



PRODUCT OVERVIEW

The DPF3103 'digEQ' is a complete signal processing system available in a stand-alone 2U rack unit, or in 1U Slave units. The digEQ system may be configured as individual dual channel processors or as a multichannel network, controlled remotely. The intuitive user interface makes the digEQ system particularly appropriate to live sound use, where fast access is required, and where the system may be used by non familiar engineers. However, it is also appropriate for fixed installations, where a Slave unit can provide all the required processing in a tamper proof package, and in broadcast, recording, and post production applications.

The digEQ system combines simultaneous 24 bit equalisation and dynamics processing functions within a single product. Intuitive and easy to use, it offers dual 31 band 2/3rd Octave Graphic EQ, Parametric and Shelving EQ, with variable High and Low Pass Filters, Compressor/Limiter and Noise Gate. Optional processors include Time Delay and Real Time Analysis. The digEQ may be connected with an analogue source as standard, or fitted with a digital I/O module for integration into digital systems. The digEQ will store complete system settings in up to 98 nameable memories. Settings may be recalled live, with no interruption of the signal, and a Compare function allows instant toggling between two settings.

The digEQ exists either as a Master unit, which can be operated as a stand-alone dual channel processor, or a Slave unit that requires external programming. Both Master and Slave units can be incorporated into a multichannel network under the control of a single Master unit, Remote Control unit, digEQ Windows software, or any external midi controller. In this way, up to 32 channels of audio processing may be controlled remotely and linked for fast program change.

MODES OF OPERATION

In Graphic mode, each of the 31 ISO centre frequencies may be accessed instantly via a dedicated frequency button, or by the data wheel. A and B channels may be varied separately or linked together for stereo operation with offsets, and pressing two frequency buttons simultaneously will allow cut and boost of a range of frequencies. A second press of the Graphic function button displays the resultant 'real curve'.

With the Parametric & Filters mode selected, highlighted buttons give direct access to the Parametric frequencies, gain and bandwidth, to the Shelving EQ frequency and gain and to the Hi-Lo filters frequency and slope.

The Dynamics button brings up the Compressor screen, and with a second push, the Noise Gate screen. The Compressor may be configured as either Hard or Soft Knee and features variable Threshold, seven compression ratios plus LIMIT, variable Attack and Release and Make Up Gain. The Noise Gate is of the expander type and may be configured with Hard or Soft Knee with variable Threshold, six expansion ratios plus GATE, variable Attack and Release.

The RTA button brings up the RTA menu (if the option is fitted). The RTA option is an internal plug-in module running from its own DSP and can therefore be operated without interfering with the processing of either audio channel. Analysis is filter based to give greater accuracy at low frequencies. Analysis may be performed on internally generated Pink Noise or on Programme material, with selectable range and reference. The signal can be measured with a range of selectable time constants and may be displayed as an instantaneous or accumulated response.

The software also features compensation for different microphone responses with four storable configurations. A number of post processing functions are available including Invert, Normalise, Average and Sum.

The DELAY button brings up the Digital Delay menu (if the option is fitted). Time delay is displayed in samples, feet, metres, seconds and frames and provides up to 1.34 seconds of delay time.

A Utilities button gives access to the DigEQ's system set-up menu, allowing selection of Input or Output, Peak or VU metering, Analogue sample rate or Digital input mode, Slave address and MIDI IN and OUT channel selection.

In keeping with our policy of continuous improvement LA Audio reserves the right to alter specifications without prior notice. Manufactured in the UK by LA Audio, 6-24 Southgate Road, London, N1 3JJ.
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SPECIFICATIONS

SYSTEM PERFORMANCE

Frequency response:	10Hz to 20kHz \pm 0.5dB
Input impedance:	10k (balanced)
Output impedance:	<10R (balanced)
Max input level:	+20dBu
Max output level:	+20dBu
Nominal level:	0dBu
Signal to Noise ratio:	>95dB
THD @ +4dBu:	<0.012%, 10Hz-15kHz <0.04% at 20kHz

GRAPHIC EQUALISER

Centre frequencies: (Hz):	20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5k, 16k, 20k.
Bandwidth:	2/3rd Octave
Gain:	\pm 15dB, 0.5dB steps

PARAMETRIC EQUALISER

Number of bands:	Up to 3 per channel
Frequency range:	20Hz to 20kHz with 1/18th Octave resolution
Gain:	-40dB to +15dB, 0.5dB steps
Bandwidth (Q):	1/32 to 2 Octaves

HIGH & LOW PASS FILTERS

High Pass filter:	16Hz to 2kHz with 1/18th Octave resolution
Low Pass filter:	160Hz to 20kHz with 1/18th Octave resolution
Response:	2nd Order Bessel 2nd Order Butterworth 4th Order Linkwitz-Riley

SHELVING EQUALISER

LF frequency:	16Hz to 2kHz with 1/18th Octave resolution
HF frequency:	160Hz to 20kHz with 1/18th Octave resolution
Gain:	\pm 8dB, 0.5dB steps

COMPRESSOR/LIMITER

Knee type:	Soft or hard knee
Threshold:	0dB to -40dB, 0.5dB steps
Ratio:	1.4:1, 2:1, 3:1, 4:1, 6:1, 8:1, 16:1 and LIMIT
Attack time:	10 μ s to 100ms
Release time:	20ms to 5s

EXPANDER/GATE

Knee type:	Soft or hard knee
Threshold:	0dB to -80dB, 1.0dB steps
Ratio:	1:2, 1:3, 1:4, 1:6, 1:8, 1:16, and GATE
Attack time:	10 μ s to 100ms
Release time:	20ms to 5s

RTA option

Spectrum analysis:	31 band 1/3rd octave, EN-61260, Peak or Vu
Standard:	dB SPL or dBu
Units of display:	30dB, 60dB
Display Scales:	External Microphone digEQ input digEQ output
Source:	Balanced female 3 pin XLR
Microphone input:	Adjustable
Sensitivity:	+15V
Phantom Power:	4 Programmable response memories
Calibration:	

Noise Generator:

EQ interaction:	Adjustable level Pink Noise Semi automatic and automatic equalisation
RTA Curve memories:	50 memories

DIGITAL DELAY option

Units:	Seconds, Metres, Feet, Samples, Frames (24fr/s, 25fr/s, 30fr/s, 30 Drop Frame)
Resolution:	0.1mS, 0.01m, 0.1ft, 1 sample
Range:	1.3ms to 1.36s 0.45m to 470m 1.5ft to 1,540ft 0.03 fr to 32fr.
Temperature Compensation:	0 ∞ C - 40 ∞ C (32F - 104F)

INTERFACES

Midi:	Program change & SysEx
Computer:	MIDI
Digital:	AES/EBU, S/P-DIF (option)

POWER

Power requirement:	30VA
Voltage:	90-240VAC 50-60Hz auto switching

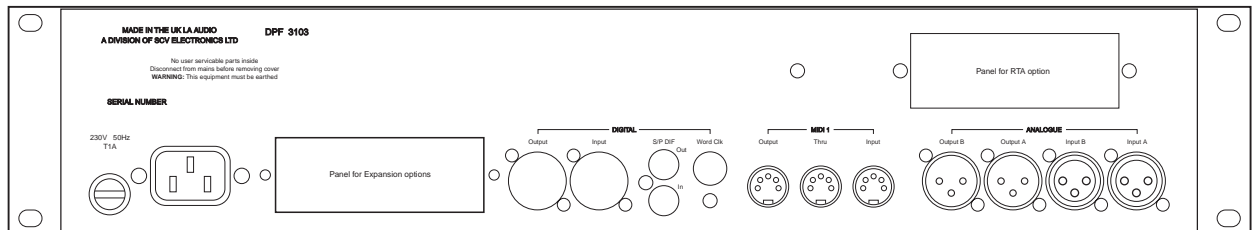
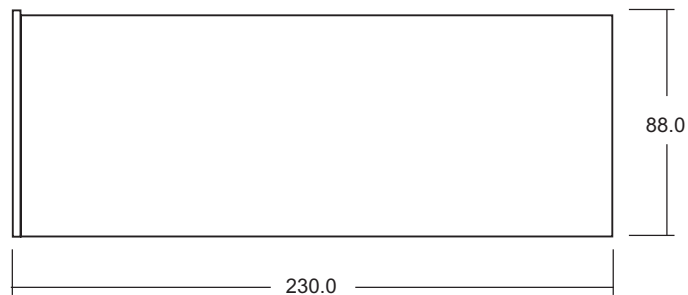
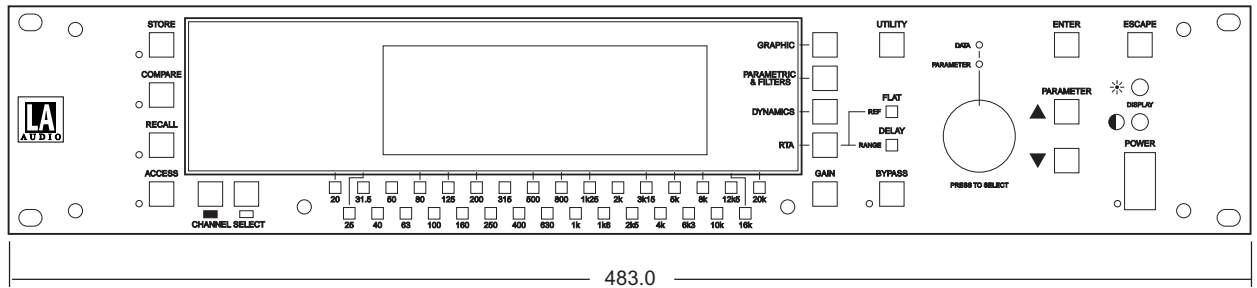
CONNECTORS

Analogue input:	3 pin female XLR (pin 2 hot)
Analogue output:	3 pin male XLR (pin 2 hot)
Digital I/O option:	AES/EBU on XLR S/PDIF on Phono (RCA) Word Clock-in on BNC
Midi in/out/thru:	5 pin DIN
Computer Midi I/F in/out:	5 pin DIN

PHYSICAL

Dimensions:	483mm (19") W 230mm (9") D 89mm (3.5") H
Weight:	4.3Kg (9.5lbs)

DIMENSIONS



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