

Hardware Architecture Employing industry standard networking technologies, HiQnet™ hardware is ready to be integrated into any system. By using Ethernet as its main interface, HiQnet™ assures that products will operate within existing and new infrastructures and provides all the remote access, connectivity, and control required.



Software Architecture Far more than just a messaging protocol, HiQnet™ is a software architecture for real-time control and monitoring combined with streamed audio. The HiQnet™ architecture is truly the first to allow the system not to be tied to an underlying physical medium. Whether a simple RS232 control command or fully streamed CobraNet audio and HiQnet™ control over Ethernet, our architecture is flexible enough to handle any situation.



System Applications The range of HiQnet™-compatible devices offers previously unattainable benefits in diverse real-world systems:

- ☑ Live sound
- ☑ Commercial installation
- ☑ Engineered installation
- ☑ Broadcast
- ☑ Portable PA



HiQnet™ compatible devices

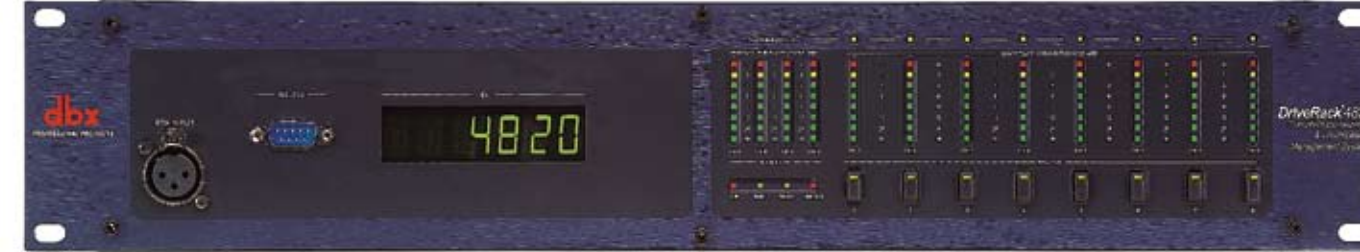
- ☑ AKG® WMS 4000 wireless microphone system
- ☑ BSS® Soundweb™ London networked audio distribution system
- ☑ Crown® I-Tech™ tour sound amplifier range
- ☑ Crown® amplifier PIP modules – PIP Lite, USP3, USP3/CN
- ☑ dbx® DriveRack® 4800 / 4820 networked loudspeaker management processors
- ☑ JBL® VerTec® DP Series with DrivePack™ technology intelligent networked amplified loudspeakers
- ☑ Studer® Vista 8 high-end theatre / install digital console

DriveRack® 4800 & 4820 Specifications

DriveRack 4800 front panel



DriveRack 4820 front panel



DriveRack 4800 and 4820 rear panel



INPUTS AND OUTPUTS

Analog Inputs: (4)
Connectors: Female XLR
Type: Electronically balanced, RF filtered
Impedance: >50k ohms
Maximum Software selectable for: +28, +26, +24, +22, +20, +18, +16, +14 dBu
Input Level: +22, +20, +18, +16, +14 dBu
CMRR: >40 dB typical, >55 dB at 1 kHz

Digital Inputs: (4) AES/EBU Channels
Connectors: Female XLR
Type: Transformer Isolated, RF filtered
Impedance: 110 ohms

RTA Input: (1) Analog
Connectors: Female XLR
Gain range: 20 dB to 50 dB in 10 dB increments

Analog Outputs: (8)
Connectors: Male XLR
Type: Electronically balanced, RF filtered
Impedance: 30 ohms
Max Output Level: Software selectable for: +24, +22, +20, +12, +8, +4 dBu

Digital Outputs: (8) AES/EBU Channels
Connectors: Male XLR
Type: Transformer Isolated, RF filtered
Impedance: 110 ohms

©2005 dbx Professional. All Rights Reserved. All specifications are subject to change. dbx and HiQnet are trademarks of Harman International. All other trademarks are the properties of their respective holders.



A/D PERFORMANCE

Type: dbx Type IV™ Conversion System
Dynamic Range: 113 dB unweighted, 116 dB A-weighted
Type IV™: 126 dB with transient material, A-weighted, 22 kHz BW
123 dB with transient material, unweighted, 22 kHz BW
118 dB typical with program material, A-weighted, 22 kHz BW

Sample Rate: 96 kHz or 48 kHz

A/D Wordlength: 24 bits

D/A PERFORMANCE

Dynamic Range: 112 dB unweighted, 115 dB A-weighted
Sample Rate: 96 kHz or 48 kHz
D/A Wordlength: 24 bits

SYSTEM PERFORMANCE

Dynamic Range: 110 dB unweighted, 113 dB A-weighted
Internal Processing: 32 bit floating point
THD + Noise: 0.004% typical at +4 dBu, 1 kHz, 0 dB input gain
Frequency Response: 20 Hz- 20 kHz, ±0.25 dB, <10 Hz- 50 kHz +0/-3dB @ 96kHz
Interchannel Crosstalk: <-85 dB at 1 kHz, 0 dB input gain

PROCESSING

Pre EQ Type: (1) 31-band Graphic EQ on each input; (1) graphic EQ switchable between 31-band and 9-band Parametric on each input
Range: ±15 dB
Input Insert: (2) selectable Insert Processing

Processing: Blocks per input

Type: Noise Gate, Compressor, Auto Gain Control, De-Esser, Sub-Harmonic Synth, Notch filters and Advanced Feedback Suppression

Input Delay: Up to 680 mSec available

Routing/Mixing: 4-input mixer available at each input and output allowing any input to be sent or mixed to any output

Output Insert Processing: (2) selectable Insert Processing blocks per output

Type: Noise Gate, AutoWarmth®, Compressor, Auto Gain Control, Peak Limiter, Sub-Harmonic Synth

X-Over Filter Configurations: 1x1, 1x2, 1x3, 1x4, 1x5, 1x6, 1x7, 1x8, 2x2, 2x3, 2x4, 2x5, 2x6, 2x7, 2x8, 3x3, 3x4, 3x6, 3x7, 4x4, 4x8

Types: Bessel 6, 12, 18, 24, 36 and 48 dB/Octave Butterworth 6, 12, 18, 24, 36 & 48 dB/Octave Linkwitz-Riley 12, 24, 36, and 48 dB/Octave

Polarity: Positive and Negative

Phase Control: 0° to -180° in 5° increments

Output EQ Type: (1) 6-band Parametric on each output

Output Delay: 1365 mSec shared between the outputs

MISCELLANEOUS:

I/O Transformers: Optional Jensen JT-11 & JT-123-dbx
CobraNet® I/O: Optional
Control: Ethernet, RS-232, Optional dbx ZC Wall Panels
Power: 100V to 240V 50/60Hz, 35 Watts
Dimensions: 3.5" x 19" x 12.15"
Weight: 11 lbs. (14 lbs. w/audio transformers)
Shipping Weight: 12.5 lbs. (15.5 lbs. w/audio transformers)

dbx Professional Products • 8760 South Sandy Parkway • Sandy UT 84070 • Phone 801.568.7660
Fax 801.568.7662 • Int'l Fax 801.568.7583 • email: customer@dbxpro.com • www.dbxpro.com

A Harman International Company

18-0362

4800/4820 DriveRack Family

Complete Equalization and Loudspeaker Management System



The Complete Speaker Management Solution

The DriveRack® 4800 and 4820 are the next generation products in the famous DriveRack Family, and like their predecessors, they are engineered to provide “Everything you need between the mixer and the power amps.” In keeping with this philosophy the 4800 and 4820 include four inputs and eight outputs with both analog and AES/EBU XLRs; a CobraNet option rounds out the connectivity options for an amazing amount of flexibility. The 96 kHz processing engine is capable of offering DSP insert options in addition to the wealth of standard system processing functions all with extremely low latency and extended frequency response. From Signal Routing, EQ, and Bandpass Filters, to classic dbx® Dynamics and Feedback Suppression all the processing is available with the sonic excellence that you would expect from the world’s leader in system processing. With all this processing power, control is of paramount importance. The dbx DriveRack 4800 provides a full color display to speed manual operations, this combined with intuitive front panel controls, an easy to use GUI and optional wall panel controllers means that

whether your application is an installation or tour sound, the 4800 or 4820 has what it takes. For more information please visit dbxpro.com or driverack.com.

FILE
The DriveRack 4800 can save off Device and Preset files to a computer for later use in system duplication or off-line editing.

PRESETS
Presets are snapshots of the processing and signal path through the unit. The DriveRack can store up to 50 presets internally; each of which can be viewed, stored and recalled from the Preset Tool.

MIXER/ROUTER
The Input and Output Mixer/Router modules allow selection of or mixing between the sources. The input allows mixing between the analog, AES/EBU digital and optional CobraNet inputs, while the output allows selection of/or mixing between the input channels.

EQ
Each input provides two EQs, a full-time Graphic EQ and a second EQ that can be switched between Graphic and Parametric. This allows a system “House” EQ that can be either Graphic or Parametric while still maintaining a Graphic EQ for the “Show” or event engineer. Each Output also provides a 6-band Parametric EQ.

INPUT INSERTS
Two DSP Inserts are available on each input providing the selection of additional in-line processing like Compression, Automatic Gain Control, Notch Filtering, Gating, De-Essing or Feedback Suppression. Like the other processing functions these inserts can be linked across channels to created stereo, tri or even quad processing functions.

EDIT
Copying and Pasting of DSP processing modules is easy either through the Edit menu functions or by right-clicking on the module itself.

TOOLS
The Tools menu contains the powerful Configuration Wizard and the Zone Controller Wizard that simplify the setup procedure. It also offers access to the device attributes like Sample Rate and Analog Gain Structure in the Utilities menu. Access Control provides multiple levels of security so that portions of the system can be locked away.

HELP
The Help menu provides an interactive file that outlines the functionality of the DriveRack 4800 device and how various functions are done.

OUTPUT INSERTS
Each output channel provides two more inserts offering selections such as Peak Limiting, Compression, AutoWarmth®, SubHarmonic Synthesis and Automatic Gain Control to customize the signal path to the application.

BANDPASS FILTERS
Bandpass and Crossover filters are provided on each output with Bessel, Butterworth and Linkwitz-Riley topologies and filter slopes up to 48 dB/Octave. This section is also where the output Gain, Polarity, and Phase control are found.

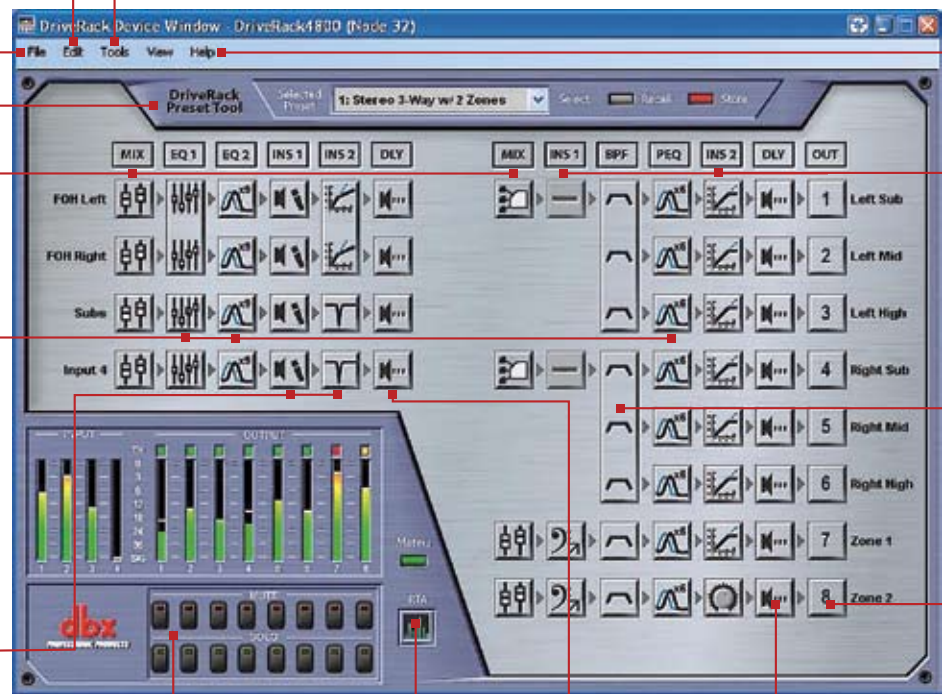
OUTPUTS
The DriveRack 4800/4820 provides the ability to reroute signals to the Analog and Digital Outputs. Clicking on the Output Icon will also show a composite screen of the various filtering that is being done in the output processing functions.

MUTES, TRIMS & SOLOS
The DriveRack 4800 provides immediate control of the output level with front panel Mute/Trim knobs; the software also provides an additional Solo function allowing independent output soloing for setup purposes.

RTA
With a front panel XLR jack for a mic, the Real Time Analyzer offers the ability to “view” the frequency response of input signals. The RTA is also used as part of the Auto-EQ Wizard function.

DELAY
Each input channel in the DriveRack 4800 offers up to 680mSec (766 ft. or 233 m) of Delay for long delay lines. In addition, the outputs provide up to 1.3Sec of configurable Delay so it can be put where it is needed.

SPEED OF USE
Tablet Mode provides large buttons and icons for easy system tuning via a Tablet PC and 802.11B&G wireless. The 4800 front panel provides access to all processing functions in two button presses or less. For example, press a channel button ...then press a function button and use the analog-style knobs.



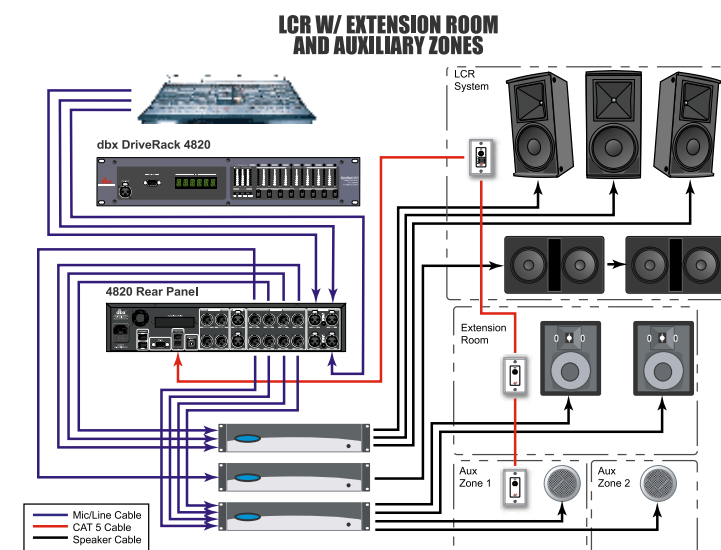
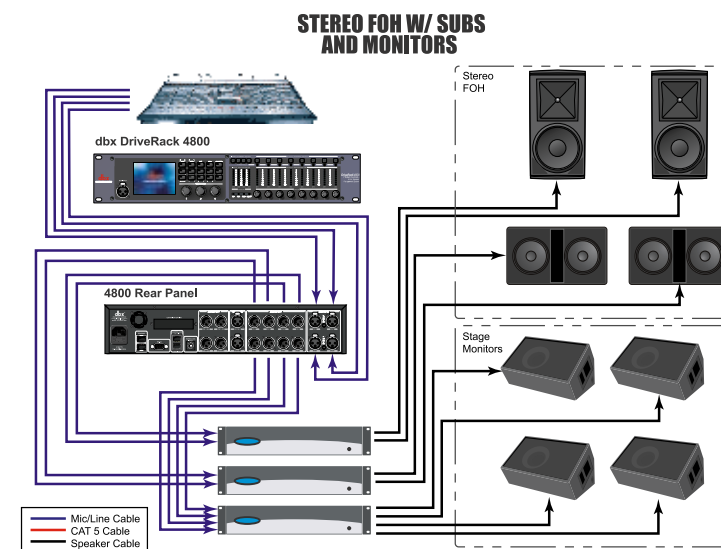
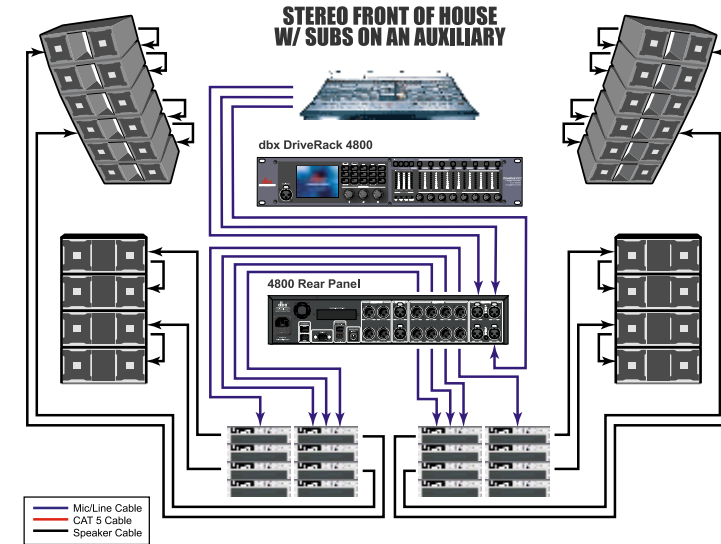
Features

- 48 and 96 kHz operation
- Color ¼ VGA Display (4800)
- 4 Analog and AES/EBU inputs
- 8 Analog and AES/EBU outputs
- 31-Band Graphic and 9-band Parametric EQ on every input
- Full Bandpass Filter, Crossover and Routing configurations with Bessel, Butterworth, and Linkwitz-Riley filters
- 6-band Output Parametric EQ
- Loudspeaker Cluster and Driver Alignment Delays
- Selectable DSP inserts on all inputs and outputs including Classic dbx® Compression, Limiting and Advanced Feedback Suppression among others
- Ethernet HiQnet networking and control
- Optional CobraNet® I/O
- Optional Jensen® I/O Transformers
- Optional dbx® ZC wall panel controls



OPTIONAL ZC CONTROLLERS
ZC-series zone controllers can be used with the DriveRack 4800 and 4820 together, making them the perfect system for contractor-based permanent installations.

DriveRack 4800/4820 Family



Applications

STEREO FOH w/ SUBS ON AN AUX

As the centerpiece of this system, the DriveRack 4800 provides all the Signal Routing and Processing needed. With Speaker Processing elements including: Bandpass and Crossover Filters with up to 48 dB/Octave slopes, Output Parametric EQ, Delay and Limiting, DriveRack provides everything necessary to make the speakers perform their best. The 4800 also offers system-wide EQ with both an Input Parametric EQ for the House or System while also providing an Input Graphic EQ for the Front of House Engineer. Additional processing is also available including Noise Gating, Notch Filtering, or classic dbx Compression that can be linked across all the input channels or Feedback Suppression. The DriveRack 4800 is a complete solution for this high-powered system.

STEREO FOH w/ SUBS & MONITORS

The DriveRack 4800 is perfect for this very common application where a single console is feeding both the stereo Front of House system as well as a couple of Monitor mixes. With the enormous amount of processing power that the DriveRack offers there is plenty of EQ for both systems; the System Technician or Contractor can have a House Parametric EQ that is set then locked away while the Engineer uses the Input Graphic EQs for the Stereo FOH and the Monitors. The Monitors would also benefit from the use of our Feedback Suppression algorithm that can pinpoint feedback frequencies down to 1/100th of a Hertz.

LCR w/ EXT. ROOM & AUX ZONES

The flexibility of the DriveRack 4820 is showcased in this system that uses three inputs from the console to create an LCR plus Sub system. The send to the subwoofer could be an additional input from the console, or it could just be an output that is receiving a signal summed from the combination of the LCR inputs. The Extension Room likewise uses an internal sub-mix to create quasi-stereo or mono with a Delay. The Auxiliary Zones are mono sends created using the Mid-Mixer in the 4820. Each of these sub-systems benefits from the DriveRack's wealth of processing. Wall panel control adds simple elegance; in the main system this ZC-3 wall panel is recalling presets, while the panels in the other areas are providing local volume control.