



CELSUS

High Performance
Pre-Amplifier



USER MANUAL

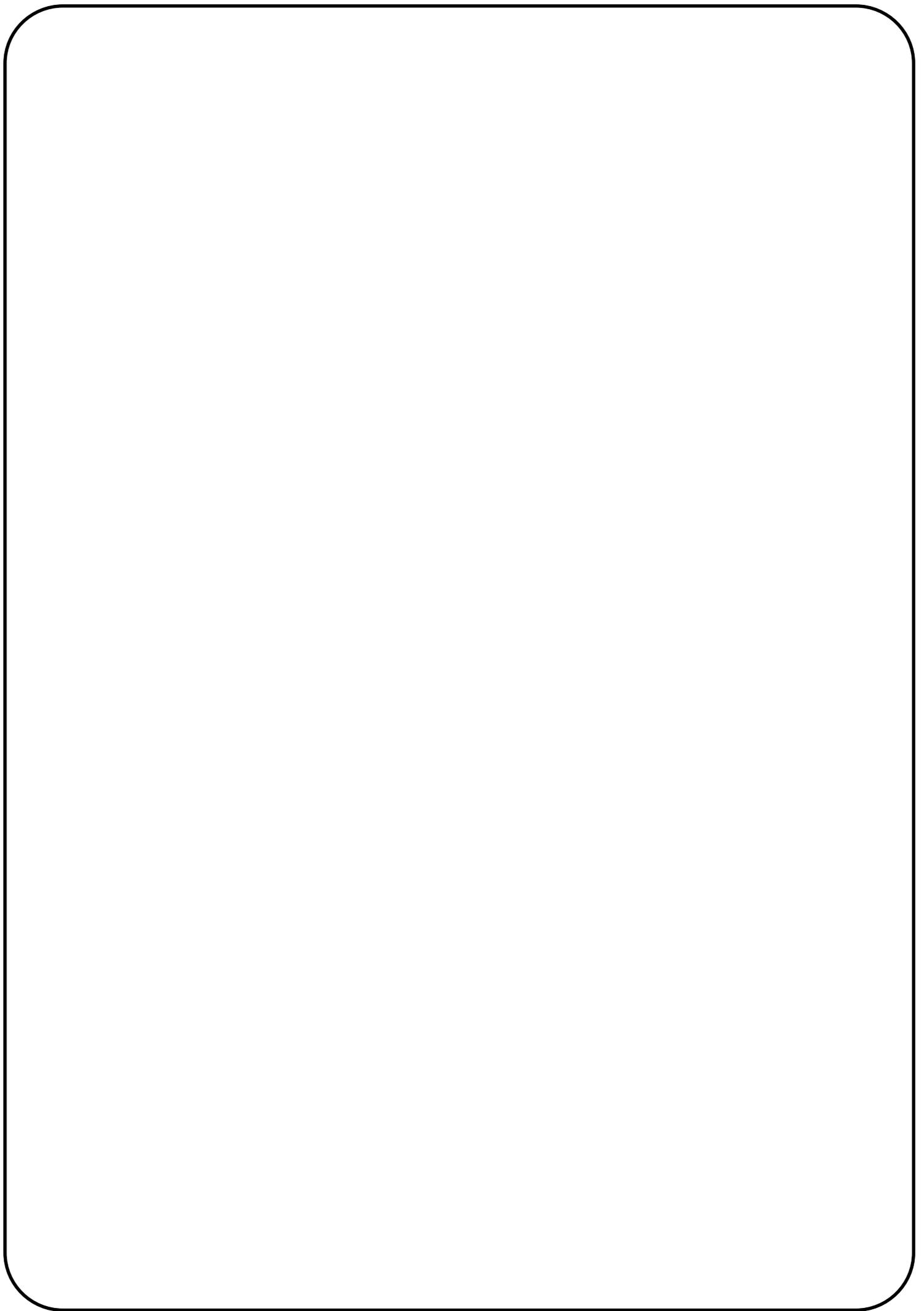


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Welcome to your AVID Celsus Pre Amplifier

Congratulations on purchasing your AVID Celsus pre-amplifier. Using the highest quality materials during assembly and built to the highest industry standards, your AVID Celsus Pre-amplifier should provide you with many years of trouble-free enjoyment.

Please read this manual to ensure you understand all the features and operating functions available.

Caution

- These units are heavy, and it is recommended that at least two people are used when moving the unit.
- Care should be taken to ensure that the unit is switched off and unplugged from the mains before connecting or disconnecting any other equipment. This is to protect your speakers from any momentary high-level signals which could cause damage.
- There are no user-serviceable parts inside. Please do not, under any circumstances, remove any of the unit's covers. Doing so would expose you to potentially lethal voltages and void your warranty.
- Only clean the units with a dry micro-fibre cloth.
- Take care to ensure the unit is not exposed to water or other liquids. If you believe water may have entered the case, turn the unit off at the socket immediately and seek advice from your dealer before attempting to use it again.

Key Celsus Features:

- **4 Line Inputs, 2 Balanced and 2 Unbalanced**

Giving great flexibility the Celsus Pre-amplifier provides a large number of line inputs, without compromising audio performance. Carefully designed input switching technology promises consistent reliable service, while ensuring the ultimate sound quality. Balanced input guarantees the best noise performance, while unbalanced inputs ensure compatibility and convenience with all modern line level sources.

- **High performance Phono stage with adjustable Gain, Input Resistance and Capacitance**

Derived from the phono stage within the Reference Preamplifier, the **Celsus's** phono settings allows unrivalled performance and flexibility when compared to other designs. Adjustments for Gain, Resistance and Capacitance are possible allowing you to accurately match any Moving Magnet or Moving Coil cartridge currently available. Designed to offer the best performance in terms of distortion, noise and compliance with the RIAA specification—but most importantly, it promises the unparalleled Phono reproduction. Both Balanced and Unbalanced operation are catered for, allowing two cartridge/arm combinations to be connected simultaneously.

- **50mm, ALPS RK50 High Quality Volume Potentiometer**

Illustrating that not all volume controls are born equal! This massive brass-cased device offers a level of unequalled transparency. Its reassuringly weighty but smooth action indicative of the highest levels of build quality and ensuring long-term reliability. This device alone has a huge impact on the performance of the pre-amplifier, and was a prerequisite of the design, directly cascaded from our Reference Pre-Amplifier design.

- **Switchable Subsonic Filter**

Designed to have minimal impact on sound quality, the subsonic filter will reduce the effect of excessive warps and other sources of low frequency noise—protecting your loudspeakers from excessive excursion and reducing distortion levels. Assuming the record being played is not excessively warped, we recommend disabling the subsonic filter, to ensure optimum sound quality.

- **Separate, High Power External Power Supply**

Any amplifier is only as good as its power supply, and this is true whether it is a power amp or pre-amplifier. The **Celsus Pre-amplifier** has a massive 1kVA transformer providing independent power feeds to both left and right channels of the amplifier—this optimises noise and distortion performance of the system as a whole—the large toroidal transformer ensuring that any power demand is met without impacting on the audio performance. The twin enclosure design means that the incredibly fragile signals being processed by the phono stage are not adversely affected by any electromagnetic fields around the high power devices.

PLACEMENT

- Your Celsus Pre-amplifier consists of two units - the Pre-amplifier itself, and its associated Power Supply. The Pre amplifier may be stacked on top of its power supply, but performance benefits may be noted if placed on separate shelves.
- Both units are heavy, and must be placed on a sturdy, level shelf.
- Avoid locations where either unit may be affected by direct sunlight or damp.
- Keep the units away from external heat sources.

CONNECTING THE POWER SUPPLY

WARNING:

- Never connect or disconnect the power supply from the Pre-amplifier while the mains is connected—doing so may permanently damage both units.
- The umbilical cable must be connected before connecting the unit to the mains supply.
- Leave the unit switched off for at least 5 minutes before disconnecting the umbilical cable.
- If the Power Supply is inadvertently powered up while disconnected from the Pre-amplifier, disconnect the Power Supply from the mains, and leave it for 10 minutes before attempting to connect the units.
- Only use the supplied cable for connecting the two units.
- If there is any damage to the cables, do not attempt to use the system, but contact your dealer for advice.



FRONT PANEL CONTROLS

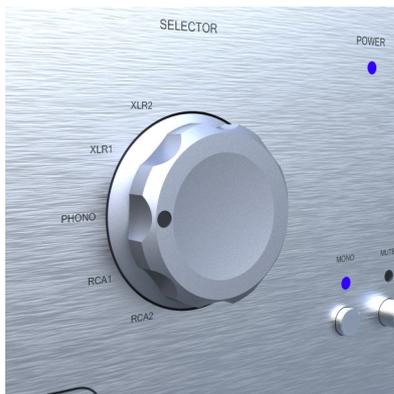
Initially there may appear to be a bewildering array of controls and settings available on the front panel of the Celsus Pre-amplifier, however, they are logically arranged, and once you familiarise yourself with them, their function is straight-forward. It is probably best to work from right to left, when familiarising yourself with the controls.

VOLUME CONTROL

This large control allows you adjust the output level of the Pre-amplifier, minimum (fully anti-clockwise) to maximum (fully clockwise). It is always wise to set the volume to its minimum setting when making adjustments, such as changing sources, to avoid any unexpectedly loud noises. When playing music, slowly increase the volume until a comfortable listening level is reached. Depending on the source selected, this may not always be the same position on the control.

SELECTOR

This is the main input selector and allows you to select what source you wish to listen to—their labels match up with those on the rear panel. This control allows you to choose between:



INPUT NAME	INPUT TYPE
XLR 2	BALANCED
XLR 1	
PHONO	BALANCED/ UNBALANCED
RCA 1	UNBALANCED
RCA 2	

PHONO SELECTOR

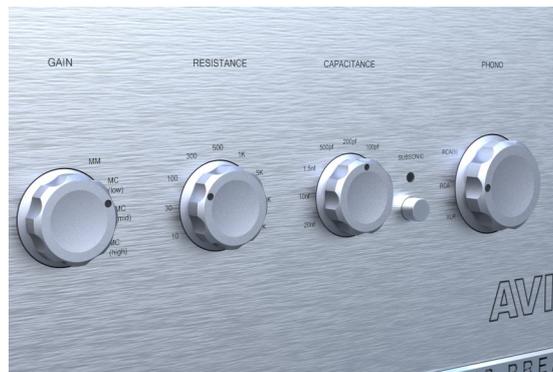
When the main selector switch is set to PHONO, the secondary PHONO SELECTOR switch becomes active.

As with the other inputs you can use the XLR sockets for balanced input and the RCA input for unbalanced. In addition to this, the RCA input can also be used in balanced mode—this is a unique case regarding phono cartridges, as they are inherently balanced devices. All cartridges can be used in balanced or unbalanced mode, however using the balanced, 'RCA(b)' mode may improve noise performance when having to use an RCA connection. If you experience high levels of hum, you may also find that switching to balance 'RCA(b)' will help.

Both RCA and XLR connectors can be populated simultaneously, meaning that up to 2 tonearms/turntables can be connected at any one time, maximising flexibility.

PHONO SETTINGS

Once you have connected your turntable to the amplifier, you will need to configure the Phono settings to ones that match your cartridges parameters. It is always best to refer to your cartridge manufacturers literature to ensure the most accurate setup. Consult your dealer for additional guidance.



In the absence of full cartridge documentation, please follow these guidelines

Initial setup

Sensitivity

There are four sensitivity levels available; MM, MC (low), MC (mid) and MC (high).

Check what type of cartridge you have. If you are uncertain, set the dial to MM. If you have an MC cartridge, then set the dial to MC (mid).

Now listen to a piece of music with which you are familiar. Adjust the volume control to a comfortable listening level. If the volume control is much beyond the half way point, you should probably consider increasing the sensitivity level. If the volume is immediately very loud, then choose a lower sensitivity.

Some very high output MC cartridges work well using the MM setting and some MM cartridges will sound better when using the MC (low) setting. No harm will be done by experimenting with settings.

Resistance

Normally, the ideal aim is to match the amplifiers input impedance to that of the cartridge. This will ensure maximum signal transfer, and minimise noise (hiss). However, if you do not have this information (remember you can check the manufacturer's website), you can safely experiment with any of the possible values—again, tune by ear to get the most pleasing sound. Most MM cartridges are 47k, high output MC cartridges also tend to benefit from a high resistance setting, however low output MC cartridges are invariably low impedance, suggesting a low resistance setting. Please experiment with this setting, as minor adjustments can make worthwhile improvement to the overall performance.

Capacitance

The effect of the capacitance setting is most obvious at high frequencies, but can be quite subtle. The values chosen are affected by the design of cartridge, but also by the connecting cables—so there is no absolutely correct setting, and experimentation is recommended until you find a setting that suits your set-up and personal taste. Low impedance designs tend to be largely unaffected by capacitance settings, but high impedance designs, and especially MM cartridges can be greatly affected. Start by playing a selection of tracks you know well and adjust the setting until you find one where you feel the best balance of detail and musicality are achieved.

Mono

This selector blends the right and left channels together. This can help create a more pleasing 'mono' sound when playing back a mono recording using a stereo cartridge and can assist in accurate loudspeaker setup.

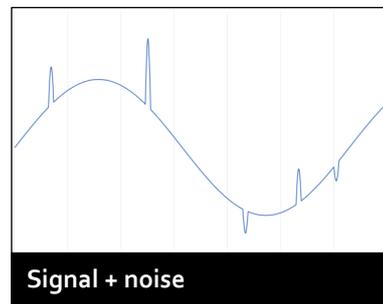
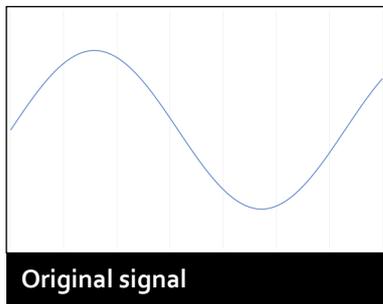
REMEMBER, YOUR EARS ARE THE FINAL ARBITER - WHAT SOUNDS CORRECT TO YOU IS THE CORRECT SETTING.

Balanced and unbalanced inputs

There are two methods of connecting analogue audio devices, “Balanced” and “Unbalanced”. By far the most common is unbalanced –the main reasons for this are cost and complexity - fully balanced system uses almost twice as many components as a typical unbalanced system.

Unbalanced inputs

A normal, unbalanced system uses interconnects with just one signal conductor and an outer sheath that acts as a “Ground” or shield. In an ideal situation, this would be all that is needed. Unfortunately, as well as transferring the intended signal, a cable is also very effective at picking up radio frequency noise. This noise can be generated by many things, for example the operation of light switches, thermostats and fluorescent lamps will commonly produce RF ‘spikes’. The result is a combination of the two signals, as illustrated below:

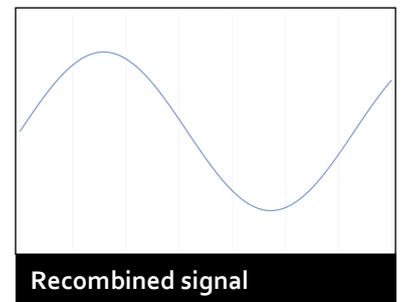
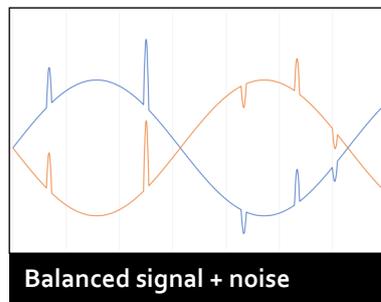
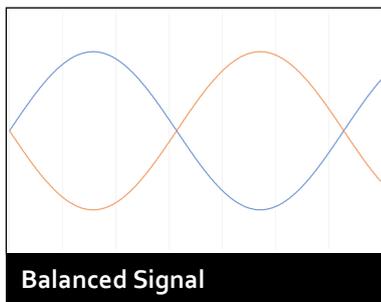


Unfortunately, once the signal has become corrupted with noise, there is no method of removing this noise without further damaging the original signal.

Balanced inputs

A balanced input uses a clever technique where instead of having just one signal conductor, there are two (as well as a Ground). The standard connection for a balanced input is the 3-pin XLR connector.

This method sends the original signal along one of the conductors, and a second identical, but inverted one, down the second conductor. Now, if this signal is corrupted by the same noise signal, both signals will be affected identically. Note the orange plot, which shows the inverted signal - the signal remains inverted, but the noise is not; this is because, being in close proximity to each other, the two conductors pick up the noise signal at exactly the same time (and therefore phase).



Now when the two wave forms are recombined (by subtracting one from the other), the noise cancels itself out, leaving the original, noise-free signal.

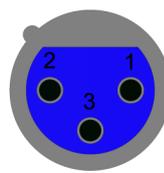
XLR connection Standard

As mentioned previously, balanced inputs use two signal conductors and a single ground conductor. For correct operation, it is vital that the correct connection standards are used. AVID adhere to the EIA Standard RS-297-A to ensure compatibility with all modern audio equipment.

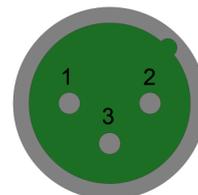
By convention, the two signals are referred to as the positive phase (sometimes referred to as 'hot') and the negative phase ('cold').

The standard pin connections are as follows:

Female



Male



PIN	Connection
1	Ground
2	Positive (Hot)
3	Negative (Cold)



Mixed systems

Whilst it is possible to connect unbalanced units to Balanced units, this is not the optimum method, and ideally a balanced source should be always be connected to a balanced input — in recognition that this ideal is not always possible, the Celsus Power Amplifier utilises both connection types, allowing the use of either connection type with minimal compromise in performance.

TROUBLESHOOTING

Operation of your Pre-Amp is straight-forward, but if you are having problems, please use the following sequence:

Fault	Solution
No Power light	1: Make sure that both umbilical cables are connected at both ends 2: Ensure the power lead is plugged in, and that the power socket is switched on 3: Ensure the Power switch under the unit is in the ON position 4: Check for damage to the mains lead—Try an alternative cable 5: Check the mains input fuse (unplug from the mains before checking) 6: If all else fails, contact your dealer.
No Sound	1: Check that the volume control is not turned all the way down 2: Check the correct source is selected, and plugged in 3: Check that the power amplifier is connected to the Pre-amplifier, and that it is on. 3: Check the Mute button is out (and its associated light is off)
Distorted sound	1: If the volume is excessively high, turn the volume down 2: If you are listening to the Phono input, reduce the sensitivity (see PHONO INPUT)
Hum from Phono input	1: Ensure that the turntables earth cable (if present) has been attached to the earth post on the rear of the amplifier 2: Check the same connection on your turntable—refer to units documentation
Sound cuts out	1: Check amplifier and speaker terminals for loose, or shorted connections 2: Ensure that the unit has adequate cool air and ventilation

If you ever have any issues with your AVID equipment that you are unable to resolve yourself, please, in the first instance, contact your dealer.

Specification

INPUTS

Phono

Gain: 48dB – 60dB – 70dB

Input resistance: **10R - 30R - 100R – 300R - 500R – 1K – 5K – 10K – 47K**

Input capacitor: **100pF – 200pF – 500pF - 1.5nF - 10nF - 20nF**

Distortion: **Less than 0.001%**

RIAA Accuracy: **+ 0.5dB 5Hz – 70KHz (Neumann HF correction)**

Noise (A weighted): **MM –81dB MC –67dB (high setting)**

Channel separation: **< -85dB 5Hz – 20KHz**

Line (RCA and XLR)

Nominal sensitivity: **340mV Vol. Full 100W**

XLRInput impedance: **33 k Ω (XLR) 82K (RCA)**

Maximum input: **11 Vrms**

Frequency response: **5Hz—80 kHz \pm 0.2dB**

Signal/noise ratio:

XLR (AwtD) 50 W, ref. 1V input: **100 dB**

RCA (AwtD) 50 W, ref. 1V input: **100 dB**

OUTPUTS

Preamplifier output

Nominal output level: **11V**

Output impedance: **47 Ω**

Specification (contd)

POWER CONSUMPTION

Input voltage (region dependent)	120V or 230V
Power Consumption (Max)	150 Watts

DIMENSIONS AND WEIGHTS

Pre-amplifier :	469 x 495 x 197 mm (W x D x H)
PSU :	469 x 470 x 130 mm
Packaging:	600 x 540 x 380 mm
Net Weight: (Pre-amplifier)	16.2 kg (35.6lbs)
(PSU)	17.0 kg
Shipping Weight:	37.5kg (82.7lbs)

DECLARATION OF CONFORMITY

EC Declaration of Conformity 06 December 2017

We declare that our Celsius Pre Amplifier conforms to directives and harmonized international standards:

EMC (89/36/EEC) Electromagnetic conformity

BS EN 60065: 1994

Safety requirements for mains operated electronic and related apparatus for household and similar use.

CENELEC HD21/22 Flexible cables and cords

EN 55020: 1988 Electromagnetic Immunity

EN 55013: 1990 Electromagnetic Emissions

C. Mas Director AVID HIFI Limited

Warranty Statement UK Residents

AVID HIFI Limited products are warranted against defects in materials and workmanship for a period of two years from the original date of purchase, or no later than three years from the date of shipment to an authorized **AVID** agent, whichever ever comes first, extending to five years subject to the product owner having submitted the Registration form (www.avidhifi.com/register.htm). Also the following conditions being observed.

- The product must have been purchased through an authorized **AVID** dealer
- By default, the warranty is in favour of the original purchaser only, however warranties are transferable providing the new owner completes the online product registration form. In this case, warranty obligation will pass from dealer to manufacturer.
- During the warranty period, **AVID** will repair, or replace any defects due to material or workmanship, without charge for parts or labour.
- Should product need to be returned, a written description of the defect and a photocopy of the original purchase receipt must accompany it. Receipts must show the model, serial number, date of purchase, name and address of purchaser and authorized dealer and the price paid.
- Returned product must be packed in the original packing and returned to **AVID** or original dealer by the customer at his/her expense. **AVID** will pay return freight of its choice.
- The warranty is void if the product has been used or handled other than in accordance with the instruction manual supplied, abused or misused, damage by accident or neglect or in being transported, or the defect is due to the product being repaired or tampered with by anyone other than **AVID** or a dealer with prior authorization.
- The warranty is void if the product serial number has been removed, altered or made illegible.
- The warranty is void if the product has been taken out of the country of purchase.
- **AVID** shall not be held liable for incidental or consequential damages of any kind arising from the sale or use of its products.
- The warranty applies to ex-demonstration product, using manufacture date as purchase date.
- Where the product is sold under a consumer transaction (as defined by the Sale of Goods Act 1979) the statutory rights of the purchaser are not affected by this warranty.
- Products are sold on the basis of specifications applicable at the time of sale. **AVID** shall have no obligation to modify or to update products once sold.

Outside UK

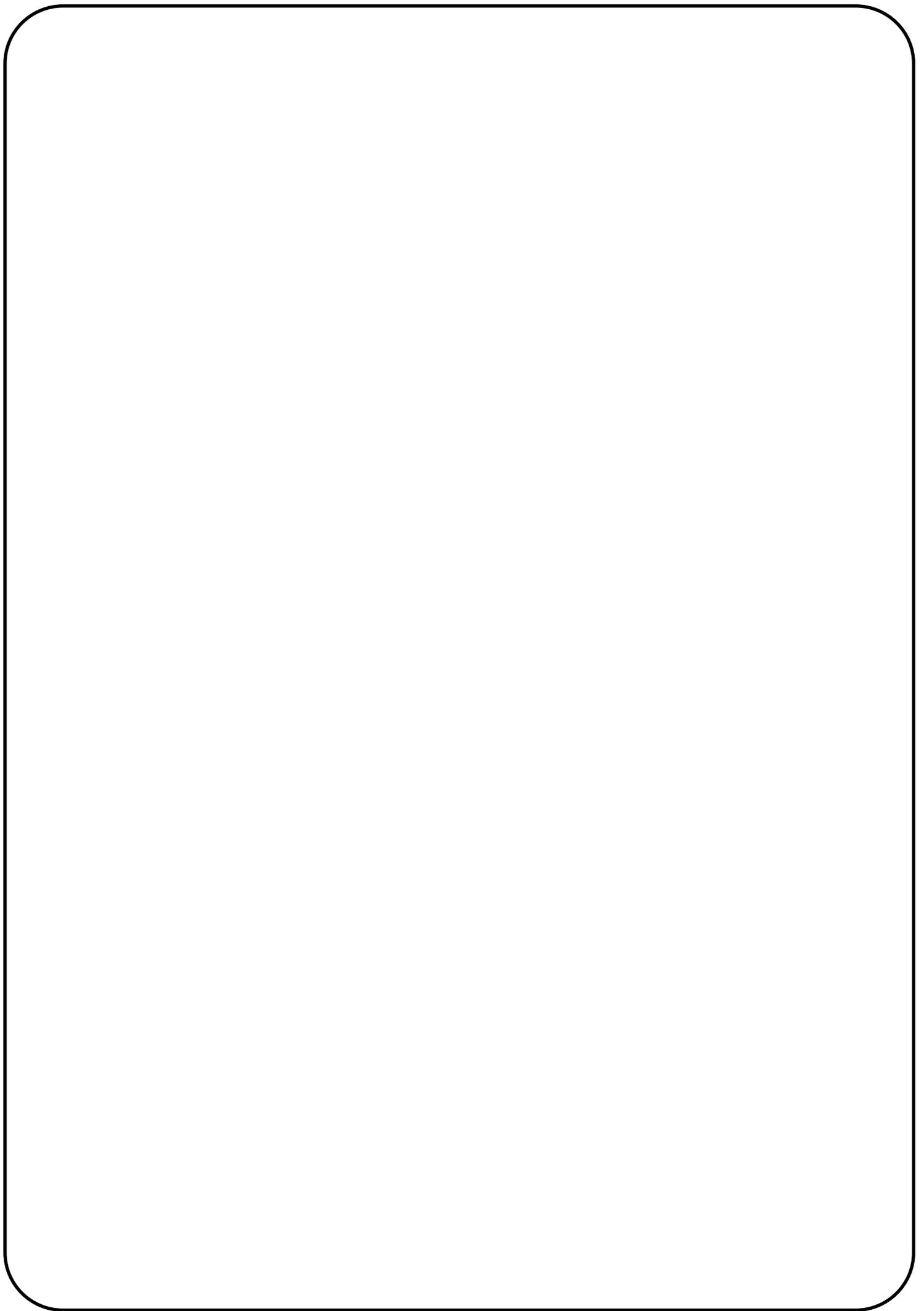
AVID has formal distribution in many countries throughout the world. In each country the **AVID** importer has contractually accepted the responsibility for the product warranty. Warranty should normally be obtained from the importing agent or distributor from whom you obtained your product. In the unlikely event of service required beyond the capability of the importer, **AVID** will, of course, back up the warranty.

- Where product has been either supplied directly or there is no current distributor, **AVID** accepts responsibility for the warranty period. Returned product must be packed in the original packing and returned to **AVID** by the customer at his/her expense. **AVID** will pay return freight of its choice. The warranty is only valid in the country of purchase.
- Products outside their original destination requires that units with remaining warranty be returned to the country of purchase for the warranty to be valid. Customer is responsible for freight both ways and all associated import and export charges.
- Foreign distributors are not required to provide warranty service, repair or change AC mains voltage on units that they did not originally import and sell.
- Foreign distributors may at their discretion offer service for a fee.

MISCELLANEOUS. ANY IMPLIED WARRANTIES RELATING TO THE ABOVE PRODUCT SHALL BE LIMITED TO THE DURATION OF THIS WARRANTY. THE WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO THE PURCHASER.

WARRANTOR. Inquiries regarding the Limited Warranty may be sent to the following address:

AVID HIFI Limited. Bicton Industrial Park, Kimbolton, Huntingdon. PE28 0LW ENGLAND





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