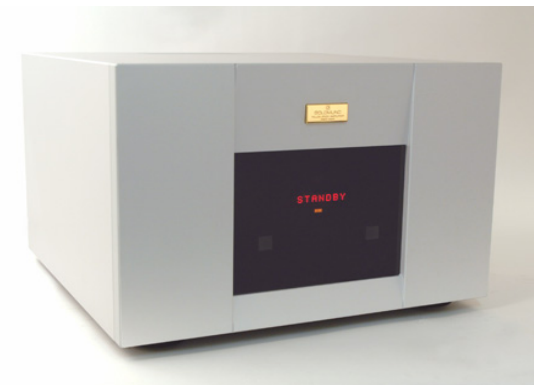


USER MANUAL

GOLDMUND TELOS 2500 Universal Power Amplifier



Congratulations.

Thank you for purchasing the Goldmund Telos 2500.

You have acquired the best Universal Power Amplifier ever made for professional and domestic uses.

Please take some time to read this manual. It will provide you with useful information to make your pleasure of listening to the Telos 2500 even higher.

INTRODUCTION

GOLDMUND TELOS 2500 Universal 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 these instructions. Damage to the Power Amplifier may result if the following instructions are not consciously understood and applied.

THIS AMPLIFIER IS PROTECTED AGAINST GRAY MARKET TRANSSHIPMENT. ONLY THE GOLDMUND LOCAL OFFICIAL DISTRIBUTOR CAN INSTALL IT FOR YOU OR THE AMPLIFIER WILL STOP TO FUNCTION PROPERLY AFTER A PERIOD.

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1

UNPACKING

You will find in the Goldmund Telos 2500 box:

- The amplifier
- The power cord
- This manual

Please keep the packaging in case you need to transport the amplifier at a later date or if you have to send it for maintenance.

2

CHOICE OF AMPLIFIER LOCATION AND COOLING

The Goldmund Telos 2500 amplifier, as all high quality amplifiers, generates a large amount of heat if driven at high level.

It is mandatory to allow a proper cooling of the heat sinks. Avoid any location which is not properly vented and avoid to put on top of it equipment sensitive to temperature.

Due to its weight, and to maximize the effect of the built-in “Mechanical Grounding” construction, the Telos 2500 is better located on the floor. But other very strong supports can also be used, if they offer a very rigid transmission with the floor.

The Telos 2500 is built on four very hard conical feet to insure proper vibration transmission to the amplifier support in order to evacuate 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 will choose to screw in the four round flat feet of the amplifier to allow full contact of the points with the support.

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ATTENTION: On the 220 V position, the Goldmund Telos 2500 amplifier will function properly for main line voltage in between 190 V and 245 V. On the 110 V position, the main line must deliver between 95 V and 125 V. If your main line is usually out of these tolerances, please consult your Goldmund dealer.

LINE VOLTAGE ADJUSTMENT

There is no simple way to modify the line voltage of the amplifier. If your line voltage is not adapted to the voltage indicated on the serial plate of the amplifier, please consult your local Goldmund dealer for information. The change cannot be made without a special training or the amplifier may be destroyed.

Please check the value of the main line fuse. This fuse is located on the back panel of the amplifier, above the two power cord receptacles. Use a 8 A delayed fuse for 220 V and a 16 A delayed fuse for 110 V.

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CONNECTIONS

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

If used with an analogue signal, connect the interconnect between the preamplifier and each power amplifier and position the Analogue/Digital input switch to Analogue. You may either use the RCA female socket or the XLR one. The XLR socket, especially useful in professional installations, 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 and switch the input switch to Digital. Since a digital S/PDIF cable carries 2 channels you may link the digital output 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 High Definition speaker cable, you can connect directly the speaker cable to one of the coaxial plugs on the back panel of the amplifier, bypassing the amplifier adapter module of the speaker cable.

ATTENTION: if you want to use a symmetrical 4 wire cable, always maintain the ground/earth switch to "Link" or you may damage your amplifier.

4

CONNECTIONS

The 3 separate outputs (both 5 way post and coaxial) are connected internally in parallel. They are provided to facilitate the connection in bi-wiring and tri-wiring systems.

Please take note that the ground of the input plug and the black speaker terminal are the same polarity. The amplifier is non-inverting in phase.

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AMPLIFIER CONTROLS

As soon as the amplifier is connected to AC line and the amplifier has not detected an error previously, the yellow light on the amplifier front panel is ON.

The Telos 2500 may be powered on either manually (Manual Operation) or automatically when receiving a signal (Auto-Power Operation). This is selected internally by the small white 10-position circular selector located on the top circuit of the amplifier, close to the big capacitors.

There is one position for Manual Operation and 9 for Auto-Power Operation with various delay to power a quantity of amplifiers without a big surge on the AC line.

- Position 0: Manual Operation
- Position 1: Power after 200 ms
- Position 2: Power after 400 ms
- Position 3: Power after 600 ms
- Position 4: Power after 800 ms
- Position 5: Power after 1 s
- Position 6: Power after 1.2 s
- Position 7: Power after 1.4 s
- Position 8: Power after 1.6 s
- Position 9: Power after 1.8 s

MANUAL OPERATION

On the front plate of the Goldmund Telos 2500 amplifier you will find only two POWER keys. In the Manual Operation mode, the two POWER keys have to be activated simultaneously to power the amplifier on.

This security feature is provided to avoid any fortuitous power on or power off.

When the two keys are pressed simultaneously, the amplifier switches on in "Operating" mode and the center green Led lights on showing the amplifier is powered on.

If the digital input is used, the yellow Led may flicker, showing there is no lock and the amplifier remains muted until a lock is found.

With an analogue input, the amplifier is immediately operational.

By pressing once the right key, the amplifier is put in Mute mode, and the green Led flickers.

By pressing once the right key again, the amplifier returns to "Operating" state.

The amplifier may be powered off by pressing simultaneously the two POWER keys at any time.

AUTO-POWER OPERATION

In Auto-Power mode, the amplifier is turned on automatically when receiving an audio signal.

This mode is useful when several amplifiers are used together in a multi-amplifier system or when the power amplifiers are not easily accessible.

When the amplifier is in Auto-Power mode and is operative, it may be muted by pressing the right key, as in the normal mode.

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AMPLIFIER CONTROLS

OTHER DISPLAY

If an abnormal situation is found by the Telos 2500, the front panel red light may turn on, and the power of the amplifier is instantaneously set off.

The display indicates if the problem is an over temperature situation, an HF oscillation or DC signal has been detected or an overload (for example when output is short-circuited).

Before re-starting the amplifier, detect what caused the problem and remove the cause first. The amplifier will remain off with a red Led on until the user intervenes.

To unlock the amplifier from one of the above status, press the 2 POWER keys simultaneously. If the perturbation has been removed, the red Led will stop and the yellow Led will glow again, the amplifier is now operating.

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SOUND QUALITY OPTIMIZATION

WARM-UP SONIC EFFECT

If the power amplifier has been powered off for some time, the optimum sound quality is only reached after several minutes. The critical circuits have to warm up to around +55 degrees Celsius (+131 degrees Fahrenheit). When the amplifier has been used recently, the optimum is reached after only 10 to 15 minutes.

SPEAKER POLARITY

Even if you have a phase inverter on your preamplifier (as on the Goldmund MIMESIS 2 or MIMESIS 22), and even if you have carefully selected the proper line phase (see in next paragraph), there is a possibility to again increase the sonic quality of your speakers by reverting the polarity of the speaker cable amplifier termination. But since the line phase and the speaker polarity interfere to each other, you have to experiment carefully all the combinations before picking the right one.

If your preamplifier has an absolute phase inverter, this will interfere too. If it has not, don't forget the result will depend of the source, most of the record and CD being recorded without care for the absolute phase. Be patient...

MAIN LINE PHASE INVERSION

To select the proper phase, you have to select, by trying, one of the two power cord position, using a plug adapter.

We recommend that you proceed carefully to try this. You must do it in combination with the speaker polarity and/or with absolute phase switching to be sure of the result.

THE GOLDMUND EXCLUSIVE "MECHANICAL GROUNDING"

In the Goldmund Telos 2500 amplifier, Goldmund has, as in other of its Ultimate Line components, fully implemented an optimized vibration evacuation path. This is called by Goldmund: "Mechanical Grounding". The perfect adjustment of this evacuation provides the Telos 2500 with an extraordinary dynamic capability and transparency, especially on low efficiency speakers.

To get all the benefits of this design, the Telos 2500 must be located on a very rigid support, or better directly on the floor, to be directly coupled with the building rigid construction. Try various locations until you find the most rigid one. Avoid any decoupling material, carpet especially, even between the furniture and the floor. Use the four pin-point feet to couple the amplifier to the supporting furniture or to the floor.

With a very top system, the sonic improvement when the proper grounding is found is obvious and worth the try.

The Goldmund Telos 2500 amplifier provides sophisticated features to protect the amplifier and the speakers against all mishandle or component failure. However precautions must be taken to avoid problems with a very high power amplifier.

PROTECTION AGAINST DC

The Telos 2500 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 2500 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 with a message.

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

PROTECTION AGAINST HF OSCILLATIONS

In the same way, the speaker must be protected against a large amount of high frequency oscillation if present 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 avoid any oscillation:

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

If an oscillation of too high level is detected, the amplifier will be turned off automatically. You will have to suppress the source of oscillation and turn it ON again if the protection is activated.

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SAFETY FEATURES

OVERHEATING PROTECTION

If for any reason (malfunction, too high level, too low load impedance) the temperature of the amplifier may reach a dangerous level the Telos 2500 could be damaged.

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

If such a protection occurs, let the amplifier cool for some time. It is strongly recommended to try to detect why the temperature has reached such a level before operating the amplifier again.

PROTECTION AGAINST SHORT-CIRCUITS

If one output is short-circuited by accident and the current becomes too high, the Telos 2500 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 to occur, always switch OFF the amplifier before trying any manipulation of the speaker cables.

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

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MAINTENANCE

The Goldmund Telos 2500 Amplifier usually requires no maintenance.

To clean your amplifier, use only a soft cloth slightly wet. Always turn the power OFF before cleaning your amplifier.

POWER

- Nominal power: 400 W RMS (2 - 8 Ω).
250 W RMS (1 - 16 Ω).
- Maximum instantaneous power: 600 W RMS (8 Ω).
- Maximum voltage swing: 84 V peak.
- Maximum current swing: 45 A 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.

INPUT SENSITIVITY

- Nominal level: 1.45 V RMS.
- Voltage Gain: 29, adjustable input sensitivity on the back panel.
- Input impedance: 10 - 52 k Ω .

GROUP DELAY

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

DISTORTION

Figures valid for all levels from 0 to 40 V / 8 Ω :

- Dynamic: TID < 0.01 % (- 80 dB).
- Static: THD < 0.01 % (- 80 dB).

SPEED

- Slew rate: > 200 V/ μ s
- Rise time: < 300 ns.

NOISE

- Signal-to noise ratio: > 115 dB (0.01 Hz - 1 Mhz).
- Weighted ASA A: > 130 dB.

OPERATING TEMPERATURE

- Room temperature: -30 to +40 degrees Celsius (-22 to +104 degrees Fahrenheit).
- Internal temperature: +45 to +65 degrees Celsius (+113 to +149 degrees Fahrenheit).

POWER SUPPLY

- Nominal line voltage: 117, 234 V (switchable).
- Input voltage range: +/- 10 %.
- Maximum power consumption: 2700 W.
- Power used in standby: 140 W.
- 14 toroidal transformers, 4 separated power supply.

GROUNDING

- Separated ground and earth.
- Floating chassis connected to mains earth.
- Possible link for optionally connecting both.

SAFETY FEATURES

- AC voltage fuse: minimum 10 A slow-blow for 220 V / 16 A slow-blow for 110 V.

FRONT PANEL CONTROLS

- 2 control keys.
- Red Led display for Over-heating, DC offset or HF protection and Overload.
- Alphanumeric display for messages.
- Green Led display for power ON, operating mode.
- Yellow Led display for AC line connection and digital Lock.

REAR PANEL CONNECTORS AND CONTROLS

- Power cord: universal socket 3 lugs.
- Main fuse: 10 A slow-blow 110 V / 16 A slow-blow 220 V.
- Green-yellow AC earth binding post.
- Output speaker 3 × 5 ways post in parallel.
- Output speaker 3 × Coaxial connectors in parallel.
- Analogue Input connector RCA.
- Digital input and output RCA connector.
- Input connector XLR for analogue balanced input.

SIZE AND WEIGHT

- 46 cm (18.1 in) W x 51.5 cm (20.3 in) D x 32.5 cm (12.8 in) H
- Weight: 75 kg net.

WARRANTY

- 3 years parts and labor.