

# The Television set

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"Audio for broadcast  
Special Report"

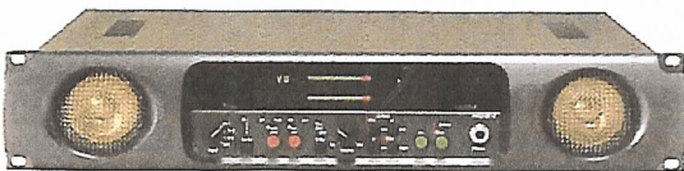
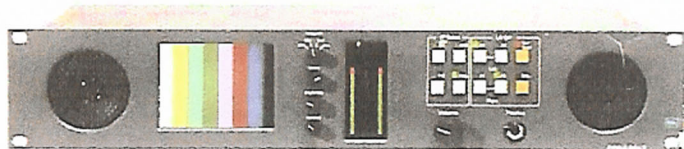
**UK** – Audio is television's guilty little secret. Without it there would be only a meaningless mime but this has not stopped sound from being regarded as a secondary element in the televisual field. So a company called Television Systems Limited (TSL) would be expected to be heavily biased towards vision. Such products as tally and under monitor displays, which work in conjunction with vision mixers, confirm this perception; but there is a firm core of audio products and a realisation of its importance.

The key word is 'systems'. TSL was founded in 1986 as a systems integration company. As this work went on, the company began to design and build custom products to suit specific applications. These cover the whole range of broadcast functions, excluding transmission, although it does cater for RF transmission. Audio monitoring now forms a great part of the product range and, because of the systems nature of its work, is a key component for TSL.

"Audio was always the poor relation," comments marketing director John Pinniger. "That is changing now – I consider sound more important in some respects." At one time in live sound there was the cliché that as most people in the audience had CD players, they were used to good quality sound. Pinniger echoes this observation but his reasoning appears more convincing. "There is a realisation of the importance of audio that is being driven by the market, with such things as Dolby Digital on DVDs."

Pinniger believes that DVD has made audio a more important component in relation to the pictures, and that consumers are wondering why they are hearing a difference when they watch television. "A lot of people now, especially the 35-and-younger age bracket, expect high-quality sound and will want the same quality on television as they have with DVD," he says. "Consequently makers of high-end programmes are starting to consider what audio can do for them."

Like one of the two founders of TSL, Brian Culf, Pinniger came from



Top to bottom: TSL's avmu 2-bd-1s and amu2-gb2d audio monitoring units

a BBC background, spending 26 years working variously in transmission and R&D. The other co-founder, MD David MacGregor, had worked in commercial television; the company's workforce has a similarly mixed background, with some trained at the BBC, others at such companies as Ampex, while a number came straight from university. Pinniger says this mix of different expertises and cultures has helped the development of TSL.

While sound, and the continuing improvement in quality, is obvious to the television viewer, the monitoring that ensures uniform levels and correct transmission quality is, by its nature, less obvious. It is this somewhat arcane aspect of broadcasting that accounts for the bulk of TSL's audio product range. Catering for analogue and AES and SDI digital signals, TSL's audio monitors cover the spectrum of metering styles, including BBG PPM, VU, DIN, Nordic, EBU, bar graphs and now general digital scales.

The various metering formats are long established on the market, with broadcasters selecting the style best suited to their needs, although in many cases the choice is predetermined by nationality or whether the organisation is a public service or a private broadcaster. While PPM and VU continue to be widely used, and still have reasonable longevity, digital television transmission is

forcing engineers to consider the issue of acoustic loudness, rather than just electrical loudness.

Reliance on old style meters, merely peaking material to six on a PPM for example, is causing viewers to adjust the volume on their TV sets between programmes and commercials, due to the compressed nature of sound-tracks on advertisements. A number of manufacturers have produced loudness meters in recent years, including Durrough and, most recently, Dolby.

TSL's loudness meter is based on an algorithm designed by Dr John Emmett of Broadcast Project Research. Bob Chambers, TSL's audio product manager, says that the company's intention was to produce a cost-effective loudness meter but that the main problem at the moment is that no standard has been decided on for this technology. "It's a contentious issue as there is supposed to be a standard," he says. "We have conformed to ISO 226 and John Emmett has tweaked his algorithm to satisfy this."

The loudness meter can be built into monitoring units that also house the more established forms of metering. "We're just waiting to see what is decided," says Chambers. A further issue is monitoring for 5.1 broadcast signals, but he adds that as this is not yet widely used by broadcasters, no products currently exist. Pinniger says the company is looking into this area at the moment, particularly the possible use of jelly meters.

As broadcasters begin to build, or at least plan, new fully digital broadcast centres, systems houses such as TSL are considering a new set of requirements. "There is a big push into automated play out, especially with the introduction of digital satellite," says Pinniger. "In all of these systems the issue of latency has to be considered and the sound monitoring needs to be delayed as well to match the vision." This once again underlines the continuing part audio plays in television.

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KRAM HUTTON



TSL marketing director John Pinniger



Bob Chambers, audio product manager