



DCT-23

Integrated Zone Amplifier



Operation Manual



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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	10/02/15	Preliminary Release

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1. INTRODUCTION

The Integrated Zone Amplifier can accept any one of analog and digital audio from 3.5Ø line in, R/L RCA, HDMI, optical and coaxial inputs and output synchronously to R/L speaker, HDMI, optical and coaxial outputs with microphone sound added. Suitable for any musical events use, sound addition, and sound amplifying. With audio output sampling rate supports up to 48kHz and I/O data rate supports up to 24-bit, it provides a high standard of quality sound presentation an can amplifier sound up to -80dB.

2. APPLICATIONS

- Public speech
- Show event audio set up
- Home theater
- Educational/Lecture presentation

3. PACKAGE CONTENTS

- 1 x Integrated Zone Amplifier
- 1 x IR Extender
- 1 x Remote Control CR-126
- 1 x 24V/ 3.75A DC Power Adaptor
- 1 x Power Cable
- 1 x Rack Ears set
- Operational Manual

4. SYSTEM REQUIREMENTS

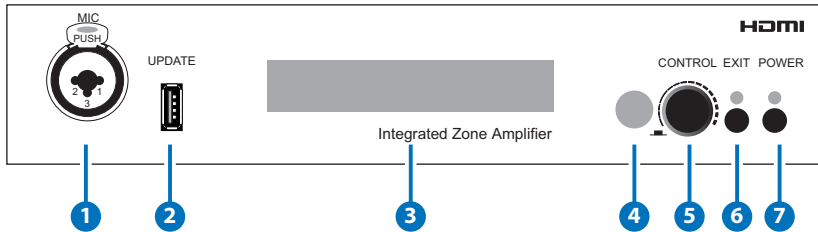
Input audio source equipment such as DVD/Blu-ray players, PC, CD player, MP3 and ...etc. with output display TV/monitor and active speakers.

5. FEATURES

- Supports Digital to Analog audio Conversion (DAC) and Analog to Digital audio Conversion(ADC)
- Supports input sampling rate up to 96kHz, output at 48kHz and HDMI loop out
- Supports video resolution from VGA~WUXGA(RB) or 480i~1080p
- Supports HDMI bypass
- Supports microphone sound mix into output sounds
- Synchronous output sound on both digital and analog
- Supports RS-232, Telnet, WebGUI, IR and on-panel controls
- Sound supports up to -80dB
- Elegant design and easy to install/using

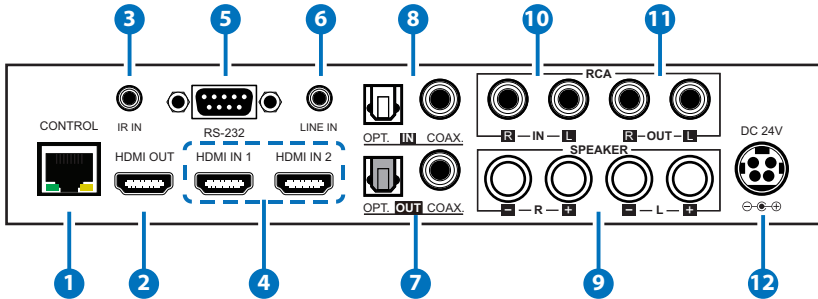
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



- 1 MIC:** Connect with microphone for input sound signal.
- 2 UPDATE:** Connect with USB flash driver for firmware update only.
- 3 LCM:** Display current input source selection and volume setting.
- 4 IR Window:** Accept IR signal from the remote control included in the package.
- 5 CONTROL:** This button has 2 uses, one for volume control and 2 for menu selections. Turn the wheel to adjust the output sound volume outside the menu or press it to enter into the menu selection. After enter into the menu turn the wheel to rotate from the selection and press it again to enter or confirm.
- 6 EXIT:** Press this button to exit from the menu selection. When outside the menu selection press this button to mute the output sound, the LED will illuminate in red . Press it again to unmute.
- 7 POWER:** Press this button to turn on the device and the LED will illuminate in blue. Press it again to switch to standby mode and the LED will turn red.

6.2 Rear Panel



- 1 CONTROL:** Connecting from PC/NB with RJ-45 cable for telnet control.
- 2 HDMI OUT:** Connect to HD TV/monitor for both audio and video display.
- 3 IR IN:** Connect the IR extender included in the package for receiving the IR signal from the device's remote control.
- 4 HDMI IN 1 & 2:** Connect to DVD/Blu-ray players or any HDMI source equipment for input audio and video signal sending.
- 5 RS-232:** Connecting from PC/NB with D-Sub 9pin cable for RS-232 controls.
- 6 LINE IN:** Connect from audio device with 3.5Ø phone jack for stereo audio signal input.
- 7 OPT. & COAX. OUT:** Connect from active optical speakers & coaxial speakers for digital audio outputs.
- 8 OPT. & COAX. IN:** Connect from source equipment such as Set-top-box or PS3 or any other source with optical and coaxial output for audio signal sending.
- 9 R/L SPEAKER:** Connect from speakers with wired cables for stereo audio output.
- 10 R/L IN:** Connect from audio source equipment with RCA jack for stereo audio input.
- 11 R/L OUT:** Connect L/R output to active speakers with RCA jack for stereo audio output.
- 12 DC 24V:** Plug the 24V DC power supply into the unit and connect the adaptor to an AC outlet.

6.3 Remote Control

1 POWER:

Press this button to switch on the device or set it to standby mode.

2 MUTE:

Press this button to mute all the output sound.

3 VOL. ▲ ▼:

Press these buttons to turn the output volume up and down.

4 MENU:

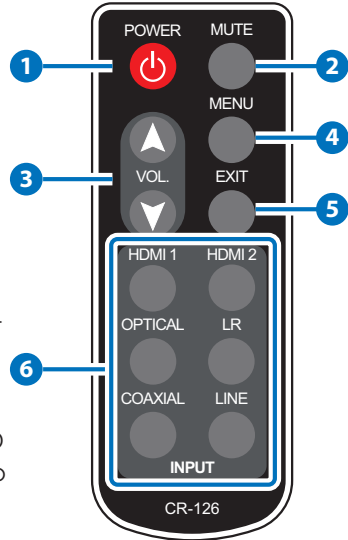
Press this button to bring up the OLED MENU then press the ▲ & ▼ buttons to select and press it again to confirm the selection.

5 EXIT:

Press this button to return or exit from the menu selection.

6 INPUT:

Press these hot keys to switch the input sources instantly.



6.4 OLED Menu

1 st layer	2 ND layer	
Function Select	Audio in	
	HDMI Set	
	Display Set	
	MIC Set	
	line out Set	
	IP Config	
	Reset to Default	
Audio Select*	HDMI1	
	HDMI2	
	Optical In	
	Coaxial In	
	Line In	
	RCA (LR) In	
HDMI Setting*	Video	HDMI1
		HDMI2
	Audio	HDMI
		Ext Audio
Display Set	TimeOut 5s	
	TimeOut 10s	
	TimeOut 15s	
MIC Setting	OFF	
	Normal	
	Phantom	
	LineMode	
	Volume	
Line Out Setting	Fix Level	
	Default	

1 st layer	2 ND layer	
IP Configuration	IP	
	SN	
	GN	
Reset to Default	OK	

***Note:** HDMI audio & video are tie together and when audio select HDMI, video will not be able to select differently other than the selected HDMI port.

6.5 RS-232 Protocols

DCT-23			Remote Control	
PIN	Assignment		PIN	Assignment
1	NC		1	NC
2	Tx		2	Rx
3	Rx	▶	3	Tx
4	NC	◀	4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 115200bps

Data bit: 8 bits

Parity: None

Flow Control: None

Stop Bit: 1

6.6 RS-232 & Telnet Commands

Command	Description
HELP	DISPLAY LIST OF COMMANDS
H	ALIAS FOR HELP
?	ALIAS FOR HELP
PWR 0/1	POWER CONTROL S:STATUS, 0:OFF / 1:ON
SOURCE 0~5	SOURCE IN SELECTION S:STATUS, 0:HDMI 1, 1:HDMI2, 2:OPT, 3:COAX, 4:LINE IN, 5:RCA IN
VOL 0~-80	OUTPUT VOLUME SETTING 0~80dB S:SHOWVOL, +:0.5dB, ++:2dB,-:-0.5dB, --:-2dB or 0~-80 dB
MUTE 0/1	OUTPUT VOLUME MUTE CONTROL S:STATUS, 0:UN-MUTE, 1:MUTE
MICVOL 0~30	MIC VOLUME CONTROL 0~30dB S:SHOWVOL, +:0.5dB, -:0.5dB, or 0~30 dB
MICMODE 0~3	MIC MODE SELECT S:STATUS, 0:OFF, 1:NORMAL, 2:PHANTOM, 3:LINE MODE
FADEFAULT	FACTORY DEFAULT SETTING
REBOOT	REBOOT THE UNIT
IPCONFIG	PRINT THE IP CONFIGURATION TO THE SCREEN
RESETIP	RESET THE IP CONFIGURATION TO FACTORY DEFAULTS
SHOWMAC	PRINT THE MAC ADDRESS TO THE SCREEN
SHOWPORT	PRINT THE TELNET COMMUNICATION PORT TO THE SCREEN
SHOWHPORT	PRINT THE HTTP COMMUNICATION PORT TO THE SCREEN
SIPADD	SET THE IP ADDRESS
SNETMASK	SET THE NET MASK ADDRESS
SGATEWAY	SET THE GATEWAY ADDRESS
SHTTTPORT	SET THE HTTP COMMUNICATION PORT(1~62235) [80]

Command	Description
STELNETPPORT	SET THE TELNET COMMUNICATION PORT(1~62235) [23]

Note: All the RS-232 command will be not executed unless followed with a carriage return. All commands are case-sensitive.

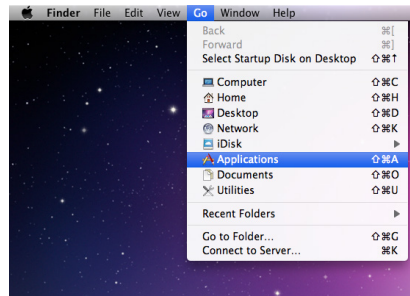
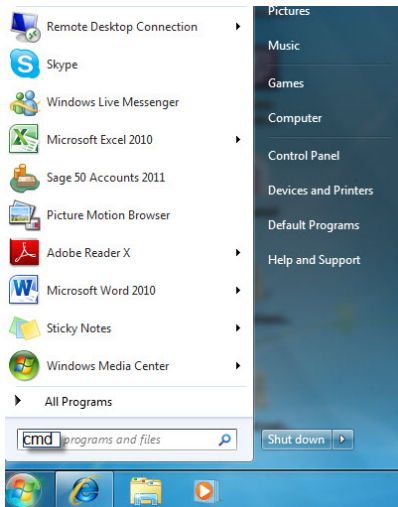
6.7 Telnet Control

Before attempting to use the telnet control, please ensure that both the Intergrated Zone Amplifier (via the 'CONTROL' port) and the PC/Laptop are connected to the active networks.

To access the telnet control in Windows 7, click on the 'Start' menu and type "cmd" in the Search field then press enter.

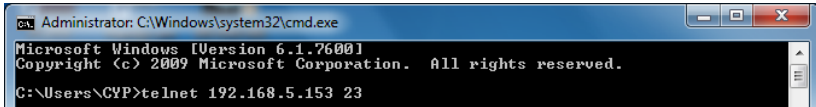
Under Windows XP go to the 'Start' menu and click on "Run", type "cmd" with then press enter.

Under Mac OS X, go to Go→Applications→Utilities→Terminal See below for reference.



Once in the command line interface (CLI) type "telnet", then the IP address and hit enter.

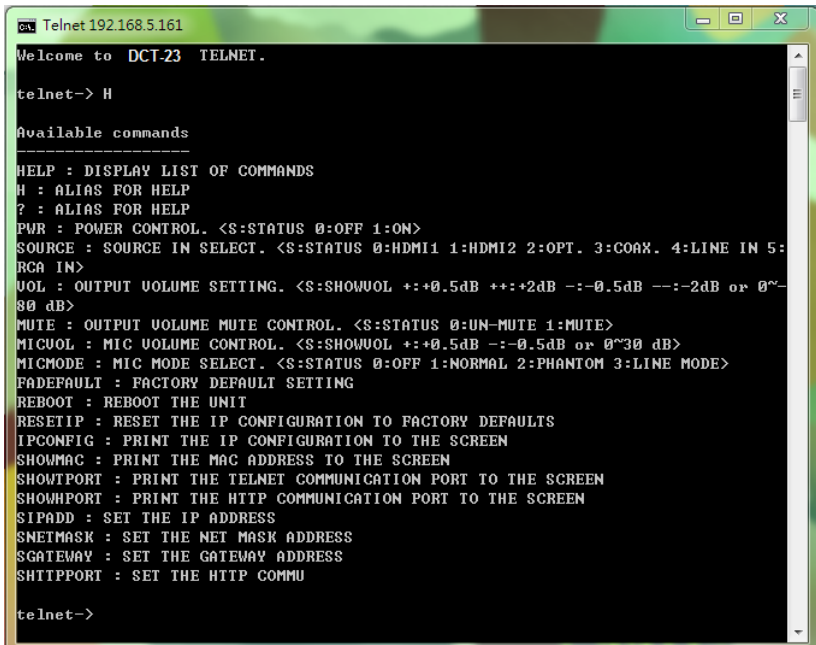
Note: The IP address of the Intergrated Zone Amplifier can be displayed on the device's LCM monitor by entering into the Menu's IP Config.



```

Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
C:\Users\CYP>telnet 192.168.5.153 23
  
```

This will bring us into the device which we wish to control. Type "H" to list the available commands.



```

Telnet 192.168.5.161
Welcome to DCT-23 TELNET.

telnet-> H

Available commands
-----
HELP : DISPLAY LIST OF COMMANDS
H : ALIAS FOR HELP
? : ALIAS FOR HELP
PWR : POWER CONTROL. <S:STATUS 0:OFF 1:ON>
SOURCE : SOURCE IN SELECT. <S:STATUS 0:HDMI1 1:HDMI2 2:OPT. 3:COAX. 4:LINE IN 5:RCA IN>
UOL : OUTPUT VOLUME SETTING. <S:SHOWUOL +: +0.5dB ++: +2dB -: -0.5dB ---: -2dB or 0~-80 dB>
MUTE : OUTPUT VOLUME MUTE CONTROL. <S:STATUS 0:UN-MUTE 1:MUTE>
MICUOL : MIC VOLUME CONTROL. <S:SHOWUOL +: +0.5dB -: -0.5dB or 0~30 dB>
MICMODE : MIC MODE SELECT. <S:STATUS 0:OFF 1:NORMAL 2:PHANTOM 3:LINE MODE>
FADEFAULT : FACTORY DEFAULT SETTING
REBOOT : REBOOT THE UNIT
RESETIP : RESET THE IP CONFIGURATION TO FACTORY DEFAULTS
IPCONFIG : PRINT THE IP CONFIGURATION TO THE SCREEN
SHOWMAC : PRINT THE MAC ADDRESS TO THE SCREEN
SHOWIPPORT : PRINT THE TELNET COMMUNICATION PORT TO THE SCREEN
SHOWHTTPPORT : PRINT THE HTTP COMMUNICATION PORT TO THE SCREEN
SIPADD : SET THE IP ADDRESS
SNETMASK : SET THE NET MASK ADDRESS
SGATEWAY : SET THE GATEWAY ADDRESS
SHHTTPPORT : SET THE HTTP COMMU

telnet->
  
```

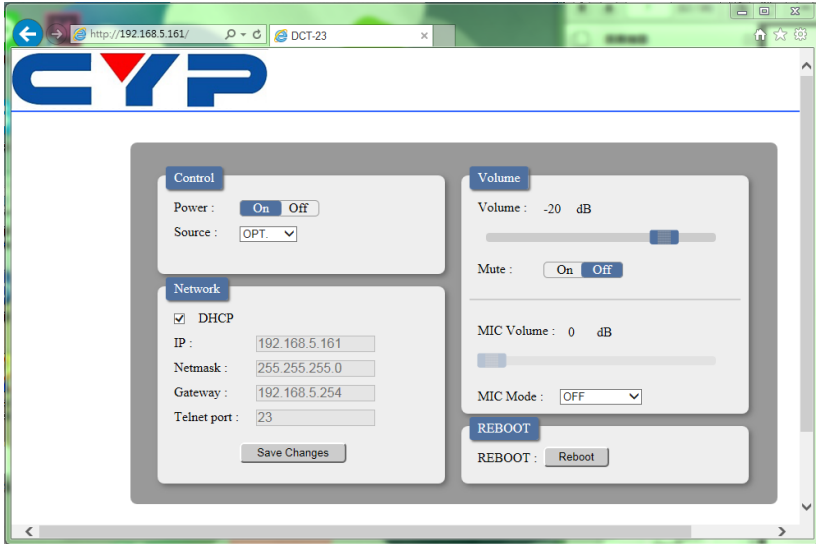
Type "IPCONFIG" To show all IP configurations. To reset the IP, type "RESETIP".

Note: All the commands will be not executed unless followed by a carriage return. Commands are case-sensitive. If the IP is changed then the IP Address required for Telnet access will also change accordingly.

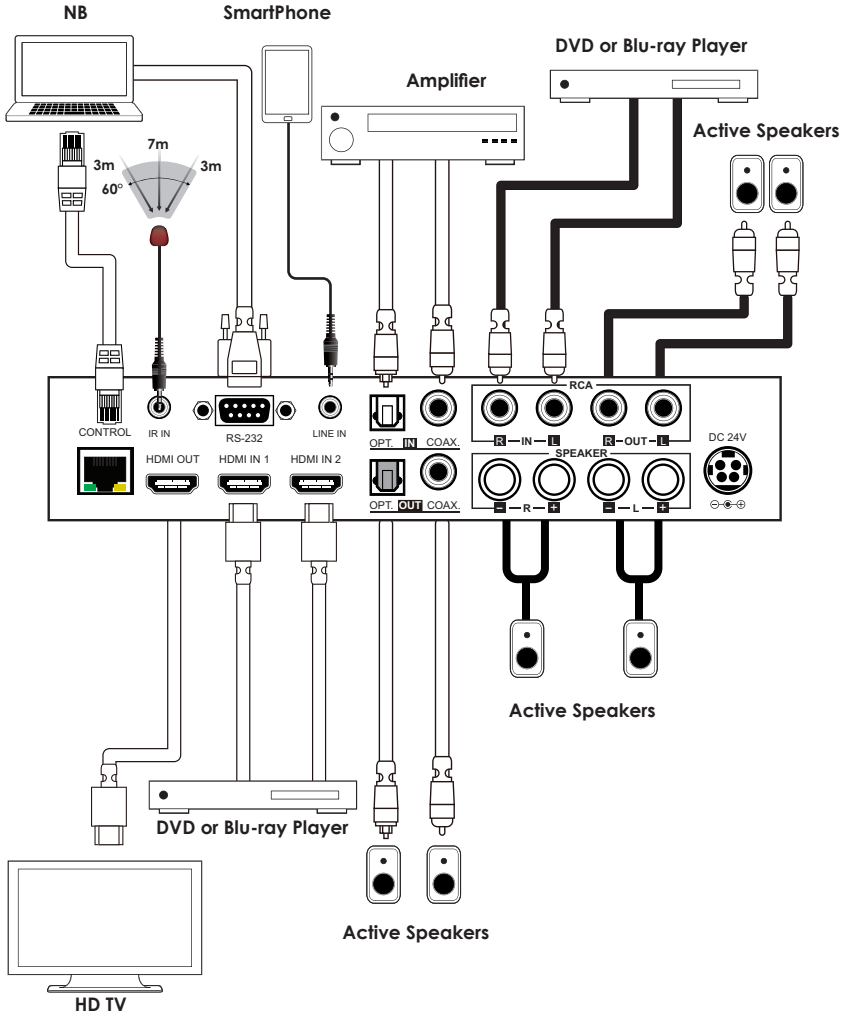


6.8 Web GUI Control

On a PC/Laptop that is connected to the active network as the Intergrated Zone Amplifier, open a web browser and type device's IP address on the web address entry bar. The browser will display the device's control page.



7. CONNECTION DIAGRAM





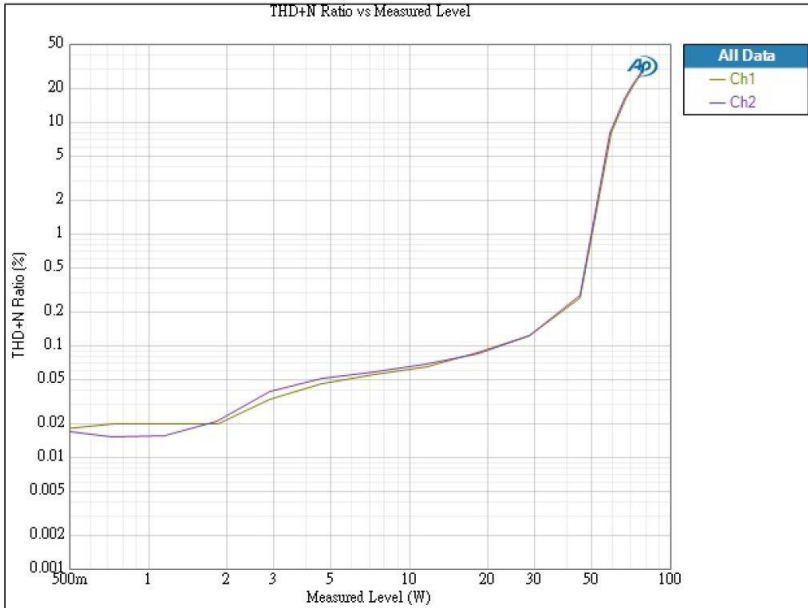
8. SPECIFICATIONS

Input port	2 x HDMI, 1 x Optical, 1 x Coaxial, 1 x 3.5Ø Line in, 1 x R/L RCA, 1 x D-Sub 9pin (RS-232), 1 x RJ-45 (Control), 1 x IR, 1 x MIC
Output port	1 x HDMI, 1 x Optical, 1 x Coaxial, 1 x R/L RCA, 1 x R/L (SPEAKER)
Digital Audio Input/Output	LPCM 2CH
Stereo Input/Output Level	2 Vrms ± 0.2
HDMI Cable I/O Length	15M/12bits 1080p
IR Frequency	38kHz
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Power Supply	24V/ 3.75A DC (US/EU standards, CE/ FCC/UL certified)
Dimensions	215 mm(W) x 172.5 mm(D) x 46 mm(H)
Weight	1060 g
Chassis Material	Aluminum
Silkscreen Color	Black
Operating Temperature	Operating from 0°C ~ 40°C
Storage Temperature	-20°C ~ 60°C / -4 °F ~ 140 °F
Relative Humidity	20 ~ 90% RH (non-condensing)
Power Consumption	82.5W
Power Output	30W/Channel @ 8Ohm (0.1% THD+N)

Audio Specification:

Input Level/ Freq	Output	Output Level	T.H.D+N	Freq Response	SNR
HDMI 1	HDMI	0dB±1dB	<0.01%	±1 dBFS	>80dB
HDMI 2	OPTICAL				
OPTICAL	COAX				
COAX	L/R				
0dBFS/1kHz	L/R	2.0 Vrms ±10%	<0.1%	±1 dBFS	>70dB
Analog L/R PhoneJack 2.0 Vrms/1kHz	HDMI	0dB±1dB	<0.01%	±1 dBFS	>80dB
	OPTICAL				
	COAX				
	L/R	2.0 Vrms ±10%	<0.1%	±1 dBFS	>80dB

Amplifier Specification:





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