SING EASY DSP48T

4-IN / 8-OUT DIGITAL AUDIO PROCESSOR

The Sing Easy DSP48T provides all the processing and flexibility you need between your mixer and amplifiers to optimize and protect your loudspeakers.

It is a 32-bit DSP high-performance 4 Analog inputs and 8 Analog outputs, fully programable, 24-bit AD/DA Analog to Digital and Digital to Analog conversion digital audio system processor with a sampling rate is up to 48KHz.

Inputs can be matrix mixed and/or routed to any or all outputs and each input and output channel supports up to 13 sections of parameter equalizer. In addition, it is equipped with powerful functions such as a high/low pass filter, signal generator, noise gate, gain control, input compression, output limiting, scene setting, each algorithm preset setting and adjustable delay of up to 2000ms per channel.

It is equipped with dual Ethernet, USB and RS232 connectivity for configuration, control and software/firmware updates. Processor configuration can be accomplished in real-time from the front panel or with a computer running our easy-to-use Console software GUI. And with the dual Ethernet connection and a basic wired or wireless router the Console GUI can control individual or multiple DSP48T processors from any location.

INPUT PROCESSING

- 12-Band Parametric EQ (including all-pass and high-low filters)
- Linkwitz-Riley, Bessel and Butterworth Filters
- FIR filter
- Signal Generator
- Noise Gate
- Gain Control
- Phase Control
- Compressor/Limiter
- Tower Delays (up to 2000ms per output)

OUTPUT PROCESSING

- 12-Band Parametric EQ (including all-pass and high-low filters)
- Linkwitz-Riley, Bessel and Butterworth Filters
- FIR filter
- Gain Control
- Mute
- Phase Control
- Compressor/Limiter
- Tower Delays (up to 2000ms per output)

FEATURES

- All inputs and outputs can be freely allocated in the matrix, and the names of each input and output channels can be changed
- The voltage limit of all input channels has an adjustable threshold, ratio, start-up time, recovery time and compensation gain
- All output channels have adjustable amplitude limiting threshold and recovery time
- Every channel parameter setting can be copied freely under the same algorithm and every channel can be adjusted in linkage
- Built-in signal generator, optional input mode, pink noise, white noise, sweep frequency and sine wave are adjustable, and the signal amplitude is adjustable
- Front panel equipped with input and output level indicators and USB control port
- The rear panel is equipped with RS232 control port, Dual Ethernet ports, and a Reset Button
- Up to 32 preset scenarios
- Password Protection

BACK VIEW

AUDIO PARAMETERS

Sampling Rate	48 KHz
Analog Input	4 XLR Balance
Input Impedance	10 KΩ Balance
Input Impedance	20 KΩ Unbalanced
Analog Output	8 XLR Balance
Output Impedance	50 Ω Balance/100 Ω Unbalanced
Frequency Response	20 Hz to 20 KHz
Default Output Level	0 dBu
AD & DA Transfer	24-bit
Maximum Input Level	20 dBu (Max
Maximum Output Level	20 dBu (Max)
THD+N	≤0.0025% @ 4 dBu 20 Hz to 20 KHz (Min)
System Delay	≤2000 ms (Max)
Bottom Noise	≤-90 dBu (Min)
Dynamic Range	≥110 dBu (Min)
S/N Ratio	≥110 dBu (Min)

ALGORITHM PARAMETERS

Parametric Equalizer	Up to 16 band EQ (In/output)
12 Filters Type	Peak, notch, elevated, low rack, high pass, low pass, second-order all pass, first-order all pass, Butterworth high pass, Butterworth low pass, Bessel high pass, Bessel low pass
Filters Gain Range	-15 dB to +15 dB in 0.1 dB steps
Gain Range(In/output)	-72 dB to +12 dB in 0.1 dB steps
Center Frequency	20 Hz to 20 kHz in 1 Hz steps
Filters Q value/wide band	Peak, Trap wave, second order all pass Q value: 0.01 to 5
High and low pass filtering	Butterworth slope: 6, 12, 18, 24, 30, 36 ,42 ,48 dB/octave Bessel slope: 6, 12, 18, 24, 30, 36, 42, 48dB dB/octave Linkwich Rayleigh: 12, 24, 36, 48 dB/octave
Input Noise Gate	Threshold Range: -84 dBu to 0 dBu Start Time: 1 ms to 1000 ms Recovery Time: 1 ms to 1000 ms
Input Compression	Threshold Range: -84 dBu to 0 dBu Compression Ratio: 1 to 20 Start Time: 1 ms to 1000 ms Recovery Time: 1 ms to 1000 ms Compensation Gain: -24 dB to 30 dB
Output Limiter	Threshold Range: -84 dBu to 0 dBu Recovery Time: 100 ms to 1000 ms
Delay	Up to 2000ms can be adjusted per in/output channel

GENERAL

Power Requirements	AC 110 V to 240 V 50Hz/60 Hz
Net Weight	1.9 Kg
Gross Weight	2.3 Kg
Dimensions (W x H x D)	483 × 43 × 180 mm

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