

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
Main unit (with 7" touch screen 16 : 9)	•	•	•	•
Table-top frame	•	–	•	–
Table-stand	•	–	•	–

Audio Interface

AES3 In (transf. bal., 110 Ω)	2 x	2 x	2 x	2 x
Sampling rates kHz	44.1, 48, 96	44.1, 48, 96	44.1, 48, 96	44.1, 48, 96
AES3 Out	2 x	2 x	2 x	2 x

Connectors

XLR-F	2 x	2 x	2 x	2 x
XLR-M	2 x	2 x	2 x	2 x
4-pol. 24 V DC	•	•	•	•
RJ-45 (LAN/Ethernet)	•	•	•	•
USB-A	2 x	2 x	2 x	2 x
RJ-12 6P6C (GPIO)	•	•	•	•
VGA	•	•	–	–

Software

Standard equipment	Basic	Basic	complete	complete
Modular expansion	Licenses	Licenses	–	–
	SW20002	SW20002	–	–
	SW20003	SW20003	–	–
	SW20006	SW20006	–	–
	SW20008	SW20008	–	–
	SW20014	SW20014	–	–
Presets	up to 32		up to 5	

Instruments and Functions

4-channel PPM (digital AES3 input sources via XLR)

Kanalschema				
Stereo	•	•	•	•
2 x Stereo	•	•	•	•
Single channels (up to 4 x)	•	•	•	•
Multi-channel up to 4 ch.	• (no 3.1)	• (no 3.1)	–	–
Display	Peak level, Peakhold, Numerical value, Digital Over			

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
Functions	Gain (+20 dB, +40 dB acc. to standard), Peakhold on/off, Memory, Memory Reset			
Word width	24 bit			
Scales (standard equipment)			Scales	
TP60: +3 .. -60 dB	•	•	•	•
Dig60: 0 .. -60 dB	•	•	•	•
DIN5: +5 .. -50 dB	•	•	•	•
Nordic: +12 .. -42 dB	•	•	•	•
BR IIa: 7 .. 1	•	•	•	•
BR IIa ext: 7..1	•	•	•	•
BR IIb: +12 .. -12 dB	•	•	-	-
BRIIb ext: +12..-12 dB	•	•	-	-
Scales (expansion, activatable with license SW20006)			-	-
TP20: +3 .. -20 dB	•	•	-	-
Dig20: 0 .. -20 dB	•	•	-	-
Dig0: +18 .. 0 dB	•	•	-	-
Dig18: +18 .. -18 dB	•	•	-	-
Dig40: +20 .. -40 dB	•	•	-	-
ARD9: +9 .. -60 dB	•	•	-	-
DIN10: +10 .. -50 dB	•	•	-	-
Zoom10: +10 .. -10	•	•	-	-
Zoom1: +1 .. -1	•	•	-	-
Headroom/Headroom Ref.	adjustable in the range from 0 to -20 dB in steps of 1 dB			
Operation field	adjustable in the range from 0 to -20 dB in steps of 1 dB			
Integration time (Attack)	acc. to corresponding standard or selectable: Sample, 20 ms, 10 ms, 1 ms, 0,1 ms, 150 ms for British scales			
Gain	+20 dB, +40 dB acc. to standard			
High-pass filter	Off, 5 Hz, 10 Hz, 20 Hz			
Peakhold indicator	1 s, 2 s, 4 s, 10 s, 20 s, 30 s, manual reset or off			
Over indicator hold time	1 s or manual			
Over indicator PPM				
Threshold	Full Scale, Full Scale -1LSB, Full Scale -2LSB, -0.1 dBFS, -0.5 dBFS, -1 dBFS, -2 dBFS, -3 dBFS			
Attack time	1 to 15 samples			
Word width	16 to 24 bit, selectable			
Over indicator TruePeak				
Threshold	adjustable in the range from -4 to 0 dBTP in steps of 0.1 dBTP			

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
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Stereo Correlator

Display	Bargraph, additional spot indicator between PPM bargraphs
Scale range	-1 r to 0 to +1 r
Farbeinstellung	ret: -1 r to -0.1 r white: 0 r (-0.1 r to +0.1 r) green: +0.1 r to +1 r
Attack/release time	1.0 s/2.5 s

Audio Vectorscope

Display mode	2-channel
Inputs	L/R (Stereo signal with the input channels of the selected audio group)
AGC	fast/slow
Grid	L/R or M/S

AES3 Status Monitor

Display	<ul style="list-style-type: none"> • channel data are displayed as plain text, hex or binary • Channel selectable • Audio bit activity • Hardware status
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Global Keyboard

	The Global Keyboard is used for simultaneous control of defined functions in multiple instruments, and for preset recall. It also allows the external control with the integrated GPIO interface.
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Gain Reduction

Display	1 bargraph for Mono and Stereo formats, up to 4 bargraphs in multi-channel mode	-	-
Input	Date stream via TCP/IP and LAN interface	-	-
Input routing	external featured streams selectable	-	-
Marker	adjustable threshold for the definition of upper and lower display section	-	-
Colors	32 colors for each bargraph section	-	-

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
Loudness				
Functions	activatable with license SW20002		integrated	
Instruments	<ul style="list-style-type: none"> • Loudness Sum (bargraphs for M, S, I; selectable) • Loudness Num (numerical values for: M, S, I, LRA, TPmax, Mmax, Smax, I-time; selectable) <ul style="list-style-type: none"> • Loudness Range (LRA) • SPL-Meter 			
Display	Bargraphs for each single channel (can be combined with PPM bargraphs)	-	-	-
Implemented standards	ITU-R BS.1770-4/1771-1, EBU R128, ATSC A/85, ARIB, OP-59, AGCOM, CALM Act, LEQ(M), TASA, SAWA			
Custom mode	•	•	-	-
Loudness scales	selectable or fixed depending on Loudness standard: <ul style="list-style-type: none"> • EBU+9: +9 .. -18 LU • EBU+3: +3 .. -18 LU • EBU+18: +18 .. -36 LU • EBU+9a: 14 .. -41 LUFS • EBU+18a: -5 .. -59 LUFS • EBU0: 0 .. -60 LUFS • ITU+9: +9 .. -18 LU • ITU0: 0 .. -30 LKFS • ATSC0: 0 .. -60 LKFS • ATSC0a: 0 .. -30 LKFS <ul style="list-style-type: none"> • TASA • SAWA 			
Weighting filter	K filter acc. to ITU BS.1770 fixed			
Target Level	only for Loudness standards ITU, EBU, ATSC, ARIB, CALM, OP-59, AGCOM: <ul style="list-style-type: none"> • -23 LUFS; adjustable in the range from -10 to -30 LUFS in steps of 1 LUFS or • -24 LKFS; adjustable in the range from -10 to -30 LKFS in steps of 1 LKFS (dependent on selected standard)			
Reference level	only for Loudness standards Leq(M), TASA, SAWA: <ul style="list-style-type: none"> • Leq(M): 78 dB; adjustable in the range from 68 to 88 dB in steps of 1 dB <ul style="list-style-type: none"> • TASA: 85 dB fixed • SAWA: 82 dB fixed 			
Weighting filter	only for Loudness standards Leq(M), TASA, SAWA: linear, A (Leq(A)), C, CCIR (Leq(M)), ITU BS.1770 (k)			
Time & Gate Momentary				
Window Time	400 ms: fixed in ITU, EBU, ATSC, ARIB, CALM, OP-59, AGCOM			
	in Custom mode selectable in the range from 200 ms to 1000 ms in steps of 100 ms	-	-	-

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
Integration Time	IEC 1000 ms slow: fixed in Leq(M), TASA, SAWA			
	in Custom mode selectable: IEC 125 ms Fast, 250 ms (IRT), 500 ms, 750 ms, IEC 1000 ms Slow, 1500 ms, 2000 ms		-	-
Time & Gate Short				
Integration Time	3 s: fixed in EBU, ARIB, Leq(M), TASA, SAWA			
	in Custom mode and in ITU, ATSC, CALM, OP-59, AGCOM selectable in the range from 1 to 20 s in steps of 1 s		in ITU, ATSC, CALM, OP-59, AGCOM selectable in the range from 1 to 20 s in steps of 1 s	
Time & Gate Integrated				
Silence Gate	-70.0 LUFS/LKFS: fixed in EBU, AGCOM off: fixed in Leq(M), TASA, SAWA			
	in ITU, ATSC, ARIB, CALM, OP-59 selectable: -70.0 LUFS/LKFS or off			
Relative Gate	in Custom mode selectable in the range from -80.0 to -40.0 LUFS/LKFS in steps of 0.5 LUFS/LKFS, switchable		-	-
	-10.0 LU: fixed in EBU -8.0 LU: fixed in AGCOM off: fixed in Leq(M), TASA, SAWA			
	in ITU, ATSC, ARIB, CALM, OP-59 selectable: -10.0 LU or off			
	in Custom mode selectable in the range from -40,0 to 0 LU in steps of 0.5, switchable		-	-
Channel weighting	0.0 dB (L, R): fixed in ITU, EBU, ATSC, ARIB, CALM, OP-59, AGCOM, Leq(M), TASA, SAWA			
	in Custom mode selectable between -6 and +6 dB in steps of 0.5 dB		-	-
Tolerance levels				
TP Headroom	-9.0 dB; adjustable from 0 to -20 dB in steps of 0.1 dB			
TP Over-Schwelle	-1.0 dBTP; adjustable from 0 to -4 dBTP in steps of 0.1 dBTP			
M Oben	+1.0 LU; M tolerance above Target Level adjustable from 0 to +10 LU in steps of 0.1 LU			
M Unten	-1.0 LU; M tolerance below Target Levels adjustable from 0 to -12 LU in steps of 0.1 LU			

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
S Oben	+1.0 LU; S tolerance above Target Level adjustable from 0 to +10 LU in steps of 0.1 LU			
S Unten	-1.0 LU; S tolerance below Target Levels adjustable from 0 to -12 LU in steps of 0.1 LU			
I Oben	+1.0 LU; I tolerance above Target Level adjustable from 0 to +10 LU in steps of 0.1 LU			
I Unten	-1.0 LU; I tolerance below Target Levels adjustable from 0 to -12 LU in steps of 0.1 LU			

Test Time Control

Start				
Functions	<ul style="list-style-type: none"> Autostart after preset load Autostart with gate Autostart with gate and autoreset manually via keys or GPI 			
	with activated license SW20008 additionally:	-	-	-
	<ul style="list-style-type: none"> Timecode Timecode with recalculation 			
Level for gate	-70.0 LUFS/LKFS; adjustable from -85 to -10 LUFS/LKFS in steps of 0.5 LUFS/LKFS			
Stop				
Functions	<ul style="list-style-type: none"> manually via keys or GPI Autostop with gate Autostop with gate and time 			
	with activated license SW20008 additionally:	-	-	-
	Timecode			
level for gate	-70.0 LUFS/LKFS; adjustable from -85 to -10 LUFS/LKFS in steps of 0.5 LUFS/LKFS			
Time for gate	1 s; adjustable from 1 to 15 s in steps of 1 s			

Loudness Range (LRA)

	activatable with license SW20002	integrated
Display	Graphical display of the Loudness Range	
Mode	selectable: LRA Bar, MagicLRA, MagicLRA + I, MagicLRA + I + Num	
Scale range	selectable: 6 LU, 10 LU, 20 LU, 30 LU	
LRA low range	2 LU; adjustable in the range from 1 to 20 LU in steps of 1 LU	
Comfort zone	4 LU; adjustable in the range from 1 to 20 LU in steps of 1 LU	
LRA high range	depends on the selected scale range and the spread of the comfort zone	
Colors	selectable for each range	

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
SPL-Meter				
	activatable with license SW20002		integrated	
Display	<ul style="list-style-type: none"> • Bargraphen für jeden Einzelkanal (kombinierbar mit PPM) • Bargraph für Summe der Kanäle 			
Reference point	adjustable in the range from 68 to 88 dB in steps of 1 dB			
Weighting	Linear, A (Leq(A)), C, CCIR (Leq(M)), k			
Integration time	Fast (125 ms), Slow (1 s)			

RTA - Real Time Analyzer

	activatable with license SW20003	integrated
Functions	Input selection, Peakhold on/off, A-, C-weighting or Linear, Integration time, set reference, scaling, rrequency range, bargraph arrangement, display-hold	
Input sources	selectable: single channels, Stereo pairs (depending on selected mode)	
Frequency range	<ul style="list-style-type: none"> • Norm: 20 Hz to 20 kHz, additional band > 20 kHz switchable • LF: 5 Hz to 5 kHz 	
Number of bands	<ul style="list-style-type: none"> • 1/3-octave: 31 bands, filter acc. to IEC 225 class 2 • 1/6-octave: 61 bands • 1/12-octave: 120 bands 	
Weighting filter	selectable: Linear, A, C	
Peakhold indicator	1 s, 2 s, 4 s, 10 s, 20 s, 30 s, manual reset or off	
Measuring range	max. 45 dB	
Scaling	3, 6, 9 dB	
Integration time (ballistics)	Impulse, Fast, Slow, Peak (10 ms)	

Moving Coil (Zeigerinstrumente) (only available in Stereo mode)

	aktivierbar mit Lizenz SW20006	integriert
Anzeigen-Typ	PPM (L/R), PPM (M/S), VU, Loudness, PPM + Loudness (L/R; M, S or I), selectable	
PPM		
Channel arrangement	Dual, Dual + M/S horizontal, Dual + M/S vertical, Stereo horizontal, Stereo vertical	
Scales	<ul style="list-style-type: none"> • BR IIa: 7..1 • BR IIa ext: 7..1 • BR IIb: +12..-12 dB • BR IIb ext: +12..-12 dB 	
Integration time	Sample, 0,1 ms, 1 ms, 10 ms, 20 ms, 150 ms	
Headroom Ref.	-10 dB; adjustable from 0 to -20 dB in steps of 1 dB	
S-Mode	only available, if M/S type is selected: M3, M6	
Peak-Indikator	off, Peak, True Peak, BR Peak	

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
BR Peak Threshold	6 dB <ul style="list-style-type: none"> • BR IIa: adjustable from 4 to 7 dB in steps of 1 dB • BR IIb: adjustable from 0 to 12 dB in steps of 1 dB 			
VU				
Channel arrangement	Stereo horizontal, Stereo vertical			
Scale	VU Digital (-20 to + 3 dB)			
Lead	0 dB, adjustable from 0 to 12 dB in steps of 1 dB			
Peak indicator	off, Peak, True Peak			
Loudness				
Channel arrangement	Dual, Stereo horizontal, Stereo vertical			
Scales	acc. to Loudness settings			
Integration time	acc. to standard			
Peak indicator	off, no selectable option available			
PPM + Loudness				
Channel arrangement	Dual-PPM (as described above) with additional Loudness display (BBC mode) for M, S or I (selectable) in one instrument			
5	<ul style="list-style-type: none"> • PPM: BR IIa: 7..1 • BR IIa ext: 7..1 • BR IIb: +12..-12 dB • BR IIb ext: +12..-12 dB each with: <ul style="list-style-type: none"> • Loudness: +9 to -9 LU fixed (mid of scale corresponds to Target Level of selected Loudness standard) 			
Integration time	Sample, 0,1 ms, 1 ms, 10 ms, 20 ms, 150 ms			
Headroom Ref.	-10 dB; adjustable from 0 to -20 dB in steps of 1 dB			
Peak indicator	off, Peak, True Peak, BR Peak			
Loudness type	M, S, I, selectable			
Numerical display	switchable in all modes			

Timecode Reader

	activatable with license SW20008	-	-
Display	numerical display of LTC	-	-
Mode	Timecode as domain in separate audio group	-	-
Input	one digital channel	-	-
Colors	selectable, 32 colors	-	-

Loudness Recalculation

	activatable with license SW20002 and SW20008	-	-
Display	numerical display of <ul style="list-style-type: none"> • current timecode • start time < current timecode < stop time (with activated recalculation) 	-	-

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
Start				
Functions	additional test time control: <ul style="list-style-type: none"> control via timecode control via timecode and recalculation 		-	-
Stop				
Functions	additional test time control: <ul style="list-style-type: none"> fixed to timecode, when start function is set to a timecode option 		-	-

Logging

	activatable with license SW20002 and SW20014		-	-
Functions	<ul style="list-style-type: none"> Logging of Loudness and TruePeak data of two audio groups Data storage on USB flash drive Transmission to LQL PC software via IP Primary and secondary limits (individual markers) for Mmax, Smax, I and TPmax Data collection control automatically via LQL or manually via key 		-	-
Mode	selectable: off, USB, IP		-	-
Display	Status: LQL access, USB mode, deactivated		-	-
Identification for network	definable: Device name, password		-	-
Key functions for USB	USB run, USB close (and save data)		-	-

Chart

	activatable with license SW20002 and SW20014	integrated
Bargraph	<ul style="list-style-type: none"> Horizontal running for TP, M, S, I (selectable) Individual color selection for normal, operation range, Headroom, Over, invalid (depending on selected value) Color change indicates common quality of the Loudness values 	

	TMR7	TMR7OEM	TMR7-Radio	TMR7-Mount
Graph	<ul style="list-style-type: none"> Progress (value over time) of up to 4 selectable values (TP, M, S and I) as lines, points, rectangles or 1 value as colored area continuously drawn on a coordinate system individual color selection or colors of bargraphs Switchable tolerance indicator 		<ul style="list-style-type: none"> Progress (value over time) of the selected value (TP or M or S or I) as colored area Colors of bargraphs Tolerance indicator 	
		<ul style="list-style-type: none"> Switchable position of the Relative Gate (when activated) Switchable vertical Integrated bargraph 		
Time range	Time grid adjustment: increase/decrease in steps of one or ten units, or magnified to available width			
Time range presets				
Auto stretch	Automatic stretch of a stopped loudness measurement to the available width of the instrument's window, switchable (except when controlled via timecode)		Automatic stretch of the selected time unit to the available width of the instrument's window	
Hours	0 h; adjustable from 0 to 3 h in steps of 1 h			
Minutes	1 m; adjustable from 1 to 59 min in steps of 1 min			
Time select	<ul style="list-style-type: none"> Marker for current time period Increase or decrease of the marker in step sizes corresponding to the current time grid Shift of the marker and magnification of the content 			
Tolerance levels	adjustable, see Loudness			