

BroadcastMonitor X Series

GENERAL DESCRIPTION

The models of the RTW BroadcastMonitor X series contain in a 3U x 42HP x 170 mm rack-mount unit for 19"/3U sub racks analog and digital 2-channel (1065X-3U) resp. 4-channel (1067X-3U) display units with Peak Program Meter, Loudness display and Correlator especially for analog, digital and mixed stereo resp. 4-channel applications.

- 2- or 4-channel multi-standard peakmeter analog and digital
- Phase meter (correlator)
- Audio Vectorscope
- Loudness display
- Real Time Analyzer
- 3.1 Surround Monitor (1067X-3U)
- AES/EBU status monitor

The models of the RTW BroadcastMonitor X series feature two resp. four balanced analog inputs as well as one resp. two AES/EBU digital inputs. Comprehensive menus allow a user defined configuration of the instrument to meet with the requirements of the application. This settings may be saved to or recalled from memory as User Presets.

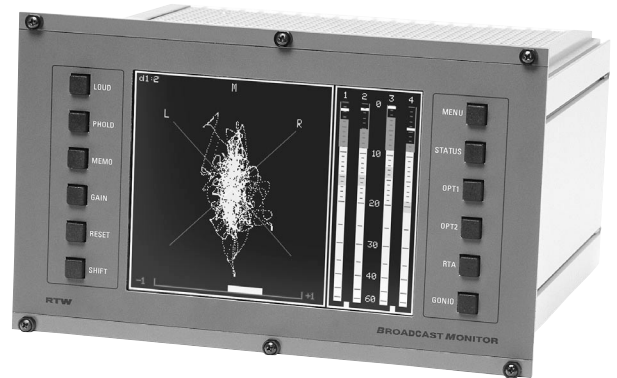


Figure: 4-channel BroadcastMonitor 1067X-3U

2-/4-channel Peakmeter analog and digital • Correlator • Audio Vectorscope • RTA • Loudness • AES/EBU Status Mixed Mode (1067X-3U) • 3.1 Surround Monitor (1067X-3U)

TECHNICAL SPECIFICATIONS

General

Supply voltage: +24 V DC (21 V to 30 V DC)
 Current drain nominal: 260 mA (power-up current is much higher)
 Operating temperature range: 0° to 45° celsius
 Weight: approx. 1400 g
 Connectors: 2 x 25-pin Sub-D-F
 1 x 15-pin Sub-D-F (Remote)
 1 x 4-pin low voltage connector Binder 710 (DC)
 Dimensions: 3U (213.4) x 42HP (128.5) x 170 mm (W x H x D)

Functions

1065X-3U: 2-channel, analog and digital, multi-standard Peakmeter, audio vectorscope, AES/EBU status monitor, numeric level display, digital Over and Mute-detection, RTA
 1067X-3U: 4-channel, analog and digital, mixed mode, multi-standard Peakmeter, audio vectorscope, AES/EBU status monitor, numeric level display, digital Over and Mute detection, RTA, Surround Monitor

Analog Inputs

Inputs:

- 1065X-3U: 2 channels (1 x Stereo)
- 1067X-3U: 2 or 4 channels (1 or 2 x Stereo)

 each electronically balanced
 Max. input level: +24 dBu
 Adjustable range for reading reference: +1 dBu to +16 dBu
 CMRR: > 60 dB
 Input impedance: > 10 kΩ (30 Hz bis 20 kHz)

Digital Inputs

Inputs:

- 1065X-3U: 1 (Stereo)
- 1067X-3U: 2 (Stereo)

 each AES/EBU, transformer balanced, 110 Ω or High-Z
 Sample rate: 32 kHz to 96 kHz

Digital Outputs

Outputs:

- 1065X-3U: 1 (Stereo)
- 1067X-3U: 2 (Stereo)

 each AES/EBU, input signal looped through, unbuffered

Display

Display: 1 color TFT, 5.7", 115 x 86 mm
 Resolution: 320 x 240 pixel
 Colors: 8
 Optimal angle of view: 6 Uhr
 Viewing direction: horizontal +/-45°
 vertical +10°/-34°
 Contrast: > 85 with optimal angle of view

Peakmeter, General

Level display:

- 1065X-3U: up to 2 channels
- 1067X-3U: up to 4 channels

 each with vertical display orientation, peak hold indicator switchable, additional spot correlator 78 mm
 Bargraph length: 78 mm
 Display modes:

- 1065X-3U: 2-channel Stereo, analog or digital
- 1067X-3U: 2 x 2-channel Stereo, analog, digital or mixed mode, 3.1 Surround

 Operation field: below reference value: 0 dB to 15 in steps of 1 dB
 Peak value memory: additional peak hold indicators
 Numeric level display: selectable, displayed on the left side of the screen
 Correlator spot indicator: switchable
 Loudness display: additional spot indicator displayed on the bargraphs of the level display, RTW mode or A-, C-, CCIR-2k-weighted, RMS

Peakmeter, Analog

Scales/Standards: DIN+5 (-50 to +5 dB), DIN+10 (-50 to +10 dB), Nordic (-42 to +12 dB), British IIa („1" to „7"), IIb (-12 to +12 dB), VU (-21 to +3 dB), Zoom ±1 dB, Zoom ±10 dB, smpte20rel (-40 to +20 dB), smpte40abs (-35 to +24 dB)

BroadcastMonitor X Series

Reference level:	<ul style="list-style-type: none">+6 dBu for: DIN, Zoom 20 (0 dB display), Nordic (+6 dB display), VU (lead selectable from 0 to 10 dB)+8 dBu for: British Ila ("6" display), British Iib ("8" display)
Integration time:	according to selected standard or manually selectable (1 ms, 0.1 ms)
Fall back time:	according to selected standard (e. g. DIN: 1.5 s/20 dB)
Gain:	according to selected standard: +20 dB (DIN, Zoom) +40 dB (Nordic, British Ila, British Iib)
Memory:	peak level (Peak Memory), peak hold

Peakmeter, Digital

Word width:	16 to 24 Bit
Scales digital:	0 dB FS to -60 dB FS, 0 dB FS to -20 dB FS, +9 dB to 0 dB to -60 dB (BR/ARD), DIN+5, DIN+10, Nordic, British Ila, Iib, Zoom 2, Zoom 20
Scales quasi analog:	+18 dB to 0 dB (0 dB FS $\hat{=}$ +18 dB), +18 dB to -18 dB (0 dB FS $\hat{=}$ +18 dB), +20 dB to -40 dB (0 dB FS $\hat{=}$ +20 dB), -5 dB to -20 dB, adjustable in steps of 1 dB
Special scales:	
Headroom:	-5 dB to -20 dB, adjustable in steps of 1 dB
Integration time (Attack):	according to selected standard or Sample, 0.1 ms, 1 ms, 10 ms
Fall back time:	according to selected standard (e. g. DIN: 1.5 s/20 dB)
Gain:	according to selected standard: +20 dB (Zoom, quasi scale DIN) or +40 dB (digital scales, quasi scales British, Nordic)
High pass filter:	Off, 5 Hz, 10 Hz, 20 Hz
Peak hold display:	Integration time same as level display or 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 to 15 samples
Word width:	16 to 24 bit
Mute indicator:	red spot indicators below each bargraph
Threshold:	all bits digital „0“
Attack time:	50, 100, 200 or 300 ms or 5 to 80 samples (in steps of 5 samples)

Phase correlation display

Display mode:	bargraph (horizontal)
Scale range:	-1 r bis +1 r
Standardcolor setting:	red -1 r to -0.1 r yellow 0 r green 0.1 r to +1 r
Colors:	selectable
Attack time:	1.0 s, 2.5 s
Memory:	negative peak correlation integrated in peak memory
Memory accuracy:	better 0.1 r

Audio Vectorscope (VSC)

Operation modes:	2/0 (stereo), 3/1 (1067X-3U only)
Display modes:	X/Y or M/S
Viewing area:	70 x 70 mm
AGC (Automatic Gain Control):	Auto or manual
Time of persistence:	Fast, medium, slow

Real Time Analyzer

Bands:	31, 1/3-octave
Frequency range:	20 Hz to 20 kHz (IEC-225 ANSI class 2)
Measuring/display range:	selectable: 15 dB, 30 dB, 45 dB
Integration time:	fast/medium/slow, Average or Peak
Peak hold display:	selectable, 2.5 s, 4.0 s or manual
Memory:	8 plus peak hold
Peakmeter:	selectable, 2-channel

Surround Monitor (1067X-3U only)

VSC surround modes:	3/1, 3/0 or 2/1, LF channel display in peakmeter only
AGC:	Fast, slow
VSC refresh rate:	Fast, slow
Indicator display:	Lt/Rt signal, internal calculated or external processed

AES/EBU Status Monitor

Status:	<ul style="list-style-type: none">1065X-3U: digital channels 1-21067X-3U: digital channels 1-2, 3-4
Status information:	locked, decoded AES/EBU status
Display:	hexadecimal, binary, active bits, audio bits

Remote Control Interface

Parallel interface:	external function control: Loud, PHold, Memo, Gain, Reset, Shift, Menu, Status, Opt 1, Opt 2, RTA, Gonio, additionally: switching to Digital, switching to Analog
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Controls and additional display elements

Keys:	LOUD, PHOLD, MEMO, GAIN, RESET, SHIFT, MENU, STATUS, OPT 1, OPT 2, RTA, GONIO
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Items delivered

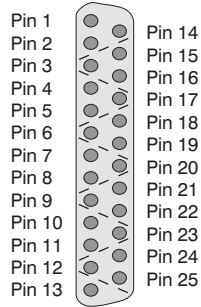
BroadcastMonitor 1065X-3U:	<ul style="list-style-type: none">2-channel BroadcastMonitor with RTA as half-19" rack-mount unit (3U/42HP) for 19"/3U sub rackscounter plug for power supplyOperating manual Order number: 1065X-3U
BroadcastMonitor 1067X-3U:	<ul style="list-style-type: none">4-channel BroadcastMonitor with RTA and surround display as half-19" rack-mount unit (3U/42HP) for 19"/3U sub rackscounter plug for power supplyOperating manual Order number: 1067X-3U

CONNECTION

Input and Output connectors (25-pin Sub-D-F)

Pin: Funktion:

4	Digital in-/output AES/EBU 2 (+, hot)
17	Digital in-/output AES/EBU 2 (-, cold)
5	shield/chassis
18	Digital in-/output AES/EBU 1 (+, hot)
6	Digital in-/output AES/EBU 1 (-, cold)
19	shield/chassis
7	Audio in-/output analog 4 (+, hot)
20	Audio in-/output analog 4 (-, cold)
8	shield/chassis
21	Audio in-/output analog 3 (+, hot)
9	Audio in-/output analog 3 (-, cold)
22	shield/chassis
10	Audio in-/output analog 2 (+, hot)
23	Audio in-/output analog 2 (-, cold)
11	shield/chassis
24	Audio in-/output analog 1 (+, hot)
12	Audio in-/output analog 1 (-, cold)
25	shield/chassis

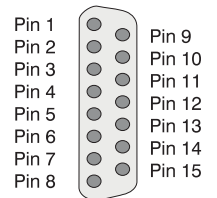


(External view of the connector)

Remote connector (15-pin Sub-D-F)

Pin: Funktion:

1	common potential for ext. switches - GND
9	external function selection: „MEMO“
2	external function selection: „GAIN“
10	external function selection: „MENU“
3	external function selection: „RESET“
11	external function selection: „STATUS“
4	external function selection: digital
12	external function selection: „OPT1“
5	external function selection: analog
13	external function selection: „OPT2“
6	external function selection: „LOUD“
14	external function selection: „RTA“
7	external function selection: „PHOLD“
15	external function selection: „GONIO“
8	external function selection: „SHIFT“



(External view of the connector)

Note: The incoming AES/EBU signals are passive looped through from input connector to the output connector.

Power supply connector (4-pin low voltage type Binder 710)

Pin: Funktion:

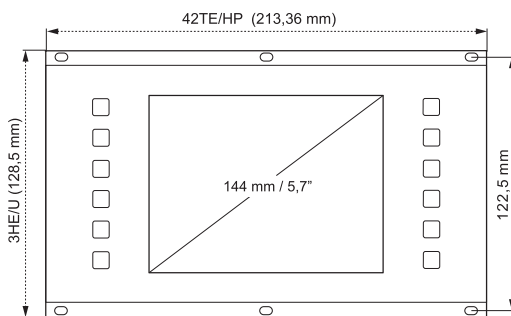
1-2	+24 V	3	2
3-4	0 V	4	1



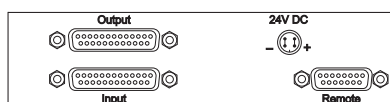
COLORS

Case: Graphite grey RAL 7024,
Scale: silver with black labelling

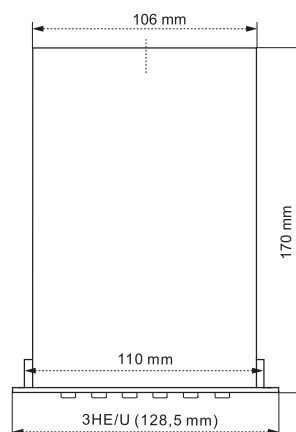
DIMENSIONS



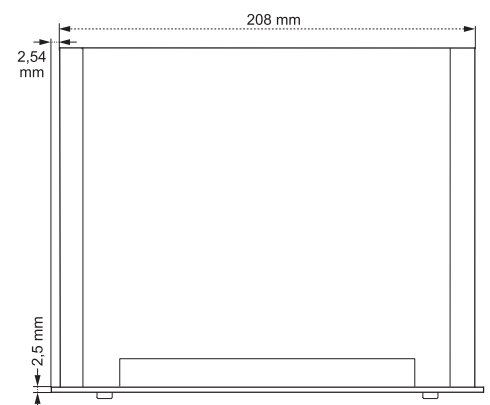
Frontansicht/Front view



Anschluss-Panel/Connector panel



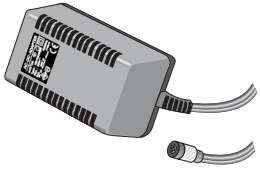
Seitenansicht/Side view



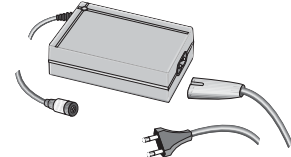
Aufsicht/Top view

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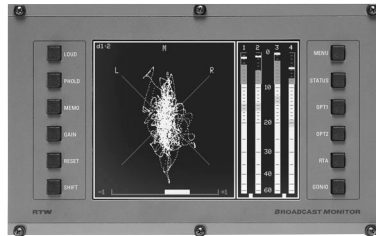
ZUBEHÖRKOMBINATION



- Wide voltage power supply **1171-R**
90 - 240 V AC/24 DC, 630 mA
- Euro plug
 - Locking 4-pin low voltage connector



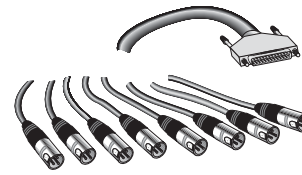
- Wide voltage power supply **1175-R**
100 - 240 V AC/24 DC, 2.7 A
- corresponding power cable
 - Locking 4-pin low voltage connector



BroadcastMonitor X-Series
Half-19" insert module (3U/42HP)



- 8-pair snake cable **1186**, 4 m
- Distributes 25-pin Sub-D connector to 8 XLR-F cable connectors
 - For connecting to "Input" connector



- 8-pair snake cable **1163**, 4 m
- Distributes 25-pin Sub-D connector to 8 XLR-M cable connectors
 - For connecting to "Output" connector

Subject to changes without prior notice 02/2010