

*Suhr*®

**Jack Rabbit™**

USER GUIDE



Thank you for purchasing the **Suhr Jack Rabbit™** Tremolo Pedal. Please take the time to read this manual to get the most out of your pedal. The more you familiarize yourself with the features of this pedal, the more you will enjoy its benefits and maximize its potential.

## OVERVIEW

**Jack Rabbit** is a high quality analog pedal, that delivers a wide variety of tremolo effects - from warm wobble to whacked out. It features simple control over tempo by incorporating both tap, and strum tempo modes. It's modulation rate spans from 1Hz to 20Hz and utilizes a tempo subdivision switch. The Jack Rabbit Tremolo is housed in a sturdy, aluminum enclosure for maximum protection from abuse. It can be remote controlled via the FX Link jack.

The Jack Rabbit Tremolo is True Bypass and can be powered from 9-18Vdc, drawing low current for extended battery life. It is protected from both over voltage and reverse voltage.

## TEMPO SUBDIVISION SWITCH

Jack Rabbit features quarter note, eighth note, and quarter note triplet subdivisions.

## CONTROLS

Jack Rabbit features an easy to tweak layout which includes Rate, Level, Waveform, and Depth controls.

**Rate:** Controls the speed of the tremolo effect, from 1Hz to 20Hz.

**Level:** Controls the output level of the pedal, from +0dB to +14dB.

*(Note: in normal mode with the Depth knob set to zero, Jack Rabbit becomes a boost pedal. In bypass mode boost is off.)*

**Depth:** Controls the depth of the tremolo effect.

**Waveform:** Selects the modulation waveform which includes Sine, Square, Triangle, Reverse Ramp, and Ramp.



## OPERATION

Install a 9V battery in the unit (see below) or plug in a suitable 9Vdc, center negative power supply. Plug your guitar into the input jack and connect your amp to the output jack. **(Note: as in virtually all pedals, connecting a cable to the input jack will also power up the pedal.)** If using the internal battery, remember to unplug your cable from the input jack when you are done playing in order to insure a long battery life. Tap the footswitch to engage the Jack Rabbit. The LED will flash at the current tempo.

### Tempo Modes

To activate either Tap Tempo or Strum Tempo mode, press and hold the footswitch for 2 seconds. The LED will change color to indicate the tempo mode. During Tempo mode, the rate control will not affect the modulation rate. Rather it can be used to change the Tempo mode to/from Tap Tempo and Strum Tempo. To switch the Tempo mode, press and hold the footswitch while turning the Rate control. Turning clockwise will activate Strum Tempo, whereas turning counter clockwise will activate Tap Tempo. The Subdivision switch is active in either tempo mode. To return to normal mode, press and hold the footswitch for 2 seconds. When returning to normal mode, the Rate control will be active again, allowing the user to override the Tap or Strum tempo setting.

### Tap Tempo Mode

To set the modulation rate, tap the footswitch three times to mark the beginning and end of the modulation rate.

The first footswitch press will turn off the LED. Should only one press be detected within the minimum 1 second period, the LED will begin to flash at the current rate, indicating that a new sequence is ready. The rate will only be updated once the second switch press is detected within the 1 second period.

### Strum Tempo Mode

Strum tempo works the same as Tap tempo, except that, instead of using your foot, you simply strum the guitar. Ensure that there is sufficient level from your guitar in order for the signal detector to work properly. The same requirements must be met for Strum tempo: three strums must be detected to mark the beginning and end of the modulation rate.



### Boost

The Jack Rabbit can be used as a boost pedal simply by setting the Depth control fully counter clockwise. Set the desired boost with the Level control. Activate the boost by turning the pedal on.



- Rate:** Set the Rate control for the desired modulation rate from 1Hz to 20Hz.
- Depth:** Set the Depth control from 0% to 100% for the desired amount of the effect.
- Waveform:** Select a modulation waveform - Square Wave, Sine Wave, Triangle Wave, Reverse Ramp, or Ramp.
- Level:** Set the desired output level.
- Subdivision:** Set the 3-position switch to subdivide the tempo into quarter notes, eighth notes, or quarter note triplets.
- FX Link:** If an external cable is plugged in, the pedal will power up into the state dictated by the FX Link jack. **(Note: If external control is desired, the switch MUST be set to the center position and the pedal MUST be set to true bypass switching (see below). To have the effect engaged at power up, set the slide switch toward the Power jack. To have the effect off at power up, set the slide switch toward the FX Link jack.)**
- True Bypass:** True bypass can be defeated, allowing the pedal to be used as a buffer by switching the internal True Bypass switch. Remove the cover and set the switch located between the 1/4" jacks. Note the nomenclature printed on the circuit board. True Bypass (**TBYP**) is toward the input jack, whereas Buffered (**BUF**) mode is toward the output jack. True bypass switching is required when using FX Link.
- LED:** In normal operating mode, the LED color is green. When Tap Tempo is selected, the LED color will be orange. In Strum Tempo mode, the LED color will be red.



FX Link Switch Position

## **EXCLUSIVE FEATURES:**

### **True Bypass:**

True Bypass via a relay.

### **FX Link:**

The FX Link can be utilized to remotely control the pedal. Shorting between the shield and the tip will activate the pedal. Opening the connection will turn off the pedal. The shield to ring connection is used to sense an external tap switch.

**Right:** Jack Rabbit will power up in the **ON** state.

**Center:** Jack Rabbit can be switched remotely via the FX Link jack. In this position Jack Rabbit's state will be dictated by the status of foot switch connected to the jack. If the FX Link jack is not utilized, Jack Rabbit will power up in the **OFF** state. *Please note: Jack Rabbit must be set to true bypass switching when using external control.*

**Left:** Jack Rabbit will power up in the **OFF** state

### **Battery Monitor:**

Upon powering up the pedal, the battery voltage is measured. If the voltage is at a low voltage (4.5V), the LED will flash 3 times to alert the user. Normal operation will then resume. Should the battery fail completely (<4V), the Jack Rabbit Tremolo will switch to true bypass mode and the LED will begin to flash. This will ensure that the signal continues uninterrupted and undistorted. Should the LED flash become too annoying, press the foot switch to turn it off. It's time to replace the battery.

## SAMPLE SETTINGS

**Vintage Tube Tremolo:** Vintage-style tremolo inspired by the best tube tremolo circuits of the 1960's



**Stutter:** An on/off tremolo that ranges from slow choppy stutter to helicopter whirl



**Backwards:** Psychedelic swells give your playing a reverse feel



## **SPECIFICATIONS:**

Input Impedance:	!	!	!	1M ohm
Output Impedance:	!	!	!	600 ohm
Power Connector:	!	!	!	9Vdc, center negative, 2.1mm x 5.5mm
Operating Voltage:	!	!	!	5V to 18V (nominal 9V)
Maximum Voltage:	!	!	!	20Vdc
Reverse Battery Protection:	!	!	!	yes
Over Voltage Protection:	!	!	!	yes
Current Consumption:	!!	!	!	< 20mA
Estimated Battery Life:	!	!	!	25 – 50 hours continuous use
Dimensions:	!!	!	!	2.50" Width x 4.50" Depth x 1.25" Height
Weight:	!!	!	!	0.75 pound
FxLink Connector:	!	!	!	1/8" stereo
FxLink max Voltage:	!	!	!	3.3Vdc
Shield → Tip:	!	!	!	Activate on/off
Shield → Ring:	!	!	!	External Tap
ROHS Compliant:	!	!	!	Yes
Agency Approvals:	!	!	!	N/A

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## **WARRANTY FOR SUHR AMPLIFIERS AND ELECTRONIC PRODUCTS:**

JST warrants for lifetime from date of purchase by the initial retail purchaser that this product shall be free from defects in workmanship. Electronic components such as capacitors, resistors, filters, transformers, jacks, and pots are covered for 5 years. Any parts determined defective by JST within the five (5) year term shall be repaired or replaced by JST without charge for parts and labor provided the unit is returned, transportation costs prepaid, to JS Technologies, Inc., 601 Crane Street, Unit A, Lake Elsinore, CA 92530, or to such facility authorized by JST. JST will pay shipping costs to return the unit to its owner. Defects in workmanship will be determined by JST for limited lifetime coverage.

This warranty does not cover damage caused by accident, misuse, abuse, neglect, unauthorized or improperly performed repairs, alterations, and/or wear and tear occasioned by use of the product, and does not include any expense for inconvenience or loss of use while the product is being repaired or replaced. JST expressly disclaims any liability for consequential damaged arising from the sale, use, or inability to use the product. Any warranty implied by law, including any warranty of merchantability or fitness, is expressly limited to the one (5) year warranty term for the parts on our amplifiers and electronic products. The foregoing statements of warranty are exclusive and in lieu of all other remedies. Workmanship lifetime warranty is limited strictly to the original retailer purchaser of the instrument registered with JST within 10 days of purchase from an authorized JST dealer or distributor. JST will pay shipping costs to return the unit to its owner within the mainland U.S.

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