

DTV signal meter system

MSK 200 21710015
MSK 200/50 21710018



The MSK 200 are compact state-of-the-art signal meters which leave nothing to be desired when you are checking television, CATV or satellite systems.

They can be used either in a lab or for the monitoring of remote-controlled head-end systems, or for final measurements on antenna and distribution systems.



Design

- Manageable portable signal meter
- High-resolution 10.4" TFT colour display to graph analogue and digital TV signals and graphics
- Backlight - thus the display is excellently readable also in bright sunlight (typ. 600 cd/m²)
- User-friendly with 12 hard keys and an infra-red touch screen
- The touch screen control panels can be adapted to the needs of left and right handers
- Alphanumeric touch screen keyboard to enter numbers and text
- Shoulder strap that can be adapted in length

MSK 200

- 75 Ω socket as measuring connection

MSK 200/50

- 50 Ω N-type socket as measuring connection

Functions

- MER measurement for all digital modulation types
- BER measurement
- Spectrum analyser with individually selectable start and stopfrequencies, centre-frequency entry and span
- Simultaneous representation of spectrum and picture
- Memory-oscilloscope
- Constellation analyser for all DVB standards
- MPEG and analogue TV screen
- Demodulation of analogue signals: AM (CATV, rerr.), FM (satellite, radio)
- Demodulation of digital signals: DVB-C, DVB-T, DVB-S (DVB-S2 projected)
- Demodulation of the digital USA standards (J83B, DOCSIS, ATSC)
- Possibility to measure the video amplitude with line selection, S/N weighting and hum measurement
- S/N weighting: typ. 57 dB
- Channel selection in DVB-C, DVB-S, DVB-T and analogue through frequency entry, channel entry and user lists
- Remote-controlled via Ethernet, RS 232 and PCMCIA module ¹⁾
- Integrated user interface for data processing and office tasks
- Representation of SID, PMT-PID, PCR-PID, CA-Info, elementary current PID, service type (NIT in development)
- Data logging
- The result of the memory oscilloscope and the numerical value can be shown in large format
- Automatic measurements for CTB and CSO (in development)
- Return path measurements
- Measures: dBμV, dBm
- DiSEqC™ screen
- Multimeter for LNB supply
- Insert positions to extend the meter in its functions (e.g. DVB-S2)
- For mains and battery operation
- Rechargeable 6.5 Ah Li-Ion battery, for measurements over various hours without power current - thus suitable for mobile use

¹⁾ When used with MZS 200 remote control software (not included in the scope of delivery)

Technical data

Type		MSK 200	MSK 200/50
Order no.		21710015	21710018
Spectrum analyser			
Frequency range	MHz	5-3,100	
Resolution bandwidth (-3 dB)	MHz	0.001-10	
Resolution bandwidth (-6 dB)	kHz	9, 25, 50, 120, 200	
Video bandwidths	MHz	0.00001-3	
Phase noise at 10 kHz carrier level spacing	dBc	< -90 (1 Hz), typ. -95 (1 Hz)	
Phase noise at 100 kHz carrier level spacing	dBc	< -100 (1 dB), typ. -110 (1 Hz)	
Dynamic (RBW: 100 kHz)	dB	Typ. 70	
Level measurement range	dB μ V	20-130	
Accuracy of measurements	dB	< 1.5	
Measurement detector	dB	Max Peak, min peak, auto peak, sample, RMS	
Return loss (pre-attenuation 5 dB)	dB	> 16 (VSWR: 1.35)	
Repetition speed	Pic./s	Max. 10	
Reference level	dB μ V	30-130	
Range of indication	dB	100, 70, 50, 30, 20, 10	
Screen resolution	Pixel	Max. 800 x 600/nominal 501 x 401	
Analogue TV receiver			
Standards		B/G, I, D/K, L/L', M/N	
Colour standards		PAL, SECAM, NTSC	
Sound standards		IRT-A2, NICAM, BTSC, EIA-J	
Frequency increment	kHz	50	
Video-IF bandwidth		Standard-dependent	
Audio-IF bandwidth		Standard-dependent	
Video output voltage/impedance	V _{ss} / Ω	1/75 \pm 1 dB	
Hum measurement	dB	> 50	
S/N weighting (to CCIR Rec. 567)	dB	> 55/typ. 58	
Analogue satellite receiver			
Standard		FM to CCIR Rec. 405	
Colour standards		PAL, SECAM, NTSC	
Sound standards	μ s	De-emphasis: 50/Panda-Wegener: 75	
Frequency increment	kHz	200	
Video IF bandwidth	MHz	27/36	
Audio IF bandwidth	kHz	130/380	
Video output voltage/impedance	V _{ss} / Ω	1/75 \pm 3 dB	
Hum measurement	dB	> 50	
S/N weighting (to CCIR Rec. 567)	dB	> 55/typ. 57	
Analogue input			
S/N weighting (to CCIR Rec. 567)	dB	Typ. up to 80	

Technical data

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Digital CATV receiver (J83 A, B, C)			
Modulation type		16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM	
Symbol frequency	MHz	2.0-6.999	
Frequency increment	kHz	50	
Video output voltage/impedance	V_{ss}/Ω	1/75 \pm 1 dB	
IF bandwidths	MHz	1,5, 6, 7, 8, 12	
MER measurement	dB	> 35/Typ. 38	
Digital terrestrial TV receiver (DVB-T, ATSC)			
Modulation type		QPSK, 16 QAM, 64 QAM, 8 VSB	
Symbol frequency		Standard-dependent	
Frequency increment	kHz	50	
Video output voltage/impedance	V_{ss}/Ω	1/75 \pm 1 dB	
IF bandwidths	MHz	1,5, 6, 7, 8, 12	
MER measurement	dB	> 35	
Digital satellite receiver (DVB-S)			
Modulation type		QPSK	
Symbol frequency	MHz	2.5-45.0	
Frequency increment	kHz	200	
IF bandwidths	MHz	8, 18, 27, 36, 54	
Video output voltage/impedance	V_{ss}/Ω	1/75 \pm 1 dB	
MER measurement	dB	> 14	
Constellation analysis			
DVB-C		16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM	
DVB-T		QPSK, 16 QAM, 64 QAM	
DVB-S		QPSK	
ATSC		8 VSB	
Memory oscilloscope			
Resolution	Bit	12	
Sampling rate	MHz	54	
Memory depth	Bild	1	
Remote feeding			
Switching voltage/max. current	V/mA	5-20/600	
Control signals	kHz	22, Tone Burst, DiSEqC™ 2.0, single cable system and UFO®micro control signals	
Power supply			
Mains (power supply unit)	V/Hz/W	100-250/50-400/100	
Rechargeable Li-Ion battery	V/Ah	11.1/6.45	
DC external	V	10.8-14.0	

Technical data

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Connections			
RF input standard (impedance)	Ω	1.6/5.6 (75) Adaptor pre-mounted on BNC	N-type socket (50)
Composite colour picture input/output, RGB output		Scart socket	
Video input/output		2 x BNC socket	
Transport current input/output		2 x Sub D socket (25-pole)	
ASI input/output		2 x BNC socket	
Common interface/card reader		1/1	
PCMCIA slot		1	
Interconnection		1 x Ethernet	
USB port		2	
External keyboard		PS-2	
External mouse		USB	
Headphone connection	mm	Phone jack 3.5	
Modem interface		RS 232/Mini DIN, 9-pole (socket)	
DC supply 12 V		XLR socket	
General			
Screen		10.4", TFT, 800 x 600 pixels with backlight	
Touch Screen		Infra-red	
Temperature range	$^{\circ}\text{C}$	+5 to +45	
Dimensions (W x H x D)	mm	374 x 294 x 124	
Weight	kg	Approx. 8	



Rear view of the MSK 200

LBA Technology, Inc. reserves the right to amend prices and specifications without prior notice
LBA exclusively distributes the MSK-200 in the Western Hemisphere



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For further sales and technical information visit
www.lbagroup.com/technology/MSK200_digital_analyzer.php

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