

User Instructions
Cyrus aEQ7

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English

Congratulations on the purchase of your *Cyrus aEQ7* phono pre-amplifier. This piece of equipment is a precision manufactured state-of-the-art product, constructed to the highest standards and specifications. This manual contains installation and operating instructions to enable the user to connect and operate this pre-amplifier correctly, thus ensuring the greatest satisfaction and long term use.

This manual is divided into the following sections.

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To enable you to make full use of the comprehensive facilities of your phono pre-amplifier please read all these sections which explain the operations of the unit in detail.

Important Note: Because of the very low levels of input signal, please read the manuals accompanying your amplifier, turntable, tone-arm and cartridge *before* installing the *Cyrus aEQ7*. You should always adhere to the recommendations of your cartridge manufacturer.

UNPACKING

Always follow the instruction manual and retain it in a safe place for future reference.

Before proceeding with installing the *Cyrus aEQ7*, ensure that the following items are included in the accessory box:

- Instruction Manual
- 2 Phono Shorting Plugs
- Power Cable
- 2 RCA Cables for *MC-Bus* connections
- Guarantee Card

After removing these items, please retain the packing for future use.

CAUTION

**POLARISED CONNECTOR (115V PRODUCTS ONLY)
CONNECTOR POLARISE (PRODUITS 115V SEULEMENT)**

To prevent electrical shock, match wide blade of plug to wide slot and fully insert

Attention: Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

SUPPLY VOLTAGE

Your *Cyrus aEQ7* pre-amplifier is set to operate from the mains supply voltage marked on the rear of the unit. Ensure this voltage is the same as your mains supply, i.e.

230V Products	Voltage Range 220V-240V
115V Products	Voltage Range 110V-120V

Consult your Mission distributor to arrange for conversion of your *Cyrus aEQ7* if you move to an area with a different mains voltage.

LOCATION

Install the *Cyrus aEQ7* in a well-ventilated location where it will not be exposed to high temperature or humidity.

Avoid installing the *Cyrus aEQ7* in a location, which is exposed to direct sunlight, or near hot appliances or radiators. Placing the unit on heat generating sources or installing it in damp or dusty conditions will affect performance and may result in malfunction or accident.

GENERAL NOTES ON POSITIONING

The *Cyrus aEQ7* may be positioned either free standing or alongside another piece of audio equipment. Never stand the *Cyrus aEQ7* under another unit. This may adversely affect the cooling of the *Cyrus aEQ7*. Never place the unit on any surface, which may hamper normal ventilation.

PRECAUTIONS REGARDING INSTALLATION

Do not allow any liquids or foreign objects to fall into this unit. When routing the power cord avoid running it over or near sharp objects. Do not stand objects on the power cord. If the *Cyrus aEQ7* is not to be used for a long period of time, unplug the unit from the mains power supply.

This unit contains no user serviceable parts.

Never remove any panels from the unit or attempt to service the unit. In the unlikely event of failure, please refer to qualified service personnel.

Important Note for UK Customers

The mains lead of this unit is fitted with a UK 13A Plug. Do NOT disassemble this plug. If for any reason you remove the plug, dispose of it safely and do not attempt to re-use it.

The wires in the mains lead are coloured in accordance with the following code: **Blue** - neutral, **Brown** - live.

If these colours do not correspond with the coloured markings identifying the terminals on your new mains plug:

Connect the **Blue** wire to the terminal which is marked with the letter **N** or coloured **Black**.

Connect the **Brown** wire to the terminal, which is marked with the letter **L** or coloured **Red**.

Ensure that your equipment is connected correctly. If in doubt, consult a qualified electrician.

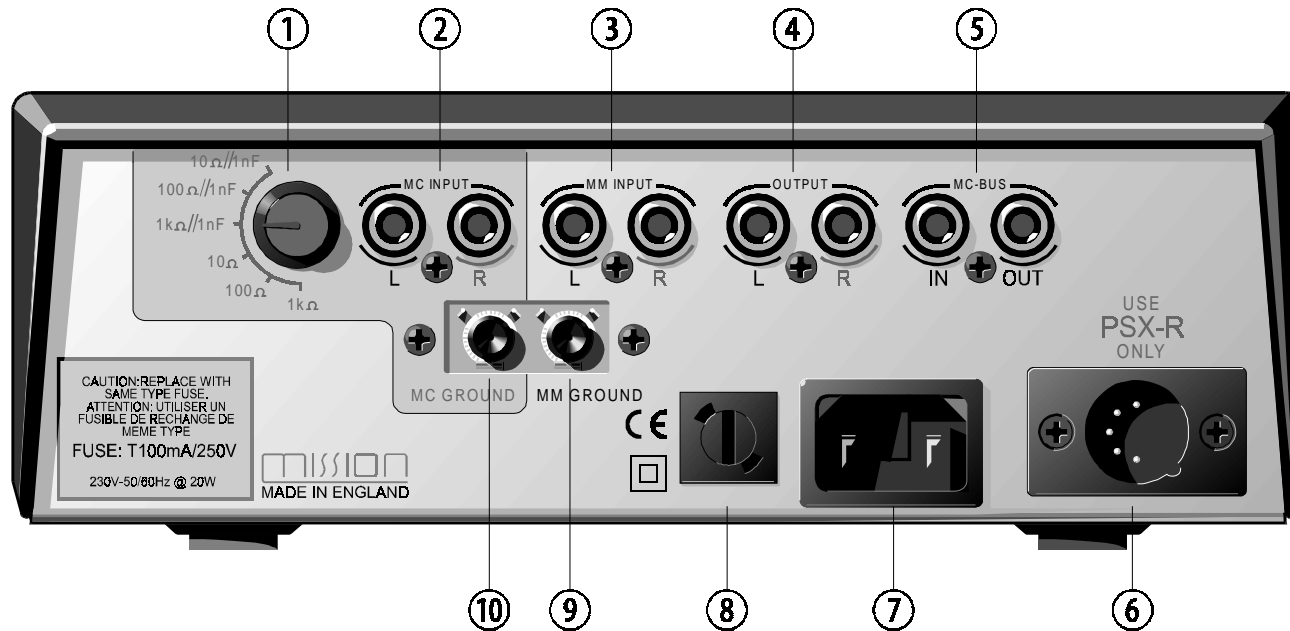


Fig. 1 *Cyrus aEQ7* (rear view)

1. MC Loading Switch
2. Moving Coil Input
3. Moving Magnet Input
4. Pre-amplifier Output
5. MC-BUS System Connections
6. *PSX-R* Connection
7. Power Inlet
8. Mains Fuseholder
9. MM Ground Terminal
10. MC Ground Terminal

CONNECTING POWER TO THE UNIT

Refer to figure 1, rear panel drawing above.

Plug the moulded IEC connector of the supplied mains lead into the power inlet on the rear of the unit.

The mains fuse is located on the rear panel. It must only be replaced with the following types:

- | | |
|------------------------------|-------------|
| U.K. / Europe - 230V | T100mA/20mm |
| N. America / Far East - 115V | T200mA/20mm |

In the U.K., the *Cyrus aEQ7* power lead is supplied fitted with a mains plug. If the plug fuse should need replacing ensure that it is replaced only with a 3 Amp Fuse.

CONNECTING A CYRUS PSX-R

If a *Cyrus PSX-R* is to be used with the *Cyrus aEQ7*, connect the umbilical cord of the *PSX-R* to the 5-pin Cannon input socket of the *Cyrus aEQ7*. When correctly fitted the connector will latch into place in the socket.

No other connections or internal modifications to the *Cyrus aEQ7* are needed for *PSX-R* connection.

Note: Please ensure that the *Cyrus aEQ7* and the *PSX-R* are unplugged from the mains before connecting the units. When a *PSX-R* is in use, both the *Cyrus PSX-R* power supply and the *Cyrus aEQ7* will require mains power. For more details refer to the *Cyrus PSX-R* Instruction Manual.

GROUND CONNECTIONS

Before connecting any input ensure that the turntable motor and tone arm are securely grounded to the *Cyrus aEQ7*.

There are two grounding systems in common use:

- The motor and tone-arm grounds are internally connected with a common ground wire. Connect this wire to either the MM or MC ground terminal ⑨ or ⑩, depending on the type of cartridge used.
- There are two ground wires, one from the motor and one from the tone-arm. Connect both these wires to the appropriate ground terminal on the *Cyrus aEQ7*.

Note: There are other grounding systems – refer to Additional Information on Page 9 for further details.

CONNECTING SOURCE INPUTS

The *Cyrus aEQ7* accepts Moving Coil and Moving Magnet cartridge inputs. If you have one turntable equipped with a MM and another one with an MC cartridge, both can be connected at the same time.

The *Cyrus aEQ7* is supplied with a pair of special shorting phono plugs. When using only one input, place a shorting plug into the left and right inputs of the *unused* inputs.

Note: These shorting plugs must only be used as described above. They should not be confused with regular phono plugs.

MOVING MAGNET (MM) INPUT

The MM input ③ accepts the following cartridges:

- Regular moving magnet cartridges
- High output moving coil cartridges
- Low output moving coil cartridges connected via step-up devices

The MM input requires no special loading provisions.

MOVING COIL (MC) INPUT

The MC Input ② is designed exclusively for use with low-output moving coil cartridges without step-up devices.

Load matching – MC cartridges

Some MC cartridges are load sensitive and some may also require an external capacitance load.

Your *Cyrus aEQ7* is provided with a loading switch ① so that you can set up your MC cartridge for optimal response.

Three load settings are available, 10Ω, 100Ω and 1KΩ.

Each load setting is available with or without a 1nF shunt capacitor. These shunt settings occupy the last three positions on the switch. Unless your cartridge instructions advise otherwise, do *not* use any capacitance loading.

Unless your cartridge instructions recommend otherwise, we suggest you use the 1KΩ setting.

CONNECTING A TURNTABLE

Most turntables will be provided with a suitable signal cable terminated with RCA phono plugs. If, however your turntable uses phono sockets and no interconnect cable has been provided, please refer to the Additional Information section on page 9 for guidance.

Input Connections

1. Ensure the grounding lead is securely connected to the correct input ground terminal.
2. Plug the RCA connectors of your tone-arm lead into the appropriate rear panel input sockets ② or ③. Observe the colour coding of the phono plugs for left and right channel identification. The standard convention is– Right Channel RED, Left Channel WHITE or BLACK.
3. If you are using only one turntable, plug the shorting plugs into the unused input sockets.

Always check the technical specification of source products before connecting them to your *Cyrus aEQ7*. If you are unsure of your cartridge type we suggest you connect it into the MM input.

Note: Connecting a MM type cartridge to the MC sockets will overload the input and may damage your amplifier and loudspeakers.

Consult your dealer if in doubt.

OUTPUT CONNECTIONS

The output sockets ④ of the *Cyrus aEQ7* should be connected to a line level input on your pre-amplifier.

For maximum functionality we recommend the following inputs when connecting the *Cyrus aEQ7* to other *Cyrus* products.

Cyrus aCA7 Use the AUX2 input

Cyrus IIIi, Cyrus Pre Use the Phono (PH) input*

*By changing the existing phono module internally, the Phono input (PH) of the *Pre* and *IIIi* can be modified to a line level input precisely matched to the *Cyrus aEQ7*.

Note: only an appointed *Cyrus* dealer should perform this operation.

Cyrus III Use AU, CD or TU input

Cyrus AV master, Cyrus MR3 Use any input

Cyrus SL Use any input

For making connections use a high quality screened interconnect. Be careful not to confuse left and right channels. The standard convention for phono connections is: Right Channel RED, Left Channel WHITE or BLACK.

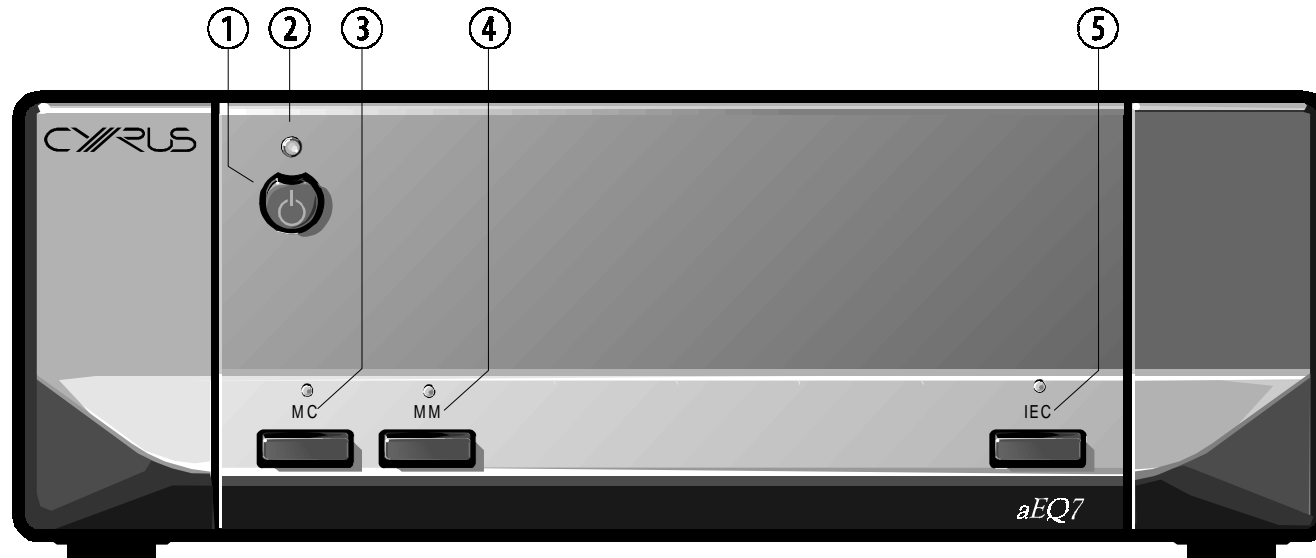


Fig. 2 Cyrus aEQ7 (front view)

1. Standby Switch
2. Standby Light
3. MC Switch
4. MM Switch
5. RIAA/IEC Selector

POWER CONTROL

Refer to figure 2, front panel drawing above.

The STANDBY key ① is used for power control. The Standby light ② will show Red when the *Cyrus aEQ7* is off and Green when operating.

SELECTING AN INPUT

Depress the MC ③ or MM key ④ to select the appropriate input. The red indicator above the key will turn on.

PLAYBACK EQUALISATION

With the *Cyrus aEQ7* you can select the traditional RIAA response or the newer IEC curve.

Press the IEC key ⑤ to select the IEC response. The red indicator above the key will turn on. When the IEC indicator is unlit, RIAA response is selected.

MC-BUS SYSTEM CONNECTION

MC-Bus can provide the option of unified power control for a *Cyrus* system from the *Cyrus* system amplifier. *MC-Bus* connections are wired as a 'loop' with single RCA phono interconnects. Instructions for *MC-Bus* connection are included in the handbook for all *Cyrus* amplifiers with *MC-Bus* connections.

OPERATION WITH MC-BUS CONNECTED

With *MC-Bus* installed, and the *Cyrus aEQ7* connected as recommended, Standby operation of the *Cyrus aEQ7* will be controlled by the system amplifier.

Cyrus aCA7, Cyrus Pre, Cyrus IIIi: When used with these units in an *MC-Bus* loop, selecting the input recommended will switch on the *Cyrus aEQ7* from Standby. This is the default factory setting.

Cyrus III, AV master, MR3: To operate *MC-Bus* with these units your *Cyrus aEQ7* requires initialisation.

Set the *Cyrus aEQ7* to Standby. Press the IEC key ⑤. and hold it down for two seconds. The indicator above the IEC key will flash once. The *Cyrus aEQ7* will now recognise *MC-Bus* commands from the *Cyrus III, AV master* and *MR3*. Take the *Cyrus aEQ7* in and out of Standby to register this setting.

To restore normal operation, repeat this process. The IEC indicator will flash twice. Remember to take the unit in and out of Standby to register the new setting.

KNOW YOUR *CYRUS aEQ7*

Power Supply and Noise Performance

To minimise noise the *Cyrus aEQ7* uses a special low-leakage, fully shielded transformer. Specially designed to minimise radiated mains harmonics, this transformer has the lowest measured leakage *Cyrus* has ever achieved.

Additionally, to reduce Eddy currents a special slit-foil screen shields the input circuitry from the mains supply.

Microcomputers, while offering convenience and ease of use also radiate H.F. noise. Special opto-isolators in the *Cyrus aEQ7* fully isolate the internal microcomputer's digital signals from the sensitive analogue stages, reducing coupled noise to negligible levels.

MC and MM Circuit Topology

MC and *MM* cartridges require completely different circuit topologies. To match your cartridge characteristics the *Cyrus aEQ7* provides a dedicated input for each type.

Each input also has its own star earth to localise turntable ground returns and improve common mode rejection.

Non Volatile Memory Storage

When you enter Standby, the *Cyrus aEQ7* stores all its settings as last used. These are recalled when the unit is next used even if it has been switched off at the mains.

Note. If you switch off at the mains without entering Standby, new settings will *not* be stored. The unit will retain the settings in use the last time Standby was entered.

PSX-R REGULATED POWER SUPPLY -

The *PSX-R* is a highly regulated DC power supply. Its use will upgrade the sonic performance of your *Cyrus aEQ7*. No adjustments are necessary when connecting the *Cyrus PSX-R* to the *Cyrus aEQ7* - full connection instructions can be found on page 4.

RIAA or IEC?

In the early 1970s the playback characteristics of phono reproducers were amended. Many audiophiles feel that this new IEC curve with its steeper bass roll-off results in a poorer bass response than the original RIAA curve. The *Cyrus aEQ7* offers you the choice of both.

If your turntable is prone to feedback or rumble and/or your loudspeakers have a highly extended bass response, you may occasionally experience some disturbance in the deep bass when using RIAA as against IEC correction.

INTERCONNECTS

Quality interconnects are essential for good fidelity and effective screening against hum and noise. Many low cost interconnects are unscreened or offer minimal screening.

If you need a tone-arm interconnect ask for a quality low-capacitance *fully screened* lead. It will be worth the investment.

Never extend tone-arm leads. Doing so can cause poor H.F. response, hum and noise.

TURNTABLE AND AMPLIFIER GROUNDING

The grounding of modern cartridges and tone-arms is straight-forward and installation should be trouble free.

Some older units use a cartridge ground lead to carry the turntable and tone-arm ground which is why you may not see a ground return connection from the turntable. Although not in accord with best modern practice, this method is acceptable.

Some cartridges have a link connecting one of the negative signal pins to the metal cartridge shield. With certain tone-arms this link could make connection between the tone-arm metal work and the cartridge ground return and set up a hum loop through the *Cyrus aEQ7*. If you think this is the case with your turntable, ask your dealer's help *before* you remove this tag.

If you are using the *Cyrus aEQ7* with equipment that requires a mains earth, do *not* use the MM or MC ground terminals for this purpose. Use an appropriate ground terminal on the ancillary equipment.

HUM AND NOISE

Take care to place your *Cyrus aEQ7* and turntable as far as possible from amplifiers, TV sets and appliances.

As well as turntables, the *Cyrus aEQ7* benefits from placement away from loudspeakers and other sources of mechanical disturbance.

TROUBLESHOOTING GUIDE

If you suspect your *Cyrus aEQ7* is not operating to specification, check carefully all system connections. If problems persist, the checklists below may help.

If these suggestions fail to resolve the problem, please return the suspect unit to your dealer for his attention.

Ensure the power to all units is switched off before altering any connections and only switch the power on again when the new connections are fully made.

No sound from either speaker

- Check the connections to your cartridge, tone-arm, *Cyrus aEQ7*, the associated amplifier and speakers.
- Check that the *Cyrus aEQ7* and associated units are operational. *Cyrus* standby lights should all be green.
- Check that the correct input (MM/MC) is selected.
- Check that the system amplifier is set to the correct input and is not muted or set to minimum volume.

No Sound from One Speaker

- Check the connections to your cartridge tone-arm *Cyrus aEQ7*, the associated amplifier and speakers.
- If your loudspeakers are fitted with protection fuses, check that the fuse is intact.
- Check the Balance Control is not at an extreme limit.
- Try another interconnect cable between the *Cyrus aEQ7* and the amplifier.

If the problem persists:

- Interchange left and right channels at the *Cyrus aEQ7* input. If the missing channel switches over there is a problem with the cartridge or the interconnect cable.

Muffled or Distorted Sound on Both Channels

- Check that the tone-arm ground wire is connected.
- Check stylus condition, alignment and tracking force.
- A MM cartridge may be connected to the MC input.
- An MC cartridge is being used with too low a load.

Distortion on One Channel

- Check stylus condition, alignment and tracking force.

The sound level is too low but the quality is OK

- A MC cartridge may be connected to the MM input.

Hum Or Interference is Present in The Background

- Check that the tone-arm ground wire is connected.
- Reposition your turntable, check for sources of interference e.g. computers, mains transformers, etc.

If the problem persists:

- Refer to your dealer for assistance.

Note: Restore the system to its original configuration after completion of all tests.

AUDIO PERFORMANCE**MC Input**

Input Sensitivity (Nom.)	210 μ V
Input Impedance (Switchable)	1k Ω , 100 Ω , 10 Ω
Overall Gain	60dB
Input Overload level (1kHz <0.01%THD)	12.7mV rms.
Output Headroom (ref. 500 μ V input, 1kHz)	28dB
Channel Balance.....	+/-0.2dB
Crosstalk (20kHz, 500 μ V input)	-80dB
S/N ratio (ref. 500 μ V input, I/P shorted) Unweighted	-70dB
A-weighted.....	-84dBA
THD (ref. 500 μ V input)	0.05%

MM Input

Input Sensitivity (Nom.)	2.7mV
Input Impedance	47k Ω
Overall Gain	37.5dB
Input Overload level (1kHz <0.01%THD)	120mV rms.
Output Headroom (ref. 5mV input, 1kHz)	27dB
Channel Balance.....	+/-0.2dB
Crosstalk (20kHz, 5mV input).....	-90dB

S/N ratio (ref. 5mV input, I/P shorted)

Unweighted	-78dBA
A-weighted	-92dBA
THD (ref. 5mV input).....	0.01%

Output

Output Voltage (Nom.)	200mV
Frequency Response (RIAA/IEC curve, 20Hz – 20kHz)	\pm 2dB
Output Impedance.....	47 Ω

POWER SUPPLY**Voltage** See the plate attached to the rear of unit**Power Consumption**

Standby	2W
Operational	9W

SafetyCompliant to EN 60065**EMC**

Compliant to EN55013 & EN55022Europe

ENCLOSURE

Dimensions (WxHxD)	215 x 75 x 365 mm
Weight.....	3.1Kg.
Material.....	Die cast chassis

The company reserves the right to change this specification without prior notice.

PRE-AMPLIFIER MAINTENANCE

There are no user serviceable parts in the *Cyrus aEQ7* so do not remove any of the panels. After disconnecting the mains power supply, the cabinet may be cleaned using slightly moistened chamois leather. DO NOT use cleaning agents containing alcohol, spirits, ammonia or abrasives.

THE MISSION/CYRUS GROUP MANUFACTURES

- Power Amplifiers
- Pre-Amplifiers
- Integrated Amplifiers
- Compact Disc Players
- Tuners
- Multi-Room Audio Controllers
- Regulated Audio Power Supplies
- D-to A Converters
- Home Theatre Processors
- High Fidelity Loudspeakers
- Loudspeaker Stands
- Loudspeaker Cables
- Automotive Hi-fi Products

GUARANTEE

This guarantee only becomes effective if the guarantee card enclosed is completed by the Dealer and the purchaser and returned to MISSION or Distributor within 8 days of purchase.

This guarantee excludes:

- i) All damage caused through accident, misuse, wear and tear, neglect or through incorrect installation, adjustment or repair by unauthorised personnel.
- ii) Liability for damage or loss occurring in transit to or from the purchaser.

Claims under this guarantee should be made through the Dealer from whom the equipment was purchased or if not convenient, through another authorised MISSION/CYRUS dealer.

MISSION shall not be liable for consequential damage, loss or injury, arising from or in conjunction with this equipment.

The cost of return carriage shall be borne by the purchaser.

This guarantee is personal to the original Purchaser and is not transferable.

If equipment is found on examination to comply with the published specification, MISSION reserves the right to make a charge for examination and for return carriage.

No Dealer or Distributor may vary the terms of this guarantee.

Any unauthorised servicing will result in loss of guarantee.

We strongly recommend that you retain the sales receipt for your *CYRUS* equipment in case of any warranty claim.

The above conditions do not affect your statutory rights.