

Signature Series

Maximum Resilience Broadcast Audio



Signature DDA 1:6

6 Way AES3 Distribution Amplifier



DDA 1:6 Front



DDA 1:6 Rear

FEATURES

**1 x AES input to
6 x AES outputs**

**Transformer
balanced inputs
and outputs**

**Frequency range
16 - 192 kHz**

**Front Panel
Headphone
monitor**

The Signature DDA1:6 is a 6 output AES3 digital distribution amplifier for distributing digital audio to multiple destinations. The distributed audio source is from a single AES3 input.

The audio input and the six outputs are transformer balanced on XLR. The output sample frequency follows the AES input sample frequency, which can be in the range of 16 to 192kHz. All digital resolutions up to 32 bits are catered for by the Signature DDA1:6 internal chipsets. Therefore it is equally suitable for use in a radio studio running 44.1kHz, a TV station running at 48kHz or a recording studio running at 96kHz.

The DDA1:6 can operate in two different modes. The most common mode is 'Renormalisation'. This reclocks the AES signal to minimise jitter on the distributed outputs. Renormalisation costs one sample of delay, so there is potential to put distributed signals out of sync. Therefore the DDA1:6 can operate in looping mode, where the outgoing signal will be exactly the same as the incoming one.

A headphone amplifier is included for monitoring the incoming audio. This is available via a front panel 6.35mm stereo jack socket with variable level control.

All outputs are fully protected so a short circuit on one will not affect any of the others.

The Signature DDA1:6 can mount above or below any surface due to the top or bottom mounting wings. Rack ears are also included with every unit that can be attached for mounting the unit on the front or on the rear depending on the requirement. Therefore the Signature DDA1:6 can mount vertically on the inside of a wooden rack when space is short, or it can mount traditionally in a 19" rack frame.

Power is provided by an internal switch mode power supply, with a wide input range of 100-240V. There is also an input for external 12V DC power. The 12V DC input can be connected to the optional Signature PS1 external DC Master Power Station, for situations where a redundant power supply is desirable.



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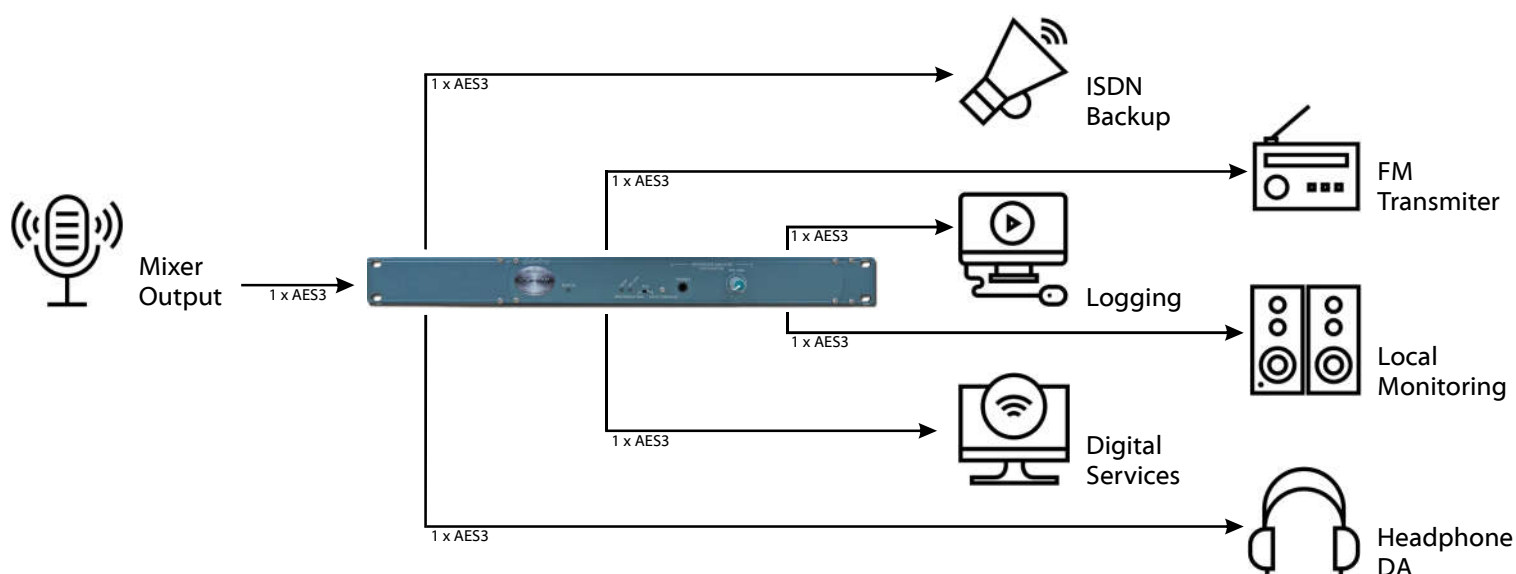
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EXAMPLE APPLICATION

Radio Station CTA

Six Output AES Distribution



In this example, the main stereo programme feed from a radio station needs to be distributed across multiple platforms. The output from the desk or automation system no longer just heads off to the transmitter. The audio must be distributed across all of the relevant services that require a connection of the original programme audio.

The Signature DDA1:6 provides 6 stereo AES outputs of the main AES programme audio. One output connects to the transmitter as the main FM broadcast feed. As multiple guest headphones are required in the studio, another output connects to a separate AES headphone distribution amplifier.

This station also broadcasts online, so another output connects to a PC to become the internet broadcast stream. Local monitoring is required, so one feed goes to the local AES monitoring system. The transmitter B chain is on ISDN, so one AES output goes to an ISDN codec. The final output connects to another PC that manages all of the stations logging requirements.

It's very easy to see why multiple outputs of the main AES programme audio are required in a typical radio station environment.

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SPECIFICATION

AUDIO AES3 IN to OUT

Input Impedance

110 Ohms

Output Impedance

110 Ohms

Maximum & Minimum Levels

200mV to 10V peak to peak

Sample Frequency Range

32-192 kS/s (32, 44.1, 48, 88.2, 96, 176.4, 192 kS/s)

Digital Resolution

8, 16, 24 or 32 bit

Input Type

1 x 3 pin Neutrik XLR Transformer balanced

Output Types

6 x 3 pin Neutrik XLRs Transformer balanced

Noise (unweighted 22Hz-22kHz)

-145.7dBfs

Distortion (+8 from line up)

0.00005%

Loop Through

Output signal integrity matches input signal

Re-normalised

Output signal is reconstituted and signal integrity returned to normal

HEADPHONE MONITORING

Headphone Level

0dB (600 Ohms) @ -18dBfs input

Headphone Gain Range

+6dBu to off

Headphone Clip Level

+18dBu

Frequency Response (@96kS/s)

25Hz: -0.25dBu

32kHz: 0.25dBu

Noise Level (Unweighted 22Hz-22kHz)

-77dBu @ Maximum gain

Distortion (+8 from line up)

100Hz: 0.006%

1kHz: 0.005%

10kHz: 0.011%

PHYSICAL

Size

336 x 123 x 44mm (LxDxH) no rack ears

482mm 19" (1RU) with rack ears

Weight

0.75kg

Mechanics

All aluminium construction, anodized and laser etched

Shipping Carton

Rugged export quality cardboard carton

610 x 420 x 130mm LxDxH

Shipping Weight

2.25kg

POWER

Mains Input

Filtered IEC, 100 to 240VAC

47 - 63Hz

AC Consumption

1.4 Watts @ 230VAC

DC Input

4 Pin Neutrik XLR plug +/- 12V

DC Consumption

<60mA per rail

Internal Mains Fuse

20mm 1A Anti Surge

ENVIRONMENTAL

Operating Temperature

0 to +50 °C (32° to 122°F)

Storage Temperature

-20 to +70 °C (-4° to 158°F)

Relative Humidity

0 to 95% non-condensing

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Signature Series

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Signature Series Standard Features

STANDARD FEATURES

19" Rack Mount Ears



A Signature unit can rack mount in a 1U 19" rack, regardless of the size of the unit. Rack ears are included as standard with every unit.

Front Or Rear Mounting



A Signature unit can be rack mounted via the front panel or if it is more convenient, via the rear panel by simply swapping the rack ears over.

Side Wings For Flat Surface Fixing



A Signature unit has side wings with mounting holes at the top and bottom, allowing flush fixing from above **OR** underneath.

Neutral Colour Scheme To Complement Equipment Areas



Rack Screws Included



Modern Design



Internal Switch Mode AC Power Supply



A Signature unit has an internal switch mode AC power supply, allowing worldwide power connections from 100-240V via an IEC socket.

12V DC Power Connection



All Signature units (except PS1) have a 4 pin XLR $\pm 12V$ DC socket for connection to the PS1 Power Station. This can act as the primary or backup power source.

Quick Find Manual



A Signature unit has a QR code attached. This can be scanned to simply and quickly locate the manual and technical information.

CONTACT

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