# Audio Processor

## TF-0UGDGD

## Description

It is a high-performance audio processor with 16 analog balanced inputs and 16 analog balanced outputs. It is mainly used in the scenarios of analog microphone sound reinforcement and multi-channel sound source mixing, which can meet the application requirements of sound reinforcement systems in conference rooms, courts, auditoriums, multipurpose halls, classrooms, performance venues and other places.Integrated dynamic range control (DRC), automatic gain control(AGC), auto feedback control (AFC), adaptive noise reduction (ANS), adaptive echo cancellation (AEC), audio filters (GEQ, PEQ, crossover) and other functions.It is mainly used in various professional sound reinforcement scenarios.

## Feature

* Adopting 1U rack type and high-quality 1.0mm galvanized steel plate, which has a stable structure; superior heat dissipation design and excellent heat dissipation by the ball fan.
* Rich audio processing functions: input processing includes input module, input equalizer, expander, compressor, automatic gain, ducker, mixing processing includes matrix mixing and automatic mixing, and output processing includes limiter , output equalizer, delay, and output module, and also has three major audio processing functions: feedback suppression, echo cancellation, and noise cancellation.
* Support automatic mixing functions, including gain sharing mixing and threshold automatic mixing, which compresses close-range volume to compensate for distant volume.
* The high- and low-pass crossovers are adjustable in the entire frequency range,the crossover supports three filter types: Bessel, Linkwich-Rayleigh, Butterwort.
* Input per channel: 16 balanced microphones/lines, using bare wire interface terminals and balanced connection. Input supports microphone input and line input switching. Each input has 48V phantom power and can be individually configured through PC software.
* Output per channel: 16 balanced line outputs, using bare wire interface terminals and balanced connection.
*  High-performance DSP processing, 64-bit DPS processor (1GHZ main frequency), providing 32-bit/48KHz excellent high-quality sound.
* Full-featured matrix mixing, providing users with flexible and simple signal routing operations. The routing path and level can be completed with one button.
* The panel has a 2-inch IPS true color display, which supports display of device network information, real-time levels, channel mute status, and matrix mixing status.
* The panel has a USB interface and supports multimedia storage, which can be used for storage, recording or playback.
* Support 8 scene preset functions and supports flexible import and export of scenes.
* Support factory reset function.
* Support device positioning function.
* Support automatic power-off protection memory function.
* Equipped with a two-way RS-232 interface for controlling external devices.
* Equipped with RS-485 interface to realize automatic camera tracking function.
* Equipped with 8-channel programmable GPIO control interface (customizable input and output).
* Support channel copy, paste, and joint control functions.
* Enternet multi-purpose data transmission and control port can support real-time management of single and multiple devices.
* Support access to the device through PC software, with built-in management and control software: the software interface is intuitive and graphical, and can work in Windows 7, 8, 10 and other system environments.
* Support operation control through Android mobile APP software.

## Specification

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| **Input channel** | Preamplifier, signal generator, 12-band parametric equalizer, input module, input equalizer, expander, compressor, automatic gain, ducker, feedback suppression, echo cancellation, noise cancellation |
| **Output channel** | 31-segment graphic equalization adjustment, limiter, output equalizer, delay, and output module |
| **Processor** | 48kHz sampling frequency, 64-bit DSP processor; 32-bit A/D and D/A conversion |
| **Phantom power** | DC 48V |
| **Frequency response** | 20Hz～20KHz |
| **THD + noise** | ≤0.002% OUTPUT=18dBu/1kHz |
| **SNR** | ≥110dB@1kHz 24dBu (A-weighted) |
| **Channel isolation** | ≥100dB@1kHz 24dBu (A-weighted) |
| **Input impedance (balanced)** | 20KΩ |
| **Maximum output impedance (balanced)** | 100Ω |
| **Input range** | ≤+18dBu |
| **Howling searching and suppression methods** | Fully automatic wave trap |
| **Notch filter** | 24 (static points and dynamic points can be configured) |
| **Q value range** | 10-50 |
| **Frequency resolution** | 1Hz |
| **Howling searching time** | 0.1—0.5S |
| **FFT length** | 1024 |
| **Sound transmission gain** | 4—10dB |
| **System gain** | 0dB |
| **Crossover** | With Butterworth, Bessel, Linkwich-Rayleigh three high and low pass filters |
| **Equalizer** | 31-band graphic equalizer + 12-band parametric equalizer |
| **Display** | 2-inch IPS true color display, resolution 320×240 |
| **Power supply** | AC 180V-240V 50-60Hz |
| **Power consumption** | ≦50W |
| **Working temperature** | -10℃ ~ +45℃ |
| **Working humidity** | 20%~80% relative humidity, no condensation |
| **Cooling method** | Fan forced cooling |
| **Dimension（L×D×H）** | 484×298.2×45mm |
| **Net weight** | 3.69kg |