

# PLA-240

Small Room Loop Amplifier System

**USER MANUAL**



## Overview

Thank you for purchasing the PLA 240 Small Room Loop Amplifier System.

The PLA 240 Loop System provides a practical solution for hearing aid users to listen more easily to their TV or audio equipment via the “T” or “Loop “ program of their hearing aid.

With no direct connection between the user and a TV or Audio equipment the user is able to move freely with the looped area and listen comfortably to a TV or audio equipment without the distractions of normal listening.

The Loop System is used in conjunction with a hearing aid with a “T” or “Loop” program found on many ‘behind the ear’ or ‘in the ear’ hearing aids. The loop system picks up the sound from a TV via a direct connection or microphone and feeds it to the amplifier. The sound is then passed to a loop of wire around the listening area, which in turn transmits the sound inductively (magnetic sound waves) to a hearing aid with the loop facility. The user may then adjust the loop volume or tone to suit their own hearing preference without affecting others.

The Loop System is supplied with loop wire.

The loop wire is placed around the inside perimeter of a room that you want to listen in. The sound can be heard anywhere inside the “looped” area and sometimes just outside the loop as well.

## Quick Setup

1. Check contents of package.
2. Place amplifier near TV or Audio equipment with or without stand.
3. Connect audio leads between TV or Audio system with Loop Amplifier.
4. Place loop cable around room and connect both ends of wire to loop cable connectors on the rear of the loop amplifier.
5. Plug the power supply unit lead into the amplifier. Connect the line cord to the power supply unit and place the barrel plug into the power jack on the rear of the amplifier.
6. Switch on TV / Audio equipment and Loop Amplifier.
7. Select the source button(s) on front of amplifier corresponding to your audio inputs.
8. Switch hearing aid to “T” or Loop program.
9. Adjust loop amplifier volume/tone to suit listening preference.

## Safety Instructions

Williams Sound cannot be held responsible for damage which is caused by not using this Loop System in compliance with these safety instructions.

IF IN ANY DOUBT SEEK EXPERT ADVICE

1. Read and follow these instructions taking note of any warnings. Keep these instructions for future reference.
2. Do not use the system or accessories near water.
3. Do not expose the system or accessories to rain or any other source of moisture.
4. Should the amplifier require cleaning only do so with a dry cloth.
5. Ensure that there is enough room around the Loop Amplifier for ventilation purposes.
6. Do not cover the ventilation holes of the amplifier.
7. Do not place the Loop Amplifier close to sources of heat, such as radiators.
8. Place all connecting and power leads such that they are not a hazard or where they may become damaged.
9. Do not open the case of the loop amplifier at any time; there are no user-servicable parts.
10. Servicing must be referred to qualified service personnel.
11. Batteries should not be exposed to excessive heat such as sunshine or fire.

 **CAUTION:** Ensure the line cord is disconnected BEFORE any audio connections are made to the Loop Amplifier. To completely disconnect the system from the line cord, please remove the line cord plug from the wall socket.

 **CAUTION:** The top surface of the amplifier may become hot when operating this system continuously. Do not touch the top surface during use or block the ventilation holes.

## Product Overview

An enhanced microprocessor controlled loop amplifier with outstanding sound quality designed to be used with modern audio and video products to transmit the sound directly to your hearing aid. Your hearing aid must be switched to the "T" or Loop function to use the loop system. You can also enjoy the benefits of the loop amplifier by simply plugging in a set of headphones into the headphone jack on the rear of the amplifier. For best results connect the amplifier directly to your TV or other sound source using the RCA Cable supplied.

## Setup

The loop system is supplied ready for use with the following items:

- 1 Loop Amplifier
- 1 Remote Control with battery
- 1 Stand
- 1 Power Supply with line cord.
- 1 Digital Audio optical TOSlink and Coaxial Cables
- 1 Analog audio kit: 1.2 m RCA-RCA cable, SCART-RCA and 3.5mm stereo jack-RCA adapters.
- 1 Microphone with Velcro™ pads.
- 1 Spool of 130 ft (40 m) of Loop Wire and 1 pack of 50 wire clips
- 1 Warranty/Guarantee Card
- 1 Operating Instructions

Important: Always disconnect the unit from power before making connections.

## Loop Amplifier

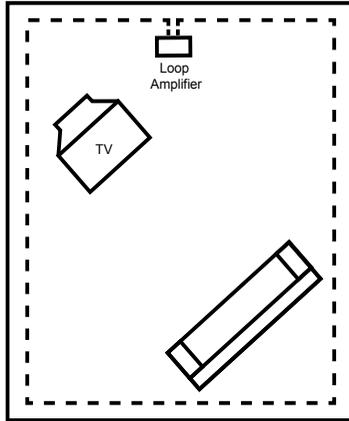
Place the amplifier in a convenient well ventilated area near the TV or other audio source such that all the necessary connections can reach the relevant device. The optional stand may be used to mount the unit vertically if required.

## Place Loop Wire around Listening Area

Run the loop wire around the room starting and ending at the amplifier. The wire may be tucked under the edge of the carpet, or fixed to either a picture/dado rail or skirting board with the clips provided. Where a cable passes a door or other obstacle, either fix the cable around the frame or tuck it under the carpet. The cable just needs to go around the area that needs to be looped, it does not necessary to go up and over doors or windows or around fireplaces.

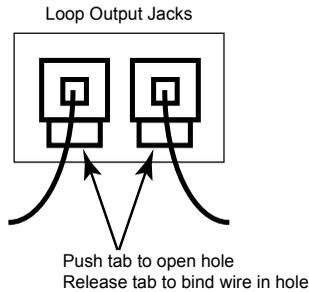
Important: Excess loop wire may be cut off, but a minimum of 35 ft (11 meters) must be

left connected to the amplifier. Do not leave spare cable coiled around the spool. Always disconnect the unit from power before making connections.

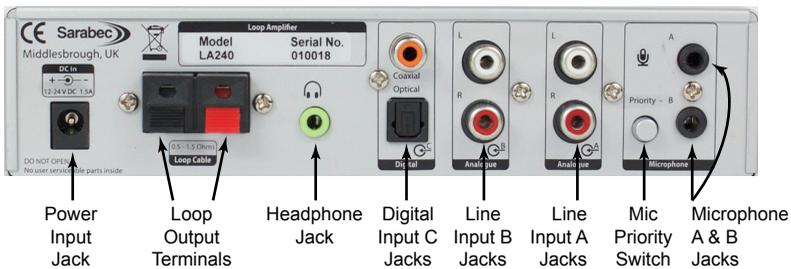


### Connect Loop Wire to the Loop Output Terminals

Push the tabs in (toward the amplifier) to open the hole and allow the wire in. Ensure that only the bare wire goes into the hole and not the insulation. Release the tab to bind the wire in the hole.



## Connect Audio Outputs from TV or other audio source to Loop Amplifier Inputs



### Direct audio connections

This is the preferred method of connecting the amplifier to a TV and other audio products (as opposed to using a microphone). It will deliver the clearest sound without background noise affecting the clarity. The amplifier has both analog and digital audio inputs.

Digital Optical TOS link and Coaxial outputs are found on most TVs and Audio Equipment. These connections will provide the clearest sound input to your system. You may need to alter the settings of the digital audio output on your TV to “PCM” so that the digital audio output signal matches the loop amplifier.

Analog audio connections use the red, white RCA Audio connectors on the loop amplifier. These analog audio connections are very common on all types of equipment.

Multiple pieces of equipment may be connected to the loop amplifier at any one time:

- One digital source using either TOSlink or Coaxial but NOT both at the same time
- One or two pieces of analog equipment using the analog audio inputs
- One or two microphones

The sources may be switched by using the input buttons on the front of the unit or by using the remote control. One microphone (Microphone B) can override all other sources by depressing the priority switch on the back of the unit.

Note when using a television as a source, and using the TV's headphone jack output, this connection may disable the television speaker from working. On some TVs there is a setup option in the TV menu that allows the TV speaker to keep working while the headphone jack is being used.

## Microphones

If a direct connection is not possible then a microphone can be used to pick up the sound from a TV or other loudspeaker. Microphones can also be used for someone to speak directly into the loop system so they can speak directly to the hearing aid user when they listen to TV. A microphone can be used at the same time as the line inputs to monitor other sounds such as a doorbell or telephone ringer.

A microphone can also be used in either a classroom or public speaking situations.

One or two microphones can be used at the same time using the microphone jacks. A priority function also exists when using a microphone in jack "B" to override sounds from any other input to the loop amplifier.

## Connect Power to the Amplifier

Plug the power supply plug into the jack on the rear of the amplifier. Plug the line cord into the jack on the power supply and plug the other end into the wall jack. Switch on the unit by pushing the power button on the front right side of the unit.

## Operation

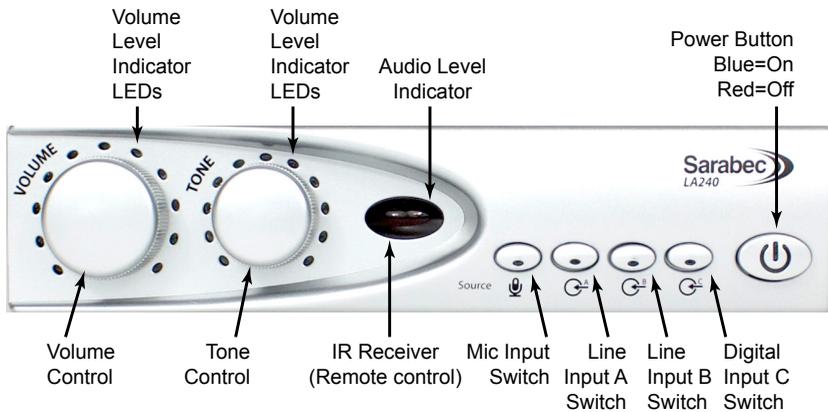
When connecting power for the first time to your amplifier the power button will illuminate blue and the amplifier will be "On". This is normal operation and is intended for situations where remote switching of AC power happens and the unit needs to power-up in the "On" state.

Pressing the power button on the amplifier will change the color to red and the amplifier will be in standby mode which (1) uses low power and (2) no signal will be passed to the loop.

Press the power button again and it will light up blue. The system is now ready for use.

1. Set the television or other audio equipment to normal listening level for the other listeners in the room.
2. Select the sound source required from either the front buttons or the remote control.
3. Set the volume control to minimum.
4. Set the tone control to normal position (12 o'clock).
5. Switch your hearing aid to the "T" or loop function.
6. Adjust the volume to suit your listening With the remote control, or the front knob.

Pressing the power button will turn the amplifier off and the light will glow red. The next time the power is turned on the volume, tone and source selections from the previous session will be restored.



## Volume Control

Use to adjust the volume of the signal received by the hearing aid. As the volume control is moved the blue light will travel around the control indicating the volume level in use.

## Tone Control

Use to vary the tone of the signal. When turned in a clockwise direction the higher frequencies will be emphasized, and in the counterclockwise position the lower frequencies will be emphasized. As the tone control is moved the blue light will travel around the control indicating the tone level in use.

## Source Selection Buttons

Pressing any one of the input buttons (Mic Input, Line Input A, Line Input B, Digital Input C) will select the audio source connected to the amplifier on the corresponding jack on the rear of the amplifier. One or more of these can be selected at any one time. When the source is selected a blue light will show in the button. Press the button again and the blue light will go out, indicating that source is off.

## Microphone

Selecting this source will allow sound from the microphones connected to the mic jacks on the rear of the amplifier to be heard through the system. When a microphone is plugged into the "Mic B" jack, and the priority button is pushed, any sound received by this microphone will override all other sources connected to the system. This can be

useful for monitoring a doorbell, or if a partner wants to talk to the hearing aid wearer through the loop.

## **Analog Inputs (Line Input A, Line Input B)**

Selecting these sources will allow sound from the corresponding jacks on the rear of the amplifier to be heard through the system. These inputs are useful to connect a TV or DVD player so that either may be easily selected from the front panel (or remote control). Either or both channels can be selected (and heard) simultaneously.

## **Digital Inputs (Coaxial or Optical)**

Allows selection of digital audio from the corresponding jacks on the rear of the amplifier to be heard - but not both jacks at the same time. When selected the light on the button will turn blue. If the light glows red then there is no audio being received from the digital equipment by the amplifier.

## **Headphone Jack**

The headphone jack may be used with stereo headphones that have a 3.5 mm plug. This may be used by a non-hearing aid user to monitor or listen to received sound. This can also be used for troubleshooting - to verify if sound is being received by the currently selected input(s). Listening with headphones does not affect the performance of the loop system for hearing aid user(s). The headphone jack may be used without a loop wire connected but the loop level indicator will not show.

## **Remote Control**

The remote control allows the use to operate all of the front panel button functions previously described, with the addition of a mute-volume function.

Remove the plastic battery tab before first use. Pull the clear plastic tab away from the remote without opening the battery compartment. The battery is now connected to the remote control inside the battery compartment.

## Troubleshooting

Problem	Solution
No Sound	<ul style="list-style-type: none"> <li>-Re-Check all connections</li> <li>-Check diagrams</li> <li>-Amplifier not switched on or no power</li> <li>-Microphone or audio source not connected or selected</li> <li>-Check Digital Audio setting on TV is "PCM"</li> <li>-Hearing Aid not on the "T" or Loop Program</li> <li>-Volume is muted - press mute button on remote once to check</li> </ul>
Low Sound	<ul style="list-style-type: none"> <li>-Microphone too far from sound</li> <li>-Loop wire not connected correctly</li> <li>-Volume set too low - increase volume</li> <li>-TV or audio source volume set too low - increase volume on source</li> </ul>
Distorted Sound	<ul style="list-style-type: none"> <li>-Volume control set too high. Loop level indicator showing solid (not flickering) - decrease volume</li> <li>-TV/Audio source volume set to high - decrease</li> <li>-Microphone too close to loudspeaker - move away</li> <li>-Microphone plug damaged</li> <li>-Too many inputs in use at once - select less or reduce volume on all</li> </ul>
Background noise (hum or buzz)	<ul style="list-style-type: none"> <li>-If noise remains when the loop system is turned off but hearing aid is still on loop program, this interference is caused by other equipment such as florescent lights or dimmer switches. With the loop amplifier turned off and the hearing aid still on the loop program, turn suspected items off, one-by-one, until the interference source can be identified</li> <li>-If noise stops when the loop amplifier is turned off there may be a fault in the system or microphone lead or noise is being picked up by the microphone</li> </ul>

## Specifications

Power Supply	<ul style="list-style-type: none"> <li>- Unit requirements: 18 V, 1.5 A</li> <li>- External Power Supply: 12-24 VDC, 2 A</li> </ul>
Controls	<ul style="list-style-type: none"> <li>- Rotary Volume Control</li> <li>- Rotary Tone Control</li> <li>- On/Off Power Button</li> <li>- Source Selection Button</li> <li>- Priority Button</li> </ul>
Input connections	<ul style="list-style-type: none"> <li>- Digital Audio TOSlink/Coaxial</li> <li>- 2x Microphone inputs, 3.5 mm jack plug, DC powered 5V for electret microphones</li> <li>- 2x Aux In Left/Right line inputs. RCA jacks for direct connection to a TV or sound output or other audio source via SCART or other suitable jack.</li> </ul>
Output connections	<ul style="list-style-type: none"> <li>- Push grip connectors for loop wire (labelled "loop cable"). Required loop resistance 0.5 - 1.5 ohms.</li> <li>- 3.5 mm stereo jack for headphones (8-60 Ohms)</li> </ul>
Loop output	<ul style="list-style-type: none"> <li>- 3.0 A output current @ 100 Hz - 5 KHz. Meets BS EN60118-4; 2006 for a loop not exceeding 20 ft (6.5 m) in width. Suitable for areas up to 750 sq ft (70 m<sup>2</sup>).</li> </ul>
Loop wire	<ul style="list-style-type: none"> <li>- Single turn loop wire. System supplied with 130 ft (40 m) of 24 ga/0.75 mm<sup>2</sup> single core PVC insulated wire. Min wire length 36 ft (11m) = 0.5 Ohms.</li> </ul>
Indicators	<ul style="list-style-type: none"> <li>- Blue/Red LEDs</li> </ul>

## Warranty

Williams Sound products are engineered, designed and manufactured under carefully controlled conditions to provide you with many years of reliable service. Williams Sound warrants the PLA 240 amplifier against defects in materials and workmanship for TWO (2) years. During the first two years from the purchase date, we will promptly repair or replace the product.



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