

USER MANUAL

GOLDMUND TELOS 5000
MONO POWER AMPLIFIER



Congratulations.

Thank you for purchasing the GOLDMUND Telos 5000.

You have acquired the best Universal Power Amplifier ever made for professional and domestic uses. Please take some time to read this manual. It may provide you with useful information to make your pleasure of listening to the Telos 5000 even higher.

INTRODUCTION

GOLDMUND TELOS 5000 MONO POWER AMPLIFIER

Goldmund was founded in 1978 and has ever since been dedicated to the accurate reproduction of sound and image.

At Goldmund, we strive to lead in the creation, development and manufacture of the industry's most advanced technologies, including audio and video systems, home - networking and music distribution.

The guiding principle at Goldmund is to produce a precise sound with the least possible loss of quality through the different stages. Goldmund will never adopt a technology before it is sufficiently developed to satisfy the high quality standards we set. This is why Goldmund has often rejected mainstream technologies and developed its own.

W A R N I N G !

No connection or manipulation must be done before reading those instructions. Damage of the amplifier may result if the following instructions are not consciously understood and applied.

These extremely high quality amplifiers possess new technical features which are a necessity for accurate sound reproduction in the best audio systems.

Only careful installation and use can provide the satisfaction you are expecting.

The installation instructions must be carried out in full and the mentioned precautions taken to get the expected result and to avoid impairing the amplifier's performance.

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1

UNPACKING

You will find in the GOLDMUND Telos 5000 box:

- The amplifier
- 3 power cords: 2 special ones, 1 regular one
- This manual

Please keep the packaging in case you need to transport the amplifier at a later date.

Warning

If you need to return the Telos 5000 to the factory or to your local representative for a warranty repair, please note that it must be repacked in the original packaging.

Note:

This packaging has been designed specifically to protect your telos 5000 in transit. Use of alternative packaging is likely to result in damage, invalidating warranty cover.

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CHOICE OF AMPLIFIER LOCATION

The GOLDMUND Telos 5000 amplifier, as all high quality amplifiers generates a large amount of heat when driven at high levels and must be vented properly. It is mandatory to allow a proper cooling of the heat sinks. Do not put temperature sensitive equipment on top of the amplifier.

Due to its weight, and to maximize the effect of the built-in "Mechanical Grounding" construction, the Telos 5000 is better located on the floor. Other very strong supports can be used if they offer rigid transmission to the floor.

The Telos 5000 is built on four very hard conical feet to ensure proper vibration transmission to the amplifier support. This evacuates all detrimental vibrations inside the amplifier, following the famous GOLDMUND "Mechanical Grounding" principle.

Depending on the flatness of the surface where the amplifier will be located, you can adjust the four round flat feet of the amplifier to allow full contact of the points with the support.

CONNECTIONS

Connect the 3 power cords to the back of the amplifier and plug it into the nearest wall plugs. Use only a 3 lugs grounded plug, for safety reasons. To get the best sound from the amplifier, avoid any multiple plug or extension cord.

The Telos 5000 amplifier is provided with 2 sets of inputs:

- Analog input to connect either a “balanced” (XLR) cable or an “unbalanced” RCA cable.
- Digital input / output to connect.

If used with an analog signal, connect the interconnect cable between the preamp and each power amp and then select the analog unbalanced or balanced input in the menu (see chapter 4). You may either use the RCA female socket or the XLR. For Analog input, the XLR socket is wired as follows:

1. Grounding, Shielding
2. Hot
3. Cold

When used with a digital input signal, connect the digital input cable to the digital input (“in”) and switch the input menu to digital (see chap 4). Since a digital Spdif cable carries 2 channels you may link the digital output (“out”) to the next amplifier to transfer the second channel.

Connect the speaker cable to one of the red and black terminals in the back of the amplifier, or, if you use a Goldmund Special High Definition speaker cable, plug one or more speaker cable to the coaxial plugs on the back panel of the amplifier (noted ABCD).

All the back connectors on the amplifier are in parallel and can be used indifferently.

WARNING:

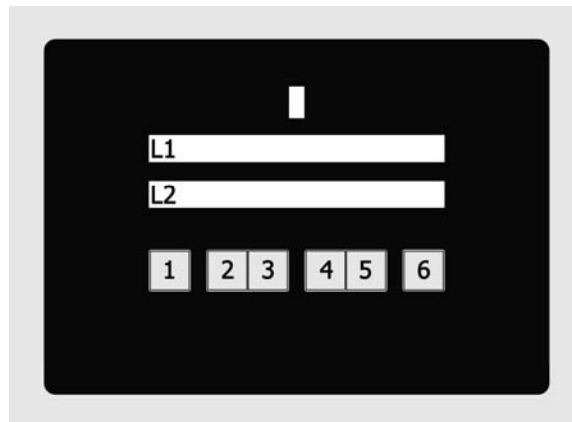
- The voltage of your amplifier is definitely not modifiable.
- On the Telos 5000, none of the output connection is connected to ground. You must be very careful that even the black post never comes in contact with the chassis of the amplifier.
- For transferring a large amount of current (low impedance speakers), Goldmund recommends using 2 cables in parallel. A special adaptor is available to connect the 2 cables on the speaker side.

4 AMPLIFIER CONTROLS

As soon as the amplifier has been connected to the AC line and if the amplifier has not detected an error previously, yellow lights on the amplifier's front panel start blinking. After 1 minute and 30 seconds the yellow led will go on and the display will go off.

4.1 Manual Operation

Warm up



To switch your Telos 5000 on, press simultaneously the button 1 and 6.

The screen displays:

L1: GOLDMUND TELOS 5000

L2: POWERING ON

When the powering process is finished (approximately 30s), the screen shows:

L1: GOLDMUND TELOS 5000

L2: on the left: MENU, on the right: UN-MUTE

4 AMPLIFIER CONTROLS (ctd)

4.1 Manual Operation (ctd)

The amplifier needs to be un-muted to operate. To do so, press the button 6.

The screen will then show:

L1: OPERATE

After 1 minute and 30 seconds the green led will go on and the display will go off.

To mute the amplifier, press the button 6 again.

To switch your amplifier off, press simultaneously the button 1 and 6.

4.2 MENU

To configure your power amplifier, select "MENU" pressing the button 1.

For the navigation inside the MENU, you will have to use the buttons 1, 2, 3, 4, 5 and 6:

- button 1: to select your choice
- buttons 2 and 3: up/down navigation for sub-menus in the first line one of the display
- buttons 4 and 5: left/right navigation inside the sub-menus in the second line (L2) of the display
- button 6: to exit from the menu

The MENU program is established as shown:

INPUT SELECTION:

L1: INPUT SELECTION

- L2:
- Digital Left
 - Digital Right
 - Analog unbalanced rca
 - Analog balanced x1r

Important:

As a precaution for failures due to AC line and considering the extreme power capability of the Telos 5000 when powered ON, the input selection must be re-entered in the menu before un-muting the amplifier.

4 AMPLIFIER CONTROLS (ctd)

4.2 MENU Configuration (ctd)

INPUT LEVEL ADJUSTMENT:

Depending of the selection in the Sub-menu1, you can face the four following possibilities of sub-Menu 2:

L1: GAIN DIGITAL LEFT
L2: from -9dB to +9dB by 3 dB scale (-9, -6, -3...)

or

L1: GAIN DIGITAL RIGHT
L2: from -9dB to +9dB by 3 dB scale (-9, -6, -3...)

or

L1: GAIN ANALOG UNBALANCED
L2: from -9dB to +9dB by 3 dB scale (-9, -6, -3...)

or

L1: GAIN ANALOG BALANCED
L2: from -9dB to +9dB by 3 dB scale (-9, -6, -3...)

INPUT LEVEL BYPASS:

L1: INPUT GAIN CIRCUIT
L2: - ACTIVE (the program takes into account the gain values selected in the previous sub-menu)
- BYPASS (the program ignores the previous gain selection)

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AMPLIFIER CONTROLS (ctd)

4.3

Other display

If an abnormal situation is found by the Telos 5000, the error description is displayed on the screen.

The amplifier turns into MUTE mode automatically and is locked for about 10 seconds.

List of the potential errors:

PSU ERROR 1 (ANALOG)

The amplifier is muted, then is locked and shut down. You should re-start it by pressing the buttons 1 and 6 simultaneously.

PSU ERROR 2 (DA)

The amplifier is muted, then is locked and shut down.

Check if the three cables are well plugged.

Then, re-start the amplifier by pressing the buttons 1 and 6 simultaneously.

PSU ERROR 3 (RELAY)

The amplifier is muted, then is locked and shut down. You should re-start it by pressing the buttons 1 and 6 simultaneously.

DIGITAL INPUT UNLOCK

The amplifier is muted.

Check the digital input cable which could have been disconnected.

NON AUDIO DIGITAL DATA

The amplifier is muted.

MAX POWER OVERLOAD

The amplifier is muted.

HF OSCILLATION DETECTED

The amplifier is muted, then is locked and shut down. You should re-start it by pressing the buttons 1 and 6 simultaneously.

4 AMPLIFIER CONTROLS (ctd)

4.3 Other display (ctd)

DC OFFSET DETECTED

The amplifier is muted, then is locked and shut down. You should re-start it by pressing the buttons 1 and 6 simultaneously.

OVER HEAT

The amplifier is muted, then is locked and shut down. You should re-start it again by pressing the buttons 1 and 6 simultaneously.

Warm-up sonic effect

When the amplifier has not been used recently it will take 10 to 15 minutes for the amplifier to reach optimum operating temperature, as the circuits have to warm up to around +55 degrees Celsius (+131 degrees Fahrenheit).

Speaker polarity

Even if you have a phase inverter on your preamplifier (as on the GOLDMUND MIMESIS 2 or MIMESIS 22) there is a possibility to further increase the sonic quality of your speakers by reverting the polarity of the speaker cable amp termination.

If your preamp has an absolute phase inverter, this will interfere too. If it has not, don't forget the result will depend on the source, as most records and CDs have been recorded without care for the absolute phase. Be patient...

The GOLDMUND exclusive "Mechanical grounding"

In the GOLDMUND Telos 5000 amplifier, GOLDMUND has, to a degree never reached before in any other Ultimate Line components, fully implemented an optimized vibration evacuation path. This is called by GOLDMUND: "The Mechanical Grounding Construction".

The perfect adjustment of this evacuation provides the Telos 5000 with an extraordinary dynamic capability and transparency, especially on low efficiency speakers.

To get all the benefits of this design, the Telos 5000 must be located on a very rigid floor, to be directly coupled with the building's rigid construction. Try various locations until you find the most rigid one. Avoid any decoupling material, carpet especially. Use the four pin-point feet to couple the amplifier to the supporting furniture or to the floor with perfect stability.

When the proper grounding is achieved, the sonic improvement is obvious and worth the effort.

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SAFETY FEATURES AND MAINTENANCE

The GOLDMUND Telos 5000 amplifier provides sophisticated features to protect the amplifier and the speakers against all mishandling or component failure. However, precautions must be taken to avoid problems with a very high power amplifier.

6.1

PROTECTION AGAINST DC

The Telos 5000 is a DC-coupled amplifier. If the associated preamplifier is badly designed or defective (often true for the tube preamps), the speakers could be damaged.

In such a case, the DC protection circuit of the Telos 5000 will automatically turn off the amplifier. This detection circuit is totally immune to any sonic effect.

To indicate that the amplifier has been turned off by the protection circuit, a red Led will be displayed on the front panel.

When the source of DC offset is suppressed, turn ON the amplifier again.

6.2

PROTECTION AGAINST HIGH FREQUENCY OSCILLATIONS

In the same way, the speaker must be protected against a large amount of high frequency oscillation to avoid any danger for the tweeters, even if these frequencies remain unnoticed.

The amplifier is by itself extremely stable. However some mishandling must be avoided in order to prevent any oscillation:

- Never plug an input cable into a power amp when it is turned on.
- Be careful to use only very high quality interconnects. If the ground connection becomes loose, there is a big danger of oscillation. Warranty is voided if this occurs.
- Never run the input and output (speaker) cables in parallel.

If the TELOS 5000 detects excessive oscillation, the amplifier will be turned off automatically. You will have to suppress the source of oscillation and turn it ON again once the protection is activated.

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SAFETY FEATURES AND MAINTENANCE (ctd)

6.3

OVERHEATING PROTECTION

If for any reason (malfunction, too high level, too low load impedance) the temperature of the amplifier could reach a dangerous level and the Telos 5000 could be damaged.

To avoid this type of damage, if the temperature rises too high, a protection circuit switches the amp off automatically. A red front panel light indicates that the amplifier has been turned off by the protection circuit.

If this happens, let the amplifier cool for some time. We strongly recommend investigating the cause of the temperature gain before operating the amp again.

Protection against short-circuits

If one output is short-circuited by accident and the current becomes too high, the TELOS protection circuit may be activated.

In such a case the Overload red Led on front panel will turn on.

First carefully check why the overload occurred and remove the cause.

Then switch the power on if the short-circuit has been detected and removed.

To avoid Overload occurring, always switch OFF the amp before trying any manipulation of the speaker cables.

There is no risk to leave the speaker terminals unconnected when the amp is on.

6.4

MAINTENANCE

The GOLDMUND Telos 5000 amplifier usually requires no maintenance.

To clean your Telos 5000 surface, use only a soft, clean, dry or slightly damp cloth.

Avoid using domestic cleaning products and abrasive or harsh cleansers (eg. products containing sodium carbonate).

All enquires relating to product servicing and operation should be referred to the local authorized retailer supplying and supporting your Goldmund equipment.

Warning! Always turn the power off before cleaning your preamplifier.

There are no user serviceable parts inside the Telos 5000. Unauthorized servicing or alteration invalidates the manufacturer's warranty.

TECHNICAL DATA

POWER

Maximum Continuous Power:

- 1250 W for 8 Ohms
- 2500 W for 4 Ohms
- 5000 W for 2 Ohms

Maximum Instantaneous Power:

- 1510 W for 8 Ohms
- 3020 W for 4 Ohms
- 6050 W for 2 Ohms
- Maximum instantaneous current: 252 A peak
- Maximum voltage swing: 110 V peak

FREQUENCY RESPONSE

These figures are valid for the circuit alone, at any level between 0 and nominal power.

- +/- 0.1 dB, 0 - 300 kHz,
- +/- 1 dB, 0 - 800 kHz.
- +/- 3 dB, 0 - 2.5 MHz.

GROUP DELAY

Propagation delay < 100 ns stable with frequency from DC to 200 kHz.

DISTORTION

- THD + N input stage analog: 0.0005%

(1 Vrms input, 80 kHz bandwidth measurement)

Bal or unbalanced in and for any input attenuation settings (flat with freq, 20Hz - 40 kHz)

- THD + N input stage + DA: 0.0005%

(0 dBfs, 80 kHz bandwidth measurement)

Balanced or unbalanced in and for any input attenuation settings (flat with freq, 20Hz - 40 kHz)

- THD + N amplifier: < 0,01% for max power
< 0,001% for power below 1000W

TECHNICAL DATA (ctd)

CIRCUIT SPEED

- Slew rate: > 200 V/us
- Rise time: < 200 ns

NOISE

- Signal to noise ratio: > 122 dB
- A Weighted: > 138 dB

POWER SUPPLY

- 16 separate transformers
- Hyper-velocity rectifiers and large batch of 24 ultra-low impedance capacitors to increase speed

OUTPUTS

2 x 5-way binding post and 4 x balanced Goldmund Speaker cable Lemo connectors

INPUTS

- RCA Analog unbalanced input
- XLR Analog balanced input
- RCA Digital S-PDIF Input and Output

MAXIMUM ANALOG INPUT LEVEL

- 4.8 Vrms unbalanced
- 9.6 Vrms balanced

PROTECTION CIRCUIT

Telos original protection circuit against overload acting in less than 10ns to protect the extremely fast circuit.

SIZE AND WEIGHT

47 cm (19 ") W x 39 cm (15.5 ") D x 94 cm (37.5 ") H. Weight: 260 kg.

WARRANTY

3 years, parts and labor.

SCHEMA BACK PANEL

