iSP Technologies

BETA

BASS PROCESSOR

SHAPE

YOUR

SOUND

OWNERS MANUAL

INTRODUCTION

The Beta Bass Processor offers the professional bassist the highest level of performance that only ISP Technologies can provide. By incorporating our patented Time Vector Processing, the compression circuitry becomes the most adaptive to be used in a bass processor as it allows the Beta to truly track the signal of the exact notes played. Add in the patented Decimator Noise Reduction Technology, and you have the only bass processor on the market with built in noise reduction! With two parametric bands (a low mid and a high mid), bass, treble, bright and an exciter (for phase manipulation), the Beta lets you shape your sound to your own specifications. For unsurpassable performance, pair the Beta Bass with the ISP Technologies Bass Vector or Bass Vector Pro cabinets and get up to 4000 watts of bass depending on your choice of configuration!

Please read this manual carefully for a full explanation of the Beta Bass Processor and its functions.

PRECAUTIONS

NOTE: IT IS VERY IMPORTANT THAT YOU READ THIS SECTION TO PROVIDE YEARS OF TROUBLE FREE USE. THIS UNIT REQUIRES CAREFUL HANDLING.

All warnings on this equipment and in the operation instructions should be adhered to and all operating instructions should be followed.

Do not use this equipment near water. Care should be taken so that objects do not fall onto and liquids are not spilled into the unit through any openings.

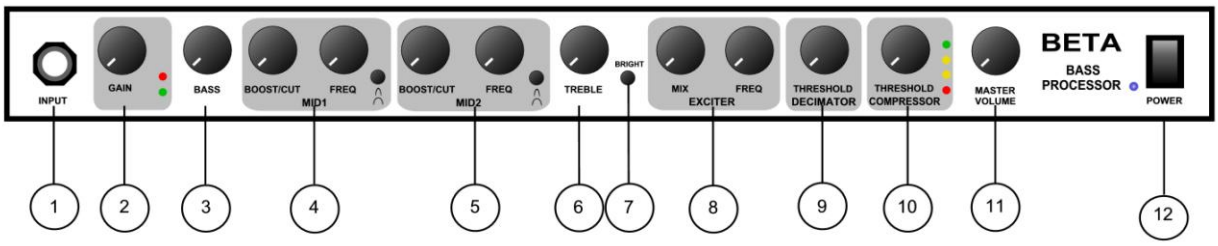
The power cord should be unplugged from the outlet when the unit is left unused for a long period of time.

DO NOT ATTEMPT TO SERVICE THIS EQUIPMENT. QUALIFIED SERVICE PERSONNEL SHOULD SERVICE THIS EQUIPMENT ONLY. DO NOT MAKE ANY INTERNAL ADJUSTMENTS OR ADDITIONS TO THIS EQUIPMENT AT ANY TIME. DO NOT TAMPER WITH INTERNAL ELECTRONIC COMPONENTS AT ANY TIME. FAILURE TO FOLLOW THESE INSTRUCTIONS WILL VOID THE WARRANTY OF THIS EQUIPMENT, AND MAY CAUSE A SHOCK HAZZARD.

POWER REQUIREMENTS

This unit accepts power from the 9V AC power adaptor supplied with the unit. This 9V RMS AC voltage is internally processed by a voltage doubler, which generates a bi-polar + and – 15V power supply to maintain the headroom and sound quality of professional, studio quality equipment. Using an external power source minimizes excessive noise and hum problems often associated with internal transformers, providing optimal performance for the user.

FRONT PANEL



1. **INPUT JACK**
   This ¼-inch mono jack provides the high impedance for connection to your bass.

2. **GAIN**
   Adjust gain until the red LED barely flashes.

3. **BASS**
   Controls the low frequency level.

4. **MIDRANGE 1**
   Controls the low/midrange. BOOST/CUT controls the level at the frequency selected by the FREQ control. Bandwidth switch selects wide/narrow bandwidth.

5. **MIDRANGE 2**
   Controls the high/midrange. BOOST/CUT controls the level at the frequency selected by the FREQ control. Bandwidth switch selects wide/narrow bandwidth.

6. **TREBLE**
   Controls the high frequency level.

7. **BRIGHT SWITCH**
   Adds extra high frequency boost.

8. **EXCITER**
   Adds high frequency transparency by altering the harmonic structure.

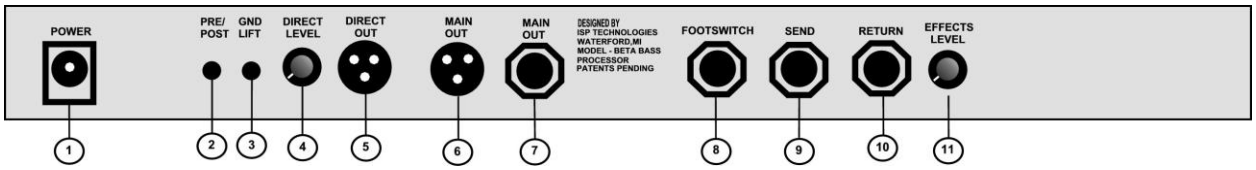
9. **DECIMATOR NOISE REDUCTION THRESHOLD**
   Controls the level at which the noise reduction takes effect.

10. **COMPRESSOR THRESHOLD**
    Controls the level at which the compressor takes effect.

11. **MASTER VOLUME**
    Controls the level of the main outputs. When the rear panel switch is set to POST, this control will also affect the level of the direct output.

12. **POWER SWITCH**
    Turns the power on or off.

REAR PANEL



1. **9VAC POWER INPUT JACK**
   Supplies power to the unit by plugging in a 9V AC adaptor.

2. **PRE/POST CONTROL**
   Controls the source of the DIRECT OUTPUT. PRE takes the DIRECT OUTPUT before the MASTER VOLUME control and POST takes the DIRECT OUTPUT after the MASTER VOLUME control.

3. **GROUND LIFT CONTROL**
   Disconnects the ground pin (#1) of the DIRECT OUTPUT. This is useful for solving hum problems.

4. **DIRECT LEVEL CONTROL**
   Controls the level of the DIRECT OUTPUT.

5. **DIRECT OUT**
   Use this output to feed a mixing console.

6. **MAIN OUT (XLR)**
   Use this output to feed the active speaker cabinets.

7. **MAIN OUT (1/4 inch)**
   Use this output to feed the active speaker cabinets.

8. **FOOTSWITCH (1/4 inch TRS)**
   The tip controls the EXCITER on/off and the ring controls the COMPRESSOR on/off.

9. **SEND (1/4 inch)**
   Connect to the input of an external Effects device.

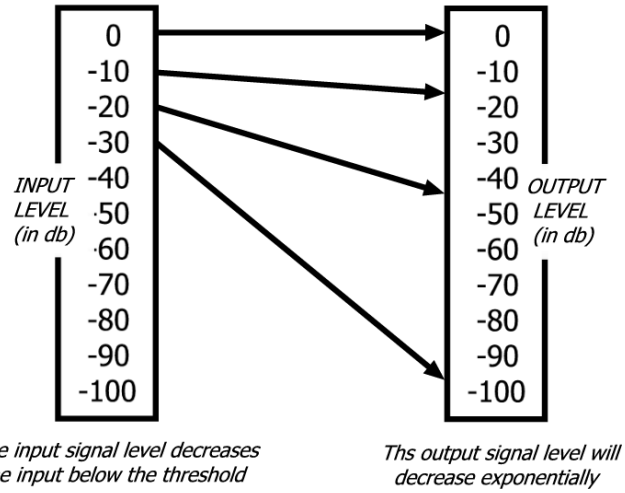
10. **RETURN (1/4 inch)**
    Connect to the output of an external Effects device.

11. **EFFECTS LEVEL**
    Controls the level of the external effect.

When properly used, the Decimator should be completely transparent; it should have no effect on the audio signal other than to remove the background noise. To maximize the performance of the Decimator, it is necessary to understand both the operation of the controls and the principles of how the internal circuit operates. After this understanding, it will be easier to set up the Decimator to suit any application.

Low Level Downward Expansion is performed by use of a high quality voltage controlled amplifier controlled by an RMS based audio level detection circuit. A second Time Vector Processing circuit that varies the release response over a 1000 to 1 ratio controls the release response of the Downward Expander. The release response will be extremely fast, on the order of 2 milliseconds, if the input signal has a fast decaying envelope and upwards of 2 seconds if the input signal has a slow decaying signal. Downward Expansion takes place when the input signal level drops below the preset threshold. For example: if the threshold is set for 0db and input signal of 0db with produce no expansion. As the input signal drops below 0db, downward expansion starts and increases exponentially the farther the input signal drops below the threshold point. The graph below shows the response of the Expander with a 0db threshold.

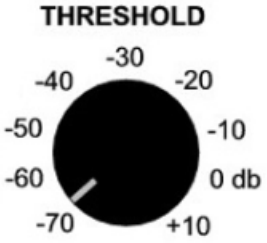
TYPICAL EXPANSION RATIO
with a threshold setting of 0db.



To set up the Decimator for proper operation first determine the reference level of the system that the Decimator will be connected to. Most professional products operate at a +4dbu reference level. Music equipment typically operates at –10dbu. Once the proper reference level is determined, set the reference level switch on both channels accordingly.

SETTING THE DECIMATOR THRESHOLD

Start by setting the Threshold for minimum, full counterclockwise. Turn the Threshold control clockwise until the desired effect of the downward expander is achieved. The expander should start to operate when there are gaps in the audio or as the input signal gets close to the noise floor. **NOTE:** Setting this control to high will cause the expander to start to cut off the input signal to soon.



SPECIFICATIONS

Input Impedance	**500K ohms**
Maximum Input Level	**+20dbu typical**
Maximum Output Level	**+20dbu typical**
Bass Treble Cut Boost Level	**+/- 15db**
Low/Mid parametric frequency range	**60Hz-1kHz**
High/Mid parametric frequency range	**200Hz-6kHz**
Compression Section	**Based on Time Vector Processing adaptive response auto makeup gain**
Decimator Noise Reduction	**Greater than 80db**
Power Requirements	**9V AC 1000ma**
Current Draw	**865mA**
Dimensions	**19" x 6" x 1¾"**

WARRANTY AND SERVICE

The unit, parts and workmanship are fully guaranteed to be free of defects under normal use and service for a period of 3 years from the date of purchase.

Any damage resulting from the misuse or the failure to follow the precautions and instructions will void the warranty.

In the event that the unit needs to be repaired, please return the unit to ISP Technologies directly. Simply repack the unit, send a copy of the original receipt, a note stating the problem, and send it to:

ISP Technologies, LLC
5479 Perry Drive Unit B
Waterford, MI 48329
Attn: Repair Dept.

All shipping charges must be fully prepaid.

ISP will not be responsible for any damages incurred in shipping of any unit. Any claim will need to be settled with the shipping company.

The warranty will be voided if the serial number has been tampered with in any way.

The warranty card must also be filled out and returned in order to activate the warranty.

Should you have any questions for the repair department prior to returning the product please call 1-(248)-673-7790

NOTE: This Product may be covered under one or more of the following patents or patents pending: 7,035,413; 6,944,305; 6,931,134; 6,831,514; 6,091,013

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