

## DBT Specifications

Frequency Response	+0, -2dB, 20Hz to 20kHz
Distortion	*0.005% @ 1kHz
Nominal Impedance	600 Ohm
Source Impedance	*<400 Ohm , recommended
Load Impedance	*>600 Ohm, recommended
Maximum input level	*+19dBu @ 20Hz, +29dBu @ 50Hz
Pin Assignment XLR	Pin 1 = Gnd, Pin 2 = Hot (signal +), Pin 3 = Cold (signal -)
Phono	Tip = Hot (signal +) connected to Pin 2 on INPUT XLR Sleeve = Cold (signal ground) connected to Pin 3 on INPUT XLR

\*See section on 'Using the DBT'

0dBu = 0.775Vrms



Dual 600 Ohm Transformer Balancing Interface

Manufactured by LA Audio

[www.laaudio.co.uk](http://www.laaudio.co.uk)

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Version 4

## Why use a Transformer Balancing box

The main reason for using a Transformer Balancing box is to provide virtual electrical isolation between pieces of equipment where ground loops are a problem. The DBT can also provide un-balanced to balanced conversion to drive long cable lengths without degradation. The DBT has both Phono and XLR connectors to allow interfacing between semi-pro unbalanced and fully balanced equipment.

The DBT Transformer Balancing box provides -

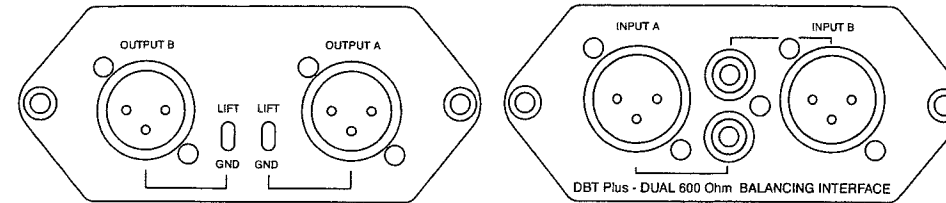
- Balanced to unbalanced conversion
- Electrical isolation between inputs and outputs
- Ground lift switching
- Unbalanced Phono to balanced XLR conversion

## Using the DBT

The DBT is a passive device and as such needs to be driven from a low impedance source to ensure the best performance. Therefore actual performance will depend on source and destination impedances. The following table gives maximum signal levels for a given distortion as a function of source impedance. Load impedance is 600 Ohm.

Source impedance	Maximum level for 0.1% distortion @ 50Hz - dBu	Comments
0 to 40 Ohm	+25	
200 Ohm	+20	
1k Ohm	+10	Distortion @ 50Hz cannot be lower than 0.5%
10k Ohm	N/A	Excessive distortion 5%

## Connections



### DBT plus Front and Rear panels

#### INPUT A and B

Balanced 3 pin female XLR and RCA Phono connectors. The phono is wired Tip to Pin 2 and Sleeve to Pin 3 on the INPUT XLR.

#### OUTPUT A and B

Balanced 3 pin male XLR.

**Please note:** Channel A and B are isolated from each other

## Controls

#### GND/LIFT switch

With the Ground Lift switch in the LIFT position the connection between Pin 1 on the INPUT and OUTPUT XLRs is broken.



### WARNING

The DBT plus should not be considered as a safety device ie. to provide a safety barrier between hazardous voltages and an operator and/or equipment and should not be used where hazardous voltages are likely to occur.

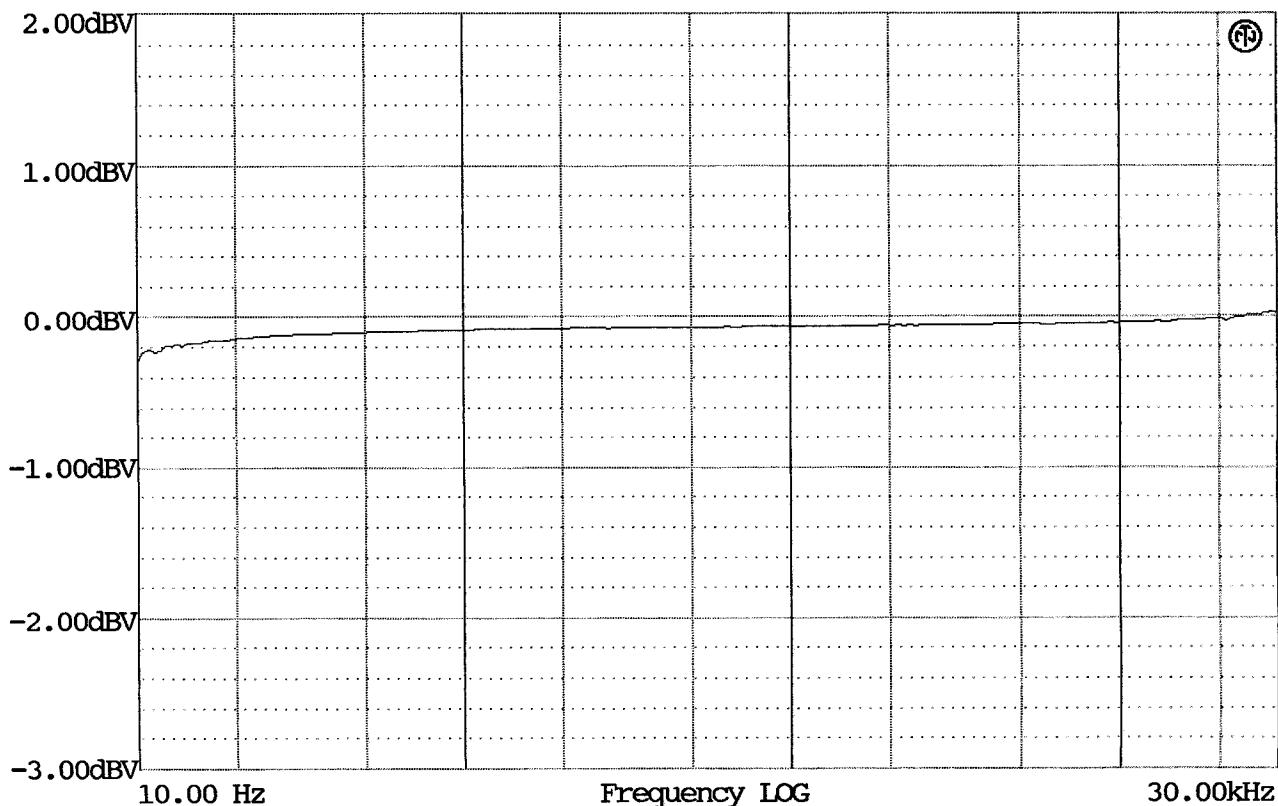
LEVEL  
06.12.2009  
03:22:40

Output: Analog  
Imp: <150hm  
Sine  
-0.02dBV 250.0 Hz

Input: Analog  
Imp:100kOhm

Filter:  
Off

A:-0.06dBV 249.9 Hz



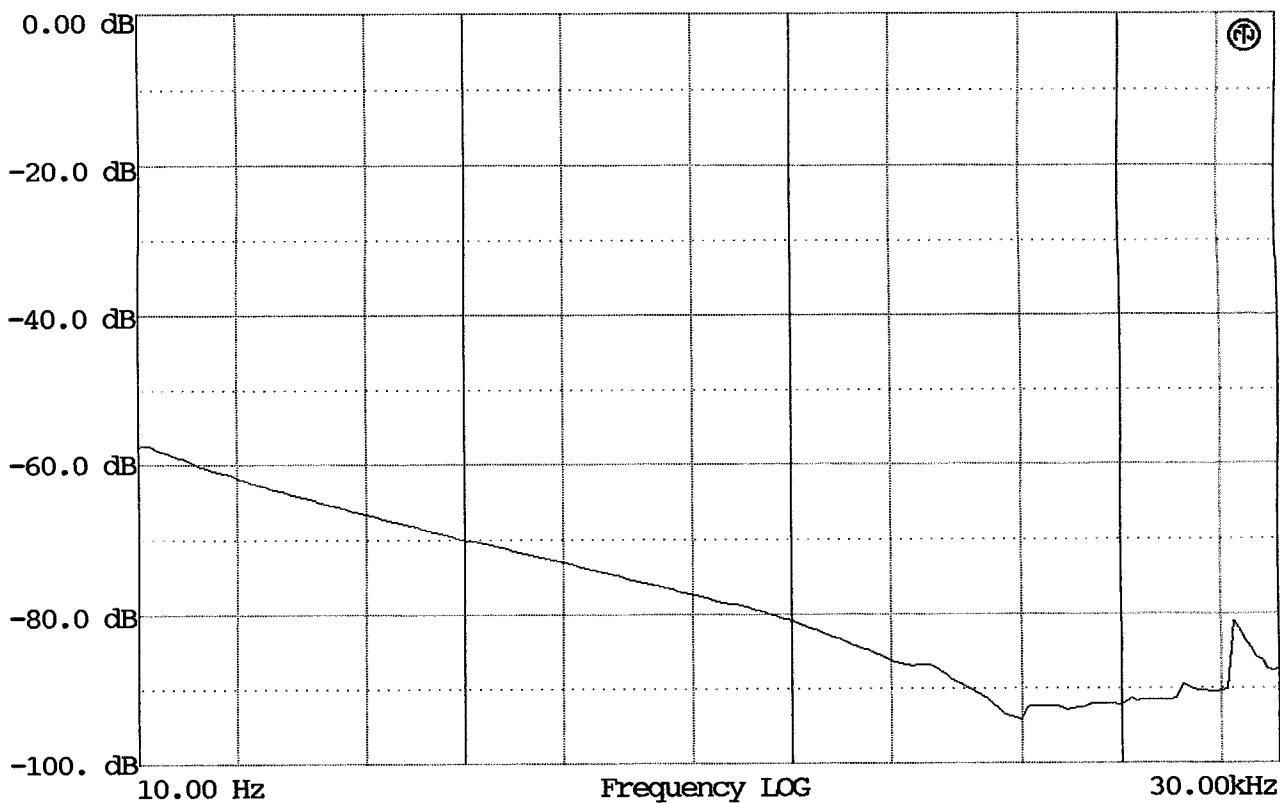
THD+N  
06.12.2009  
03:28:19

Output: Analog  
Imp: <150hm  
Sine  
-0.02dBV 250.0 Hz

Input: Analog  
Imp:100kOhm

Filter:  
Off

A:-0.05dBV 249.9 Hz



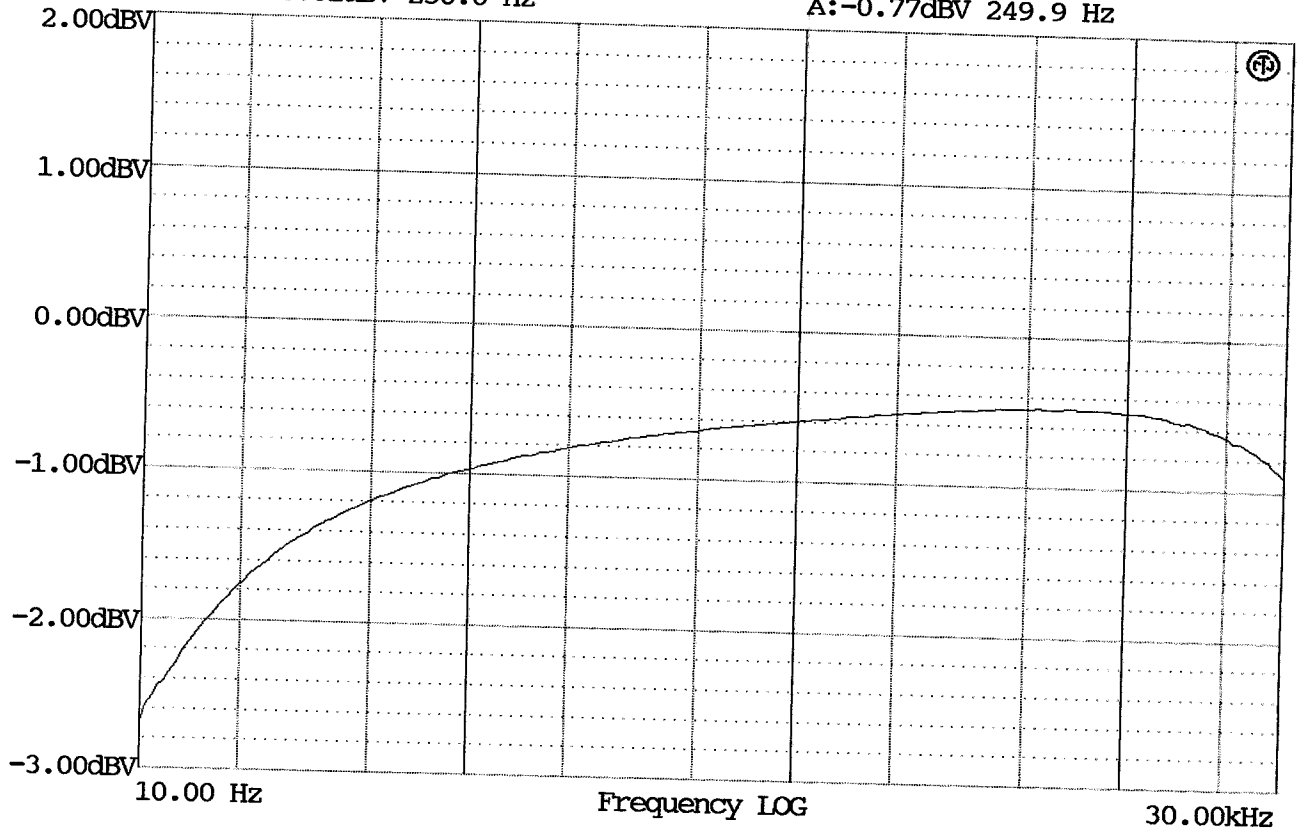
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LEVEL  
06.12.2009  
02:45:35

Output: Analog  
Imp: 600Ohm  
Sine  
0.01dBV 250.0 Hz

Input: Analog  
Imp: 100kOhm

Filter:  
Off

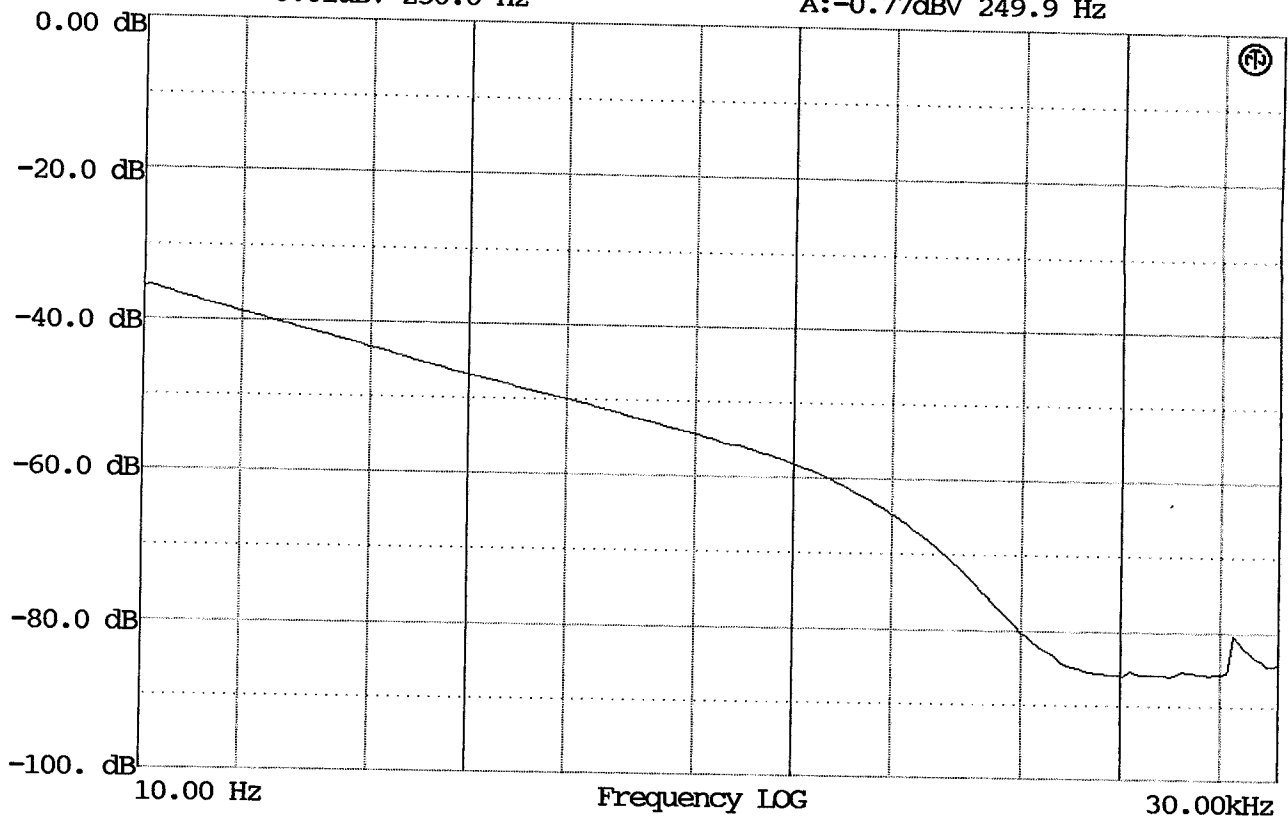


THD+N  
06.12.2009  
02:51:30

Output: Analog  
Imp: 600Ohm  
Sine  
0.01dBV 250.0 Hz

Input: Analog  
Imp: 100kOhm

Filter:  
Off



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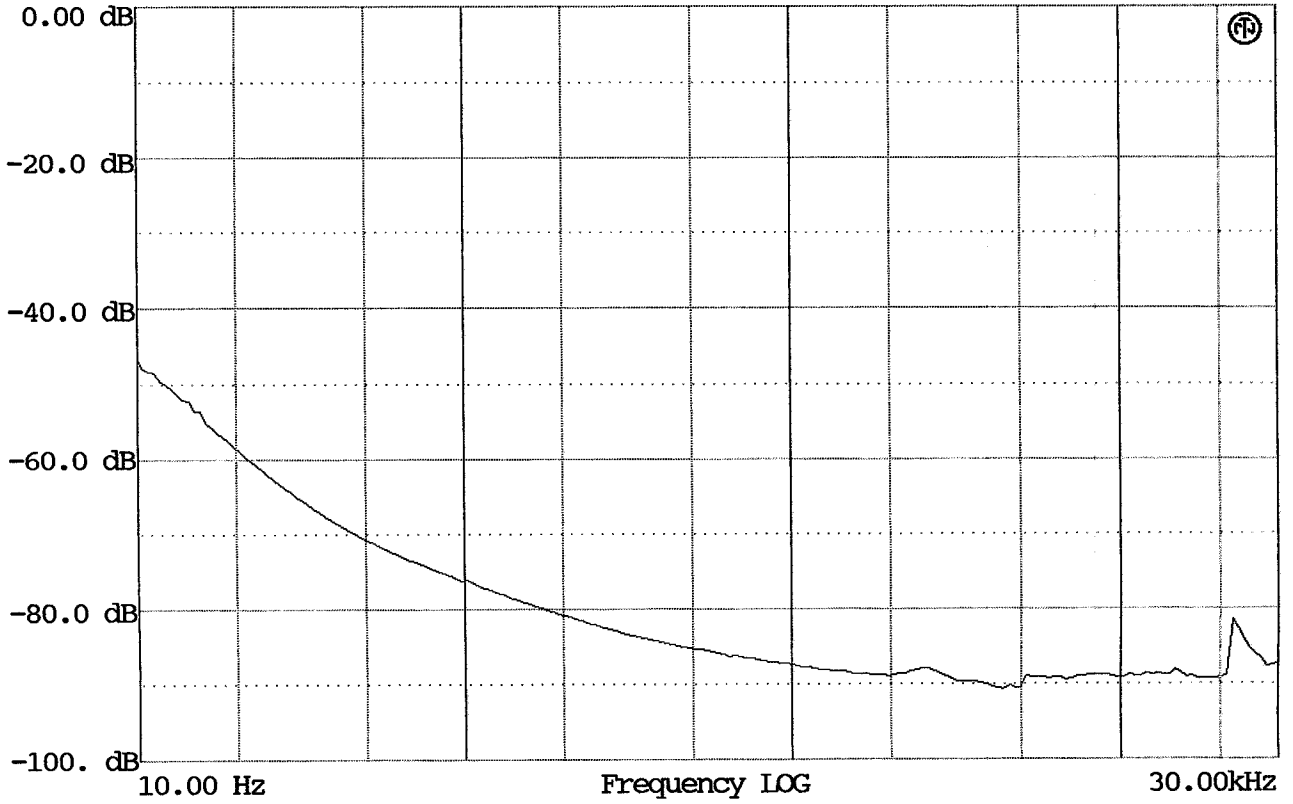
THD+N  
06.12.2009  
03:33:57

Output: Analog  
Imp: <150hm  
Sine  
10.0dBV 250.0 Hz

Input: Analog  
Imp:100kOhm

Filter:  
Off

A: 9.95dBV 249.9 Hz



THD+N  
06.12.2009  
03:39:33

Output: Analog  
Imp: <150hm  
Sine  
-10.0dBV 250.0 Hz

Input: Analog  
Imp:100kOhm

Filter:  
AUDIOBP

A: -10.1dBV 249.9 Hz



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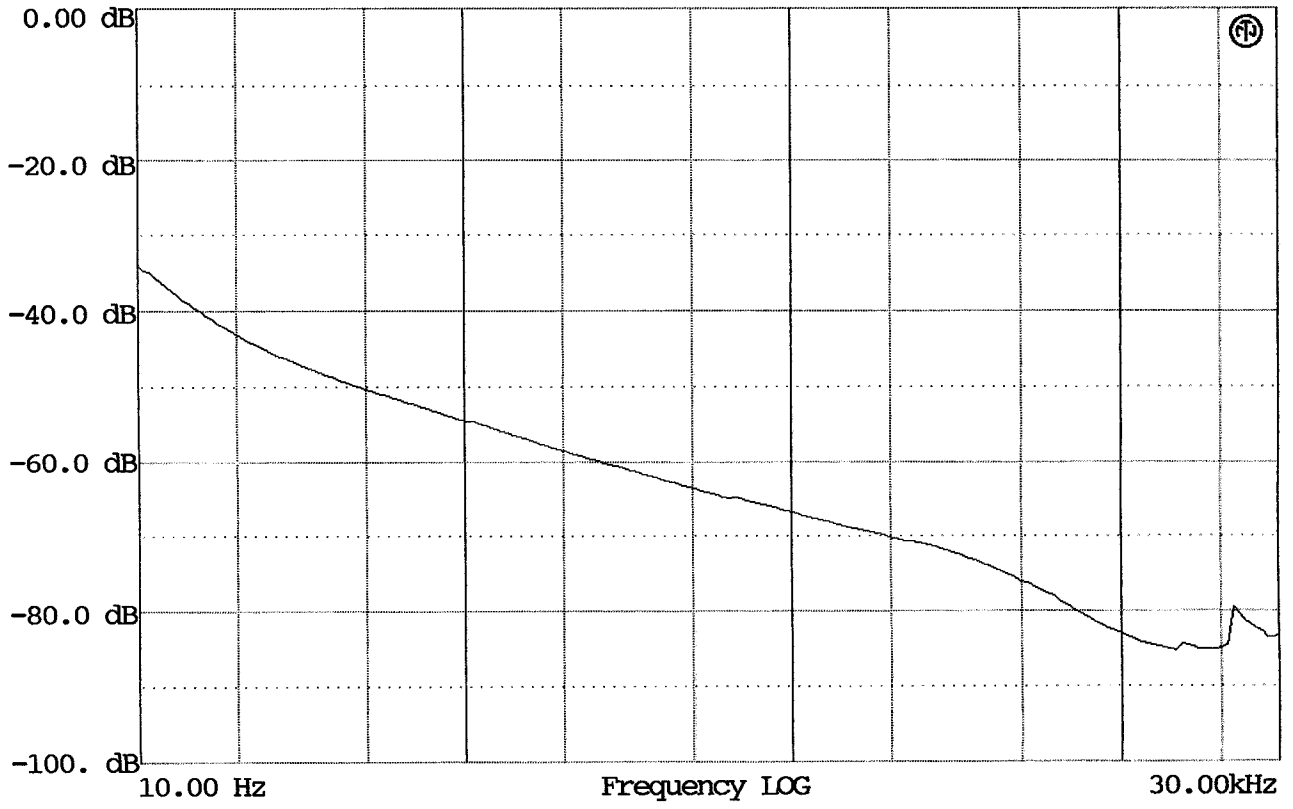
THD+N  
06.12.2009  
02:58:36

Output: Analog  
Imp: 600Ohm  
Sine  
10.0dBV 250.0 Hz

Input: Analog  
Imp: 100kOhm

Filter:  
Off

A: 9.31dBV 249.9 Hz



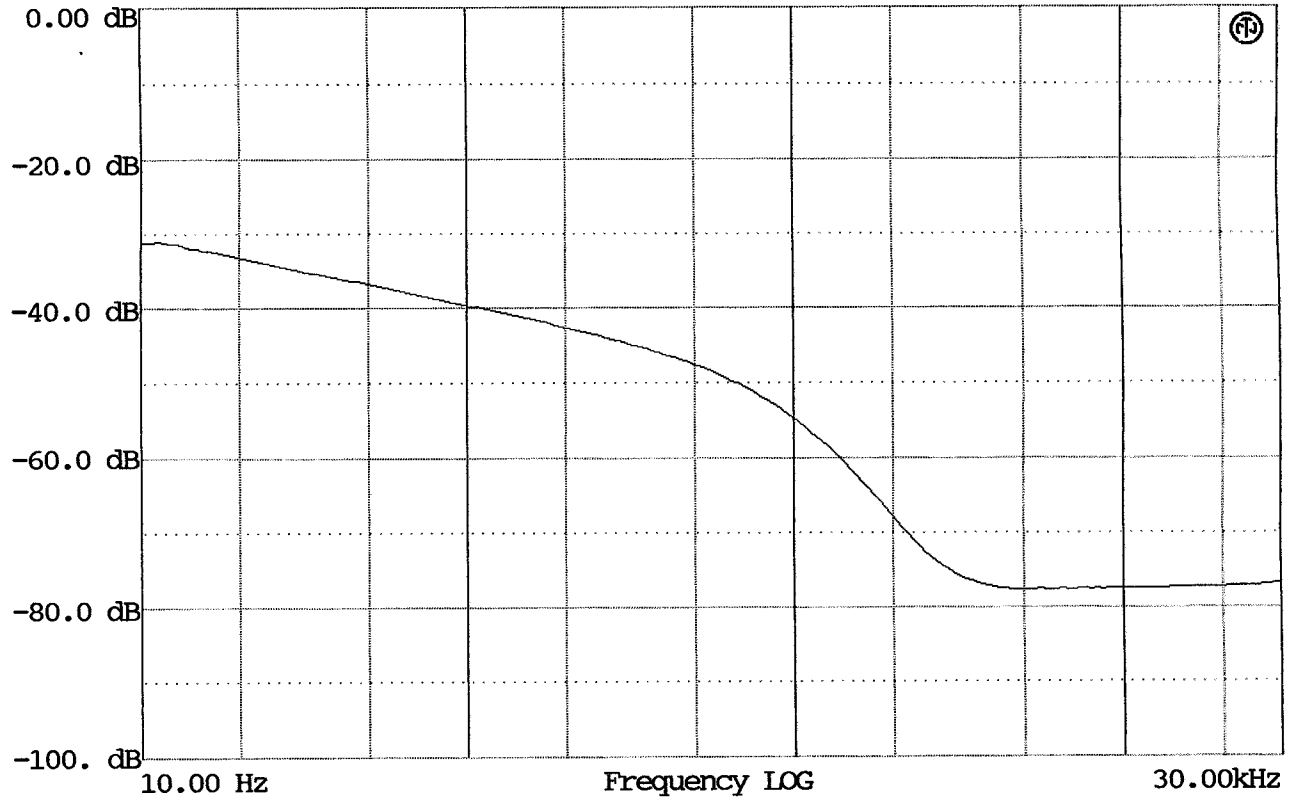
THD+N  
06.12.2009  
03:08:31

Output: Analog  
Imp: 600Ohm  
Sine  
-10.0dBV 250.0 Hz

Input: Analog  
Imp: 100kOhm

Filter:  
AUDIOBP

A: -10.9dBV 249.9 Hz



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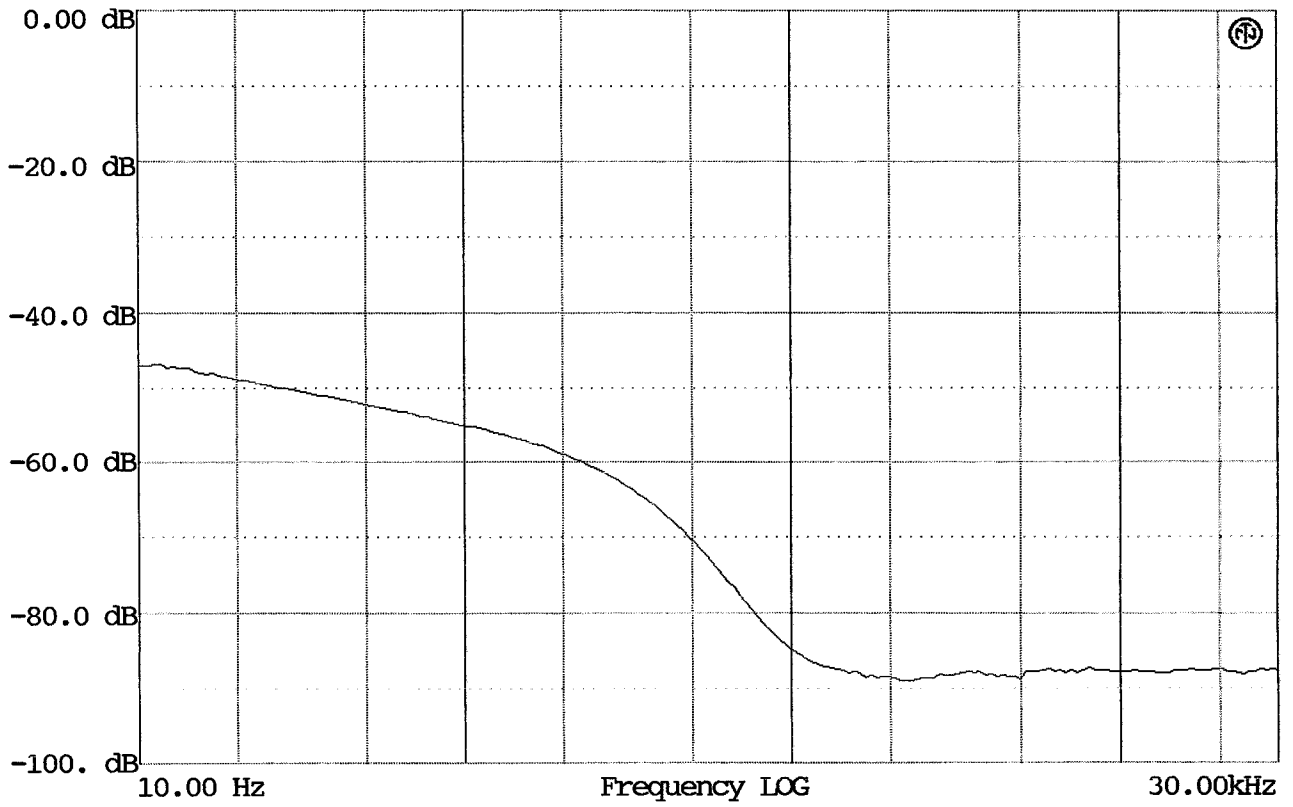
THD+N  
06.12.2009  
10:31:22

Output: Analog  
Imp: <150hm  
Sine  
-20.0dBV 250.0 Hz

Input: Analog  
Imp:100kOhm

Filter:  
AUDIOBP

A: -20.1dBV 249.9 Hz



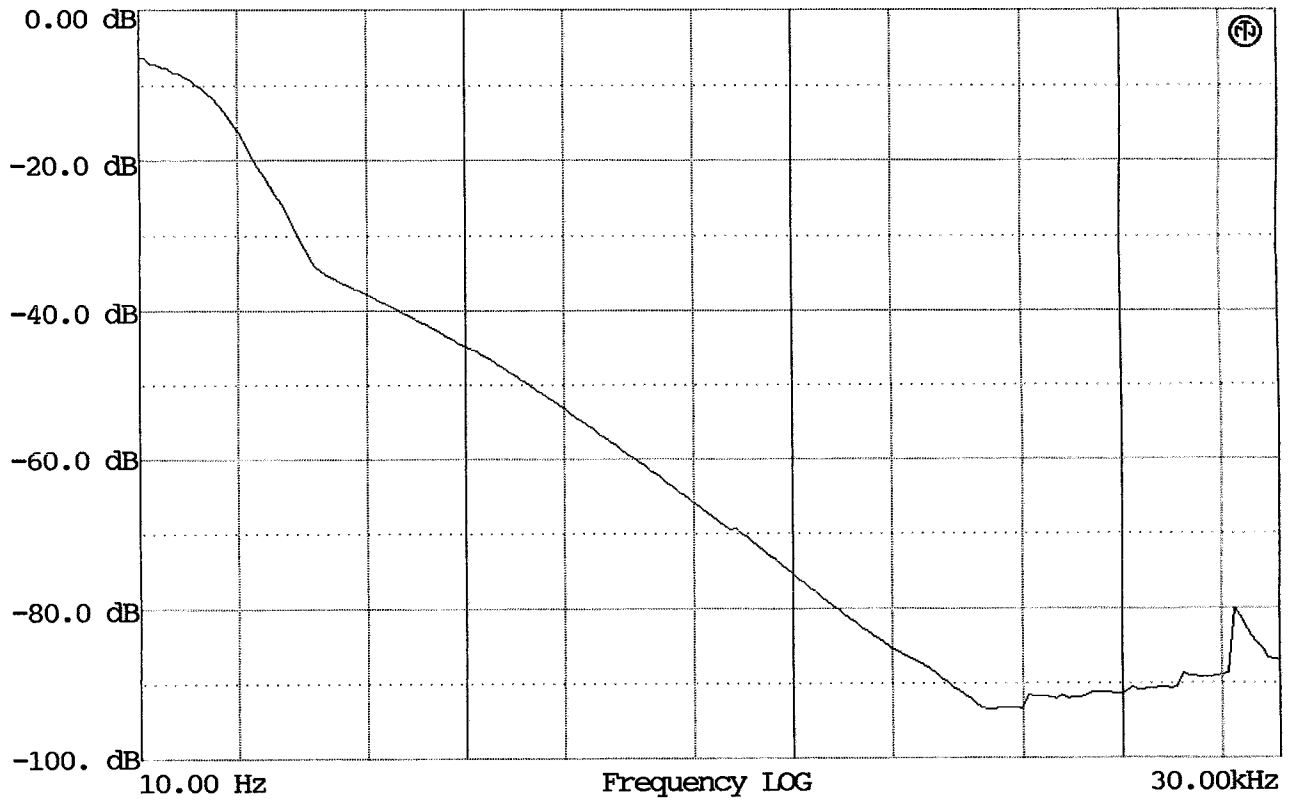
THD+N  
06.12.2009  
10:37:32

Output: Analog  
Imp: <150hm  
Sine  
26.0dBV 250.0 Hz

Input: Analog  
Imp:100kOhm

Filter:  
Off

A: 25.9dBV 249.9 Hz



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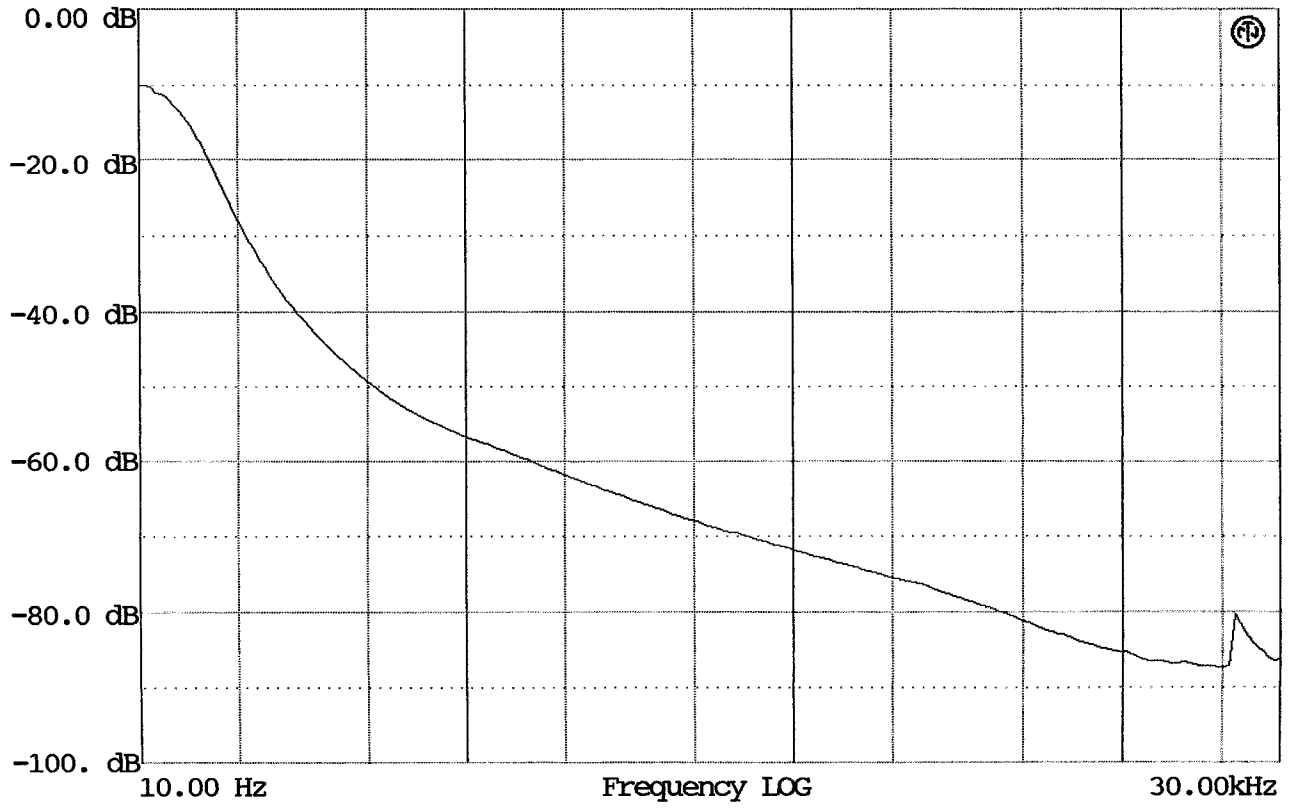
THD+N  
06.12.2009  
03:14:00

Output: Analog  
Imp: 600Ohm  
Sine  
20.0dBV 250.0 Hz

Input: Analog  
Imp: 100kOhm

Filter:  
Off

A: 19.4dBV 249.9 Hz



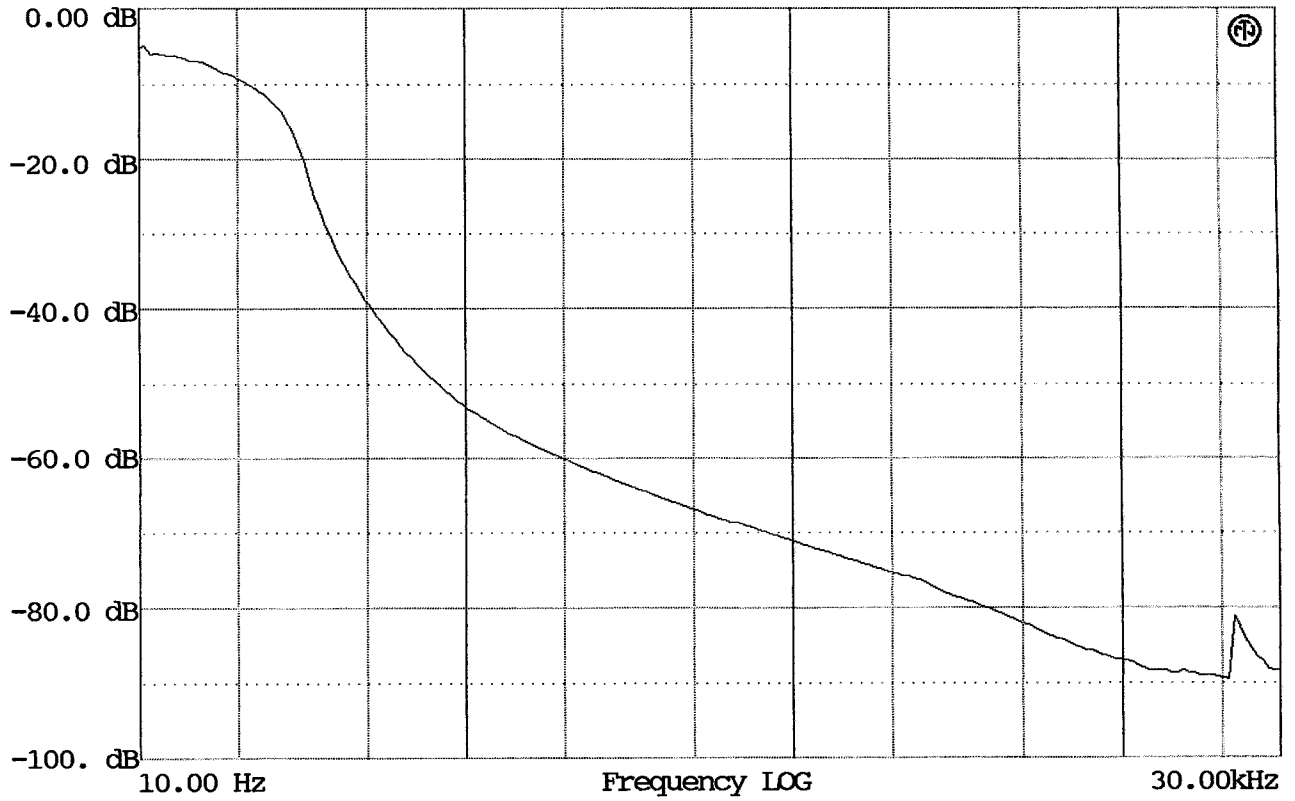
THD+N  
06.12.2009  
03:19:14

Output: Analog  
Imp: 600Ohm  
Sine  
26.0dBV 250.0 Hz

Input: Analog  
Imp: 100kOhm

Filter:  
Off

A: 25.4dBV 249.9 Hz



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