

# USER MANUAL

---

GOLDMUND TELOS 3500  
Mono Power Amplifier



Thank you for purchasing the GOLDMUND Telos 3500.

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 3500 even higher.

## INTRODUCTION

### GOLDMUND TELOS 3500 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 the most 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.

---

## CONTENTS

1. UNPACKING	p 5
2. CHOICE OF AMPLIFIER LOCATION	p 5
3. CONNECTIONS	p 6
4. AMPLIFIER CONTROLS	p 7
5. SOUND QUALITY OPTIMIZATION	p 11
6. SAFETY FEATURES AND MAINTENANCE	p 12
7. TECHNICAL DATA	p 13
8. BACK PANEL SCHEMATICS	p 15

Note:

This packaging has been designed specifically to protect your Telos 3500 in transit. Use of alternative packaging is likely to result in damage, invalidating warranty cover.

## 1

## UNPACKING

You will find in the GOLDMUND Telos 3500 box:

- The amplifier
- 2 power cords: 1 special one High Power, 1 regular one Low Power
- 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 3500 to the factory or to your local representative for a warranty repair, please note that it must be repacked in the original packaging.

## 2

## CHOICE OF AMPLIFIER LOCATION

The GOLDMUND Telos 3500 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 3500 is better located on the floor. Other very strong supports can be used if they offer rigid transmission to the floor.

The Telos 3500 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.

**Important Note:**

To avoid any significant damage the TELOS 3500 amplifier can not be bridged.

Connect the 2 power cords to the back of the amplifier and plug it into the nearest wall plugs.

Plug first the Low Power then the High Power cord.

When you want to unplug the Telos 3500, you have to unplug the High Power cord first, then the Low Power cord.

These sequences correspond to a conventional plugging protection for the supplies.

Use only a 2 lugs grounded plug, for safety reasons. To get the best sound from the amplifier, avoid any multiple plug or extension cord.

The Telos 3500 amplifier is provided with 2 sets of inputs:

- Analog input (1 x Analog RCA connector)
- Digital input / output to connect. (2 x Digital S/pdif input and output RCA connector)

**If used with an analog signal**, connect the interconnect cable between the preamp and each power amp and then select the analog unbalanced in the menu (see chapter 4).

**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 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.

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 3500 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, an orange hyphen on the amplifier's front panel display starts blinking.

After 25 seconds the orange led will turn on indicating the Standby Mode.

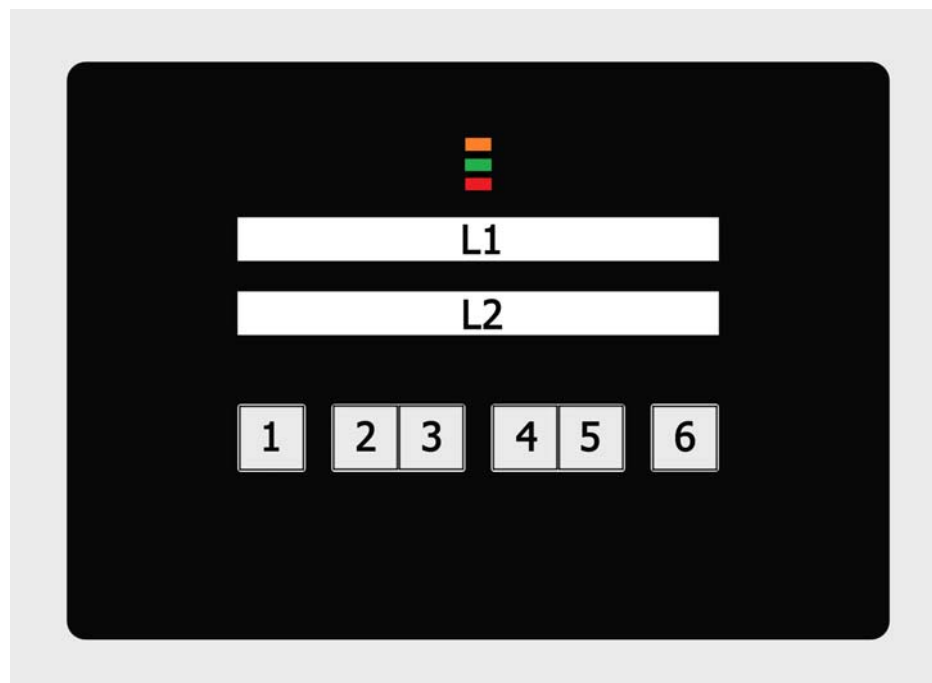
### 4.1

### MANUAL OPERATION

To switch your Telos 3500 on, press simultaneously the button 1 and 6:

#### Power On Process:

- Progressive charge of high power capacitors to limit peak current on AC line
- Switch on high power supply on output stage
- Wait stabilization of high power supply



## 4

## AMPLIFIER CONTROLS (Ctd.)

### 4.1

### MANUAL OPERATION (Ctd.)

#### Important:

As a precaution for failures due to AC line and considering the extreme power capability of the Telos 3500 when powered ON, the input selection must be re-entered in the menu before un-muting the amplifier.

#### Power Off Process:

- Mute output
- Mute input
- Switch off high power supply on output stage
- Switch off main power

The screen displays:

L1: GOLDMUND TELOS 3500

L2: POWERING ON

When the Powering ON Process (see note in the left margin) is finished - approximately 35 seconds - the screen shows:

L1: GOLDMUND TELOS 3500

L2: on the left: MENU, on the right: UNMUTE

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

The screen will then show:

L1: OPERATE

After approximately 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 (see note in the left margin) press simultaneously the button 1 and 6.

The screen displays:

L1: GOLDMUND TELOS 3500

L2: POWERING OFF

When the Powering Off Process is finished (approximately 35s), the screen shows an hyphen blinking for 25 seconds. After this, the orange led turns on indicating that the Telos 3500 is in Standby mode.

At this point you can unplug the power cords, first the High Power then the Low power cord.



## 4

## AMPLIFIER CONTROLS (Ctd.)

### 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, 4, 5 and 6:

- Button 1: to select your choice (L2 blink ones showing the selection)
- Buttons 4 and 5: left/right navigation inside the menu in the second line (L2) of the display
- Button 6: to exit from the menu

#### INPUT SELECTION:

L1: INPUT SELECTION

- L2:
- DIGITAL LEFT
  - DIGITAL RIGHT
  - ANALOG UNBALANCED RCA

DIGITAL LEFT << DIGITAL RIGHT << ANALOG UNBALANCED rca

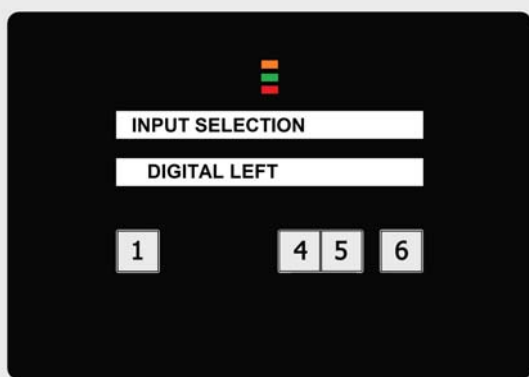
4

4

DIGITAL LEFT >> DIGITAL RIGHT >> ANALOG UNBALANCED rca

5

5



One press on the button 4 moves the Input selection to the left.

One press on the button 5 moves the Input selection to the right.

## 4

## AMPLIFIER CONTROLS (Ctd.)

### 4.3

### ERROR MESSAGES

If an abnormal situation is detected by the Telos 3500, 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:**

MAX POWER OVERLOAD: The amplifier is muted.

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.

#### **Error messages:**

L1: Error Type (Power overload or DC offset)

L2: RESTART YOUR AMPLIFIER

If two different errors are detected by the Telos 3500 within a 10 minutes timeframe, the display will show:

L1: Error Type (Power overload or DC offset)

L2: CHECK SYSTEM AND RESTART

**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 22S or MIMESIS 22H) 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 3500 amplifier, GOLDMUND has 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 3500 with an extraordinary dynamic capability and transparency, especially on low efficiency speakers.

To get all the benefits of this design, the Telos 3500 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.

## 6 SAFETY FEATURES & MAINTENANCE

The GOLDMUND Telos 3500 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 3500 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 3500 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 MAINTENANCE

The GOLDMUND Telos 3500 amplifier usually requires no maintenance. To clean your Telos 3500 surface, use only a soft, clean, dry or slightly damp cloth. Avoid using domestic cleaning products and abrasive or harsh cleansers (e.g. 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 3500. Unauthorized servicing or alteration invalidates the manufacturer's warranty.

**POWER**

Maximum Continuous Power:

- 875 W for 8 Ohms
- 1750 W for 4 Ohms
- 3500 W for 2 Ohms

Maximum Instantaneous Power:

- Maximum instantaneous current: 130 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)

Unbalanced in and for any input attenuation settings (flat with frequency, 20Hz - 40 kHz)

- THD + N input stage + DA: 0.0005%

(0 dBFS, 80 kHz bandwidth measurement)

Unbalanced in and for any input attenuation settings (flat with frequency, 20Hz - 40 kHz)

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

**CIRCUIT SPEED**

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

**NOISE**

- Signal to noise ratio: > 116 dB

**POWER SUPPLY**

- 12 separate transformers
- Hyper-velocity rectifiers and large batch of 12 ultra-low impedance capacitors to increase speed

**OUTPUTS**

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

**INPUTS**

- RCA Digital S-PDIF Input and Output
- RCA Analog Input

**PROTECTION CIRCUIT**

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

**DIMENSIONS & WEIGHT**

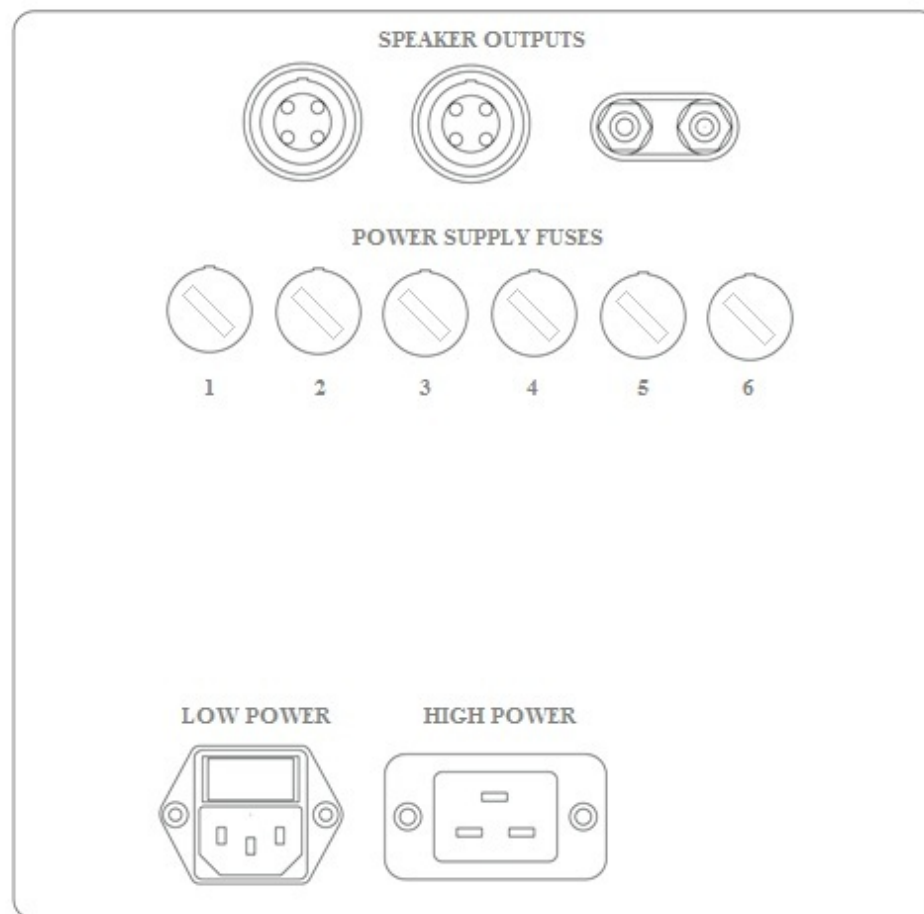
- Dimensions: 390 W x 470 D x 620 H mm
- Weight: 180Kg

**WARRANTY**

- 3 years, parts and labor

Information and product specifications contained in this manual are subject to change without prior notice. Updated versions of this manual will be posted on our website at [www.goldmund.com](http://www.goldmund.com).

Please visit our support page at <http://www.goldmund.com/support/register> to register your Goldmund product for warranty.



- 1: F1 High Power Fuse = 16 [A]
- 2: F2 = 3.15 [A]
- 3: F3 = 3.15 [A]
- 4: F4 = 3.15 [A]
- 5: F5 = 2.5 [A]
- 6: F6 = 2.5 [A]