WORK®

WPR - 1

User Manual

CAUTION: To reduce the risk of electrical shock, do not remove the cover (or back). No user serviceable parts inside; refer servicing to qualified personnel.

WARNING: To the risk of fire or electrical shock, do not expose this appliance to rain or moisture.

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

This symbol, wherever it appears, alerts you to important Operating and maintenance instructions the accompanying literature. Read the manual.

Important Safety Instructions

1 Read theseinstructions.

2 Keep theseinstructions.

3 Heed all warnings.

4 Follow all instructions.

5 Donot usethis apparatus near water.

6 Clean onlywith a damp cloth.

7 Do not block any of the 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 that produceheat.

9 Donot install the safety purpose of hepolarized or grounding-type plug. A polarized plug has two blades with one wide than the other. A grounding-type plug has two blades and third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement oftheobsolete outlet.

10 Protect the power cord from being walked on or pinched, particularly at plugs, convenience at plugs, convenience receptacles, and the point where they exit from theapparatus.

11 Only use power cordfrom attachments/accessoriesspecified by themanufacturer.

12 Use only with a cart, stand, bracket, or table specified by themanufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combinationto avoidinjury 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 personal. 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 beenexposedto rain or moisture, doesnot operatenormally.

Contents

Installation

WPR 1 was carefully packed in the factory and the packaging was designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage, which may have occurred in transit.

If the unit is damaged, please do not return it to us. But notify your dealer and the shipping company immediately. Otherwise claims for damage or replacement may not be granted. Shipping claims must be made by the consignee.

Rack mounting
The **WPR 1** fits into one standard rack unit of space (1.3/4). Please allow at least an additional 4 depth for the connectors on the back panel. Be sure that there is enough air space around the unit for cooling and please do not place the **WPR 1** on high temperature devices such as power amplifier etc. to avoid overheating.

Connectors
The audio input and output connector are available in XLR connectors.
Due to frequently occurring problems with compatibility. we would like to draw your attention to the international standard IEC 268-12: for balanced operation. pin 1 should be connected to ground, pin 2 should carry the positive signal and pin 3 the negative signal.

Important note: XLR *connector/Pin1:* ***ground,*** *Pin 2:* ***signal+,*** *Pin 3:* ***signal -.***

Unbalanced Operating
Unbalanced operation is characterized by a single conductor shielded cable with the center conductor carrying the signal and the shield at ground.

Balanced Operating
Balanced operation is defined as a two conductor shielded cable, where each of the two center conductors carry the signal but of opposite phase. They have equal but inverted potential differences from that of ground.

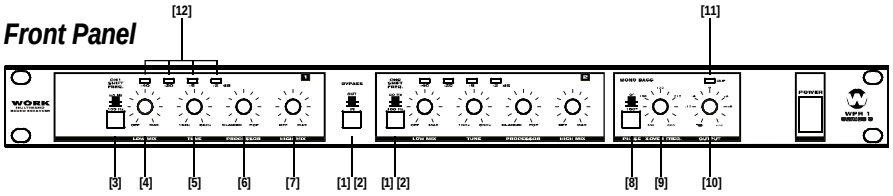
Mains Connection
With the exception of the jack model, mains connection to the **WPR 1** is established using a removable power cord, it also an internal fuse holder, which meets all of the international safety certification requirements.

Please make sure that all unit have a proper ground connection. For your own safety, it is advisable not to remove the ground connection or fail to make the connection to the unit. Check that the unit is configured to match your AC main voltage requirement.

Important note: *only replace the fuse with the correct value and type!*

WPR 1 Front & Rear Panel Controls & Connections

Front Panel



[1] IN/OUT switch
This switch put both channels into operation. With the switch in the OUT position, the unit is bypassed.

[2] IN/OUT LED
This LED indicates both the status of the channels, if the channels are bypassed, the LED is red; if the channels are activated. the LED lights up green.

[3] SHIFT switch
This switch determines the cut-off frequency of the bass processor. Depending on the programme material, you can select a cut-off frequency of 50 or 100Hz.

[4] LOWMIX control
The LOW MIX control determines the amount of signal used for sound enhancement (from zero to maximum). The setting depends on the application you are addressing.

please note: that the bass processor should be set carefully to avoid possible speaker damage.

[5] TUNE control
The TUNE control sets the lower cut-off frequency of the high-pass filter. Using this control you can select the frequencies that are routed to the especial processor. the cut-off frequency can be adjusted within a range of 1 to 8 kHz.

[6] PROCESS control
The PROCESS control determines the function of the device. When turning the control in clockwise direction. The function is actioned, which increases the signals transparency and sharpness.

Please note that with classical programme material, acoustic instruments or with output signal that already include sufficient treble frequencies. The classic set should be preferred. However when processing. for instance, a slapped bass guitar, it is the pop setting which should dominate.

[7] HIGHMIX control
The HIGH MIX control determines the amount of signal used for sound enhancement (from zero to maximum).

It depends on the application whether a high-quality system is to be given the finishing touch with the **WPR 1**. or whether maximum intelligibility is to be achieved in a relatively poor soundreinforcement system.

[8] PHASE INVERT switch
The PHASE INVERT switch set whether the mono low-frequency signal phase in the 0? or 180?.

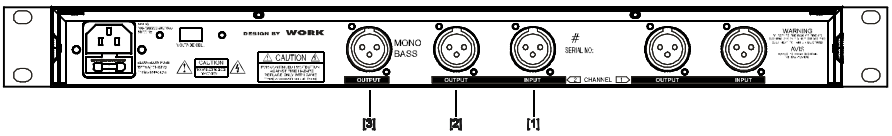
[9] X'OVER FREQUENCY control
The X'OVER FREQUENCY control sets the point of mono low-frequency signal. The control can be adjusted within a range of 100to 250 Hz

[10] OUTPUT control
TheOUTPUT control sets themono low-frequency signal output level. The control can be adjusted within a range of -? to +12dB.

[11] CLIP LED
The CLIP LED indicates the status of mono low-frequency signal output level clip. If output level clip, the LED is red.

[12] LEVEL LED
TheLEVELLED indicates theoutputlevel of the dual channel. if output level clip, the LED is red.

Rear Panel



[1] INPUT connection
Both balanced (3-pin female XLR type connectors) input connectors are available. A 600 ohm line should be used for both. Use the INPUT LEVEL control to set the rated input level from -40 or -2dB.

[2] OUTPUT connection
Both balanced (3-pin female XLR type connectors) output connectors are available. A 600 ohm line should be used for the balanced XLRs. Use the OUTPUT LEVEL control to set the rated nominal output level from -40 to-2 dB.

[3] MONO BASS OUTPUT connection
One balanced (3-pin female XLR type connector) output connector is available. A 600 ohm line should be used for the balanced XLRs. Use the OUTPUT LEVEL control to set the ratednominalmono low-frequency signal outputlevel from -? to +12 dB.

APPLICATIONS

Basic Applications
We recommend setting the processor as indicated in the following three sections. This will give you a better idea of switch and control functionality.

Set the **WPR 1** to bypass mode (the LED next to the IN/OUT switch os red).
Set the TUNE controls to center position and the PROCESSOR controls fully counter-clockwise.

Turn the MIX controls fully CCW and depress the IN/OUT switch. New turn the LOW MIX and HIGH MIX controls of the bass and high-frequency sections slowly clockwise unit the fundamental bass and high frequencies became more emphasized and the sonic image begins to open up or to widen.

The quality of the sound enhanced signal can be adapted to the programme material by varying the cutoff frequency using the SHIFT switches and/or the TUNE controls.

When using enhancers or exciters it is easy to get carried away. Therefore, we recommend regular A/B comparisons (IN/OUT) while setting the controls, in order to constantly check the signals integrity. Rule of thumb. the enhancers effect only should be noticeable when it is lacking but not when it is present !

Typical applications
In this section we will discuss a few typical applications of the **WORK WPR 1.**

Sound Enhancement During Replay
For this application, the **WPR 1** follows the master or multi-track recorder, inserted between tape machine and mixer (or amplifier). Of course, a cassette recorder, or similar, can also be used as signal source.
If a companding noise reduction system is used in this situation. it should precede the **WORK WPR 1.**

Enhancement The Sound Of Effects Devices ancem
Often, signal processing units such as flangers, phasers, distortion, chorus, delay and reverb units etc. considerably limit the signals sound quality. Here too, the **WPR 1** will be of help. Simply insert the unit after the effects device, if there are several devices, insert the **WPR 1** as the last unit in the chain.

Enhancement The Sound O f P.A. Systems
If used in P.A. and other sound reinforcement systems for background or live music, the **WPR 1** offers astounding advantages
In audio systems for announcements and background music, the **WPR 1** is place in a similar way to recording and tape duplication-directly before the power amp. The intelligibility and range of your system will be improved and the sonic image will become clear and transparent, even at low volume levels, problems caused by background.

Noise fluctuations, room acoustics(reflections) andspeakersetup can be solvedmoreeasily.

For instance, in discos orclubs you do not need to constantly readjust the high frequencies as the place becomes increasingly crowded: you will be able to protect your speaker system and the hearing of visitors.

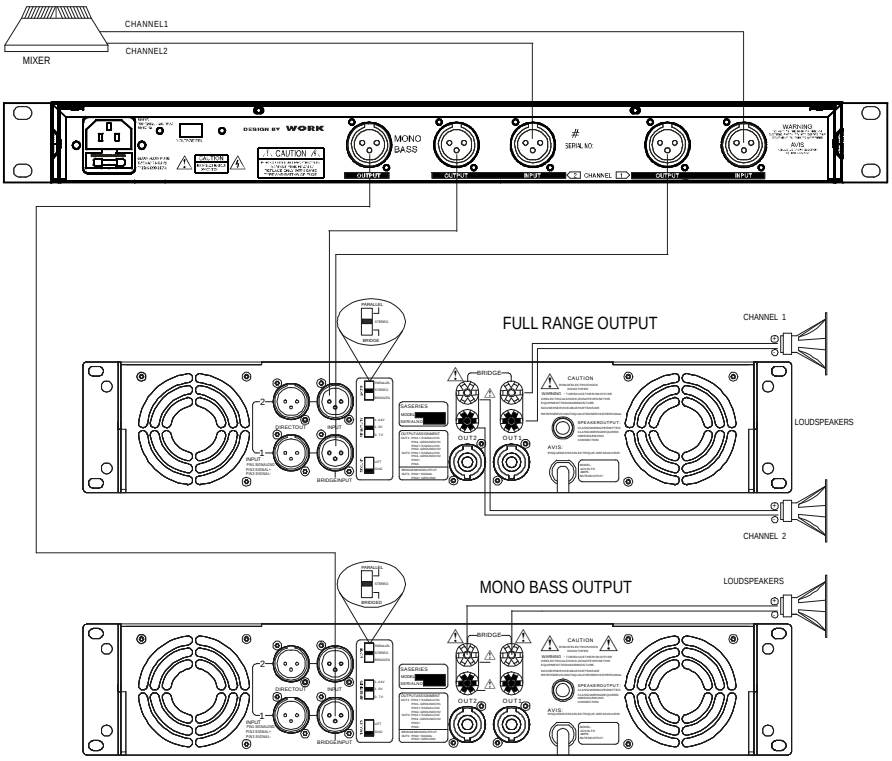
Backgroundmusic in bars and restaurantscan be heard easily. It does not annoy your guests becauseits volume had tobe turned up toofar.

The sound of any P.A. system will be improved by the **WPR 1.** For example, the vocals and speech of music groups or speech transmissions will be considerably more transparent and intelligible, the instruments c an bedistinguished more easily.

The **WORK WPR 1** will increase the speaker systems acoustic performance and its ability to penetrate a room, particularly in places withdifficultacoustics.

The system also needs less effective amplifier power, since the subjectively heard volume level increases. Powerful and detailed sound reproduction can also be achieved with weak systems. It helpswhen you do not have to spend a small fortune on upgradingyour system.

Enhancement The Sound Of Sample Systems



SPECIFICATIONS

INPUT

Type:	RF filtered, servo-balanced input
Input Impedance:	40kohms. balanced
Nominal Operating Level:	-40 dBV to -2dBu
Maximum Input Level:	+20 dBu unbalanced
CMRR:	better than 40 dB

OUTPUT

Type:	DC-decoupled balanced output stage
Output impedance:	40 ohms, balanced
Maximum Output Level:	+20 dBu unbalanced
Bandwidth:	10 Hz -50 kHz, +0, -1 dB
THD @ +4dBu:	0.005% typ.(all controls set to minimum)
IM (SMPTE)@ +10dBu:	0.01% typ.
Noise & Hum, unity gain:	-94 dBu (all controls set to minimum)
Crosstalk @ 20kHz:	better than -83 dBu

MONO BASS OUTPUT

Type:	DC-decoupled balanced output stage
Output impedance:	40 ohms, balanced
Maximum Output Level:	+20 dBu unbalanced
Bandwidth:	10 Hz -250 kHz, +0, -1 dB
THD @ +4dBu:	0.005% typ.(all controls set to minimum)
IMD(SMPTE) @ +10dBu:	0.01% typ.
Noise & Hum, unity gain:	-94 dBu (all controls set to minimum)

LOW BAND PROCESSOR

SHIFT switch:	switch able from 50Hz to 100Hz
LOW MIX control:	variable from OFF to MAX

HIGH BAND PROCESSOR

Type:	WORK Processor
TURN control:	variable from 1 to 8 kHz
PROCESS control:	variable from CLASSIC to POP
HIGH MIX control:	variable from OFF to MAX

MONO LOW-FREQUENCY SIGNAL PROCESSOR

Type:	WORK Processor
PHASE switch:	switch able from0? to 180?
X'OVER FREQUENCY control:	variable from 100 to 250 Hz
OUTPUT control:	variable from -? to +12 dB

INDICATORS
IN/OUT LED (two color)
LEVEL metter (dual channel four step/three color)
CLIP LED (two color)

POWER REQUIREMENTS

Main Voltage:	100~120/200~240 VAC 50/60Hz
Power Consumption:	10 Watts
Fuse:	0.375 A. slow-blow

WEIGHT

Net Weight:	3.2kg
Shipping Weight:	3.8kg

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