PAM2-3G16: Multichannel Audio Monitoring Made Easy

Royal Television Society
Innovation Awards 2009 - Winner

PAM2-3G16 – The latest addition to the world's most comprehensive range of multichannel audio monitoring units.

TSL's revolutionary PAM1-3G8 is now complemented by PAM2-3G16, featuring dual hi-resolution OLED screens, 16 bargraphs, optional Dolby decoding and the most operator-friendly and intuitive user interface of any product in its class.

The multi-standard, multi-format PAM2-3G16 simplifies monitoring of multichannel audio using preset menus and shortcut keys for rapid and intuitive access to critical elements of complex broadcast audio systems. The flexibilty offered in terms of user selectable scales, ballistics, range of standard input/output signals supported and the abilty to instantly dissect and monitor any multichannel audio signal structure from mixed mono, stereo and 5.1, make PAM2-3G16 the most advanced product in its sector

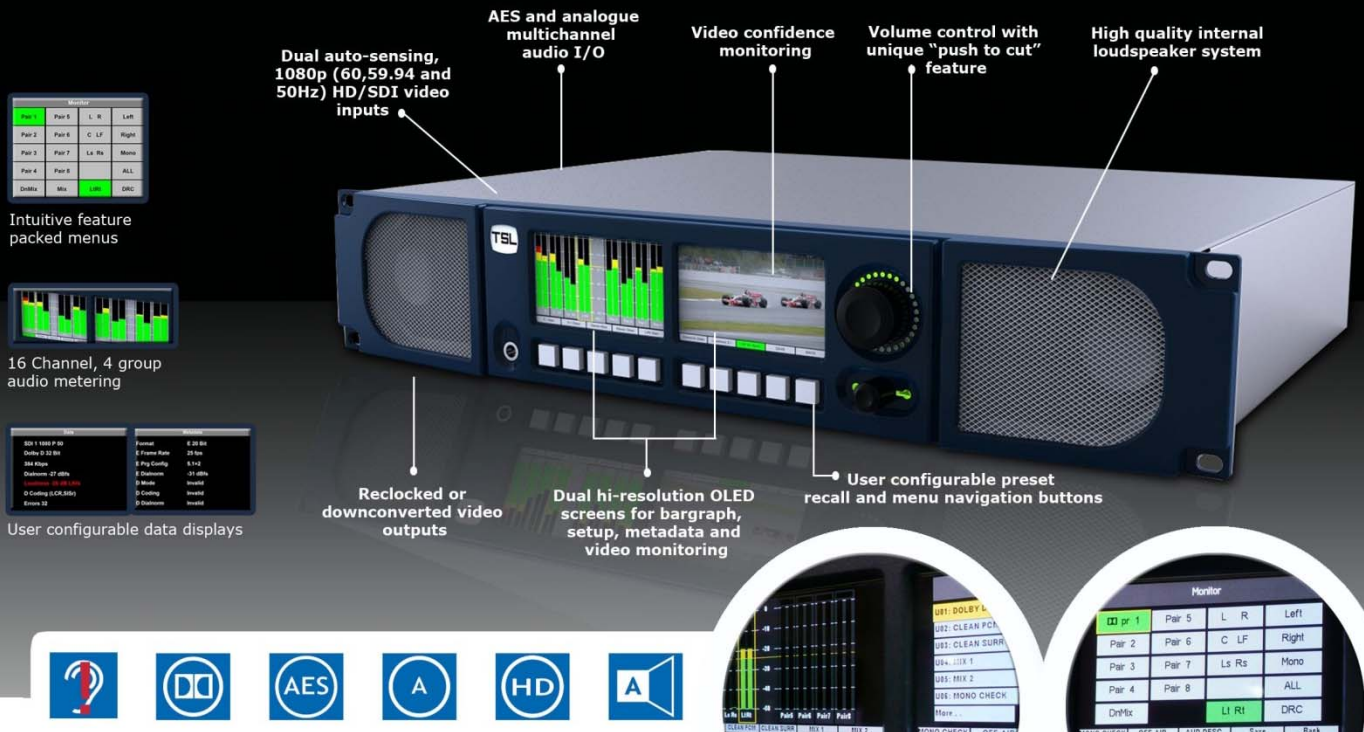
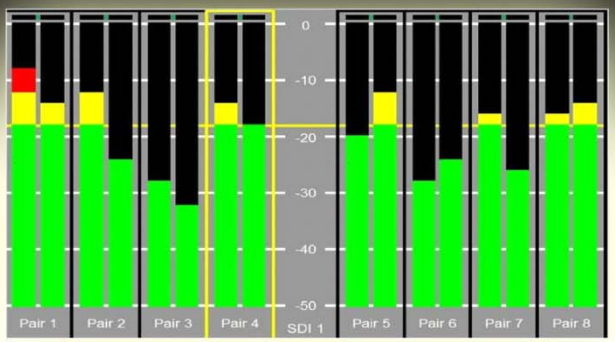


Fig 1 – User Preset Name and Save
Fig 2 – Monitor Select Menu

Versatile and Intuitive

Developing the platform established by the TV Technology 2009 Star Award winning PAM1-3G8, the PAM2-3G16's 2RU package and larger OLED displays are a natural evolution of features and operability. PAM2-3G16 allows the user instant access to up to 16 channels of programme audio with a host of features such as Dolby decoding, downmixing, **ITU-R BS. 1770** loudness measurement, metadata display, video, user configurable meter scales and ballistics and the ability to save and name shortcuts to any monitoring configuration available within the menu structure.

The monitoring menu selects which audio components are to be heard via internal or external speaker systems.These audio components might be mono, stereo, 5.1, Dolby E/AC-3 or complex combinations of all five formats. The PAM2-3G16 can select, decode and output any chosen element and then save that selection to a shortcut key to be recalled at the push of a button. With the addition of **Discreet** and **Dolby Lt Rt/Lo Ro downmixing**, the operator can check the integrity of the audio in the form most commonly used by the vast majority of the viewing public.



Above is a typical example of how 4 groups of embedded audio might be configured to carry multiple versions of programme audio. In this case there are 5 different programme components being used to carry alternative mixes of an event being broadcast in stereo, 5.1 and multiple languages. Via the 'Monitor' window, the operator can name and save presets on PAM2-3G16 to instantly recall the following audio signals via the front panel buttons:

Preset 1 – **Stereo Full Mix** (Pair 1)
Preset 2 – **5.1 Full Mix** (Pairs 2,3,4 downmixed to stereo)
Preset 3 – **5.1 Clean Mix** (Pairs 5,6,7 downmixed to stereo)
Preset 4 – **Int Comm 1** (Pair 8 Left)
Preset 5 – **Int Comm 2** (Pair 8 Right)

The unique 'scroll to hear' feature enables the operator to move the yellow 'hear' box across the bar graph display by manually rotating the encoder.
This application is particularly useful in multi-language and surround sound applications where a user might need to check the integrity of an individual audio component rapidly or regularly.

Standard features of PAM2-3G16

- Dual auto-sensing,1080p (60, 59.94 and 50Hz), HD/SDI video inputs
- De-embedded audio monitoring from video (HD/SDI) with simultaneous display of up to sixteen channels (four groups)
- ITU BS1770/71 Loudness indication.
- Optional Dolby E/AC-3 decoding from HD/SDI or AES
- Unique 'scroll to hear' function
- Downmix from Dolby encoded or discreet audio
- Re-clocked HD/SDI with down-converted SDI or composite (PAL/NTSC) video outputs (auto-sensing 1 frame delay compensation for Dolby E decoding on down-converted output)
- Dual high resolution OLED screens for bargraphs, video, setup and metadata displays.
- Choice of user selectable bargraph scales (VU, Extended VU, BBC PPM, EBU PPM, EBU Digital, Nordic, DIN)
- User programmable presets. 8 by hardware buttons, GPI and up to 24 internal, accessible by high level menu selection
- Free 'life of product' software updates for standard product features
- Fixed or variable analogue audio multichannel outputs (8 monos).
- Fixed or variable AES multichannel outputs (8 pairs).
- Hi-Fi quality internal active loudspeaker system
- Control of external stereo or surround sound loudspeaker systems
- Serial remote control
- Headphone Output with LS Muting
- Dolby Digital Plus ready

AUDIO INPUTS

- 8 x pairs of AES/EBU inputs – Balanced or Unbalanced
- 6 x balanced stereo analogue inputs
- SPDIF Optical

AUDIO OUTPUTS

- 8 pairs of fixed or variable AES outputs – Balanced or Unbalanced
- 8 x balanced fixed or variable analogue outputs

Rack Mount:	2RU
Weight:	4.9 Kg
Height:	88mm
Width:	493mm
Depth:	310mm

Global reseller network

The TSL products division has a network of distributors supporting our products all over the world. For further details about our product range and where to buy please visit www.tsl.co.uk/products

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