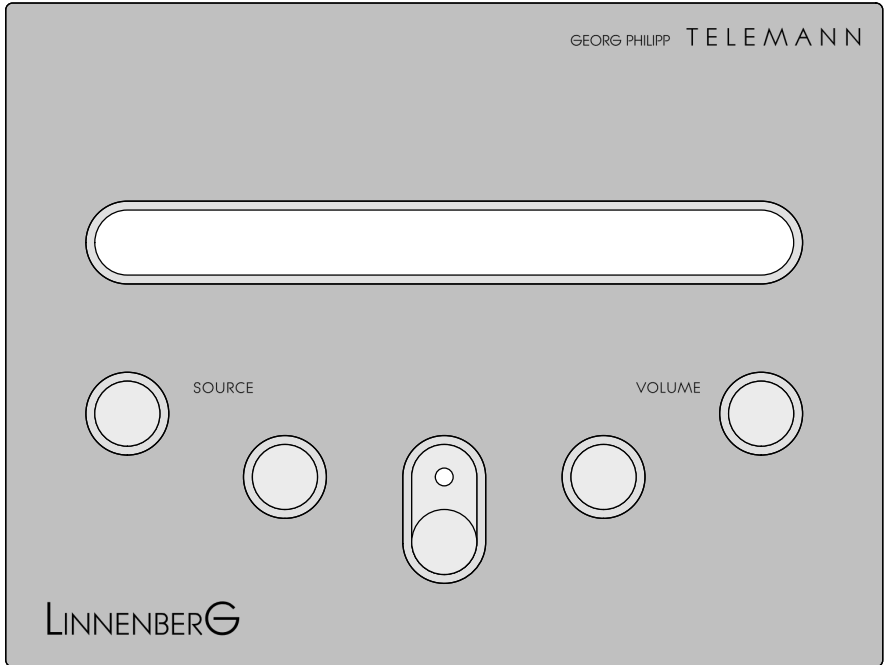


LINNENBERG

GEORG PHILIPP TELEMANN

PRE-AMPLIFIER

Owner's Manual



G.P. TELEMANN is a preamplifier for all common signal sources, be it digital, analogue, symmetrical (balanced) or single-ended. Signal processing inside the TELEMANN is strictly balanced, making TELEMANN the ideal control center for a fully balanced audio system.

Basic operation

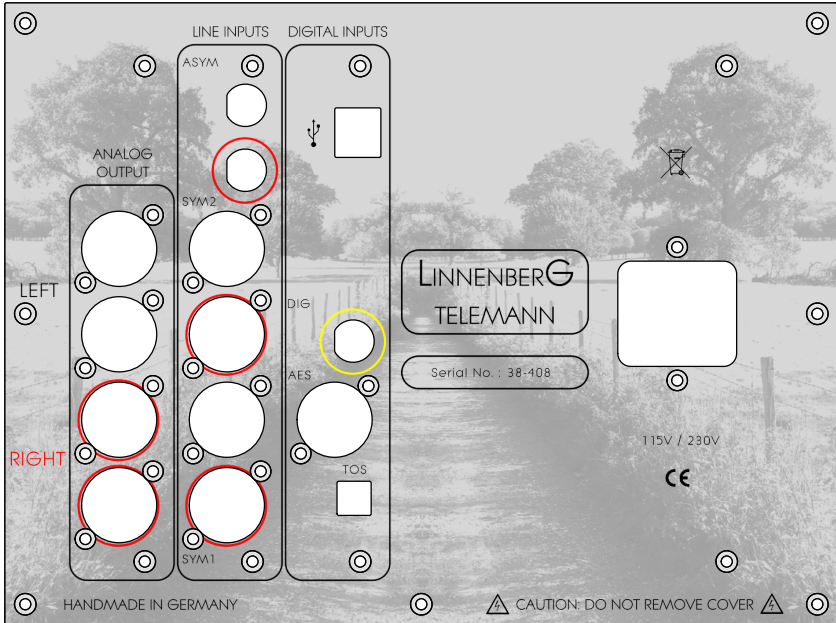
Room temperatures over 30 degrees Celsius and / or extreme humidity should be avoided. Keep away from heat sources like radiators, heating, ovens or similar appliances dissipating heat. TELEMANN has twelve (12x) Class A analogue amplifying stages employing lots of quiescent current. For this reason, it is important to maintain an adequate supply of airflow to prevent overheating.

Place the unit on a solid, flat level surface such as a shelf where it is convenient to operate.

As it is common practice, disconnect TELEMANN from the mains during a thunderstorm or when going on vacation.

Once the power cord is connected, the blue indicator LED should light up and blink when the front panel push button is operated. Turn off the unit by pushing the front button again and do the signal connections. If everything is connected, turn on again and have fun!

Connections:



Connecting the Analog Output:

Connect the left and right interconnect cables from TELEMANN's outputs to your power amplifier / active speaker inputs. To maintain best sound quality, it is strongly recommended that balanced audio connections to be used. There are two decoupled outputs available, each of them with a low 10Ω output impedance and $\pm 0.5A$ current capability, enabling long cable runs.

Connecting the Line Inputs:

3x analog inputs (2x symmetric XLR, 1x asymmetric, Cinch) are offered. Whenever possible choose a balanced connection, however, the asymmetric Cinch (RCA) input is a perfect choice when nothing else is available. An incoming asymmetric signal via the Cinch socket is converted to fully balanced directly at the beginning of the signal processing chain, maximizing the sound quality.

Connecting the Digital Inputs:

Various inputs are available for digital signals. Use the USB input for computer and server applications that offer the full HIGH-RES range of up to 384 kHz PCM or 512x DSD. The S/PDIF format is supported by Cinch, XLR and Toslink connectors. The utmost quality and bandwidth (192 kHz) is achieved by using the AES/EBU input (XLR). Please note, that this input is configured for 2 channel, single speed mode only.


The Toslink input offers the least bandwidth (96kHz, max.), but comes very handy when audio from video devices (TV, for instance) should be played back. Due to the optical transmission, no ground loops or high frequency disturbance can occur.

More than often, the digital output signal from a TV is configured for 5.1 surround sound and NOT for stereo. Please note, that TELEMANN is an audio stereo device, not designed to playback or downmix surround sound signals. Mostly the sound is muted or in very rare cases, where the flags are not set correctly, the output can be distorted.

Remote control operation

Conveniently, all functions of the TELEMANN are remote controllable. The unit responds to the remote provided with the unit. Should you experience the failure of an action subsequent to a button pressing, please press the button again. Flat batteries, too long distance / angle or an obstructed light path may be the reason.

Besides controlling the volume, the remote enables the user to mute the output; select the input source; choose the digital filter mode; and last but not least, alter the stereo balance.

Mute
Pressing the <Mute> button on the remote mutes the output. Releasing the mute action is by pressing <Mute> again.


Select

Pressing the <Select> button subsequently changes the input source of the TELEMANN. Inputs USB, AES (symmetric digital input), Coax, optical "Toslink" and the line inputs (symmetric and asymmetric) are selectable.



Volume -, Volume +

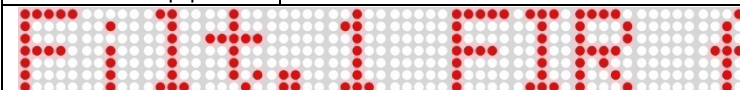
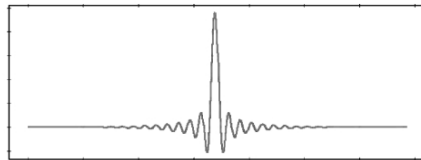
The volume control works simultaneously for both analog and digital inputs. The control range spans from -85 (0%) ... +10dB (100%)

Mute + Select

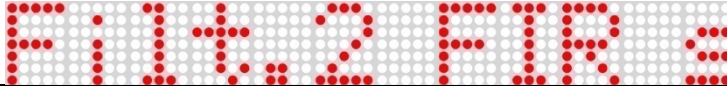
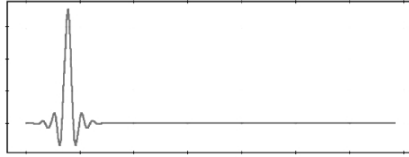
Pressing <Mute> first to enter the mute mode and thereafter <Select> lets you change the filter setting of digital filter. 6 options are available:

FIR, fast roll off, linear phase.

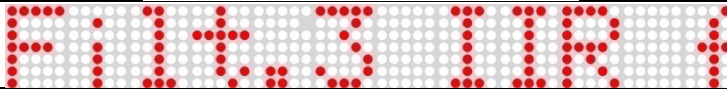
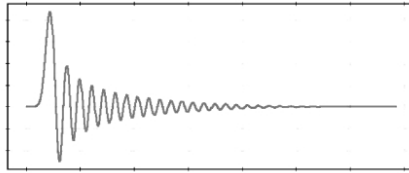
(Default) PCM filter with highest stop band rejection and minimal ripple



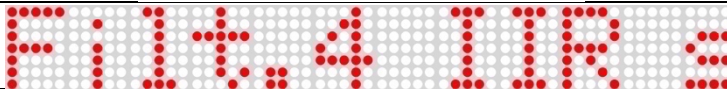
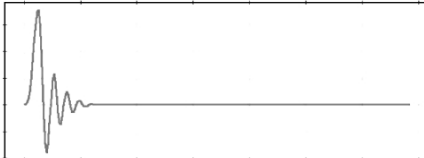
FIR, slow roll off, linear phase.

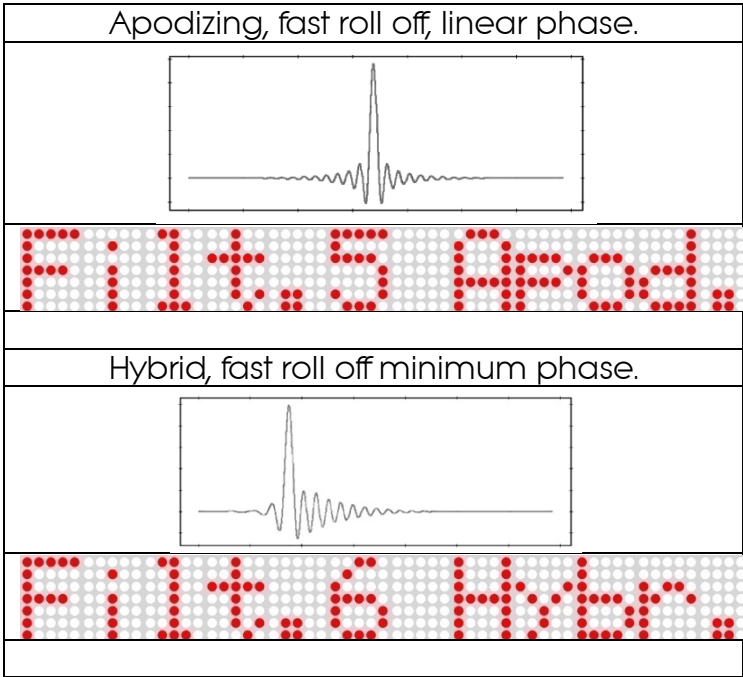


IIR, fast roll off, minimum phase.




IIR, slow roll off, minimum phase.

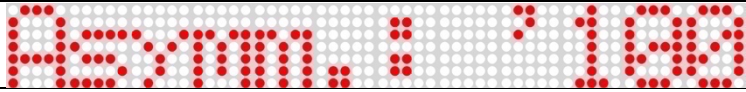




Important: if no button is pressed for 3 seconds, the Telemann returns to the main menu, engaging the last displayed filter number. **!**

Mute + Volume -, Volume +
Pressing <Mute> first to enter the mute mode and thereafter <Volume +/- > lets you change the stereo balance, attenuating one channel, while increasing the other.


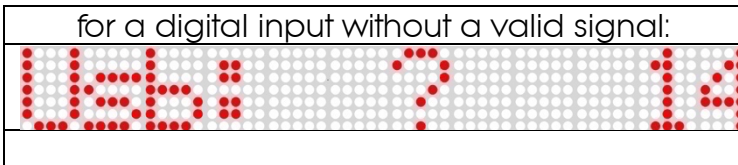
When setting the balance, (in contrast to the volume setting) each step must be set by pressing the volume buttons again. Volume + shifts the balance to the right, while Volume - shifts the balance to the left. If no buttons are pressed for 3 seconds, the Telemann returns to the main menu.

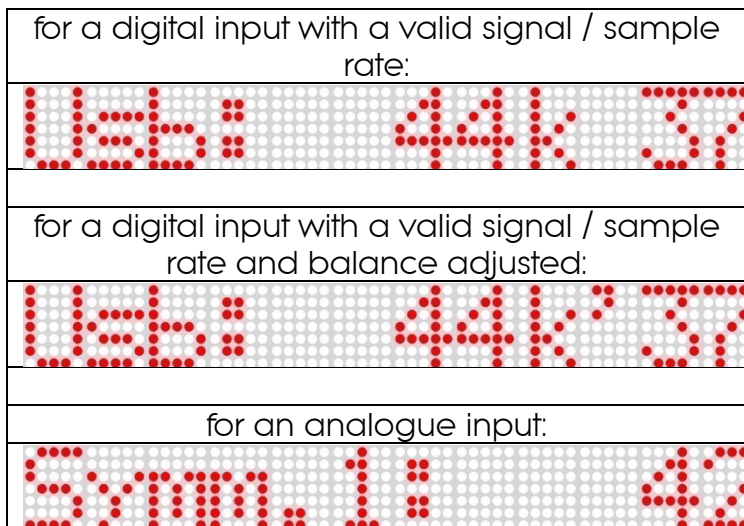


If the balance setting deviates from zero ($L = R$), an apostrophe is displayed in addition to the volume value.

Display

Some users prefer to have a dimmed listening ambience where the light from the display could perturb the tranquillity. When first powering up the TELEMANN, the display will be on for 30s before going in to sleep mode. Pressing any of the remote-control buttons lights up the display for some time, before going dark again. The main menu looks like this:





Pushbutton operation

Volume and input selection are controllable on the front panel of the TELEMANN. Secondary functions like filter setting, balance as well as Mute are not accessible here; just VOLUME up, down and inputs up, down.

Driver installation

Installing process (Mac)

No drivers are required for a Mac computer running Mac OSX 10.6+. Your TELEMANN will be immediately recognized by the system and ready to use. Be sure to select the TELEMANN (Combo384 Amanero) as output device in the

“System Preferences / (Hardware) Sound / Output” menu.

Installing process (Linux)

No drivers are required for a computer or server running Linux. A support for audio devices compliant with USB 2.0 Audio class is already included in the operating system. Your TELEMANN will be immediately recognized by the system and ready to use. Be sure to select the TELEMANN (Combo384 Amanero) as output device.

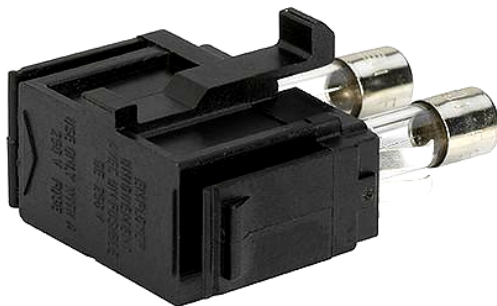
Installation process (PC)

Do not connect the TELEMANN to your computer yet, first download and install the driver. !

The newest version of the installation package for TELEMANN offers a single executable for all Windows operating systems and native ASIO driver for 32 and 64bit systems. Double click on the file in order to install the complete package. Restart your PC or Notebook and connect the TELEMANN to the host for the first time. The TELEMANN will now be recognized as usable device.

Playing DSD256 or DSD512 will need an ASIO driver suitable for the purpose. When not supplied with your player software, you can use one of these: <https://www.amanero.com/asio/>

TELEMANN fuse replacement



The fuse holder is located on the back of the unit; the fuse must be replaced by a 3.15AT type (5x20mm). Normally the fuse should never blow – if it has, it is a sign of a serious fault condition. Further investigation is needed.

Remote control battery change



The remote control supplied with the TELEMANN is equipped with a CR2032 lithium battery. The battery life is usually more than a year, probably much longer. To replace the battery, the 4x screws on the bottom must be unscrewed. The actual battery is fixed in the holder. (See picture above)

Specifications

Preamp section:

Gain	11,3dB (3.7x)
Max. input level:	7V rms (single ended) 12V rms (balanced)
Input impedance:	47 k Ω per phase
Output impedance:	10 Ω per phase
Max. output current:	0,5A per phase
Freq. response:	DC – 3.5 MHz (-3dB)
Slew Rate:	60V / μ s (symmetric)
Distortion and noise:	<0,002% 10Hz - 20kHz
Signal – Noise:	>108dB(A), ref. 0dBV (=1V) "VOLUME=100"
Max. output level:	18,5V rms balanced

DAC section:

Sampling frequencies PCM :	44.1, 48, 88.2, 96, 176.4, 192, 352.8 kHz, 384kHz; S/PDIF – inputs limited to 192 kHz. Toslink 96kHz.
Resolution PCM :	32bit
Resolution DSD :	DSD64 and DSD128 over DoP protocol, DSD256 and DSD512 over ASIO native
Frequency response: (20Hz – 20kHz)	-0.1 dB
Distortion and noise: (16Bit, 44.1kHz) @ 20Hz – 20kHz	<0.003% @ 0dB
Distortion and noise: (16Bit, 44.1kHz) @ 1kHz	<0.015% @ -20dB
Crosstalk:	120dB @ 20kHz
Output level:	17,4V rms balanced @ 0dB and "VOLUME = 100" 4V rms balanced, 2V rms single ended @ 0dB and "VOLUME = 83"

General:

Dimensions (H x W x D) :	210 x 256 x 442 mm
Weight:	16kg

CE declaration of conformity

Product Type: Digital–Analog – Preamplifier

Model: TELEMANN

Linnenberg-Elektronik declares that this product complies with the Low Voltage Directive 2014/35/EU and the Electromagnetic Compatibility Directive 2014/30/EU as well as the Ecodesign Directive 2009/125/EC.

The unit meets all currently valid regulations only in its original condition. The original, unaltered factory serial number must be present on the outside of the unit and must be clearly legible! The serial number is an essential part of our conformity declaration and therefore of the approval for operation of the TELEMANN. The serial numbers on the unit and in manual, must not be removed or modified, and must correspond.

Furthermore, the unit has been found to comply with the limits for a Class B digital device, pursuant to Part 15, subpart B (unintentional radiators) of the FCC rules.

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