

USER MANUAL

GOLDMUND TELOS 353
Universal 3-Channel Power Amplifier



Thank you for purchasing the GOLDMUND TELOS 353.
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 353 even higher.

INTRODUCTION

GOLDMUND TELOS 353 – Universal 3-Channel 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.

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W A R N I N G !

No connection or manipulation must be done before reading these instructions. Damage to 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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UNPACKING

You will find in the GOLDMUND TELOS 353 box:

- The amplifier
- The power cord
- This manual

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

ATTENTION

IF YOU NEED TO RETURN THE TELOS 353 TO THE FACTORY OR TO YOUR LOCAL REPRESENTATIVE FOR A WARRANTY REPAIR, **PLEASE NOTE THAT IT MUST BE REPACKED IN THE ORIGINAL PACKAGING.**

THIS PACKAGING HAS BEEN DESIGNED SPECIFICALLY TO PROTECT YOUR TELOS 353 IN TRANSIT.

USE OF ALTERNATIVE PACKAGING IS LIKELY TO RESULT IN DAMAGE, INVALIDATING WARRANTY COVER.

2 AMPLIFIER LOCATION & COOLING

The GOLDMUND TELOS 353 amplifier, like 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 353 can be located on the floor or on other very strong supports if they offer rigid transmission to the floor.

The TELOS 353 is built on four rubber feet to ensure proper the amplifier support. This avoids all detrimental vibrations inside the amplifier, following the famous GOLDMUND "Mechanical Grounding" principle.

If you use more than one TELOS 353 at any location, you may decide to stack them. You may stack up to 3 amps provided extra care is taken to ensure proper air circulation vents the side heat-sinks.

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LINE VOLTAGE ADJUSTMENTS

A voltage selection is provided inside 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 internal adjustment.

ATTENTION

On the 220V configuration, the GOLDMUND TELOS 353 amplifier will function properly for main line voltage between 200V and 245V. On the 110V configuration, the main line must deliver between 90 and 125V. If your main line is usually out of these tolerances, please consult your GOLDMUND dealer.

Please check the value of the main line fuse. This fuse is located on the back panel of the amplifier, above the power cord receptacles.

Use an 8A delayed fuse.

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CONNECTIONS

Connect the power cord to the back of the amplifier and plug it into the nearest wall plug. 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.

Connect the digital input cable to the IN/OUT Digital 1, 2 or 3. Since a digital S/ddif cable carries 2 channels you may link the digital output to the next amplifier to transfer the second channel.

Connect the speaker cables 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 from 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.

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

You may notice 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

The TELOS 353 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 1 position for Manual operation (position 0) and 9 for Auto-Power operation. Positions 1 through 9 enable various delays to be set. This supports powering-up a quantity of amplifiers without a big surge on the AC line.

- Position 0: Manual Operation
- Position 1: Power after 500ms
- Position 2: Power after 1s
- Position 3: Power after 1.5s
- Position 4: Power after 2s
- Position 5: Power after 2.5s
- Position 6: Power after 3s
- Position 7: Power after 3.5s
- Position 8: Power after 4s
- Position 9: Power after 4.5s

Power up sequence:

- 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
- Unmute input
- Unmute output

Power down sequence:

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

On the front plate of the GOLDMUND TELOS 353 amplifier you will find one POWER green led, one LOCKED orange led and one ERROR red led.

MANUAL OPERATION

When first connected to mains power the 3 leds flash once to indicate that the AC line has been detected.

The green led will flash twice to indicate the initialization. At the end of this sequence, the amplifier enters in STANDBY mode. The green led flashes slowly.

Once the unit is in STANDBY mode, press shortly (<1 second) the front panel key to switch the amplifier ON. The green led will flash five times indicating the start of the Power up sequence (see note in the left margin). When the sequence is over, the unit goes in OPERATE mode and the green led is permanently illuminated.

If the digital inputs are not used, the orange led is turned off, showing there is no lock on the amplifier. With a digital input, the amplifier is locked and the orange led is illuminated

The amplifier may be returned to STANDBY mode with a short press of the front panel key. This action triggers the start of the Power down sequence (see note in the left margin). After 3 flashes of the green led, the amplifier is in STANDBY mode.

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-amp system or when the power amplifiers are not easily accessible.

OTHER DISPLAY

If an abnormal situation is detected by the TELOS 353, the red led (left) of the front panel will 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).

The cause the problem must be fixed before re-starting the amplifier.

The amplifier will remain OFF with a red led ON until the user intervenes.

To unlock the amplifier from the ERROR mode, press the front panel control key for more than 2 seconds.

The GOLDMUND TELOS 353 amplifier provides 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.

Protection against DC

The TELOS 353 is a DC-coupled amplifier. If the associated preamplifier is badly designed or defective (often true for tube preamplifiers), the speakers could be damaged. In such a case, the DC protection circuit of the TELOS 353 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 the amplifier ON again.

Protection against HF oscillations

In the same way, the speaker must be protected against a large amount of high frequency oscillations, if present, before and after 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 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 353 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 has been activated.

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SAFETY FEATURES (Ctd.)

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 353 could be damaged.

To avoid this type of damage, if the temperature rises too high, a protection circuit switches the amplifier OFF automatically. The red led on the front panel 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 amplifier again.

Overload Error

If one output is short-circuited by accident and the current becomes too high, the TELOS 353 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 amplifier before trying any manipulation of the speaker cables.

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

SAFETY FEATURES

- AC voltage fuse: 8A slow-blow
- Over-heating: the amplifier stops when heat sink temperature exceeds 80°C
- Overload: Amplifier stops when output current exceeds 25A peak
- HF protection: Amplifier stops when oscillations are detected on output
- DC protection: Amplifier stops when continues signal (DC) is higher than 5Vdc on output

FRONT PANEL CONTROLS

- 1 control key (ON/OFF)
- Red led display for ERROR mode: over-heating, DC offset or HF protection and overload
- Green led display for Power ON, OPERATING mode (blinking in standby)
- Orange led display for digital lock

REAR PANEL CONNECTORS AND CONTROLS

- Universal socket 3 lugs with main fuse (8 A slow-blow)
- USB Connector will provides access for future optional DSP board
- Output speaker 3 x 5 ways post in parallel
- Output speaker 3 x Coaxial connectors in parallel
- 3 x Digital S/pdif input and output RCA connector (Alize 6 D/A converter)
- 3 x Switch right or left channel selection from the S/pdif input

POWER

- Maximum instantaneous power: 500 W RMS on 8 Ohms
- Nominal line voltage: 117, 234 V (selectable internally)
- Input voltage range: +/- 10 %
- 4 toroidal transformers

TECHNICAL DATA (Ctd.)

Note:

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.

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

BANDWIDTH

- +/- 0.1 dB, 0 - 300 kHz
- +/- 1 dB, 0 - 1000 kHz
- +/- 3 dB, 0 - 3 MHz

DISTORTION

- Static: THD < 0.05 % (test conditions: $V_{in} = 1\text{kHz} @ 100\text{mV}$, unweighted)

SPEED

- Rise time: < 300 ns

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

- Ultra fast power supply with 4 separate transformers and low impedance filtering capacitors.

MECHANICAL CONSTRUCTION & GROUNDING

- Mechanical grounding optimum construction
- Thermal grounding full implementation with gold-plated copper buffer plate

DIMENSIONS & WEIGHT

- Dimensions: 310 W x 385 D x 280 H mm
- Weight: 35Kg

WARRANTY

- 3 years parts and labor

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MAINTENANCE

The GOLDMUND TELOS 353 amplifier usually requires no maintenance.

Always turn the power OFF before cleaning your amplifier. Use a clean, soft, damp cloth to clean the amplifier surface. Dampen the cloth with water or a mild detergent solution. Avoid abrasive or harsh cleansers (e.g. products containing sodium carbonate).