

DIGITAL CROSSOVERS AND DSP PROCESSORS



DSP processors and loudspeaker management systems are in a way the heart of a sound system, if they fail, there will be silence! We have developed state of the art DSP processors and loudspeaker management systems to be able to keep a high quality sound throughout the whole chain of products, from the mixer to the speaker.

It is very important not to lose headroom, and to maintain a high signal ratio, and at the same time keep the distortion levels to a minimum.

Our DSP processors are designed to work fail-safe, endless hours, with numerous installations in various environments and applications as references, in churches, nightclubs, cinemas, theatres, live stages, conference centres, theme parks, leisure facilities, cruiseships and the tour industry.

DX26

Digital active crossover, 2 in / 6 out

Designed for installation and live applications, easy to program with a computer or directly on the front panel. All settings are shown in real time in the dedicated software. With the DX26 you can, in no time, program a complete nightclub, a bar or a PA for live applications, whether using the GUI (Graphical utility interface) software or the buttons and jog wheel at the front panel, several "presets" can be stored and loaded.

Features:

- 3 x 24bit / 48kHz DSP, with 0,01 THD distortion processing.
- Separate delay up to 7mS on each output
- 5 fully edit able pre-programmed configurations:
1x6-way, 2x3-way, 3x2-way, 2x2-way+2mono, 5-way+1mono
- Crossover on each output with 6, 12, 18, 24, 48dB slopes
Bessel, Butterworth, Linkwitz-Riley types of filters.
- 5 parametric EQ on each output with adjustable:
Gain, Q-value and frequency
- Lockable in 5 different depth.
- 180° phase invert and mute on all output.
- Controlled and managed via USB (RS232 protocol)
- Stereo link for faster programming



DIGITAL CROSSOVERS AND DSP PROCESSORS



DSP260 & DSP480

Loudspeaker management systems DSP260

Two powerful DSP processors with 96kHz/32 bit processing, state of the art Burr/Brown AD/DA converters and packed with the latest features. Designed for fixed installations and tour applications.

The processors are identical in features and capabilities, they only differ in total amount of input/output channels.

DSP260 has 2 inputs and 6 outputs, DSP480 has 4 inputs and 8 outputs.

Programming is made easy with the free plug'n play GUI software, connected to the USB connector on the front panel, or by programming directly on the front panel with a logical and understandable menu- system, using the menu buttons and the universal jog wheel, there are one button for each function, EQ, crossover, limiter, delay, gain, signal matrix, polarity, load, save, system. Select and adjustment of data is made by the jog-wheel. To edit, just press and hold mute on the channel you want to edit, and when the yellow light is turned on, everything you edit will happen in real time on the selected channel (Input A-C, output 1-8)

If you want to copy your settings to another channel, just press and hold the mute buttons on both channels, and all information will be duplicated except the signal routing. Perfect for last minutes adjustment in the tour and event industry.

Features:

- Two models: DSP260 with 2 in / 6 out, DSP480 with 4 in and 8 out
- 96kHz / 32 bit processing
- State of the art high quality AD/DA converters
- Can easily be programmed via the front-panel
- Can be programmed and monitored by the GUI software via USB
- Total freedom in signal routing with the Input / output matrix
- 6 EQ points on each input and on each output, Parametric, Hi-shelf, Lo-shelf
Both oct. and Q-value slopes shown
-20 / +20dB gain in 0,1dB steps
19,7Hz - 20kHz
- Delay 0-1000 mS, shown in mS, meter, feet.
- Polarity +/-
- Gain -12 - +12
- Crossover on all outputs
Linkwitz-Riley, Butterworth, Bessel types
12-48dB/oct slopes
19,7Hz - 20kHz
- Compressor / limiter with Threshold, Attack, Release (dBu, mS)
- Device id for linking several units
- 30 slots for storing setups in the unit for fast and easy access.
- Graphical User Interface software with frequency response curve.
- Link and copy channels easily
- Export data to excel or to PDF for documentation and backup



P-SERIES AMPLIFIERS

P-series

Lightweight, switch mode Class-H power amplifiers designed for high-end installations and tour applications. With superb audio quality, reliable technology and a light weight, the P-series easily handles the most demanding performances, whether it being recorded or live music.

Ultra low distortion of 0,05% THD, high quality components, class-H technology and third generation switch mode power supply are but some features that gives the amplifiers in the P-series the high sound quality, low weight and reliable technology.

As an addition, the P10000 (2x5000W) amplifier has PFC (Power Factor Correction) and OVP (matching impedance 2, 4, 8 ohm) furthermore, the P3000DSP has six high precision 96kHz/32bit DSP processors and digital AES/EBU in.

This gives the P-series an unsurpassed versatility in combinations. whether it being in an installation where the P3000DSP controls external amplifiers, both processing subwoofers and mid/high speakers, or in tour applications using a 19" rack packed with P3000DSP's, with different pre-programmed setups stored, for different combinations in speakers and gigs.

Features

- Three different models ranging from 2 x 650W / 8 ohm to 2 x 5000W / 2ohm
- Class-H technology & switched mode power supply, resulting in light weight amplifiers with astounding performance and reliability.
- Outstanding sound quality with extremely low distortion levels of only 0,05% THD @ 1dB below clipping
- Extensive protection systems against: overload, clip, thermal, short circuit, internal malfunction, faulty power.

Extra features on the P3000DSP

- 2 inputs, analogue or digital select able (AES/EBU) with full DSP processing power.
- 4 outputs. (2 outputs are powered, 2 outputs are used for signal processing of external amplifier, via two Neutrik XLR out.
- Two DSP's control the Neutrik speakon out, two DSP's control the XLR aux out and can process any standard amplifiers as a slave, handling EQ, Delay, Crossover, Limiter, gain, signal routing, etc.
- 6 pcs of 96kHz / 32 bit built-in DSP's, with full processing power. (2 in / 4 out)
- Removable front-grille with dust cover, for easy service and a longer life span of the amplifiers.
- Can be programmed either using the buttons and the jog-wheels on the front panel or via the software
- Pre-programmed presets to download from our web site for our speaker systems.
- 256 amplifiers can be connected in an array, with ID 1-256, controlled by a computer with the GUI software

• Input	Analogue:	2 channels, electronically balanced, +20dBu, 10K ohm impedance
	Digital:	2 channels, max levels +0dBfs, 10K ohm impedance
• Output	4 channels	2 x Neutrik Speakon pin1+/1-, max 2 x 1500W@2ohm 2 x XLR male electronically balanced signal output via DSP
• Dynamic range		<105dBu, 20Hz - 20kHz
• Frequency response		>+/-0,25dBu, 10Hz - 40kHz, without filters
• Distortion		<0,01%, 10Hz - 40kHz@+10dBu input level
• Sampling rate		96kHz
• Crosstalk		>80dBu, 20Hz - 20kHz
• Data format AD/DA		24-bit, input and output
• Crossover type		Bessel, Linkwitz-Riley, Butterworth 12, 18, 24, 48 dB / oct..
• Compressor		2-stage limiter with threshold
• EQ input		6 x full parametric EQ, 20Hz - 20kHz, +/- 20dB in steps of 0,1dB, bandwidth 0,05 to 3,0
• EQ output		6 x full parametric EQ, 20Hz - 20kHz, +/- 20dB in steps of 0,1dB, bandwidth 0,05 to 3,0
• Delay		Max 2000mS in steps of 10,4uS
• Latency		625uS @ 96kHz
• Connectors		2 x XLR analogue input, 2 x XLR analogue Aux output (via DSP) 1 x XLR digital input, 3 x RJ45 (RS485) 1 for programming, 2 for patching and linking several amplifiers
• Software		Fully graphical software included, easy to access all features, easy to manage.
• Front panel		All features and DSP settings can easily be programmed via the front-panel using the jog-wheel and the 3 buttons



P-SERIES AMPLIFIERS



TECHNICAL SPECIFICATIONS P-SERIES POWER AMPLIFIERS

Model	P3000	P3000DSP	P10000
Max output power RMS, @1kHz, 0,1% THD			
8 ohm, both channels driven	2 x 650W	2 x 650W	2 x 1800W
4 ohm, both channels driven	2 x 1000W	2 x 1000W	2 x 3400W
2 ohm, both channels driven	2 x 1500W	2 x 1500W	2 x 5000W
8 ohm, Bridged	2200W	2200W	10000W
THD @ 1kHz, 1dB below clipping	0,05%	0,05%	0,05%
Slew rate	55V us	55V us	55V us
Damping factor	500	500	1000
Input connectors, signal input	2 x Neutrik XLR female	2 x Neutrik XLR female	2 x Neutrik XLR female
Signal link / through / out	2 x Neutrik XLR male	2 x Neutrik XLR male	2 x Neutrik XLR male
Output connectors speaker out	2 x Neutrik speakon pole screw terminals	2 x Neutrik speakon pole screw terminals	2 x Neutrik speakon pole screw terminals
Power input	Neutrik Powercon	Neutrik Powercon	Neutrik Powercon
Mode switch	Stereo / bridge / parallel	DSP signal routing	Stereo / bridge / parallel
Sensitivity switch	26dB / 32dB / 1,4V	26dB / 32dB / 1,4V	26dB / 32dB / 1,4V
Impedance matching switch	-	-	2 Ohm / 4 Ohm / 8 Ohm
Operation voltage	230V/50HZ +-10%	230V/50HZ +-10%	198V - 242V, with PFC (power factor correction)
Soft start	Yes	Yes	Yes
Protection	Overload, clip, thermal, shortcircuit, internal faults,	Overload, clip, thermal, shortcircuit, internal faults,	Overload, clip, thermal, shortcircuit, internal faults,
Dimension mm. W x D x H	484 x 440 x 89	484 x 440 x 89	484 x 440 x 89
Mounting rack height	2 RU (Rack Units)	2 RU (Rack Units)	2 RU (Rack Units)
Net weight kg.	12	13	14,5
Shipping weight kg.	14	15	16,5



PL1600

Class-TD, amplifier with conventional power supply, designed for a variety of applications, suitable for installations in work-out centres, live stages, bars, pubs, nightclubs, schools, cinemas and for tour applications. Reliable technology for low service cost and a long life span.

The PL1600 are stable down to 2 ohm load with impedance matching technology. Standard 19" 2RU chassis for easy rack-mounting.

- 2x500W/8ohm, 2x700W/4ohm, 2x800W/2ohm
- OVP technology (Impedance matching) 2ohm, 4ohm, 8 ohm
- Sensitivity select switch (0,775V/1,4V/32dB)
- Limiter on/off
- Bridged in 4 ohms
- Neutrik Powercon input
- Neutrik XLR for signal input/through
- Neutrik Speakon and pole screw terminals output to speakers
- Extensive protection circuits against thermal, overheat, short circuit, clip,



T220AP

Class-D, wall & ceiling mount amplifier 2x20W

The T220AP is a mini amplifier for installation with out VPS series installation speakers.

The amplifier is a stereo 2 x 20W class-D module with line/mick switch, separate volume control, bass/treble control.

It can be run in stereo or bridge mode, 2x20W@4ohm or 1x40W@8ohm, input is either connected by 2 x unbalanced RCA connectors, or balanced with 2 x 3-pole phoenix connectors (included). the power supply is an external 24V DC adaptor (included) speaker out has a 4-pole phoenix connector (included)

AMPLIFIERS

Class-D, 100V Public address amplifiers

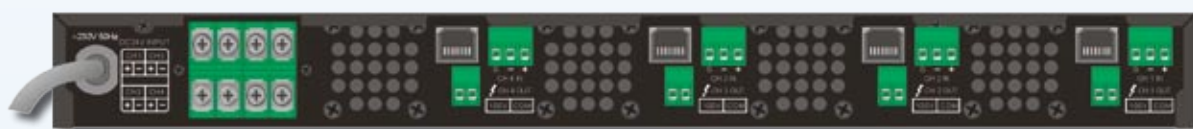
PD-Series

Class-D, 100V amplifiers for public address systems, with 1, 2 and 4 channels in a standard 19", 1RU space-saving chassis. Highly efficient Class-D technology with less heat and more sound compared to regular amplifiers.

Switched mode power supply with Active power factor correction for optimum working conditions without faults or breaks due to power dips and bursts in the house electrical grid.

Balanced input by industry standard 3-pole phoenix connectors, 100V output by phoenix connectors,

Separate 24V DC input for on each channel for backup and security systems.



Features

- Class-D series digital power amplifier
- Switch power technology with APFC (Active power factor correction)
- 85% efficient amplifier
- Low power consumption and very low heat generation
- Several models with 1, 2 and 4 channel power amplifier in 1RU height
- RMS power output of 240W and 500W
- Four channel balanced line inputs by phoenix connector
- Four channel separate speaker outputs of 100V.
- Separate volume control for each channel
- Built-in powered band pass filter from 80Hz to 16KHz signal
- Separate cooling system for each channel
- Separate status indicators include signal, peak and protection
- Extensive high temp, overload and short-circuit protection
- AC 190V to 240V voltage input
- Separate DC 24V inputs with wide voltage protection on each channel

TECHNICAL SPECIFICATIONS PD-SERIES, 100V CLASS-D PUBLIC Address AMPLIFIERS

Model	120W version	240W version	500W version
Rated output power	1, 2, 4 x 120W	1, 2, 4 x 240W	1, 2, 4 x 500W
Speaker output	100V	100V	100V
Input sensitivity / Impedance	+/-385mV/20kOhm, balanced phoenix connectors		
THD 1/3 rated power	0,1%		
Overload Electromotive Force	> 11dB		
Frequency response	80Hz - 16kHz (+1, -3dB)		
S/N Ratio	85dB		
Indicators	Signal, Peak, Protection & Power		
Controls	Remote power control, volume control, status monitor		
Protecions	High temp, overload & short-circuit, internal automatic low noise fans.		
Dimension mm. W x D x H	484 x 440 x 89	484 x 440 x 89	484 x 440 x 89
Power consumption	1,25 x total power		
Mounting rack height	1 RU (Rack Units)	1 RU (Rack Units)	1 RU (Rack Units)