User Manual

MINIFEX FEX800

Ultra-Compact Stereo Multi-FX Processor

behringer

EN

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Thank you

Thank you for showing your confidence in BEHRINGER products by purchasing the MINIFEX FEX800. With the MINIFEX FEX800 you have purchased an extremely flexible yet easy-to-use multi-effects device, which you will surely come to appreciate for its sound enhancement capabilities both on stage and in the studio.

EN | Important Safety Instructions

CAUTION
RISK OF ELECTRIC SHOCK!
DO NOT OPEN!
ATTENTION
RISQUE D'ÉLECTROCUTION !
NE PAS OUVRIR !

Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

Caution
To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

Caution
To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Caution
These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

LEGAL DISCLAIMER

LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding MUSIC Group's Limited Warranty, please see complete details online at www.music-group.com/warranty.

1. Introduction

Our ultra-compact stereo multi-effect processor is a useful addition to any set-up: You get 16 fantastic effects presets in 24-bit quality, including reverb, delay, chorus, flanger, phaser, rotary speaker, pitch shifter and other multi-effects. Thanks to the intuitive FX preset control with its LEDs displaying the currently selected program, nothing could be easier than operating the FEX800. What is more, a variety of edit and tap/select functions allows you to modify the effect parameters extensively. A high-precision, 6-digit LED display can be used to accurately set the stereo input level.

Further features are the handy Mix Balance and Output Level controls for precise effect level setting, as well as an additional footswitch connector for easy enabling/disabling of effects.

The FEX800 will take your music productions to a higher level!

1.1 Before you get started

1.1.1 Shipment

Your FEX800 was carefully packed at the assembly plant to assure secure transport. Should the condition of the cardboard box suggest that damage may have taken place, please inspect the unit immediately and look for physical indications of damage.

◊ **Damaged equipment should NEVER be sent directly to us. Please inform the dealer from whom you acquired the unit immediately as well as the transportation company from which you took delivery. Otherwise, all claims for replacement/repair may be rendered invalid.**

◊ **Please always use the original packaging to avoid damage due to storage or shipping.**

◊ **Never let unsupervised children play with the FEX800 or with its packaging.**

◊ **Please dispose of all packaging materials in an environmentally friendly fashion.**

1.1.2 Initial operation

Be sure that there is enough space around the unit for cooling. To avoid overheating, do not place the FEX800 on top of power amps or near radiators, etc.

◊ **To power the FEX800, use only the power supply unit that is delivered with your equipment.**

◊ **Please ensure that the unit is installed and operated only by people qualified to do so. During installation and operation the user must have sufficient electrical contact to earth. Electrostatic discharge may affect the operation of the unit.**

◊ **Malfunction may occur due to static discharge at the inputs/outputs of the FEX800. In this case, switch off the unit temporarily.**

1.1.3 Online registration

Please register your new BEHRINGER equipment right after your purchase by visiting http://behringer.com and read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, it is our intention to have it repaired as quickly as possible. To arrange for warranty service, please contact the BEHRINGER retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may directly contact one of our subsidiaries. Corresponding contact information is included in the original equipment packaging (Global Contact Information/European Contact Information). Should your country not be listed, please contact the distributor nearest you. A list of distributors can be found in the support area of our website (http://behringer.com).

Registering your purchase and equipment with us helps us process your repair claims more quickly and efficiently.

Thank you for your cooperation!
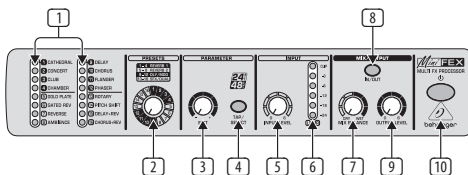
2. Control Elements and Connections

2.1 Front panel

Fig. 2.1: Front panel control elements of the FEX800

[1] The two LED displays show the effect preset currently selected. One LED is assigned to each preset.

◊ **The presets are grouped in four categories: REVERB 1 (1-4), REVERB 2 (5-8), DELAY/MODULATION (9-12), SPECIAL FX/DUAL EFFECTS (13-16).**

[2] Use the **PRESETS** control to select one of the 16 effect presets.

[3] The **EDIT** control allows you to edit one effect parameter. The center position corresponds to the default setting programmed for the preset.

◊ **When you change presets the FEX800 always recalls the default or user settings for the selected preset, irrespective of the position of the EDIT control. However, the user settings will remain effective only as long as the unit is not switched off or disconnected from the mains.**

[4] The **TAP/SELECT** button performs two functions:

• **TAP (tempo entry)**: Hit the button several times in the tempo of the music piece to adapt the delay time of presets 9 and 15 or the modulation speed of presets 10-12. The button starts flashing in the corresponding tempo.

- **SELECT (additional effect parameter)**: Press this button to choose between two different effect characteristics when using presets 1-8, 13-14, 16. When the button lights up this means that the corresponding parameter of the selected preset has been activated.

◊ **Table 6.1 gives you an overview of all effect parameters that can be edited in the various presets .**

⑤ Use the **INPUT LEVEL** control to adjust the input signal level. Please be sure to set a level that is sufficiently high but does not overload the unit.

⑥ The **L + R** LED display is for monitoring the input level. It comprises 6 LEDs. When the CLIP LED lights up, this indicates that digital distortion may occur at the input of the FEX800. In this case, the input signal level must be reduced.

⑦ Use the **MIX BALANCE** control to adjust the ratio of original vs. effect signal. Turn the control fully to the right to hear only the processed effect signal. Turn it fully to the left to hear only the unprocessed input signal.

⑧ The **IN/OUT** button enables/disables the effect signal. The button lights up when the input signal is being processed by the FEX800. In order to hear the processed signal you have to set a suitable ratio of effect vs. direct signal using the MIX BALANCE control ⑦.

⑨ Use the **OUTPUT LEVEL** control to adjust the output level.

⑩ The ⏻ switch turns your MINIFEX FEX800 on and off. The switch lights up when the unit is switched on.

◊ **Merely switching the unit off does not mean that it is fully disconnected from the mains. To disconnect the unit from the mains, pull out the mains connector. Please make sure before installation that the mains connector has not been damaged. If you do not use the unit for an extended period of time, please disconnect it at the mains.**
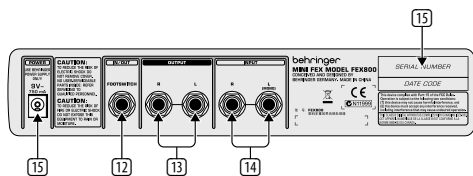
2.2 Rear panel

Fig. 2.2: Rear panel connectors of the FEX800

⑪ The FEX800 is connected to the mains using a 2-pole **POWER** connector jack. A matching mains adaptor is included with the unit.

◊ **To avoid damage to your FEX800 always use the mains adaptor supplied with the unit.**

⑫ A single footswitch can be connected to the **IN/OUT** connector. This footswitch allows you to remotely control the IN/OUT button ⑧ on the front panel and switch the effect signal on and off.

⑬ The two **OUTPUT** connectors are on ¼" connectors and provide a balanced left/right signal.

⑭ The two **INPUT** connectors are on ¼" connectors and can be used for unbalanced signals. A single mono signal should be connected to the L jack.

⑮ **SERIAL NUMBER**.

3. The Effects

Your MINIFEX FEX800 comes with 16 presets, which are grouped in four different categories. All of them are stereo effects.

◊ **Table 6.1 contains a list of the preset effect parameters which can be edited as well as a description of the TAP/SELECT button's function.**

3.1 REVERB 1

The presets from the REVERB 1 category reproduce the characteristics of natural spaces of different sizes.

- **CATHEDRAL** simulates the reverberation that you can hear in big cathedrals. This effect is characterized by a long reverb and very specific echoes. It works well with solo instruments and vocals.

- **CONCERT** simulates the reverberation in a mid-size concert hall. The preset is well suited for all natural instruments such as piano. When used sparingly, it also gives vocals an interesting touch, for example, in ballads.

- **CLUB** simulates the cozy atmosphere of a mid-size jazz club or theater. This reverb is characterized by its early reflections and short decay. The preset works well with vocals, electric piano, drums, saxophone and other instruments.

- **CHAMBER** simulates the typical characteristics of a studio. The preset is well suited for drums, guitars and vocals or whenever you need an unobtrusive reverb to breathe some life into a signal.

FX REVERB

3.2 REVERB 2

REVERB 2 comprises popular artificial reverb algorithms, which characterize numerous pop/rock and dance tracks of the last few years.

*   **GOLD PLATE** simulates the legendary sound of a reverb plate as used in former studio reverb units. This effect features a very dense sound of its own and is particularly suited to produce a very distinct reverb, e.g. for drums and vocals.

*   **GATED REV** simulates the reverb type cut off by a gate, which was very popular in the 80's. This effect was typically used with snare or kick drums, but can be used to achieve interesting effects with other instruments too.

*   **REVERSE** produces a reverb which has its reverb tail reversed. Consequently, the reverb volume does not decrease over time but increases. This preset can be used for unusual effects with the most varied kinds of signals. A very popular application is to use it for snare drums.

*   **AMBIENCE** provides the signal with spatial information, however, does not produce an audible reverb. The preset works well with drums, keyboards, guitars and vocals or whenever you need an unobtrusive room sound without reverb.

FX DELAY   **FX MODULATION**

3.3 DLY/MOD

The DELAY/MODULATION category offers three modulation effects for special sound-tweaking applications and one stereo delay preset.

*   **DELAY** produces several echoes/delays of the input signal, reduces them in level and adds them to the original signal (echo effect). Use the DELAY preset to create effects which are very interesting in terms of rhythm. This preset can be used for virtually any instruments. It is particularly useful for keyboards, guitars and vocals.

*   **CHORUS** gives a signal more body and width, so that it sounds richer. CHORUS can be used for virtually any signals which should sound a bit fuller.

*   **FLANGER** gives a signal a wonderful „retro" touch. FLANGER has always been a popular effect for guitars and keyboards. But you can also produce interesting sounds in combination with drums, vocals or other signals.

*   **PHASER** is an effect which adds a copy of the input signal, however, shifted in phase. PHASER is a traditional guitar, electric piano and keyboard effect. But you can also produce distinctive effect sounds in combination with drums or other signals.

FX SPECIAL   **FX DUAL**

3.4 SFX/DUAL

This category includes two effects for special sound modifications, as well as two presets providing a combination of two effects.

*   **ROTARY** simulates the accelerating, braking and rotating movements of a Leslie loudspeaker system. The fast rotation produces a characteristic shifting of frequencies. Traditionally, this is an effect for electronic organ. However, it can also be used for other signals.

*   **PITCH SHIFT** adds another signal to the original signal, below or above the original pitch. This effect is particularly suited to enhance the sound of guitars and vocals.

*   **DELAY + REV** is a useful combination of the DELAY and CONCERT effects. This effects combination works particularly well with guitars, keyboards and vocals.

*   **CHORUS + REV** is a useful combination of the CHORUS and CLUB effects. This effects combination is a classic effect for guitars and electric pianos.

4. Application Examples

The FEX800 can be integrated into the signal path in various ways. Please find a few wiring examples below.

4.1 The MINIFEX in the aux(iliary) path

It is particularly advisable to connect the MINIFEX via the aux paths of a mixing console. Aux paths are signal busses to which you can route specific signals. Each channel strip on a mixing console has a level control for each aux path, which determines the signal portion routed from the respective channel strip to the aux bus. The signal is routed from the aux bus output of the console to an effects unit for processing. Subsequently, the processed effect signal from the external effects processor is routed back to the console via an aux return or other mono/stereo input, where it is mixed with the unprocessed original signal in the main mix bus.

This way of connecting your FEX800 allows you to adjust different effect intensities for different instruments. For example, you could give a snare drum more reverb than a kick drum. The volume ratio of direct vs. effect signal is determined using the aux return level control, while the aux send control in the corresponding channel strip adjusts the effect intensity for each instrument. Two mono aux paths are required for stereo signal processing. If you want to process single signals in mono, please use only one aux path. In this case, the aux send output must be connected to the L(MONO) jack in the INPUT section ⑭ of the FEX800.

◊   **Please make sure that the FEX800 provides only one effect signal in this type of application (MIX BALANCE control ⑦ turned fully right).**
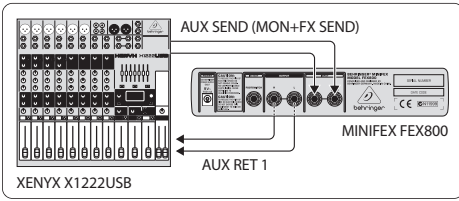
Fig. 4.1: Wiring the MINIFEX via the aux paths

4.2 The MINIFEX in the insert path

If your mixing console is equipped with insert paths, you can also connect the MINIFEX using these combined inputs/outputs. In this case, the effects unit is directly integrated into the signal path of the mixing console. Such a configuration is usually required for signal processors such as compressors, because you only want to use the processed signal rather than a mix of direct and effects signals. In order to use an effects unit such as the MINIFEX in the insert path, you will have to adjust the desired volume ratio of direct vs. effect signal with the MIX BALANCE control ⑦.

Please use the respective channel insert to process specific instruments. Groups of instruments or stereo mixes can be processed with the sub-group/main-mix inserts.
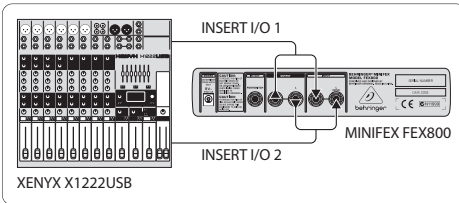

Fig. 4.2: Wiring the MINIFEX via the insert paths

4.3 The MINIFEX as an effects unit for instruments

You can also use the MINIFEX on stage as an effects unit for keyboards. This can be useful if your keyboard has only limited effect capabilities or if you want to process selected sounds with the MINIFEX effects via existing single outputs. The illustration below shows how to wire the FEX800 either to an amplifier or via a D.I. box to a mixing console. You can switch the effect on and off using an additional footswitch.
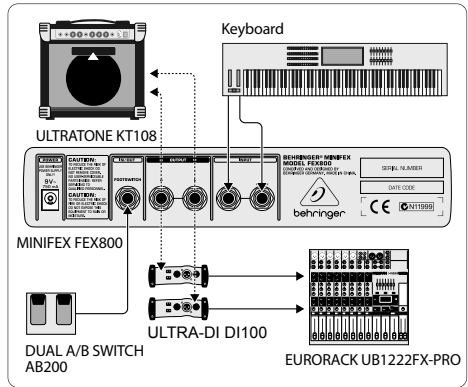

Fig. 4.3: Connecting the MINIFEX to an amplifier or D.I. box

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5. Audio Connections

There are various ways to integrate the FEX800 into your set-up. Depending on the application in question, you will need different sets of connecting cables. The cables to use are described below.

5.1 Connection with insert cables

Please use standard insert cables equipped with ¼" connectors to connect the MINIFEX to the insert path of a mixing console. These Y cables have two ¼" TS connectors at one end, and one ¼" TRS connector at the other. Connect the plug marked „Send" to the INPUT L jack on the effects unit. Connect the „Return" plug to the OUTPUT L jack on the device. Connect the TRS connector to the insert jack of the channel strip on the mixing console. Use two insert cables for stereo sub-groups and main-mix inserts. The second cable must be connected to the INPUT/OUTPUT R jacks of the FEX800.
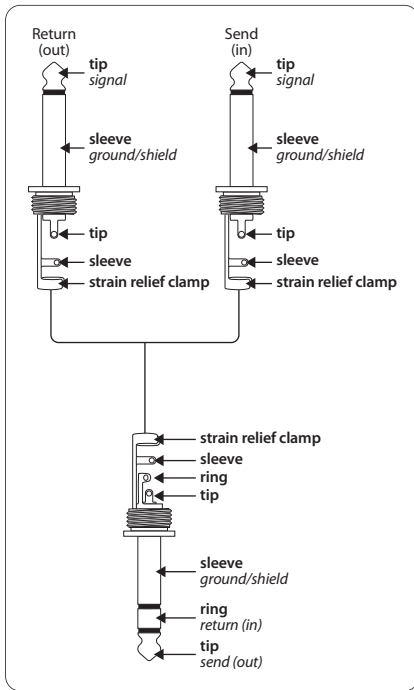

Fig. 5.1: Insert cable with two ¼" TS and one ¼" TRS connector

5.2 Connection with ¼" cables

To wire the MINIFEX in series with other equipment or via the aux paths of a mixing console, please use ¼" cables, sometimes also referred to as patch cords. These cables have a ¼" connector at each end. Connect the aux send outputs of your console to the inputs, and the aux returns to the outputs of the MINIFEX. You can also connect balanced stereo ¼" cables to the MINIFEX outputs.
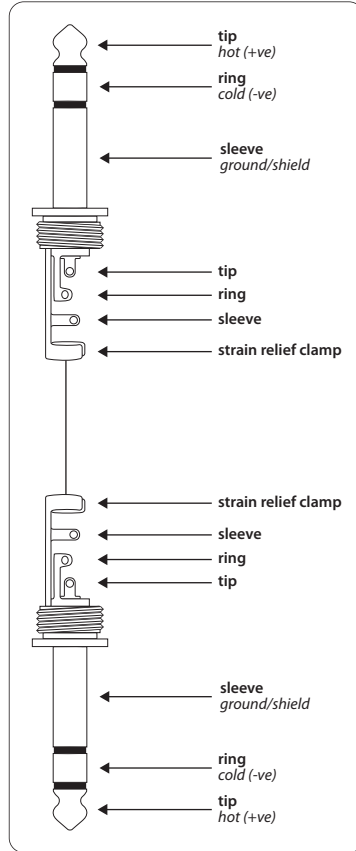

Fig. 5.2: Unbalanced cable with ¼" TS connectors

5.3 Footswitch connection

The MINIFEX features a jack for connecting a footswitch. Here, you can connect any standard footswitch with a ¼" TS connector. As some footswitch models on the market have a different polarity, please be sure to use one that is appropriately wired. The correct wiring is shown in the illustration below.
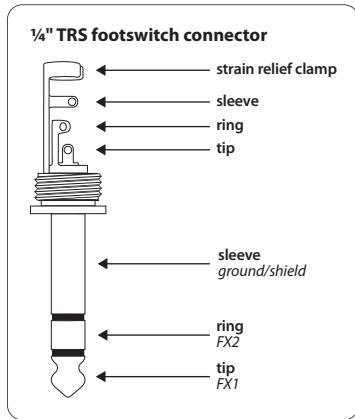

¼" TRS footswitch connector

- strain relief clamp
- sleeve
- ring
- tip
- sleeve *ground/shield*
- ring *FX2*
- tip *FX1*

Fig. 5.3: Wiring of a ¼" TS connector for footswitch connection

6. Appendix

6.1 List of effects and parameters

Effect no.	Effect	EDIT Parameter 1	TAP/SELECT Parameter 2	TAP/SELECT LED
1	CATHEDRAL	Reverb time	Brilliance	off/on
2	CONCERT	Reverb time	Brilliance	off/on
3	CLUB	Reverb time	Brilliance	off/on
4	CHAMBER	Reverb time	Brilliance	off/on
5	GOLD PLATE	Reverb time	Brilliance	off/on
6	GATED REV	Reverb time	Brilliance	off/on
7	REVERSE	Reverb time	Brilliance	off/on
8	AMBIENCE	Room size	Brilliance	off/on
9	DELAY	No. of repetitions	Time interval TAP	flashing (BPM tempo)
10	CHORUS	Intensity	Tempo TAP	flashing (tempo)
11	FLANGER	Intensity	Tempo TAP	flashing (tempo)
12	PHASER	Intensity	Tempo TAP	flashing (tempo)
13	ROTARY	Intensity	Tempo	off/on
14	PITCH SHIFT	Semi-tone steps (+/-12)	Detune	off/on
15	DELAY+REV	Delay vs. reverb ratio	Time interval TAP	flashing (BPM tempo)
16	CHORUS+REV	Chorus vs. reverb ratio	Reverb time	off/on

Table 6.1: List of effects and parameters

7. Specifications

Input	
Type	¼" TS connectors, unbalanced
Impedance	approx. 30 kΩ

Output	
Type	¼" TRS connectors, impedance balanced
Impedance	approx. 220 Ω
Max. output level	+10 dBu

In/Out	
Type	¼" TS footswitch connector

Digital Processing	
Converters	24-Bit Delta-Sigma, 128-times oversampling
Sampling rate	48 kHz

System Specifications	
Frequency response	10 Hz to 22 kHz, -3 dB
Dynamic range	96 dB, 10 Hz to 22 kHz
Distortion	0,01% typ. @ 0 dBFS
Crosstalk	-75 dB @ 1 kHz
Signal-to-noise ratio	10 Hz to 22 kHz <86 dB @ 0 dBu, A-weighted

Power Supply	
Mains connection	external power supply, 9 V~, 750 mA

Mains Voltage	
USA/Canada	120 V~, 60 Hz
U.K./Australia	240 V~, 50 Hz
China	220 V~, 50 Hz
Europe	230 V~, 50 Hz
Japan	100 V~, 50 - 60 Hz
Power consumption	approx. 7.5 W

Dimensions/Weight	
Dimensions (H x W x D)	approx. 1.9 x 4.7 x 9.6" approx. 48 x 120 x 242.6 mm
Weight	approx. 1.46 lbs / 0.66 kg

BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

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8. Other Mini Products

The MINIFEX belongs to the MINI suite of BEHRINGER products, which can operate together and are introduced below:

MINIAMP AMP800
Ultra-compact 9.5" headphones amplifier system for studio and stage applications

- 4 totally independent stereo high-power amplifier sections
- Highest sonic quality with virtually all types of headphones even at maximum volume

MINICOM COM800
Ultra-compact 9.5" stereo modeling compressor for studio and stage applications

- 16 awesome preset models for the most typical compression applications (vocal, drums, guitar, keyboard, etc.)
- Dedicated Compressor Modeling control with LED's indicating the selected dynamics program

MINIMIC MIC800
Ultra-compact 9.5" microphone modeling preamp for studio and stage applications

- High-end preamplifier for all microphone, instrument and line-level sources. Perfectly complements studio-grade condenser mics
- Ultra-flexible Preamp Modeling allows you to quickly optimize your recordings

MINIMON MON800
Ultra-compact 9.5" monitor matrix mixer for studio and stage applications

- Dedicated input section with 4 selectable and mixable stereo inputs
- Accurate 6-digit LED main stereo output meters for precise level indication

MINIBEAT BEAT800
Ultra-compact 9.5" dual beat counter/phono preamp for studio and stage applications

- Intelligent dual BPM counters with Tempo Difference indicator
- Ultra-flexible Beat Assist and Sync Lock functions

MINIFBQ FBQ800
Ultra-compact 9.5" graphic equalizer for studio and stage applications

- Revolutionary FBQ Feedback Detection System instantly reveals critical frequencies and can also be used as Audio Analyzer
- Additional Low Cut filter removes unwanted frequencies, e. g. floor rumble

MINIMIX MIX800
Ultra-compact 9.5" karaoke machine for studio and stage applications

- Revolutionary Voice Canceller—effectively eliminates vocals from any stereo source while retaining most music elements
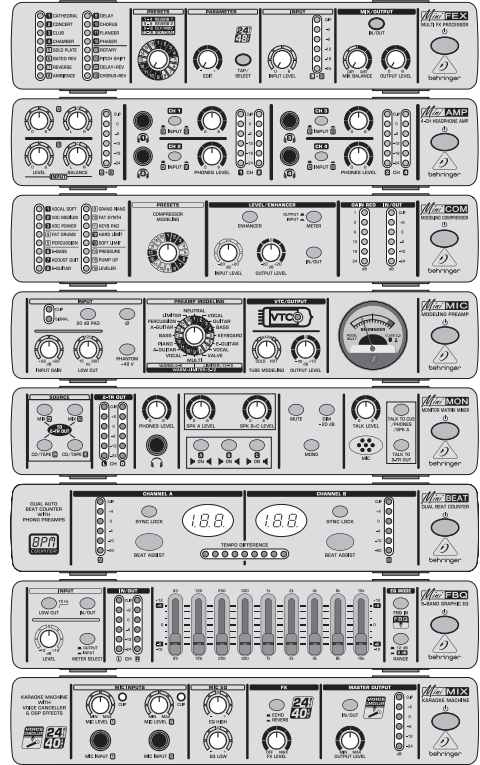- Integrated digital echo/reverb processor in 24-bit/40 kHz resolution for ultimate vocal enhancement

Fig. 8.1: MINI products stack on top of each other

We Hear You

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