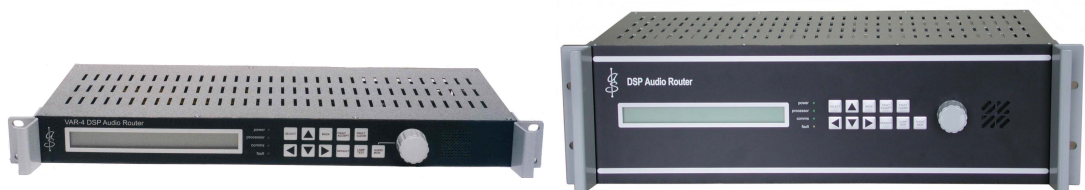


## VAR4 / VAR12 / VAR20 DSP Audio Router



### Description

The VAR4, VAR12 and VAR20 are DSP-based Audio Routers, allowing routing of 4, 12 or 20 audio inputs to any combination of 4, 12 or 20 outputs. In addition to audio routing these units provide full system control and fault reporting functions for the Application Solutions rack mount Voice Alarm systems. The control functions include the monitoring and control of up to 64 x Amplifier mainframes (V400) and associated amplifier interface card/surveillance units.

The VAR4 router includes digital storage for 2 x 32-second and 2 x 16-second DVA messages, provides four audio outputs, and four universal Mic/Line inputs, each of which can be used with an ASL multi-zone paging microphone, or other sources. All-call or zoneable Fire Microphones may be connected to Inputs 1 & 2. These act as all-call failsafe override microphones in the event of processor failure, as required by BS5839 Pt 8.

Fire alarm interfacing is built in, as are numerous routing and general control inputs, and a serial control port, which enables interfacing to advanced DVA or site control systems, and which gives the router the ability to be remotely monitored and configured. There are many other built in functions.

The router also has a front panel display and control interface that provides full control functions for commissioning the system, fault monitoring, and audio monitoring. Access to the amplifier and surveillance settings is controlled by an access PIN code.

The VAR12 has all functions of the VAR4, but with a total of 12 universal audio inputs, 12 audio outputs, and storage for 4 x 32-second and 4 x 16-second DVA messages.

The VAR20 again has all functions of the VAR4, but with a total of 20 universal audio inputs, 20 audio outputs, and storage for 6 x 32-second and 6 x 16-second DVA messages.

For further details please refer to the DSP Router manual.

## Specification

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### Audio Routing

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#### VAR4

Universal Mic / Line audio inputs with serial control, surveillance tone, and phantom power .....	4
Audio outputs with surveillance tone .....	4 (Separate A and B outputs for each)
Built In DVA Storage .....	4 (2 x 32-second & 2 x 16-second)

#### VAR12

Universal Mic / Line audio inputs with serial control, surveillance tone, and phantom power .....	12
Audio outputs with surveillance tone .....	12 (Separate A and B outputs for each)
Built In DVA Storage .....	8 (4 x 32-second & 4 x 16-second)

#### VAR20

Universal Mic / Line audio inputs with serial control, surveillance tone, and phantom power .....	20
Audio outputs with surveillance tone .....	20 (Separate A and B outputs for each)
Built In DVA Storage .....	12 (6 x 32-second & 6 x 16-second)

#### All Variants

Hardware Bypass Fire Microphone Inputs .....	2 (Universal Mic / Line Inputs 1 & 2)
Background Music Line audio inputs .....	2 * Stereo Pairs (Internally Mixed)
Mixed Listen In monitoring audio output .....	1

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### General

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#### VAR4

Analogue Input Interfaces .....	10
Opto-Isolated Digital Control / Fault / Routing / Fire Alarm Panel Input Interfaces.....	12
Remote I/O Expander Unit (BMB01) Interfaces .....	3

#### VAR12

Analogue Input Interfaces .....	10
Opto-Isolated Digital Control / Fault / Routing / Fire Alarm Panel Input Interfaces.....	32
Remote I/O Expander Unit (BMB01) Interfaces .....	6

#### VAR20

Analogue Input Interfaces .....	10
Opto-Isolated Digital Control / Fault / Routing / Fire Alarm Panel Input Interfaces.....	52
Remote I/O Expander Unit (BMB01) Interfaces .....	9

#### All Variants

Control / Fault Reporting Display and Button Interface .....	On Front Panel
Fault Log .....	200 Events
Real Time Clock .....	Built In (Externally Synchronisable)
Remote Diagnostics / Control / PC/DVA Interface .....	1 (RS232)
Auxiliary DC supply for external equipment .....	18 – 36V DC @ 100mA
Change Over Fault Relays .....	2 (One monitored)

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**Audio Signal Processing**

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**Input**

Graphic Equalisation ..... 3 band plus LF Cut  
 Input overload margin ..... 40dB  
 Input attenuator range ..... 0dB to – 63dB  
 Phantom power ..... ≥12V DC  
 Chime Generation ..... None / 1 / 2 / 3 Chimes

**Output**

Graphic Equalisation ..... 8 band  
 Level and impedance ..... 0dBu @ Z=660Ω  
 Hard limiter threshold ..... +2.5dBu

**General**

Gain control ..... Input / Output / External Volume Control  
 Ambient Noise Sensing ..... Programmable Output Level Control  
 Night Volume Control ..... Daily Time Controlled Input / Output Level Control  
 Gain control range ..... 0dB to –63dB  
 THD input to output ..... <0.1% @1kHz  
 Crosstalk ..... >70dB @1kHz  
 Residual noise ..... <78dBu (A)  
 S/N line ..... >70dB (A)  
 S/N mic ..... >60dB (A)  
 Frequency response (input to output) ..... 100Hz to 20kHz –3dB

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**Current Consumption**

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**VAR4**

Backlight on and sounder on ..... 400mA @ 24V DC supply  
 Backlight off and sounder off ..... 350mA @ 24V DC supply

**VAR12**

Backlight on and sounder on ..... 1.1A @ 24V DC supply  
 Backlight off and sounder off ..... 1A @ 24V DC supply

**VAR20**

Backlight on and sounder on ..... 1.6A @ 24V DC supply  
 Backlight off and sounder off ..... 1.5A @ 24V DC supply

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**Dimensions and Weight**

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**VAR4**

Dimensions (H x W x D) ..... 44mm x 436mm x 222mm (excl. connectors)  
Weight ..... 2.2kg

**VAR12 and VAR20**

Dimensions (H x W x D) ..... 133mm x 436mm x 222mm (excl. connectors)  
Weight ..... 6.0kg

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**Environmental**

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Temperature (storage and operating) ..... -5°C to +50°C  
Humidity range ..... 0% to 93% Non-condensing



This equipment is designed and manufactured to conform to the following EC standards:

EMC EN 55103-1 Environment E1, EN 55103-2 Environment E5  
Safety EN 60065

Failure to use the equipment in the manner described in the product literature will invalidate the warranty.

A 'Declaration of Conformity' statement to the above standards, and a list of auxiliary equipment used for compliance verification, is available on request.

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