

# P16-M

## 16-Channel Digital Personal Mixer



### Features

- 16-channel digital stereo mixer to create your personal monitor mix
- Ultra-intuitive "analog" operation with total recall and 16 presets for custom mixes
- State-of-the-art 24-bit D/A converters for premium audio quality
- 16 Channel Select buttons with dual LEDs for perfect overview
- Level and Pan/Balance control per channel with LED meter
- 3-band EQ per channel with mid-band frequency control
- Solo and Mute functions per channel
- Global Level and EQ controls plus Panic Mute function
- High power and "drummer proof" headphones output
- Fully adjustable limiter protects your ears and headphones
- Additional mono/stereo line output to connect your powered monitor
- MIDI IN port for real-time remote control of all channels by external MIDI device such as BEHRINGER BCF2000, BCR2000, etc.
- Standard CAT5e connection delivers power and 16 signals to each Personal Mixer
- ULTRANET connector to daisy-chain up to forty-eight P16-M mixers for large systems (in conjunction with P16-D)
- Ultra-low system latency of less than 1 millisecond
- Powered via external power supply (included) or P16-I / P16-D
- Mounts easily on a mic stand with the P16-MB mic stand mount (not included)
- Extremely rugged construction ensures long life even under the most demanding conditions
- Conceived and designed by BEHRINGER Germany

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### Product Overview

The POWERPLAY P16-M digital monitoring mixer is the heart of the POWERPLAY 16 personal monitor system. The P16-M's user interface offers individual mix control over 16 channels of 24-bit digital audio delivered over the proprietary BEHRINGER ULTRANET digital audio system. The ULTRANET system deploys CAT5e cable to connect the P16-M to a variety of devices, such as the P16-I Input Module and P16-D ULTRANET Distributor, as well as providing a direct, seamless digital connection to the X32 Digital Mixer.

24-bit digital audio first enters the P16-M through the CAT5e ULTRANET IN connection on the back panel. Once inside the P16-M, the digital audio passes to the digital mixer section, where individual channels can be selected and tweaked using top-panel controls. For each channel, the controls include CHANNEL SELECT, VOLUME (with level LEDs), stereo PAN/BAL(ance), and a set of EQUALIZER controls that can be used to control gain for BASS (100 Hz) and TREBLE (10 kHz) shelving equalizers, as well as MID gain and FREQ controls for a sweepable semi-parametric midrange EQ.

Within the SETUP group of controls, the LINK button can be used to connect any two neighboring channels into a stereo pair with full volume, equalization, and pan/balance control. The GROUP function gathers multiple channels into linked groups so that entire families of instruments can be simultaneously and easily mixed (e.g., bass and drums in a single group, all guitars in a group, all background vocals in their own group, and so on). Once channels have been tweaked, grouped, and mixed, the STORE and RECALL buttons can be used to save and reload up to 16 different mixer scenes.

In the OUTPUT section of controls, the LEVEL knob controls the final output volume, while the LIMITER knob allows the user to set the limiter threshold and protect their hearing from sudden volume spikes. In the event the volume level does become threatening, the unit includes an emergency MUTE function easily accessible from a button on the top panel.

For analog audio output, the back panel features a ¼" TRS headphone output, as well as unbalanced ¼" LINE OUT jacks for use with powered monitors. All functions may also be controlled remotely via the dedicated MIDI IN connection.

The ULTRANET system also provides useful additional functions. If an outlet is unavailable for the power adapter, the ULTRANET IN jack can also be used to provide remote bus power from power-equipped ULTRANET devices to the P16-M, in addition to digital audio. Digital audio may also be sent through and out to additional ULTRANET units by using the ULTRANET THRU jack. Audio sent out through this ULTRANET jack will be a clone of the unprocessed input signal, and therefore will also be available for full custom mixing on additional P16-M units further downline in your ULTRANET network.

The POWERPLAY P16-M's easily integrates over ULTRANET with an entire family of products, including the P16-I Input Module and P16-D Distribution Hub, as well as the powerful X32 digital mixer. This wide-ranging compatibility makes the P16-M an incredibly powerful and flexible personal monitoring solution perfect for live, studio, or installed sound applications.

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### Technical Specifications

#### Personal Mixer

##### Connections

- Phones ¼" TRS, stereo
- Line out 2 x ¼" TS, unbalanced
- Ultranet Thru / In 2 x RJ45
- MIDI in 5-pin MIDI connector

##### Controls

- Equalizer
  - Bass ±12 dB @ 100 Hz, shelving
  - Mid ±12 dB @ 100 Hz, semi-parametric
  - Frequency 100 Hz to 10 kHz, adjustable
  - Treble ±12 dB @ 10 kHz, shelving
- Output
  - Limiter Ratio ∞:1
  - Level -20 to +15 dBu (Phones)

##### Power Supply

- Power consumption max. 5 W (with ESPS1 adaptor)
- Mains connection External power supply ESPS1 (included) or P16-I / P16-D

##### Dimensions / Weight

- Dimensions (H x W x D) appr. 9.4 x 5.0 x 2.2"  
appr. 238 x 127 x 55 mm
- Weight appr. 1.8 lbs / 0.8 kg

#### Ultranet Digital Network

##### Digital Processing

- D/A conversion 24-bit, 44.1 / 48 kHz sample rate
- Converter type 24-bit, delta-sigma

##### System

- Signal 16 channels, plus bus-power for P16-M
- Latency <0.9 ms (from P16-I to P16-M)
- Frequency response 20 Hz to 20 kHz (+0 / -3 dB)
- Dynamic range typical 92 dB

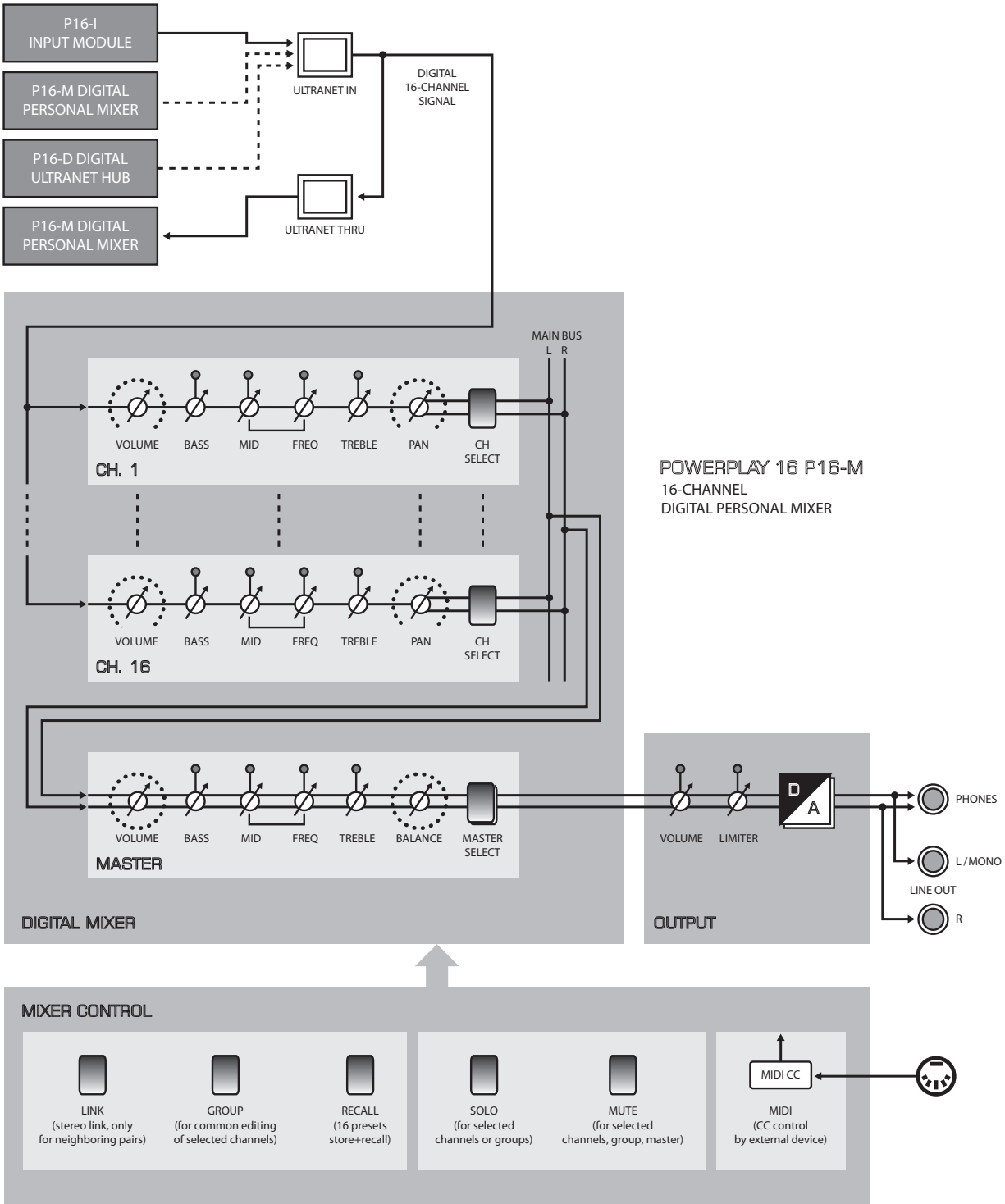
##### Cabling

- Connectors RJ45
- Cables Shielded CAT5
- Cable length max. 246 ft / 75 m recommended

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### Block Diagram



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## 16-Channel Digital Personal Mixer

### Dimensional Drawings

