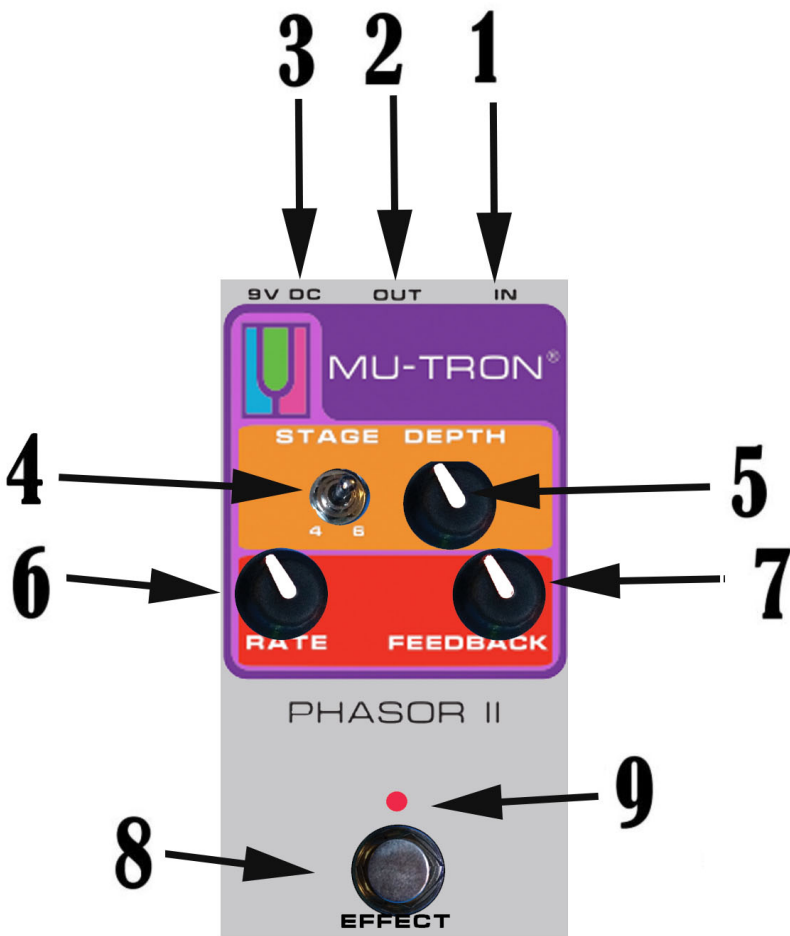


# PHASOR II

## Quick Start Guide



1. **IN:** A standard 1/4"(TS) input jack

2. **OUT:** A standard 1/4"(TS) output jack sending a mono output signal to whatever comes next in your signal chain

3. **POWER:** The PHASOR II runs on a 9V DC power supply center negative. The current draw of the PHASOR II is 40mA.

4 **STAGE:** Determines whether all 6 stages of phasing are used or only 4 stages.

- 6 stage phasing will be more lush and complex.

- 4 stage phasing is more subtle and may be better suited for an over-driven or distorted signal.

The FEEDBACK knob is active for 4 and 6 stage phasing. RATE and DEPTH settings are common to both 4 stage and 6 stage phasing.

5. **DEPTH:** Continuously-adjustable control that determines the width of the frequency range swept by the modulation source. The greater the depth, the greater the frequency range that is swept, and the more noticeable the phasing effect.

6. **RATE:** Continuously-adjustable control that determines the rate at which LFO oscillates; adjustable from approximately 1 cycle per 10 seconds to 18 cycles per second.

7. **FEEDBACK:** Continuously-adjustable control that, when turned up from the minimum setting clockwise, progressively adds more feedback to the phased audio signal. More feedback means more of a noticeable phasing effect and less feedback means a more subtle phasing sound.

8. **EFFECT FOOTSWITCH:** Determines whether the PHASOR II effect is engaged or bypassed.

9. **EFFECT LED:** When the LED is OFF, the effect is bypassed. When the LED is ON, the effect is engaged.

*For more information on the PHASOR II please visit [mu-tron.com](http://mu-tron.com)*



Congratulations on your purchase of the Mu-Tron PHASOR II. The PHASOR II follows the original Mu-Tron PHASOR II in providing true state-of-the-art performance in a compact and rugged package for the working musician. The Mu-Tron PHASOR II uses Mu-Tron's proprietary power supply and Opto-Mod technology which gives the PHASOR II unequalled performance in terms of dynamic range, freedom from overload distortion, low noise, wide sweep range, intensity and range of effect. In addition, the Mu-Tron PHASOR II has three, continuously-variable controls for Rate, Depth, and Feedback to give the musician complete, precise control over the wide range of effects possible. The bonus features of the PHASOR II which are not found in the original the ability to produce 4 stage phasing in addition to 6 stage phasing and true byp:

## Operating Instructions:

Connect the power cord of the Mu-Tron PHASOR II to a source of 9 volt DC power so that the LED indicator lights up. Connect the output of your instrument (or the output of another sound modifier, such as a fuzz-tc or a MICRO-TRON IV) to the "IN" on the back of the PHASOR II. Connect the "OUT" of the PHASOR II to the input of your amplifier or any other signal processors (such as an equalizer or echo).

Start with the following setting for a conventional phasor sound:

"Normal" Phasing: Rate: 1 to 5 Depth: 8 Feedback: 0

Then gradually turn up the Feedback control and adjust the Rate and Depth controls. Experiment with various settings of the Rate, Depth, and Feedback controls.

Remember these hints:

- Feedback is most effective at slower sweep rates. Feedback is only active in 6 stage mode.
- As the Rate is increased, the Depth should usually be decreased to prevent the effect from sounding choppy.
- If you begin to hear distortion on certain notes on the Phasor sweeps past, turn the Feedback down slightly.

## What does the Mu-Tron PHASOR II do? How does it work?

Every musical signal consists of a number of different spectral components known as harmonics or overtones. Mu-Tron PHASOR II uses a six-stage variable phase-delay circuit to generate a phase-delayed signal. The phase-delayed signal is electronically re-combined with non-delayed signal producing a series of cancellations and reinforcements in the overall frequency response, similar to a so called comb filter. As the amount of phase delay is varied, the cancellations move up and down the audio spectrum, subtly altering the harmonic structure of the original signal and thus producing the swirling, "spacey" sound known as phasing. By adding electronic feedback to the phase-delay circuit, strong, sharp reinforcements are created in-between the cancellations. These strengthened reinforcements heighten the contrast between cancellation and reinforcement, and serve to emphasize the sweeping effect.

## SAFETY INFORMATION

FOR YOUR PROTECTION, PLEASE READ THESE SAFETY INSTRUCTIONS COMPLETELY BEFORE OPERATING THE PRODUCT AND KEEP THIS MANUAL FOR FUTURE REFERENCE.

CAREFULLY OBSERVE ALL WARNINGS, PRECAUTIONS AND INSTRUCTIONS ON THE PRODUCT AND DESCRIBED IN THE OPERATING INSTRUCTIONS SUPPLIED WITH THE PRODUCT.

POWER SOURCE - CONNECT THE PRODUCT TO A POWER SUPPLY ONLY OF THE TYPE DESCRIBED IN THE OPERATING INSTRUCTIONS OR AS MARKED ON THE PRODUCT.

POWER-CORD PROTECTION - ROUTE THE POWER CORD SO THAT IT IS NOT LIKELY TO BE WALKED ON OR PINCHED BY HAVING OBJECTS PLACED ON IT, PAYING PARTICULAR ATTENTION TO THE PLUGS, RECEPTACLES, AND THE POINT WHERE THE CORD EXITS FROM THE PRODUCT.

WHEN NOT IN USE - UNPLUG THE POWER ADAPTER CORD OF THE PRODUCT FROM THE OUTLET WHEN LEFT UNUSED FOR A LONG PERIOD OF TIME. TO DISCONNECT THE CORD, PULL IT OUT BY GRASPING THE POWER ADAPTER. NEVER PULL THE POWER ADAPTER PLUG OUT BY THE CORD.

AC RECEPTACLE - CHECK TO MAKE SURE THAT THE AC RECEPTACLE HOLDS THE POWER ADAPTER PLUG FIRMLY AND SECURELY. IF THE POWER ADAPTER IS LOOSE, CONTACT YOUR ELECTRICIAN TO REPLACE THE DEFECTIVE AND UNSAFE AC CONNECTION.

FOREIGN OBJECTS - BE CAREFUL THAT FOREIGN OBJECTS AND LIQUIDS DO NOT ENTER THE ENCLOSURE THROUGH OPENINGS.

CLEANING - UNPLUG THIS PRODUCT FROM THE WALL OUTLET BEFORE CLEANING. DO NOT USE LIQUID CLEANERS OR AEROSOL CLEANERS. USE A DAMP CLOTH FOR CLEANING.

### WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE

ATTENTION: RISK OF SHOCK. DO NOT OPEN.



THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.



THE EXCLAMATION POINT, WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.



**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

## SERVICE

UNPLUG THE PRODUCT FROM THE WALL OUTLET AND CONSULT QUALIFIED SERVICE PERSONNEL WHEN:

- THE POWER CORD OR THE PLUG HAS BEEN DAMAGED.
- A SOLID OBJECT OR LIQUID HAS FALLEN INTO THE ENCLOSURE.
- THE PRODUCT HAS BEEN EXPOSED TO RAIN OR MOISTURE.
- THE PRODUCT DOES NOT APPEAR TO OPERATE NORMALLY OR EXHIBITS A MARKED CHANGE IN PERFORMANCE.
- THE PRODUCT HAS BEEN DROPPED, OR THE ENCLOSURE DAMAGED.

DO NOT ATTEMPT TO SERVICE THE PRODUCT BEYOND THAT DESCRIBED IN THE OPERATING INSTRUCTIONS. FOR ALL OTHER SERVICING, REFER TO QUALIFIED SERVICE PERSONNEL ONLY.

## WARRANTY INFORMATION

MU-TRON OFFERS A ONE-YEAR LIMITED WARRANTY ON ALL OF OUR PRODUCTS.

IN THE UNLIKELY EVENT OF A MALFUNCTION DUE TO COMPONENT FAILURE OR DEFECTIVE WORKMANSHIP, CONTACT US AT MU-TRON.COM FOR RETURN AUTHORIZATION. WE WILL QUICKLY RESPOND WITH ASSISTANCE AND WILL THEN REPAIR OR REPLACE YOUR PRODUCT AND SEND IT BACK.

PLEASE NOTE THAT WE CANNOT REPLACE A PRODUCT UNTIL WE HAVE RECEIVED IT HERE AT THE FACTORY.

USER-GENERATED MALFUNCTIONS DUE TO DROPPING, INTENTIONALLY BREAKING, ATTEMPTING TO REPAIR DURING THE WARRANTY, OR OPENING THE PRODUCT WILL NOT BE COVERED BY THE WARRANTY. YOU MAY SEND THE UNIT TO US AND WE WILL GIVE YOU AN ESTIMATE REPAIR CHARGE, AND UPON YOUR AUTHORIZATION WE WILL REPAIR AND RE-CALIBRATE THE PRODUCT.

## LIMIT OF LIABILITY REGARDING THE PRODUCT AND ITS POWER SUPPLY

MU-TRON ASSUMES NO RESPONSIBILITY FOR DAMAGE TO THE PRODUCTS, OTHER EQUIPMENT THEY MIGHT CONNECT TO BY ANY MEANS, OR ANY OTHER PROPERTY DAMAGE, INJURY OR DEATH RESULTING FROM IT'S USE OR MISUSE.

IT IS POSSIBLE THAT CONNECTING THE TRANSFORMER TO AN INCORRECT VOLTAGE MAY RESULT IN INJURY OR DEATH TO ANYONE OPERATING THE EQUIPMENT.

USE OF ANY OTHER POWER ADAPTER NOT SUPPLIED BY MU-TRON IS NOT RECOMMENDED.