OPTICAL RECEIVER FOR HE120 / HE130

The TOPAS RT product family is the receiver for Broadcast cameras, offering transmission of all camera signals and remote powering the camera & transmitter over SMPTE cable.

The TOPAS R solution integrates in the NET RACER platform allowing 16 receivers in the NET RACER 19" 3U and 2 receivers in the NET RACER COMPACT module (picture above).

The module transmits the following signals:

- 1 3G SDI OUT,
- 1 Composite OUT (Optional SDI HD input for reverse path in place of Composite OUT),
- 1 GENLOCK IN,
- 1 RS 422 bidirectional,
- 1 IP 100 Mb/s,
- 1GP IN,
- Optional bidirectional AUDIO / GPIO.

Depending on optical connector and functions the TOPAS RT decline in single slot or two slots module. On two slots module; a GENLOCK active loop thru eases the distribution of the genlock signal and the SDI signal from the camera is duplicated for distribution purpose.
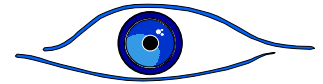
The modules have three optical connector options with corresponding remote powering capacity:

- 1 **LEMO 3K or NEUTRIK OpticalCon Duo** hybrid connector, the module remote powers the camera and the transmission module at camera side.
- 2 **SC/APC** connectors module. (No remote power option).

As an option, the module can transmit two bidirectional audio signals. The audio option offers also the transmission of two GPIO.

As an option also, for monitoring at camera side, one video HD SDI return channel can take the place of the PAL signal from the camera.

Audio and video options are available simultaneously.

HD CAMERA TRANSMISSION

TOPAS RT: TECHNICAL SPECIFICATIONS

SDI Video	
Number, Connector:	BNC, 1 signal from camera to CCU Video option: One HD SDI return channel
Standard:	SDI, ASI, HD, 3G
Impedance:	75 Ω
Return loss:	Better than -15 dB for 0 to 1500Mhz and better than -10 dB for 1500 to 3000Mhz
2 slot board:	Double SDI output of the camera signal

Analog Video	
Connector:	BNC, 1 bidirectional, Genlock + PAL from camera Video option take the place of the Composite
Standard:	PAL, SECAM, NTSC, Tri-level to camera (Bi / Tri level auto sense)
Impedance:	75 Ω
Bandwidth:	> 5.8 MHz à +/- 0.2dB
Differential Gain:	< 1%
Differential Phase:	< 1°
Group delay:	< 10 ns
SNR:	> 67dB (CCIR567)
2 slot board:	One Genlock output for signal distribution purpose

Ethernet	
Signal:	1.
Connector:	RJ 45 (Auto MDI)
Speed / duplex:	10 or 100 Mb/s (Auto sense), Full or Half-duplex (Auto negotiation)

Serial	
Signal:	1 bidirectional channel
Protocol:	RS485, RS422, RS232
Data rate:	0 to 500 Kbs (protocol less)
Closure contact:	With audio option: 2 GPIO, SUB D-9 socket connector on audio breakout cable

Analog Audio	(Option)
Number, Connector:	2 bidirectional, on one multi-point connector, Breakout cable on 4 XLR (2 in, 2 out) provided
Impedance:	Differential input 10 KΩ (non floating), Differential output 20 Ω (non floating)
Amplitude:	0 dBm nominal (saturation at + 12 dBm)
Bandwidth:	50 Hz to 15 KHz within +/- 0.5dB, (20 Hz to 20 KHz within -3dB)
Distortion:	0.05% at 1 KHz +12 dBm
SNR:	90dB "A weighted"

Led display	At connector side
Video:	Presence (1 Led for each path)
Ethernet:	"Link" and "activity" (2 Led)
RS 232/422/485:	"Rx" and "Tx" (2 Led)
Optical:	Optical receiving state (1 Led)
	At front face
Power OK:	The board is well powered
Run:	Led flashes when board communicate with platform controller (rack management unit)
Alarm:	One alarm is detected on the board

Power supply	(Local)
Consumption:	4 Watts without remote powering consideration
	(Remote power)
Range/ Connector:	600 meters of SMPTE cable (section 16 AWG) / Lemo 3K or NEUTRIK
Safety power sourcing:	Remote power delivery protection: Auto detect*, forced ON, forced OFF (*): Hybrid cable with signal wires
Output power:	45 Watts for camera supply (or 21 W after 600 m of SMPTE cable)
Output voltage:	48 Volts floating output

Mechanical	
Dimensions:	Board for ERECA NET RACER family platform and stand alone unit
NET RACER capacity:	NET RACER: 16 slots for 16 unitary modules to 8 double width modules NET RACER C: 2 slots for 2 unitary modules to 1 double width module (see NET RACER documentation)

ERECA reserve the right to change specifications without notice.