



LE PRISM

CICOGNANI SRLS
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INFORMATIONS

LE PRISM is an Italian echo born to celebrate our 30th anniversary thanks to the precious advice received from Roger Waters tour artists Jon Carin and Jonathan Wilson combined with Giampaolo Noto. They were performed many tests, analyzed the direct and recording signals. We have checked the average delay time and synchronized on the subject of a real evolution of the product.

With this new product we wanted to tell the history and sounds of the legendary old Italian Echo. Our experience of many years of work providing technical assistance to the "much loved vintage units", has allowed us to acquire a unique background. **LE PRISM** is equipped with most complete functions, the best musical carpets and ease of use in compact dimensions.

LE PRISM is a "creative" machine designed for the recording studio and live performances that integrates the history of analog sounds of those old models of "Italian Echo" ranging from Model 1 up to PE603 stereo unit. Offers 4 delay times + 4 selectable feedbacks, summable and adjustable as desired. The 4 delay times are synchronized exactly like the old vintage units with delays of: 78 - 156 - 234 - 312mS.

DESIGNED AND HANDBUILT IN ITALY

DETAILS

The **SELECTOR** allow you to choose the Echo mode:

- ECHO: Classic 60's "slapback echo". One single repeat from the selected head (no feedback available);
- REP: Normal echo mode with selectable heads in feedback combinations;
- SWELL: The typical old Italian reverb effect made with the use of all the heads simultaneously in feedback combinations.

LENGTH OF SWELL and **BASS/TREBLE**: Use the feedback control to create the tridimensional carpet of sound. The BASS/TREBLE control is strictly connected to the feedback and its task is to change the tonality of the oscillations. With this command you can repeat the most brilliant or darkest notes to infinity. The BASS/TREBLE is assigned only to repetitions.

MAGIC OF AGE: This simulates the mechanical aging of the glorious old Italian Echo. Is a particular modulation that acts on the echo delay. This control creates a unique effect that can be adjusted to your personal taste.

VOLUME ECHO: Is the parallel mix of the effect. It can be adjusted from 0% to 50% of the 50% dry signal. This analog mixer has been completely redesigned to keep pure performance in all conditions of use (the Volume Echo doesn't work in the "wet-out" socket).

VOLUME STEREO: The volume control has been designed with double "L-PAD" attenuation in order to reduce the stereo output level while maintaining signal linearity. The six positions offer attenuations from 0db to -12db up to the off position. The sixth 0db position guarantees the same level of the stereo and mono output.

VARISPEED

Through the "VARISPEED" we can increase the delay times up to 700mS, maintaining the "heads" perfectly synchronized with limited signal distortions. This control has been evolved to select the delay times of the most historic Italian echoes including MODEL1, T7E, PE603, leaving a large adjustment space that allows you to be able to achieve the maximum delay characteristics of this unit. This major flexibility, it allows us to be able to use those fantastic sounds of the past even today satisfying even those requests of the ever more demanding musicians and recording studios.

The 4 feedbacks (BACK) come from the delay times of the 4 single heads and thanks to the various combinations it's possible to obtain better psychedelic sounds and different types of musical carpets.

HEADS

The 4 push/pull button switches have the task of choosing the heads and their combinations. The combinations are four to the power of four.

Example in Rep. mode: If you select the 2+1 push switch, re-call together the fourth and third heads, it will mean the 4th Head considered as an 8th note, and 3rd head is equal to a dotted 8th. If you use the "Varispeed" you can keep the synchronism by increasing the delay time over 100%. You can also sync the unit to the delay times of the more popular "old Italian Echo" models.

BACK

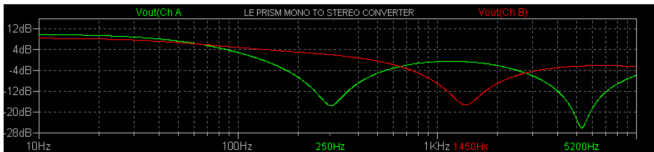
The 4 push/pull button switches select the corresponding head feedback. The feedback normally involves joining the delay time with the same feedback time.

Example: head 4 On + Back 4 On (300mS delay time with 300mS feedback time added). If we want to customize our sound we can also choose another or more feedback delay times (multiple or submultiple of the chosen time).

MONO TO STEREO ANALOG CONV.

The notch filter changes the phase of the input signal for almost 180° between its poles. Along with the phase changes, the amplitude of the signal in the ChA channel changes in opposition to the amplitude of the ChB channel. When the signal is louder in the one channel, then it is weaker in the other channel. As a result, we can hear the simul-stereo sound at the output.

This happens via the input sensitivity thus creating the stereophonic effect with the dynamics at the touch of your hand.



A BIT OF ECHO HISTORY

The Italian Echo Units were produced by the famous Italian company in Milan since the 60s. They were soon appreciated all over the world and used by many artists including: Pink Floyd, Led Zeppelin, The Shadows, etc. In several years of my career, I have had the opportunity and the pleasure of repairing, and restoring many, so that I can understand the product well. The operating principle is based on the "filophone" magnetic wire recorder. This aluminum drum with some coils of magnetic wire wound around it and are positioned around it: demagnetizer, recording head, play heads. The historic echo models worked with 4 play heads; some models from the 70s were then expanded and equipped up to 6. This process required constant maintenance of cleaning and lubrication of the touch parts. A technical feature that saw assigning the longest time was the maximum space between the recording head and the most distant play in about 300ms.

Average delay times after many measurements:

First Tap = 74mS

Second tap = 148mS

Third tap = 222 mS

Fourth tap = 296mS

It should also be kept in mind that the motor speed in a European main power will be about 20% compared to that America.

COMBINATIONS PLAYBACK HEADS

The minimum values shown in the table are with "VARISPEED" rotated in the MOD1 position, while the maximum values are +25%. The minimum values are with a 1% THD tolerance, while the maximum ones are 5%. However the synchronism of the heads remains very precise. The harmonic distortion ranges from 1% on the delay time 348mS to 5% in the maximum condition of 700mS.

The heads are made with 4x PT2399. These well-used components offer great performance and above all can be found anywhere in the world. The different filters of each head are calibrated to recreate the same sound conditions as the old Italian echo.

The feedback generated by **LE PRISM** returns in the style of the award-winning LTD model in order to favor those beautiful sound carpets often used in the past to compose the most beautiful arpeggios and psychedelic sounds. The possibility of recalling the different "BACK" increases the choice of sound carpets available.

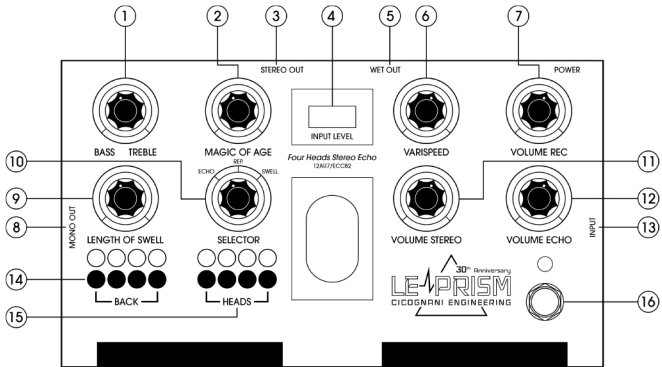
HEAD 1	HEAD 2	HEAD 3	HEAD 4
78mS	156mS	234mS	312mS
VARISPEED CONTROL @ MAX LEVEL			
171mS	343mS	514mS	686mS

SIMUL STEREO

We have introduced a new concept of STEREO inspired by the past; It's designed with a new Mono to Stereo Analog Converter circuit in full 60s/70s style. **LE PRISM** is a mono unit which simulate not only the stereophony but make it "alive" thanks to the sensitivity of the "touch of your hand" or in combination with other devices following the dynamics of the signal. The two output channels, thanks to this genius, come affected by an opposing phase shift of the signal which generetes a unique musical effect, lively and really "simul stereo".

Going back to the history, some musicians since the late 1960s explored some conditions to simulate the stereo sound in different ways. Among the best known settings, in the early 70s, I remember the DG style double stack, which provided a double mono signal sent to two amplifiers with the addition of one, or more, modulation effects device on only one of the two signals (typically the left).

CONTROLS



1. **Bass/Treble:** Tone of the repeats
2. **Magic of Age:** Modulation
3. **Stereo Out:** 6,3mm stereo jack
4. **Input Level:** The solid state "Magic eyes"
5. **Wet Out:** Unbalanced Lo Z 100% effect out.
6,3mm mono jack able to connect to mixing consoles.
6. **Varispeed:** Change the base delay time
7. **Volume Rec:** Setting the input volume
8. **Mono Out:** 6,3mm mono jack
9. **Length of Swell:** Feedback
10. **Selector:** 3 mode selector: Echo, Rep., Swell
11. **Volume Stereo:** L-PAD attenuation volume stereo
12. **Volume Echo:** Set the mix of Volume Echo
13. **Instrument Input:** 6,3mm mono jack
14. **Back:** 4 feedback selectable
15. **Heads:** 4 delay selectable
16. **Bypass:** On/Off effect

SPECIFICATIONS

Power In	12VDC (Negative Tip)
Consumption	From 370 to 1000mA
Input Impedance	<1M Ohm
Input Sensivity	1Vpp MAX
Output Impedance	<47K Ohm
Wet Out Impedance	<47K Ohm
Stereo Impedance	<47K Ohm
Linearity Response	7Hz to 100Khz @ 1db
S/N Ratio Preamp	<91db
S/N Ratio Heads	- 90dbV
Effect Mix Level	MAX 50%
Heads Times	78 - 156 - 234 - 312mS
Varispeed Max Time	+25% MAX (686mS)
Heads Distortion	MAX 5% THD
Tone Frequency	Roll Off 1Khz @ 6db/oct
Int. Working Voltage	MAX 24VDC
Tube Type	12AU7/ECC82
Estimated Tube Life	Up to 3000 hours
Weight	1.03kg (2.3 lbs)
Length	125mm (4.9")
Width	215mm (8.5")
Height	48mm (1.9")

CAUTION! Make sure to check the power supply connection as per technical specifications. This pedal cannot be powered by a battery.

SPECIAL FEATURES AND FUNCTIONS

The **LE PRISM** tube is a 12AU7/ECC82 and it guarantees a good duration and linearity. However, it can also be replaced with 5814, 6189 and CV4003 NOS tube.

On the underside of the pedal it's easy to see a small window where a jumper is housed. Removing this jumper activates the "**tail fx**" function. A careful adjustment of the "LENGTH OF SWELL" will be necessary to ensure that in the moment of bypass the "tail" is not excessive.

For the best performance the working current is 12VDC/500mA.

We always recommend a 12V 1A (1000mA) power supply because it offers better performance in the correct preheating of the tube at the moment of the switch/on.

Be very careful that the main power supply is correct.

If **LE PRISM** is under-powered it's possible to notice malfunctions on the background noise.

SPECIAL FEATURES AND FUNCTIONS

The "Wet/Out" is a buffer-equipped output that provides a low impedance signal (line output).

The connection is via 6.3mm mono jack.

The calibration of the feedback for each single head is fixed and made at the factory.

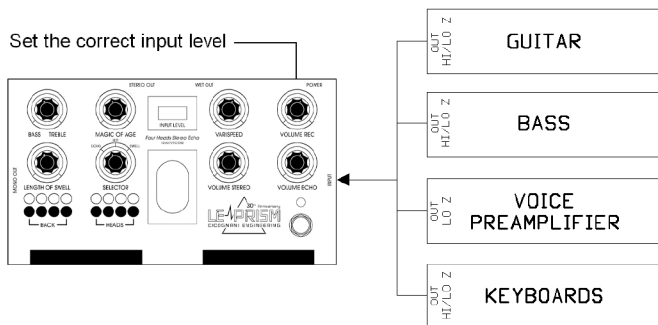
CICOGNANI SRLS reserves the right to modify the technical characteristics and layout of the products at any time and without notice. This product is built to the rule of art and observes the technical requirements of the Directives Europee 89/366EEC.

INPUT INSTRUMENTS CONNECTION

The input control must be adjusted so that you can use the right amount of signal. The input level (magic eye) will help you understand how to adjust the levels.



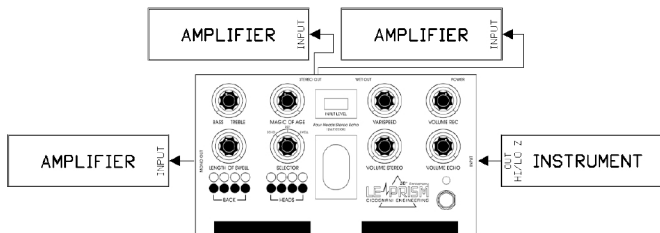
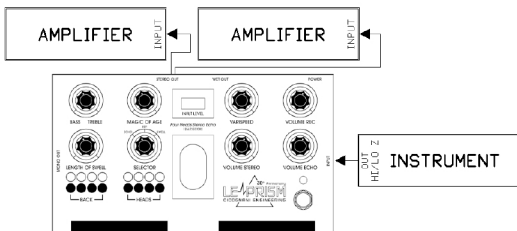
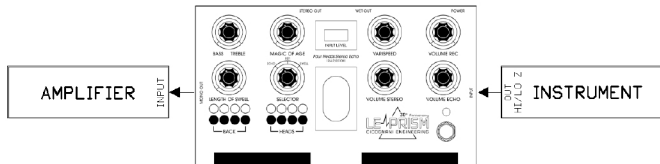
Attention! The input level adjustment is very important as it affects the behavior of the echo sound. With low input levels the mix may not reach a good presence while high levels may introduce harmonic distortion on repetitions.



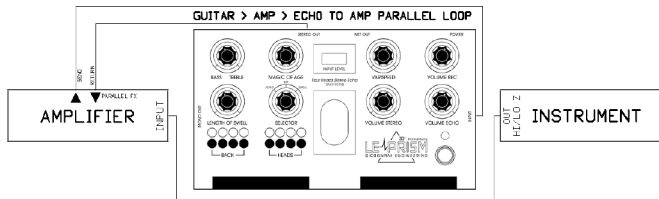
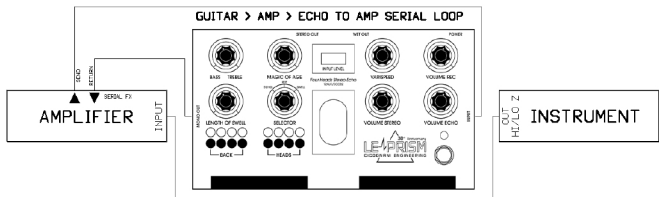
LE PRISM can be used with different types of instruments with output signals max 1Vpp and high or low impedances. The old Italian echo was used as the main PA effect and shortly thereafter along with many instruments of the band. Today **LE PRISM** wants to retrace those steps by offering wider compatibility even with the most modern instruments.

THE ECHO IN FRONT THE AMP

GUITAR > ECHO > FRONT AMP CONNECTION

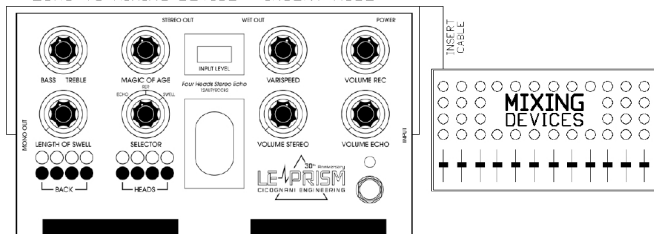


THE ECHO IN LOOP EFFECTS

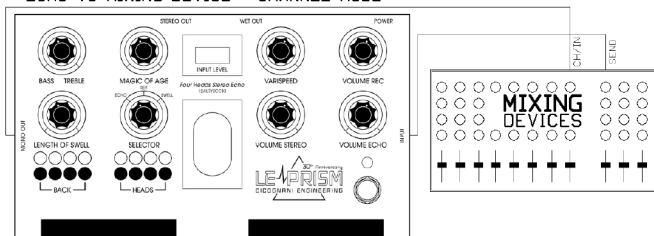


THE ECHO IN A MIXING CONSOLE

ECHO TO MIXING DEVICE - INSERT MODE -



ECHO TO MIXING DEVICE - CHANNEL MODE -



GURU ADVISES

1. Connect the main power to 12Vdc (min 500mA). Make sure the power supply is negative tip.
2. Connect the "Output" to the amplifier "Input".
3. Connect the "Input" to the instrument.
4. Set the "Input Volume". The input volume is displayed by "Input Level" and can be adjusted from super clean to soft overdrive. **(This function is assigned only to repetitions).**
5. The bypass foot switch is factory set ON/OFF. It's however possible to set the "fade-out" mode by removing the jumper located on the opposite side to the front panel.

WARRANTY TERMS

The guarantee of the products is two years from the purchase date. Switches, buttons, relays are one year. The thermionic valves, indicator lights, wiring cables are guaranteed for three months.

Responsibility of **CICOGNANI SRLS** is limited to repair or replacement of the product at our discretion.

CICOGNANI SRLS not be liable for damages resulting from loss of use of the product, lost time operation interrupted by non-use, loss of business or any other damages or incidental, consequential or otherwise; damage in transit or damage caused by inadequate packaging.

How to receive assistance: Send an email to sales@cicognani.eu in order to make agreements on how and where to send the product. The product must be sent together with a copy of the receipt/sales receipt. Shipping and packing costs are the responsibility of the purchaser.

THE WARRANTY IS NOT VALID WITHOUT A COPY OF YOUR RECEIPT OF SALE CERTIFYING THE DATE OF PURCHASE.





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