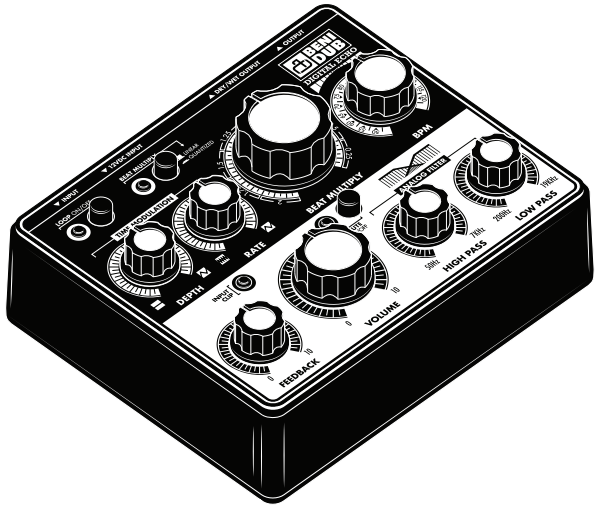
BENIDUB
DIGITAL ECHO



User manual

Designed and manufactured by

BENIDUB
MUSIC EQUIPMENT

Info:
www.benidub.com
orders@benidub.com

Technical Specifications:

Power Supply: *12VDC, center positive, 2.1mm x 5.5mm barrel type connector.*
Current draw: *less than 500mA*
Audio input: *1/4" balanced or unbalanced MONO Jack*
Audio output: *1/4" balanced or unbalanced MONO Jack*
Size: *120x150x60 mm*

Made in Spain

For a correct use of the Benidub Digital Echo:

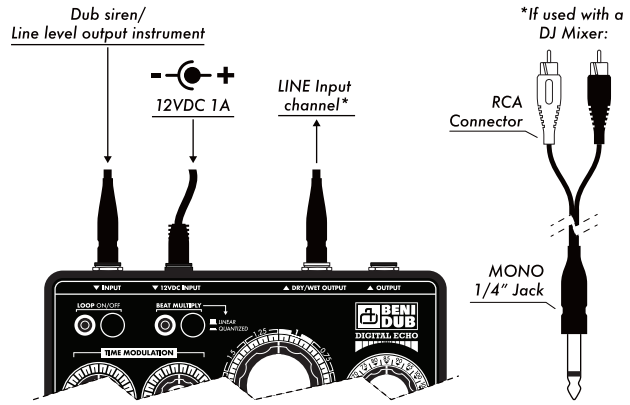
1 - *The Benidub Echo provides a MONO line output, so it needs to be connected to a MONO line input of a mixer or preamp.*

2 - *If used with a DJ mixer, a MONO 1/4" Jack to 2x-RCA cable is needed. NOTE: the 1/4" Jack must be MONO (see picture below). If the cable is STEREO the Digital Echo will only be heard on the left channel of your system.*

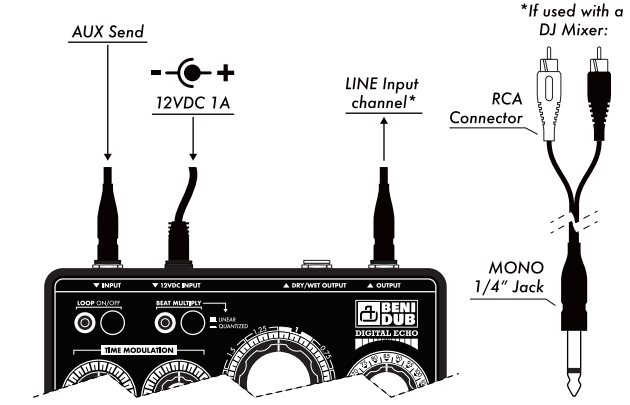
3 - *While testing your unit for the first time, please make sure that the LOOP and MUTE switches are OFF otherwise you won't hear any sound.*

4 - *Only use the provided power supply or one compatible with the specifications.*

DIGITAL ECHO - TYPICAL WIRING - A



DIGITAL ECHO - TYPICAL WIRING - B



Delay/echo FX unit created as musical instrument for live improvisation. DSP audio delay, multiplied, divided and modulated in real time by dedicated controls. The unit also features analog overdrive and filters to shape delay tone and feedback.

DELAY TIME SETTING

This echo unit provides two controls to set the delay time. They can be combined in several different ways:

Technique A

BEAT MULTIPLY set to QUANTIZED
Set the BPM knob according to the song Tempo or half of it for songs faster than 120BPM. Now wherever you set the BEAT knob, it will only produce musical subdivisions, faster or slower but always in synch with the song.

0.25=1/32 **0.50**=1/16
0.75=1/16. **1**=1/8
1.25=1/8+1/32 **1.50**=1/8.
1.75=1/4T **2**=1/4

Technique B

BEAT MULTIPLY set to QUANTIZED
If BPM is not known or if you want different/more creative rhythms than the ones produced with technique one, place the BEAT MULTIPLY knob on any setting you want to start, then find by ear a good sounding delay with the BPM control. Moving the BEAT MULTIPLY knob between its 8 areas will produce just multiples or subdivisions in synch with the patter you have found, creating a new set of 8 nice sounding delay times.

Technique C

BEAT MULTIPLY set to LINEAR
Set the BPM control in the middle position and use the BEAT MULTIPLY knob like any normal delay time control. On the left slower delays, on the right faster, with smooth transitions between different values.

AUDIO INPUT:

1/4" bal. or unbal. MONO Jack

POWER INPUT:

12VDC 1A, center positive, 2.1mm x 5.5mm barrel connector.

DRY/WET AUDIO OUTPUT:

1/4" bal. or unbal. MONO Jack. This outputs the dry signal alongside the echo. The echo amount is determined by the VOLUME regulation.

AUDIO OUTPUT:

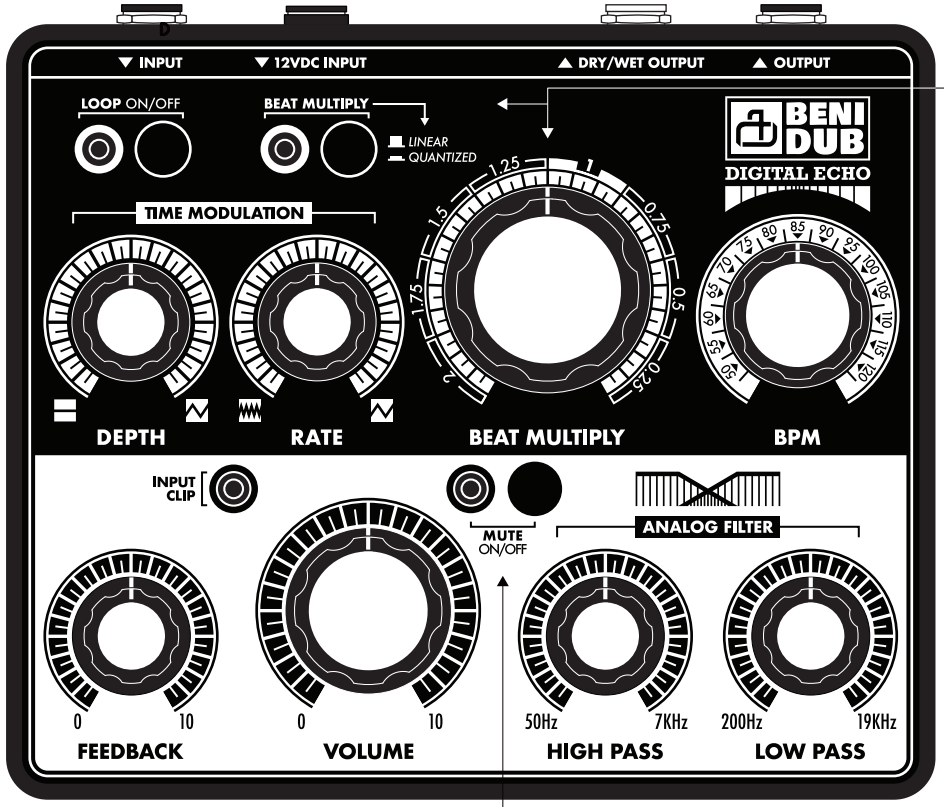
1/4" bal. or unbal. MONO Jack. This outputs just the wet delay signal, for use with a mixing console as a 'send' effect.

LOOP:

When active the unit repeats a loop of the last sampled audio independently from the feedback setting and input signal.

TIME MODULATION:

A Low Frequency Oscillator modulates the delay's sample rate, increasing or slowing down its speed. It electronically shifts up and down the BPM knob.
The modulation waveform is a triangle, modulation DEPTH and RATE are regulated by dedicated knobs.



BEAT MULTIPLY :

Main delay time control. The BEAT MULTIPLY knob moves the reading point backward or forward over the audio sample, producing faster or slower repetitions. When set to LINEAR, it works as a normal delay time control. When set to QUANTIZED, it is divided into 8 equal steps. Musical subdivisions of the delay time can be achieved without the need of setting the knob precisely or trying to remember its original position once changed.

DELAY BPM:

Works as fine delay time adjustment. Instead of milliseconds, Beats Per Minute have been used as time unit.

FEEDBACK:

The delay output signal is sent back to the input to create echo repetitions effect.
Range is from zero (single repetition) to +12db (increasing feedback).

VOLUME/MUTE:

The unit's output volume, and audio master MUTE. More volume also increases feedback, less volume (or MUTE) decreases or cuts the feedback signal.

FILTER SECTION:

The unit includes two analog 12dB/oct sweep frequency filters on the delay output. A High-Pass filter ranging between 50Hz and 7KHz followed by a Low Pass Filter ranging between 200Hz and 19KHz.