Mounting and Operating Manual

Dear Customer!
By selecting this VC product you have chosen a professional device, which guarantees highest possible quality and reliability.

Please read the following instructions carefully before comissioning the product in order to be able to take full advantage of all quality features regarding this product line.

Video transmission

Art. no. 18120
Art. no. 18130

VC-videocomponents... aligned for professional videosystems

CD-18120/10.06.2009

Table Of Contents

GENERAL INFORMATION

Introduction:

The 18120 / 18130 Series video and data transmitter and receiver support simultaneous transmission of two channels of 8-bit digitally encoded video and one channel of bi-directional data over one multimode optical fiber. The modules are universally compatible with major camera systems and support RS-485 data protocol. Plug and Play design ensures the ease of installation and electronic and optical adjustments are never required.

Model Number

Unit Type	Model Number
Two-channel Digitally Encoded Video/One-channel Data Transmitter	18120
Two-channel Digitally Encoded Video/One-channel Data Receiver	18130

Technical Specifications:

VIDEO

Video Input： 1 volt pk-pk (75 ohms)
Input/Output Channels： 2
Bandwidth： 5 Hz - 8 MHz
Bit Resolution： 8-bit
Differential Gain： < 2%
Differential Phase： < 0.6°
Tilt： < 1%
S/N Ratio： >50dB (Weighed)

DATA

Data Interface： RS-485
Data Channel： 2
Data Rate： 100Kbps
Bit Error Rate： 10^{-9}

WAVELENGTH 850/13 00nm Multimode

OPTICAL EMITTER: Laser Diode

NUMBER OF FIBERS 1

CONNECTORS

Optical： ST
Video： BNC
Data： Shield RJ-45 Plug

GENERAL

Power Supply： DC 5V @ 1,5A
Size： 1 30mm x 135mm x 30mm
Construction： Aluminum
MTBF： > 100,000 hours
Operating Temp： -20℃ to +55℃
Storage Temp： -40℃ to +85℃
Relative Humidity： 0% to 95% (no condensing)

INDICATOR

Module
Blue： Video Sync Present
Blue： Data Sync Present
Orange： Power On

OPTICAL POWER BUDGET

Optical transmission distance is limited to optical loss of the fiber and additional loss caused by connectors, splices, and patch panels.

Fiber	Wavelength	Transmitter		Receiver		Optical Power Budget	Max Distance
		Model	Output	Model	Sensitivity		
Multimode	850/1300nm	18120	-6 dBm	18130	-22 dBm	16 dB	4km

CAUTION!
The transmitter unit contains a laser-emitting diode located in the optical connector. This device emits invisible infrared electromagnetic radiation that can be harmful to human eyes. The radiation from this optical connector, if viewed closely without any protection, may cause instantaneous damage to the retina of the eye. Direct viewing of this LED should be avoided at all times.

INSTALLATION INSTRUCTIONS

Install ation Procedure

The 18120 / 18130 video transmission systems series a re preset for i mmediate use. There are indi cator LEDs on the units for monitoring the real-time status of video, data and power. The following instructions describe the typical installation procedure and the function of the LED indicators located on each unit.

1. Connect the video source (camera) to the video input BNC connector on the transmitter unit using coaxial cable.
2. Connect the video output BNC connector on receiver unit to the video monitor using coaxial cable.
3. Connect the fiber optic cable between the transmitter and receiver
4. Apply the power supply to both the transmitter and receiver

5. When the power is appl ied, the orange POWER LED will light, indicating the presence of operating power. The blue VIDEO LED and the blue DATA LED will give an indication as stated in the following page.
6. The system should now be operational.

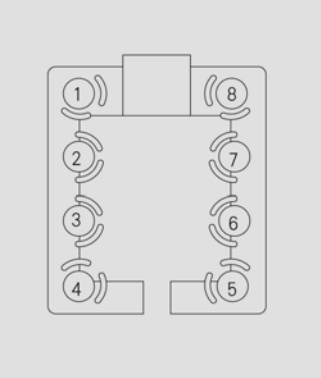
System Terminal Block Connections

The various input and output connections for 18120 / 18130 Series system are as follows:

Video Input or Output: BNC Connectors

Data RS-485 Connection:

Terminal No.1——①: RS-485 (+)
Terminal No.2——②: RS-485 (-)



*Terminal Block for Data Connection

Camera Site

Connect the Terminal No.1——① in the terminal block for data connection t o RS-485 (+) of the controlled unit (pan/tilt , dome), and connect the Terminal No.2 ——② in the terminal block to RS-485 (-) of the controlled unit (pan/tilt, dome).

Control Site

Similarly, connect the Terminal No.1——① in the terminal block for data connection to RS-485 (+) of the controllin g unit (Keyboard Controller, Matrix, DVR), and connect the Terminal No.2 ——② in the terminal block to RS- 485 (-) of the controlling unit (Keyboard Controller, Matrix, DVR).

Indicator LEDs

The stand-alone units have integral LEDs that are used to monitor the state of the unit. There are one video LED, one power LED and four data LEDs on each unit. One, labeled as "PWR", lights when operating power is present. Another labeled as "VID1", "VID2" lights when the video input/out put signals are detect ed. The other one, labeled as "DATA 1, DATA 2, DATA 3, DATA 4", among them "DATA 2, DATA 3, DATA 4" are normally on (unavailable) , and "DAT A 1" blink at the rate of the operating data. As shown in the diagram in the following,

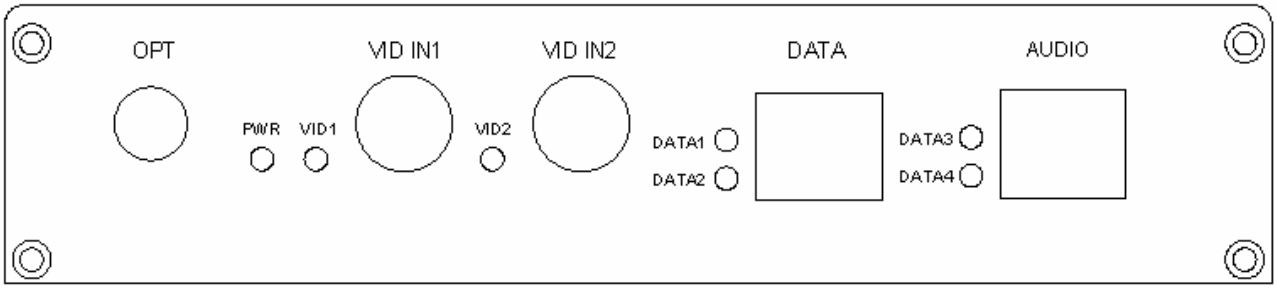
TRANSMITTER and RECEIVER:

Power: ON: (Orange) Indicates that correct power has been applied

Transmitter:

Video: OFF: Indicates no video detected on input BNC connector
(No Video present on input BNC)
ON: (blue) Indicates video detected on input BNC connector
(Video present on input BNC)

Data (DATA1): OFF: Indicates no data detected on the transmit data cable
Blinking: (Blue) Indicates data transmitted at the rate of the operation data.

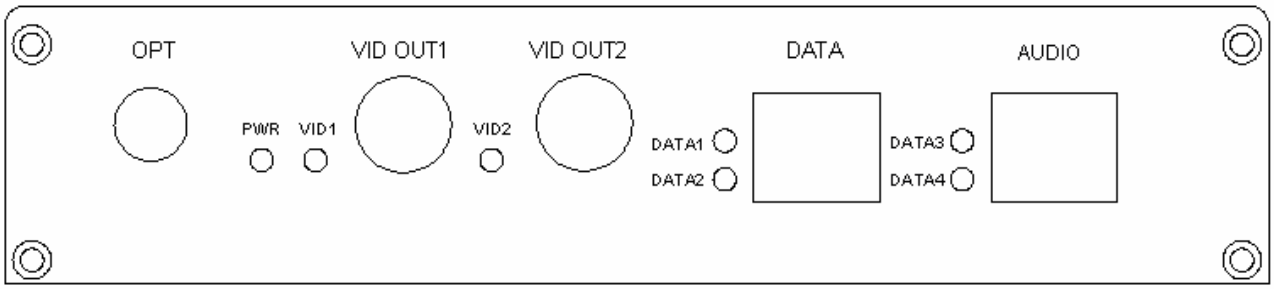


***Front Panel of 18120 (Transmitter)**

*Audio RJ-45 Port is expandable for audio transmission

Receiver:

Video: OFF: Indicates no video present on output BNC connector
(No Video present on output BNC)
ON: (Blue) Indicates video detected on output BNC connector
(Video present on input BNC)
Data (DATA1): OFF: Indicates no data detected on the receive data cable
Blinking: (Blue) Indicates data received at the rate of the operation data.



***Front Panel of 18130 (Receiver)**

*Audio RJ-45 Port is expandable for audio transmission

TROUBLESHOOTING

Optical Fiber

The 18120 / 18130 Series is available with most applications using multimode or single mode optical fibers. Please be certain that the correct size and type of the fiber is being used for the particular mode transmitter/receiver combination.

Also be certain that the attenuation and bandwidth of the fiber optic cable being used is within the range of the system's loss budget specifications.

General

Any dirt or dust may easily pollute or block the fiber from accepting or radiating light. Therefore, please try to keep the optical connector clear and always use the dust caps whenever the connect or is exposed to air. It is suggested that the tip of the optical connected should be carefully cleaned with a lint-free cloth moistened with alcohol from time to time.

The status of any of the VIDEO LED should provide the first clue as to the origin of any operational failure. If the VIDEO LED on the receiver unit is off, it usually means that the fiber is broken or has too much attenuation.

Please also make sure that the transmitter and the receiver are not used in opposite position

If the system is still not working after examining the above possibilities, please contact our Customer Service Department for further assistance

Data Link

Even when installed exactly as directed, it is possible that the data/audio function may fail to operate properly. If these problem occurs, first please check the data cable, then check whether the data cable connector is firmly inserted into the RJ-45 port.

If the system is still not working after examining the above possibilities, please contact our Customer Service Department for further assistance

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