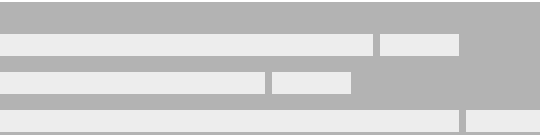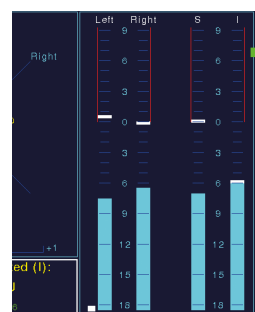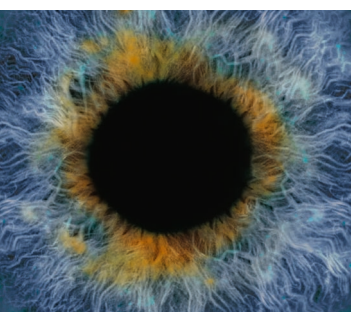The perfect Choice for Professionals
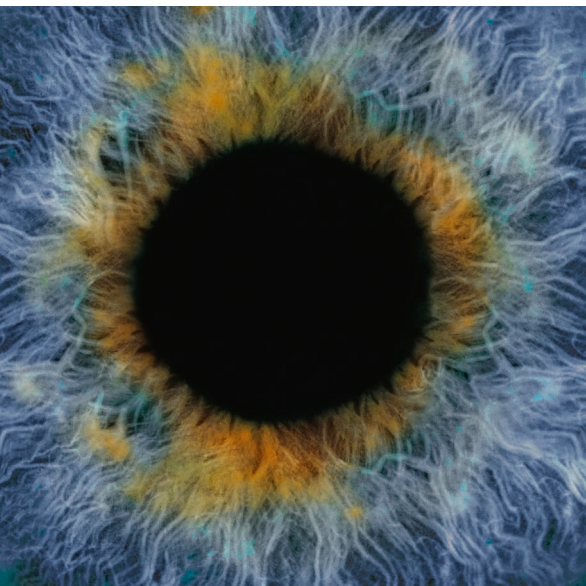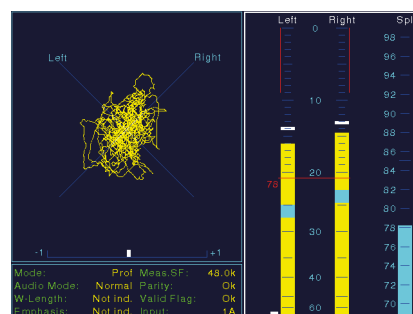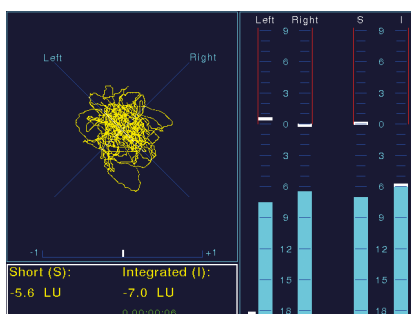# DigitalMonitor 10500X-PLUS

DigitalMonitor 10500X-PLUS

Facts and Figures

Digital 2-Channel Peak Program Meter and ITU/EBU Loudness Meter with Audio Vectorscope

Peakmeter, loudness meter, correlator, vectorscope, RTA and status display for DIGITAL stereo signals in professional audio applications such as video editing suites, workstations or broadcasting studios.

- ▪ **2-channel Peak Program Meter (PPM)**
- ▪ **Additional SPL/Leq bargraph**
- ▪ **Loudness functions acc. to EBU R128 w/o True Peak and Loudness Range**
- ▪ **Parameters for other Loudness standards adjustable**
- ▪ **Additional selectable pair of bargraphs for display of the momentary, short and integrated loudness values**
- ▪ **Easy change between Peak Programm Meter and Loudness Meter via programmed presets**

- ▪ **Stereo audio vectorscope**
- ▪ **Correlator display**
- ▪ **Real Time Analyzer**
- ▪ **AES/EBU status monitor**
- ▪ **AES3 input via XLR-F socket, 24 bit, 32 - 96 kHz**
- ▪ **Output via XLR-M socket, signal looped through**
- ▪ **VGA-output for an optional external VGA display**
- ▪ **Compact table-top unit with 6.5" color TFT display (VGA)**

Audio monitoring in digital production environments

The RTW DigitalMonitor 10500X-PLUS is the ideal choice for visualizing 2-channel digital audio in several professional audio applications such as broadcast, pre and post production environments, music production and mastering.

Features

The bright color TFT VGA display provides extensive information about all essential parameters such as peak level, volume, SPL, ITU/EBU loudness, frequency spectrum or status of the AES3 signal. The measuring functions selected by the user are permanently visible in up to three display sections.

The operation is easy and intuitive. Parameters are stored in up to eight user presets that can be used for fast switching between the Peak Program Meter and the ITU/EBU Loudness Meter as well. The DigitalMonitor features professional connectivity and an attractive design. This instrument is supplied as a table-top unit with an adjustable stand and can easily be converted for front-panel mounting. For remote viewing of all measured values and parameters the VGA output of the DigitalMonitor 10500X-PLUS may be used to connect any standard CRT or TFT display.

The DigitalMonitor 10500X-PLUS is a sound investment into the quality of your audio programs at a price that suits every budget.

Specifications

Functions	
	Digital 2-channel Peak Program Meter, ITU BS.1771/EBU R128 Loudness Meter (w/o True Peak, LRA) Audio Vectorscope 2/0, Real Time Analyzer, Phase Meter, Stereo Sound Analyzer, Digital Over, Mute detection and AES/EBU status display

Digital Inputs	
Quantity	1 (Stereo), AES/EBU, transformer balanced, 110 Ohm (internal detachable) Sampling frequency range 32 kHz - 96 kHz

Digital Outputs	
Quantity	1 (Stereo), AES/EBU, input signal looped through, unbuffered

Program Meter: Digital Peak Program Meter (PPM)	
Level display	2 ch. vertical bargraphs, Peak Hold and loudness indicator switchable
Loudness meter	Additional spot indicator on the bargraphs: RTW mode or A, C, Leq (M) (CCIR-2k), ITU BS.1770(k) weighting
Display modes	2-channel Stereo, 2-channel Stereo + Total Loudness bargraph
Peak value memory	Peak Memory, Peak Hold
Scales	Digital 1 (0 dB FS to -60 dB FS), Digital 2 (0 dB FS to -20 dB FS), Digital 3 (-18 dB to +18 dB), Digital 4 (-2 dB to +18 dB), Digital 5 (+20 dB to -40 dB), Digital 6 (+9 dB to 0 dB to -60 dB), quasi DIN: DIN-5, DIN-10, Nordic, British IIa, IIb, Zoom 2, Zoom 20
Headroom	Adjustable from -5 dB to -20 dB in 1 dB steps
Integration time (Attack)	Digital 1 - 6: Sample, 0.1 ms, 1 ms, 10 ms quasi analog: Norm, Sample, 0.1 ms, 1 ms
Fall back time	According to the selected standard (1,5 s/20 dB for DIN)
Gain	Digital 1 - 6: +40 dB; quasi analog scales: DIN, Zoom 2, Zoom 20: +20 dB, British, Nordic: +40 dB
DC filter	Off, 5 Hz, 10 Hz, 20 Hz
Peak Hold indicator	Integration time same as level display (see above) or 1 sample
Digital Over indicator	Red spot indicators above each bargraph
Threshold	Full Scale, Full Scale-1LSB, Full Scale-2LSB, -0.1 dB FS, -0.5 dB FS, -1 dB FS, -2 dB FS, -3 dB FS
Attack time	1 - 15 samples
Word length	16 - 24 bit
Mute indicator	Red spot indicators below each bargraph
Threshold	All bits digital "0"
Attack time	50, 100, 200, 300 ms or 5 to 80 Samples (selectable in steps of 5 samples)

Total Loudness Meter (PPM)	
Display	L + R
Calibration	SPL reference 72 to 80 dB (singel channel)
Total loudness/SPL	70 to 98 dB
Weighting filters	Linear, A, C, Leq(M)(CCIR-2k), BS.1770(k), RTW mode, all RMS (fast/ slow)
Leq	Range 70 to 98 dB (with weighting as selected above)

Program Meter: ITU BS.1771/EBU R128 Loudness Meter	
Display	Bargraphs vertical for each channel of the 2-channel stereo signal Pair of additional bargraphs selectable: • "M" bargraph (momentary - summation of momentary loudness values of all channels for a short time span) • "S" bargraph (short - loudness value of an adjustable dynamic time frame, summation of Momentary values) • "I" bargraph (integrated - loudness value of a longterm reading, infinite or manual control)

Peak value memory	max. Loudness value, max. peak
Numeric level display	selectable, readout of "S" or/and "I" bargraphs, if selected; "I" value additonally with running measuring time period
Correlator spot indicator	displayed with stereo channel pair, left at the bottom of the bargraphs
Scales	acc. to EBU R128: EBU+9: +9 .. -18 LU acc. to ITU BS.1771: LKFS: 0 .. -30 LUFS (LKFS)
Weighting filter	ITU BS.1770(k)
Target Level	-23 LUFS, range: -25 LUFS to -10 LUFS, selectable in steps of 1 LUFS
Response	Window Time 400 ms, 125 ms (IEC), 250 ms (IRT), 500 ms, 750 ms, 1 s (IEC), 1.5 s, 2 s
Integration time for "S"	3 s, time frame selectable between 1 s and 20 s
Integration time for "I"	infinite or manual
Silence Gate	-70 LUFS, selectable between -40 LUFS and -74 LUFS in steps of 1 LUFS, Off
Relative Gate	-8 LU, selectable between 0 LU and -39 LU in steps of 1 LU, Off
Alarm threshold	-15 LUFS, selectable from Target Level to ten 1 LUFS steps above (e. g. TL: -23 LUFS, AT: -23 LUFS to -14 LUFS)
Alarm hold	1 s, selectable between 1 s and 9 s, can also be disabled
Level adjustment for the summation of the stereo signal	0.0 dB, selectable between -3 dB and +3 dB in steps of 0.5 dB

Other Instruments	
	Stereo Sound Analyzer
	Correlator
	Real Time Analyzer
	Audio Vectorscope
	AES/EBU Statusmonitor

General	
Supply voltage	24 V DC (21 V - 30 V DC)
Current consumption	290 mA (24 V DC) nominal, switch-on current is considerably higher
Power consumption	6,5 W maximum
Operating temperature range	0° to 45° C
Storage temperature range	-30° C to +85° C

Display	
Type	color TFT, 6.5", VGA (640 x 480 pixel), visible area 132 x 99 mm

Connectors	
Digital input	XLR-F socket
Digital output	XLR-M socket
Monitor output	15-pin Sub-D-F socket (VGA)
DC connector	Type Binder 710 locking 4-pin low voltage connector

Design, Dimensions	
Desk-top unit 10500X-PLUS	Case: RAL 7024 (graphite grey semi gloss, structure) Scale, front: silver, labeling: black
Dimensions	176,5 x 125,5 x 61,5 mm (W x H x D excl. table stand)
Weight	approx. 1050 g incl. table stand

Items delivered	
	10500X-PLUS: manual, table stand, mains adapter

Optional Accessories	
	1168-R wide voltage power supply 100 - 240 V AC/24 V DC

RTW