

# Procella audio®





# Introduction

Procella DA05 and DA06 amplifiers provide exceptionally high power density and powerful integrated DSP features. The DA05 and DA06 amplifiers feature both analog and AES3 inputs with link outputs; input mixing; comprehensive DSP functions (crossover, parametric EQ, delay and limiter control); network control via Ethernet on Cat-5 cable or using suitable WiFi access point; IntelliDrive™ Controller software and iPad native app; comprehensive front-panel display and dedicated mute buttons; and both binding post and Neutrik speakON output connectors.

The information contained in this Quick Start Guide is sufficient for proper installation of the DA05 and DA06 amplifiers, and for configuration of settings in typical applications. Please refer to the full Operation Manual for detailed information on maintenance, cooling requirements, warranty, and configuration for complex installations.

Except as specifically noted, all features, values and connections are identical for the DA05 and DA06.

## Important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. **WARNING:** To reduce the risk of fire of electric shock, do not expose this apparatus to rain or moisture.
16. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
17. Do not connect the unit's output to any other voltage source, such as battery, mains source, or power supply, regardless of whether the unit is turned on or off.
18. Do not remove the top (or bottom) cover. Removal of the cover will expose hazardous voltages. There are no user serviceable parts inside and removal may void the warranty.
19. An experienced user shall always supervise this professional audio equipment, especially if inexperienced adults or minors are using the equipment.



## Standard



This equipment conforms to the requirements of the EMC Directive 2004/108/EC and the requirements of the Low Voltage Directive 2006/95/EC.  
Standards applied: EMC Emission EN55103-1, E3  
EMC Immunity EN55103-2, E3, with S/N below 1% at normal operation level.  
Electrical Safety EN60065, Class I.



This equipment is tested and listed according to the U.S. safety standard ANSI/UL 60065 and Canadian safety standard CSA C22.2 NO. 60065. UL made the tests and they are a Nationally Recognized Testing Laboratory (NRTL).

## Explanation of graphic symbols









The lightning bolt triangle is used to alert the user to the presence of un-insulated "dangerous voltages" within the unit's chassis that may be of sufficient magnitude to constitute a risk of electric shock to humans.



The exclamation point triangle is used to alert the user to presence of important operating and service instructions in the literature accompanying the product.

## Warning

-  To reduce risk of fire or electric shock, do not expose this apparatus to rain or moisture.
-  Do not expose this system/apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
-  This apparatus must be connected to a mains socket outlet with a protective earthing connection.
-  The mains plug is used as a disconnect device and shall remain readily operable.
-  To prevent electric shock do not remove top or bottom covers. No user serviceable parts inside. Refer servicing to qualified service personnel.
-  To completely disconnect this equipment from the AC mains, disconnect the power supply cord plug from the ac receptacle. The mains plug of the power supply cord shall remain readily operable.

## Radio interference

A sample of this product has been tested and complies with the limits for the European Electro Magnetic Compatibility (EMC) directive. It also has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference from electrical equipment. This product uses radio frequency energy and, if not used or installed in accordance with these operating instructions, may cause interference to other equipment, such as radio receivers. However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception (determined by turning the equipment on and off), the user may be able to correct the interference by one or more of the following measures:

- Check if the affected unit complies with the EMC limits for immunity, (CE-labeled). If not, address the problem with the manufacturer or supplier. All electrical products sold in the EC must be approved for immunity against electromagnetic fields, high voltage flashes, and radiointerference.
- Consult the dealer or an experienced radio/TV technician for help.
- Reorient or relocate the antenna.
- Increase the separation between the equipment and receiver.

### For customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

*Français:* Cet appareil numérique de la classe B est conforme à la norme NMB003 du Canada.

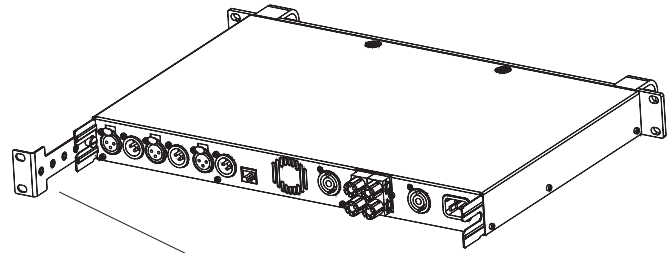
## Unpacking and visual checks

Every Procella amplifier is carefully tested and inspected before leaving the factory and should arrive in perfect condition. If any damage is discovered, please notify the shipping carrier immediately. Save the packing materials for the carrier's inspection and for any future shipping.

## Installation

**DA05** – Depth is 272 mm (10.7 in) rack ear to back panel. Weight is approximately 4.6 kg (10.1 lbs). Use of rear support brackets (optional) is not necessary for fixed installations but should be considered for very demanding touring applications.

**DA06** – Depth is 360 mm (14.2 in) rack ear to back panel. Weight is approximately 6.2 kg (13.7 lbs). Rear support brackets are included and use is recommended in all applications.



Rear Support Bracket

## Cooling

Please ensure that there is sufficient space in the front and the rear of each amplifier to allow for a free flow of air. No doors or covers should be mounted either in the front or rear of the amplifiers. Amplifiers may be stacked directly on top of each other with no spacing, though some spacing may enable more convenient installation of rear cabling.

Refer to the full Operation Manual for thermal dissipation value when installing large numbers of amplifiers in air conditioned spaces.

## Operating voltage

The DA05 and DA06 amplifiers have a universal power supply that operates on mains from 100 – 240 V at 50 or 60 Hz. The IEC receptacle on the rear panel accepts the supplied IEC cord which terminates in a connector appropriate for the country of sale. When AC power is connected, the amplifier goes into standby (red indication on standby LED). The amplifier may be turned on by pressing the front power button or remotely using the IntelliDrive Controller software.

## Grounding

Signal ground is floating via a resistor to chassis, and therefore grounding is automatic. For safety reasons, never disconnect the earth (ground) pin on the AC power cord. Use balanced input connections to avoid hum and interference.

# Front panel

The following indicators and controls are available on the front panel:

**1 MENU** – Selects MENU mode and confirms a given preset name.

**2 BACK** – Moves backward through menu layers in MENU mode.

**3 MUTE** – Mutes corresponding channel as indicated.

**4 SIG** – Illuminates green when signal is present. Illuminates red when signal is clipping (pre input mixer)

**5 POWER** – Indicates STANDBY (red)

**6 LIM** (limit) – Illuminates when the amplifier limits the signal. Limiting is engaged when the channel:

- Reaches the selected voltage limit
- Rail voltage sags below the selected threshold (both LEDs flash rapidly for 1.5 sec)
- Maximum current output reached
- Mains voltage cannot maintain full rail voltage

**7 ADJUST/SET** (Rotary Encoder) – Rotation moves through the menu and adjusts the currently selected parameter when in setup mode. Pressing down on the knob selects a given parameter or advances further into the menu.

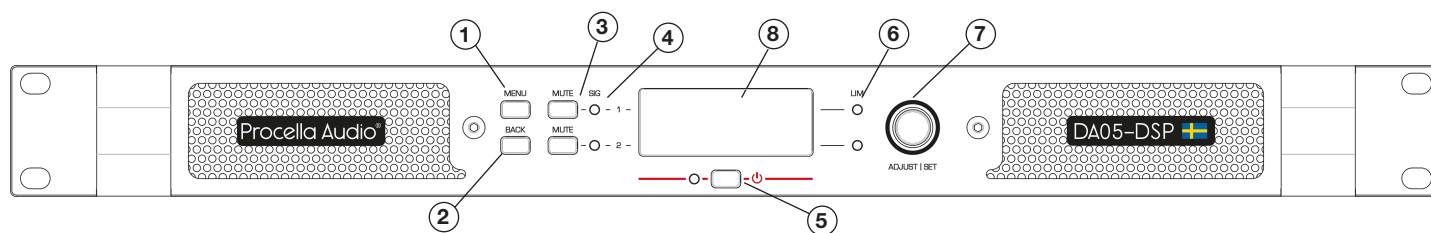
In operating mode, rotation of the ADJUST/SET encoder adjusts output gain (outputs ganged).

## 8 BACKLIT DISPLAY

In operating mode, the display shows the following values and status indicators:

- Level – Horizontal VU meters for each channel
- Device name and Preset name

In setup mode, the display shows currently selected menu locations and parameters. For more information on DSP setup procedures, please refer to the Operation Manual.



# DSP presets

For use with Procella loudspeakers, the DA05 and DA06 have programmed DSP settings to provide EQ and crossovers for all models. No further DSP configuration is needed for immediate use.

## Default configuration

PRESET 1, is suited for use with a stereo program into full-range loudspeakers and provides a full-range signal with no EQ, crossover or limiting.

The signal routing and parameter settings are:

- Analog 1 routed to Ch. 1
- Analog 2 routed to Ch. 2
- AES 1&2 routed to Chs. 1 & 2
- AES3 to analog failover is OFF

- Mode: Stereo
- Input levels: 0 dB
- Input EQ: Flat
- Output levels: 0 dB
- Output mute: Muted
- Output EQ: Flat
- Delay: Off
- Crossover: Off

## DA05 & DA06 Presets

Locate your Procella speaker model and preferred EQ setting in the attached DSP Pre-Set List. Use the front panel controls to select the appropriate Preset on your DA05 or DA06 (see Selecting a Procella Preset below). Connect your Procella loudspeakers to the amplifier outputs according to the matching listings in the output channel columns.

## Selecting a Procella Preset

- Push the MENU button
  - Push the ADJUST/SET knob
  - Push the ADJUST/SET knob again
  - Turn the ADJUST/SET knob to the desired Preset
  - Push the ADJUST/SET knob
  - Turn the ADJUST/SET knob to select YES
  - Push the ADJUST/SET knob
- Verify that the display shows the correct Preset.
- Unmute the channels

# Input connections

## Analog Inputs

Analog inputs are available on two standard XLR-F latching connectors. The inputs are electronically balanced. The impedance is 20 kohms, and the inputs can accept a maximum input level of +26 dBu.

Polarity is as follows:

**Pin 1** = screen (shield), **pin 2** = positive (+), **pin 3** = negative (-).

## Analog Links

Two latching XLR-M connectors are adjacent to the analog input connectors and are paralleled to the input connectors to provide an unprocessed analog loop-through to feed additional DA05 and DA06 units or other equipment.

## AES3 Inputs

A latching XLR-F connector accepts an AES3 digital audio signal. Input impedance is 110 ohms. (Ensure that 110 ohm digital audio cables are used; standard XLR microphone cables are rarely suitable for reliable digital audio transmission.)

*AES3 is a stereo digital format, and therefore both inputs are fed via a single connector. Selection of the analog or digital inputs is made via the front panel display or IntelliDrive Controller software.*

## AES3 Link

A latching XLR-M connector is fitted adjacent to the AES3 input connector. This is an active link which sends an unprocessed AES3 loop-thru to feed additional DA units. The design requires no termination load when the unit is the last connected.

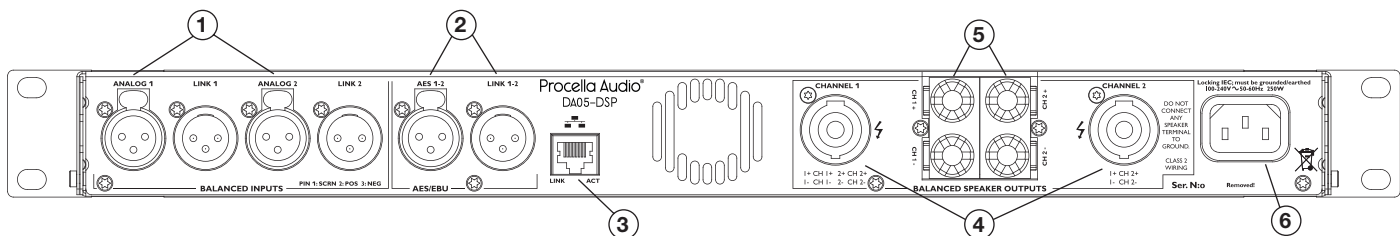
# Rear panel

The following connectors are available on the rear panel:

**1 ANALOG INPUTS and LINK** - XLR-F input connectors provided for each channel, with XLR-M link output connectors.

**2 AES3 INPUT and LINK** - AES3 digital inputs are on an XLR-F connector with a link output on an XLR-M connector.

**3 NETWORK** (Ethernet) - An RJ45 jack is supplied for connection to an Ethernet network for external control and monitoring, either by a direct wired connection or via an external WiFi router to an iPad or tablet. LEDs below the connector indicate valid network connection (LINK) and network activity (ACT).



# Output connections

**Two types of power output connections are available on the DA05 and DA06 amplifiers: Neutrik speakON and binding post. The two types are connected in parallel. Loudspeakers may be connected to both at the same time, but this is generally not recommended as total impedance may be too low.**

## Binding Posts

Power outputs for loudspeaker connection are available on two fully enclosed binding posts. Observe signal polarity as indicated.

## speakON Connectors

Outputs for both channel 1 and channel 2 are available on a four-pole speakON connector to the left. The two-pole speakON to the right connect to output 2 only. See diagram for output connection and polarity.

*\*see fig 1*

**NOTE!** When connecting wiring to Speaker Terminals, the installation shall be made by an instructed person or ready-made leads or cords shall be used

## Bridge Mode

The DA05 and DA06 employs an inherently bridged Class D output topology; Under no circumstances should the DA Amplifier be bridged, this may cause undesired operating performance.

# Specifications

## DA05-DSP

## DA06-DSP

### General

Number of channels (not bridgable)		2	
Maximum total output power	1200 W		2400W
Output voltage	70 v peak / 50 Vrms / 36.2 dBu		100 V peak / 70 Vrms / 39.2 dBu
Output current	16 Arms		20 Arms

### Max. Output Power (all ch.'s driven)

2 ohms	500 W		800 W
4 ohms	600 W		1200 W
8 ohms	300 W		600 W
16 ohms	150 W		300 W

### Performance

THD+N 20 Hz - 20 kHz @ 1 W		<0.1%	
THD+N @ 1 kHz, 1 dB below clip		<0.05%	
Output noise -		66 dBu	
Signal To Noise Ratio	102 dB		105 dB
Channel separation @ 1 kHz		>80 dB	
Frequency response (-3 dB)		2 Hz - 42 kHz	
Input impedance		18 kOhm	
Common Mode Rejection (CMR)		>50 dB	
Output impedance		25 mOhm	
Input sensitivity for maximum output voltage		6 dBu	
Maximum analog input level		20 dBu	
Gain (all DSP controls set to 0 dB)	30.2 dB		33.2 dB

### Mains power

Nominal mains voltage		100 - 240 VAC	
Operating mains voltage		60 - 265 VAC	
Standby consumption	<6.5 W		<7.5 W
Mains connector		Locking IEC inlet	

### Physical

Dimensions W x H		W: 483 mm (19" ), H: 44 mm (1 U)	
Depth (Rack rail - rear panel)	272 mm (10.7" )		359 mm (14.1" )
Depth (over all incl. handles & rear support)	344 mm (13.5" )		431 mm (17.0" )
Weight	4.6 kg (10.1 lbs)		6.2 kg (13.7 lbs)
Finish		Black, anodized aluminium front panel. Black/gray steel chassis.	

### Connectors

Analog input connectors per channel		3-pin XLR female	
Analog input link connectors per channel		3-pin XLR male	
AES input connector		3-pin XLR female	
AES input link connector		3-pin XLR male	
Output connectors per channel		Neutrik speakON / Binding posts, electronically balanced	
Network connector		RJ45 (Ethernet)	

### Approvals

CE, UL (ANSI/UL, CAN/CSA), PSE, RCM, CCC, FCC.

All specifications are subject to change without notice.



# Procella audio<sup>®</sup>

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