

Echo Fix

TAPE ECHO EF-X2 MKII



USER MANUAL

THANK YOU FOR CHOOSING THE EF-X2 MKII TAPE ECHO

Congratulations on your purchase of the EF-X2 MKII 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 MKII. Please note the following and keep them in mind as you get to know your unit:

- The EF-X2 MKII 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.

Important: To minimise this noise, it is best to run enough signal into the EF-X2 MKII so that the VU meter is constantly hitting on or over the “0” and illuminating the red mode light with the loudest audio level peaks. This will provide the best signal to noise ratio and give you the best echo sound quality.

- The EF-X2 MKII 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 MKII.
- 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 MKII FRONT PANEL



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 MKII as a preamp or for reverb/chorus 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/chorus effect only. It is also recommended to turn "Echo Volume" (R) all the way down when using the unit in this way.

E. DSP Reverb/Chorus Switch - Toggles between digital reverb or digital chorus.

F. Spring/DSP Blend Switch - Selects between spring reverb, digital reverb/chorus, or a fixed blend of spring reverb and digital reverb/chorus effects (determined by the DSP Reverb/Chorus switch (E)).

2 UNDERSTANDING THE EF-X2 MKII FRONT PANEL



G. Guitar/Hi-Z Input - A dedicated instrument-level input with a vintage FET EP style preamp circuit with 1M Ω input impedance. Input gain is controlled by (O).

H. Line Input - Dedicated mono line-level FET preamp with 1M Ω input impedance that can be used for guitar, synths or any other line-level instrument. Input gain is controlled by (P).

Please note that inputs (G) and (H) 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. Front input controls do not affect rear balanced XLR input.

I. CV Remote Speed - Allows for control of the unit “speed” function using control voltages. See page 9 for more details.

J. CV Remote Feedback - Allows for control of the unit “feedback” function using control voltages. See page 9 for more details.

K. 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/chorus (ring).

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

M. Output Level - Sets the output level of the front output Jack (L). Note this does not set the output level of the XLR output at the rear of the unit, this is fixed at high output.

N. 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.

O. Guitar/Hi-Z Volume - Sets the input gain for (G).

P. Line Volume - Sets the input gain for (H).

Q. Reverb Decay - Controls the digital reverb decay time or the chorus depth. When (F) is set to Spring Reverb, these changes cannot be heard.

R. Reverb Volume - Controls the volume of the spring reverb, DSP, or blend, depending on the settings of (E) and (F).

S. Speed - Adjusts the echo rate, corresponding to the heads selected with control (N). 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.

T. 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.

U. ON/OFF - Supplies power to the unit.

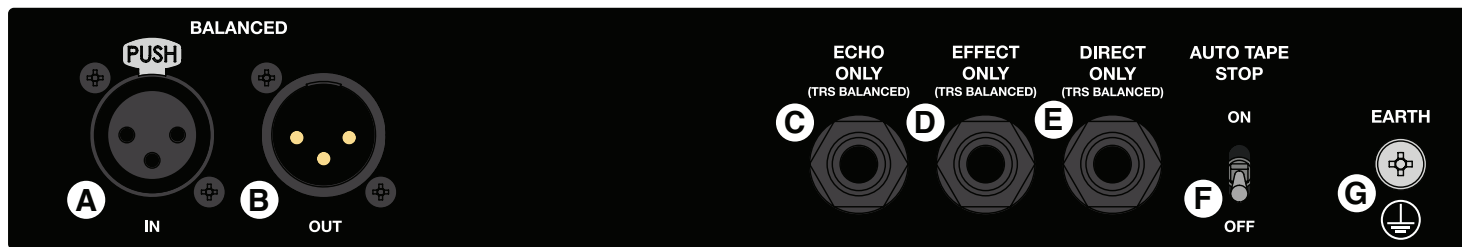
V. VU Meter - Indicates the input signal volume. Keep the signal within the blue range for clean sounds and push into the red for saturation and distortion.

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

X. Treble - Cuts or boosts the treble frequencies of the overall output. 12 o'clock is "flat".

Y. Feedback - Adjusts the echo repeat level.
Please note: Setting this control past 3 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.

3 UNDERSTANDING THE EF-X2 MKII REAR PANEL



A. XLR Balanced Input - Fixed line level input. This input can be used in addition to the input on the front. The Guitar/Hi-Z and Line Volume knobs on the front panel do not affect this level.

Please note: this is NOT a microphone level input.

B. XLR Balanced Output - Fixed line level output.

Please note: The signal levels for the rear

XLR I/O is not affected by the front panel volume knobs or output level switch (M, O and P). Levels can be trimmed via a mixer or DAW.

C. Echo Only - Provides access to the echo only signal without direct signal or additional effects (Spring reverb and DSP). Echo mode and feedback settings are determined by the front panel controls.

D. Effect Only - Provides access to the Spring reverb and DSP. The output of this jack is determined by the front panel controls. Please note: When using chorus, only the wet chorus signal (vibrato) will be heard.

E. Direct Only - Provides access to a duplicate direct signal after the chosen input preamp (Guitar/Hi-Z or Line).

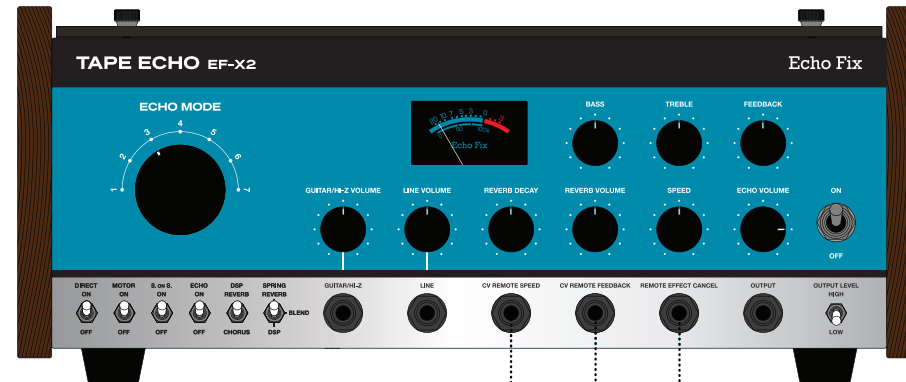
F. Auto Tape Stop - If set to ON, the motor and roller arm will disengage after 4-5mins of not receiving signal. This increases tape life and reduces wear on the motor and tape heads. You can disable this feature by switching it to OFF.

G. Earth Point - For optional alternative grounding.

4 REMOTE INPUTS

We have designed the EF-X2 MKII 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-X3R)
RING	+5V Supply (from EF-X3R)
SLEEVE	Ground

FEEDBACK CONTROL



OR



CV OUT (0-5v)

2 CHANNEL FOOTSWITCH (TRS LATCHING)



TIP	Echo Mute
RING	Reverb/Chorus Mute
SLEEVE	Ground

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

Your EF-X2 MKII 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 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 (O) or (P) is set to 12 o'clock, the Echo Volume (T) is turned up, and the Feedback Control (Y) 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 your power supply is damaged or lost, replacement power supplies are available at www.echofix.com.
- If you experience excessive wow and flutter (pitch instability), this usually indicates it is time to replace the tape loop in your EF-X2 MKII. 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 for EF-X2 MKII owners.
- Your EF-X2 MKII is covered by a limited warranty which covers manufacturing defects for the first 2 years after purchase. This warranty does not cover general wear or consumables (including tape, felt, rollers and bearings). Any damage caused by the use of non-Echo Fix branded parts (including tape and power supply) will void your warranty.

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