

Echo Fix

TAPE ECHO EF-X2



USER MANUAL

# **THANK YOU FOR CHOOSING THE EF-X2 TAPE ECHO**

Congratulations on your purchase of the EF-X2 Tape Echo!

If you have not owned a tape echo unit before, it is strongly recommended that you review this document prior to use.

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# 1 START HERE

For over a decade, the Echo Fix team have serviced and repaired virtually every model of tape echo unit ever brought to market. When it came time to design and release our own, we endeavoured to avoid the faults and issues most commonly observed in these other products. We humbly believe ours to be the best-sounding and most reliable tape echo ever produced.

We have designed this manual to assist in getting the best possible result from your EF-X2. Please note the following and keep them in mind as you get to know your unit:

- The EF-X2 is an electromechanical, analog tape echo device. While every conceivable measure has been taken to limit noise, the echo is produced by a tape loop engaging with multiple read and write heads. In consideration of this, tape hiss and minor noise artefacts will be present, particularly when pushing the preamp and running at slow delay speeds with multiple read heads in use. These technical imperfections are inherent to “the tape echo sound”, and eliminating them would be impractical and defeat the point of building this unit in the first place.
- The EF-X2 has a real spring reverb tank that works alongside the DSP (digital) reverb and chorus. The DSP reverb / chorus is modelled on our favourite examples of these sounds.
- When it comes to maintaining your unit, please use only genuine Echo Fix parts and tape loops. Using anything other than Echo Fix tape loops will void your warranty and could damage your EF-X2.
- We are excited to offer CV control with the unit. Please do not use voltages outside of the 0-5v range. Doing so will void your warranty and may cause damage to the unit.

## 2 UNDERSTANDING THE EF-X2



**A. Direct ON/OFF Switch** - Switches the direct signal off or on. For traditional echo operation (wet + dry signal), set to “ON”. For wet-only, set to “OFF”.

**B. Motor ON/OFF Switch** - Allows you to turn the tape drive motor on or off. This is useful for achieving slow down/tape stop effects, or to increase tape life when using the EF-X2 as a preamp or for reverb effect only.

**C. Sound On Sound ON/OFF Switch** - Activates an additional playback head, positioned at the unit’s longest possible delay time.

**D. Echo ON/OFF Switch** - Bypasses the echo record circuit, allowing you to use the unit as a preamp and reverb effect only. It is also recommended to turn “Echo Volume” (R) all the way down when using the unit in this way.

**E. Guitar/Hi-Z Input** - A dedicated instrument-level input with a vintage FET EP style preamp circuit with 1M $\Omega$  input impedance. Input gain is controlled by (M).

**F. Line Input** - Dedicated mono line-level FET preamp with 1M $\Omega$  input impedance that can be used for guitar, synths or any other line-level instrument. Input gain is controlled by (N).

*Please note that inputs (E) and (F) can be used simultaneously if required. With the use of an ABY pedal (not included) you can switch between both preamp inputs for different tonal options.*

**G. CV Remote Speed** - Allows for control of the unit “speed” function using control voltages, including any TRS expression pedal (100K $\Omega$  impedance recommended). Connecting a CV source to this input will disable the “Speed” control (Q).

**H. CV Remote Feedback** - Allows for control of the unit “feedback” function using control voltages, including an expression pedal (100K $\Omega$  impedance recommended). Connecting a CV source to this input will disable the “Feedback” control (U).

# 2 UNDERSTANDING THE EF-X2



**I. Remote Effect Cancel** - Allows for bypassing of unit functions with an external footswitch. Connect a one-button TS footswitch to bypass the echo only, or a two-button TRS footswitch (latching type) for bypass of the echo (tip) and reverb (ring).

**J. Output** - Connect to an amplifier, audio interface or additional effects processors.

**K. Output Level** - Sets the overall output level of the unit.

**L. Echo Mode** - 7-position selection of the unit's "read" heads. Please consult the following table for a guide to these settings:

- Mode 1 - Head 1 ("short") [56 - 221ms]
- Mode 2 - Head 2 ("medium") [121 - 477 ms]
- Mode 3 - Head 3 ("long") [187 - 800 ms]
- Mode 4 - Head 1 + 2 ("short" + "medium")
- Mode 5 - Head 2 + 3 ("medium" + "long")
- Mode 6 - Head 1 + 3 ("short" + "long")
- Mode 7 - Head 1 + 2 + 3 ("short", "medium" and "long")

The Sound On Sound playback head can be engaged over all the above settings.

**M. Guitar/Hi-Z Volume** - Sets the input gain for (E).

**N. Line Volume** - Sets the input gain for (F).

**O. Reverb Decay** - Controls the digital reverb decay time or the chorus intensity.

**P. Reverb Volume** - Controls the volume of the reverb or chorus.

# 2 UNDERSTANDING THE EF-X2



**Q. Speed** - Adjusts the echo rate, corresponding to the heads selected with control (L). Turn counterclockwise for longer echo times, or clockwise for shorter. Please note: This is controlling the physical motion of a motor and echo times will ramp up or down gradually when adjusted, with the pitch of any repeated sound being raised or lowered accordingly.

**R. Echo Volume** - Adjusts the volume of the echoes mixed into the overall output signal. Turned all the way to maximum, the echo volume is significantly louder than the dry signal.

**S. Bass** - Cuts or boosts the bass frequencies of the overall output. 12 o'clock is "flat".

**T. Treble** - Cuts or boosts the treble frequencies of the overall output. 12 o'clock is "flat".

**U. Feedback** - Adjusts the echo repeat level. Please note: Setting this control past 12 o'clock will likely result in self-oscillation. Additionally, using multi-head echo modes at higher feedback settings will increase the likelihood of self-oscillation.

**V. VU Meter** - Indicates the input signal volume. Keep the signal within the blue range for clean sounds and push into the red for saturation and distortion.

**W. ON/OFF** - Supplies power to the unit.

Additionally, the rear panel of the unit features balanced "In" and "Out" via XLR connectors, for use in a live or studio environment.

# 3 REMOTE INPUTS

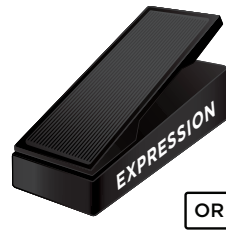
We have designed the EF-X2 to accommodate CV or expression pedal control of the tape speed and feedback functions. The control voltage range is 0 - 5v for CV control. The expression pedal needs to be a TRS output and is recommended to be 100KΩ impedance.

Both the echo and reverb (spring reverb, DSP reverb/chorus) effects can be disabled via a dual TRS latching footswitch.



6.35MM TRS CABLE

**SPEED CONTROL**



OR



CV OUT (0-5v)

TIP	CV Control (to EF-X2)
RING	+5V Supply (from EF-X2)
SLEEVE	Ground

**FEEDBACK CONTROL**



OR



CV OUT (0-5v)

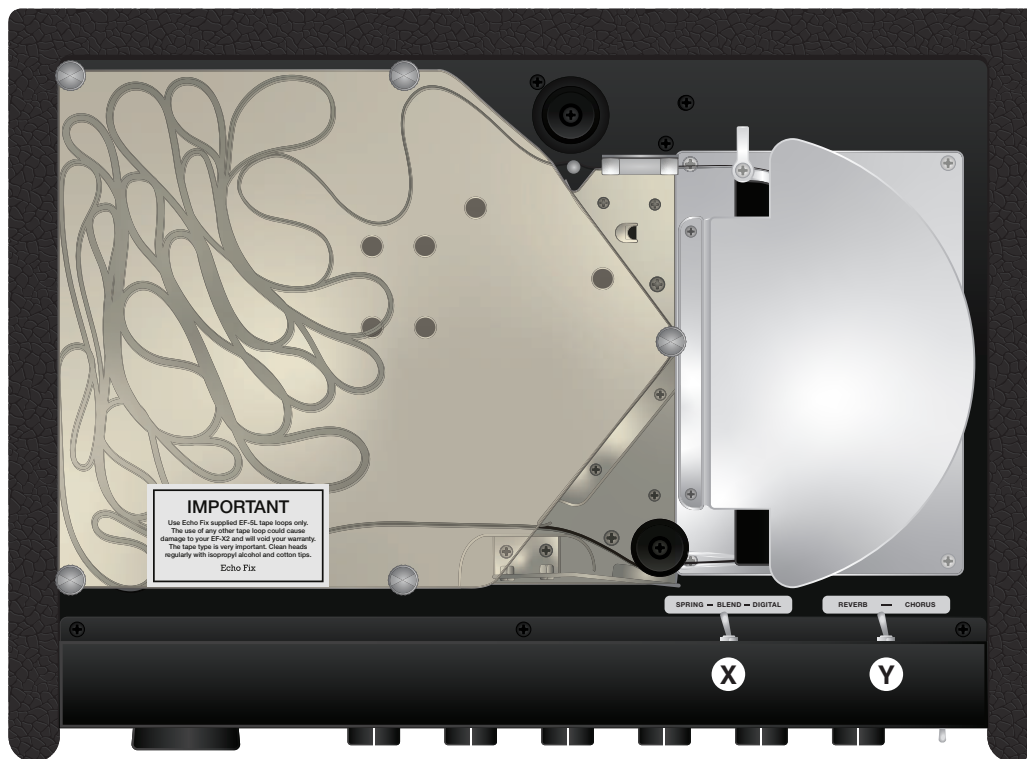
**2 CHANNEL FOOTSWITCH (TRS LATCHING)**



TIP	Echo Mute
RING	Reverb Mute
SLEEVE	Ground



# 4 SPRING REVERB & DSP REVERB/CHORUS



The switch marked (X) selects between spring reverb, digital reverb/chorus or a fixed blend of spring reverb and digital reverb/chorus effects.

The switch marked (Y) selects between digital reverb and digital chorus effect.

(X) Spring + (Y) Reverb = Spring Reverb

(X) Blend + (Y) Reverb = Spring Reverb and Digital Reverb blend

(X) Digital + (Y) Reverb = Digital Reverb

(X) Spring + (Y) Chorus = Spring Reverb

(X) Blend + (Y) Chorus = Spring Reverb and Digital Chorus blend

(X) Digital + (Y) Chorus = Digital Chorus

When (X) is set to "Spring", the effect is Spring Reverb only and the Reverb Decay control (O) has no effect.

To have control over the digital reverb decay time or chorus intensity, (X) must be set to either "Blend" or "Digital".

# 5 UPKEEP AND TROUBLE SHOOTING

If you have questions or concerns, you are welcome to contact us at any time, and we'll do whatever we can to help: [support@echofix.com](mailto:support@echofix.com)

Your EF-X2 has been designed to last - whether in a studio environment or regularly used in a live environment, we've done everything we possibly can to ensure that your unit will be up to the task. On your end, however, there are a few simple measures you can take to ensure reliable and consistent performance.

- Tape echoes rely on the use of tape and parts that are designed for the task. We have been fitting premium parts and tape to other units for years - it hopefully goes without saying, but only use genuine Echo Fix EF-X2 parts for the upkeep of your unit. The fitting of inferior tape or parts will void your warranty, will adversely affect performance, and will likely damage the unit.
- Regularly clean the heads on your unit with isopropyl alcohol and cotton tips (cotton tips supplied). Please refer to our "how-to" guide on YouTube if you aren't sure how to do this.

- If you are not getting expected results from the unit, please ensure that switches (A), (B), (C) and (D) are positioned as follows: Direct ON, Motor ON, S on S OFF, Echo ON. This may seem very simple, but it's surprisingly easy to miss - even for those of us who've designed the unit. Similarly, make sure that the corresponding input volume control for your desired input (M) or (N) is set to 12 o'clock, the Echo Volume (R) is turned up, and the Feedback Control (U) is set around 11 o'clock.

- Your unit ships with a universal-voltage switch-mode power supply. This is safe to connect to any worldwide mains voltage supply, using the correct IEC-C7 ("Figure 8") cable for your region. If you should need to replace this for any reason, please ensure that you use a high-quality, low-noise 24V 2Amp supply with a 2.1mm centre positive connector. Of course, you can always contact us for a replacement supply as well.

- If you experience excessive wow and flutter (pitch instability), this usually indicates it is time to replace the tape loop in your EF-X2. A tape loop can last anywhere from 50 - 300 hours, depending on humidity and other atmospheric conditions. We have discounted tape loops available at [www.echofix.com](http://www.echofix.com) for EF-X2 owners.

# CONNECT

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