micro bpm

input

beat

138.4

micro bpm

Red Sound
the colour of music

-12db   +12db

high

eq

-12db   +12db

low

min   max

level

V2
BPM ENGINE

stereo
/mono

PATENT PENDING

Owners Manual
Issue 4

WARNING!
AVOID USING THIS PRODUCT AT HIGH VOLUME LEVEL
SETTINGS FOR EXTENDED PERIODS OF TIME!

The amplifier section of the MICRO BPM is capable of delivering very high volume levels to the connected headphones which, if sustained over long periods, could cause damage to your hearing. Also, the drivers in the connected headphones may be damaged if high output levels are maintained.

Always use the lowest, most comfortable volume level setting to suit the particular environment. We cannot be responsible for the improper use of this product!

Red Sound
the colour of music

CONTENTS

INTRODUCTION

Thank you for buying the RED Sound MICRO BPM headphone amplifier/BPM counter.

The MICRO BPM was designed to solve two major problems encountered by today's DJ, namely poor headphone monitoring performance from mixing desks and having to rely on guesswork to mix and catalogue tracks. In one convenient unit, the MICRO BPM solves both these problems.

At the heart of the MICRO BPM is Red Sound's acclaimed BPM Analysis Engine (developed through groundbreaking products like the Voyager 1 and FEDERATION BPM FX), which shoulders the responsibility of calculating the tempo of the music. The powerful high quality audio amplifier, including 2 band EQ and stereo/mono switching, takes care of the monitoring.

With straight-forward connections and simple setup, a compact case and three mounting options, the MICRO BPM will integrate perfectly into your live rig or studio setup.

Now you can mix with confidence using the best in audio monitoring and BPM counting facilities all in one little portable box.

Please read the following sections of this manual carefully to fully understand the operation of your new RED Sound MICRO BPM.

FRONT PANEL/CONNECTORS

FRONT PANEL CONTROLS AND CONNECTORS

Here's a quick guide to the controls and connectors on the MICRO BPM.

1 AUDIO INPUT - Connector
Use the input cable (supplied) to connect this socket to the headphone monitor output on your mixing desk.

2 AUDIO INPUT LEVEL - Indicator
Use this bi-colour red/green LED to maintain the ideal input level. See 'Setting the correct Input Level ' on page 3.

3 POWER IN - Connector
Connect the output plug of the AC adaptor supplied with the MICRO BPM to this socket. (or optional Rechargeable Battery Pack)

4 BEAT - Indicator
This LED flashes on each beat to visually indicate the tempo.

5 BPM - Display
The four digit BPM reading from the monitored audio signal will be displayed here.

6 EQUALIZATION - Rotary controls
The centre-click, High (6.5kHz) and Low (100Hz) EQ controls can be used to cut or boost the audio signal whenever adjustment is required.
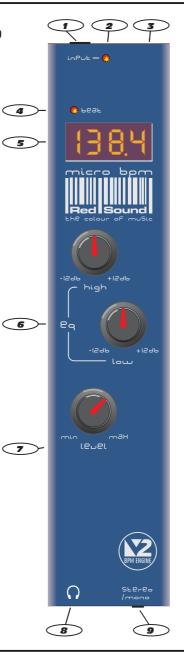
7 LEVEL - Rotary control
This knob controls the output level to the connected headphones.

8 HEADPHONE OUT - Connector
Connect the plug from your headphones to this 6.3mm gold-plated socket.

9 STEREO / MONO - Switch
Use this switch to monitor the audio signal in stereo (up) or mono (down).

input

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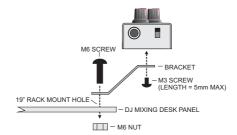
stereo
/mono

MOUNTING THE MICRO BPM

You can choose from three mounting options included with the MICRO BPM.
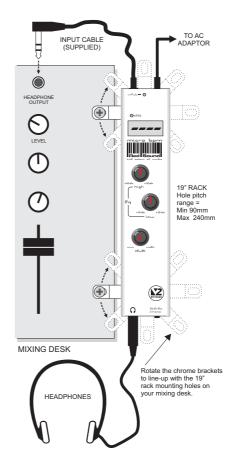
1. **Rubber feet** - Stick one in each corner on the underside panel for free mounting.

2. **Double sided adhesive pads** - Stick one either side of the serial number label on the underside panel. Locate a flat, clean surface on your equipment/rig, peel-off film and press firmly into place for a permanent mounting.

3. **Brackets, for use with 19" rack mount holes on mixing desks** - The MICRO BPM can be conveniently located on either side of a mixing desk for a semi-permanent mounting.

CONNECTING THE MICRO BPM TO YOUR SYSTEM

When you have chosen the best mounting option for your setup, connect the MICRO BPM into your system as follows:

1. Using the input cable supplied, connect the 3.5mm plug end to the MICRO BPM socket marked 'INPUT' on the rear panel.

2. Connect the 6.3mm right-angled plug end of the cable to the headphone monitor output on your mixing desk. (Ensure that the headphone level control on the mixing desk is turned right down at this stage)

3. Connect the output plug of the AC power adaptor to the MICRO BPM's power in socket on the rear panel.

4. Connect the 6.3mm plug from your headphones to the MICRO BPM socket marked 🎧 on the front panel.

M6 SCREW

BRACKET

M3 SCREW
(LENGTH = 5mm MAX)

19" RACK MOUNT HOLE

DJ MIXING DESK PANEL

M6 NUT

INPUT CABLE
(SUPPLIED)

TO AC
ADAPTOR

HEADPHONE
OUTPUT

LEVEL

19" RACK
Hole pitch
range =
Min 90mm
Max 240mm

MIXING DESK

Rotate the chrome brackets
to line-up with the 19"
rack mounting holes on
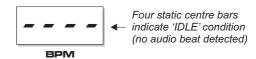your mixing desk.

HEADPHONES

OPERATION

POWERING UP

Each time power is applied to the MICRO BPM the software version fitted to the unit will be shown briefly in the main display, as in the following example:

52.01 ← *Software version = 2.01*
[V2 BPM engine]

BPM

Afterwards, the four centre bars will light to indicate the BPM engine is currently idle.

— — — — ← *Four static centre bars*
indicate 'IDLE' condition
(no audio beat detected)

BPM

SETTING THE CORRECT INPUT LEVEL

The audio input signal should always be set at the optimum level to ensure the best performance from the MICRO BPM's headphone amplifier and BPM engine.

With the MICRO BPM connected to your system as detailed on page 2, set the MICRO BPM's 'EQ' controls to their centre (click) position, the 'LEVEL' control to minimum and the 'STEREO/MONO' switch to the 'STEREO' (up position). Now play an audio track on one of your CD/Vinyl decks and ensure that the corresponding channel on the mixing desk is selected for monitoring.

The MICRO BPM's bi-colour 'INPUT' indicator at the top of the front panel has been designed to show four different input level conditions as follows:

OFF   - No audio signal present
DIM GREEN   - Audio signal present - level too low
BRIGHT GREEN - Audio signal present - **Ideal working level**
RED   - Overload - level too high

For satisfactory operation, this indicator should always be BRIGHT GREEN, occasionally flashing RED.

IMPORTANT NOTE: If the indicator is continuously DIM GREEN, the BPM engine may operate erratically and the audio amplifier's output will be low.
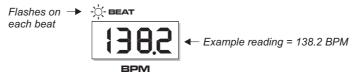
If the indicator is continuously RED, the BPM engine cannot operate correctly and the amplifier's output will be distorted.

To set the correct input level, slowly turn up the monitor level control <u>ON YOUR MIXING DESK</u> until the indicator lights BRIGHT GREEN, occasionally flashing RED. Check and adjust the input level setting for different track volume levels where necessary.

BPM DISPLAY

The main display should now show the BPM reading of the monitored audio and the 'Beat' indicator should flash on each downbeat, as in the following example:

Flashes on → ☼ **BEAT**
each beat

138.2 ← *Example reading = 138.2 BPM*

BPM

The right-hand digit of the BPM display may fluctuate slightly as the BPM engine constantly analyses and updates the reading. Any major shift in tempo (changing the playback speed using a CD/vinyl deck's pitch control) will be tracked and displayed in real-time by the MICRO BPM.

When the input signal level drops to zero (end of track) the BPM display will flash three times and change from:

3 flashes indicates → **138.2**   *to...*   **— — — —**
'BPM lost' mode

BPM   **BPM**

When further beat information is detected the BPM reading will be resumed.

If beat information becomes temporarily unavailable in the monitored audio signal (quiet or complex passages, acapella styles etc.) the BPM reading and flashing Beat indication will be displayed for a period of 10 seconds ('BPM hold' mode). This feature is designed to maintain BPM readings during short breaks in the audio track thus giving a more stable reading. If, after 10 seconds beat information is still unavailable, the display will flash three times and change to 'Idle' mode (four centre bars) as shown above.

HEADPHONE AMPLIFIER

To hear the monitored audio on the connected headphones, slowly turn up the 'LEVEL' control on the MICRO BPM until a comfortable listening level is reached. *AVOID USING HIGH LEVEL SETTINGS FOR LONG PERIODS AS DAMAGE TO HEARING OR HEADPHONES MAY OCCUR.*

The High and Low EQ controls on the MICRO BPM can be used to adjust the monitored sound to your individual requirements. From the centre-click null position, turn the knobs clockwise to boost or anti-clockwise to cut the specified audio frequencies.

When the 'Stereo/Mono' switch is set to 'Mono'(down position) the monitored audio signal will be centralised - i.e. the left and right channel signals will be equal.

NOTE: this product is NOT designed for use with 'split-cue' headphone monitoring systems.

SPECIFICATION

SPECIFICATION

BPM Counter

BPM Range: 90 to 180 BPM
Lock-in time: Typically 2 - 4 sec's (from introduction of readable beat information)
Accuracy: Display = 0.1 BPM   Internal sample rate= 3mS
Displays: 1 x 4 character 7 Segment (LED), Beat display (LED)

Headphone Amplifier

Frequency Response: 20 Hz to 20kHz(+/-0.5dB)
Input level: nominal 500mV (green/red input level LED)
Output level: 2 watts RMS (8 ohms)
High EQ: +/- 12dB @ 6.5kHz
Low EQ: +/- 12dB @ 100Hz
Stereo/Mono: Switchable

Accessories (included)

Input cable: 1 Metre (3.5mm to 6.3mm plug),
Mounting kit: 2 x chrome brackets / 2 x M6 screws / 2 x M6 nuts / 2 x M3 screws,
2 x double-sided adhesive pads,
4 x rubber feet

Connectors

Audio input, Headphone output, AC power adaptor

Power Supply

17vDC, 320mA (RED PSU)

Dimensions/Weight

42(W)x195(D)x22(H)mm, Less than 0.5 Kg

Optional accessory

Rechargeable Battery Pack (BATT-01) Allows the MICRO BPM to be used with club installations or where a power supply may be unavailable. Provides up to 8 hours of mains-free operation. Ask your dealer/distributor for availability.

* Specification and /or appearance subject to change without prior notice due to product improvement.

Patent Pending

www.redsound.com

Red Sound
the colour of music

Bourne House, Cores End Road,
Bourne End, Bucks. SL8 5AR. England

Phone : +44 (0)1628 819191
Fax : +44 (0)1628 819111