



GALACTRON



Owner's Manual
MK 2280

Thank you and congratulation.

By choosing GALACTRON you have not only purchased a sophisticated and refined piece of hi-fi sound reproduction equipment but have also acquired 40 years of experience, research and interrupted love for music.

The most important content of your new GALACTRON is not its built-in technology but rather the tradition of excellence, appeal and style associated with our name, earned in over the span of our history, a name is now almost a legend.

We have worked hard to perfect this technology and bring it to market at an acceptable price, driven by our passion for music and humbly convinced to provide a small contribution to the man's peace of mind by creating instruments with which to enjoy music.

The best reward of our enterprise is your satisfaction and the serene hours you will spend listening to your GALACTRON.

BEFORE STARTING

Your GALACTRON amplifier is ready out of the box to be plugged into the household wall outlet and to other components of your hi-fi system without the need for internal setting.

DO NOT OPEN THE AMPLIFIER CASE FOR ANY REASON: ANY REPAIRS OR ADJUSTMENT TO BE MADE INSIDE THE UNIT MUST BE PERFORMED BY A GALACTRON DEALER OR CERTIFIED SERVICE CENTER.

To meet the acting regulations and ensure your safety, always disconnect the power cord from the main power line before working on this equipment.

PLEASE READ THIS MANUAL CAREFULLY: GALACTRON AMPLIFIER DIFFER GREATLY FROM ALL OTHER AMPLIFIER, AND THEIR CORRECT USE REQUIRES AN AT LEAST CURSORY LEVEL OF INSTRUCTION.

PARTS LIST

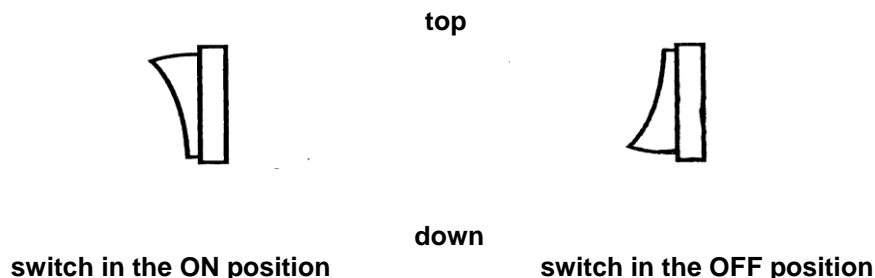
In addition to this manual, the packing should include the following material:

- MK 2280 integrated amplifier
- power cord, meeting IEC specs
- infrared remote control
- guarantee card

POWER LINE REQUIREMENTS

The amplifier includes a separate power cord, which has an IEC norm socket on one end and a 10 A plug on the other.

Before inserting the IEC socket into the recessed plug located on the rear panel of the amplifier (see the Chapter on “Connections and Checks”), make sure the main power switch is in the OFF position.



The amplifier is factory wired for a nominal line voltage of 230+5% V: TO USE A DIFFERENT VOLTAGE, CONTACT A GALACTRON SERVICE CENTER. The 230 V line voltage is the new European standard.

CONNECTING COMPONENTS

Connection with other pieces of audio equipment does not have special limitations. Be sure to use suitable cables and connectors, so as not to degrade the exceptionally high performance of these amplifiers.

The various connection possible and the electrical specifications of the input and output are reported in detail in the following chapters.

WARNING: CONNECTING THE SPEAKER OUTPUT TO THE LINE VOLTAGE OR ANY FORM OF CURRENT GENERATOR WILL DESTROY THE FINAL POWER STAGE.

COMMANDS AND CONTROLS

GALACTRON integrated amplifiers do not have front panel commands, and their function are selected and adjusted with the enclosed remote control.

The remote control is also normally used to turn the amplifier ON and OFF. If you plan not to use the amplifier for an extended period of time, you can completely shut down the unit by setting the main power switch to the OFF position.

PLACEMENT

The dissipation of the heat produced by the power MOSFET is a slot way, placed above. The particular configuration as it takes advantage of the upward convection of hot air, drawing it down over the device and funnelling it to the upper slots. With this solution it is not necessary to provide a large space side and top, but it is good that the amplifier remains above a certain free space to allow the air vent slits. In order to receive commands, in addition, the infrared receiver must not be covered by anything and the front panel of the amplifier must be well in sight to the remote.

CONNECTION AND CHECKS

REAL PANEL

The rear panel of the amplifier is divided in two by the heat sink: the left side houses the signal connections and the right side the power connections.

1. POWER SOCKET

This is a standard IEC recessed plug. Any power cord meeting this standard can be use. If the power cord supplied with your unit does not fit into your wall outlet, replace it with one that is rated at least 10 A.

2. MAIN POWER SWITCH

This serves to power up and completely shut down the unit. Under normal operating conditions, it should be left in the ON position, thus supplying power to the control microprocessor.

3. MICROPROCESSOR LINE FUSE (0.5 A)

This fuse protects the power supply of the circuits that control the amplifier's remote control.

4. MAIN LINE FUSE (3.5 A) (7 A for 110 V or 100 V, main line voltage)

This fuse protects the power supply of the audio circuits of the amplifier.

5. L1 INPUT

Line Input Unbalanced, RCA pin jack golden, selectable by pressing the L1 button on the remote control. You can connect any equipment with a rated output greater than 400 mV. Only MK 2280 and MK 2225 balanced line input XLR connectors.

6. L2 INPUT

Unbalanced line input, selected by pressing the L2 button on the remote control. Accepts any source that has a nominal output level ranging from 400 mV to 6 V.

7. L3 INPUT

Unbalanced line input, selected by pressing the L3 button on the remote control. Accepts any source that has a nominal output level ranging from 400 mV to 6 V.

8. L4 INPUT

Unbalanced line input, selected by pressing the L4 button on the remote control. Accepts any source that has a nominal level ranging from 400 mV to 6 V.

9. L5 INPUT

Unbalanced line input, selected by pressing the L5 button on the remote control. Accepts any source that has a nominal level ranging from 400 mV to 6 V.

10. RIGHT SPEAKER OUTPUT

Power output, with gold plated terminal. These terminals accept stripped wire up to 6 mm² or a standard 4 mm banana jack. Connect the "+" terminal to the positive binding post of the right speaker and the "-" terminal to the negative binding post of the right speaker.

11. LEFT SPEAKER OUTPUT

Power output, with gold plated terminal. These terminal accept stripped wire up to 6 mm² or a standard 4 mm banana jack. Connect the "+" terminal to the positive binding post of the left speaker and the "-" terminal to the negative binding post of the left speaker.

12. REMOTE CONTROL

Digital output, to be used only to control an additional add-on GALACTRON. **When this output is not in use, the plug inserted at the factory must be left in place; this plug should only be removed to connect the control cable to a GALACTRON power amplifier.**

13. FRONT PANEL

On the front panel there are 3 controls, Source Selection, Volume, Power On - Off.

On the front panel there are:

POWER

Red LED.

It lights red when put in the "OFF" the power switch, it indicates that the amplifier is connected to the network, but in stand-by mode.

WARM-UP

In the moment of switching on the amplifier, for about 30 seconds, the red LED will flash with the selected input source, this means the WARM-UP.

During this short period, you cannot use the amplifier.

During this stage, it is normal that there is a slight background noise.

When the LED will stop flashing and the volume knob will rise with a minimum sound pressure, then your Galactron will be ready.

To have the top of the sonic performance, the amplifier must be able to reach a certain thermal stability.

L1

Indicates that you have selected the input L1.

L2

Indicates that you have selected the input L2.

L3

Indicates that you have selected the input L3.

L4

Indicates that you have selected the input L4.

L5

Indicates that you have selected the input L5.

VOLUME

The knob is equipped with an internal motor that raising and lowering the volume from the remote control knob rotates, indicating the sound pressure you require.

INFRA RED DETECTOR

All commands to the amplifier are communicated via this sensor. The infra red detector should be kept free of obstruction, and the front of the amplifier should face towards the listening area.

REMOTE CONTROL

There are 8 buttons on the remote control.

L1

Pressing this button turns on the amplifier and select the input L1.

L2

Pressing this button turns on the amplifier and select the L2 input.

L3

Pressing this button turns on the amplifier and select the input L3.

L4

Pressing this button turns on the amplifier and select the input L4.

L5

Pressing this button turns on the amplifier and select the input L5.

VOLUME

Pressing these keys (L5 + Mute) you are controlling the increase in the volume of the amplifier.

MUTE

Pressing this button will lower the volume by 20 dB. To restore the original volume, just press.

STAND-BY

By pressing this button (Volume + / - at the same time) you turn off the amplifier, putting it in standby mode: in this condition the microprocessor control is active, while the amplifier itself is turned off.

To turn the amplifier, simply press one of the buttons for selecting the input 1,2,3 or 4.

BATTERY COMPARTMENT

The remote control to operate at need 4 AAA batteries (AAA). Below a certain level of charge the remote control stops functioning completely.

HOW TO OPERATE THE AMPLIFIER

CONNECTING SPEAKERS

The power outputs are made with screw terminals gold, able to accept both bare wire up to 6 mm², both terminations fork, both terminations standard banana with 4 mm diameter. the use of simple stripped cable is, however, not recommended due to the strong surface oxidation of copper, both naked tinned or silvered. The amplifiers Galactron have no protection whatsoever on the outputs, either in voltage or current. For this reason the output stages have been made with a huge over sizing (the dissipation capacity of the mosfet end is equal to eight times the nominal power of 8 Ohm), so as to withstand without damage the short circuit of the output terminals, even in the presence of strong input signals. This does not mean, however, that any output short circuit does not have any consequences. Inside there are 4 fuses on the amplifier power supplies that prevent final drawing too much power: to burn them to the finals due to a power outage and then the amplifier stops operating. To replace them you need to bring the amplifier at a service Galactron center.

The lack of protection and robustness Galactron supply allows the amplifiers to drive any speaker, as is its low input impedance, without the risk of saturation and dynamic compression. In case the impedance seen by the amplifier is particularly low (less than 2 ohms) and the volume is kept very high for long periods, the current delivered by the final cause a considerable increase of the temperature of the heat sink.

POWER

Galactron The amplifiers are controlled by a microprocessor that controls all functions, even without intervening in any way the audio signal path. For this reason, the ignition procedure differs from that of normal amplifiers. Bringing in the "ON" the power switch the amplifier goes into standby mode: in practice are fed the control circuits, but it is not connected to the network the primary winding of the power transformer primary. In this situation, the LED "POWER" lights red.

To turn the amplifier simply press the Power button on the front panel to the right, at this point, the microprocessor starts the ignition process itself. First, the relay that supplies power to the power supply main, and the LED "POWER" After about 4 "output of the preamp stage, that the unit is in stand-by mode is shorted to ground, is enabled, the microprocessor initiate procedures to control the heating and the red led with the selected source flashes.

HEATING

At this point, the amplifier is ready to operate. However, because of the particular circuit structure, devoid of total feedback loop, the amplifier is not able to express all its qualities until it has been reached a certain thermal stability.

During heating, it is normal to an increase, even significant, of the background noise.

The duration of the heating period is not fixed, but depends on the time in which the device has been stopped and how long it has been on before switching off: in fact, the microprocessor takes into account the effective initial temperature of the heat sink.

SOURCE SELECTION

The source selection is made by pressing the buttons on the remote control or by turning the knob on the front panel. For each selection the new source is switched in place of the previous year. The selected source is displayed when the relative written on the front panel.

Switching the source, the knob will lower the volume automatically, and then bring it back to a pressure at about eight o'clock, which you can then raise or lower the volume to your liking.

VOLUME

The volume control is done using the two buttons on the remote control or by turning the knob in the center, on the front panel. The adjustment of the volume has been divided into forty-eight steps, very close together when there is little attenuation, and progressively increasing hand in hand that the signal is attenuated.

The maximum attenuation possible before the last shot is -48 dB; taking the last shot because the total silencing.

When you press one of the volume control buttons on the remote control, the front panel will illuminate on and the arrow that indicates whether the level is climbing or descending. Arriving at the maximum attenuation or maximum exaltation written and arrows do not light up anymore, indicating that they have been reached the limits of adjustment.

Press "MUTING", when pressed on the remote, due to the lowering of instantaneous output level of 20 dB. To return to the original level is sufficient to press the switch.

TURNING OFF THE AMPLIFIER

To put the amplifier in STAND-BY, and just press on the remote control simultaneously the keys (+ / -).

To turn off the amplifier you must first press the right button on the front panel and then subsequently lead to the OFF position the switch on the rear panel. The microprocessor control provides first a short circuit by the output signal from the preamplifier, so as to prevent impulsive noise, then deactivates the relay that supplies power to the power supply main: at this point all the lights on the panel are turned off.

WARNING: NEVER TURN OFF THE AMPLIFIER WITH THE MAIN LINE SUPPLY POWER SWITCH BEFORE HAVING PLACED THE UNIT IN STAND-BY. THIS ERRONEUS PROCEDURE WILL CAUSE VIOLENT TRANSIENT AT THE AMPLIFIER OUTPUT, WITH POTENTIALLY DANGEROUS EFFECTS ON THE SPEAKERS.

TROUBLESHOOTING

The main power switch is turned on, but the POWER LED is not illuminated.

The wall outlet is not powered.

Check that the correct voltage is presents at the end of the power cord. If the mains supply voltage is supplied to the machine

The fuse to the microprocessor has blown*.

Turn off the amplifier, disconnect the cord from the wall socket, remove the fuse from its holder and check for continuity.

If the fuse is in good condition,

The POWER LED is burned out

Try to activate the amplifier using the remote control. If there is not action,

The microprocessor has failed.

The POWER LED is illuminated but the amplifier does not respond to the remote control.

The infrared detector on the amplifier is obstructed, or it is placed at an angle greater than 30° with respect to the remote control.

Check that the amplifier is in correct position.

If the amplifier is in the correct position,

The batteries in the remote control unit are dead.

Check the battery charge level, and replace as required.

If the battery are charged,

The remote control unit has malfunctioned.

Try setting the amplifier with another remote control of the same type.

If the unit still does not work properly,

the infrared detector has failed.

The amplifier goes ON normally, but no sound is produced by the speakers.

The program source is not connected correctly.

Check that the input selected is correctly connected to the audio source.

If the connections are correct,

The source is not functioning properly,

Check that a correct signal is output by the source.

If the output signal is correct,

The cable are bad.

Check the electrical continuity of the cables and jacks.

If they are not interrupted,

The speakers are hooked-up incorrectly.

Check that the speakers are correctly connected to the output terminals.
If the connection are correct,

The power cable are interrupted.

Check the continuity of the cables.
If they are not interrupted,

A fuse might as blown into the amplifier's PC board.

Have the amplifier checked from a suitable Service Station.

The amplifier goes into PROTECTION mode, (power led orange)

One external or internal fuse might has blown.

Check the external or internal fuse might has blown.
Check the external 3.5 A (or 7 A) main fuse.

Have the internal fuses checked by a suitable Service Station.

After being turned on with the power switch, the amplifier goes in stand-by and then goes On automatically, regarding less the commands sent with the remote control. Symmetrically, once turned off with the remote control, the amplifier goes in stand-by for four seconds and then goes On again.

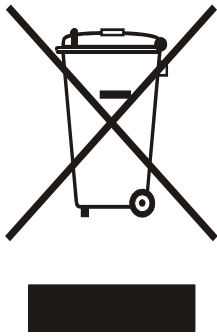
The factory installed plastic plug has been removed.
Plug-in again the plastic lug or a simple RCA pin jack NOT short circuited.

TECHNICAL SPECIFICATION

MK 2280

Continues Power	2x80 W 8Ohm 2x152 W 4Ohm 2x220 W 2Ohm
Inputs	4 unbalanced RCA 1 balanced XLR
Signal to Noise Ratio	s/n 100db
Peak Current Output	60 Ah
THD (at rated power)	1.6%
Remote control	infra red
Weight	30 Kg

Instructions for Recycling



The symbol on the side, shown on the packing of the product means that the product, if it is no longer used, cannot be treated as unsorted municipal waste, but must be returned to a collection point for the recycling of electrical and electronic equipment, in accordance with the regulations (WEEE Recycling of Electrical and Electronic equipment). Ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate handling of this product as unsorted municipal waste. The recycling of materials will help to conserve natural resources.

Caution !

Changes or modifications not approved by the manufacturer could void the compliance to laws and make the device unsuitable for use by the user. The manufacturer declines all responsibility for damage or injury caused by the use of a device subject to unauthorized modifications or improper operation or system failures subject to unauthorized changes.



Conventions and Meaning of the Symbols

This document contains instructions on generic safety, installation and use for Filter Power MK-600. It is important that you read this document before proceeding to use this amplifier. Pay particular attention to the safety instructions.



Appears on the unit to indicate the presence of dangerous voltage not isolated inside the unit. Voltages sufficient to constitute a risk of electric shock.



Appears on the unit to indicate important instructions for use or maintenance instructions in the accompanying literature.



Appears on the unit to indicate compliance with the directives on electromagnetic compatibility (EMC) and safety (LVD) issued by the European Union.

WARNING!

It calls attention to an operating procedure, practice, or similar use which, if not correctly performed or adhered to, could result in personal injury, death or damage to the machine or other objects.

NOTE !

Draws attention to information that is considered essential to highlight.



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