plura®

SFP-10G Series

Screen Sizes: 9” 10” 17” 21” 24“ 32” 47”

SFP-10G Series - Product Highlights:

SFP-10G from PLURA is the industry’s first TRUE-IP 10GE broadcast & media monitor solution, supporting uncompressed FHD based on SMPTE ST 2110, ST 2022-6Ŧ &ST 2022-7. The flexibility and robustness of the SFP-10G platform is the ultimate solution for wide range of broadcast and professional media SDI to IP transition projects. The SFP-10G platform is a powerful hybrid solution supporting SFP+ 10G (ST 2110, ST 2022-6 Ŧ, ST 2022-7), 3G & 1.5G connectivity. The SFP-10G provides comprehensive interoperability capabilities with major and wide range of prominent third-party IP-FHD ready media solutions, providing our customers the ease of mind and adaptability to utilize Plura IP solutions with a variety of technology suppliers for a seamless end-to-end production workflow. The SFP-10G series features 2x 10SFP+GbE complying with SMPTE ST 2022-7, seamless protection switching providing data loss and redundancy protection for critical distribution and monitoring applications “hitless switching”. The SFP- 10G monitor series is available in multiple sizes starting from 9 all the way to 47.

Interoperability

EMBER+ NMOS JT-NM PTP HDR 4K ULTRA HD 12G-SDI IP 2110 2022-7 SFP+ (10G)

SFP-10G - Standards & Support

Ember+, NMOS, JT-NM Interoperability Support

Management Interface support (web pages, REST API, NMOS & Ember+) via the control network port.

- NMOS IS-04 discovery and registration
- NMOS IS-05 device connection management
- JTNM NMOS certification support
- JSON snippet for NMOS control support
- Ember+ support with extensive Ember+ tree control
- Session Description Path “SDP” file support
- IGMP V2 & V3 support

ST 2110, ST 2022-6 Ŧ, ST 2022-7 & PTP/ST 2059 V2

- ST 2059-1/-2 provisions, Signal will be locked to PTP and aligned to ST 2059 provisions and/or external Genlock source
- ST 2110-10, System architecture and synchronization: essences, RTP, SIP and PTP
- ST 2110-20, Uncompressed video transport, Wide / Narrow types
- ST 2110-21, Traffic shaping and network delivery timing
- ST 2110-30, Audio transport profile level C, 16CH, 48Khz sample rate, 1ms/.125µs
- ST 2110-40, Transport of ancillary data
- ST 2022-7 seamless protection switching providing data loss protection
- SMPTE ST 2022-6 ŦSDI over IP

SFP-10G PROMINENT FEATURES

Plura SFP-10G series brings the exceptional built-in feature set Plura monitors are known for, maintaining quality and performance to give broadcast & production facilities an edge in Ultra HD monitoring.

Monitoring Advanced Features

- 8 bit panel color depth
- Supports up to 4096 x 2160 resolutions
- HDR (High Dynamic Range) capabilities
- PQ (SMPTE ST 2084) & HLG (Hybrid Log Gamma)
- RGB 12 Bit Digital Signal Processing
- Gamma Selectable (0.8 – 3.0)
- Color Temperature – User, VAR, Adjustable (11000K TO 3200K)
- (ICAC) - Plura Intelligent Connection for Alignment & Calibration 3D LUT (ITU-R BT 2020, Native, BT.709, SMPTE-C, EBU, NTSC, D-Cinema)
- Display Advanced Waveform & Vector Scope simultaneously with line select
- Programmable 3 User Front Pushbutton Controls & GPI
- Various and User defined Markers Display Safe Area in HD and SD
- False Color and Peaking Filter / Focus Assist Video Range with adjustable Y & C values.
- Display LTC & DVITC time code with line select
- Embedded Audio Input, Digital Audio Decoding

Waveform / Vector

Display Advanced Waveform & Vector Scope simultaneously with line select

Gamma Adjustment

SFP-10G series provides different Gamma adjustment settings. The monitor is capable to select Gamma setting between (0.8 – 3.0)

Focus Assist

A focus-assist feature is important for focusing cameras.

Markers

Various and User defined Markers Display, Safe area in HD and SD.

Closed Caption (708/608)

SFP-10G monitor supports & decodes closed caption streams with

- 708 Service 1, Service 2
- 608 Transcoded CC1,2,3&4
- 608 line 21
- 608 ANC

False Color

False color function refers to a group of color rendering methods used to display images in color which were recorded in the visible or non-visible parts of the electro-magnetic spectrum. A false-color image is an image that illustrates an object in colors that differ from those a photograph (a true color image) would show.

Video Range

This function displays Luma (Y) & Chroma (C) out of range levels outside the user defined range.

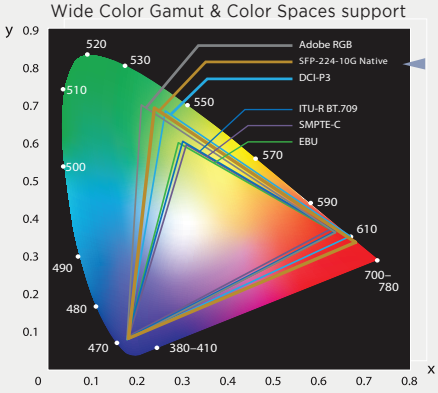
OP-47 Support

SFP monitor can support Teletext 801 & Subtitle OP-47 for Australia & New Zealand regions.

Wide Color Gamut & Color Spaces support

SFP-10G is built with intelligent connections for calibration alignment, adjustable colorimetry and gamma correction capabilities. The SFP-10G series can reproduce many color spaces (ITU-R BT 2020, Native, ITU-R BT.709, SMPTE-C, EBU, NTSC, D-Cinema). The Plura SFP-10G Series will feature the traditional software-redefine feature set built into most Plura monitors, including intelligent connections for calibration alignment, adjustable colorimetry, gamma correction and audio monitoring - all accessible from an intuitive menu offering smooth navigation. Using Plura's unique ICAC tool, production staff can quickly and automatically calibrate multiple color-related elements across the entire monitor network over IP. This ensures that the SFP-10G Series is quickly re-calibrated to its reference standard, returning optimal brightness and color consistency for demanding FHD workflows.

Wide Color Gamut & Color Spaces support



SFP-10G Connectivity

The powerful I/O configuration design of SFP-10G which comes with Dual 10 GbE SFP+ interfaces as MEDIALAN1 and MEDIALAN2 complying with SMPTE ST 2110 & ST 2022-7 and single SFP-SDI cage supporting multiple I/O standards.

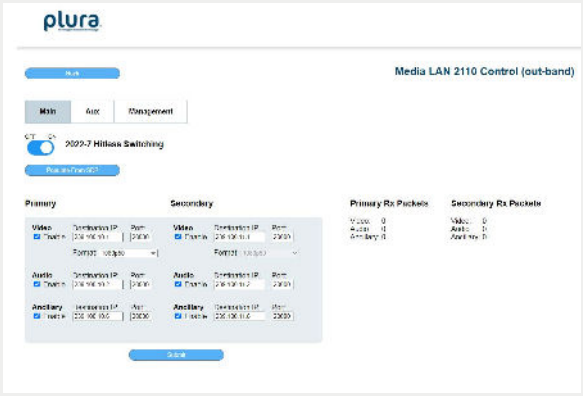
SFP+ 10 **GbE MODULE I/O**			
MEDIA LAN-1		**MEDIA LAN-2**	
IN 1	**OUT 1**	**IN 2**	**OUT 2**

SFP-10G series equipped with powerful and integrated dual 10G De-Encapsulation channels driven by SFP+ (10GbE) optical transceiver supporting (ST 2110, ST 2022-6 [T], ST2022-7).

9-10 inch

Intuitive IP Modular Design

Commanding and user-friendly control system



SFP-10G integrated with undemanding front panel controller as well uncomplicated out band web based user interface IP module control in manual mode when NMOS in-band control is inaccessible.

24 inch

Comprehensive hybrid I/O connectivity

SFP-10G comes with powerful hybrid solution supporting SFP+ 10G (ST 2110, ST 2022-6[T], ST 2022-7), 3G & 1.5G connectivity.

1 x 12G/6G/3G/1.5G coaxial port
1 x 3G/1.5G coaxial port
1 x SFP-SDI cage supporting multiple I/O standards
1 x HDMI 1.4 HDCP 1.2 port

32-47 inch

2 x 10 GbE SFP+ interfaces as MEDIALAN1 and MEDIALAN2 1 x 3G/1.5G

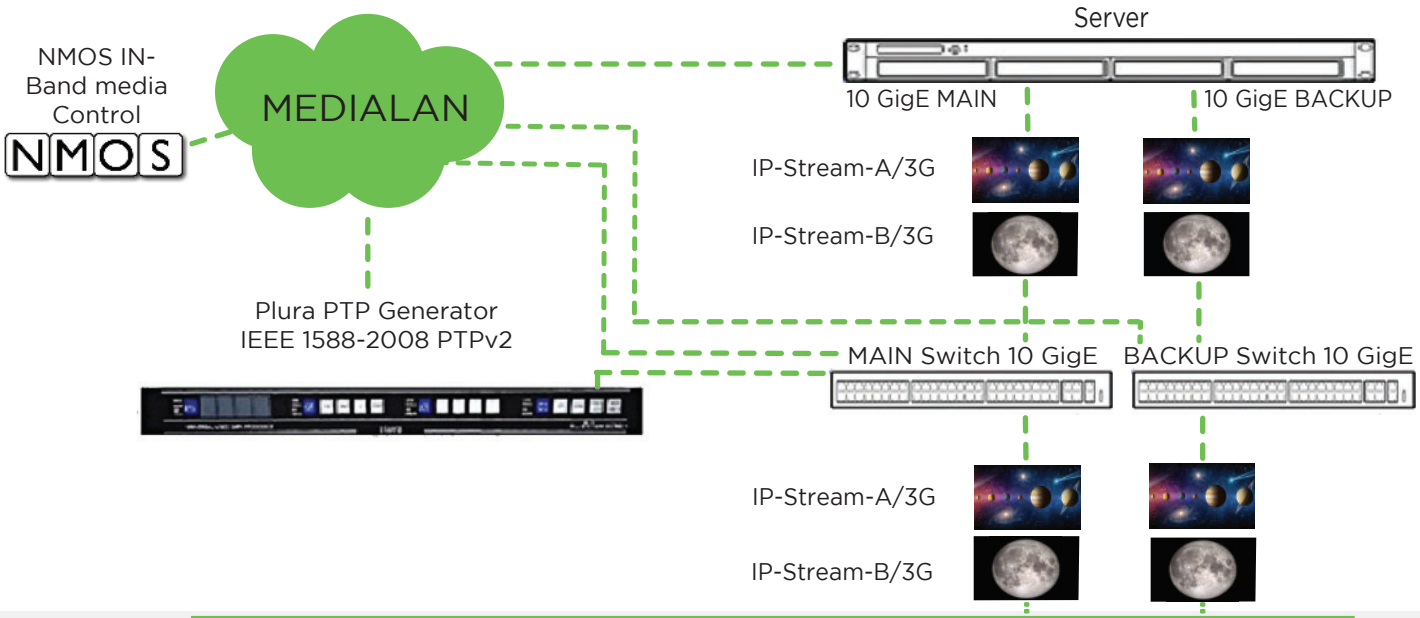
loop output for MEDIALAN1 main ST 2110x 3G/1.5G loop output for MEDIALAN

aux/2nd channel ST 2110

[T]optional

SFP-10G Series production workflow

The SFP-10G provides comprehensive interoperability capabilities with wide range of third-party IP-UHD-FHD media platforms with a seamless end-to-end production workflow. It can decodes multiple SMPTE 2110 & 2022-7 media streams within any broadcast and professional media SDI & IP 2110 infrastructures.



SFP-217-10G displaying MEDIALAN Stream A/Main

Plura SFP-10G monitors are equipped with two generic compatible 10G-SR SFP+ 850nm digital optical monitoring LC MMF optical transceiver modules. Dual 10GbE De-Encapsulation channels are fully compatible with many MM and SM SFP modules manufacturers. For further details, please contact Plura tech support.

PLURA Out-Band User Interface Control

CONTROL LAN

Ember+ Out-Band monitor Control

MEDIALAN Stream B/AUX Output 3G SDI

MEDIALAN Main Loop Output 3G SDI

PBM-317-3G Monitor displaying MEDIALAN stream A / Main Loop out 3G SDI from SFP-217-10G

PBM-317-3G Monitor displaying MEDIALAN stream B/AUX output 3G SDI from SFP-217-10G

Specifications: 9” 10” 17” 21” 24" 32" 47"

	FUNCTION	SFP-209-10G	SFP-210-10G	SFP-217-10G	SFP-221-10G
INPUT	SDI	2EA, Serial Digital, 12G/3G/HD-SDI BNC Jack			
	SFP SDI-3G	1EA, SFP Optical and/or Electrical SDI Port Serial Digital, 3Gb/s, 1.485Gb/s, 270Mb/s			
	SFP+ ETHERNET-10G	Dual 10G MEDIALAN 1 & MEDIALAN 2			
	HDMI	1EA, HDMI 1.4, 19pin Female			
OUTPUT	SDI	2EA, Serial Digital, 12G/3G/HD-SDI BNC Jack			
	SFP SDI-3G	1EA, SFP Optical and/or Electrical SDI Port Serial Digital, 3Gb/s, 1.485Gb/s, 270Mb/s			
	ST 2110 SDI OUT MAIN	1EA, Serial Digital, 3G/HD-SDI BNC Jack			
	ST 2110 SDI OUT AUX	1EA, Serial Digital, 3G/HD-SDI BNC Jack			
DIGITAL MEDIA FORMAT	SMPTE-ST-2110	SFP+ Ethernet - 10G / SFP SDI - 10G			
	SMPTE-ST 2082M	3840x2160 (23.98/24/25/29.97/30/50/59.94/60p)			
	SMPTE-428.1M	2048x1080P (24/25)			
	SMPTE-425(3G)	1080p(60/59.94/50/30/29.97/25/24/23.98/30sF/29.97sF25sF/24sF/23.98sF) 1080i (60/59.94/50)			
	SMPTE-260M	1920x1035i(60/59.94)			
	SMPTE-292M	1920x1080i (50/59.94/60) 1920x1080P (30Psf/25Psf/24Psf/30/25/24)			
	SMPTE-372M	Dual Link HD-SDI YPbPr(4:2:2): 1080P(50/59.94/60) / Dual Link HD-SDI YPbPr/RGB(4:4:4) / 1080P(30/29.97/25/24/23.98)			
		1080i(29.97/25/24/23.98) / 720P(60/59.94/50)			
	SMPTE-296M	1280x720P (50/59.94/60)			
	SMPTE-259M/C	480i(59.94) / 576i(50)			
	UHD HDMI 1.4	480P/720P/1080P/2160P-30HZ			
AUDIO INPUT	SDI AUDIO INPUT	Embedded SDI Audio			
	HDMI AUDIO INPUT	Embedded Audio			
AUDIO OUTPUT	SPEAKER OUTPUT	2EA, 2W+2W			
	SDI AUDIO OUTPUT	Input Line & De-embedded Audio, 1- 16CH			
I/O CONTROL PORT	GPI	RJ-45 8 Pin (Programmable for General Purpose Input)			
	CONTROL LAN 1	RJ-45 8 pin Ethernet port, 100Mbps, supported for Plura PSC 500 wall control applications & TSL5.0 Tallyman			
	CONTROL LAN 2	RJ-45 8 pin Ethernet port, 1 GbE, supported for IP management, Ember+ & TSL 5.0 control applications			
	IP MANAGEMENT LAN	IN-BAND			
	USB	FPGA & Firmware Upgrade			
	RS232	D-sub 9 Pin Female/Firmware Upgrade			
	HTTP	HTTP Web Interface			
MEDIA DECODING LICENCE	ST-2110	X			
	ST-2022-7	X			
	ST-2022-6	OPTIONAL			
SYSTEM	PROCESSOR	FPGA			
	OPERATING	Linux			
LCD	SIZE	9”	10”	17”	21”
	ASPECT RATIO	16 : 9	16 : 9	16 : 9	16 : 9
	RESOLUTION	1280 x 720	1920 x 1080	1920 x 1080	1920 x 1080
	COLOR DEPTH	8 bit			
	VIEWING ANGLE DEGREE	Horizontal: 178 (Typ.) Vertical 178 (Typ.)			
	LUMINANCE OF WHITE	1000 cd/m2	700 cd/m2	350 cd/m2	250 cd/m2
	CONTRAST TYPICAL	1000: 1	1000 : 1	1300 : 1	1000 : 1
	RESPONSE TIME	Tr=7ms / Tf=7ms	Tr=7ms / Tf=7ms	Tr=7ms / Tf=7ms	Tr=7ms / Tf=7ms

POWER REQUIREMENT	AC 100V - 240V (60/50 Hz)			
POWER CONSUMPTION	36 W	40 W	80 W	100 W
WORKING TEMPERATURE	0˚C ~ 40˚C (32˚~ 104˚F)			
WORKING HUMIDITY	10%RH ~ 85%RH (Non Condensed)			
STORAGE TEMPERATURE	-10˚C ~ 80˚C (14˚~176˚F)			
STORAGE HUMIDITY	10%RH ~ 85%RH (Non Condensed)			
WEIGHT (W/O STAND & PACKAGING	2.04 Kg - 4.5 lbs	2.26 Kg - 5.0 lbs	4.99 Kg - 11 lbs	6.4 Kg - 14.1 lbs
WEIGHT (w/ PACKAGING)	6.35 Kg - 11 lbs	5.44 Kg - 12 lbs	8.8 Kg - 19.5 lbs	9.52 Kg - 21.0 lbs
DIMENSION (WxHxD) (W/O STAND & PACKAGING	240 x 175 x 101.5 mm	256.6 x 185 x 104 mm	442 x 310 x 81 mm	502 x 350 x 81 mm
	9.44 x 6.88 x 3.99 inch	10.102 x 7.28 x 4.09 inch	17.4 x 12.2 x 3.18 inch	19.76 x 13.77 x 3.14 inch
PACKAGING DIMENSION (WxHxD)	355.6 x 279.4 x 279.4 mm	355.6 x 279.4 x 279.4 mm	584.2 x 482.6 x 254.0 mm	635.0 x 508.0 x 254.0 mm
	14 x 11 x 11 inch	14 x 11 x 11 inch	23 x 19 x 10 inch	25 x 20 x 10 inch

Please note that the technical details shown here are provisional specifications (as of September 2021). The Information is subject to change without notice.

Specifications: 9” 10” 17” 21” 24" 32" 47"

	FUNCTION	SFP-224-10G	SFP-232-10G	SFP-247-10G
INPUT	SDI	2EA, Serial Digital, 12G/3G/HD-SDI BNC Jack		
	SFP SDI-10G	1EA, SFP Optical and/or Electrical SDI Port Serial Digital, 3Gb/s, 1.485Gb/s, 270Mb/s		
	SFP+ ETHERNET-10G	Dual 10G MEDIALAN 1 & MEDIALAN 2		
	HDMI	1EA, HDMI 1.4, 19pin Female		
OUTPUT	SDI	2EA, Serial Digital, 12G/3G/HD-SDI BNC Jack		
	SFP SDI-10G	1EA, SFP Optical and/or Electrical SDI Port Serial Digital, 3Gb/s, 1.485Gb/s, 270Mb/s		
	ST 2110 SDI OUT MAIN	1EA, Serial Digital, 3G/HD-SDI BNC Jack		
	ST 2110 SDI OUT AUX	1EA, Serial Digital, 3G/HD-SDI BNC Jack		
DIGITAL MEDIA FORMAT	SMPTE-ST-2110	SFP+ Ethernet - 10G / SFP SDI - 10G		
	SMPTE-ST 2082M	3840x2160 (23.98/24/25/29.97/30/50/59.94/60p)		
	SMPTE-428.1M	2048x1080P (24/25)		
	SMPTE-425(3G)	1080p(60/59.94/50/30/29.97/25/24/23.98/30sF/29.97sF25sF/24sF/23.98sF) 1080i (60/59.94/50)		
	SMPTE-260M	1920x1035i(60/59.94)		
	SMPTE-292M	1920x1080i (50/59.94/60) 1920x1080P (30Psf/25Psf/24Psf/30/25/24)		
	SMPTE-372M	Dual Link HD-SDI YPbPr(4:2:2): 1080P(50/59.94/60) / Dual Link HD-SDI YPbPr/RGB(4:4:4) / 1080P(30/29.97/25/24/23.98)		
		1080i(29.97/25/24/23.98) / 720P(60/59.94/50)		
	SMPTE-296M	1280x720P (50/59.94/60)		
	SMPTE-259M/C	480i(59.94) / 576i(50)		
	UHD HDMI 1.4	480P/720P/1080P/2160P-30HZ		
AUDIO INPUT	SDI AUDIO INPUT	Embedded SDI Audio		
	HDMI AUDIO INPUT	Embedded Audio		
AUDIO OUTPUT	SPEAKER OUTPUT	2EA, 2W+2W		
	SDI AUDIO OUTPUT	Input Line & De-embedded Audio, 1~ 16CH		
I/O CONTROL PORT	GPI	RJ-45 8 Pin (Programmable for General Purpose Input)		
	CONTROL LAN 1	RJ-45 8 pin Ethernet port, 100Mbps, supported for Plura PSC 500 wall control applications & TSL5.0 Tallyman		
	CONTROL LAN 2	RJ-45 8 pin Ethernet port, 1 GbE, supported for IP management, Ember+ & TSL 5.0 control applications		
	IP MANAGEMENT LAN	IN-BAND		
	USB	FPGA & Firmware Upgrade		
	RS232	D-sub 9 Pin Female/Firmware Upgrade		
	HTTP	HTTP Web Interface		
MEDIA DECODING LICENCE	ST-2110	X		
	ST-2022-7	X		
	ST-2022-6	OPTIONAL		
SYSTEM	PROCESSOR	FPGA		
	OPERATING	Linux		
LCD	SIZE	24”	32”	47”
	ASPECT RATIO	16 : 9	16 : 9	16 : 9
	RESOLUTION	1920 x 1200	1920 x 1080	19200 x 1080
	COLOR DEPTH	8 bit		
	VIEWING ANGLE DEGREE	Horizontal: 178 (Typ.) Vertical 178 (Typ.)		
	LUMINANCE OF WHITE	400 cd/m2	350 cd/m2	450 cd/m2
	CONTRAST TYPICAL	1000: 1	1000 : 1	4000 : 1
	RESPONSE TIME	Tr=7.5ms / Tf=7.5ms	Tr=8ms / Tf=6ms	Tr=6ms / Tf=6ms

POWER REQUIREMENT	AC 100V - 240V (60/50 Hz)		
POWER CONSUMPTION	130 W	170 W	450 W
WORKING TEMPERATURE	0˚C ~ 40˚C (32˚~ 104˚F)		
WORKING HUMIDITY	10%RH - 85%RH (Non Condensed)		
STORAGE TEMPERATURE	-10˚C ~ 80˚C (14˚~176˚F)		
STORAGE HUMIDITY	10%RH ~ 85%RH (Non Condensed)		
WEIGHT (W/O STAND & PACKAGING	9.9 Kg - 22.0 lbs	16.6 Kg - 30.0 lbs	20.4 Kg - 45 lbs
WEIGHT (w/ PACKAGING)	13.6 Kg - 30 lbs	23.58 Kg - 52 lbs	32.65 Kg - 72 lbs
DIMENSION (WxHxD) (W/O STAND & PACKAGING	552 x 413 x 82 mm	732 x 443 x 84.6 mm	1071.8 x 631 x 104 mm
	21.73 x 16.25 x 3.22 inch	28.8 x 17.44 x 333 inch	42.19 x 24.84 x 4.09 inch
PACKAGING DIMENSION (WxHxD)	711.2 x 584.2 x 254.0 mm	939.8 x 635 x 279.4 mm	1219.2 x 863.6 x 304.8 mm
	28 x 23 x 10 inch	37 x 25 x 11 inch	48 x 34 x 12 inch

Please note that the technical details shown here are provisional specifications (as of September 2021). The Information is subject to change without notice.