



Owner's Manual

www.theremin.co.uk

Thank you for purchasing the Elysian Theremin.

The **Elysian Mk.III Theremin** is the most refined package available for purchase and some of its many features are as follows:

- Original RCA Theremin sound
- Built in speaker
- Headphone output
- Pitch trim
- Amplitude trim
- Ring modulation switch
- Detachable aerial assembly
- Direct microphone stand fixing
- Continuous pitch output
- Interfaces directly with MCV1a with a stereo ¼" jack to jack cable

In order to take full advantage of the ElysianTheremin functions, please read this manual carefully

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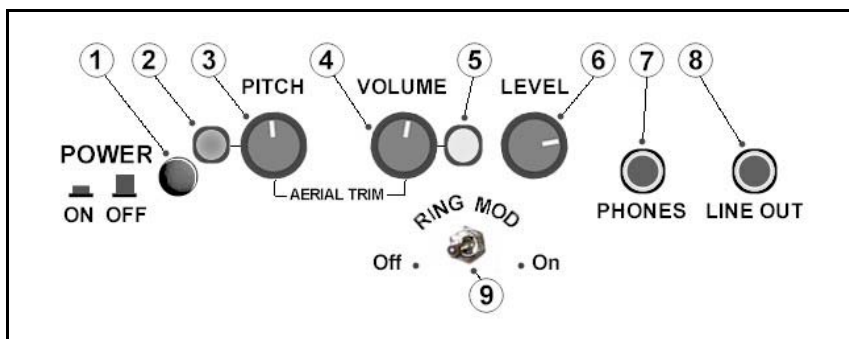
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Precautions

- ⇒ Avoid placing the Theremin in direct sunlight or close to a source of heat. Also, avoid locations where the unit is likely to be subjected to vibration, iron filings, cold or moisture.
- ⇒ Avoid rough handling, such as applying excess force to the switches and knobs or dropping the unit. While the internal circuitry is of reliable design, the unit should be treated with care.
- ⇒ Always grip the plug directly when removing it from an AC outlet. Removing the plug from the AC outlet by pulling the cord can result in damage to the cord and possibly a short circuit. It is also a good idea to disconnect the AC adaptor from the AC outlet if you don't plan to use it for an extended period of time.
- ⇒ If necessary, clean the Theremin using a slightly damp cloth and then dry with a soft cloth. Never use solvents as they will damage the finish.
- ⇒ The Theremin is sensitive to electromagnetic radiation. Be careful to set it away from electronic equipment or metal since this will reduce the aerial's sensitivity. More free space around the Theremin increases the range of pitch obtainable.
- ⇒ This unit contains no user serviceable parts. Opening it can lead to electrical shock as well as damage. Refer all servicing to qualified personnel.
- ⇒ This unit must be earthed. If the earth is removed or there is a poor earth connection 50Hz frequency modulation will be noticed on the Theremin sound.
- ⇒ This unit is intended for indoor use only.

Front Panel

- (1) POWER switch - depressed is on.
- (2) Power 'healthy' indicator LED.
- (3) PITCH trim and tuning knob.
- (4) VOLUME trim knob.
- (5) VOLUME level indicator LED.
- (6) Output LEVEL knob.
- (7) Headphone output.
- (8) Line/Continuous Pitch output.
- (9) RING MOD switch



Front Panel Layout of the Elysian Theremin

Getting it Together

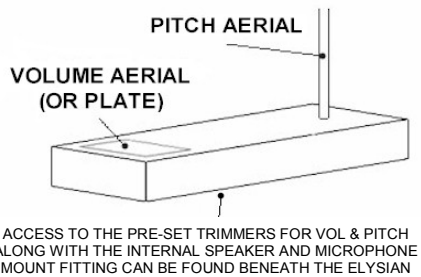
The pitch aerial is supplied separately to the Theremin, so you will need to attach it. This is done by inserting the pitch aerial into its receptacle on the top of the Theremin box and tightening the knurled grub screw to hold it in place. The amplitude aerial is on the far left hand side of the Theremin box, marked 'VOLUME'. The power supply, in the form of the AC adaptor, plugs in at the rear of the Elysian Theremin.

Note: Use only 25V DC 500mA power adaptor supplied.

If you wish to attach the Theremin to a microphone stand simply utilize the fitting provided, which can be found on the bottom surface of the Elysian.

Basic Principles

To play your Theremin well, it is a good idea to know how it works. In its simplest form, the Theremin consists of two tone generators which are at such high frequencies that they cannot be heard. However, when the two tones are mixed together they beat, and it is this beating tone that can be heard. The reason an ultra high tone is needed in the first place, is to obtain maximum sensitivity to the electrical field around your hands. Some people claim that the Theremin will detect peoples' auras and the like, we can't guarantee it!



The Aerials

The vertical pitch aerial is sensitive to lateral movement, it will not respond to up and down movements. The volume plate is horizontal to avoid interaction with pitch movements and responds to up and down movements of your hand.

The Controls

Theremins by their nature are very sensitive to their surroundings. Variations in atmospheric conditions, such as temperature, humidity etc. will change the aerial responses. To provide compensation, trim controls are provided for both pitch and volume. The Theremin trim controls (located on the front panel of the Elysian) have to be set-up for the location in which the instrument is to be played. If the unit is moved the controls will have to be re-adjusted. There is a certain knack to setting the controls. They both have a 'sweet spot', the position of which varies according to the ambient conditions and your preferred playing style.

Setting The Controls for Playing

When first using your Theremin, the following instructions will enable you to set the controls for optimum performance.

Before following these instructions please make sure of the following:

- * The Theremin is connected to its power supply and the POWER switch on the front panel of the Theremin is in its ON position (the red power LED should be lit).
- * The RING MOD switch is set to Off.
- * The LEVEL knob is set to give a comfortable output volume level (we suggest just under mid-way rotation).
- * The VOLUME LED is lit (if it isn't then rotate the VOLUME knob until it lights).

The PITCH Trim Control

This control allows the pitch range to be maximised. The first thing to do is to adjust the knob to the null point where there is no sound, this is where the beat frequency of the two tone generators is zero, or the oscillators are 'locked'. This is done by the following steps.

- * Rotate the PITCH trim knob fully clockwise.
- * Stand in your playing position, with your hands well away from the pitch aerial
- * Using your left hand rotate the PITCH trim knob anti-clockwise, the audible tone's pitch will get lower until the null point is reached, where no sound is produced.
- * The PITCH trim is now set.

The VOLUME Trim Control

This control is used to trim the volume circuit. It is normally used to find the most sensitive point of operation. This is done by the following steps.

- * Make sure the Theremin is producing a tone by placing a hand near the pitch aerial.

- * Rotate the VOLUME trim knob fully clockwise.
- * Slowly rotate the knob anti-clockwise until the tone's volume falls to zero and the volume level indicator LED extinguishes. ^[note]
- * The VOLUME trim is now set.

The Theremin is now ready to play. As your hand moves closer to the Elysian VOLUME aerial (plate) the tone will become louder. This is referred to as +ve play mode.

It is possible for the original -ve (RCA) play mode to be obtained through a circuit board modification. If you would prefer this to be the main mode of playing, please contact the manufacturer (whose details can be found at the back of this manual) who can arrange for the modification to be carried out. In this setup the closer your hand to the Theremin, the quieter the Theremin tone.

The RING MOD Switch

The RING MOD switch adds a new dimension to your Theremin playing, an extra palette of sounds at your fingertips. Just flick the switch to 'On' to enter 'Ring Mod' mode.

Making Connections

The output is a stereo jack type (TRS), with the following connections:

Tip: Theremin output signal

Ring: Theremin signal before the VCA (continuous pitch output).

Sleeve: Signal ground.


A mono jack cable may be used to connect the Theremin directly to a PA, guitar amplifier or direct into a mixing desk. If you wish to monitor the continuous pitch output you can either make a special lead that splits a stereo jack into two mono jacks, or you can purchase one directly from the manufacturers of the Elysian. A stereo jack to jack lead is used when interfacing the Theremin with the MCV1a Theremin MIDI/CV interface.

^[note] It is easy to miss the ' null ' point while carrying out this operation. If you rotate the knob without care you will miss the critical ' null ' point and will have to start again with the knob fully clockwise. When proficient at finding the ' null ' point you can 'tweak' the response of the Volume aerial by very slight rotation of the Volume knob (within the ' null ' zone) until the optimum position for operation is found.

Elysian Theremin Specifications

Pitch Range	5Hz — 3kHz [fall-off @ 6dB/oct]
Pitch Aerial Control Distance	0 to 76cm [max]
Volume Range	-60 to +10dBu
Volume Aerial Control Distance	0 to 20 cm [max]
Max Output Voltage Before Clipping	10k variable 12v pk pk 10k continuous fixed pk pk
T.H.D. [noise]	10% [mainly 2 nd harmonic]
Internal Speaker - Size / Imp	10 cm / 8Ω
Maximum Output into 8Ω	2 Watts RMS
Dimensions (aerial down) W x D x H	56 x17 x 11 cm
Dimensions (aerial up) W x D x H	56 x17 x 64 cm
Weight	3.5 Kg net
Temperature Range	^[1] 10°C to 35°C
Max Useable Temperature	^[2] -3°C to +45°C

PSU requirements: DC 20v to 28v at 500 mA unregulated with earth connection and snubber capacitors. ^[3]

 Emissions criteria met. ^[4]

^[1] Theremins are very sensitive to temperature variations. Beyond this range coarse trim will have to be reset.

^[2] Maximum output volume will be limited.

^[3] New power supplies and ruggedised versions are available, please contact us for details.

^[4] May be picked up on AM radio up to 65 cm away.

Contact Details

For further information and support please contact:

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Service information, circuit diagrams, spares, spares kits are available.
Please contact us for further details.

Details of our products & services can be found on-line:

www.thereminsales.co.uk

- Credits -

The Elysian Theremin is an original design by Jake Rothman. PCB and MIDI Box design by Adam Fullerton. The boxes are built with loving care by Dylan Bendall. Thanks to Grant Stevens of TechnoMage (grant@technomage.co.uk) for re-working the manuals.

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