DDX3216. The world's first digital mixer with analog feel.

DANALOG

PRACTICAL APPLICATIONS

BEHRINGER
JUST LISTEN.

Recording

Benefits of the DDX3216

➤ 16 high-grade 24-bit converters and 32-bit internal processing for highest dynamic resolution.

➤ There is no need to leave the digital domain after the initial A/D conversion, as no additional A/D and D/A conversion stages are required. Thus, maximum audio quality is retained.

➤ The busses allow you to record 16 signals at the same time. Along with the four multi outputs, this gives you 20 channels for simultaneous multi-track recording.

➤ 128 snapshot memories enable you to work on several projects simultaneously.

➤ With the help of the dynamic automation feature, a single operator can conduct complex recording scenarios.

➤ The 4 multi outputs can be used for quick and easy creation of monitor mixes.

➤ The four built-in, fully editable effects processors with 26 programmable algorithms allow purely digital effects processing and are simultaneously accessible from all 32 channels.

➤ Compressor/limiter, gate and sweepable high-pass filter for all 32 channels.

➤ Fader and mute groups make it easier to operate several channels simultaneously.

➤ The first 16 channels offer up to 276 ms of delay for run-time compensation or effects.

➤ Remote control of multi-track recorders is possible via MMC.

➤ The built-in meter bridge gives you full control over all input signal levels.

➤ Inserts on the first 12 channels allow you to integrate external analog gear.

Hints

➤ Channels 1 through 12 provide high-grade microphone preamps with switchable phantom power for condenser microphones.

➤ Use the multi outputs for monitor mixes in the studio.

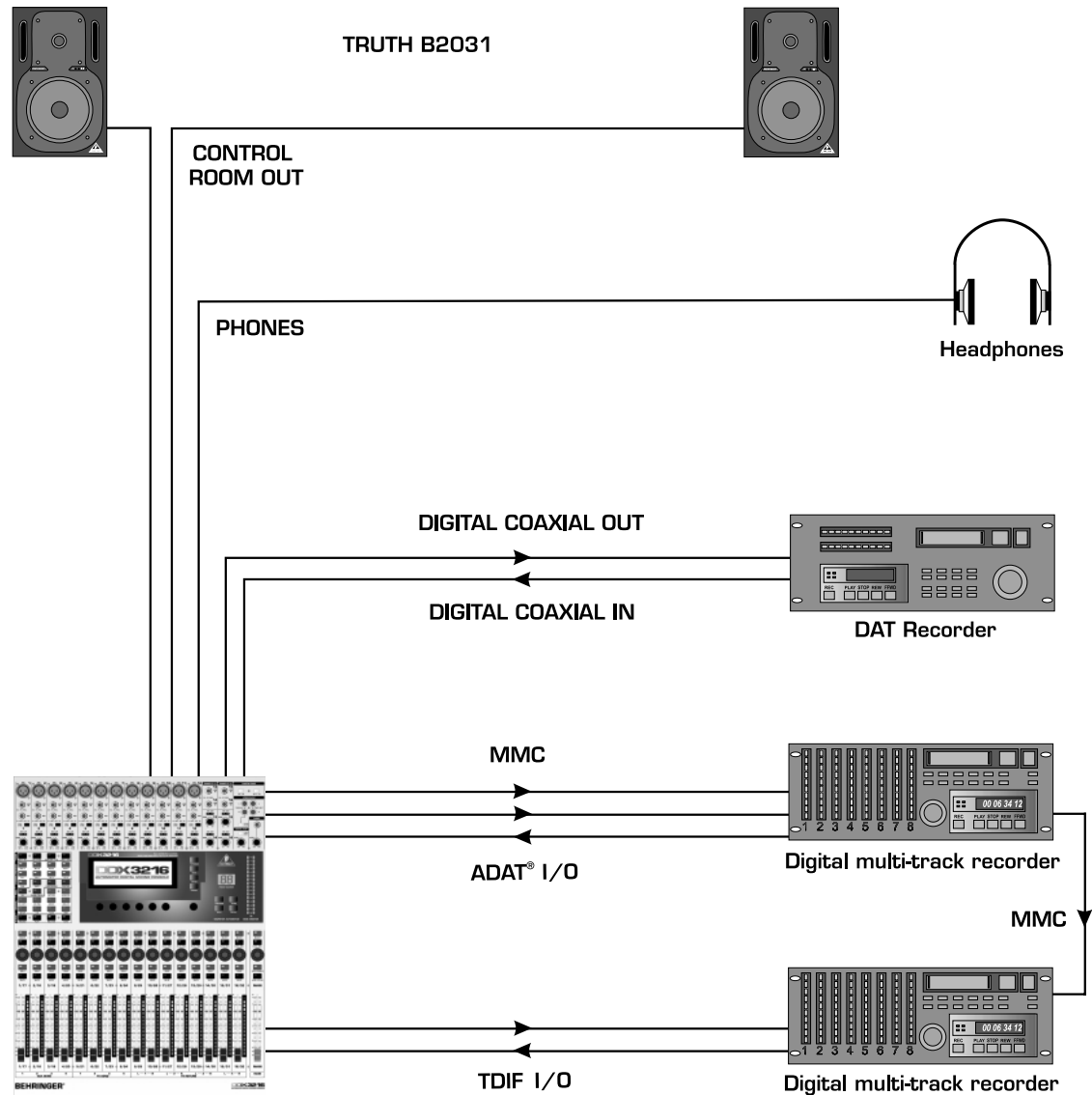➤ Set the input levels on the analog inputs as high as possible to ensure maximum dynamics.

2
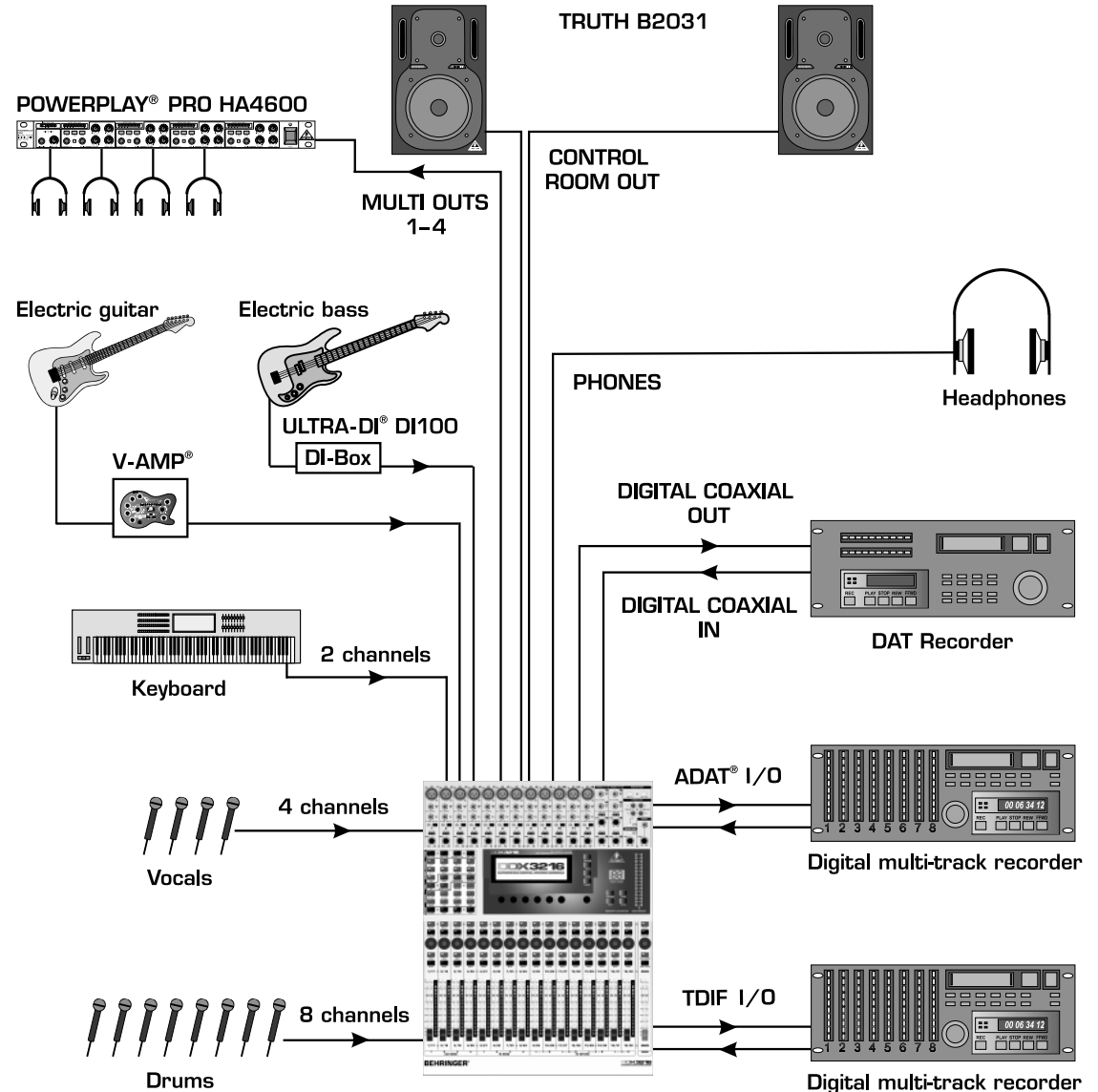
Mixdown

Benefits of the DDX3216

➤ 32 fully-fledged channels for mixdowns, including a fully parametric 4-band EQ, compressor/limiter and gate.

➤ Additional sweepable high-pass filter per channel.

➤ 4 built-in multi-effects processors with 26 editable algorithms, accessible from all 32 channels.

➤ 8 auxiliary busses (4 FX and 4 AUX), which can also be routed to the digital outputs.

➤ The Pair function allows you to group channels into stereo pairs.

➤ Fader and mute groups allow easy handling of multiple channels.

➤ Mix scenes can be easily compared using the snapshot feature.

➤ No need for external computers due to the integrated dynamic automation. The DDX3216 can be used as a stand-alone unit in combination with multi-track recorders.

➤ EQ, effects and dynamics libraries facilitate frequently recurring mix scenarios.

➤ Remote control of multi-track recorders via MMC.

➤ Mixes can be stored and transferred via MIDI, the PCMCIA slot or the serial interface with our free Windows® data transfer software.

➤ Inserts on the first 12 channels allow you to integrate outboard analog gear.

Hints

➤ Two option slots allow input/output of digital audio signals (ADAT®, TDIF, AES/EBU).

➤ The 8 auxiliary busses can be routed to digital outputs to feed effects devices equipped with a digital input.

➤ The S/PDIF input features a sample rate converter, allowing you to connect the DDX3216 to any devices with digital outputs.

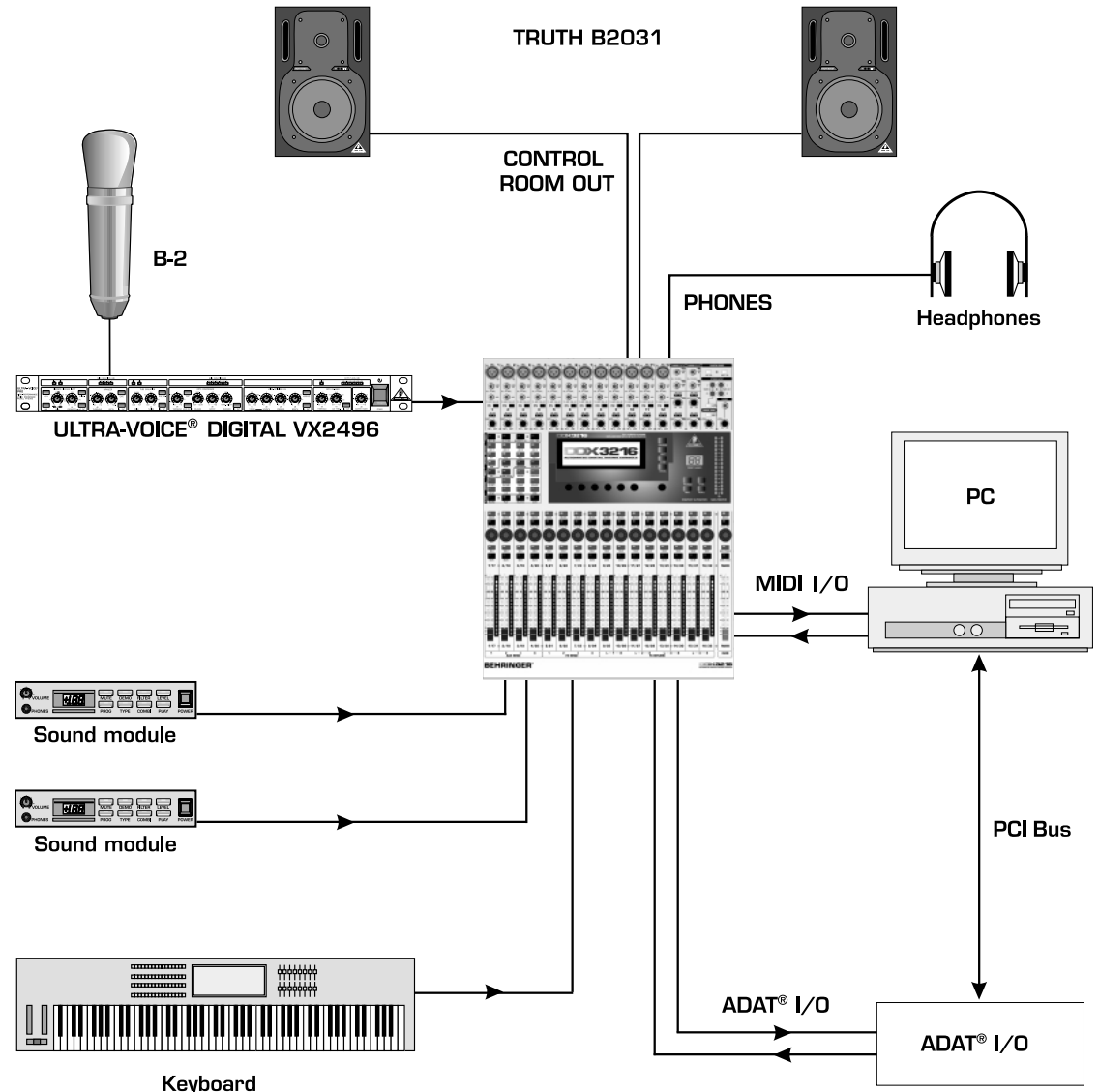➤ Use the S/PDIF output to record the digital main mix directly to a DAT or CD recorder.

TRUTH B2031

CONTROL ROOM OUT

PHONES

Headphones

DIGITAL COAXIAL OUT

DIGITAL COAXIAL IN

DAT Recorder

MMC

ADAT® I/O

Digital multi-track recorder

MMC

TDIF I/O

Digital multi-track recorder

3

Benefits of the DDX3216

➤ The ADAT® and TDIF I/O options allow you to transfer up to 32 digital signals to/from the DDX3216.

➤ The 16 analog inputs allow you to connect external devices such as synthesizers or sound modules.

➤ No need for additional and costly outboard equipment due to the built-in effects and dynamics processors.

➤ The faders and encoders on the DDX3216 transmit MIDI controller data for recording with external sequencing software.

➤ Mixes can be stored and transferred via MIDI, the PCMCIA slot or the serial interface with our free Windows® data transfer software.

➤ Inserts on the first 12 channels allow you to integrate outboard analog gear.

➤ Remote control of computers etc. via MMC.

➤ The DDX3216 replaces the A/D and D/A conversion stages usually performed on a computer.

➤ You can mix harddisk recording tracks with signals from external MIDI equipment.

Hints

➤ Utilize the internal processing options of your DDX3216 to save computing power of your PC.

➤ If you connect the DDX3216 via MIDI to your computer, please be sure that the software does not respond to the controller data triggered by fader movements on the console.
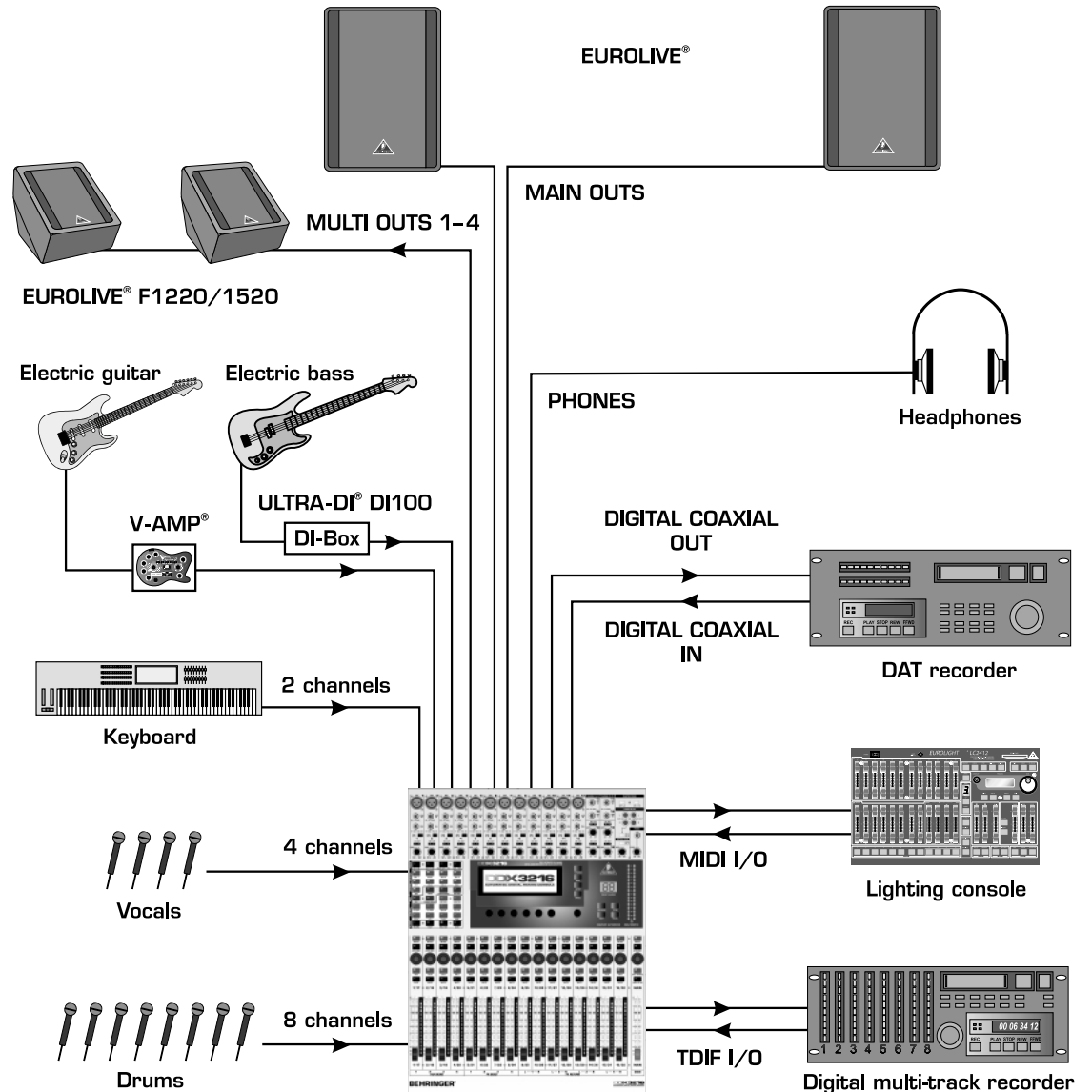
TRUTH B2031

CONTROL ROOM OUT

B-2

PHONES

Headphones

ULTRA-VOICE® DIGITAL VX2496

PC

MIDI I/O

Sound module

Sound module

PCI Bus

ADAT® I/O

ADAT® I/O

Keyboard

4

Live Sound

Benefits of the DDX3216

➤ 16 high-grade 24-bit converters and 32-bit internal processing for highest dynamic resolution.

➤ 16 analog inputs, each with EQ, compressor/limiter and gate.

➤ The gate and the fully parametric 4-band EQ can be used to eliminate feedback problems.

➤ The busses allow you to record up to 16 signals simultaneously.

➤ 128 snapshot memories allow easy reconfiguration of the console for different songs.

➤ The 4 multi outputs allow you to easily create additional monitor mixes.

➤ Separate level settings for bus routing enable additional on-stage monitor mixes.

➤ 4 built-in effects processors, simultaneously accessible from all 32 channels.

➤ Fader and mute groups allow easy handling of multiple channels.

➤ Up to 276 ms of delay for run-time compensation or effects on the first 16 channels.

➤ The built-in meter bridge gives you full control over all input signal levels.

➤ Inserts on the first 12 channels allow you to integrate outboard analog gear.

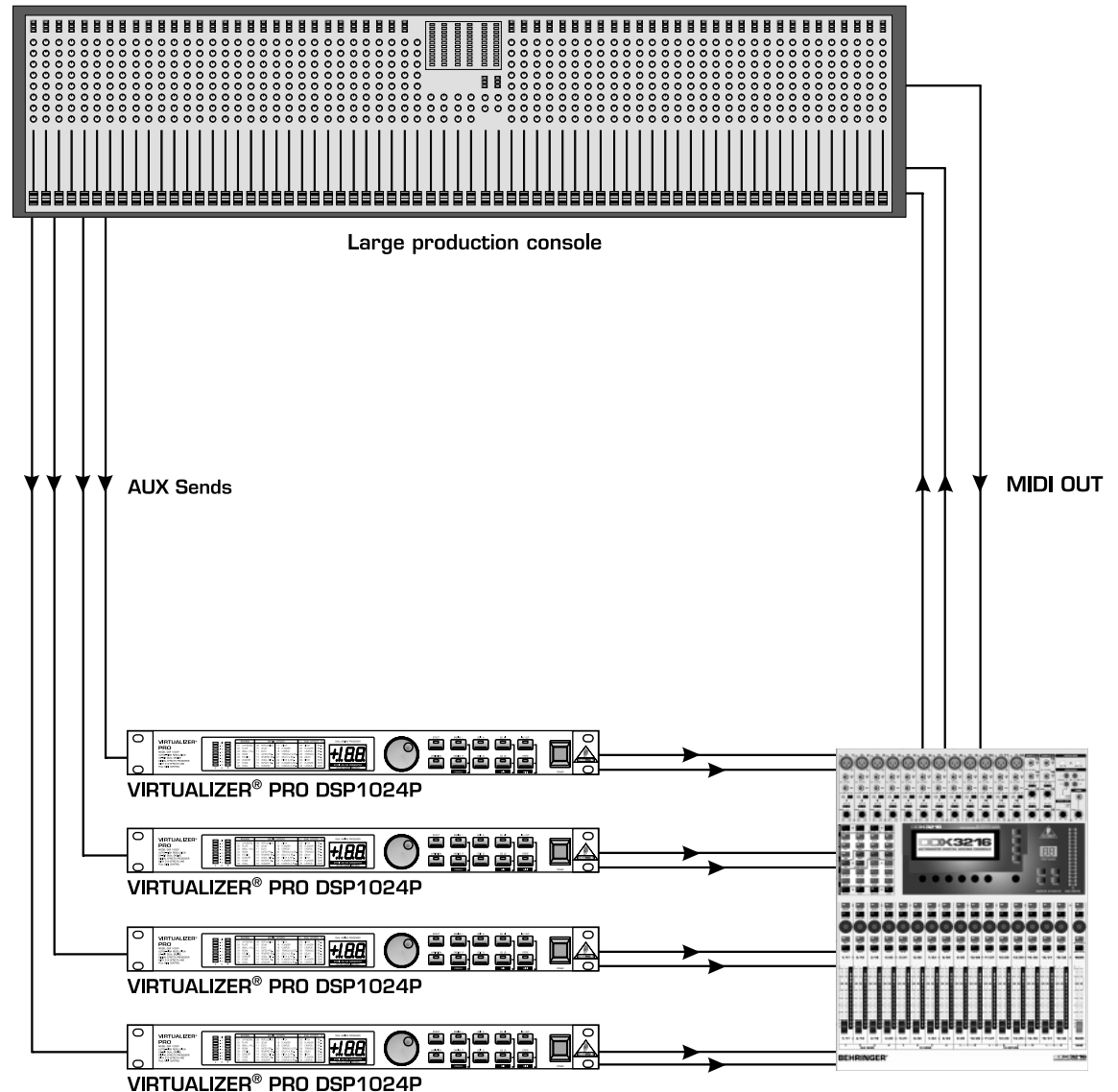➤ Rack-mountable (kit included).

Hints

➤ Use the main EQ to make up for deficiencies in the room acoustics, unless you have a BEHRINGER ULTRA-CURVE PRO available.

EUROLIVE®

MAIN OUTS

MULTI OUTS 1–4

EUROLIVE® F1220/1520

Electric guitar   Electric bass

PHONES

Headphones

V-AMP®   ULTRA-DI® DI100

DI-Box

DIGITAL COAXIAL OUT

DIGITAL COAXIAL IN

DAT recorder

2 channels

Keyboard

MIDI I/O

Lighting console

4 channels

Vocals

8 channels

Drums

TDIF I/O

Digital multi-track recorder

5

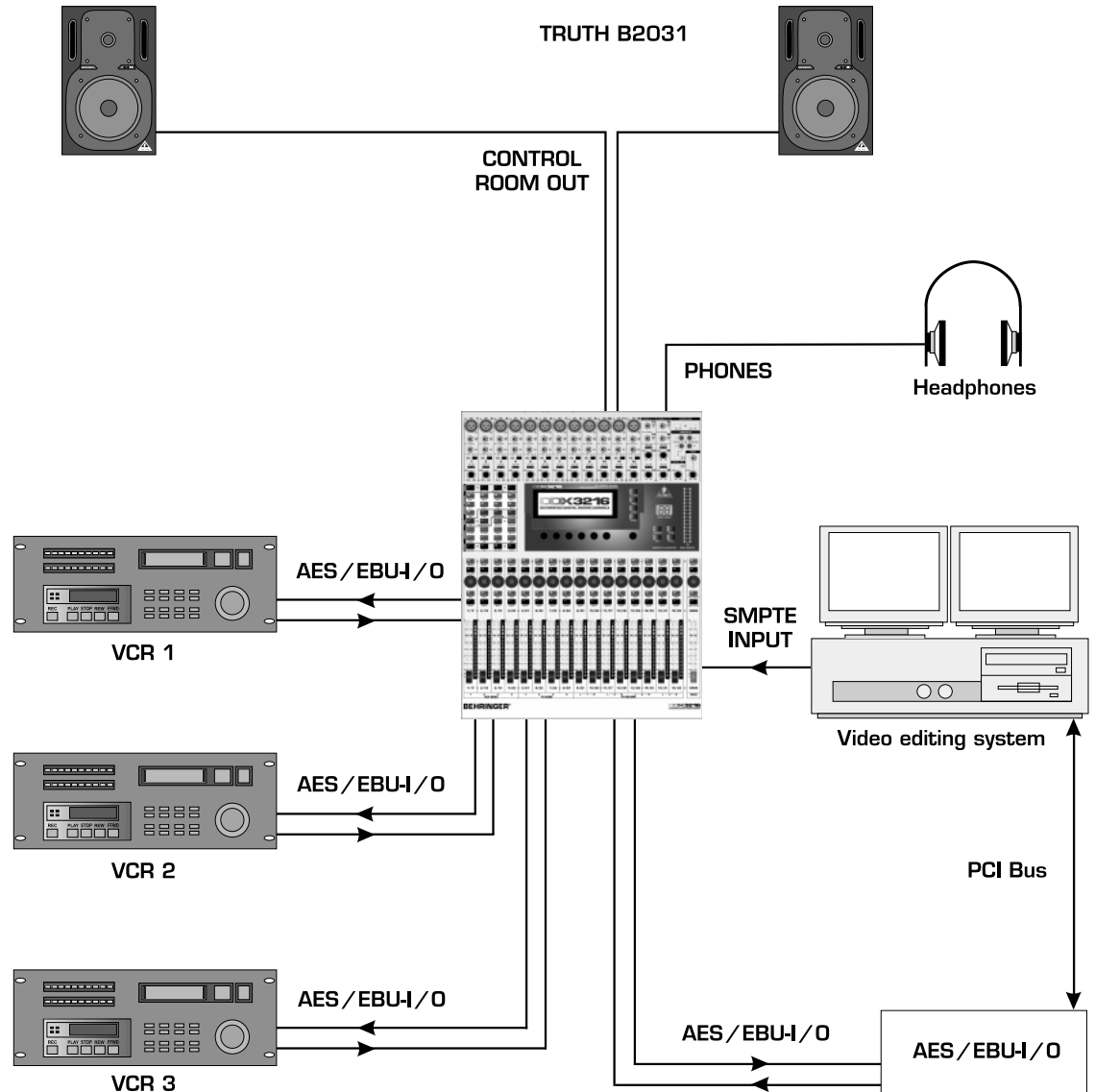# Effects/Keyboard Submixer

Benefits of the DDX3216

➤ Up to 8 AES/EBU paths with the AES/EBU option.

➤ 16 analog inputs.

➤ Incoming signals can be processed additionally with the DDX3216's built-in signal processors.

➤ Program change data allows you to run snapshots in sync with the main console.

➤ The digital output uses only two channels on the main console.

➤ **The DDX3216 is an ideal effects submixer for larger production consoles.**

Large production console

AUX Sends

MIDI OUT

VIRTUALIZER® PRO DSP1024P

VIRTUALIZER® PRO DSP1024P

VIRTUALIZER® PRO DSP1024P

VIRTUALIZER® PRO DSP1024P

6

Postproduction

Benefits of the DDX3216

➤ Professional 48-kHz sampling rate.

➤ 16 analog inputs.

➤ Up to 8 AES/EBU paths with the AES/EBU option.

➤ Wordclock I/O for synchronization with a master clock.

➤ SMPTE input.

➤ Dynamic automation records and plays back controller movements in sync with the SMPTE clock of a VTR/editing system.

➤ 4 built-in effects devices plus compressor/limiter, gate and sweepable high-pass filter, simultaneously accessible from all 32 channels.

➤ Rack-mountable (kit included).

TRUTH B2031

CONTROL ROOM OUT

PHONES

Headphones

AES/EBU-I/O

VCR 1

SMPTE INPUT

Video editing system

AES/EBU-I/O

VCR 2

PCI Bus

Hints

➤ Integrate the DDX3216 via the AES/EBU interfaces into your digital VTR/editing system for fully digital operation.

AES/EBU-I/O

VCR 3

AES/EBU-I/O

AES/EBU-I/O

7

Benefits of the DDX3216

➤ The DDX3216 can be quickly and easily reconfigured to handle a variety of different situations.

➤ Up to 24 outputs for complete control of the most complex PA systems.

➤ Grouping allows you to make up for run-time differences between various speaker systems. This also gives you the option to process the outputs with gate, EQ and compressor.

➤ 4 built-in effects processors plus compressor/limiter, gate and sweepable high-pass filter, simultaneously accessible from all 32 channels.

➤ 8 auxiliary busses for monitoring or external effects.

➤ Fader and mute groups allow easy handling of multiple channels.

➤ The internal dynamic automation and the SMPTE input allow fully automatic mixes, particularly helpful for playback tracks in musicals.

➤ The DDX3216 can be linked to lighting consoles via MIDI or SMPTE.

➤ Rack-mountable (kit included).

Hints

➤ Try to avoid the use of external patchbays so that you can recall snapshots for different applications at the touch of a button without having to check wiring.

➤ Also try to avoid changing the gain settings for the analog inputs.

ULTRAWAVE® B300

MAIN OUTS

MULTI OUTS 1–4

Area 1 PA

PHONES

Headphones

DIGITAL COAXIAL OUT

BUS OUTS 1–4 via I/O module

Area 2 PA

DIGITAL COAXIAL IN

DAT recorder

2 channels

Keyboard

MIDI I/O

Lighting console

4 channels

Vocals

TDIF I/O

8 channels

Drums

Digital multi-track recorder

8
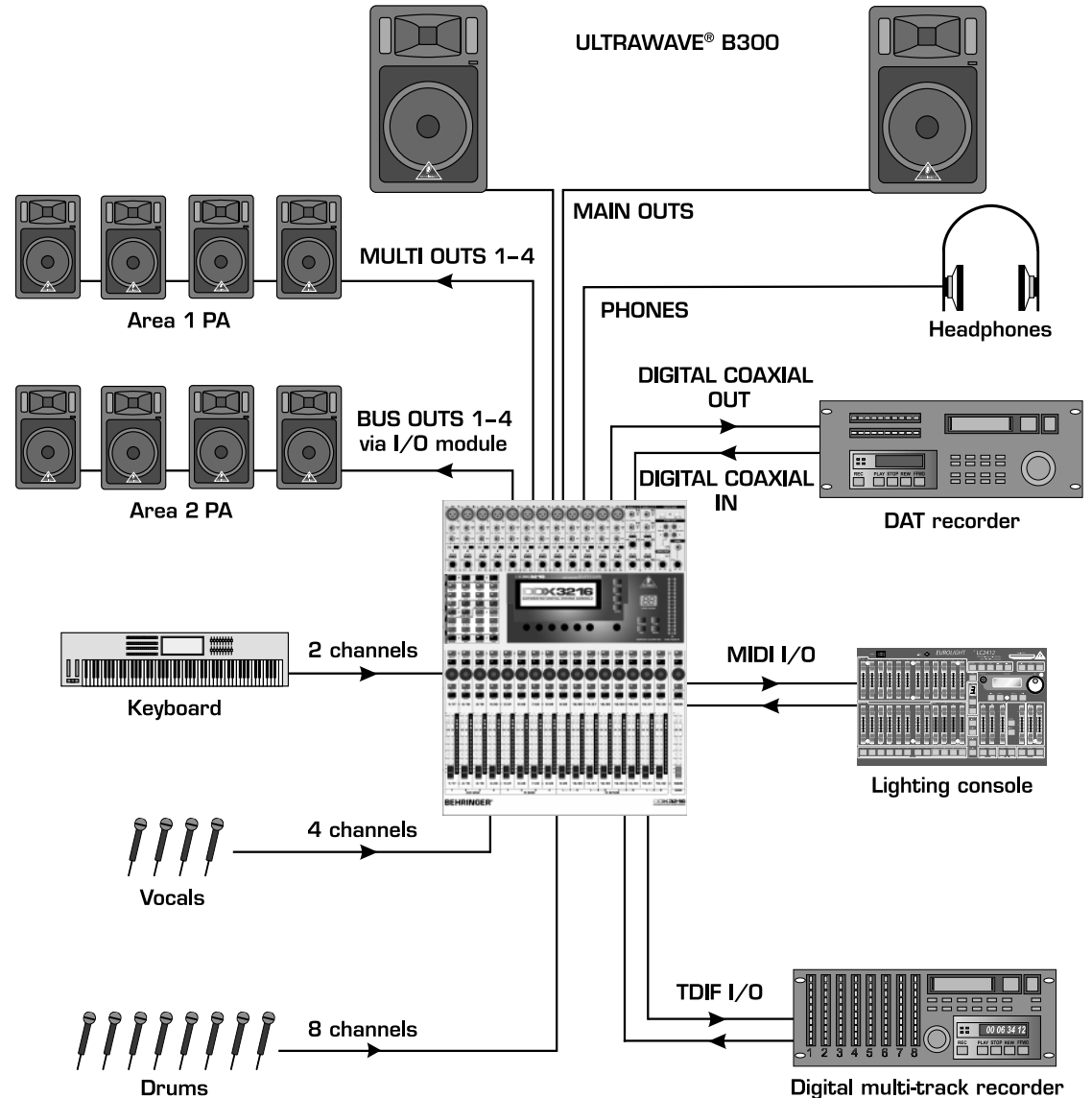
Primary functions at a glance....

Faders
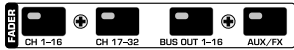
The fader settings correspond to the layer currently selected with the fader keys.

The FADER page shows both mute and fader groups and the fader position plus their respective values in decimal format. Press one of the four fader buttons to switch between the four available layers (Ch 1-16, Ch 17-32, Bus Out 1-16, AUX/FX).
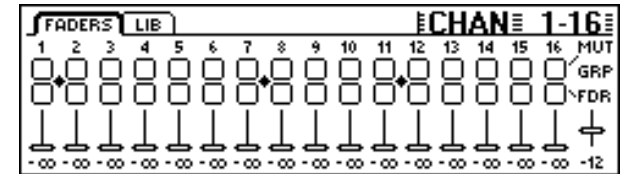
Channel Control
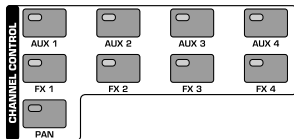
The blue CHANNEL CONTROL keys determine the functions of the various channel controllers. Depending on which key you select, the channel controllers will perform the associated function.
Press one of the AUX keys to display the AUX Sends page, where you can use the display encoders to control the four AUX sends

and to adjust the send masters. For example, press the AUX 3 key to use the channel controllers to adjust the AUX 3 send levels for each channel.
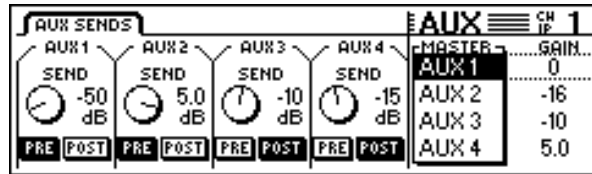
With the keys FX 1 through FX 4 you can adjust the channel and master sends as well as configure the four internal effects. Starting

from the Send page, press one of the keys repeatedly to display the respective Effects page and finally the LIB (library) page, where you can save your own effects settings. The useful A/B function allows you to make easy comparisons between two different effect variations.
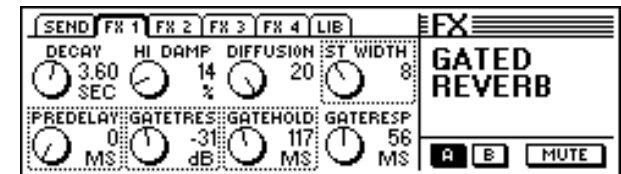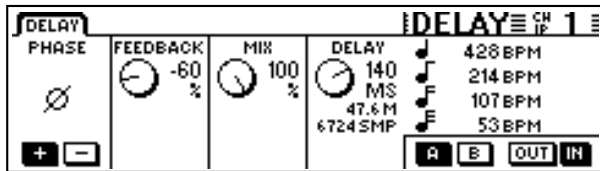
Proc (Processing)
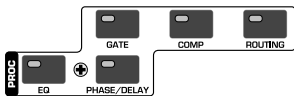
The COMP page with added graphics allows easy adjustment of the compressor parameters. The compressor's characteristic curve displays exactly how the signals are being processed, while the input and gain reduction level meters give you visual level control. The same applies to the GATE page. The third page here is the LIB page, which allows you to save your settings.
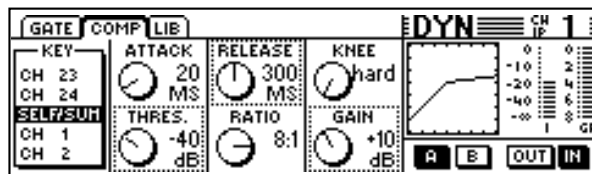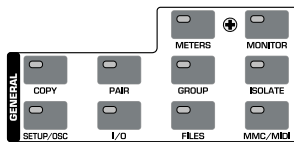
The EQ page displays all relevant information on the currently selected channel EQ, showing you which frequencies are being processed in what manner. The graphic window complements the value display. The channel controllers allow signal processing via the four fully parametric EQ bands. This page also gives access to the sweepable high-pass filter. Finally, the LIB page can be used to save and recall various settings.
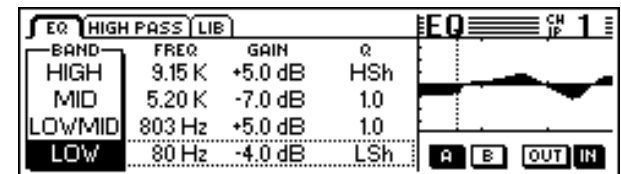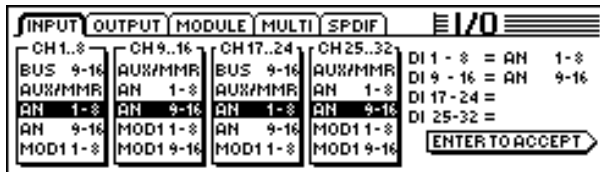
The PHASE/DELAY page allows effective compensation for any run-time-induced sound deterioration, which is caused for example by multiple microphones placed at various distances to the sound source. In addition, the input delay can be used for effects. Just set the parameters Feedback, Mix and Delay to achieve the effect you want. The BPM indicator allows easy adaptation to the song tempo.

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This ROUTING page is available on each channel. Here, you can route the single channels to the 16 busses, either pre or post-fader. The Pan control adjusts the volume ratio within a paired bus, e.g. 1 and 2.

General

The Input Matrix allows you to assign the physical inputs in groups of 8 to the 32 channels on your DDX3216. It is also possible to route one input to two channels to allow various processing or mix parameters of the same signal. Configuration of installed options is handled on the Output page.
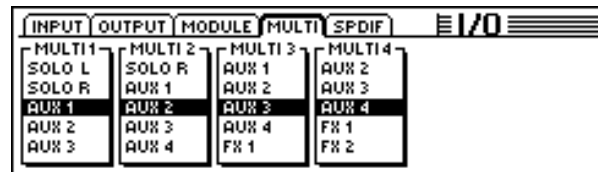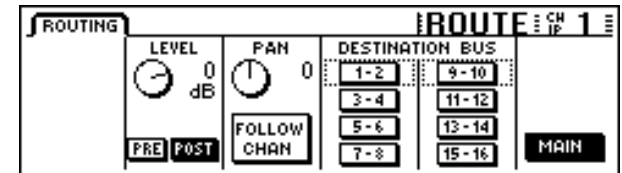
Here, you can assign signals to the four multi outputs. Use the display controllers to dial in the desired settings. Signals can be selected from any of the 16 busses, the main output, the 8 sends and/or the solo bus.

Fader and mute groups can be formed easily by selecting the channels/mutes in question. If you wish to change the volume settings within a group later on, use the Isolate key to temporarily "dissolve" the group and adapt the volumes. The Pair function allows you to form stereo channel pairs.
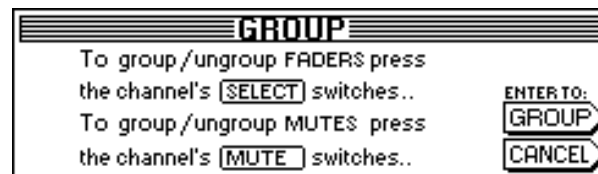
The oscillator can also be routed to all busses and sends, as well as the main and solo busses. A wide variety of waveforms can be generated for maximum flexibility. Additionally, the SETUP/OSC button gives you access to the clock settings, while PREFS (Preferences) allows you to customize all operating functions.

The built-in PCMCIA card slot enables quick storage and backup of user data. The various FILES pages allow formatting of PCMCIA cards as well as data transfer via the serial interface with our free Windows® file exchange software or MIDI.
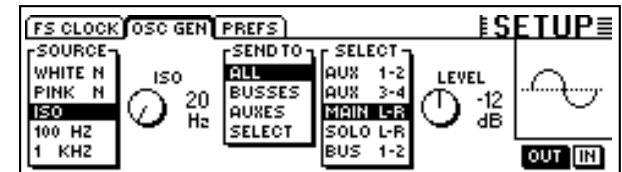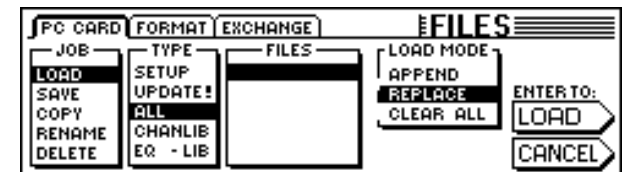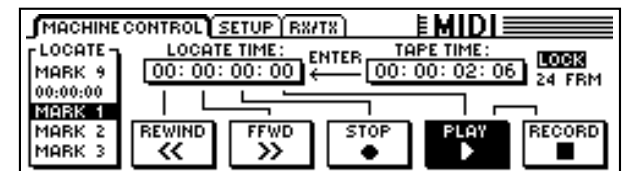
Automation

The internal dynamic automation can be synchronized with external devices. The display controllers also allow you to control external tape machines via MMC (MIDI Machine Control). The channels to be recorded are enabled with the AUTO/REC buttons on each channel. The Relative Mode simplifies editing of an existing dynamic mix.

Power-Packed Options
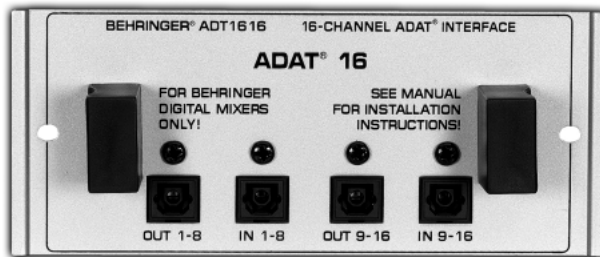
ADT1616
16-Channel ADAT® Interface for DDX3216

The ADT1616 gives you digital access to the numerous digital recorders, synthesizers and outboard gear that support the ADAT® multi-channel optical digital format. Its "double" I/O offers 16 inputs and outputs (2 x 8 each). The auto-clock data stream allows the DDX3216 to be synchronized with external ADAT® devices without an additional wordclock connection.

AES808/ACB808P
8-Channel AES/EBU Interface for DDX3216/19" Connector Box

Our AES/EBU interface complies with the AES3 format and allows for two-channel auto-clock/auto-sync transmission with a resolution of up to 24 bits with cable lengths of up to 1,500 feet. The AES808 offers 4 2-channel inputs and outputs and comes complete with the rack-mountable breakout connector box ACB808P and a connection cable.
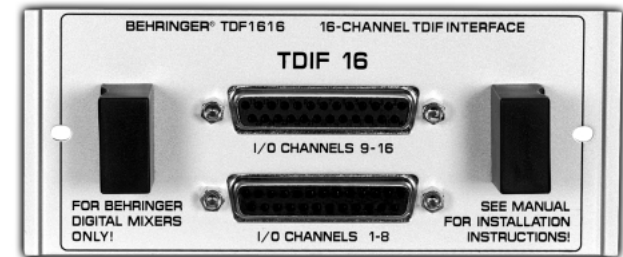
TDF1616
16-Channel TDIF Interface for DDX3216

The TDF1616 allows you to digitally transfer audio data to and from a TASCAM® digital recorder. Again, you get 2 x 8 inputs and outputs for 16-channel transmission with a single connection. Although TASCAM® recommends using a separate wordclock connection, later models of their digital recorders allow synchronization via the TDIF interface.

BEHRINGER SUPPORT

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