fitted on the rear panel adjacent to the AC input connector; in normal use the equipment should be positioned such that this switch remains readily accessible. To be certain that the equipment is isolated from the AC supply, always unplug it from the AC outlet.

1.4. CE Compliance

The FocalPoint System is compliant under the ETSI R&TTE directive.

The Camera Control Data Transmitter is compliant to CE (!). The (!) symbol warns the operator that the unit is an intentional radiator and that the operating frequency may not be authorized in some territories. It is your responsibility as the operator to ensure that you possess the required valid local authority license(s) and site clearances for the intended operating frequencies, geographical location and times of operation of the equipment.

You are also responsible for the proper setup, operation and maintenance of the system, to ensure that it complies with the limits specified by the license.

NOTE: Shielded cables must be used with this equipment in order to ensure that it meets the emissions limits for which it was designed. It is your responsibility, as the user, to obtain and use good quality shielded cables with this device. Shielded cables are available from most retail and commercial suppliers of cables designed to work with radio equipment and personal computer peripherals.

1.5. Health & Safety - Exposure to Non-Ionizing (RF) Radiation/Safe Working Distances

To be safe:

1. Do not touch the radiating element when the unit is switched on.
2. Operators should not operate any RF transmitter or power amplifier with any of its covers removed or without appropriate antenna(s) fitted, nor should they allow anyone else to do so.
3. Operators should adhere to a minimum separation between the Operator and the radiating element for the frequency range 435 – 490 MHz and the transmit power of 5W. Table 1-2 gives some recommendations.

Frequency (MHz) @ 5W Transmit Power	Distance in mm
435	330
440	332
445	334
450	335
455	337
460	339
465	341
470	343
475	345
480	346
485	348
490	350

Table 1-2 Safe Working Distance

- ⚠ WARNING: Operators should maintain a safe working distance and ensure they do not stand or walk in front of any antennas or allow anyone else to do so.
- ⚠ WARNING: Operators should not operate any RF transmitter or power amplifier with any of its covers removed or applicable antennas fitted or allow anyone else to do so.
- ⚠ WARNING: DO NOT allow the antenna to come close to or touch the eyes, face or any exposed body parts while the equipment is transmitting.
- ⚠ WARNING: DO NOT operate the equipment near electrical blasting caps or in an explosive atmosphere.

1.6. Emissions

1.6.1. FCC

The FocalPoint system complies with Part 15 of the FCC Rules (Code of Federal Regulations 47CFR Part 15). Operation is subject to the following two conditions: (1) This device does not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Part 15 The FocalPoint system has been type accepted for operation by the FCC in accordance with Part 90 of the FCC rules (47CFR Part 90).




Part 90 The FocalPoint has been type accepted for operation by the FCC in accordance with Part 101 of the FCC rules (47CFR Part 101). See the label on the unit for the specific FCC ID and any other certification designations.

Part 101 Industry Canada This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

ICES-003 The FocalPoint system has been certified for operation by Industry Canada in accordance with RSS-119 and RSS-210 of the Industry Canada rules. See the label on the unit for the specific Industry Canada certification number and any other certification designations.

RSS-119 Changes or modifications not expressly approved by Vislink could void the user's authority to operate this equipment. Notice Shielded cable must be used with this equipment in order to ensure that it meets the emissions limits for which it was designed. It is the responsibility of the user to obtain and use good quality shielded cables with this device.

1.6.2. Safety Warning

-  **WARNING:** DO NOT operate radio equipment near electrical blasting caps or in an explosive atmosphere.
-  **WARNING:** DO NOT operate any radio transmitter unless all RF connectors are secure and any open connectors are properly terminated.
-  **WARNING:** DO NOT allow the antenna to come close to, or touch, the eyes, face, or any exposed body parts while the radio is transmitting. In order to ensure the safe operation of this radio equipment, the minimum distance that a person should be from the attached antenna when this equipment is transmitting is 5.5 ft. (165 cm). This is based on using the FocalPoint system at a power of 5 watts with a 10dBd (12.1dbi) gain antenna.

1.6.3. Radio Specifications:

1.6.3.1. Radio - General

- Frequency Range 406.1-476 MHz
- Channel Step Size 6.25 KHz, 10KHz Frequency Stability +/- 1.5 ppm
- FCC ID JWFTS4000EH (440 - 476 MHz)
- FCC Authorizations 11K2F1D
- IC (Industry Canada) ID 3163A-TS4000EH (450 - 470 MHz)
- IC Authorizations 11K2F1D, 20K0F1D

1.6.3.2. Radio - Transmitter

- Transmit Power 1 to 5 watts (programmable),
- Attack Time 21ms

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2. Wireless Camera Control System

The FocalPoint Camera Racking system provides comprehensive control functions to meet today's broadcast needs. The system can control multiple camera and operator control panel combinations with future-proof Ethernet control. The control system is designed to work with the majority of camera manufacturers and supports one-way or return communication. The unit supports copper or fiber optic connectivity.

The system is comprised of the four main parts:

- Operators Control Panel/Remote Control Panel (OCP/RCP)
- Camera Control Interface Unit (CRIU)
- Camera Control Data Transmitter (FCDT)
- Data Receiver (InCam-G/InCam-S/CCCU or DR07)

The basic FocalPoint Camera Racking System is capable of controlling up to six cameras by multiplexing six control panels over a single RF link.

The system supports one-way or return data communication to the camera.

Three CRIU units can be linked together to allow control of up to 18 cameras using one RF head.

A 2.2-inch Color LCD display with an intuitive menu system allows for easy configuration.

The front panel LEDs show data activity/system health and diagnostic information.

Compact UHF telemetry transmitter unit with copper and fiber connectivity.

The unit is configurable via the front panel or via the web browser GUI.

NOTE: The default web browser Password is 'Gigawave'.

2.1. Typical System Configuration

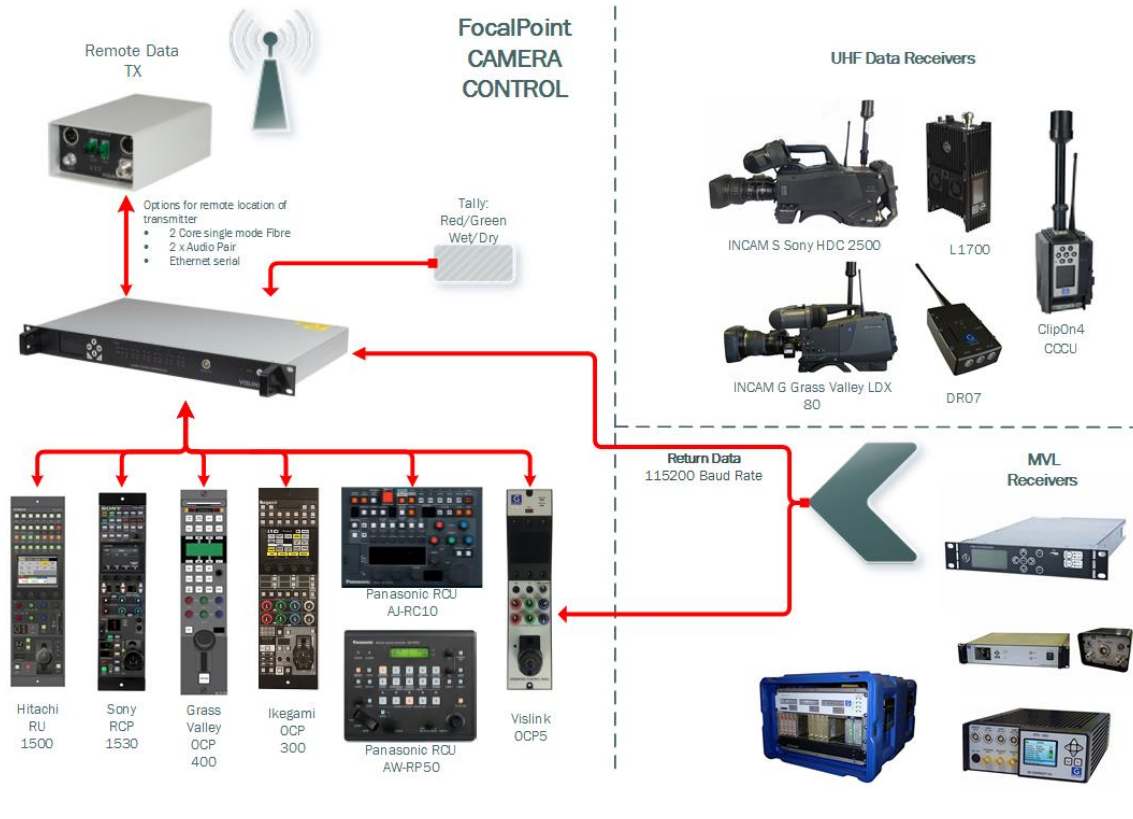


Figure 2-1 Typical System Configuration

2.2. Frequency Programming and Available Frequency Bands

The FocalPoint Camera Control system is available in different frequency bands. The output power is programmable from 1.0 watt to 5 watts in 0.1 watt steps. The Bandwidth is also programmable. The channel spacing is factory configured and may affect Bandwidth availability.

The available Frequency bands, bandwidths and programmable channel spacing are as shown below.

Function	Frequency
Frequency Bands	435-470 MHz*
	450-490 MHz
Channel Spacing	6.25 KHz*
	10.00 KHz
Bandwidth Options	12.5 KHz
	20.0 KHz*
	25.0 KHz

Table 2-1 Frequency Programming and Available Frequency Bands

For further advice on re-programming channels or changing frequency bands please refer to Vislink customer support directly or contact your local Vislink agent.

* Standard frequency

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3. Camera Control Interface Unit - CRIU-ASSY-7XXX

3.1. Introduction



Figure 3-1 CRIU-ASSY-7XXX Overview

⚠ WARNING: This unit contains a class 1 laser module. Lasers can cause irreversible eye damage. Do not stare directly or indirectly at the laser beam.

The rack mounted Camera Control Interface Unit operates in conjunction with the Camera Control Data Transmitter, the Operator's Control Panel (OCP) and the Data Receiver module to provide remote control of the camera functions.

The Camera Control Interface Unit can be connected to the Camera Control Data Transmitter in two ways:

1. Using the two Fiber connections on the rear panel of the Camera Control Interface Unit to the two Fiber connections on the front of the Camera Control Data Transmitter - Tx and Rx.
Fiber options available (requested at sale):
 - FC/UPC
 - SC/APC
 - ST/FPC
 - LC/FPC
 - SC/UPC
2. Using the 3-pin XLR connector on the rear panel of the Camera Control Interface Unit to the 3-pin XLR connector on the front of the Camera Control Data Transmitter.

NOTE: Older systems have a 5-pin XLR connections. Refer to an older, relevant user manual version.

You choose the RF frequency via the menu on the unit's front panel.

NOTE: For the system to operate correctly the same RF frequency must be selected on the Camera Control Interface Unit and the camera mounted Data Receiver unit.

NOTE: Each OCP/RCP input requires an 'Address/ID', this must also match the relevant Data Receiver. (Do not duplicate allocated Addresses/ID's)

The RF output power can be adjusted from 1.0 watts to 5 watts in 0.1 watt steps. The unit is a self-contained, 1U high, 19-inch rack-mounting unit that will operate on a single phase 100 - 240V AC. All AC and signal connections are made to the rear of the unit.

3.1.1. Compatible Camera Types with Manufacturer OCP/RCP

Manufacturer	Model
Vislink	HDMC
Sony	BVP-950
	HDC-1500R
	HDC-1700
	HDC-2400/2500
	HDC-4300
	HDC-P1
	HXC-100
	PMW-400
	PMW-500
	PMW-F55
	PDW-700
	PDW-F800
	PXW-X320
	PXW-X500
Hitachi	SK-HD1200
Panasonic ENG	AJ-HPX2000E
	AJ-HPX3100G
Panasonic PTZ	AK-HE40E
	AK-HE130K
Ikegami	HDK-97A
	HDK-97C
	HDL-45E
Grass Valley	LDX-80/82/86/C80

Table 3-1 Compatible OCP/RCP Type Cameras

3.1.2. Compatible OCP Type Cameras

Manufacturer	Model
Vislink	See Section 6.3
Sony	RCP-750*
	RCP-1500*
	RCP-1530*
Hitachi	RU-1500*
Panasonic ENG	AJ-RC10G*
Panasonic PTZ	AW-RP50E*
	AW-RP120G*
Ikegami	OCP-100*
	OCP-300*
	OCP-399*
Grass Valley	OCP-400*

Table 3-2 Compatible OCP Type Cameras

*Single Channel multiplexed operation also supported.

3.2. Specifications

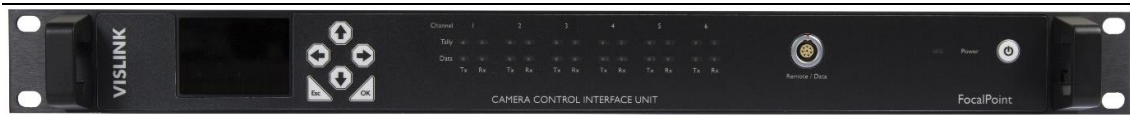


Figure 3-2 Front Panel Overview



Figure 3-3 Rear Panel Overview

3.2.1. Controls and Indications

Panel	Function
Front Panel	Power supply indicator for +12VDC (Red-Standby, Green-On)
	Transmit Data activity indicator (Blue)
	Receive Data activity indicator (Blue)
	Red Tally indicator (Red)
	Green Tally indicator (Green)
	Soft-start Power ON/OFF switch
	Unit menu controls and display
	Remote/Data connection for firmware installation and Web-interface control
Rear Panel	Power ON/OFF (integrated with IEC connector)
	Six OCP/RCP connections
	Six Return data connections
	25-Way D-Type Red Tally connections (6Dry & 6Wet)
	25-Way D-Type Green Tally connections (6Dry & 6Wet)
	Ethernet connection
	3-pin XLR Data connection
	Tx & Rx Fiber connection
	Expansion connection for additional CRIU or FCDT

Table 3-3 CRIU-ASSY-7XXX Panel Connectors Overview

3.2.2. Specifications

Transmitter Parameters	Unit
Frequency Band	UHF
Tuning Range	435MHz – 490 MHz (Other bands available on request)
Bandwidth	12.5 KHz / 20.0 KHz / 25.0 KHz
Modulation	GMSK
Power Parameters	Unit
Power Supply	100V – 240V AC 50/60Hz 0.5A max.
Power Output	Configurable in 0.1 W steps.

Table 3-4 CRIU-ASSY-7XXX Specifications

Mechanical Details	Unit
Dimensions	483mm (W) x 303mm (D) x 44mm (H) (19" x 1U High)
Weight	2.45kg. Approx.
Environmental Details	Unit
Temperature Range	- 20° C to +70° C
Operating Humidity	5 to 95% RH

Table 3-5 CRIU-ASSY-7XXX Mechanical and Environmental Specifications

3.3. Pin Out Connection Tables

3.3.1. Camera Control Interface Unit

3.3.1.1. Front Panel - Remote/Data

Connector	7-Pin, 2-Key LEMO Socket
Pin	Signal
1	ETH_TX+
2	ETH_TX-
3	ETH_RX+
4	ETH_RX-
5	GND
6	USB_+
7	USB_-
8	+5V_OUT

3.3.1.2. Rear Panel – Data

Connector	3-pin XLR Plug (5-pin XLR Socket for older unit)
Pin	Signal
1	GND
2	TX+/D+
3	TX-/D-

3.3.1.3. Expansion

Connector	6-Pin, 1-Key LEMO Socket
Pin	Signal
1	GND
2	RX+
3	RX-
4	TX+/D+
5	TX-/D-
6	12V Out (500mA max)

3.3.1.4. OCP

Connector	15-WAY D-Type Socket
Pin	Signal
1	+12V DC
2	RS422 TX+/RS485+
3	RS422 TX- / RS485- / RS232 TX
4	RS422 RX+ / RS232 RX
5	RS422 RX-
6	TTL RXD
7	TTL TXD
8	G TALLY DRY
9	G TALLY WET A
10	G TALLY WET B
11	GND
12	GND
13	R TALLY DRY
14	R TALLY WET A
15	R TALLY WET B

3.3.1.5. Tally RED

Connector	25-WAY D-Type Socket
Pin	Signal
1	GND
2	Ch. 1. Red Dry
3	GND
4	Ch. 2. Red Dry
5	GND
6	Ch. 3. Red Dry
7	GND
8	Ch. 4. Red Dry
9	GND
10	Ch. 5. Red Dry
11	GND
12	Ch. 6. Red Dry
13	GND
14	Ch. 1. Red Wet A
15	Ch. 1. Red Wet B
16	Ch. 2. Red Wet A
17	Ch. 2. Red Wet B
18	Ch. 3. Red Wet A
19	Ch. 3. Red Wet B
20	Ch. 4. Red Wet A
21	Ch. 4. Red Wet B
22	Ch. 5. Red Wet A
23	Ch. 5. Red Wet B
24	Ch. 6. Red Wet A
25	Ch. 6. Red Wet B

3.3.1.6. Tally GREEN

Connector	25-WAY D-Type Socket
Pin	Signal
1	GND
2	Ch. 1. Green Dry
3	GND
4	Ch. 2. Green Dry
5	GND
6	Ch. 3. Green Dry
7	GND
8	Ch. 4. Green Dry
9	GND
10	Ch. 5. Green Dry
11	GND
12	Ch. 6. Green Dry
13	GND
14	Ch. 1. Green Wet A
15	Ch. 1. Green Wet B
16	Ch. 2. Green Wet A
17	Ch. 2. Green Wet B
18	Ch. 3. Green Wet A
19	Ch. 3. Green Wet B
20	Ch. 4. Green Wet A
21	Ch. 4. Green Wet B
22	Ch. 5. Green Wet A
23	Ch. 5. Green Wet B
24	Ch. 6. Green Wet A
25	Ch. 6. Green Wet B

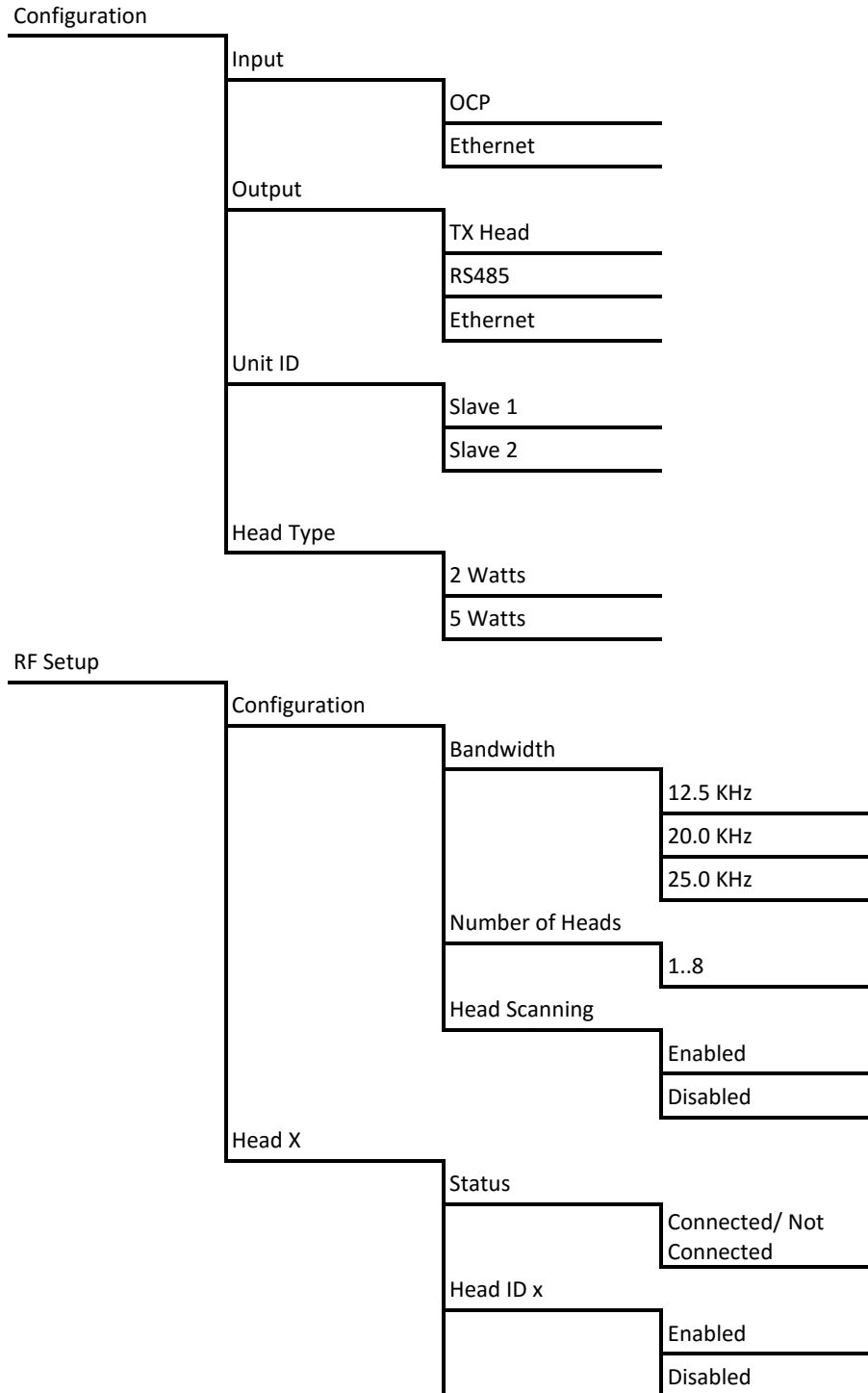
3.3.1.7. Return Data

Connector	7-Pin, 1-Key LEMO Socket
Pin	Signal
1	GND
2	TX D (From Unit)
3	RX D (Into Unit)
4	NC
5	NC
6	NC
7	NC

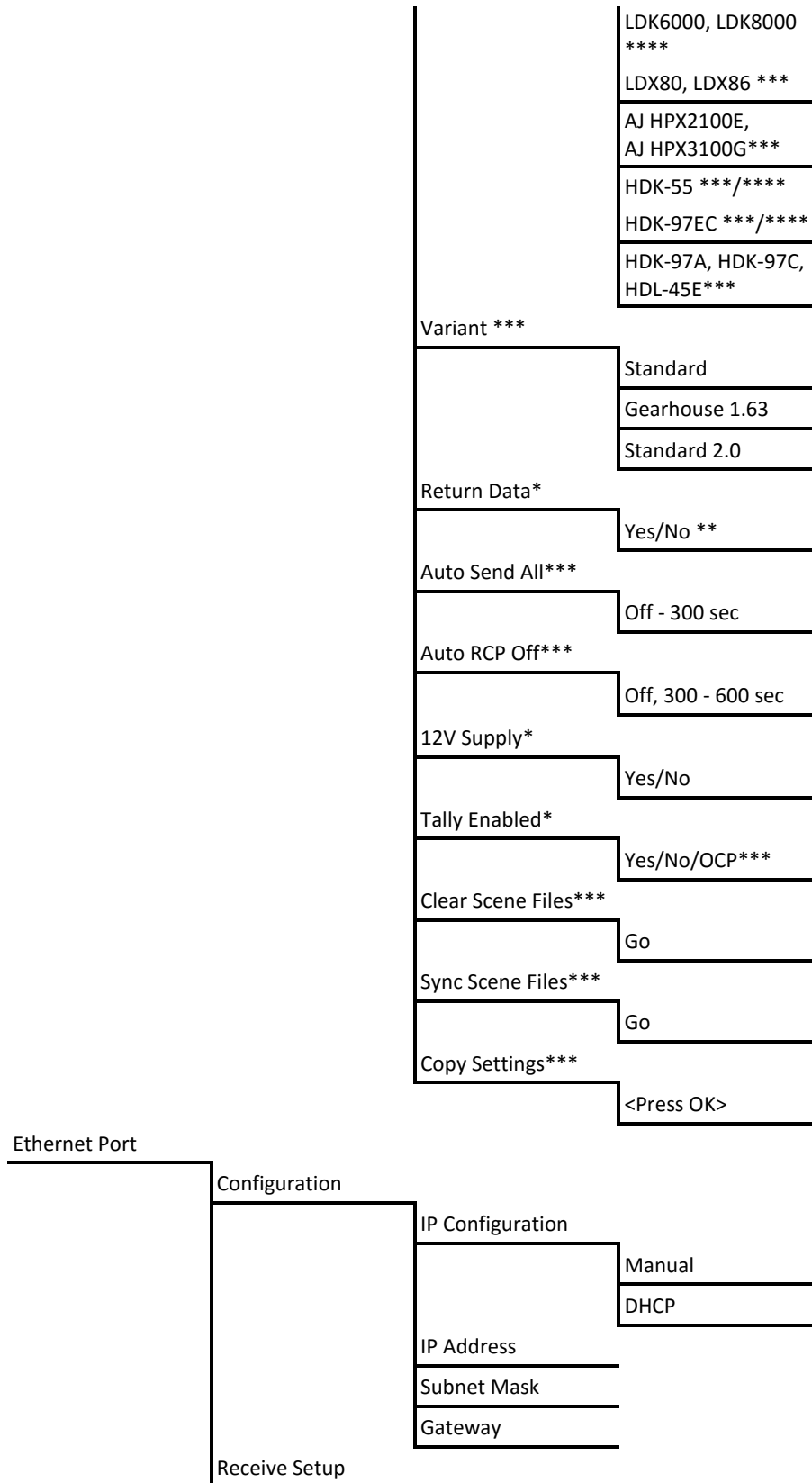
3.4. Menu Structure

3.4.1. Camera Control Interface Unit

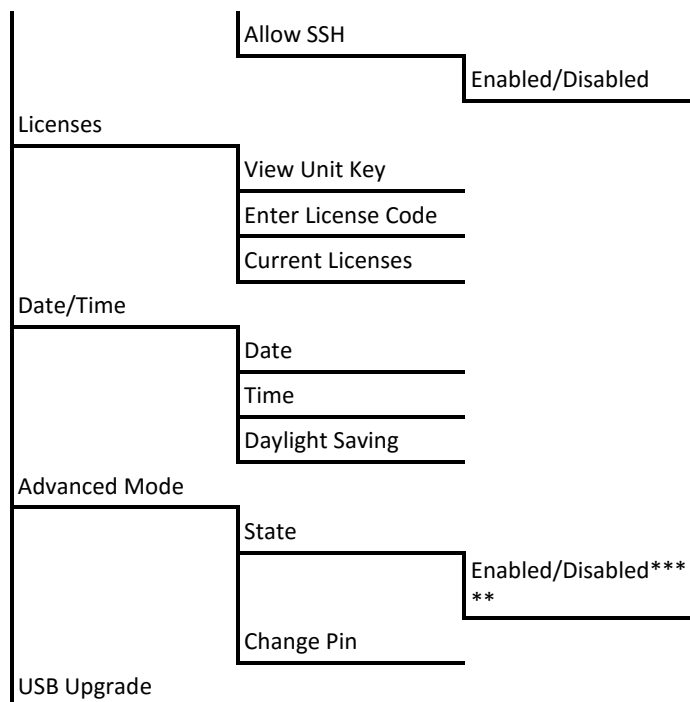
NOTE: The menu structure is dynamic. Some menus may not appear as shown below. The options displayed depend on the equipment connected and other settings.



		Frequency	xxx.xxxxx MHz
		Power	X.XX W
OCP Setup	OCP Channel 1..6	Enabled	Yes/No
		Camera ID	01..96
		OCP	Sony Hitachi Panasonic Panasonic PTZ Ikegami OCP-100 Ikegami OCP-300 Ikegami OCP-399 OCP5 Grass Valley Transparent
		OCP Interface***	RS232 / RS422
		Camera	HDC1500, HXC100, HSC300, HDC-P1, HDC2400, HDC1700, HDC2500*** PMW-F55, PDW-F800, PXW- X500, PXW-X320, PMW-500, PMW- 400, HDC4300, PDW- 700*** OTHER*** SK-HD1000, SK- HD1200, SK-HD1500 *** DK-HD100 *** PTZ AW-HE40, PTZ AW-HE130***



General Settings	Transmit Setup		Port	XXXXX
			Dest. IP	XXX.XXX.XXX.XXX
			Port	XXXXX
	Software Versions			
	Display			
			Backlight	000..100%
			Menu Timeout	Off 5, 10, 15, 20, 30 Sec 1, 2, 3 Minutes
			Theme	Light Blue Purple Haze Midnight White Out Purest Green
			Numbers	Wrap-around Increment
	Unit Name			
			Name	ABC..123
	Remote/Data Port			
			State	Enabled/Disabled
			Mac	
			IP Allocation	DHCP Manual
		IP Address		
		Subnet Mask		
		Gateway		
		Web GUI Port		




NOTE: *OCP Channel Enabled
 **Not available with OCP5
 ***OCP Brand Specific (Sony, Hitachi, Ikegami)
 ****Not supported
 *****Default access code = 0000

3.4.2. Basic Setup Guide

Setup hardware configuration required:

1. Use either Wire or Fiber optic to connect the camera interface to the transmitter (not both).
2. Connect an appropriate antenna to the transmitter.

 **CAUTION:** Never allow the Transmitter unit to transmit without an antenna or dummy load attached to the antenna connector.

3. Connect OCP/RCP's to the interface unit

- Interface Unit configuration:
 - Input – OCP
 - Output – TX Head
- Interface unit RF configuration
 - Configure each OCP channel input as required:
 - a. Enabled – Yes/No
 - b. Camera ID – Same as data receiver
 - c. OCP – Type
 - d. Camera – Model number
 - e. Return data – Yes/No
 - f. 12V Supply – Power the OCP from the interface unit.
 - g. Tally enabled – Activate wet/dry Tally connection via interface unit

3.4.3. Licenses

The amount of OCP Channels available are controlled by License. Each basic system is automatically provided with one license activated (one OCP channel active).

You can view the active OCP channels using the following menu:

- **General>License>Current License**

Additional Licenses can be requested and installed via the web browser or manually entered via the unit menu.


The serial number of the unit or 'Unit Key' may be requested by Vislink to generate new licenses.

Vislink Unit Key and Licenses are recorded in four parts (four sets of encrypted/scrambled numbers/symbols).

3.4.4. Additional Interface Units

A maximum total of three Interface units can be connected together and configured to operate with one Transmitter unit. This then allows the potential of using up to 18x manufacturer OCP/RCP's or 16x Vislink OCP5's.

Loop the RS485 connections from the 'Expansion' connector.

 **CAUTION:** This connector has a 'DC Out' that must NOT be connected when looping Interface units.

You can also loop the Interface units from the Fiber or 3-pin XLR Data connection.

Set the additional Interface Unit/s as **Output > RS485** and **Unit ID > Slave X**

NOTE: When using multiple OCP/RCP's do not to duplicate OCP addresses/IDs.

3.4.5. Additional Transmitter Units

You may connect a maximum of eight Transmitter units to one Interface unit. This allows individual frequency and output power adjustment to each Transmitter unit.

You can connect one transmitter to the fiber connections directly to the Interface unit. Any additional Transmitters must be connected either using the Vislink Expander Module (one additional Tx unit per Module) or the Vislink 1U Multiway Expander Module (four additional Tx units per Module).

The Expander module is connected to the port labelled "Expander" at the back of the Interface unit (RS485 and DC connections).

The Expander module(s) provides fiber connections for the additional Transmitter unit(s) and has a Loop Out connection to add more Expander Modules.

Set the Interface options using the following menu:

- **RF Setup> Configuration> Number of heads**

Expander Module Part Numbers	Function
CRIU-ASSY-5003	SC Connectors (single Tx Expansion)
CRIU-ASSY-5004	ST Connectors (single Tx Expansion)
CRIU-ASSY-5005	LC/FPC Connectors (single Tx Expansion)
CRIU-ASSY-5007	SC/UPC Connectors (single Tx Expansion)
CRIU-ASSY-5006	SC/UPC Connectors (Multi Tx Expansion Rack – four Tx units)
CRIU-ASSY-5008	SC/UPC Connectors (Multi Tx Expansion Rack – two Tx units)
CRIU-ASSY-2032	Interface unit to Expander module cable
CRIU-ASSY-2037	Interface unit to Expander Rack cable

Table 3-6 Expander Module Part Numbers

NOTE: The Transmitter unit address switch must be set in relation to the amount of Transmitter units being used. (Do NOT duplicate the address/ID).

3.4.6. Return Data Connections

The Interface unit can be configured for one-way data or return data using the manufacturer OCP/RCP's.

The blue Tx and Rx LED on the front of the unit indicate correct operation. These indicators flash at the same rate as the send/receive data LED.

Configure the return data for the interface unit expecting to start receiving data. To do this use the following menu:

- **OCP Setup> OCP Channel 1..6> Return Data: Yes**

User data out from the MVL Receiver connects to the Interface OCP channel input.

Once valid data is received and returned to the OCP/RCP the blue 'Rx' data indicator LED flashes.

NOTE: The blue 'Tx' data indicator LED always flashes when sending data.

When return data is configured and connected, the OCP/RCP displays the actual values reported back from the camera. If the return data is lost, the camera control still operates in 'one-way data' mode.

NOTE: Data Receivers must also be configured for return data, either via the GUI or unit menu.

User Data configurations require correct settings in the MVL system.

Key options:

- Baud Rate (Sony, Panasonic, Hitachi, Ikegami and GrassValley = 115200)
- PID
- Link / Gigawave – Tx / Rx

3.4.7. Head Scanning Mode

This option is only used when coverage requires more than one Transmitter Head unit.

The concept allows the Data Receiver to roam between Transition points and the Camera Control continues operating without the need to change Data Rx settings.

All Transmitter units need to be set to different frequencies to match the frequencies that the Data Receiver will scan on.

When 'Head Scanning' is Enabled, all of the Transmitters constantly transmit data for the Data Rx to lock onto, even if 'Tally' or 'OCP/RCP' data is not being sent.

To select the Scanning mode in the Camera Control Interface:

- **RF Setup> Configuration> Head Scanning: Disabled / Enabled**

The Data Receiver will also have a **Scan Setting Enabled / Disabled** option configured by the GUI or Control menu.

You can set the Data Receiver to scan between two to eight different frequencies. These frequencies will be the same as set by the Camera Control Interface unit (Transmitting frequencies).

The Data Receiver scans the pre-set Channel frequencies until acceptable data is received for it to lock onto.

If the Data Receiver starts to receive broken data from the RF signal it is locked to, it then starts scanning the pre-set Channel frequencies again, until acceptable data is available to lock on to.

This process happens continually as the Data Receiver is roaming the coverage area. To make this action appear seamless, the coverage of two or more transmissions must overlap.

NOTE: When using more than one FCDT Transmitter unit, they must have separate Address allocations assigned and not clash between units.

NOTE: The Head software version must be **CRIF-0104-0502** or above for **Scan** mode to be available.

If Scan operation is not required, it is important to set the **Scan Setting** option to **Disable** in the Data Receiver to avoid having any affect to single frequency mode.

3.4.8. Sony Send All Operation

The Sony RCP units have an allocated **Send All** button. This button is used when connected to the FocalPoint IDU. This function sends all the main Paint configuration settings from the RCP to the camera.

The **Send All** operation is manually controlled by the operator using the **CHARACTER** button. This operation is beneficial as it allows the operator to configure the Paint settings alongside the Line Camera RCP units while the Wireless camera is switched off. When the Wireless Camera is switched on, you can activate the manual **Send All**.

You can also configure the **Send All** operation to automatically send the Paint configuration if the system is set to receive **Return Data**.

When the OCP Channel **Return Data** is set to **Yes** an **Auto Send All** option is available. This has an adjustable timer with settings from **Off** to **300** Seconds or any **30** second intervals between.

The **Auto Send All** operation timer starts its internal countdown when the FocalPoint Interface Unit stops receiving Return Data (when the Wireless Camera system is turned off). When the timer has completed its countdown, an automatic **Send All** (RCP Paint settings) will be sent to the camera when the next **Return** Data packet is received (once the Wireless Camera is switched on).

3.4.9. Sony Auto RCP Off Operation

The Sony RCP can be set to stop displaying values, indicating that the camera is not connected.

When the OCP Channel Return Data is set to **Yes**, an **Auto RCP Off** option becomes available. This has an adjustable timer that can be set to **Off** or **300 to 600 Seconds** in thirty second increments.

The Auto RCP Off operation timer starts its internal countdown when the FocalPoint Interface Unit stops receiving Return Data (when the Wireless Camera system is turned off). When the timer has completed its countdown, the RCP stops displaying the stored camera Paint settings.

When the next Return Data packet is received (after the Wireless Camera is switched on), the RCP will 'Wake Up' and start displaying the camera Paint values.

3.4.10. Sony Scene File Recall Operation

Sony Scene Files can be recalled from the camera memory,

When the OCP Channel Return Data is set to **Yes**, a Scene File Recall option becomes available. This can be set to **Camera** or **Local**.

When set to **Camera** the Scene File will be recalled from the camera and the Return Data path will update the settings displayed in the RCP.

When set to **Local** the Scene File will be recalled from the saved Scene File in the FocalPoint memory.

3.4.11. Sony PMW-F55 Configuration

The Sony PMW-F55 camera must be configured accordingly for wireless Camera Control:

- Set the camera to be in **Custom** mode rather than **Cine-ei**. (This is changed in the **System** settings in the **F55** menu).
- Set the **Color Temperature** to **Memory**. (This is changed by the top right hand button just above the LCD on the F55 camera).

3.4.12. Hitachi Send All Operation

The Hitachi RU units have a dedicated **Send All** button. This button is used while connected to the Vislink FocalPoint IDU. This function sends all the main Paint configuration settings from the RU to the camera.

The **Send All** functionality is manually controlled by the operator, using the **TAKEN** button. This function is beneficial as it allows you to configure the Paint settings alongside the Line Camera RU units, with the Wireless cameras turned off. When the Wireless Camera is powered on, you manually activate the **Send All** functionality.

If the system is set to receive **Return Data**, you can also configure the **Send All** operation to automatically send the Paint configuration.

When the OCP Channel **Return Data** is set to **Yes** an **Auto Send All** option is available. This has an adjustable timer with settings from **Off** to **300 Seconds** or any **30** second interval between.

The **Auto Send All** operation timer starts its internal countdown when the FocalPoint Interface Unit stops receiving Return Data (while the Wireless Camera system is switched off). When the timer has completed its countdown, an automatic **Send All** (RU Paint settings) is sent to the camera when the next Return Data packet is received (once the Wireless Camera is switched on).

3.4.13. Interface Unit to Interface Unit - Ethernet Connection

Two Interface Units can be configured to connect to each other over Ethernet. One Interface unit should be assigned to the Data Transmitter(s) and the other to the OCP(s).

3.4.13.1. Data Transmitter(s) Interface Unit

1. Set the Configuration input to Ethernet, using the following menus:
 - **Configuration > Input: Ethernet**
2. Set the Ethernet Port as required, using the following menus:
 - **Ethernet Port > Configuration**
3. Set the Ethernet Receive Port number to match the OCP(s) Interface Unit Transmit Setup Port number, using the following menus:
 - **Ethernet Port > Receive Setup > Port: XXXXX**
4. Set the Destination IP and Port number as the OCP(s) Interface Unit, using the following menus:
 - **Ethernet Port > Transmit Setup:**
 - Dest. IP: XXX.XXX.XXX.XXX
 - Port: XXX.XXX.XXX.XXX

3.4.13.2. OCP(s) Interface Unit:

1. Set the Configuration output to Ethernet, using the following menus:
 - **Configuration > Output: Ethernet**
2. Set the Ethernet Port as required, using the following menus:
 - **Ethernet Port > Configuration**
3. Set the Ethernet Receive Port number to match the Transmitter(s) Interface Unit Transmit Setup Port number, using the following menus:
 - **Ethernet Port > Receive Setup > Port: XXXXX**
4. Set the Destination IP and Port number as the Data Transmitter(s) Interface Unit, using the following menus:
 - **Ethernet Port > Transmit Setup:**
 - Dest. IP: XXX.XXX.XXX.XXX
 - Port: XXX.XXX.XXX.XXX

The Unit Warning message displays **No Eth Comms from Remote Unit** until connection is established.

When a controller sends data, the relevant OCP Channels Blue Tx Data indicator flashes in both Camera Control Interface Units.

A maximum of six OCP Channels is available (this applies to a fully licensed unit).

Tally on/off control is accessible at either Camera Control Interface Unit.

Configure Tally On/Off by setting the Tally Enabled option in the OCP Channel menu. See Section 3.4.13.3.

3.4.13.3. Tally On/Off Control

1. **Tally Enabled: Yes**
 - Use the Red/Green Wet/Dry 25-way D-Type connections into the Camera Control Interface unit with the OCP input configuration.
2. **Tally Enabled: No**
 - Use the Red/Green Wet/Dry 25-way D-Type connections into the Camera Control Interface unit with the Ethernet input configuration

NOTE: Camera Return Data is not available using this configuration.

3.4.14. Grass Valley Configuration

The Grass Valley Camera and OCP require the latest software installed, with the Serial Basic (Ser_Basic) functionality.

Set the Grass Valley OCP400 to the following required settings:

- **Setup Menu> OCP> Conn.Mode> Ser_Basic**
- **Setup Menu> OCP> Ser.Level> RS-422**

3.4.15. Grass Valley Send All Operation

If you set the OCP Channel Return Data to **Yes**, an **Auto Send All** option shows.

The **Auto Send All** option has an adjustable timer that can be set from **Off** to **300** Seconds in 30-second intervals.

The **Auto Send All** internal countdown timer operation starts when the FocalPoint Interface Unit stops receiving Return Data. This usually happens when the Wireless Camera system powers down.

After the **Auto Send All** timer completes its countdown, FocalPoint sits waiting to detect a wireless cameras Return Data packet. On detection of the wireless camera/Return Data, FocalPoint transmits an automatic **Send All** message (RCP Paint settings) to the wireless camera.

If you set the OCP Channel Return Data to **No**, the **Auto Send All** option will not be available.

In this configuration, the OCP400 uses the Customer (Cust) Recall Standard as a manual Send All:

- Recall STD > Recall Std Type > Cust

3.4.16. Transparent Mode

To set an OCP Channel to Transparent, use the following menu:

- **OCP Setup > OCP Channel X > OCP: Transparent**

NOTE: Setting any OCP channel to **Transparent** disables all other OCP Channels.

You can configure the **Transparent** OCP channel to use RS232 or RS422 data.

Set the Data Receiver to **Generic** to allow the input data to the OCP channel to be passed out of the Data Receiver.

This will allow the Grass Valley Ser_Full to pass through the FocalPoint system with a Return Data baud rate of 9600.

NOTE: Vislink must approve specific use of Transparent Mode (various RS232 operated cameras/systems).

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4. Camera Control Data Transmitter - FCDDT-ASSY-7XXX

4.1. Introduction



Figure 4-1 FCDDT-ASSY-7XXX Overview

The Camera Control Data Transmitter communicates with the Camera Control Interface Unit either by fiber optic or wired connections.

The menu options available via the Camera Control Interface Unit set the RF frequency and RF output power level. The Camera Control Data Transmitter generates the levels.

The unit operates on a +12V to +24V DC input supply.

It can be fix/mounted using a wedge plate on the base of the unit.

⚠ WARNING: This unit contains a class 1 laser module. Lasers can cause irreversible eye damage. Do not stare directly or indirectly at the laser beam.

4.2. Specifications



Figure 4-2 FCDDT-ASSY7xxx Connectors and Indicators Overview

4.2.1. Controls and Indicators

Connector/Indicator Area	Function
Front Panel	12 - 24Volt DC input
	DC Circuit Breaker
	Tx & Rx Fiber connection
	3-Pin XLR connection
	RF Power output
	Status Indicator (Green)
	Tx Data Indicator (Amber)
	Rx Data Indicator (Amber) – Not used
Top	IDX Battery Plater option available
Base	Wedge plate

Table 4-1 FCDT-ASSY7xxx Connectors, Controls, Indicators and Fixings

Mechanical Details	Specification
Size	130mm (W) x 82mm (H) x 210mm (D)
Weight	1.54kg. Approx.
Environmental	Temperature range: - 20° C to +70° C

Table 4-2 Mechanical and Environmental Details

4.3. Switch Position

The unit has a set of internal Rotary switches that can be accessed by removing the small access plate on the side of the unit.



Figure 4-3 FCDT-ASSY7xxx Switch Locations

Switch	Function	Position
SW1	Address (ADDR)	Option for 1 to 8 available
SW2	Channel (RADIO CHNL)	Not used
SW3	Camera Type (CAMERA TYPE)	A – RS485 2wire

Table 4-3 Switch Configuration Table

The FocalPoint system is capable of connecting one to eight Data Transmitter units to a single Control Interface unit. Each unit must have a separate address allocated.

The Data connection is RS485 2-wire only.

4.4. Pin Connections

4.4.1. Camera Control Data Transmitter Unit

4.4.1.1. DC Power

Connector	4-Pin XLR Plug
Pin	Signal
1	GND
2	NC
3	NC
4	+12V to +24V

4.4.1.2. Data

Connector	3-Pin XLR Socket (5-pin XLR Plug for older unit)
Pin	Signal
1	GND
2	RX+/D+
3	RX-/D-

4.4.1.3. Fiber

Connector	Optional Connectors
Pin	Signal
F1	RX
F2	TX

4.5. Data Transmitter Antenna

The Data Transmitter requires an antenna system suitable to the frequencies in use. A Vislink Flat Plate Directional antenna may be supplied for this purpose. However, other antennas in the appropriate frequency range are acceptable and may be used to provide increased gain if required.

The connection between the Data Transmitter and the antenna should use a suitable low-loss type UHF coaxial cable (RG214 or similar).

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5. Data Receiver



Figure 5-1 Data Receiver Overview

5.1. Introduction

The Data Receiver is available in different casing designs depending on the camera model. However, the control functionality is consistent throughout the range. The different casings available allow the unit to function with most popular makes and models of camera.

NOTE: The connections and LED's may differ slightly between versions.

There are four main designs of data receiver that are attached to the camera body.

These four designs comprise of:

- Built-in Sony version
- Built-in Grass Valley version
- Built-in Clip-on4 version
- Small standalone version

The Data Receiver Module responds to the OCP/RCP through the FocalPoint Camera Control Data Transmitter system. The commands provided by the OCP/RCP are modulated, then demodulated, before being applied to the appropriate camera control lines. The data receiver also holds the information to respond to the camera. The camera is not under instruction from the OCP/RCP.

All of the Data Receivers have a Carrier LED. This will only flash when data is received e.g. when the OCP/RCP joystick is moved.

5.2. Specifications

5.2.1. Data Receiver

Function	Range
RF Input	SMA Type socket located on top edge panel - direct mounting Receive antenna whip.
RF Min Sensitivity	0.5uV
Available Frequency Bands	430-470 MHz (Standard)
	450-490 MHz
Channel Spacing	6.25 KHz (Standard)
	12.50 KHz

5.3. InCam-G CABK-ASSY-7xxx



Figure 5-2 InCam-G Overview

The InCam-G unit is a fully integrated dockable Camera Back for the Grass Valley LDX camera.

The unit has a built-in MVL Transmitter that sends video and audio generated by the LDX camera to a Receive point.

The unit also has a built-in telemetry Data receiver.

The FocalPoint Camera Control system offers remote control operation/functionality to the camera using one-way data from the Vislink OCP5 controller.

NOTE: Return data is available to the OCP5 if the user data out from the MVL Receiver is connected directly to the OCP5 @ 115200 baud.

You can control the camera from a PC with Windows™ OS installed, using the Vislink software **IncamProgrammer.exe**. User instructions are available from the user guide, which is accessed from the GUI.

The configuration cable from the computer connects to the Config 4-Pin BINDER socket.

The LDX camera on/off switch is the master power for the camera and the InCam-G.

The InCam-G has an isolated power switch after the camera is powered:

- Off - Camera operates with the InCam-G powered off.
- Standby - InCam is configurable but not Transmitting or Receiving.
- On - Camera and InCam are powered.

NOTE: The LDX-80 Camera must have up to date Grass Valley firmware installed (version 22 or greater).

5.3.1. InCam-G Connections

5.3.1.1. DC Power

Connector	4-Pin XLR Plug
Pin	Signal
1	GND
2	NC
3	NC
4	+12V

5.3.1.2. SDI Out

- BNC 75Ω

5.3.1.3. RTN In

- BNC 75Ω

5.3.1.4. SDI/CVBS Out

- BNC 75Ω

5.3.1.5. Audio In

Connector	3-Pin XLR Socket
Pin	Signal
1	GND
2	Hot+
3	Cold-

5.3.1.1. Steady-Cam Tally

Connector	5-Pin, 1-Key LEMO Socket
Pin	Signal
1	GND
2	+12V
3	Tally
4	NC
5	NC

5.3.1.1. Return Data (RTN)

Connector	3-Pin Binder Socket
Pin	Signal
1	Data
2	NC
3	GND

5.4. InCam-S CABK-ASSY-7xxx



Figure 5-3 InCam-S Overview

The InCam-S unit is a fully integrated dockable Camera Back for the Sony HDC-2400/HDC-2500 camera, this replaces the Sony Triax side-cover module.

The InCam-S unit has a built-in MVL Transmitter that sends video and audio generated by the Sony camera to a Receive point. The InCam-S unit also has a built-in telemetry Data receiver.

The FocalPoint Camera Control system offers remote control operation/functionality to the camera using one-way data from the Vislink OCP5 controller.

NOTE: Return data is available to the OCP5 if the user data out from the MVL Receiver is connected directly to the OCP5 @ 115200 baud.

NOTE: One-way data or return data is available when using the Sony RCP 750/1500/1530.

You can control the camera from a PC with Windows™ OS installed, using the Vislink software **IncamProgrammer.exe**. User instructions are available from the user guide, which is accessed from the GUI.

The configuration cable from the computer connects to a 4-Pin BINDER socket located under the carbon fiber cover. The main operation configurations are available using the camera menu, seen through the Viewfinder (available with Vislink's add-on software).

Additional instructions are available for mounting the InCam-S to the camera and installing the add-on camera menu.

The Sony camera on/off switch is the master power for both the camera and InCam-S.

Table 5-1 shows the InCam-S isolated power switch, used when the camera is powered.

Switch Position	Function
Off	Camera operates with the InCam-S not powered.
Standby	InCam is configurable but not Transmitting.
On	Camera and InCam are powered.

Table 5-1 InCam-S Power Switch Functions

NOTE: The Sony HDC 2400/2500 Camera must have up to date Sony firmware installed.

The InCam-S menu is accessible via the viewfinder after programming the camera with Vislink's add-on software.

Additional information is available for InCam-S insulation.

5.5. Clip-on4 Data Receiver CCCU-ASSY-7xxx



Figure 5-4 Clip-on4 Data Receiver Overview

The Clip-on Camera Control Unit is an add-on Data receiver module for the Clip-on4 Transmitter. The unit is configured via the Clip-on4 Transmitter menu.

The Data connector allows Remote connectivity to various camera manufactures and models by using the correct Data Cable.

The FocalPoint Camera Control system offers control to various camera manufactures and models using one-way data with the Vislink OCP5 and one-way or return data using any of the following:

- Sony RCP 750/1500/1530
- Hitachi RU1500
- Panasonic AJRC10G
- Ikegami OCP300/399/100
- Panasonic AW-RP50E, AW-HE120G
- Grass Valley OCP400

NOTE: Refer to the Clip-on4 manual for full product information and safety awareness.

5.5.1. Clip-on4 Camera Control Connections

5.5.1.1. Data

Connector	5-Pin, 1-Key LEMO Socket
Pin	Signal
1	RX-
2	RX+ (RS485/RS232RX)
3	TX+
4	TX- (RS485/RS232TX)
5	GND

5.5.1.2. Tally

Connector	6-Pin, 1-Key LEMO Socket
Pin	Signal
1	Red Tally Signal
2	12V Prot
3	Green Tally Signal
4	TTL TX (TTL CC Hitachi)
5	TTL RX (TTL CC Hitachi)
6	GND

5.6. Standalone Data Receiver DR07-ASSY-7XXX



Figure 5-5 Standalone Data Receiver Overview

The Standalone Data Receiver Version07 Unit is small/discrete and easy to mount on many camera types.

The data connector allows remote connectivity to various camera manufactures and models using the correct data cable.

The FocalPoint Camera Control system offers control to various camera manufactures and models using one-way data with the Vislink OCP5 and one-way or return data using any of the following:

- Sony RCP 750/1500/1530
- Hitachi RU1500
- Panasonic AJRC10G.
- Ikegami OCP300/399/100
- Panasonic AW-RP50E, AW-HE120G
- Grass Valley OCP400

When using the Return Data option, you need to connect the RTN DATA to the User Data input of the MVL Transmitter.

The DR07 is controlled via a Windows™ PC GUI using **TelemetryReceiverInterface.exe**. The Telemetry Receiver Interface user guide is supplied with the GUI when installed.

The configuration cable from the PC connects to a 5-Pin BINDER socket, labelled CONFIG.

5.6.1. Standalone Data Receiver Connections

5.6.1.1. Data

Connector	5-Pin, 1-Key LEMO Socket
Pin	Signal
1	RX-
2	RX+ (RS485/RS232RX)
3	TX+
4	TX- (RS485/RS232TX)
5	GND

5.6.1.2. Tally

Connector	6-Pin, 1-Key LEMO Socket
Pin	Signal
1	Red Tally Signal
2	12V Prot
3	Green Tally Signal
4	TTL TX (TTL CC Hitachi)
5	TTL RX (TTL CC Hitachi)
6	GND

5.6.1.3. DC-In

Connector	2-Pin, 1-Key LEMO Socket
Pin	Signal
1	9-18V DC Input
2	0V

5.6.1.4. RTN Data

Connector	2-Pin, 1-Key LEMO Socket
Pin	Signal
1	GND
2	Data Out

5.7. L17xx Built-in Data Receiver



Figure 5-6 L1700 Camera Transmitter

5.7.1. L17xx Built-in Data Receiver

Two versions of the L17xx software are available.

You need to program the L17xx for the following intended applications:

- L17xx with FocalPoint Camera Control
- L17xx with L1255 Camera Control

NOTE: The Camera Control License activates either Camera Control option. However, the software version installed dictates which camera control option is available.

Once you activate the Camera Control License, you can program the L17xx between software versions to switch application requirements (FocalPoint or L1255).

5.7.2. L17xx with FocalPoint, Camera Control Flexibility

Camera Configuration options:

Manufacturer	Data Mode	Multiplex Availability
Sony Manufacturer	One-way data mode	Multiplex available
	Return data mode	
Hitachi Manufacturer	One-way & Return data mode	Multiplex NOT available
Grass Valley Manufacturer	Return data mode	

Table 5-2 L17xx with FocalPoint Camera Control Configuration Options

NOTE: FocalPoint 'Scan Mode' is not available with the L17xx Camera Control. Refer to the L1700 manual for full product information and safety awareness.

6. Operators Control Panel (OCP5) OCP5-ASSY-7XXX



Figure 6-1 Operators Control Panel Overview

6.1. General Description

The Vislink Operator's Control Panel (OCP) is designed for use in conjunction with the FocalPoint Camera Control system and Data Receiver. The unit is designed to fit a standard OCP/RCP slot.

6.1.1. System Configuration

The OCP5 may be operated in two ways:

- One-way data to the camera, using the UHF FocalPoint Transmitter.
- Two-way data, using a combination of UHF FocalPoint Transmitter and return data via the user data function for the video link transmitter and receiver.

NOTE: If required, you can turn the Return Data on and off via the OCP5 menu system and connected directly to the OCP.

6.1.2. Tally

Tally may be connected either directly to the OCP5 via the Mixer connector or to the Camera Control Interface Unit. Tally control may be either:

- Dry contacts.
- Wet contacts – nominally a 5 VDC voltage in either polarity.

6.1.3. Powering the OCP5

The OCP5 is powered in either of the following ways:

- Using the D-type connector OCP I/F (see Section 6.1.4). DC power is derived from the Camera Control Interface unit.
- External DC power input using the XLR4 connector (see Section 6.2.4).

6.1.4. Data Connections to the OCP5

Data output from the OCP5 to the Camera Control Interface Unit may be configured in either of the following ways:

- OCP I/F connector - this is the normal method which also allows the OCP5 to derive its power from the Camera Control Interface Unit (see Section 6.2.1)
- Data in/out connector - this method is used where longer lengths of cable are used, up to the limits for RS485 (see Section 6.2.2)

Use the Data in/out connector to handle the Data input from the camera to the OCP5.

NOTE: When used for return data to the Vislink OCP5, set the User Data port on the microwave video link (transmitter and the receiver) to a baud rate of 115,200.

6.1.5. OCP5 Control Functions

OCP5 s Camera Control Function	Control Function
Joystick	Camera Iris
	Master Black
	Mixer preview (accessed pressing the control knob)
Control knobs and push buttons	Various
Soft keys for menu selection	Various
Camera Control Functions*	RGB – White balance
	RGB – Black balance
	RGB – Flare control
	RGB – Gamma control
	ND and CC filter control
	Master Black Pedestal
	Iris control
	Auto/manual iris control
	Configurable open/close iris limits
	Detail
	Detail dependency
	Saturation
	Auto-Knee
	Bars
	Configurable Panel lockout
	Gain steps
	White balance presets and fixed temperatures

Table 6-1 OCP5 Control Functions

6.1.6. OPT Button

You can assign a favorite function to the **OPT** button. Doing this makes it instantly available from the OCP5 front panel.

* Camera model dependent.

6.2. OCP5 Connections and Pinouts



Figure 6-2 OCP5 Rear Connections Overview

6.2.1. OCP I/F

This port is used to directly connect to the Camera Control Interface Unit.

Connector	D-Type 9-Pin
Pin	Signal
1	+VIN
2	+VIN
3	TALLY_DRY_A
4	TALLY_DRY_B
5	GND
6	GND
7	TXD-
8	TXD+
9	NC

6.2.2. Data In/Out

This port is used for Return data from the User Data port of the MVL Receiver (if used).

Connector	XLR 5-Pin
Pin	Signal
1	GND
2	TXD-
3	TXD+
4	RXD-
5	RXD+

6.2.3. Mixer Connector

NOTE: Tally_Dry assumes a closed pair of contacts and Tally_Wet assumes a 5VDC (nominal) voltage in either polarity.

Connector	D-Type 9-Pin
Pin	Signal
1	PREVIEW_A
2	PREVIEW_B
3	NC
4	NC
5	TALLY_DRY_A (ground)
6	TALLY_DRY_B
7	TALLY_WET_A
8	TALLY_WET_B
9	GND

6.2.4. DC Input

NOTE: The DC input is in conjunction with an internal fuse (alternative powering method, see Section 6.1.3).

Connector	XLR 4-Pin
Pin	Signal
1	-ve / Ground
2	NC
3	NC
4	+12VDC

6.2.5. USB/Ethernet

The USB/Ethernet port is dual purpose, as follows:

- Ethernet port for remote control and monitoring.
- USB port for unit software upgrade.

Connector	8-pin LEMO Connector EGG.1B.308.CLN	
Pin	Signal	Function
1	TX+	Ethernet
2	TX-	
3	RX+	
4	RX-	
5	0V GND	USB
6	USB_+	
7	USB_-	
8	+5V out	

6.3. Camera Types

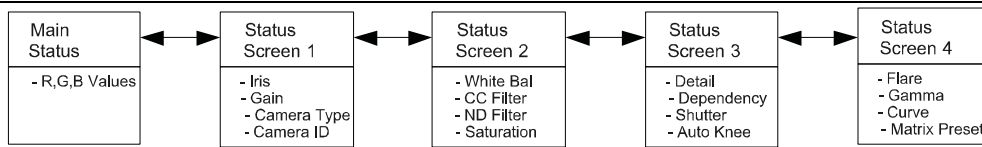
Table 6-2 shows the camera type menu for you to select from.

NOTE: More camera types may be added in the future.

Camera Select	Camera Used
Sony 90	Sony BVP-90
Sony D35	Sony DXC-30, DXC-35, DXC-50
Sony 550	Sony BVP-550, BVP-570
Sony 600	-
Sony 950	Sony BVP-950,
HDC 1500	Sony HDC-2500, HDC-2400, HDC-1400, HDC-1450, HDC-1500, HDC-1550, HDW-750P
PMW EX3	Sony PMW-EX3
PDW-700	Sony PDW-700, PDW-F800
BVP-E10P	Sony BVP-E10, BVP-E30
HXC 100	Sony HXC-100, HSC-300
PMW-350K	Sony PMW-350K, PMW-400, PXW-X320, PMW-500
HDC-P1	Sony HDC-P1
PXW-X500	Sony PXW-X500
HK-399	Ikegami HK-399, HK-388, HK-355
HK-79	Ikegami HK-79, HL-45, HL-55, HL-59, HDK-55
Thom 1657	Thomson 1657
LDK 100	Grass Valley (Philips/Thomson) LDK-100, LDK200, LDK-300, LDK-400, LDK-500
LDK6000	Grass Valley LDK 6000, LDK 8000, LDK 8000 Elite
LDK4000	Grass Valley LDK 4000
LDX 80	Grass Valley LDX 80, LDX 86, LDX C80
DK-H100	Hitachi DK-H100
HD-1200E	Hitachi SK-HD1200E, SK-900E, SK-HD1000
AJ-HPX2000	Panasonic AJ-HPX2000E, AJ-HPX3100G
JVC D29	JVC KY-D29
GW HDMC	Vislink 'HDMC'

Table 6-2 OCP5-ASSY-7XXX Camera Types

6.4. OCP5 Menu Structure



All screens display: Camera ID, Iris Value, Master Black, White/Gamma Selection, Black/Flare Selection and Bars indication.

Status screens are navigated using 'Previous' and 'Next' softkeys. The 'Menu' softkey enters the main menu.

Other softkeys are:

- 'Panel Lock' (prevents accidental button presses)
- 'White/Gamma' (changes the function of the top three RGB encoders)
- 'Black/Flare' (changes the function of the lower RGB encoders)

Main Menu

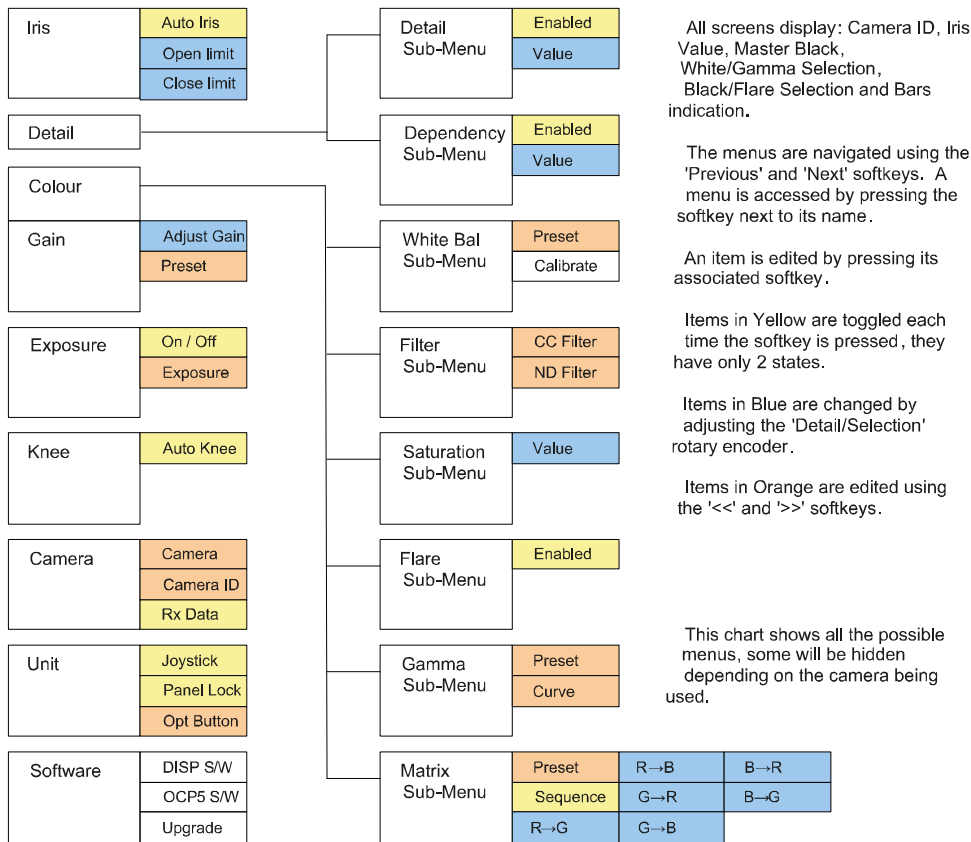


Figure 6-3 OCP5 Menu Structure

6.4.1. Sample Control Screen

The front panel menu system is a combination of LCD screen and six soft-key buttons which are used to access the required functions.

6.4.1.1. Main Operator Screen

To access the main screen from any other inactive screen press **Exit** and **Previous/Next** as required.

PANEL LOCK		SET GAMMA		SET FLARE	
		RED	GREEN	BLUE	
WHITE	76	38	12		
BLACK	24	35	53		
WHITE BLACK		CAMERA 01		147 MB 49	
PREVIOUS		MENU		NEXT	

Figure 6-4 Example Main Operator Screen

6.4.1.2. Current Configuration Screens

These are a series of screen which show the current configuration of the OCP5. To access the screen's scroll to the main menu and press **Next** or **Previous**

6.4.1.3. Setup Screens

To access these screens from the main operator screen press **Menu** and **Next** as required to reach the required sub-menu.

GAIN	EXPOSURE	KNEE
MAIN MENU		
Select a sub-menu item		
WHITE BLACK	CAMERA 01	146 MB 49
PREVIOUS	EXIT	NEXT

SAVE	CAMERA ID	RETURN DATA
LDK 4000	1	OFF
CAMERA		
LDK 4000		
Edit using <<, >>, SAVE and CANCEL		
WHITE BLACK	CAMERA 01	146 MB 49
<<	CANCEL	>>

CAMERA	CAMERA ID	RETURN DATA
LDK 4000	1	OFF
CAMERA		
Select an item to edit		
GAMMA BLACK	CAMERA 01	146 MB 49
PREVIOUS	EXIT	NEXT

Figure 6-5 Example Setup Screens

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7. Useful Part Numbers



Figure 7-1 Useful Part Numbers

ID No.	Part ID	Configuration	Part Number
1	Remote Data ODU	SC/APC Fiber	
		435 - 470MHz	FCDT-ASSY-7002
		450 - 490MHz	FCDT-ASSY-7004
		435 - 470MHz IDX	FCDT-ASSY-7008
		450 - 490MHz IDX	FCDT-ASSY-7010
		435 - 470MHz Anton	FCDT-ASSY-7014
		LC/FPC Fiber	
		435 - 470MHz	FCDT-ASSY-7003
		450 - 490MHz	FCDT-ASSY-7005
		435 - 470MHz IDX	FCDT-ASSY-7009
		450 - 490MHz IDX	FCDT-ASSY-7011
		ST/FPC Fiber	
		435 - 470MHz	FCDT-ASSY-7006
		450 - 490MHz	FCDT-ASSY-7007
		435 - 470MHz IDX	FCDT-ASSY-7012
		450 - 490MHz IDX	FCDT-ASSY-7013
		SC/UPC Fiber	
		435 - 470MHz	FCDT-ASSY-7015
2	FocalPoint IDU	SC/APC Fiber -	CRIU-ASSY-7004
		LC/FPC Fiber -	CRIU-ASSY-7006
		ST/FPC Fiber -	CRIU-ASSY-7005
		SC/UPC Fiber -	CRIU-ASSY-7007
3	OCP/RCU Units	A	RCU AJ-RC10
		B	OCP5
		C	RCP1530
		D	OCP400
		E	RU1500
		F	OCP300
4	UHF Data Receivers	A	INCAM-S Sony HDC 2500
		B	INCAM-G Grass Valley LDX 80
		C	DR07
		D	L1700
		E	ClipOn4 CCCU

Table 7-1 Useful Unit Part Numbers

Cable ID	Unit	Part Number
OCP to IDU Cables	Sony RCP-1530	CARK-ASSY-2022
	Hitachi RU-1500	RHD9-ASSY-2018
	Panasonic	CARK-ASSY-2028
	G Valley OCP400 (Non-Multiplex)	RHD9-ASSY-2015
	G Valley OCP400 (Multiplex)	CARK-ASSY-2032
	G Valley Tally	RHD9-ASSY-2017
	Ikegami	CARK-ASSY-2029
	OCP5	RHD9-ASSY-2014
DR07 Data Cables	Sony	DR07-ASSY-2003
	Hitachi	DR07-ASSY-2012
	Panasonic	DR07-ASSY-2004
	G Valley	DR07-ASSY-2020
	G Valley LDX80 Compact	DR07-ASSY-2021
	Ikegami	DR07-ASSY-2016
	L1500-Return Data	DR07-ASSY-2022
	L1700 Return Data	CARK-ASSY-2021
ClipOn4 Data Cables	Sony	CCCU-ASSY-2029
	Hitachi	CCCU-ASSY-2031
	Panasonic	CCCU-ASSY-2032
	G Valley	CCCU-ASSY-2035
	Ikegami	CCCU-ASSY-2034

Table 7-2 Useful Cable Part Numbers



Figure 7-2 Wireless Camera Receivers

ID	Wireless Camera Receiver	Return Data Cable Part No.
1	MDR	CARK-ASSY-2025
2	L2174	CARK-ASSY-2024
3	MTV-HD3	CARK-ASSY-2027
4	MVL-HD3	

Table 7-3 Wireless Camera Receivers ID Table

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8. Camera Control Data Receiver Cables

8.1. Grass Valley LDK – Clip-on4

8.1.1. External Camera Control Cable

Vislink cable part number: CCCU-ASSY-2035

Data Receiver	Camera Connector
5-Pin LEMO Plug FGG.0B.305.CLAD52Z	9-way, D-type Socket
Pin	Pin
1	NC
2	3
3	NC
4	2
5	5

8.2. Grass Valley LDK – DR07

8.2.1. External Camera Control Cable

Vislink cable part number: DR07-ASSY-2020

Data Receiver		Camera Connector
5-Pin LEMO Plug FGG.0B.305.CLAD52Z 2-pin LEMO Plug FGG.0B.302.CLAD52		9-way, D-type Socket
Connector	Pin	
5-Pin	1	NC
	2	3
	3	NC
	4	2
	5	NC
2-Pin	1	9
	2	5

8.3. Sony – Clip-on4

8.3.1. External Camera Control Cable

Vislink cable part number: CCCU-ASSY-2029

Data Receiver	Camera Connector
5-Pin LEMO Plug FGG.0B.305.CLAD52Z	8-Pin Hirose Plug HIROSE, MXR-8P-8P 6
Pin	Pin
1	2
2	1
3	3
4	4
5	NC

8.4. Sony – DR07

8.4.1. External Camera Control Cable

Vislink cable part number: DR07-ASSY-2003.

NOTE: Optional 3-meter cable part number: DR07-ASSY-2014.

Data Receiver		Camera Connector
5-Pin LEMO Plug FGG.0B.305.CLAD52Z 2-pin LEMO Plug FGG.0B.302.CLAD52		8-Pin Hirose Plug HIROSE, MXR-8P-8P 6
Connector	Pin	Pin
5-Pin	1	2
	2	1
	3	3
	4	4
	5	NC
2-Pin	1	6
	2	7

8.5. Hitachi – ClipOn4

8.5.1. External Camera Control Cable

Vislink cable part number: CCCU-ASSY-2031.

Data Receiver		Camera Connector
6-Pin LEMO Plug FGG.0B.306.CLAD52Z		4-Pin Hirose Plug HR107P4P
Pin		Pin
1		NC
2		NC
3		NC
4		3
5		2
6		4

8.6. Hitachi – DR07

8.6.1. External Camera Control Cable

Vislink cable part number: DR07-ASSY-2012.

Data Receiver		Camera Connector
6-Pin LEMO Plug FGG.0B.306.CLAD52Z 2-pin LEMO Plug FGG.0B.302.CLAD52		4-Pin Hirose Plug HR107P4P
Connector	Pin	Pin
6-Pin	1	NC
	2	NC
	3	NC
	4	3
	5	2
	6	NC
2-Pin	1	1
	2	4

8.7. Ikegami – Clip-on4

8.7.1. External Camera Control Cable

Vislink cable part number: CCCU-ASSY-2034

Data Receiver		Camera Connector
5-Pin LEMO Plug FGG.0B.305.CLAD52Z		8-Pin TAJIMI Plug TAJIMI, PRC05-P8M
Pin	Pin	Pin
1		B
2		A
3		C
4		D
5		F

8.8. Ikegami – DR07

8.8.1. External Camera Control Cable

Vislink cable part number: DR07-ASSY-2016.

Data Receiver		Camera Connector
5-Pin LEMO Plug FGG.0B.305.CLAD52Z 2-pin LEMO Plug FGG.0B.302.CLAD52		8-Pin TAJIMI Plug TAJIMI, PRC05-P8M
Connector	Pin	Pin
5-Pin	1	B
	2	A
	3	C
	4	D
	5	F
2-Pin	1	E

8.9. Panasonic ENG – Clip-on4

8.9.1. External Camera Control Cable

Vislink cable part number: CCCU-ASSY-2032

Data Receiver		Camera Connector	
5-Pin LEMO Plug FGG.0B.305.CLAD52Z		10-Pin Hirose Plug HIROSE, HR10A-10P-10P	
6-Pin LEMO Plug FGG.0B.306.CLAD52		4-Pin Hirose Plug HR107P4P	
Connector	Pin	Pin	Connector
5-Pin	1	2	10-Pin
	2	1	10-Pin
	3	3	10-Pin
	4	4	10-Pin
	5	5	10-Pin
6-Pin	3	2	4-Pin

8.10. Panasonic ENG – DR07

8.10.1. External Camera Control Cable

Vislink cable part number: DR07-ASSY-2004.

Data Receiver		Camera Connector	
5-Pin LEMO Plug FGG.0B.305.CLAD52Z		10-Pin Hirose Plug HIROSE, HR10A-10P-10P	
2-Pin LEMO Plug FGG.0B.302.CLAD52		4-Pin Hirose Plug HR107P4P	
6-Pin LEMO Plug FGG.0B.306.CLAD52			
Connector	Pin	Pin	Connector
5-Pin	1	2	10-Pin
	2	1	10-Pin
	3	3	10-Pin
	4	4	10-Pin
	5	5	10-Pin
2-Pin	1	9	10-Pin
	2	10	10-Pin
6-Pin	3	2	4-Pin

9. Camera Control Interface to OCP/RCP Cables

9.1. Sony RCP Cable

Vislink cable part number: CARK-ASSY-2022

Camera Control Interface	OCP/RCP Connector
15-Way D-Type Plug	8-Pin Hirose Plug HIROSE, MXR-8P-8P 6
Pin	Pin
1	6
2	3
3	4
4	1
5	2
6	-
7	-
8	-
9	-
10	-
11	7
12 – 15 Link	-
13	-
14	-
15 – 12 Link	-

9.2. Hitachi RU Cable

Vislink cable part number: RHD9-ASSY-2018

Camera Control Interface	OCP/RCP Connector
15-Way D-Type Plug	4-Pin Hirose Plug HIROSE, HR10A-7P-4S
Pin	Pin
1	1
2	-
3	-
4	-
5	-
6	2
7	3
8	-
9	-
10	-
11	4
12	-
13	-
14	-
15	-

9.3. Ikegami OCP Cable

Vislink cable part number: CARK-ASSY-2029

Camera Control Interface	OCP/RCP Connector
15-Way D-Type Plug	8-Pin TAJIMI Connector PRC90-199-P9-P8F
Pin	Pin
1	E
2	A
3	B
4	C
5	D
6	-
7	-
8	-
9	-
10	-
11	F
12	-
13	-
14	-
15	-

9.4. Panasonic ENG RCP Cable

Vislink cable part number: CARK-ASSY-2028

Camera Control Interface	OCP/RCP Connector
15-Way D-Type Plug	10--Pin Hirose Plug HIROSE, HR10-10P-10S(73)
Pin	Pin
1	9
2	1
3	2
4	3
5	4
6	-
7	-
8	-
9	-
10	-
11	10
12	-
13	-
14	-
15	-

9.5. Vislink OCP5 Cable

Vislink cable part number: RHD9-ASSY-2014

Camera Control Interface		OCP/RCP Connector	
15-Way D-Type Plug 3-Pin XLR Plug		9-Way D-Type Socket	
Connector	Pin	Pin	Connector
15-Way	1	1	9-Way
	2	8	9-Way
	3	7	9-Way
	4	NC	-
	5	NC	-
	6	NC	-
	7	NC	-
	8	NC	-
	9	NC	-
	10	NC	-
	11	5	9-Way
	12	NC	-
	13	NC	-
	14	NC	-
	15	NC	-
3-Pin	2	3	9-Way
3-Pin	3	4	9-Way

9.6. Grass Valley OCP Cable - RS232 (Non-Multiplexing)

Vislink cable part number: RHD9-ASSY-2015

Camera Control Interface		OCP/RCP Connector	
15-Way D-Type Plug		9-Way D-Type Plug 4-Pin XLR	
Connector	Pin	Pin	Connector
15-Way	1	4	4Pin XLR
	2	NC	-
	3	2	9-Way
	4	3	9-Way
	5	NC	-
	6	NC	-
	7	NC	-
	8	NC	-
	9	NC	-
	10	NC	-
	11	1	4-Pin XLR
		9	9-Way
	12	NC	-
	13	NC	-
	14	NC	-
	15	NC	-

9.7. Grass Valley OCP Cable – RS422 (Multiplexing)

Vislink cable part number: CARK-ASSY-2032

Camera Control Interface		OCP/RCP Connector	
15-Way D-Type Plug		9-Way D-Type Plug 4-Pin XLR Socket	
Connector	Pin	Pin	Connector
15-Way	1	4	4-Pin XLR
	2	3	9-Way
	3	8	9-Way
	4	7	9-Way
	5	2	9-Way
	6	NC	-
	7	NC	-
	8	NC	-
	9	NC	-
	10	NC	-
	11	1	4-Pin XLR
		5	9-Way
	12	NC	-
	13	NC	-
	14	NC	-
	15	NC	