

Troubleshooting the Galaxy Audio Traveler (AS-TV5, AS-TV8, and AS-TV10) is a fairly simple process that will help isolate charging problems, battery issues, and discrepancies of the charge indicator LED. Disclaimer: This document is intended for knowledgeable persons qualified in basic electronic troubleshooting and associated test equipment. Galaxy Audio is not responsible for damage to product, destroyed equipment, or personal injury as a result of attempting these steps. Please contact the Galaxy Audio Service Dept. at 1(800)369-7768 or [Service@GalaxyAudio.com](mailto:Service@GalaxyAudio.com) for further inquiries or product servicing.

### Battery Issues:

**Step 1.a)** With the unit turned off and disconnected from AC power, remove the screws along the perimeter of the battery cover plate.

**Step 1.b)** On the TV8 and TV10, this plate is also connected to the 3-prong, AC power inlet assembly (i.e. the switching power supply). Remove the two screws connecting the plate to the switching power supply and remove the plate for easier access to the batteries.

**Step 1.c)** On the TV5, there is no AC inlet -- the plate covers the entire battery compartment and will need to be pried away from the unit once the screws are removed.

**Step 2.)** With a voltmeter, measure each battery individually. A fully charged battery will typically measure 12V-14V. If a battery measures below 10.5V, the battery may have been permanently damaged due to deep discharge, which can effect running and charge times. Deep discharge can occur if the Traveler is stored for an extended period of time (weeks, months, or longer) without recharging the batteries. If a battery is below 10.5V and permanently damaged, the charge led will not illuminate red or green, and as a safety precaution, the charge circuit will not power on.

**Step 3.)** If the batteries measure 12V-14V each, turn on the power switch and monitor the voltage drop across the batteries. If the battery measured at 12V-14V then drops to below 10.5V immediately, the battery may have been permanently damaged due to deep discharge. A drop from 13V-14V to around 12.5V (and steady) is normal as long as the charge does not continue to rapidly decrease.

**Step 4.)** If no abnormalities are observed, proceed to Charging Problems section.

### Charging Problems:

**Step 1.)** Disconnect the positive lead of one of the batteries.

**Step 2.)** Connect an amp meter in series with the battery between the battery cable lead and the battery terminal.

**Note: The amp meter will need to be capable of 1 Amp or, preferably, higher readings and set accordingly. In some instances, amperage current may exceed 1A.**

**Step 3.a)** After 15-30 seconds of connecting the meter, turn the Traveler power switch to the 'on' position to ensure proper connection and to observe typical current draw from the batteries (if they have not already been discharged from use).

**Step 3.b)** If the battery cable, amp meter, and battery terminal are not sufficiently connected to each other, the Traveler will not power on at this point.

**Step 3.c)** If the batteries are already discharged from use, the Traveler will either power on temporarily with a blinking red LED on the power switch (not the Charge LED) or not power at all.

**Step 4.a)** With the meter set to measure Amps (1A or higher), plug in the AC cord and monitor for a charge current. Typically, a fully charged battery will show a current of 800mA and then quickly drop down to an 80mA trickle charge.

**Step 4.b)** If the Traveler has been run completely down, the charge current may exceed 1A. If the charge current is below 1A but your amp meter can't display less than 1A, use the mA setting but be careful not to blow the internal fuse on your meter.

**Step 4.c)** If no charge current is present, then the charge circuit of the Traveler may need to be repaired. There will also be

no charge current if the batteries are well below the 10.5V minimum healthy charge and have been damaged by deep discharge even if the charging circuit is working properly. Confirm a suspected bad charging circuit by running this test with known-good batteries. Also, if the amp meter is fused, and the charge current exceeds the amperage settings, the fuse may open. In this case, there will be no current reading, but only because the meter's fuse is open/blown.

## Charge Indicator LED:

Under normal circumstances, the charge time of the Traveler will roughly reflect the run time. When charging Traveler batteries from a typical discharged state by connecting the AC cord, the Charge LED will become red either immediately or turn red from a short moment of green. Any known deviations that indicate an issue are covered in the following **Q&A**:

- Q.)** What does it mean when the charge indicator LED remains green when charging, but once the unit is powered on with DC only (batteries), the power switch LED is blinking red indicating an exhausted battery?
- A.)** One or both batteries have likely experienced a significant deep discharge and are unable to hold a charge. Possible reasons include charging habits not being properly maintained, one or both batteries are defective, or a malfunctioning charging circuit.
- Q.)** The charge indicator LED is green, and the unit powers on normally, but only runs for 2-3 hours. Do I have bad batteries?
- A1.)** One or both of the batteries might be exhausted beyond repair due to deep discharge. Damage from deep discharge may not completely kill a battery, but it will affect a battery's ability to hold a charge for the amount of time for which it was originally designed.
- A2.)** The program and modules being used may also be requiring a large amount of current from the batteries, resulting in a shorter run time. Example: A Traveler running constant, loud, dynamic music from the CD player, two wireless mic receivers, and an Audio-Link will run for a shorter time than a Traveler with one wireless receiver that is being used solely for speech.
- Q.)** Why does the Charge LED not light when AC power is applied?
- A.)** A battery may be below 10.5V and permanently damaged.
- Q.)** The Traveler does not turn on at all (AC or DC), the Charge LED never lights even with AC cord plugged into the unit, but the batteries measure 12V-14V and are known-good batteries. What else is there?
- A.)** A connection to the switching power supply and/or amp/charge board may have come loose or disconnected completely. By removing the recessed screws around the perimeter of the Traveler, the shell can be separated in half. Reconnected the 4-pin wire harness (with 1 red & 1 black wire) to the power supply and/or the 2-pin wire harness (with 1 red & 1 black wire) to the amp/charge board at towards the bottom of the Traveler. Either of these disconnects can result in AC but no DC/battery operation, or DC power with no Charge LED or charging current when the AC cord is plugged into the unit.
- Q.)** Why does the Charge LED stay on even without AC power?
- A.)** This may indicate a problem component on the amp/charge board and will need to be serviced.

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