

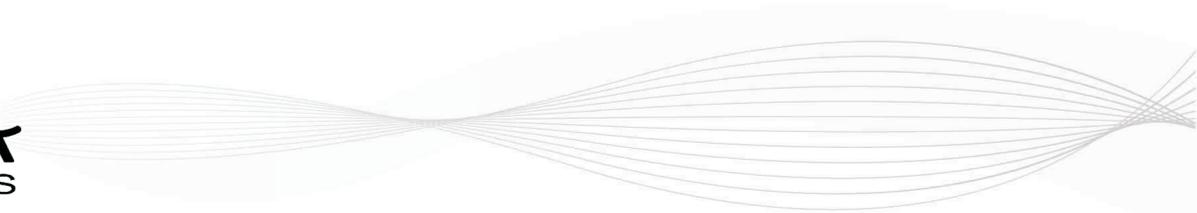
HANDBOOK

Leema Acoustics Elements Ultra Phonostage



ELEMENTS ULTRA PHONO

LEEMA
ACOUSTICS



Index

EC Declaration of Conformity	2
Introduction	3
User Installation & Safety Advice	4
Overview	5
Environmental, Made in the UK, Contact Us	5
Rear Panel	6
Connections	7
User Settings	8-11
Specifications	12
WEEE Scheme	12

EC Declaration of Conformity

In accordance with EN ISO 17070-1:2004

We **Leema Electro Acoustics Limited**

of **Henfaes Lane
Welshpool
Powys
UK**

in accordance with the following Directive(s): 2006/95/EC The Low Voltage Directive 2004/108/EC The Electromagnetic Compatibility Directive

hereby declare that: Equipment HI-FI Phonostage Model Name **Elements Ultra Phono**

is in conformity with the applicable requirements of the following standards

Standard. No.	Name	International Equivalents
BS EN60065; 2002	Electrical Safety Requirements	EN60065; 2002 / IEC60065; 2001
BS EN 55020; 2002	EMC Immunity	EN55020; 2002 / CISPR 20; 2002
BS EN 55013; 2001	EMC Emissions	EN55013; 2001 / CISPR 12; 2001
BS EN 61000-3-2; 2001	EMC Limits for Harmonic Emissions	EN61000-3-2; 2000 / IEC61000-3-2; 2000
BS EN 61000-3-3; 1995	EMC Limits for Voltage Fluctuations	EN61000-3-3; 1995 / IEC61000-3-3; 1994

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable Essential Requirements of the Directives and Standards.



Signed by:

Name: **Mallory Nicholls**
Position: **Technical Director**
Done at: **Leema Electro Acoustics Ltd.**
On: **11/8/2013**



Introduction

Congratulations on your purchase of a Leema Elements Ultra Phonostage.

The Leema range of products has been painstakingly engineered in the United Kingdom to offer genuine state-of-the-art performance.

Partnered with suitable equipment, Leema products will provide audio performance far beyond that of competitors and will equal or better the performance of products costing many times their purchase price.

The Elements Ultra Phonostage draws on Leema's previous multi-award winning phonostage designs and continues Leema's dedication to vinyl replay.

Purchasers should read and follow this instruction manual, paying particular attention to the user installation and safety advice section.

This manual has been written to enable you to achieve the very best performance and maximum listening pleasure from your investment.

We wish you many years of pleasurable listening... Move Your World!

With best regards

The Leema Team

VERY IMPORTANT

Ensure that all settings are configured before connecting to the rest of your audio system. Changing a setting during use may result in transients or excessive volume level that may damage your loudspeakers or other system components.

User installation and safety advice

The power supply fitted to Elements Ultra Phono may be used with any mains voltage in any World region without adjustment.

Ensure the mains supply is switched off at the wall socket, or unplugged before installing or moving the unit.

Do not use near water, for example do not place a potted plant on top of the unit or allow drinks to be placed near the unit. If liquid is spilt in to the cabinet, remove the mains lead from the wall immediately. The unit should then be returned to your dealer for safety testing before re-use. Failure to do so may result in electric shock or even fire! Do not use the unit in damp conditions, e.g. outside of the house.

Keep away from direct sunlight and other heat sources and ensure adequate ventilation around the unit to maintain proper cooling. Units **MUST NOT** be stacked directly on top of each other.

Never attempt to open the cabinet. There are no user adjustable parts inside and doing so will invalidate the amplifier's warranty.

In the event of an electrical storm, remove the mains power lead from the wall outlet.

Elements Ultra Phono overview

The Leema Elements Ultra Phono is a highly flexible and user-configurable device. It provides perfect matching for today's high-performance phono cartridges and offers excellent sensitivity from 4mV down to 75uV for full output. The moving magnet section offers 47k as well as 100k loading. Resistance and capacitance loads (which may be applied to MC or MM) are adjustable in sixteen steps, while gain is adjustable in twelve ranges.

Environmental Issues

Leema operates a 100% recycling program. All waste materials generated as part of the manufacturing process are recycled via a licensed specialist company. Although safe to do so, we do not recommend leaving our products permanently powered on. All Leema units have been designed to attain full operational specifications and sound quality within a few minutes of switch-on.

Made in the UK

Leema electronics are designed and manufactured in the UK.

Contact Us

Leema may be contacted via our website: www.leema-acoustics.com or by telephone: +44 (0)1938-559021

Phono Ground Terminal

The turntable ground lead connects here. If connecting the turntable ground causes audible hum, leave it disconnected.

XLR & RCA (Cinch) Outputs

Separate balanced and unbalanced outputs are provided. The balanced outputs provide an additional 6dB of gain relative to the RCA outputs.



Cartridge Input

The turntable audio cables connect here. Loading is selected on the bottom of the unit.

MM/MC Switch

This switch selects the type of cartridge in use. Please refer to the loading and gain tables on the base of the unit.

WARNING:
DO NOT change this setting while the unit is in use. Doing so will generate a high level audio disturbance which may damage the loudspeakers or other system components.

Power Inlet

The power supply automatically adjusts for any mains voltage from 90-264VAC. No user adjustment is required.

Connections

Input connection

IN > RCA/Cinch connectors are provided for moving magnet and moving coil cartridges. MC or MM operation is selected by pressing or releasing (push-push) the hidden switch adjacent to the input sockets. Use a cocktail stick or similar to carefully (and gently!) push the hidden switch.

PHONO GROUND > A screw terminal is provided for connection of the arm/turntable ground lead. If hum is present with the ground terminal connected, do not use the ground terminal.

OUTPUTS RCA/CINCH > Unbalanced outputs are provided via RCA/Cinch connectors. These should be connected to a line input on your pre-amplifier or integrated amplifier. These outputs are at line level - DO NOT connect them to inputs intended for phono cartridges; these are often labeled 'Phono'.

OUTPUTS XLR LEFT/RIGHT > Balanced outputs are provided via XLR connectors. These outputs are at high level and should be connected to appropriate line level inputs on your pre-amplifier or integrated amplifier.

MAINS POWER INLET: The power supply used inside Elements Ultra Phono is able to automatically adjust for any voltage used anywhere in the World from 90 to 264 volts AC and therefore does not need to be adjusted for geographical location.

User Settings

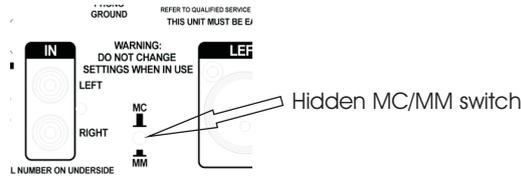
We know that many users do not like reading the manual. With a unit as complex as Elements Ultra Phono, **it is essential that you read and understand this section.** Failure to do so will result in incorrect operation, audio distortion or system damage! The following will guide you through the set-up procedure. If in doubt, please consult your dealer or contact Leema for advice.

WARNING: Do not have the unit connected to the rest of your system while setting the unit. Loud transients or high volume levels may result and cause damage to your loudspeakers or other system components!

Note: Elements Ultra is a dual mono design. You must set the switches for each channel - Left and Right. The switches are located on the underside of the unit and are clearly marked.

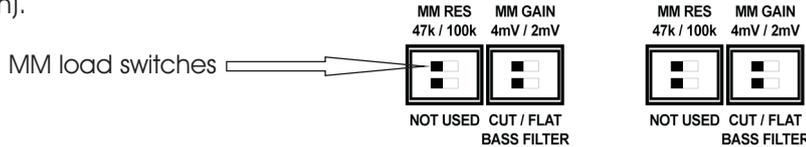
Step 1 - Mode Selection > First, identify what type of cartridge you are using. These come in two main types - Moving Magnet (MM) or Moving Coil (MC). Be careful when deciding what settings to use, because some modern moving coil cartridges are so called 'high-output' types which often need to operate into MM inputs. It is essential that you refer carefully to the technical data supplied with your cartridge. If you do not have it, you must either download it from the internet or contact your dealer or the cartridge manufacturer. Without this information, it will not be possible to configure the phono stage for correct operation.

When you are sure of what type of input your cartridge requires, make the appropriate selection using the hidden rear panel MC/MM press switch. Use a cocktail stick or similar to gently press or release (press-release) the hidden switch. Damage to this switch by careless use is not covered by the warranty.

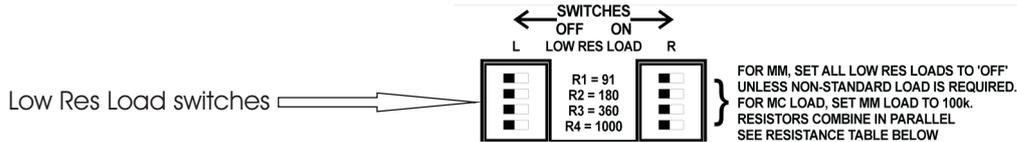


Step 2 - Resistance Loading > Using the cartridge data, decide what resistance load the cartridge requires.

Moving Magnet types: For most MM types the load will be 47k ohms. In this case set all 'LOW RES LOAD' switches to OFF (left position). The MM load can then be chosen using the 'MM RES' switches. The choices are 47k (switches in left position) or 100k (switches right position).



Moving Coil types: MC types normally require a much lower load resistance - often around 100 ohms. The absolute value within a few ohms is not critical. Again, refer to your cartridge data and choose a value. Refer to the 'RESISTANCE TABLE' on the underside of the unit for assistance and then set the 'LOW RES LOAD' switches as required.



Step 3 - Capacitance Loading > Using the cartridge data, decide what capacitance load the cartridge requires.

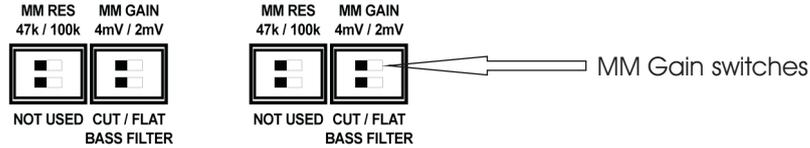
Moving Magnet types: If no figure is specified for capacitance, 100pF is a good value to choose. Set the first switch (47pF) on. This will combine with the residual capacitance of 47pF to give 94pF which is fine. Alternatively, choose a value and referring to the 'CAPACITANCE TABLE' on the underside of the unit, set the 'MC/MM CAP LOAD' switches.



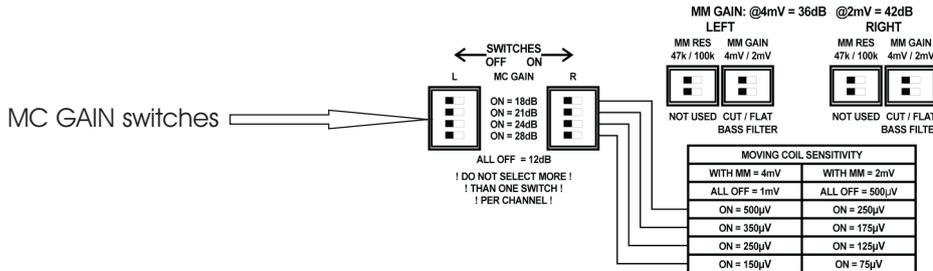
Moving Coil types: If no figure is specified for capacitance, set the value to maximum (884pF) by setting all MC/MM CAP LOAD switches to the right position. Alternatively if a lower value is required, choose a value and referring to the 'CAPACITANCE TABLE' on the underside of the unit, set the 'MC/MM CAP LOAD' switches. In exceptional circumstances, a higher load capacitance may be required. In this case, add external capacitance in the RCA plugs or using in line loads.

Step 4 - Gain (Sensitivity) Setting > Using the cartridge data, decide what the output level of the cartridge is.

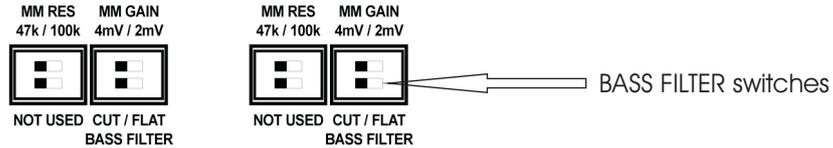
Moving Magnet types: The output level for MM types is normally given in millivolts. Two gain options are available: 4 or 2mV. Set the 'MM GAIN' switches as appropriate. If no value is given, 4mV is normally a good choice. If the resulting volume level is a little too low, choose 2mV.



Moving Coil types: The output level for MC types may be given in millivolts, e.g. 0.25mV or microvolts e.g. 250uV, where 1000uV = 1mV. MC gain may be set from 1mV (1000uV) to 0.075mV (75uV). Refer to the 'MOVING COIL SENSITIVITY' table on the underside of the unit and set the 'MC GAIN' switches as required. A starting point is not easy to suggest, as MC cartridges vary greatly in their output voltage specification, but if no data is available, start at 350uV and then judge the setting by the resultant volume level available. If the setting gives too little volume, change the setting to a lower figure - 250, 175, 125uV etc. If the volume is too high, select a higher figure - 500uV or 1mV. Note that the MM GAIN switches also affect the results.



Step 5 - BASS FILTER > A gentle filter is available to reduce the low frequency response of the phonostage. This may be necessary if the arm & cartridge combination results in spurious low frequency outputs (loudspeaker cones flapping in & out) or if the turntable does not have an effective method (clamp etc.) of flattening warped records. In either case, set the 'BASS FILTER' switches to the 'CUT' position. If no problems are observed, set the switches to the 'FLAT' position.



Specifications

Mains supply: 90-264v VAC auto ranging

Sensitivity: 75uV to 4mV RMS for nominal output

Loading

Capacitance : 47pF - 884pF
Resistance : 47 ohms - 100k

Nominal Output Level

XLR : 500mV RMS
RCA (Cinch) : 250mV RMS

Filter: -12dB @ 10Hz

Specifications subject to change without notice.

WEEE Scheme



Disposal of Electronic Equipment in the European Union and other countries with collection procedures:

The wheeled bin symbol on this product indicates that it shall not be treated as household waste. It should be disposed of via a collection point for the recycling of electrical and electronic equipment. Leema is fully registered under WEEE/HK 0757 ZX

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