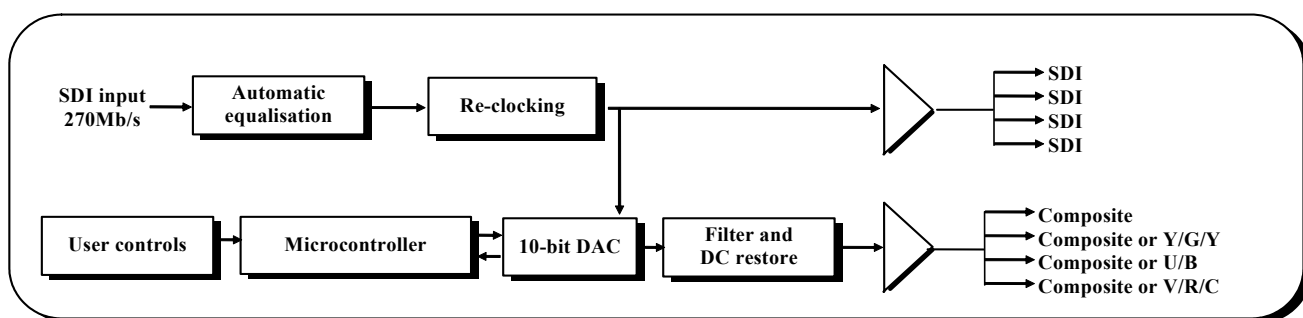


# D&A 3420 SDI universal 10-bit DAC

## Introduction

The 3420 SDI 10-bit universal DAC is one of the modules in the expanding D&A distribution system. Designed to the highest specification, and meeting all relevant international standards including CE approval, digital and analogue audio and video modules can be mixed within a frame to satisfy a wide variety of interfacing requirements.

Up to 14 modules can be housed in the 3301 3U frame with a single power supply or 12 in the 3302 3U frame with dual power supplies.



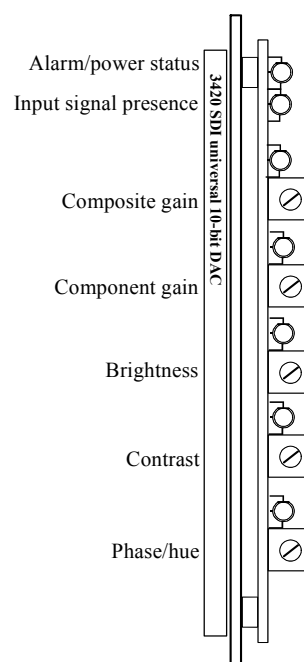
## Description

The 3420 is a broadcast quality 10-bit DAC which accepts a SMPTE 259M 270Mb/s 525/625 component input and, with its associated 3490 rear connector unit provides four equalised and re-clocked SDI outputs together with four analogue composite outputs (PAL or NTSC). Three of the analogue outputs can be re-configured by the user for YUV, GBR(S) or YC. There is a full 10-bit data path throughout the unit.

Alarms can be triggered (frame LED and external alarm) for loss of power, absence of input signal and EQ warning. Card edge adjustment is provided to set fine control of the gain (amplitude), brightness, contrast and hue of the analogue outputs. These can be disabled to give a standard output. The range for the EQ warning is provided on the front of the card. Several filter options are also user selectable.

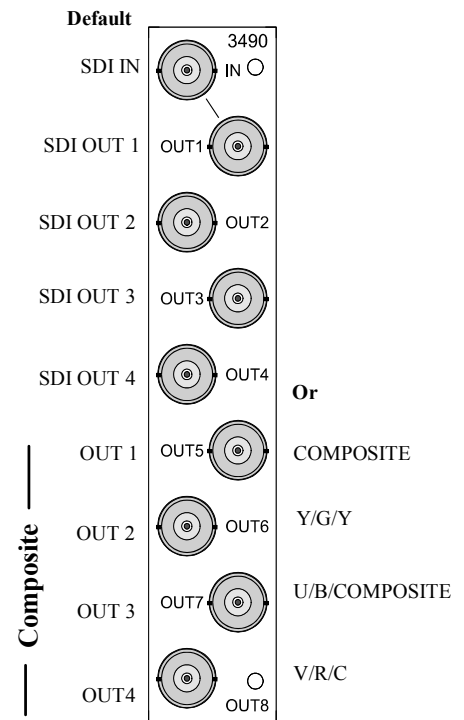
## Features

- Broadcast quality 10-bit DAC with 4x oversampling.
- Four broadcast quality analogue outputs (PAL or NTSC) can be all composite or configured by the user as composite with YUV, GBR, or YC.
- Four equalised and re-clocked SDI outputs.
- User selectable colour bars (only when valid SDI input present).
- Front panel controls for fine adjustment of analogue signals.
- Input signal absence warning.
- SMPTE 259M compliant.
- User configurable frame LED/external alarm error warning.



## Specification

<b>Input</b>	
Standard	SMPTE 259M 270Mb/s 525 or 625
Impedance	75Ω
Signal level	800mV ±10%
Connector	BNC
Common mode rejection	30Vp-p at 50Hz
Return loss	>18 dB
Equalisation	up to 350m automatic
<b>Performance</b>	
Frequency response	Flat to 5.5MHz, -3dB at ≈ 6MHz
Differential gain	<0.3%
Differential phase	<0.5°
Delay	<10nS
Input	10-bit 4:2:2
Quantization	10-bit DAC
<b>Output - general</b>	
Impedance	75Ω
Connector	BNC
<b>Output - SDI</b>	
Number	4
Standard	SMPTE 259M 270Mb/s 525 or 625
Signal level	800mV ±10%
Return loss	>18dB to clock frequency
DC offset	0V ±0.5V
Rise & fall time	400-700pS (20-80% amplitude)
Overshoot	<10%
<b>Output - Analogue</b>	
Number	4
Standards	Composite (PAL or NTSC), YUV, GBR or YC
Return loss	>36dB to 5MHz
Signal level	1Vp-p ±10%
DC offset	±100mV
Differential gain	<0.3%
Differential phase	<0.4°
Delay	<10nS
Phase adjustment	±22.5°
Quantization	10 bit
Output level adjustment	±1dB
<b>Other</b>	
User selectable alarm options	Loss of power/loss of input signal/EQ warning
Power supply required	Frames with 3310 6.5V power supplies only
Power Consumption	+3.9W -0.3W
Temperature range	0°C to 45°C
<i>Above measurements relate to the 3420 DA with 3490 rear connector in the 3301 frame using the 3310 power supply.</i>	



**3490 video**

## Ordering information

Part no.	Description	Weight	Height	Width	Depth
3420	SDI 10-bit universal DAC	750g	100mm	25mm	220mm
3490	BNC rear	100g	100mm	25mm	70mm

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