The DEQ2496 is a high-precision digital 24-bit/96 kHz EQ/RTA mastering processor, ideal for sophisticated live sound trouble-shooting or audiophile mastering. Whether you're putting the finishing touches on recorded material or creating an optimal live sound for a multi-way PA, the DEQ2496 is built to provide meticulous control.

Equalization? Dynamics? Feedback correction? Yes, yes, yes. You can have it all with the DEQ2496. Automatic FFT analysis with Auto EQ? We added that too.

The DEQ2496 is a whole rack of flexible equalization, dynamics and time correction functions designed to fix problems and generally optimize sound quality.

- Dual 31-band Graphic Equalizers
- 31-band Virtual Paragraphic Equalizers
- 10-band Parametric EQ’s per stereo side
- Dynamically-activated EQ
- Feedback Destroyer with Learning Mode
- Stereo Imager
- Limiter
- Digital Delay
- RTA/SPL/FFT Analyzer with Auto EQ function

Naturally the DEQ2496 has phase-neutral digital graphic EQ...but in addition we’ve added a function that allows you to change the bandwidth of each frequency from standard 1/3 to as much as 59/3.
Or, if you prefer the old-school approach to variable bandwidth, we’ve included 10-band parametrics that can be fine-tuned in increments down to 1/60 of an octave.

**Dynamically-activated EQ**

Dynamic EQ automatically raises or lowers a defined frequency range based on volume level. It’s literally a combination of an equalizer (with frequency center and bandwidth controls) and a dynamics processor (with ATTACK, RELEASE, THRESHOLD and RATIO parameters).

**DEQ opens up a world of both creative mastering and PA problem solving possibilities.** We’ve given you total control with multiple filter types including bandpass mode. And of course you can store DEQ settings for recall at any time manually or via MIDI.

**Feedback Destroyer with Learning Mode**

With the digital capabilities we’ve just listed, it’s easy to see why we were able to include a highly-effective Feedback Destroyer (FBD) feature — it’s essentially a dynamically-activated parametric EQ that “watches” the whole frequency spectrum in 1/60-octave bands and then instantly identifies and notches out feedback.

FBD can be run in AUTO mode to compensate for movements of performers on stage, or in SNGLE mode that locks onto individual frequencies and then varies the amount of attenuation and bandwidth depending on feedback stimulus — more suited to fixed microphone installations.

We also included a LEARN mode that generates short audio pulses, raises their gain until feedback occurs and then locks into potential trouble-causing band centers.

**Stereo Imager (WIDTH).**

While usually considered a mastering technique, the ability to widen the stereo image can be useful in live sound work, too. When you hear it in action, we think you and your audience will be impressed.

Continued on next page
The DEQ2496 WIDTH processor provides control over STEREOWIDTH (how clearly the two sides of the stereo image are separated from each other), ASYMMETRY (relative volume of left/right stereo signal), ROTATION (panning of stereo + mono in the stereo image), and a multipart SHUFFLE function than can generate an additional low-frequency Stereowidth effect.

**Compressor/Expander and Limiter**

The DEQ2496 has a comprehensive set of dynamics processing tools that can be used as two independent channels or stereo linked.

You can delay either the DEQ2496’s Main or AUX outputs anywhere from 0 to 300ms and can process left and right channels independently.

The DEQ2496 features an FFT real time analyzer for precise graphic display of 61 frequency bands. You can monitor main or digital inputs and outputs, AUX/digital out or a feed from an RTA microphone and display the results in a multitude of ways including funky retro VU meters.

In Graphic EQ mode, you can choose between UNCORRECTED response, which shows the mutual influence of adjacent bands, or select TRUE response to apply a specially developed algorithm that displays the actual results of the equalizer setting.

**Easy to set up and use.**

The DEQ2496 has balanced inputs and servo balanced outputs with gold-plated XLR connectors, stereo aux output, AES/EBU and S/PDIF inputs and XLR and optical output. Configuration is intuitive, with on-screen block diagram displays and you get a separate RTA mic/line input with phantom power, a professional wordclock input and MIDI connections for full remote control, as well as preset dumps and system updates.

You can maintain up to 64 comprehensive user presets at a time and of course dump and load as needed. You can also save and recall individual modules such as DEQ, PEQ, WIDTH or DYN. These subsets of complete presets let you maintain most of a preset's settings but vary a few (such as graphic EQ) without having to generate a whole new preset.

**Built tough for the road, precise for the studio.**

The DEQ2496 features high-quality 24-bit/96 kHz A/D and D/A converters and two high-performance 32/40-bit floating-point digital signal processors for incredible sonic resolution and 113 dB dynamic range.

The internal switch-mode power supply assures maximum flexibility (100–240V~), noise-free audio, superior transient response, lowest possible power consumption and freedom from power surge damage.
Compare features. Compare prices. Own ULTRACURVE.

Quite frankly, we believe that the DEQ2496 is the best multi-function processor value in the pro audio industry. Why pay much more for a status name?

- **METER and CLIP LEDs**
- **RTA (Real Time Analyzer) selector**
- **PAGE browses pages within a menu**
- **High-resolution display**
- **DATA WHEELS are used to select and edit parameters in a selected menu**
- **POWER switch**

- **METER menu key**
- **MEMORY where you can save or recall complete presets or individual modules from one preset**
- **COMPARE either complete presets or individual modules**
- **A and B functions depend on the selected menu, and are indicated in the display**
- **MENU keys select individual menus within modules**

The FUSE HOLDER holds the mains fuse of the DEQ2496. Blown fuses must be replaced by fuses of the same type and rating.

- **Connect the enclosed power cord to the mains connection**
- **MIDI IN / OUT / THRU**
- **AES/EBU and S/PDIF optical I/O**
- **Stereo AUX OUT taps the audio signal present at the digital outputs in analog form**
- **RSTA/MIC IN for realtime analyzer or SPL meter has +15V phantom power supply for condenser mics**
- **Balanced XLR input connectors**
- **Balanced XLR output connectors**
- **Raised MAX level present at the MAIN inputs/outputs from +12 dBu to +22 dBu**
- **RTA AES/EBU or S/PDIF I/O**
- **Synchronize to external equipment via BNC coaxial WORDCLOCK input**

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**DEQ2496 Features**

- **RTA (Real Time Analyzer)**
- **MEMORY**
- **COMPARE**
- **PAGE**
- **High-resolution display**
- **DATA WHEELS**
- **POWER switch**
- **FUSE HOLDER**
- **MIDI IN / OUT / THRU**
- **AES/EBU and S/PDIF optical I/O**
- **Stereo AUX OUT**
- **Synchronize to external equipment via BNC coaxial WORDCLOCK input**
- **RSTA/MIC IN for realtime analyzer or SPL meter has +15V phantom power supply for condenser mics**
- **Balanced XLR input connectors**
- **Balanced XLR output connectors**
- **Raised MAX level present at the MAIN inputs/outputs from +12 dBu to +22 dBu**
## Analog inputs
- **Type**: electronically balanced
- **Connector**: XLR
- **Impedance**: 22 kΩ
- **Max. input level**: +12 or +22 dBu, switchable
- **CMRR**: 40 dB typ.

## Analog outputs (main)
- **Type**: servo-balanced
- **Connector**: XLR
- **Impedance**: 100 Ω at 1 kHz
- **Max. output level**: +12 or +22 dBu, switchable

## Analog outputs (aux)
- **Type**: servo-balanced
- **Connector**: ¼" stereo jack
- **Impedance**: 100 Ω at 1 kHz
- **Max output level**: +12 dBu

## SYSTEM SPECIFICATIONS
- **Frequency range**: 10 Hz to 35 kHz (-1 dB)
- **Signal-to-noise ratio**: > 113 dB main input/output
- **THD**: 0.007 % Typ., @ +4 dBu, 1kHz, unity gain
- **Crosstalk**: <-92 dB/-95 dB
- **Bypass**: Relay, hard-bypass in case of power failure
- **Measurement microphone input**
  - **Type**: electronically balanced
  - **Input impedance**: 2kΩ
  - **Max. input level (LINE)**: variable from -14 dBu to +22 dBu
  - **Max. input level (MIC)**: variable from -42 dBV/Pa to -6 dBV/Pa
  - **Phantom power**: +15 V, switchable

## Digital input 1
- **Type**: XLR transformer-balanced
- **Standard**: AES/EBU or S/PDIF
- **Input impedance**: 110 Ω
- **Nom. Input level**: 0.2 – 5 V peak-to-peak

## Digital output 1
- **Type**: XLR transformer-balanced
- **Standard**: AES/EBU or S/PDIF
- **Impedance**: 110 Ω
- **Output**: 3.5 V peak-to-peak

## Digital input 2
- **Type**: TOSLINK optical
- **Standard**: AES/EBU or S/PDIF

## Digital output 2
- **Type**: TOSLINK optical
- **Standard**: AES/EBU or S/PDIF

## Sync input
- **Type**: BNC
- **Standard**: Wordclock (1 x sample rate)
- **Input impedance**: 50 kΩ
- **Nom. Level**: 2–6 V peak-to-peak

## MIDI interface
- **Type**: 5-pole Din jacks In/Out/Thru
- **Implementation**: cf. MIDI implementation chart

## Digital processing
- **Converter**: 24-bit Delta-Sigma, 64/128-oversampling (AKM*)
- **Sample rate**: 44.1, 48, 88.2, 96 kHz

## Graphic equalizer (GEQ)
- **Type**: digital 1/3-oct. EQ
- **Frequency Range**: 20 Hz to 20 kHz, 31 1/3-oct. bands according to ISO frequencies
- **Bandwidth**: 1/3-oct.
- **Control range**: +15 to -15 dB

## Parametric equalizer (PEQ)
- **Type**: max. 10 independent, fully parametric filters per channel
- **Frequency range**: 20 Hz to 20 kHz
- **Bandwidth**: 1/10 to 10 oct., shelving filters (6 and 12 dB)
- **Control range**: +15 to -15 dB

## Dynamic equalizer (DEQ)
- **Type**: max. 3 independent, fully parametric filters per channel
- **Frequency range**: 20 Hz to 20 kHz
- **Bandwidth**: 1/10 to 10 oct., shelving filters (6 and 12 dB)
- **Control range**: +15 to -15 dB
- **Threshold**: variable from 0 to -60 dB
- **Attack**: 0 to 200 msec
- **Release**: 20 to 4,000 msec
- **Ratio**: 1:2 to 1:100

## Feedback Destroyer (FBD)
- **Type**: digital signal analysis for feedback identification
- **Filter**: max. 10 digital notch filters per channel, programmable or as automatic feedback suppression system
- **Frequency range**: 20 Hz to 20 kHz
- **Bandwidth**: 1/10 to 1/60 oct.
- **Control range**: 0 to -60 dB

## Digital delay
- **Type**: digital stereo delay
- **Max. delay time**: 300 ms, independently adjustable for each channel
- **Min. resolution**: 0.02 ms
- **Delay units**: seconds, meters or feet

## Level meters
- **Type**: digital level meter with simultaneous graphic display of Peak and RMS values and virtual analog VU meter
### SPL meter
- **Weighting**: db (A), db (C) or OFF
- **Microphone calibration**: -42 dBV/Pa to -6 dBV/Pa

### Dynamics
- **Type**: Expander or compressor with digital IGC (Interactive Gain Control)
- **Threshold**: variable from 0 to -60 dB
- **Attack**: 0 to 200 msec
- **Ratio**: 1:1.1 to 1:100 msec

### Limiter
- **Type**: Peak limiter (zero attack)
- **Hold**: 0 to 1,000 msec
- **Threshold**: variable from 0 to -24 dB
- **Release**: 20 to 4,000 msec

### Real-time analyzer
- **Type**: digital 61-band FFT analyzer
- **Frequency range**: 20 Hz to 20kHz, 61 bands according to ISO frequencies
- **Detectors**: peak and average
- **Noise generator**: pink noise, levels from 0 to -60 dB

### Display
- **Type**: 320 x 80 dot-matrix LC display
- **Backlighting**: LED, orange
- **Contrast**: adjustable

### Memory
- **Presets**: 64 memory locations with 16-character names, single modules can be recalled and saved

### Power supply
- **Mains voltage**: 85 to 250 V~, 50/60 Hz
- **Power consumption**: 10 W typ.
- **Fuse**: T 1 A H
- **Mains Connector**: Standard IEC receptacle

### Dimensions/Weight
- **Dimensions**: 1 ¾ x 19 x 8 ½”/44.5 x 482.6 x 217 mm (H x W x D)
- **Weight**: approx. 2.05 kg
- **Shipping weight**: approx. 3.5 kg

Please note these specifications are preliminary and conceptual in nature, and as such are subject to change as product development progresses. This information is supplied for market research purposes only and is not to be made public in any manner. This document is solely the property of The MUSIC Group, or one of its subsidiaries, and must be surrendered upon request of the owner.