STAGE RACER

ERECA

Best in class STAGEBOX SOLUTION
Supercharge your optical FIBER

The STAGE RACER is a complete optical fiber transmission solution for Outside Broadcast events, OB trucks, Commentary positions, Stage-Studio connection and Building Infrastructure.

The STAGE RACER is designed to transport all required signals in the same device.

Product Highlights

With ERECA's unique feature of "on the fly" direction configurable HD-SDI channels and the transport of the many common signals required along with video, Stage Racer is the product of choice for an affordable, fast and easy event deployment.

As standard Stage Racer transports the following comprehensive set of signals:

- 12, 8 or 4 video 3G /HD/ SDI signals (direction configurable through built in web server),
- 1 Genlock bidirectional (Composite video / Black burst / Tri-level),
- 16 analog audios each way for intercom or broadcasting,
- 2 Ethernet 10/100/1000Mbs (1 Gigabit trunk with 2 VLANS),
- 2 Data RS 232/422/485,
- 8 Contact closure,
- 4 AES 3 bidirectional (Riedel panel compatible),
- 1 bidirectional MADI (AES10) Signal (Shared with 2 of the 4 AES connectors).

An **internal web server** enables remote management and setup (signal presence report / optical power measurement / Data settings / Configure the direction of each HD video signal). For local management, each unit has a LED display panel for signal presence and alarm display.

All the signals are transmitted on 2 singlemode fibers.

An optical cable redundancy option is built inside the modules by adding a second connector. In case of a fiber cable break the equipment automatically selects the other cable.

Each frame has a built in redundant power supply.

Internal web server enables the Save and Recall of configuration setups.

Connectors

Standard connectors are used for all the signals. SDI, Analog video and Digital audio are on BNC connectors. The other connectors are RJ45 / D SUB.

Optical connector range from LC/PC socket to direct integration of SMPTE connectors on the frame.

Rear panel connector view (with LEMO SMPTE option):

Product Options

Stage Racer can transport 12, 8 or 4 3G/HD-SDI videos with the other signals being common to all systems.

Following options can be fitted in the Stage Racer regardless the number of SDI channels:

- 8 switchable mic/line gain blocks with phantom power injection and gain management,
- 12 extra low data rate RS 422 low data rate serial channels,
- 6 extra hi speed RS 422 (500 Kbs) serial channels,
- Optical cable redundancy.

Two extra SC/APC optical ports can be fitted on the front panel of the rack frame. They are used for the following:

- OpticalCON Quad access port for the 2 unused fibers,
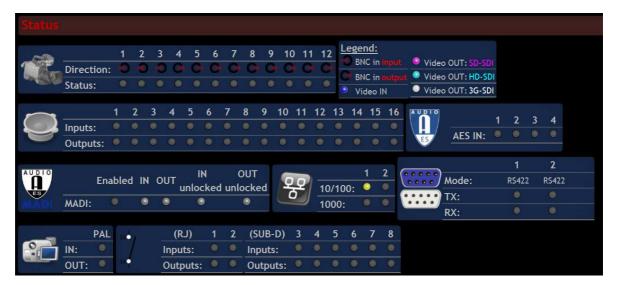- Wavelength add/drop on the 2 fibers used by the Stage Racer for an external equipment.

The optical cable redundancy option is built inside the units and by adding a second connector. In case of fiber cable break the other cable is automatically selected. For OpticalCON Quad connector users the 2 remaining fibers are also switched inside, commons are routed to the front panel SC/APC's.

Additionally the remote unit can be powered over SMPTE cable or by a 8-20 Volts local power.

Web management

Stage Racer setup and control is accessed through an internal web server. All Information is provided over 4 different pages by category for quick and easy access. No specific software is needed on the computer.
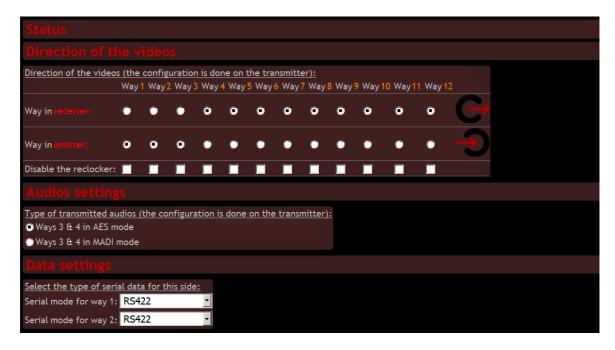
Status overview:

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Settings overview:

Status

Direction of the videos

Direction of the videos (the configuration is done on the transmitter):

Way 1 Way 2 Way 3 Way 4 Way 5 Way 6 Way 7 Way 8 Way 9 Way 10 Way 11 Way 12

Way in receiver:

Way in emitter:

Disable the reclocker:

Audios settings

Type of transmitted audios (the configuration is done on the transmitter):
- Ways 3 & 4 in AES mode
- Ways 3 & 4 in MADI mode

Data settings

Select the type of serial data for this side:

Serial mode for way 1: RS422

Serial mode for way 2: RS422

Measurement overview:

Status

Communication status:

General details

Fans current (mA) :	108
1.8V voltage (V) :	1.8
3.3V voltage (V) :	3.23
5.0V voltage (V) :	4.96
Internal temperature (°C) :	45

Data details

Data master laser current (mA) :	19
Data slave laser current (mA) :	15
Data master optical power (dBm) :	< -22
Data slave optical power (dBm) :	< -22

Video details

Lowest optical power received (dBm) : < -22

	Received power (dBm)	Laser current (mA)
Way 1	-----	24
Way 2	-----	23
Way 3	-----	19
Way 4	< -22	-----
Way 5	< -22	-----
Way 6	< -22	-----

Technical specifications

Optical	
Dynamic range:	10 dB for the 12 channels (11.5 dB for 8Ch, 13 dB for 4Ch) pathological signal.
Connector choice:	SC/APC, LC/PC, NEUTRIK OpticalCon DUO/ QUAD or LEMO 3K (EDW / FXW)

Video SD/HD/3G	
Number, connector:	4 to 12 channels on BNC (Each channel is direction configurable).
Direction setting	Internal Web Server.
Impedance:	75 Ω
Standard:	SDI, ASI, HD, 3G Reclocker bypass available for SDTI, AES or MADI compatibility
Amplitude:	Input: cable equalization (140 m Belden 1694A for 3G), Output: 800 mV pp
Return loss:	Better than - 15 dB for 0 to 1500 MHz and better than - 10 dB for 1500 to 3000 MHz

Comopsite Video / GL	
Number, connector:	1 Bidirectional, 2 BNC
Standard:	PAL, SECAM, NTSC, Tri-level (Bi / Tri level auto sense)
Impedance:	75 Ω
Bandwidth:	> 5.8 MHz at +/- 0.2 dB
Differential Gain/ Phase	< 1%, < 1°
Group delay:	< 10 ns
SNR:	> 67 dB (CCIR567)

Analog Audio	
Number, connector:	16 bidirectional channels
Impedance:	Input: 10 KΩ differential (non floating), Output: 20 Ω differential (non floating)
Amplitude:	+4 dBm nominal (saturation at + 18 dBm)
Bandwidth:	50 Hz to 15 KHz at +/- 0.5dB, (20 Hz to 20 KHz at -3 dB)
Distortion:	0.05% at 1Khz +18 dBm
Signal to noise ratio:	90dB, "A" weighted

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Digital audio	
Number, connector	4 AES bidirectional (Riedel panel compatible) **OR** 1 MADI (AES10) + 2 AES bidirectional (Riedel panel compatible)
Bitrate	48 KHz AES audio / 125 MBs full bandwidth for MADI, clock phase conservative
Impedance / Connector:	75 Ω, BNC
Setting:	Internal Web Server.

Data	
Number, connector:	2 bidirectional channels, 1 RJ 45 socket per channel.
Protocols:	RS485, RS422, RS232
Data rate:	0 to 500 Kbd/s
Setting:	Internal Web Server.

Ethernet	
Number, connector:	2 channels on VLAN (802.1.ab), RJ45 Socket
Protocols:	10, 100 or 1000 Mb/s, Full or Half-duplex (Auto), MDI or MDI-X (Auto)

GPIO	
Number, connector:	8 bidirectional GPIO contacts 6 on D-SUB plus 1 GPIO along each DATA RJ45 connector
Output:	Relay (dry contact). 'Common' – 'Normally Open' terminals for each relay
Input:	Floating on the D-SUB, Input pin grounding on RJ45.

Powering	
Consumption:	20 Watts per side for a 12 channels device
Low voltage source:	8 to 20 VDC, XLR 4 pins connector, protected by 5*20 mm standard internal fuse
Mains source:	From 90 to 260 VAC / 47 to 63 Hz Dual supplies in the 1U rack

Mechanical	
Size :	1 RU 19" rack, depth 315mm excluding connectors.
Weight:	3.8 Kilograms.
Cooling:	Internal fan, side panels in/out for the 1RU.
Operating Temp range:	From -20 to + 60°C. (Avoiding direct sun exposition).

Signaling / Setup	
Transmitted signals:	1 LED per signal
Alarms	1 LED per technical alarm (Power supply / Temperature / Fiber alarm)
Remote	All signal presence / alarm are reported trough the web server.
Settings	All settings are done trough the web server.

Options specifications

Optical OPTION	
Redundant path:	Double optical transmission with automatic optical path selection.
Optical losses:	1.8 dB per link for optical switching

Analog Audio OPTION	
Input:	Microphone input gain block on 8 of the 16 channels
Mic input, Gain:	From 10 to 60 dB, Tunable by 3 dB steps, Totally bypassable, Setting through internal Web Server.
Phantom power:	48 volts switchable , through internal Web Server, Source Impedance 6.8 KΩ

Data OPTION (Fast)	
Number, connector:	6 bidirectional channels on one SUB D 25 (1U rack version).
Protocols:	RS422
Data rate:	0 to 500 Kbd/s

Data OPTION (Slow)	
Number, connector:	12 bidirectional channels, one SUB D 25 for 6 channels (1U rack version).
Protocols:	RS422
Data rate:	0 to 19.2 Kbd/s

Remote Powering OPTION on LEMO 3K / OpticalCON DUO	
Power topology:	Power source: 1U rack STAGE RACER TX unit with external DC 72V on XLR 4 power source. Powered device: STAGE RACER RX without options.
Performance:	1500m of 9.2mm standard AWG16 SMPTE.

ERECA reserve the right to change specifications without notice.