STAGE RACER

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 position, Stage-Studio connexion and Building Infrastructure.
The STAGE RACER is designed to transport all needed signals in the same device.

With the ERECA unique feature for on the fly direction configurable HDSDI channels and the numerous commodities signal transmitted along the videos, the stage racer is the product of choice for an affordable fast and easy event deployment.

The equipment assumes transmission of a comprehensive set of signals as follows:

- 12 video 3G / HD / SDI signals (direction configurable through built in web server),
- 1 Genlock bidirectional (Composite video / Black burst / Tri-level),
- 16 analog audio 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).

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

All the signals are transmitted on 2 singlemode fibers. An optical cable failover option is built inside the modules by adding a second connector. In case of fiber cable break the equipment automatically select the other cable.

Each equipment has a built in redundant power supply. As an option, the camera side unit can be remote powered by the OB unit trough Hybrid cable and deliver 12Volts 30watts for an ENG camera, offering a totally remote powered solution for news shooting.

Options:

Numerous options can be fitted in the stage racer:

- 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,
- Remote powering of the external unit + 12V 30W output (950m SMPTE cable allowed),
- 8-20 volts DC power input.
- External stand alone Madi optical-electrical converter (Part of X-Racer series).

STAGE RACER

Connectors on 1U rack STAGE RACER

Standard connectors are used for all the signals. HD and PAL video ports are on BNC connectors.
The other connectors are RJ45 / D SUB. On the rugged version 4 audio are dispatched on Neutrik XLR.
Optical and remote power access is done through a Neutrik OpticalCon DUO or LEMO 3K socket.

Connectors on rugged STAGE RACER box (option)

STAGE RACER: TECHNICAL SPECIFICATIONS

Optical	
Dynamic range:	10 dB for the 12 channels (11.5 dB/8Ch, 13 dB/4Ch) pathological signal.
Connector:	NEUTRIK OpticalCon DUO or LEMO 3K (EDW / FXW)
Video SD/HD	
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 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
Analog 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 Rugged box: 4 on XLR / 4 on one SUB D 25 socket; for 1U rack all on SUB D 37
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 230 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	
Rugged model:	Die cast strong aluminum case, size 335 x 235 x 111mm excluding connectors and handles
Rack model:	1 RU 19" rack, depth 300mm excluding connectors.
Cooling:	Internal fan, side panels in/out for the 1RU (Case walls acting as Heat sink for the RUGGED)
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.

STAGE RACER: OPTION 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	
Power topology:	Power source: 1U rack STAGE RACER Powered device: STAGE RACER 1U rack or box
Camera powering:	12VDC, 30 W available on XLR 4
Performance with AWG16 SMPTE cable:	2.5 km for rugged STAGE RACER box alone (no camera remote powered) 950 m for rugged STAGE RACER box + 30W camera load

Nota: Due to space limitation on the rugged box connector area; please contact ERECA Company for your custom application.

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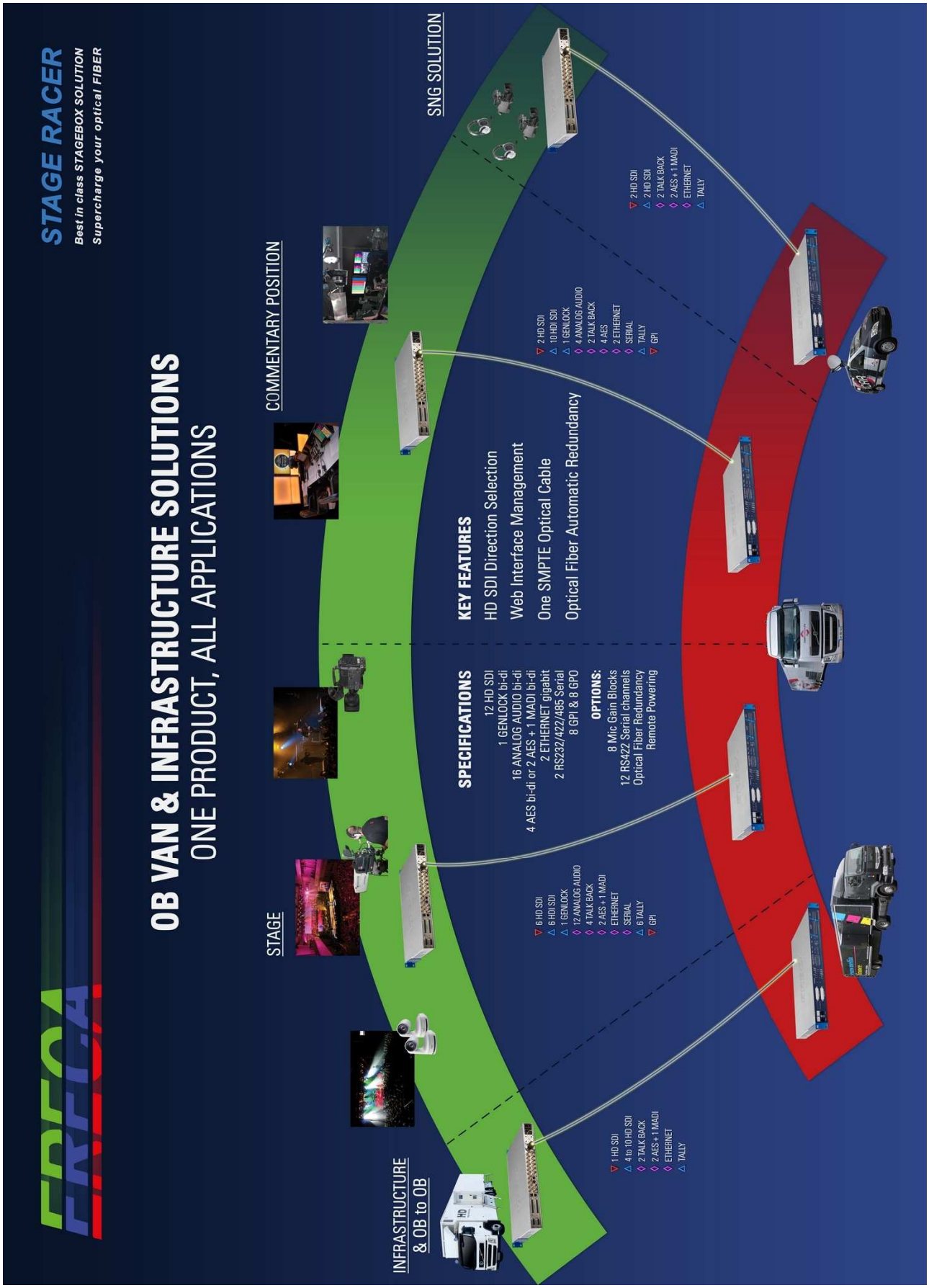
STAGE RACER application fields



ERECA reserves the right to change specifications without notice.