AUDIO

Problems and solutions in audio

with Mike Law, BCD Audio

BCD Audio is a UK manufacturing and design company specialising in audio products for the global broadcast and professional market. Mike Law is company managing director and also head of design. He is a member of the IET and the AES. He presents here several case studies to illustrate how the company has been able to offer solutions to customer problems or requirements.

SDI SD/HD audio monitor:

A well known news company required an audio monitor for their Singapore office to include audio monitoring of SDI SD/HD feeds. The existing BCD AMU (audio monitoring unit) used a single channel SDI module, so a quick discussion around the office and we decided we could create a dual channel module in a short timescale. The eight way audio selector now chooses between two SDI feeds, defaulting back to AES3 and analogue sources when required.

MADI Switcher:

PCs are used these days on stage as a multichannel playout audio system, and it is useful to use two PCs so that if one crashes the other can take over the feed. A sound rental company in Wales came to us with this requirement, and the best solution was to take two Digico USB to MADI modules and create a 2:1 MADI switcher in house. We were able to take dual redundant power from the additional USB to MIDI units they required, eliminating a local power supply, and we managed to package it all into a neat 1U case.

Microphone amplifier:

A customer was having problems with camera talkback; the talkback feeds were of low level and had to travel unbalanced over many metres to reach the intended destination. We supplied our BCD ALT-1 mic amplifier module to be applied as a quick fix, and when it was clear it had solved the problem they then rolled it out to all cameras. The ALT-1 continues to find niche applications for a local foolproof, reliable mic amplifier. It is suitable for use in a broadcasting news room, and can be used in fully digital installations when coupled to the BCD -ATOD1. Two ALT-1 units can be used with one ATOD unit, where both channels will appear in the main broadcast matrix.

Installer rack units:

The world might be changing to Network and Cloud architectures, but there is always a need for a solid reliable AES3 and Analogue distribution system in a radio or TV installation. A well known radio media company needed to distribute over a hundred signals around their London CTA (central traffic area), and the BCD solution was the Installer-48 rack system. Each of the three racks will contain up to 48 three output AES3 or analogue DA Piglets, (small modular circuit boards) mounted onto modular Eurocards, with dual PSUs for redundancy. These racks are also in use in New Broadcasting House with BCD's GPI interface cards and the BCD Presenter Audio Monitor (PAM) system, and will shortly be used in the refurbishment of Millbank.

Established 25 years ago to provide high quality audio systems for radio and television broadcasting, BCD Audio's in-house skills were immediately sought after by prestige clients including the BBC and ITV companies. Today, BCD Audio's designs are heard and seen all over the world, keeping broadcasters on air 24/7.

The product range has grown from pure analogue engineering to fully embrace today's digital world, from standalone black box problem solvers, to dedicated rack mount units and full Eurocard infrastructure systems. BCD Audio can also deliver bespoke audio solutions to a client's exacting requirements.

At the forefront of technological advances, BCD designers use the latest digital systems, often implemented with FPGAs or processors with network control.

BCD solutions now often involve video too, and the in house design skills include the processing of SD/HD video, with a bias towards audio embedding, de-embedding and DSP.

In-house manufacturing has also evolved; BCD have their own surface-mount assembly plant, and are capable of producing units in-house with fine-pitch components on multi-layer boards.

Recent projects include an automatic audio-triggered webcast system for the UK Parliament, which has evolved into a radio station webcast system, a 1U HD video capable audio mixer, and a fully digital audio monitor unit. BCD Audio rack- based systems have been specified in recent OB truck, radio station and TV studio presenter audio monitoring designs.

Mike Law concludes "We welcome enquiries from broadcast and installation companies, and if the solution is not already on the shelf, we will be happy to design and build it!"

www.bcd-audio.co.uk