

Optical chamber interface for television studios

With the function of repetitions.

The system consists of a studio block (Studio Fiber Module) and several chamber blocks (Camera Fiber Module). The studio unit in the basic configuration supports work with 3 chamber blocks (in expanded configuration of up to 6 chamber blocks).

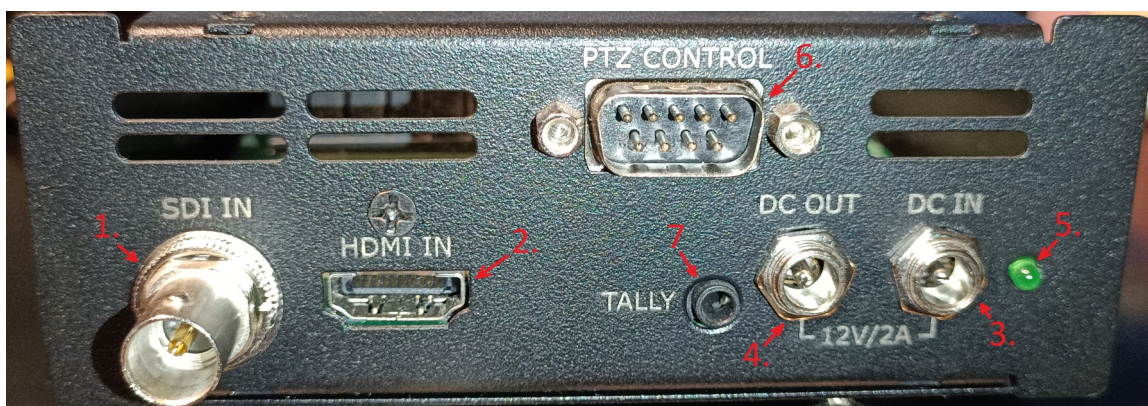
The system provides a double -destroyed optical connection between the chamber blocks and the studio unit, which allows it to be used in the case when the distance between the camera and the studio is great to transmit the SDI signal through the standard coaxial cable, as well as the ability to transmit a signal from the cameras and simultaneously ensure the refund of the video (for example, for the "Prompter" system), the maintenance of cameras (Genlock), management PTZ cameras, transmission of information "Tally" (to control the LED indicator fixed on the camera).

System capabilities:

- transfer up to 6 video signals from video cameras to the studio unit along a cheap optical cable over long distances (and then on the video mixer through the SDI interface);
- transmission of the control signals of rotary cameras and remote control of the camera parameters (for PTZ cameras);
- reverse video channel on camera (for the "Prompter" system);
- support for the information transmission "Tally" (to control the LED indicator fixed on the camera);
- the function of repetitions (implemented due to the presence of SSD drives in chamber blocks, on which the input signal in the DAVC format is continuously recorded (a fragmentary compression with a low degree) and, if necessary, the necessary fragment with slowdown or acceleration can be reproduced).

Description of the chamber block:

The input signal from the cameras is supplied to the chamber blocks in the formats "1080p50HZ" or "1080i50HZ" (in this case, the chamber block is converted to the "1080p50HZ" format, which is used for the function of repetitions).



To supply the input signal, the SDI inputs (connector 1) or HDMI (connector 2) available on the chamber block are used. The chamber unit should eat (connector 3) from the power source (network or autonomous), which provides the output parameters: 12 (VDC), 2 (A). On the chamber block case, there is also an output connector (connector 4) for supplying 12 (VDC) to the camera if necessary (while the total power supply should provide the required total power volume) and the LED input power indicator (5). To connect the Tally LED indicator, mounted on the chamber, on the

chamber block housing there is a three -pin nest (connector 7) for the 3.5 (mm) connector, and the polarity of the signals issued can be changed by jumpers inside the chamber unit.



The software of the chamber unit is updated if necessary through the RG45 (connector 8) Ethernet interface. On the chamber unit case there is also a SDI output connector (connector 10), which displays a reverse video channel signal, which allows you to implement the function of the Prompter system. PTZ cameras are controlled through the RS232 interface (Visca Protocol, 9600

(b/s)), the connector of which "DB-9M" is available on the chamber block case (connector 6). Through this connector, the Tri-Level Sync signal is also given for maintenance of the camera. The connection with the studio unit is carried out by an optical cable, which is connected through the SFP+ (Ethernet_10G) module, for the installation of which there is an appropriate nest (9).

Description of the studio block:



Optical cables from chamber blocks are connected through the SFP+ (Ethernet_10g) modules to the studio unit (S1 Nest for Channel One), where video signals are corrected in personnel synchronizers and are issued for the output connectors of the SDI (S2 connector for the first channel) in the formats "1080p50HZ" or "1080I50HZ" (In the latter case, the studio block is converted to the "1080i50HZ" format).

The reverse channel signal is supplied to the studio unit through the SDI entrance (S3 connector) in the "1080p50HZ" format, then official bags that carry information about the control commands (Visca) and the command and control commands are kneaded into it. The reverse channel signal can also perform the function of maintaining the system.

PTZ control commands are fed to the studio unit through the RS232 interface (Visca protocol, 9600 (b/s)) from the PTZ Camera control panel (S5 connector) or through the Ethernet interface (Visca IP, UDP, port 1259). The Ethernet interface (S4 connector) is also used to update the studio unit software if necessary, as well as to manage the functions of repetitions using the program on a personal computer.

The studio unit should eat (S6 connector) from the power source (network or autonomous), which provides the output parameters: 12 (VDC), 2 (A).

On the studio block case there is also a connector of the DB-15F type (connector S7), through which the “Tally” function control signals are supplied (control of LED indicators fixed on the chambers).

The appearance of the repetition management program:

