

# 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 DDA 1:6 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 DDA 1:6s 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 DDA 1:6 can operate in two different modes. The most common mode is 'Renormalisation'. This relocks the AES signal to minimise jitter on the distributed outputs. Renormalisation does cost one sample of delay, so there is

potential to put distributed signals out of sync. Therefore the DDA 1:6 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 DDA 1:6 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 DDA 1:6 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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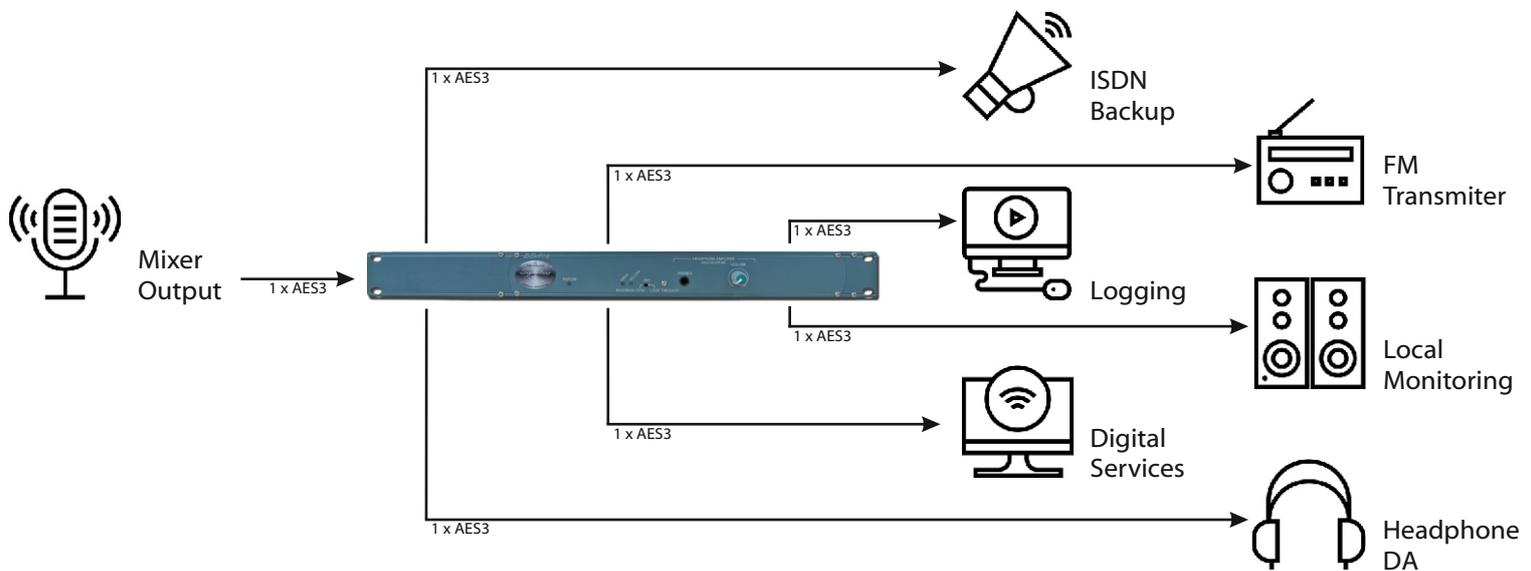
### Signature DDA 1:6

#### 6 Way AES3 Distribution Amplifier

#### 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 DDA 1:6 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. And 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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### Signature DDA 1:6

### 6 Way AES3 Distribution Amplifier

## 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

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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 Compliment 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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