OWNER'S MANUAL

LL-One
Line Level
A/B Switching Module

CTL02001 LIT02001

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INSTALLATION INSTRUCTIONS
LL-One Line Level A/B Switching Module

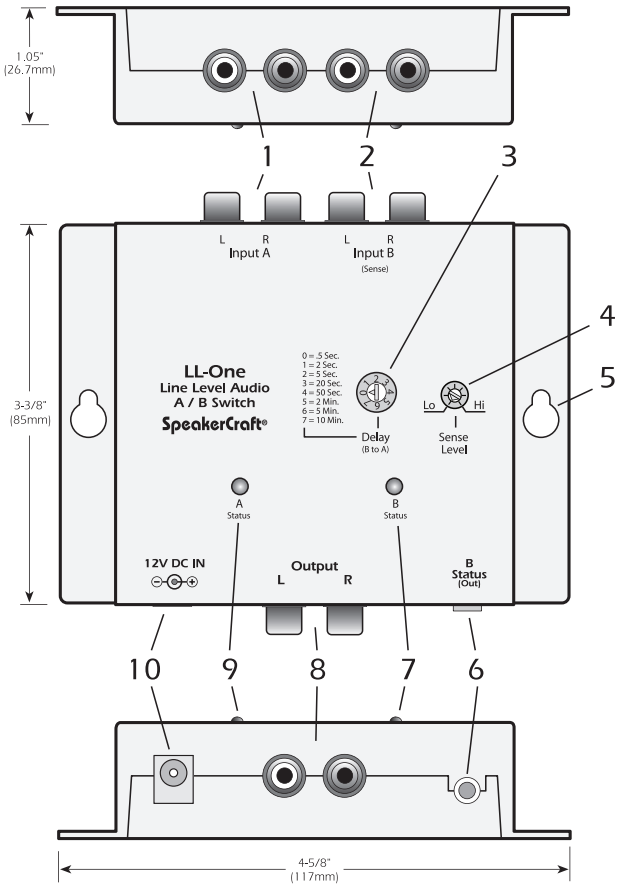
The LL-One is an audio line-level stereo A/B switcher. It allows one line level stereo output to be switched automatically between two line level stereo inputs, replacing manually operated A/B switches. Exclusive microprocessor controlled system ensures precision timing and switching accuracy. Status LEDs indicate which amplifier is active and a status output jack permits triggering of local devices.

SPECIFICATIONS

Delay Range, uPC Controlled ..... 0.5 Sec. to 10 Min.
Sensitivity Range .....10mV to 100mV
Relay Contact Rating ..... 2 A @ 30V
B Status Output Voltage ..... 12V DC @ 10 mA
..... 9V DC @ 100 mA Max.
Power Requirements ..... 12V DC @ 75 mA
Power Jack ..... 2.1mm, center pole positive
Diagnostics ..... See **Connection Notes** section

Dimensions
4-5/8" (117mm) L x 3-3/8" (85mm) W x 1.05" (26.7mm) H

Fig. 1 The LL-One



LL-One A/B Switching Module

FEATURE DESCRIPTIONS (Refer to **Fig. 1**)

1. **Input A** Gold Plated Line Level **L** & **R** RCA jacks.

2. **Input B** Gold Plated Line Level **L** & **R** RCA jacks.

3. Octal **DELAY (B to A)** switch provides precision delay set tings from 0.5 seconds to 10 minutes to handle virtually any music energy interval without false switching.

4. **Sense Level** adjustment accommodates a wide range of music level conditions from the line level input connected to the sensed Input B, for best switching threshold.

5. Mounting holes. For use with Included screws.

6. **B Status** 3.5mm output jack provides 12V DC (100mA Max.) to trigger local devices (i.e. lighting, etc.), where desired, when line level audio is received at Input B.

7. **B Status** LED lights when line level audio is received at Input B. Audio signal then plays through to amplifier connected at the Output jacks, item 8.

8. **Output** Gold Plated Line Level **L** & **R** RCA jacks.

9. **A Status** LED lights when there is no audio signal present at Input B. The audio signal at Input A then plays through to an amplifier connected at the Output jacks, item 8.

10. **12V DC IN** is a 2.1mm Power Jack for powering the LL-One. It permits use of standard SpeakerCraft 12 Volt DC Power Supplies (the PS-1.0 is recommended).

SYSTEM CONNECTIONS

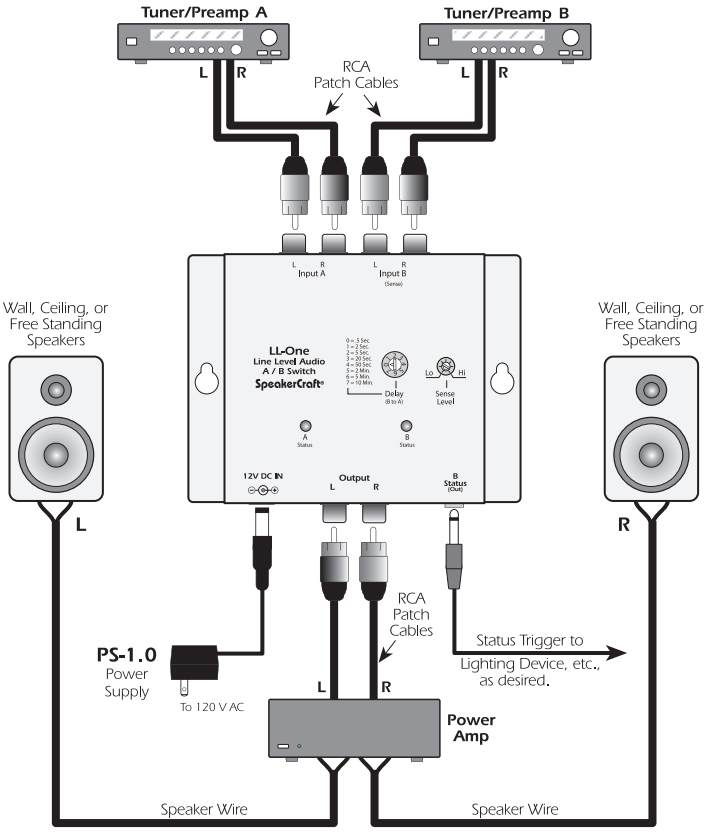


Fig. 2 *shows typical system connections for the LL-One.*

Connection Notes:

1. Make connections using **Fig. 2** as a guide.

2. When the power supply is first plugged into the LL-One , the unit will go through a self diagnostic check as follows:
   - If the **Delay** switch is set to **0** (.5 Sec.) the unit's relay and B Status LED will go ON/Off once.
   - If set to **1** (2 Sec.), the relay and B Status LED will go ON/Off once, pause, then rapidly go ON/OFF **1** more time.
   - If set to **2** (5 Sec.), the relay and B Status LED will go ON/Off once, pause, then rapidly go ON/OFF **2** more times.
   - If set to **3** (20 Sec.), the relay and B Status LED will go ON/Off once, pause, then rapidly go ON/OFF **3** more times.

   This same type of diagnostic action will repeat for each setting up to position **7**.

Note: The power supply must be removed and reinserted each time the **Delay** switch is changed for the above to be true.

3. **Tuner/Preamp A**, for instance, could be a line level feed for whole house music. **Tuner/Preamp B** could be a local room audio source. The Power Amp and Speakers could be located in the local room as part of a whole house music system.

4. The system would operate as follows: When the **Tuner/Preamp B** is Off or turned fully down, music from **Tuner/Preamp A** would play through the LL-One to the Power Amp and Speakers. When **Tuner/Preamp B** is turned On, or turned up, the line level audio from **Tuner/Preamp B** would be sensed by the LL-One at **Input B** and automatically switch so that **Tuner/Preamp B** would play through to the Power Amp and Speakers. When the audio signal stops from the **Tuner/Preamp B,** for any reason, the LL-One will switch back to **Tuner/ Preamp A** after a timed interval set by the **Delay (B to A)** adjustment.

Sense Level and Delay (B to A) Adjustments:

These need to be set carefully in order to achieve consistent results. Proceed as follows:

1. Set the **Sense Level** by first rotating it to the full **Lo** (CCW) position and the **Delay (B to A)** to the **0** position.
   If the **Tuner/Preamp B** does not switch ON with audio signal playing, rotate the **Sense Level** CW a little at a time until it does.
   Usually, setting the **Sense Level** at mid rotation will work well.
   The **Sense Level** range is 100mV at full **Lo** (CCW) and 10mV at full **Hi** (CW).

2. Next, rotate the **Delay (B to A)** CW until you find a place where the **Tuner/Preamp B** does not shut OFF and ON too frequently with low sound or music levels or during track and disc changes on CDs, DVDs, etc.
   Since the **Delay** range is 0.5 seconds at the 0 position and up to 10 minutes at the 7position, you should be able to find a good compromise between too frequent shut Offs and too long a time for the music to turn Off after the program material ends.
   Usually, a setting at **3** (20 seconds) or **4** (50 seconds) will work well."

B Status (out)

This output is provided so that external devices, such as drape pulls, lighting, additional amplifier, etc., can be triggered at the same time as the B Input is triggered. Just be sure that the triggered device will operate with a 12V DC trigger voltage and does not demand more than 100 mA of current draw. Actually, the 12V B Status output voltage will drop to about 9V at the max. current of 100 mA.