FURMAN

PRODUCTS FOR AUDIO, VIDEO AND COMPUTER PROFESSIONALS

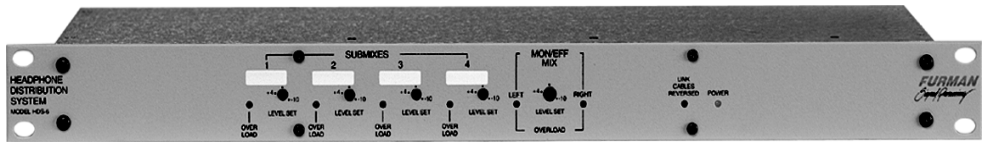
Furman Sound, Inc.
1997 S. McDowell Blvd.
Petaluma, CA 94954-6919
Phone (707) 763-1010, Fax (707) 763-1310
e-mail: info@furmansound.com
Web: http://www.furmansound.com
Made in China

FURMAN

PRODUCTS FOR AUDIO, VIDEO AND COMPUTER PROFESSIONALS

Headphone Distribution System and Personal Headphone Mixer

MODELS HDS-6, HR-6



Owner's Manual

2-9815

©2002 Furman Sound, Inc.

HDS-6 / HR-6 Specifications

INPUTS:	Input Impedance: 20K ohms. Sensitivity: Variable, -10 to +4 dBu for rated output.
CONNECTORS:	HDS-6: Inputs: ¼" phone, balanced or unbalanced. HDS-6 to HR-6 Link Connectors: RJ-45 jacks. HR-6 to HR-6 Link Connectors: RJ-45 jacks. HR-6 Outputs: Two ¼" headphone jacks. HDS-6 / HR-6 Connecting Cable: 10 Base-T UTP Ethernet computer cables, Cat. 3 or better.
GENERAL:	Distortion: 0.008% THD at full-rated power at 1 KHz; 0.05% THD 20Hz to 20 KHz. Dynamic Range: Greater than 96 dB Frequency Response: +0, -1 dB from 20 Hz to 20 KHz, 400 mW output. Power Requirement: 120 VAC, 60 Hz, 20 watts Mechanical: HDS-6 Dimensions: 1.75" H x 19" W x 7.25" D. HDS-6 Weight: 6.8 lbs (3.1 kg) HR-6 Dimensions: 2.5" H x 6.75" W x 3.5"D. HR-6 Weight: 1.25 lbs (.58 kg)
NOTE:	0 dBu equals .775 Vrms.

Introduction

Thank you for your purchase of a Furman HDS-6 Headphone Distribution System and HR-6 Personal Headphone Mixer – and congratulations on your choice. We based this system on our own experiences with major recording projects and studios. You now own a headphone system that will make all of your sessions flow more smoothly.

Please read this manual before using your HDS-6/HR-6 system.

Features

- Every artist in the studio can have a personalized headphone mix.
- It's perfect for tracking, overdubbing and rehearsal sessions.
- The HDS-6 rackmount distribution system quickly and easily connects to any studio console or patch bay. It provides the interface to drive a chain of HR-6 personal headphone mixers.
- Each HR-6 remote mixing station provides each musician five volume controls: four monaural (for mixer channels or busses), one for the stereo mix or stereo effects mix, and a button to mute all but the stereo channel.
- Inexpensive Ethernet computer cables are used to link the HDS-6 to HR-6s, and HR-6 mixing stations to other HR-6s.
- The HDS-6 also features an On-Off switch, power-on LED and a Signal Overload LED for each channel. Other features include an LED to indicate Link Cables Reversed, Ground Lift switch, signal inputs and outputs, and HR-6 link connectors.

Description

The new Furman Headphone Distribution System is easy to set up, and makes your music sound great. It provides custom headphone mixes to a number of people in recording and rehearsal environments.

The system consists of the rackmount HDS-6 Headphone Distribution System, and one or more Furman HR-6 Personal Headphone Mixers.

The HDS-6 distribution system is designed specifically as a low-distortion line driver and power supply for the most critical listening situations. The HDS-6 typically connects to a mixing console and provides both the interface and power to drive a chain of HR-6 mixing stations. Since the HDS-6 provides signal, power and ground to the HR-6 remote mixers, you don't have to worry about locating your HR-6 remote mixing stations near an AC power outlet.

One HR-6 mixing station with mic stand clamp is included with purchase of the HDS-6; additional HR-6 remote mixers are available separately. Linking the distribution unit and remote mixers is as simple as plugging in standard, inexpensive Ethernet cables. One pair of cables is included with your HDS-6.

Up to eight HR-6 mixing stations can be linked to the HDS-6, depending on headphone type and impedance, and multiple HR-6s are easily daisy-chained. You can even plug two headphones into one HR-6. Please note that if you do, both headphones should be the same brand and model – if they're not, their listening levels probably won't be the same. Every musician plugged into an HR-6 mixing station can create his or her own custom mix without assistance from the engineer in the control room.

The HR-6 mixing station is compact, lightweight and designed to clamp onto a mic stand. It provides a volume control for each of its four mono channels, and a fifth volume control -- assigned to both the left and right -- inputs the stereo channel. The stereo pot will most often be used for the main control room mix, or for stereo effects from the console. You can instead choose to use the left and right inputs on the HDS-6 for two more mixer channels or busses if you wish. Just remember that the listening level of both inputs will be controlled by only one volume control.

The HR-6 personal mixer provides another very useful feature: the "Submixes Included/Excluded" button. This button mutes the four monaural channels. This means every HR-6 user can hear the stereo source only, without having to alter the HR-6's four monaural settings. This is very helpful when all musicians wish to hear playback of a control-room mix.

Connecting the HDS-6

Since the HDS-6/HR-6 system will be used most often for studio tracking and playback, it is designed to be direct-out patchable with mixing consoles. If your system has a patch bay, we suggest you connect the HDS-6 to it instead of your console.

The HDS-6 has balanced TRS inputs, so if your outputs are balanced, that's even better. But standard ¼" phone-plug cables will work fine too. Just connect the direct-out of a mixer channel strip or buss to an input of the HDS-6, and connect any stereo output of the mixer to the stereo inputs on the HDS-6. Remember, you can instead use the HDS-6 Left-Right stereo inputs for two more mono channels or busses from your console.

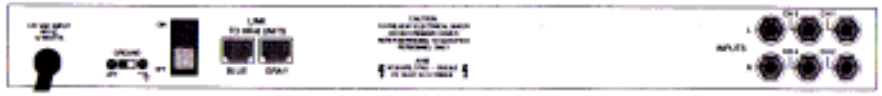
Please see the drawings on the next page and on pages 5-6.

Connecting the HR-6

The HDS-6 connects to an HR-6 with two standard (10 base-T UTP) Ethernet cables. Two cables, coded blue and gray and each 25 feet in length, come with your HDS-6; additional cables are available from Furman. You will need a pair of these cables in order to connect the HDS-6 to an HR-6, and additional pairs to connect multiple HR-6s.

Again, please see the drawings on the next page and on pages 5-6.

Linking HDS-6 to HR-6s

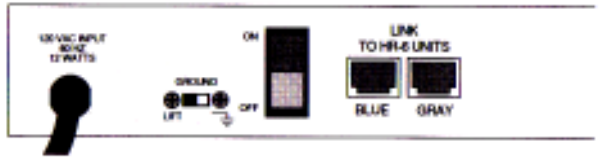


HDS-6 Rear Panel

The HDS-6 links to your mixer or patch bay via the six TRS ¼" phone jacks on the right side of the HDS-6 rear panel, as shown on the drawing below. You'll have four mono jacks for the signals coming from the direct channel out of the busses of your mixer, and two more jacks for the Left and Right stereo inputs from your mixer (or two more mono signals).

HDS-6 Rear Panel Inputs for your Console

The left side of the HDS-6 rear panel provides two Ethernet cable connectors, labeled "Blue" and "Gray," to link the HDS-6 to the first HR-6 mixer in your chain.



HDS-6 Rear Panel "Link" Inputs for first HR-6 in your chain

The HR-6 mixing station, shown below, links to your HDS-6 with the pair of Ethernet cables you just connected to your HDS-6. Make sure you connect the "Blue" and "Gray" Ethernet outputs of the HDS-6 to the "Blue" and "Gray" inputs of the first HR-6 mixer in your chain. When daisy-chaining HR-6 mixers, be sure to connect the "Blue" and "Gray" outputs of one HR-6 to the "Blue" and "Gray" inputs of the next one.

HR-6 Rear Panel

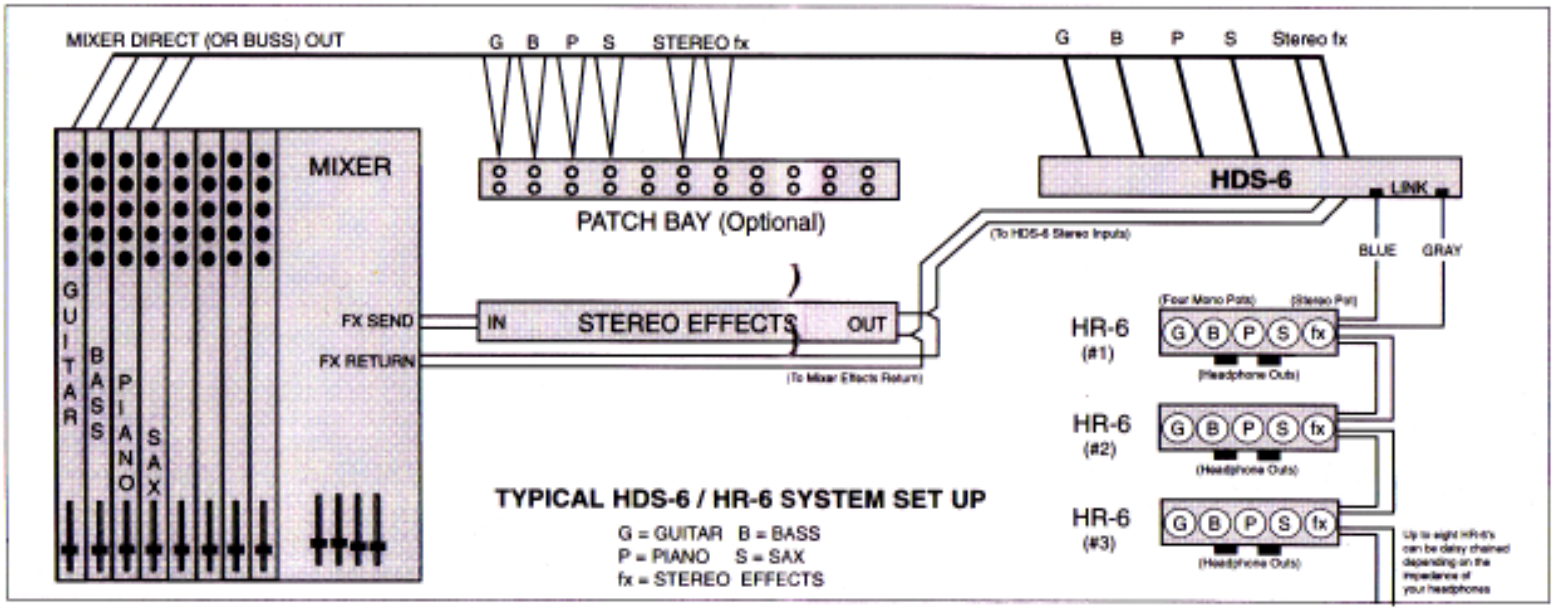
HDS-6 Controls

The HDS-6 provides several simple controls and indicators that make it quick and easy for you to get optimum performance with your headphones. First, make sure your console is connected to your HDS-6 (either directly or through your patch bay) and is providing a signal to your HDS-6. The HDS-6 front panel controls are shown in the drawing below. Just beneath the heading "SUBMIXES" you'll see four identical groups of controls and indicators – one group for each of the HDS-6's four mono channels.

HDS-6 Front Panel

LEVEL SET Control: This small trim pot controls the amount of gain the HR-6 applies to the signal from your console before the signal is sent. The control is designed to be adjusted by a small screwdriver to prevent accidental changes of its setting during tracking or playback. The proper setting of this control is accomplished with the help of the "Overload" LED. A white label area is provided for each of the four mono channels to allow you to write down the program source from your console. Use a grease pencil for easy erasability.
OVERLOAD Indicators: To get the best signal-to-noise ratio and maximum headroom, refer to this LED while calibrating your HDS-6's gain controls. If this red LED is glowing constantly, your HDS-6 gain is set too high. Conversely, if

this red LED doesn't glow at all, your HDS-6 gain is set too low. What you want to see is the LED glowing occasionally, on the loudest peaks only.
MON/EFF MIX Control: This trim-type screwdriver pot controls the gain for the Left-Right stereo inputs of the HDS-6. Both the Left and Right program sources are affected identically with this control. Two OVERLOAD indicators are also provided for this stereo pair. As with the overload indicators for each of the HDS-6 four mono channels, you'll want to adjust the gain control so that the LEDs marked "Left" and "Right" are glowing just some of the time. Also, they should glow at the same intensity. If you notice that the LEDs marked "Left" and "Right" are not glowing at the same intensity, you may need to adjust the output from your console.
LINK CABLE REVERSED Indicator: As mentioned earlier, it is necessary to connect the "Blue" and "Gray" Ethernet cable outputs of the HDS-6 to the corresponding inputs of the first HR-6 in your chain of HR-6 mixers, and to follow the same procedure when daisy-chaining multiple HR-6 mixers. If you accidentally reverse the color-coded cables when connecting, don't worry. The **LINK CABLE REVERSED** indicator on the HDS-6 will light up to alert you. Simply reconnect any cables that are reversed.
POWER Indicator: This front panel LED glows when the HDS-6 is on.
POWER Switch: You'll find it on the HDS-6 rear panel.
GROUND LIFT Switch: This rear panel switch takes the audio ground off the chassis ground, which can prevent buzz or hum caused by ground loops. This switch does not affect the AC safety ground of the HDS-6. Under no circumstances should you ever remove the third prong on your HDS-6's AC plug.



HR-6 Controls

Now that you have your HDS-6 connected to your console, and your chain of HR-6 mixing stations is connected to your HDS-6, the fun begins.

Here's all you need to know to create a custom headphone mix with an HR-6:

SUBMIXES Volume Controls: The front panel of the HR-6 mixer provides one volume control for each of the four mono channels arriving at the HR-6 from your console and HDS-6 Distribution System.

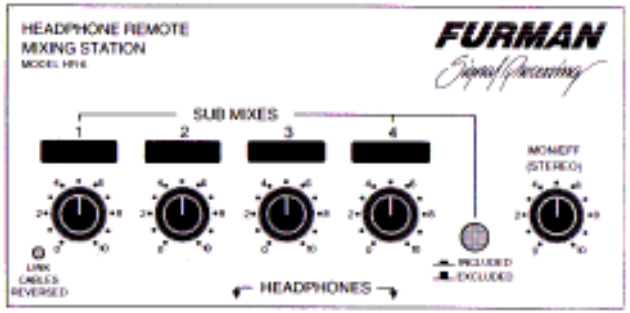
MON/EFF Volume Control: This single control simultaneously adjusts the level of the stereo main mix (or stereo effects returns, or two more channel strips of busses) arriving at the HR-6 from your console through the HDS-6. Remember: If you use the HDS-6's Left-Right inputs to accommodate two or more console channels or busses instead of one stereo signal, the volume levels of *both* console channels or busses will be adjusted by this control. These two inputs will not be individually adjustable for loudness as the four mono channels are.

SUBMIXES "INCLUDED/EXCLUDED" Button: This feature allows each musician to hear, for example, only the main mix coming from the control room. The button mutes the four mono controls, allowing each HR-6 user to hear stereo source only, without having to turn down the HR-6's four mono volume knobs.

HEADPHONE OUTPUTS: The HR-6 provides two ¼" stereo headphone jacks. You may plug two headphones into one HR-6, but unless both are the same brand and model, one headphone is likely to not be as loud as the other.

Each HR-6 also comes with hardware to clamp the HR-6 on a mic stand. The HR-6 also provides erasable white label areas to jot down the signal source for each of its four mono channels. Use a grease pencil for easy erasability.

LINK CABLE REVERSED Indicator: As mentioned earlier, you need to connect the "Blue" and "Gray" Ethernet cable outputs of the HDS-6 to the corresponding inputs of the first HR-6. These corresponding inputs must remain consistent with each subsequent HR-6 mixer. If you accidentally reverse the color-coded cables, don't worry. The LINK CABLE REVERSED indicator on the lower left corner of the HR-6 will alert you. Simply reconnect any cables that are reversed.



HR-6 Front Panel

One- to Three-Year Limited Warranty

The Furman HDS-6 and HR-6 are warranted against failures due to defective parts or faulty workmanship. You are eligible for a three-year limited warranty if you mail in your warranty registration card within 30 days of purchase. If we do not receive the card within 30 days of your purchase, you are entitled to a one-year limited warranty. During this period, Furman will make any necessary repairs without charge for parts or labor. Shipping charges to the factory or repair station must be prepaid by the owner; return-shipping charges (via UPS Ground) will be paid by Furman.

This warranty applies only to the original owner and is not transferable. Also, it does not apply to repairs done by other than the Furman factory or authorized repair stations.

This warranty shall be cancelable by Furman at its sole discretion if the unit has been subjected to physical abuse, has been operated without a proper safety ground, or has been modified in any way without written authorization from Furman. Furman's liability under this warranty is limited to repair or replacement of the defective unit.

Furman will not be responsible for incidental or consequential damages resulting from the use or misuse of its products. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Warranty claims should be accompanied by a copy of the original purchase invoice showing the purchase date. (If a warranty registration card was mailed in at the time of purchase, this is not necessary.) Before returning any equipment for repair, please read the important information on service below.

Service

Before returning any equipment for repair, please be sure that it is adequately packed and cushioned against damage in shipment, and that it is insured. We suggest that you save the original packaging and use it to ship the product for servicing. Also, please enclose a note including your name, address, phone number and a description of the problem.

NOTE: All equipment being returned for repair must have a Return Authorization (R/A) Number. To get an R/A Number, please call the Furman Service Department: (707) 763-1010, ext. 120 or 121. Please display your R/A Number prominently on the front of all packages.

Other Furman Products

Power Conditioning & Distribution

PL-8, PL-PLUS	Power Conditioner & Light Module, 15A
PL-PRO	Power Conditioner & Light Module, 20A
PM-8	Power Conditioner/Monitor, 15A
PM-PRO	Power Conditioner/Monitor, 20A
PS-8, PS-8R	Power Conditioner/Sequencer, 15A
PS-PRO	Power Conditioner/Sequencer, 20A
PS-REL	AC Relay Accessory
PowerLink	Remote AC Power Sequence Controller
PowerPort	Remote AC Power Controller
MiniPort-15	Power Relay, 15A
MiniPort-20	Power Relay, 20A
MiniPort-30	Power Relay, 30A
MiniPort-15Q	Power Relay for Quad Box Mount, 15A
MiniPort-20Q	Power Relay for Quad Box Mount, 20A
RS-1	System Control Panel, Maintained Switching
RS-2	System Control Panel, Momentary Switching
AR-1215	AC Line Voltage Regulator, 15A, 120V
AR-2306	AC Line Voltage Regulator, 6A, 230V
AR-1220	AC Line Voltage Regulator, 20A, 120/100V
AR-1230	AC Line Voltage Regulator, 30A, 120/100V
AR-2330	AC Line Voltage Regulator, 30A, 220/230/240V
AR-2330D	AC Line Volt. Reg., 30A, 240/230/220V, N. America Use
AR-PRO	AC Line Voltage Regulator, 30A, 120V, Worldwide Use
ACD-100	Power Distro, 100A
ASD-120	Sequenced Power Distro, 120A
IT-1210	Isolation Transformer, Balanced AC Power, 10A
IT-1220	Isolation Transformer, Balanced AC Power, 20A
IT-1230	Isolation Transformer, Balanced AC Power, 30A
IT-2315	Balanced AC Power Isolation Transformer, International
PlugLock™	Locking Outlet Strip
SPB-8	Stereo Pedal Board/Power Conditioner

Audio Signal Processing

PQ-3B Reissue	Parametric Equalizer, Instrument Preamp
SP-20AB	Stereo Half Rack Power Amp, 20W per channel
HA-6AB	Headphone/Monitor Amp
HR-2	Headphone Passive Remote Box
HDS-6	Headphone Distribution System
HR-6	Personal Headphone Mixer for use with HDS-6
HR-6SPLT	Star Connection Breakout Box for use with HDS-6
HDS-16	Headphone/Audio Distribution System
HRM-16	Personal Headphone Mixer for use with HDS-16
PB-48	48-Point Patch Bay with TRS Connectors
SC-1, 2	Security Covers
PGP-20, PGP-60	Locking Outlet Strips, 60A, 40A
PGP-S	Remote Power Switcher, 60A

Confidence Monitors

MS2A-1	Confidence Monitor 2 CH Analog
MS2AD-1	Confidence Monitor 2 CH Analog/Digital
MS4A-1	Confidence Monitor 4 CH Analog
MS4AD-1	Confidence Monitor 4 CH Analog/Digital
MS2AV-1	Confidence Monitor 2 CH Video/Analog
MS2ADV-1	Confidence Monitor 2 CH Analog/Digital Video

Reference Series

RA-1210	Stable Power AC Line Voltage Regulator (10 Amps)
RA-1220	Stable Power AC Line Voltage Regulator (20 Amps)
RI-1210	Isolated Symmetrical AC Power Conditioner (10 Amps)
RI-1220	Isolated Symmetrical AC Power Conditioner (20 Amps)
IT-REF	Discrete 4x20 Symmetrical AC Power Conditioner (20 Amps)

Please write or call for a free copy of our latest color catalog, shown below.