Studio
& Stage
TEST

The Multi DI

The DI-6s DI-Box from ARX Systems

The Australian company ARX systems started off building speaker processors for PA rental sound systems. Noticing that, all too frequently, burned out loudspeakers were brought back after concerts, they got the idea of protecting this weakest link in the transfer chain through a self adjusting protection circuit to eliminate over-driving the loudspeakers. They designed a control unit that monitored the amplifier output and kept the level from ever reaching a speaker destroying point. Today, approximately 20 years later, that original processor-controlled technology has been embraced by most other speaker manufacturers.

Encouraged by its success, they commenced the development and manufacture of high-quality audio components for the live and installation markets, and today ARX is well known in these parts, and displays regularly every year at the Frankfurt music fair.

As well as this 6 channel DI-Box, they manufacture a complete range of professional audio products including a 4 channel Compressor/Limiter, a 6 channel Noisegate, Crossovers, Parametric and Graphic Equalizers, and much more

The DI-6s 6 channel DI-Box has the ability to not only balance 6 six unbalanced Line signals but also to mix them to a single balanced output. On the front plate of the 19" / 1 RU unit there is a single Gain control per channel plus unbalanced high impedance jack inputs and loop. A clip LED lights up to indicate clipping at various points of the balancing circuitry.

In order to be able to distinguish the channels despite the often unfavorable lighting conditions onstage, the ARX designers have put numbered labelling areas that stand out, like the rest of the printing, from the silver grey front panel.

On the rear, the individual balanced outputs and the mix output are XLR sockets, naturally, and each individual balanced output has a Ground switch with associated status LED. There is also an unbalanced mix output as well.

Box

There are many options for using a multiple DI Box like this one: boosting the low level signals of an 8 track recorder, and to lift instruments and consumer electronics to +4 dB levels first, second to balance them, and third to convert them to low impedance, which is the prerequisite for a loss-free transfer of the signals over long cable runs.

The DI-6s will be very useful for Keyboard players in a live situation. The multiple outputs can be sent as individual balanced lines down to the mixing desk via the multicore snake, while the mix out signal can be monitored onstage with an amplifier or monitor wedge

Summary

The DI-6s shows that a well thought out idea is behind its electronics, developed and refined into an accurate and professional signal processor.

Technology overview

Thanks to the use of high quality Op amps, the DI-6s has a signal-to-noise ratio of -95 dB, plus a more than sufficient maximum input level of +26 dB. The balancing takes place electronically, and the THD (Total Harmonic Distortion) is an inaudible 0.0067%.
This and the smooth frequency response of 20 Hz to 20 kHz (+ / - 0.25 dB), is responsible for the accurate signal transfer characteristics of the DI-6s. The input impedance is 2.2 MOhms with an output impedance of 25 ohms, and the maximum input gain is up to 15 dB.

Service technicians will also appreciate the fact that all the ICs are mounted in sockets, making removal and replacement very simple.

Above all it is the possibility of balancing, mixing or splitting 6 unbalanced high impedance inputs that makes this unit an essential piece of equipment.

Oliver Haustedt-Sommer