BSS DPR-504

BSS DPR-504 4 Channel Quad Noise Gate/Expander User Manual

Model: DPR-504

1. INTRODUCTION AND OVERVIEW

The BSS DPR-504 is a professional-grade 4-channel noise gate and expander designed for precise audio signal processing. It is engineered to eliminate unwanted noise from audio signals while preserving the integrity of the desired sound.

Each of the four independent channels on the DPR-504 offers comprehensive control over the gating process, making it suitable for a wide range of applications in live sound, studio recording, and broadcast environments.

Key Features:

- **Parametric Key Filter:** Allows precise tuning of the frequency range that triggers the gate, with a dedicated key filter listening function for accurate setup.
- **Simultaneous Key Level and Threshold Metering:** Provides visual feedback on both average and peak signal levels, aiding in accurate threshold setting.
- **Gate Status LED:** Clearly indicates the current state of the gate (open or closed).
- **RELEASE/HOLD Control:** Offers flexible control over the gate's release characteristics, with hold time proportionally tracking release times for natural decay.
- **Attack Switchable Auto/Fast:** Provides options for attack time, with an 'Auto' setting that intelligently adapts to signal dynamics for optimal performance.
- **Channel Linking:** Enables linking of two channels for stereo or multi-channel gating applications, ensuring consistent processing across linked channels.
- **External Key Source:** Allows the gate to be triggered by an external audio signal, providing advanced control possibilities.
- **Frequency Specific Side Chain:** Ideal for isolating specific instruments or sounds, such as removing cymbal bleed from drum microphones.
- **Range Switch:** Selects between 70dB and 20dB gating depth, offering alternative release profiles to suit different audio material.
- **Electronically Balanced Inputs and Outputs:** Ensures high signal integrity and compatibility with professional audio systems.

2. SETUP

2.1 Unpacking and Inspection

Carefully remove the DPR-504 from its packaging. Inspect the unit for any signs of damage that may have occurred during transit. Retain the original packaging for future transport or storage.

2.2 Rack Mounting

The DPR-504 is designed for standard 19-inch rack mounting. Secure the unit using appropriate rack screws. Ensure adequate ventilation around the unit to prevent overheating.

2.3 Power Connection

Connect the supplied AC power cord to the power inlet on the rear panel of the DPR-504 and then to a suitable AC power outlet. Ensure the power supply voltage matches the unit's requirements.

2.4 Audio Connections

The DPR-504 features electronically balanced inputs and outputs. Use high-quality balanced XLR or TRS cables for all audio connections to minimize noise and interference.

- **Inputs:** Connect the audio source (e.g., microphone preamplifier output, mixer insert send) to the corresponding input jacks on the rear panel.
- **Outputs:** Connect the outputs of the DPR-504 to the next device in your audio chain (e.g., mixer insert return, power amplifier input).
- **Key Inputs (if used):** For external keying, connect the external trigger signal to the dedicated key input jacks.

3. OPERATING INSTRUCTIONS

This section details the functions of the controls and indicators on the front panel of the BSS DPR-504.

Figure 3.1: Front panel of the BSS DPR-504 4 Channel Quad Noise Gate/Expander. This image displays the front panel of the BSS DPR-504, showing its four identical channels, each with various controls, meters, and indicators for noise gating and expansion.

3.1 Channel Controls (Per Channel)

- **THRESHOLD:** This rotary control sets the level at which the gate will open. Signals above this threshold will pass through, while signals below will be attenuated. Adjust this to effectively separate the desired signal from background noise.
- **RANGE:** A switch that selects the maximum attenuation applied by the gate when closed. Options are 70dB (for complete noise elimination) and 20dB (for a softer, more natural gating effect, often used for subtle expansion).
- **ATTACK:** A switch with 'AUTO' and 'FAST' settings.
  - **AUTO:** The gate automatically adjusts its attack time based on the dynamics of the input signal, providing a smooth and transparent opening.
  - **FAST:** Provides a very quick attack time, useful for percussive sounds or when a very tight gate response is required.
- **RELEASE/HOLD:** This rotary control adjusts the time the gate remains open after the signal falls below the threshold, and also proportionally controls the hold time. A longer release time results in a smoother decay, while a shorter time provides a tighter gate.
- **KEY FILTER (FREQUENCY & Q):** These controls allow you to tune a parametric filter within the gate's sidechain.
  - **FREQUENCY:** Selects the center frequency of the key filter.
  - **Q:** Adjusts the bandwidth (Q) of the key filter. A higher Q creates a narrower, more selective filter.

This is crucial for frequency-specific gating, such as gating a kick drum while ignoring cymbal bleed.

- **KEY LISTEN:** A button that allows you to monitor the signal passing through the key filter. This is essential for accurately setting the key filter frequency and Q.

- **KEY SOURCE (INTERNAL/EXTERNAL):** A switch to select the source for the gate's sidechain.
  - **INTERNAL:** The gate is triggered by the main audio signal passing through the channel.
  - **EXTERNAL:** The gate is triggered by a signal connected to the dedicated external key input on the rear panel.

- **LINK:** A switch that links the control parameters of the current channel with the adjacent channel (e.g., Channel 1 with Channel 2, Channel 3 with Channel 4). This is useful for stereo signals or multi-channel gating applications, where consistent gating is desired.

- **METERS (KEY LEVEL & THRESHOLD):** LED meters provide visual indication of the key signal level and the set threshold. This allows for precise and repeatable settings.
  - **KEY LEVEL:** Displays the level of the signal in the sidechain.
  - **THRESHOLD:** Indicates the set threshold level.

- **GATE STATUS LED:** An LED indicator that illuminates when the gate is open and extinguishes when the gate is closed.

3.2 Basic Gating Operation

1. **Connect Audio:** Ensure your audio source is connected to the input and the output is connected to your mixer or next device.

2. **Set Initial Threshold:** Start with the THRESHOLD control fully counter-clockwise (gate always open).

3. **Adjust Range:** Select the desired RANGE (70dB for hard gating, 20dB for softer expansion).

4. **Set Key Source:** For most applications, set KEY SOURCE to INTERNAL. If using an external trigger, set to EXTERNAL and connect the source.

5. **Adjust Threshold:** While audio is playing, slowly turn the THRESHOLD control clockwise until the unwanted noise is attenuated and the GATE STATUS LED indicates the gate is closing when the desired signal is absent.

6. **Refine Attack and Release:** Adjust the ATTACK switch and RELEASE/HOLD control to achieve a natural and transparent gating effect. For percussive sounds, a FAST attack is often preferred. For vocals or sustained instruments, AUTO attack and a longer release may be more suitable.

7. **Use Key Filter (if needed):** If the gate is being triggered by unwanted frequencies (e.g., cymbal bleed into a snare mic), engage the KEY LISTEN button and adjust the KEY FILTER FREQUENCY and Q controls to isolate the desired trigger frequency. Then disengage KEY LISTEN.

8. **Monitor Meters:** Use the KEY LEVEL and THRESHOLD meters to visually confirm your settings and ensure the gate is operating as intended.

4. MAINTENANCE

4.1 Cleaning

To clean the exterior of the DPR-504, use a soft, dry, lint-free cloth. For stubborn dirt, a slightly damp cloth with a mild, non-abrasive cleaner can be used, but ensure no liquid enters the unit. Do not use harsh chemicals, solvents, or abrasive cleaners.

4.2 Storage

When not in use for extended periods, store the unit in a cool, dry place, away from direct sunlight and extreme temperatures. If possible, use the original packaging for protection.

4.3 General Care

Avoid exposing the unit to excessive moisture, dust, or vibrations. Ensure proper ventilation during operation to prevent

overheating, which can shorten the lifespan of electronic components.

5. TROUBLESHOOTING

If you experience issues with your BSS DPR-504, please refer to the following common troubleshooting steps before seeking professional service.

Problem	Possible Cause	Solution
No power / Unit not turning on	Power cable disconnected; Power outlet faulty; Unit fuse blown.	Check power cable connection. Try a different power outlet. If fuse is accessible and replaceable, check and replace if necessary (refer to service manual or qualified technician).
No audio output	Incorrect audio connections; Input signal too low; Gate threshold set too high; Gate always closed.	Verify all audio cables are correctly connected. Ensure the input signal level is adequate. Lower the THRESHOLD control. Check GATE STATUS LED.
Gate not opening or closing correctly	Incorrect THRESHOLD setting; Incorrect KEY SOURCE selection; Key filter misadjusted.	Adjust THRESHOLD. Ensure KEY SOURCE is set to INTERNAL unless an external trigger is intentionally used. If using KEY FILTER, ensure it's correctly tuned to the desired trigger frequency (use KEY LISTEN).
Distorted or unnatural sound	Input signal too hot (clipping); Incorrect ATTACK/RELEASE settings; Faulty cables.	Reduce input signal level to prevent clipping. Adjust ATTACK and RELEASE/HOLD for smoother operation. Test with different audio cables.
Unwanted noise still present	THRESHOLD too low; RANGE set to 20dB; External interference.	Increase THRESHOLD. Try setting RANGE to 70dB for maximum attenuation. Check for ground loops or other sources of interference in your audio system.

If the problem persists after trying these steps, please contact qualified service personnel.

6. SPECIFICATIONS

The following are key specifications for the BSS DPR-504 4 Channel Quad Noise Gate/Expander.

- **Model:** DPR-504
- **Type:** 4-Channel Noise Gate/Expander
- **Inputs/Outputs:** Electronically Balanced
- **Gating Depth (Range):** Selectable 70dB or 20dB
- **Key Filter:** Parametric (Frequency and Q adjustable)
- **Attack Time:** Switchable Auto/Fast
- **Metering:** Simultaneous Key Level and Threshold (Average and Peak)
- **Channel Linking:** Yes
- **External Key Input:** Yes
- **Manufacturer Reference:** DPR-504
- **ASIN:** B000B8GUS2
- **Date First Available:** 1 September 2005

7. WARRANTY AND SUPPORT

7.1 Warranty Information

Warranty terms and conditions for the BSS DPR-504 are provided by the manufacturer or the authorized seller at the time of purchase. Please refer to the documentation included with your product or contact your point of purchase for detailed warranty information.

7.2 Technical Support

For technical assistance, troubleshooting beyond this manual, or service inquiries, please contact BSS Audio customer support or your local authorized BSS service center. Contact information can typically be found on the official BSS Audio website or through your product dealer.

Related Documents - DPR-504

	[BSS DPR-901ii Dynamic Parametric Equalizer User Manual](#) Comprehensive user manual for the BSS DPR-901ii dynamic parametric equalizer, detailing its features, installation, controls, operational principles, technical specifications, and warranty information.
	[Motorized Core Holder Label Unwinder User Manual](#) User manual for the DPR Motorized Core Holder Label Unwinder, providing detailed instructions on application, power supply, installation steps, operation, working conditions, control panel functions, and safety warnings. Includes FCC compliance information for Class A digital devices.
	[Lectrosonics DPR Digital Plug-On Transmitter Instruction Manual](#) Comprehensive instruction manual for the Lectrosonics DPR Digital Plug-On Transmitter, covering features, operation, setup, specifications, firmware updates, and service.

	[Lectrosonics DPR-A Digital Plug-On Transmitter Quick Start Guide](#) A concise guide to the setup and operation of the Lectrosonics DPR-A Digital Plug-On Transmitter, covering controls, battery installation, powering on, microphone connection, frequency setup, encryption, recording, and SD card formatting.
	[Matrix Remover & Slitter MCH100MTX35 User Manual	DPR Labeling](#) User manual for the DPR Labeling MCH100MTX35 Matrix Remover & Slitter. Provides detailed instructions for installation, operation, job setup, and maintenance of this label processing equipment.
	[Guida al Cambio di Nome e Cognome in Italia](#) Procedura dettagliata per cittadini italiani che desiderano cambiare nome o cognome in Italia, spiegando i requisiti, i passaggi e la documentazione necessaria.

Documents - BSS – DPR-504
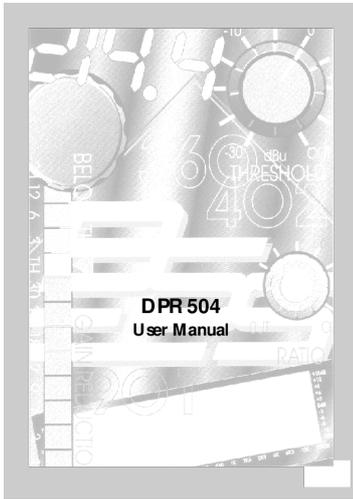
[pdf] User Manual Test Report

Untitled 1 p65 dn o7apw1mnva631ijznbm4u9ze wpengine netdna ssl BSS DPR 504 recommended that the manual is read thoroughly Ingenious proprietary techniques are employed to make engineers life easier without compromise performance or versatility A summary of its features highlighted below with a more in depth discussion following within We have written this aim helping installers sound and musicians alike get most out recommend you 5157 Product Manual dpr504um 2016 05 bssaudio attachments user manuals product User Manuals 80 products dynamics dpr docs

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lang:en score:35 filesize: 3.21 M page_count: 28 document date: 2000-07-05

[BSS Audio DPR-504 Quad Noise Gate - Product Overview and Specifications](#)
Detailed overview of the BSS Audio DPR-504, a 4-channel noise gate. Covers features, applications in live sound and recording, main controls, and comprehensive technical specifications for professional audio engineers.
lang:en score:29 filesize: 232.28 K page_count: 2 document date: 2020-09-03

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Datasheet

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Quad Noise Gate **DPR-504** BSS Audio Expectations of audio quality, and to the results that can be achieved with creative sound manipulation are changing dramatically. In professional sound production, noise gating has become one of the fundamental processes used on an ever-increasing range of audio ...

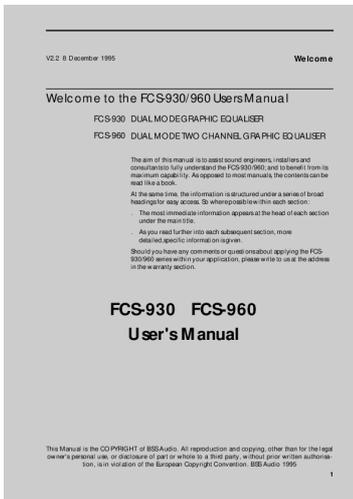lang:en score:28 filesize: 194.29 K page_count: 2 document date: 2002-06-18
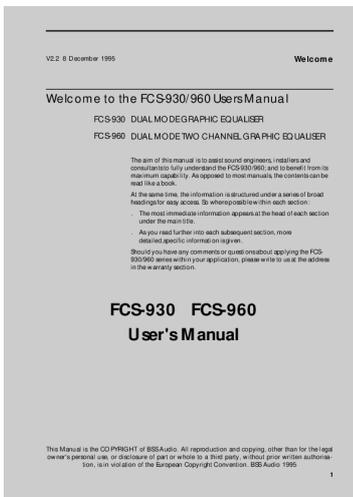
BSS Audio FCS-930/960 Dual Mode Graphic Equaliser User Manual

Explore the BSS Audio FCS-930 and FCS-960 Dual Mode Graphic Equalizers. This comprehensive user manual details their advanced features, including constant Q filter topology, precise fader control, and versatile operation for professional audio applications. Learn about installation, connections, and technical specifications.

lang:en score:25 filesize: 1.02 M page_count: 26 document date: 2023-09-13
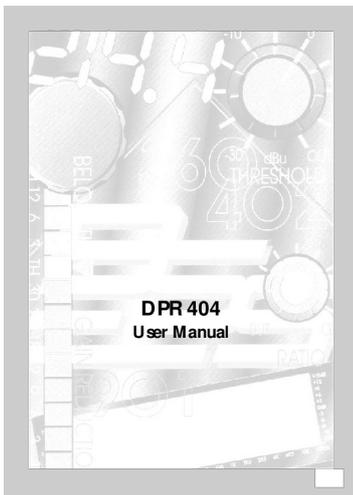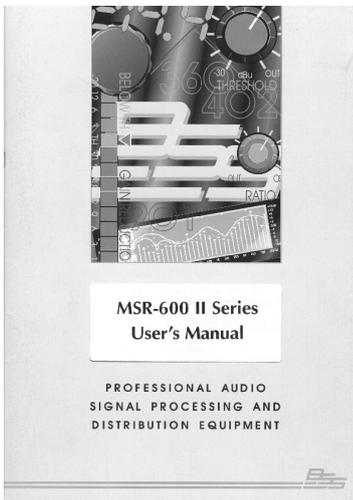

User Manual Specifications

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Welcome to the FCS-930/960 Users Manual

FCS-930   DUAL MODE GRAPHIC EQUALISER
FCS-960   DUAL MODE TWO CHANNEL GRAPHIC EQUALISER

The aim of this manual is to assist sound engineers, installers and consultants to fully understand the FCS-930/960, and to benefit from its maximum capability. As opposed to most manuals, the contents can be read like a book.

At the same time, the information is structured under a series of broad headings for easy access. So where possible within each section:

. The most immediate information appears at the head of each section under the main title.

. As you read further into each subsequent section, more detailed specific information is given.

Should you have any comments or questions about applying the FCS-930/960 series within your application, please write to us at the address in the warranty section.

FCS-930   FCS-960

User's Manual

1

[BSS Audio FCS-930/960 Dual Mode Graphic Equaliser User Manual](#)
Comprehensive user manual for the BSS Audio FCS-930 (single channel) and FCS-960 (dual channel) dual mode graphic equalisers, covering installation, connections, operation, technical specifications, and warranty.
lang:en score:22 filesize: 317.18 K page_count: 26 document date: 1999-08-26

MSR-600 II Series
User's Manual

PROFESSIONAL AUDIO
SIGNAL PROCESSING AND
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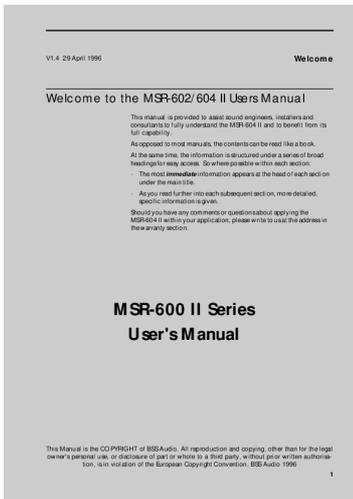
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BSS Audio Product Catalogue: Professional Audio Signal Processing and Distribution Equipment

Explore the BSS Audio product catalogue featuring the Soundweb London networked signal processor, MSR-604 II active signal distribution system, DPR series processors (DPR-402, DPR-404, DPR-504, DPR-901 II), Opal Series FCS-966 graphic equaliser, AR-133 active DI box, AR-416 active DI, AR-204/AR-211 line balancing units, PROSYS PS-8810 digital processor/mixer, FCS-960 dual mode graphic equaliser, FDS-366T Omnidrive Compact Plus, and FDS-334T/FDS-336T Minidrive loudspeaker management systems.

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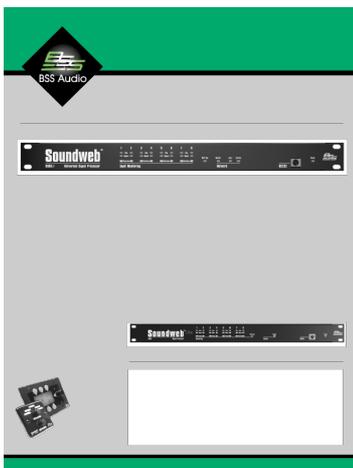
BSS Audio Product Catalog: Signal Processing & Distribution Equipment

Comprehensive catalog of BSS Audio's professional audio signal processing and distribution equipment, including Soundweb, Omnidrive, Minidrive, Prosys, and AR series products, detailing features and specifications.

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[pdf] Documentation

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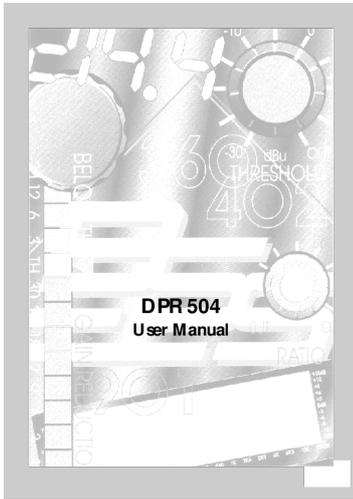
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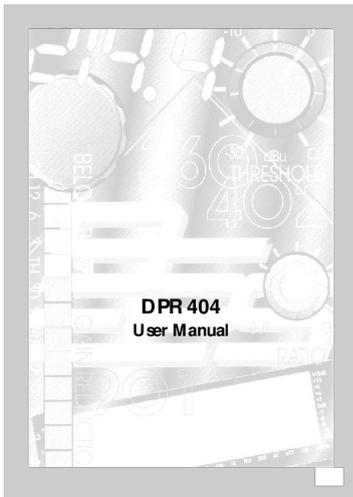
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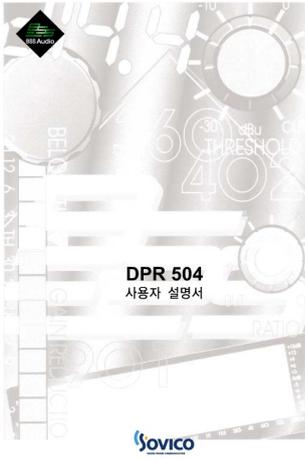Harman Pro Live Sound catalog 139433 1 12 05 Crown Audio Tech Pubs tclark crownaudio 80

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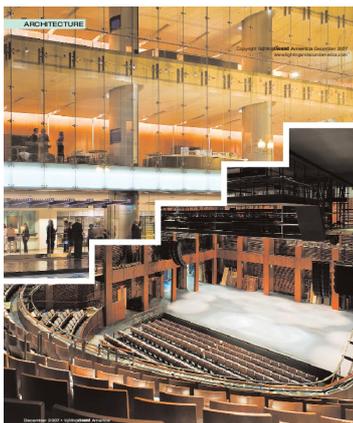
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