

D/A Converter D/A Wandler



mbl 1611 F

ENGLISH ▶

DEUTSCH ▶

OWNER`S MANUAL
BEDIENUNGSANLEITUNG



Scope of Delivery

mbl 1611 F D/A converter

A/C power cord

Important Information!

Attention! Keep the converter away from high humidity, vibration, excessive dust and direct sunlight. Excessive heat or cold will affect the converter's functionality. The permitted operating temperature is 10°C up to 50°C. Avoid extreme variations in temperature. Do not operate the converter near other electric appliances (for instance neon light and motors). The converter should not be opened without the assistance of a qualified technician!

KETI, CE-Marking

This product conforms to the requirements of the EMC directive and low-voltage directive. Your MBL component complies with the household power and safety requirements in your area.



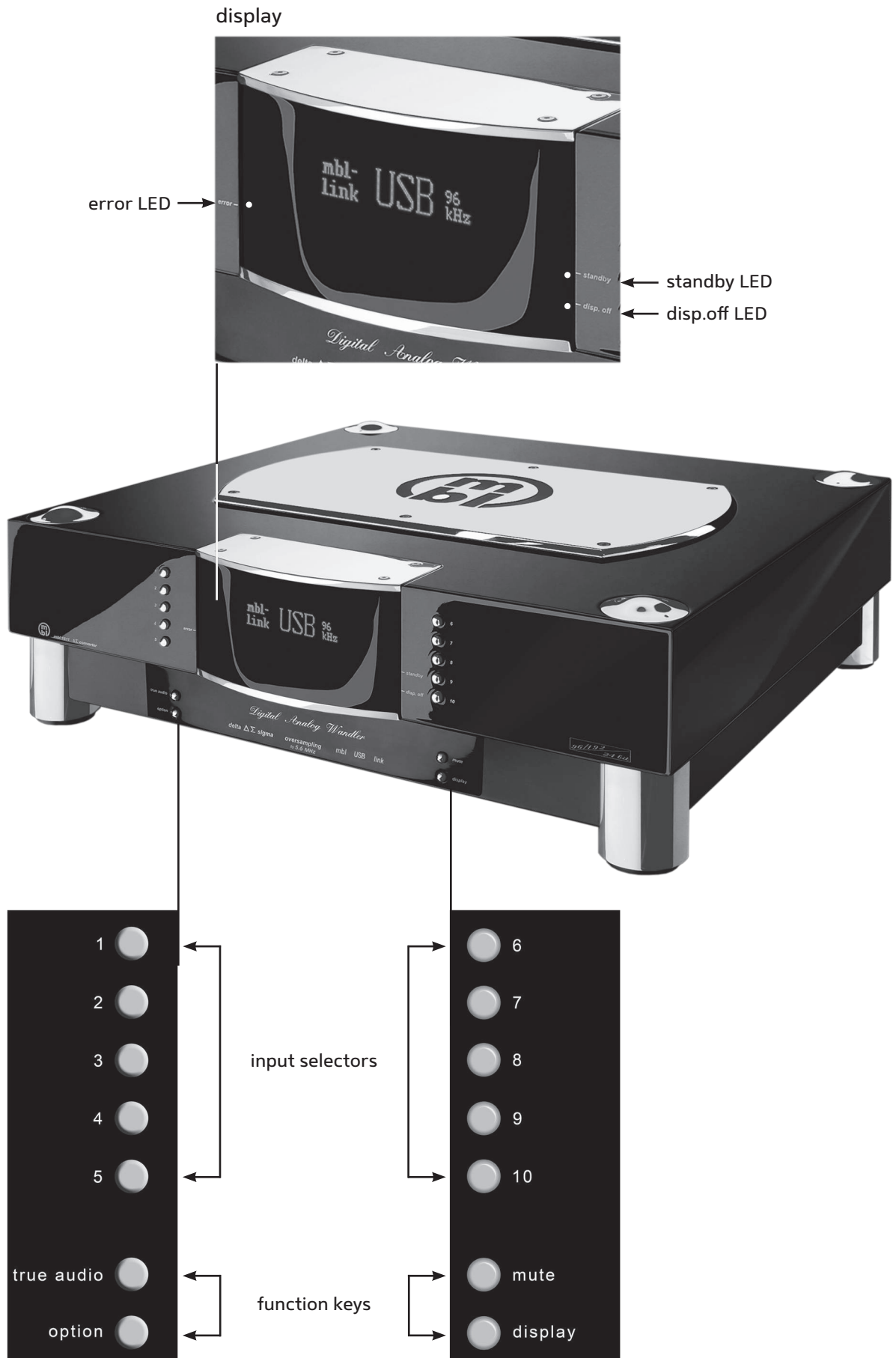
Warranty

Please pay attention to the details given in the warranty card which accompanies the unit. Warranty is only issued, if you send back the warranty card.





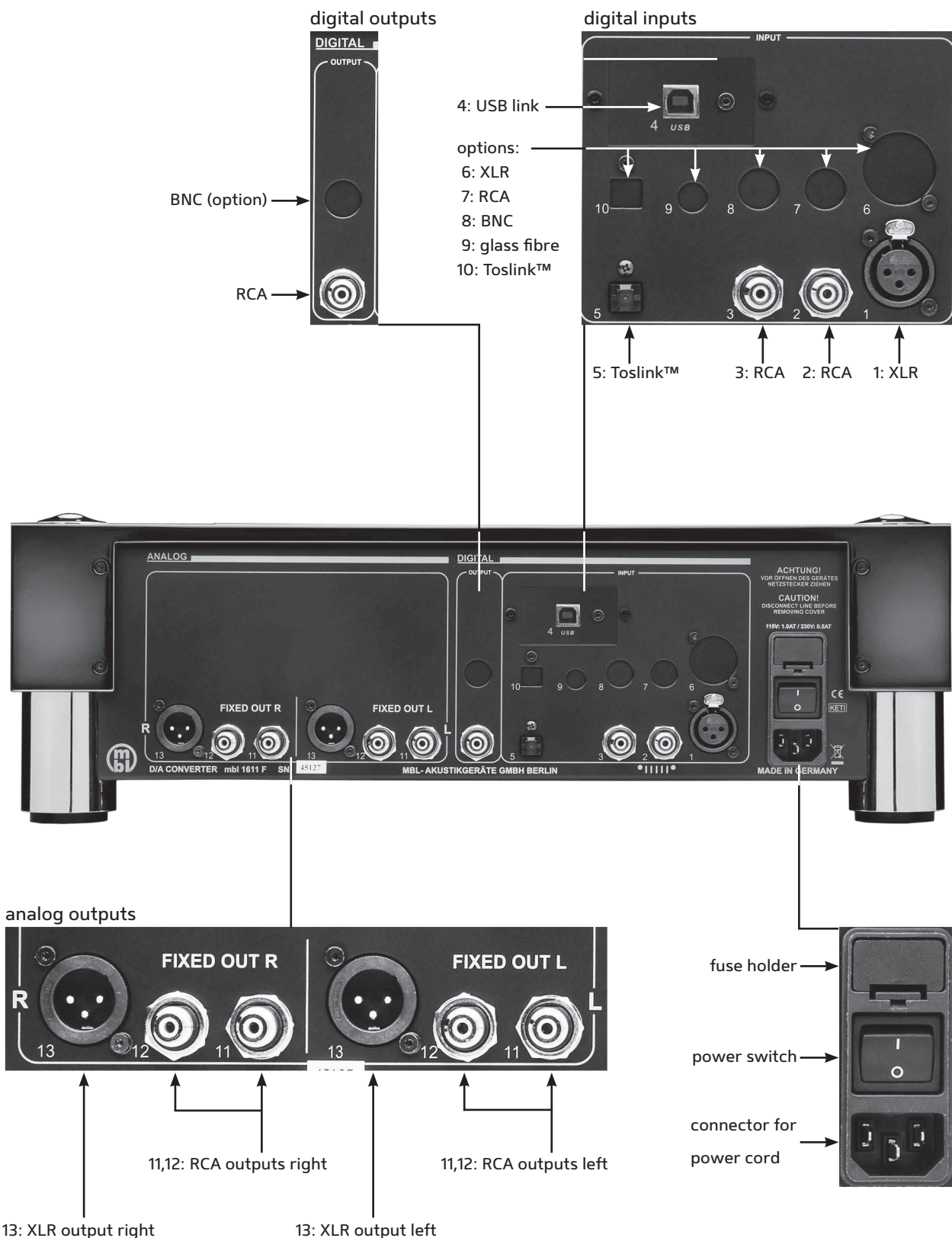
Page	
3	mb1 1611 F Views
3	mb1 1611 F Front View
4	mb1 1611 F Rear View
5	1. Placement
5	2. Operation
5	2.1 Input Selectors
5	2.2 Function Keys
6	3. Display Functions
7	4. Connections
7	4.1 Inputs
7	4.2 Cable
8	4.3 Outputs
8	4.3 a) Digital
8	4.3 b) Analog
9	5. Operation
9	5.1 Line Voltage
9	5.2 Changing the Line Voltage
9	5.3 Fuses
9	5.4 Switch on the D/A Converter
10	6. Maintenance
11	7. Troubleshooting
12	8. Booting into Service Mode
13	mb1 1611 F Specifications





unique high end audio

mbl 1611 F



1. Placement

Protect the D/A converter from dampness and vibrations, as well as excessive dust. It should not be exposed to direct sunlight or strong heat sources (heating). The component should not be placed in close proximity to electric interference sources (fluorescent lamps and motors).

2. Operation

2.1 Input Selectors

The displayed number on the left corresponds to the digital input on the rear side of the unit.



Display	Unit	Connector
input 1,6	input 1,6	XLR (AES/EBU) 110 Ohm
input 2,3,7	input 2,3,7	RCA (S/P-DIF, AES-Coax)
input 8	input 8	BNC (S/P-DIF, AES-Coax)
input 4	input 4	USB link
input 5,10	input 5,10	TOSLINK™
input 9	input 9	glass fibre

The inputs 6, 7, 8, 9 and 10 are options.

2.2 Function Keys

All important functions of the mbl 1611 F D/A converter can be operated via remote control.

Mute: This function mutes the sound.

True audio: The true audio may be changed between on and off. In true audio mode the display shows **true audio**. The feature **true audio on** should be selected, because this setting ensures maximum sound quality. With true audio mode being active, internal error correction is disabled. So audio data from audio source is not influenced.

Display: Dims the display in seven steps from very bright to display off. If the display is turned off, the disp. off indicator LED is on.



3. Display Functions

Emphasis: If the D/A converter receives a signal of an emphasis coded disc, the display shows **emphasis**. The internal de-emphasis is activated.



DVD-A: If the DAC detects a signal with 96 kHz on the activated input, the display shows the **DVD-A** sign.



CD: If the DAC detects a signal with 44,1 kHz on the activated input, the display shows the **CD** sign.



V-DVD: If the DAC detects a signal with 48 kHz on the activated input, the display shows the **V-DVD** sign.



USB: If the DAC detects an USB signal via USB link, the display shows the **USB** sign.



Note: The displayed sources (DVD-A, CD and V-DVD) only depend on the sample frequency (44,1, 48 or 96 kHz).

32 kHz, 88,2 kHz: If the DAC detects a signal with 32 kHz (also 88,2 kHz) on the activated input, only the frequency is shown on the display.



off range: If the DAC detects none of the specified frequencies, the display shows the information **"off range"**.



no signal: If there is no valid source connected to the selected inputs, the display shows the information **"no signal"**. The display will also show this information, if the source's data format is incompatible.



Error: If true audio mode is not active: the Error indicator LED is on, when transmission of digital audio data between audio source (e.g. CD transport) and mbl 1611 F is disturbed (including defected transport, cable or wrong input selected).

If true audio mode is active: the Error indicator LED is on, when transmission of digital audio data between audio source (e.g. CD transport) and mbl 1611 F is disturbed (including defected transport, cable or wrong input selected) or when received data is not valid. This happens also during track skipping, during the playback of scratched discs or when other functions are engaged on the CD-transport like fast forward or back, stop or pause.

An error caused by a dirty disc can be avoided by cleaning it. If after thorough cleaning an error still occurs at true audio on, the disc surface is probably scratched. The disc can now only be played in function position true audio off. Unfortunately, at this error level sound reproduction quality will be limited.

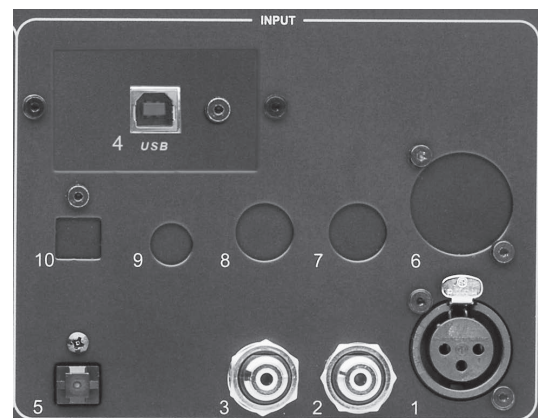
4. Connections

4.1 Inputs

The following inputs are available:

- 2 x AES/EBU @ XLR (1, 6)
- 3 x S/P-DIF, AES-Coax @ RCA (2,3,7)
- 1 x S/P-DIF, AES-Coax @ BNC (8)
- 1 x USB link (4)
- 2 x TOSLINK™ (5, 10)
- 1 x glass fibre (9)

The inputs 6, 7, 8, 9 and 10 are options.



4.2 Cable

Appropriate cabling choices are dependent on the length of the transfer distance from digital source to the mbl 1611 F.

AES/EBU @ XLR: A balanced pair cable with 110 Ohm characteristic impedance and 46pF/m capacity. Maximum possible length 150m.

S/P-DIF, AES-Coax @ RCA: Asymmetrical coaxial cables with 75 Ohm characteristic impedance and 65pF/m capacity. Maximum possible length 150m.

S/P-DIF, AES-Coax @ BNC: Asymmetrical coaxial cables with BNC plug connectors, 75 Ohm characteristic impedance and 65pF/m capacity. Maximum possible length 150m.



TOSLINK™: The transfer distance cable is composed of a plastic material - insulated conductor (universal Plastic Fibre). The designation sounds APF 970/1000 with an attenuation of 400 dB/km at a wavelength of 660 nm. The ideal cable length is between 1m and 2m. The use of longer cable is not recommended.

USB Link: USB port for connection to computer via USB cable. The recommended maximum cable length is 2 meter.

For best sound quality you should always use a high quality audio cable.

Maximum recommended cable length on different digital inputs:

Connector	max. recommended cable length
Plastic insulated conductor (TOSLINK™)	2 meter
Combination (AES/EBU, S/P-DIF, AES-coax @ RCA and @ BNC)	20 meter
USB cable	2 meter

4.3 Outputs

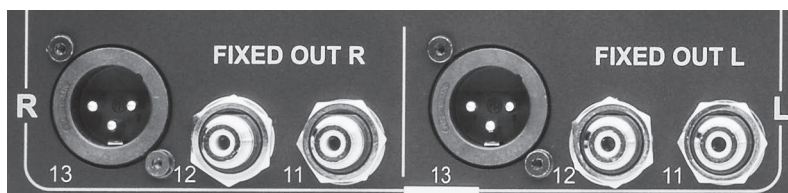
4.3 a) Digital

The mbl 1611 F is equipped with a digital output (S/P-DIF @ RCA). This output can not be muted and it cannot be switched off. The digital output of the 1611 F outputs signals with the following sampling frequencies according to the inputs signal: 96kHz, 88,2kHz, 48kHz, 44,1kHz or 32kHz.

4.3 b) Analog

There are 2 asymmetrical outputs with RCA connectors and 1 balanced output with XLR connectors. All outputs can be used simultaneously. Please note the configuration for left and right channels.

- 11: RCA
- 12: RCA
- 13: Symmetric 3-pin XLR



When connecting cable, please pay attention to the fact that all outputs are paired for use (11 for 11, 12 for 12 and 13 for 13).



5. Operation

5.1 Line Voltage

This component is supplied with a low radiating toroidal transformer. It works with an a/c voltage of 230V or 115V 50/60 Hertz. If the unit is configured für 115Vac, it is indicated on the rear panel. The line voltage selection must be changed when the unit should be used in a country with a different line voltage.

5.2 Changing the Line Voltage

The switching of line voltage is done internally by modifying wire bridges. It can be accomplished only by a qualified engineer or by a service facility. Changing of the line voltage will not effect the validity of your warranty.

5.3 Fuses

Attention: Before examining the fuse, disconnect the power plug!

The fuse holder is located on the rear panel of the D/A. In the fuse holder two active fuses can be found: the operational and reserve (type: 5x20mm). If a change of the line voltage is affected, the value of both fuses must also be changed (230Vac / 0.5 AT or 115Vac / 1.0 AT).

5.4 Switch on the D/A Converter

After all cable connections (input, output and power line connection) are made, the mbl 1611 F can be switched on with the power switch on the rear panel. After that you can select the input to wich the source is connected.



unique high end audio

6. Cleaning the Unit

Unplug the unit before cleaning!

To clean the exterior surfaces of your mbl 1611 F use a dry, soft cloth. To wipe off fingerprints and other grease spots use a soft, wet cloth moistened with a mild detergent dissolved in water.

Caution! The cloth must **never be dripping wet!** If water or other fluids enter the cabinet, you risk damaging the unit.

Never use scouring pads, steel wool, scouring powders or harsh chemical agents, alcohol, thinners, benzine, insecticide or other volatile substances, as these will destroy the finish of the cabinet.





7. Troubleshooting

If no function indicator LED illuminates

- Check whether the power plug is inserted firmly into the connector and that the power switch is pressed. Pay attention also to whether the power line is firmly inserted to the wall outlet
- Review the fuses on the back of the D/A converter. Examine the fuse and replace it, if necessary.

To examine the fuses, the power cord must be disconnected from the component.

If no signal is detected at the D/A converter's output

- Check the source detection on the display.
- Does the source function properly?
- Check connection between D/A converter and source.
- Check connection between D/A converter and preamplifier.
- Check whether the 'Mute' - function is engaged.

If any other problems or questions arise, please contact your MBL dealer or MBL customer service.



8. Booting into Service Mode

1. turn off main power
2. press and hold the 4th button on the right button-row
3. turn on main power
4. release button

The service mode consists of six entries, four are displayed on the first, two on the second page.

You may switch between the pages by pressing button R1 (= upmost button on the right button-row).

The entries are then selected by pressing button 1-4 on the left hand side.

To get back into main menu press button R1 (except in „AD-Test“ and „System Defaults“).

Entries on 1st page:

1. **RC5-Test:** Shows the codes received from a RC5 remote control. „T“ is the toggle-bit (it must differ every time you press a button). „Q“ is the bit-timing (a good value is between 40 and 45).
2. **AD-Test:** Tests the internal AD-Converters for the buttons.
3. **VFD-Test:** Completely lights up the VFD. You may check for defective pixels easily.
4. **System Defaults:** Deletes all settings that were saved previously during use. After pressing the button wait for 5 seconds and cycle main power.

Entries on 2nd page:

1. **Firmware:** Shows the exact Firmware-Version incl. build and time.
2. **Serial:** Shows the system's serial number (not yet implemented) and the model.

a) General

D/A Converter Unit	Multi level Delta Sigma
Sampling (f)	up to 192 kHz
Digital filter	Oversampling 16 times = 705,6 kHz (44.1 kHz red book)
Switched capacitor filter	Sample-and-hold 8 times (smoothing)
Converter (f)	Oversampling 128 times = 5.6 MHz
Resolution	24 bit linear
Error Correction	Repeat block on error
Signal/Noise-Ratio	117 dB
Supported Sampling (f)	96, 48, 44.1, 32 kHz
Voltage	230 V / 50 Hz
(factory set for destination country)	or 115 V / 60 Hz
Power Consumption	16.5 (Stand-by) 21 VA (Idle) 30 VA (max)
Dimensions (W x H x D)	480 x 150 x 445 mm, 19 x 6 x 17.5"
Weight (net)	23 kg, 50.5 lbs

b) Digital Inputs

XLR (AES/EBU)	1 (+1 option)
Connector Style	XLR
Input Impedance	110 Ohm
Nominal Voltage	2.5 Vp-p
Bandwidth	30 MHz
Pins	Pin 1: ground, Pin 2: in-phase, Pin 3: off-phase
RCA (SP DIF)	1 (+1 option)
Connector Style	RCA
Input Impedance	75 Ohm
Nominal Voltage	0.5 Vp-p
Bandwidth	30 MHz
Pins	Internal conductor: in-phase, External conductor: ground
BNC (SP DIF)	(1 option)
Connector Style	BNC
Input Impedance	75 Ohm
Nominal Voltage	1 Vp-p
Bandwidth	30 MHz
Pins	Internal conductor: in-phase, External conductor: ground



Glas ST	(1 option)
Wavelength	820 nm
Allowable Input Power	20 μ W - 150 μ W
Optimum Input Power	50 μ W - 100 μ W
Cut-off Frequency	30 MHz

TOSLINK™	1 (+1 option)
Wavelength	660 nm
Allowable Input Power	3 μ W - 30 μ W
Optimum Input Power	10 μ W
Cut-off Frequency	6 MHz

USB Link	1
Connector Style	USB B type
Sample rate	up to 24 bit

c) Digital Outputs

RCA (SP DIF)	1
Output Impedance	75 Ohm
Open Circuit Voltage	1.0 Vp-p
Operating Voltage	0.5 Vp-p
Cut-off Frequency	30 MHz

d) Analog Outputs

Connection	2 RCA, 1 XLR
Frequency Range	DC - 20 kHz, +0.5 / -0.5 dB
Signal to Noise	117 dBr, 2 V
Dynamic	97 dB
Channel Separation	110 dB, 1 kHz
THD	0.0007%, 1 kHz
Output Level	2V, 1kHz (RCA); 4V,1kHz (XLR)
Output Impedance	RCA = 100 Ohm, XLR = 200 Ohm

Design and specifications are subject to change without notice.

MBL Reference Line High End Audio Components



mbl 1621 A CD Transport



mbl 1611 F D/A Converter



mbl 101 E MKII Radialstrahler



mbl 6010 D Preamplifier



mbl 9011 Mono/Stereo Power Amplifier



mbl 101 X-treme Radialstrahler System



mbl 9008 A Mono/Stereo Power Amplifier



mbl 9007 Mono/Stereo Power Amplifier

For best performance we recommend the High End Audio components of the MBL Reference Line.

Your MBL dealer will help you to choose the optimal components for your perfect High End Audio system.