



AP3DBL

Compact 40W 70V/100V Audio Amplifier with Mic Mixer

3 Switchable Inputs — RCA, 3.5mm, TOSLINK — with RS232, IR & Front Panel Control

QUICK SPECS

Output Power

40W (rated)

Audio Inputs

RCA, 3.5mm, TOSLINK optical

Control

RS232 (16-ID loop), IR, front panel

Output Voltage

70V or 100V (switchable)

MIC Input

Captive screw; 48V phantom / MIC / LINE

Dimensions

1.5" × 3.78" × 3.45" (H×W×D) / 0.67 lbs

CE

FCC

UL

70V / 100V

48V Phantom



1. Introduction

Routes audio from any combination of analog or digital sources through a single 40-watt amplifier output switchable between 70V and 100V distributed speaker systems — with built-in MIC mixing, ducking, Bass/Treble EQ, and 48V phantom power in a compact desktop chassis. Three switchable inputs (dual-mono RCA, 3.5mm stereo, and TOSLINK optical) handle the full range of source types found in installed AV environments.

Designed for classrooms, conference rooms, lecture halls, restaurants, and hospitality spaces, the AP3DBL supports RS232 serial control with 16 addressable ID codes for multi-unit installations, IR remote control, and front panel operation. MIC input accepts condenser, dynamic, and wireless microphone types with balanced/unbalanced signal support, and automatically ducks line audio when MIC signal is detected.

2. Features

- ✓ 40W mono amplifier output switchable between 70V and 100V distributed speaker systems
- ✓ 3 switchable inputs: dual-mono RCA (Input 1), 3.5mm stereo (Input 2), TOSLINK digital optical (Input 3)
- ✓ 3-level MIC input — condenser (48V phantom), dynamic, and wireless/line; balanced and unbalanced support
- ✓ Ducking function — auto-attenuates line audio on MIC detection; recovers after 5 seconds of silence
- ✓ Volume, Bass, and Treble independently adjustable via front panel, IR remote, and RS232
- ✓ RS232 control with 16 addressable ID codes (0–F hex) for multi-unit loop installations
- ✓ Stereo line audio output for daisy-chain feed to additional zone amplifiers or recorders
- ✓ LED indicators for power status and active input selection
- ✓ Convection cooled, antistatic case design; CE/FCC/UL certified

3. Package Contents

- ① 1 × AP3DBL 3-Input Audio Amplifier with Mic Mixer
- ② 1 × DC 24V Power Adapter
- ③ 2 × Mounting Ears
- ④ 1 × RS232 Cable
- ⑤ 1 × IR Remote
- ⑥ 1 × IR Receiver
- ⑦ 4 × Screws
- ⑧ 1 × User Manual



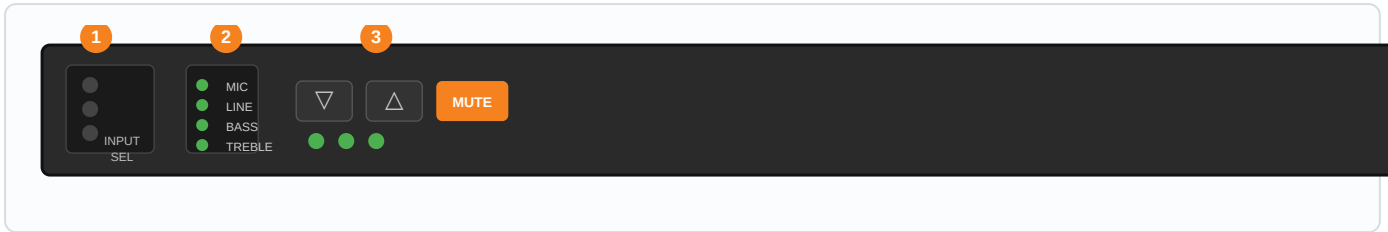
4. Specifications

SPECIFICATION	VALUE
AUDIO INPUT	
Inputs	2 × stereo analog (RCA dual-mono, 3.5mm) + 1 × digital optical (TOSLINK) + 1 × MIC
Input Connectors	2 × RCA 1 × 3.5mm jack 1 × TOSLINK 1 × 3-pole captive screw (MIC)
Input Impedance (Inputs 1&2)	>10kΩ
MIC Input Impedance (48V)	35kΩ
MIC Input Impedance (MIC)	10kΩ
MIC Input Impedance (LINE)	75kΩ
MIC Phantom Power	48V (condenser microphone supply)
MIC Detection Delay	<1ms
AUDIO OUTPUT	
Amplifier Output	1 × mono (3-pole captive screw: COM / 70V / 100V)
Line Output	1 × stereo 3.5mm jack (volume controllable)
Output Power	40W @ 70V or 100V (switchable)
Output Impedance	50Ω stereo / 4–8Ω amplifier
Voltage Gain	32dB
AUDIO PERFORMANCE	
Frequency Response	120Hz – 20kHz
Bandwidth	120Hz – 20kHz
SNR	80dB (at maximum output)
THD + Noise	1% @ 1kHz / 0.3% @ 20kHz (at nominal level)
CMRR	>70dB @ 20Hz – 20kHz
Channel Separation	>75dB @ 20Hz – 20kHz
CONTROL	
RS232	3-pole captive screw connector 9600 baud, 8N1 Pin: TX=2, RX=3, GND=5
IR Control	External IR receiver (3.5mm connection)
Front Panel	Input selection, volume, EQ, mute buttons
ID Codes	16 addressable ID codes (0–F hex) for multi-unit RS232 loop control
GENERAL	
Power Supply	DC 24V adapter (included)
Power Consumption	5W
Operating Temperature	–20°C – +70°C
Humidity	10% – 90% RH
Dimensions (H×W×D)	1.5" × 3.78" × 3.45" (38 × 96 × 88mm)
Weight	0.67 lbs (0.3 kg)
CERTIFICATIONS	
Regulatory	CE / FCC / UL
Warranty	3 Years parts & labor



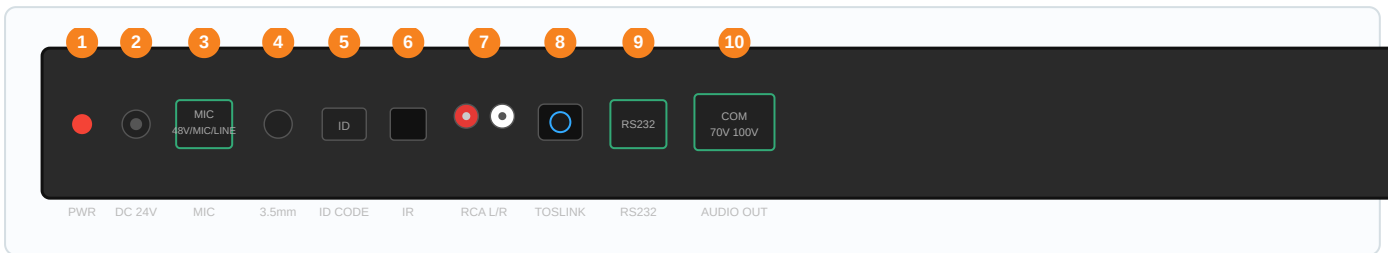
5. Operation Controls and Functions

FRONT PANEL



NO.	NAME	FUNCTION DESCRIPTION
1	Audio Input Selection	Selects active input source. Input 1 = dual-mono RCA; Input 2 = 3.5mm stereo; Input 3 = TOSLINK digital optical. Corresponding LED lights when selected.
2	Audio Control Mode	Cycles through control targets: MIC volume, LINE volume, LINE Bass, LINE Treble. Active mode LED illuminates.
3	Volume Adjustment	▽: Decrease selected control level. △: Increase selected control level. MUTE : Mutes output.

REAR PANEL



NO.	NAME	FUNCTION DESCRIPTION
1	Power LED	Red LED illuminates when device is powered on.
2	DC 24V	Barrel connector for DC 24V power adapter input.
3	MIC Input	3-pole captive screw. Dial switch selects mode: 48V (condenser mic, phantom power), MIC (dynamic mic), LINE (wireless mic or line audio). Supports balanced and unbalanced wiring.
4	3.5mm Audio	3.5mm stereo jack for Input 2 (stereo audio source).
5	ID Code	Rotary selector for RS232 ID address, 0–F (hex). ID 0 = respond to all RS232 commands. ID 1–F = respond only to commands prefixed with matching ID.
6	IR Eye	3.5mm jack for external IR receiver connection.
7	RCA L/R	Dual-mono RCA audio inputs (Input 1). Left (L) and Right (R) channels.
8	Digital Audio Input	TOSLINK optical fiber input (Input 3). Connect to digital audio source with optical output.
9	RS232	3-pole captive screw (TX=2, RX=3, GND=5). 9600 baud, 8N1. Supports ID loop chaining for multi-unit RS232 control.
10	Audio Output	3-pole captive screw: COM (ground), 70V, 100V. Select output tap matching speaker system impedance. Total speaker load must not exceed 40W.



6. Application Example

TYPICAL SETUP

Multi-Source Audio Distribution with MIC Mixing

How it works: Select the active input (RCA, 3.5mm, or TOSLINK) using the front panel buttons or RS232/IR remote. The MIC input is always active and mixed into the output at its own independently controlled level.

Ducking: When MIC signal is detected, line audio automatically attenuates to the preset ducking level. Audio recovers to original level 5 seconds after MIC signal stops — ideal for paging and announce-over-music applications.

Multi-unit RS232: Set unique ID codes (1–F) on each AP3DBL. Chain RS232 connections (ID loop) and address each unit individually. All units respond when ID is set to 0.

RS232 Commands (Baud: 9600, 8N1)

COMMAND	FUNCTION	RESPONSE
1A1.	Switch to Input 1 (RCA)	A: 1 -> 1
2A1.	Switch to Input 2 (3.5mm)	A: 2 -> 1
3A1.	Switch to Input 3 (TOSLINK)	A: 3 -> 1
0A0.	Mute MIC and Line output	Mute
1A0.	Mute MIC only	Mute MIC
2A0.	Mute Line output only	Mute LIN
0A1.	Unmute all audio	Unmute Audio
600%	Query working status	Returns active input, MIC vol, LINE vol, Bass, Treble, Ducking state
601% / 602%	MIC volume up / down	Volume of MIC: [value]
603% / 604%	Line volume up / down	Volume of LINE: [value]
605% / 606%	Bass level up / down	Bass of LINE: [value]
607% / 608%	Treble level up / down	Treble of LINE: [value]
609%	Initialize / reset to defaults	Init OK
610%	Toggle ducking on/off	Ducking on / Ducking off
4[xx]%	Set ducking level (00–60)	Ducking of LINE: [value]
5[xx]%	Set MIC volume (00–60)	Volume of MIC: [value]
7[xx]%	Set Line volume (00–60)	Volume of LINE: [value]
8[xx]%	Set Bass level (00–08)	Bass of LINE: [value]
9[xx]%	Set Treble level (00–08)	Treble of LINE: [value]

7. Troubleshooting

Q: No audio output from speakers?

A: Verify the active input is selected and source is connected. Check the correct output tap (70V or 100V) matches the speaker system. Total connected speaker load must not exceed 40W. Confirm the unit is not muted.

Q: RS232 commands not working?

A: Verify baud rate is 9600, 8N1. Check ID code — if set to 1–F, commands must include the ID prefix (e.g., 5/603% for unit with ID=5). With ID=0, no prefix is needed.

Q: Ducking not triggering?

A: Verify the mode switch (48V/MIC/LINE) matches the microphone type. Only condenser microphones should be connected in 48V mode. Set ducking level with 4[xx]%(00-60). MIC input must be connected and receiving signal.

Q: MIC input picks up excessive noise?

A: Verify the mode switch (48V/MIC/LINE) matches the microphone type. Only condenser microphones should be connected in 48V mode.

