

# **POWER LOOP**

## **INSTRUCTIONS**



*Williams Sound*

## **POWR LOOP System Instructions**

### **POWR LOOP Amplifier, Model PWL LA15P**

#### **Introduction**

The POWR LOOP Amplifier was specifically designed to drive an audio induction loop. It is supplied with a sensitive electret microphone, a 100 foot loop cable, and a loop receiver to test the system. The POWR LOOP Amplifier acts as a signal source for hearing aids equipped with a telephone coil (T-Switch), Williams Sound POWR LOOP Receivers, or the Induction Earphone.

#### **How it Works:**

The POWR LOOP system uses the principle of magnetic induction. The POWR LOOP cable is placed around the perimeter of a listening area and connected to the POWR LOOP Amplifier. An audio signal from a microphone or other sound equipment is fed into the POWR LOOP Amplifier. The Amplifier feeds electrical current into the loop, which creates a magnetic field around the cable. The magnetic field is strong enough to induce a signal into a small pick-up coil built into POWR LOOP Receivers and some hearing aids. Listeners who have a POWR LOOP Receiver or a hearing aid equipped with a T-Switch can pick up the signal from the loop.

### **AMPLIFIER CONTROLS AND FEATURES, MODEL PWL LA15P**

#### **Front Panel Indicators**

The LA15P Amplifier has three indicator lights, "Power," "Audio," and "Loop Fault." The "Power" light glows when the power switch is turned on. The "Audio" light flashes to show sufficient input signal level. The "Loop" light turns on when the loop is disconnected or if the loop cable is cut or open.

#### **Front Panel Connections**

The PWL LA15P has three jacks on the front panel, "Mic 1," "Mic 2," and "Tape Out." The "Mic 1" and "Mic 2" jacks are low-impedance, unbalanced inputs for electret microphones. Both microphone jacks can be used simultaneously and are mixed together in the amplifier. The "Tape Out" jack is a 1K Ohm line level output for tape recording or feeding a sound system.

#### **Rear Panel Connections**

The "Tape In" connection allows a line level audio signal to be fed into the amplifier from a tape player, radio, or other sound equipment. The "Tape In" connection is mixed with the microphone inputs in the amplifier.

**The "Audio Test" Jack** is used to monitor the audio signal fed into the loop. It can be used to check the quality of the signal being fed into the amplifier and also serves as an earphone tester.

The "Loop Out" Connectors are four-pin modular receptacles for the loop cable. Matching plugs are supplied on each end of the loop cable. Telephone cable is used for the loop, with modular connectors for quick and convenient installation.

## LA15P SET-UP AND OPERATION

### Step 1. Test the Loop Environment with a POWR LOOP Receiver

Induction loop systems are vulnerable to magnetic interference from electrical wiring, lights and appliances. You can test your listening area for interference with the POWR LOOP Receiver supplied with the Amplifier.

Install the Receiver battery and earphone. Turn the unit on and set the volume at "3." Hearing a slight hum in the earphone is normal. If you hear a loud buzzing, crackling, or other interference, you will either have to eliminate the source of the interference or use the loop in another location. Likely sources of interference include small appliances, light dimmers, and fluorescent lights. If you do not hear interference in the receiver, proceed with the installation instructions below.

### Step 2. Install the POWR LOOP Wire.

The POWR LOOP Amplifier is supplied with a 100 foot loop cable. Uncoil the loop cable and lay it around the perimeter of the listening area. The 100 foot loop will fit a room up to 20 feet by 30 feet. If the cable is too long, loop it around the room twice. If the cable is not long enough, order additional POWR LOOP Cable from Williams Sound. Part No. WCA 015 is a 50 foot cable and WCA 017 is a 100 foot cable. Both POWR LOOP Cables have modular plugs on both ends. Be sure to order an In-Line Connector, Part No. CNT 001, to connect POWR LOOP Cables together.

If the cable is installed only temporarily, be sure to tape it down where it crosses doorways and aisles to prevent accidents.

For a permanent installation, the cable can be mounted along the corners of a ceiling, suspended from ceiling hooks, or run along a floor molding. The loop cable carries only low voltage, so it can be run underneath a carpet.

Do not run the cable in a metal conduit or install it close to structural metal. The metal will absorb some of the energy from the loop, reducing the strength of the signal.

### **Step 3. Connect the Loop Wire.**

Plug one of the loop connectors into either "Loop Out" receptacle on the Amplifier. Then plug the other end of the loop into the remaining receptacle.

### **Step 4. Connect the Amplifier to Power.**

Plug the POWR LOOP Amplifier into a 120 Volt, 60 Hz wall outlet. Turn the power switch on. The green "Power" light should glow. Unplug one of the loop connectors. The red "Loop" light should glow. Re-connect the loop. The "Loop" light should go out.

### **Step 5. Plug in the Microphone(s).**

Plug the microphone included with the POWR LOOP System into either the "Mic 1" or "Mic 2" jack on the Amplifier front panel. When you speak into the the microphone, the "Audio" light on the front panel should flash in time with your voice.

Stand inside the loop and listen with the POWR LOOP Receiver. You should be able to hear the signal from the loop. If you have a hearing aid equipped with a telephone coil, turn your hearing aid to the "T" position to hear the signal from the loop. Notice that the signal will be stronger when you hold the receiver straight up and down than when the receiver is rotated sideways. This is normal. Loop receivers and hearing aids with telecoils are orientation sensitive.

### **ALTERNATE MICROPHONE INSTRUCTIONS**

If you intend to purchase a microphone to use with the POWR LOOP System, please follow these recommendations:

Use only a low-impedance, **electret** microphone. Dynamic microphones are susceptible to magnetic feedback from the loop and should not be used.

#### **For Electret Mics Which Include a Battery:**

Use a mono 1/4" plug. Connect the positive (in-phase) lead to the tip of the plug. Connect the negative (return and shield) leads to the sleeve of the plug.

#### **For Electret Mics Which Do Not Include a Battery:**

Use a stereo 1/4" plug. Connect the positive (in-phase) lead to the ring of the plug. Connect the negative (return and shield) leads to the sleeve. Do not make any connection to the tip of the plug.

If the microphone is connected properly, speaking into it should cause the "Audio" indicator to flash.

## TROUBLESHOOTING

If the POWR LOOP System is not working properly, first re-read the instructions. **Most problems are caused by failure to read or follow the instructions.**

Symptom: No sound from loop.

1. Make sure the POWR LOOP Receiver is working. Check the battery.

Symptom: No sound from loop, Amplifier "Power" light not on.

1. Make sure the Amplifier is plugged in and the power switch is on.
2. Make sure the electrical outlet is on.

Symptom: No sound from loop, Amplifier "Power" light is on.

1. Make sure the loop cable is connected.
2. Check the "Loop" indicator light. If it is on, the loop cable is disconnected or faulty.
3. Make sure the microphone is plugged into the correct jack. If you are using an alternate microphone, make sure it is wired correctly.
4. Check the "Audio" light. It should flash when you speak into the microphone.

Symptom: No sound from loop, "Audio" light flashes.

1. Plug the POWR LOOP Receiver earphone into the "Audio Test" jack. Speak into the microphone. If you cannot hear anything in the earphone, the microphone may be defective. If you can hear a clear signal in the earphone and the loop cable is properly connected, the Amplifier has failed.

If you cannot determine the cause of a failure, return the entire system to your dealer or Williams Sound for service.

## SPECIFICATIONS

POWR LOOP Amplifier, Model PWL LA15P

### Physical:

Size: 6-1/2" W x 2-1/2" H x 6" D  
Weight: 2.6 lbs.

### Electrical:

Service: 105 to 130 VAC, 50 or 60 Hz, 35 Watts

### Audio:

Output Power: 15 Watts into 100' loop cable  
Frequency Response: 400 to 6000 Hz  
Distortion: Less than 1%  
Load Capability: 50' to 250' loop  
Magnetic Field Strength: 100 mA/m, 100' loop

Inputs: Two microphone, unbalanced, lo-impedance, .1 to 30 mV  
One line level, unbalanced, hi-impedance, .1 to 3 V  
Automatic Level Control Range: 50 dB

Outputs: Audio Test jack: 100 mV, 8-16 Ohm  
Tape Out: Lo-impedance, 1 V

### Loop Wire:

Type: 4-conductor, 26 ga. telephone cable, modular connectors  
Color: Beige  
Length: Available in 50 and 100 ft. lengths

## WARRANTY

The Williams Sound POWR LOOP Amplifier is warranted against defects in material and workmanship for a period of two years from the date of purchase. During the first two years, we will promptly repair or replace a defective product. If the product should fail within the warranty period, return it to Williams Sound with the shipping costs pre-paid. Williams Sound will in turn pay the return shipping costs. After two years, we will service our products for a moderate service charge. Microphones, cables, and connectors are warranted for 90 days. This warranty does not extend to batteries, physical damage, or damage caused by leaking batteries. Unauthorized modifications of this equipment will void the warranty.

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