

# Lionel Layout Control System

## Sensor Track Noise Filter

---

Author – Lionel Service

78-1294-252

5/15

In some installations, externally induced noise may cause an LCS Sensor Track to drop out of record mode before a recording starts. This document explains how to identify the problem and a simple hardware fix, a small plug that is inserted in the last device in the user's chain of LCS devices.

### **Identifying the Problem:**

When preparing to create a Sensor Track recording, the track is placed into "record ready mode" by pressing and briefly holding the RECORD button. You can tell record-ready mode is active because the red LED begins blinking. This blinking should continue indefinitely until a compatible Legacy locomotive rolls over that Sensor Track, starting the recording. Once the recording starts, the red LED is solidly illuminated.

When the noise problem is present the Sensor Track drops out of record-ready mode. It may drop out almost immediately, in which case it might appear to the user that it never even enters record-ready. Or it may blink a few times, or a few dozen times, but then stop blinking (drops out of record-ready). If it drops out of record-ready before the locomotive rolls over the Sensor Track, no recording is made and the user faces the frustration of having to reset their locomotive to make their planned recording.

**Note:** that in addition to pressing the physical RECORD button, a Sensor Track can also be placed into record-ready mode via LCS-compatible software running on a computer or smart device. The noise problem affects this mode in exactly the same way in that the red LED may blink for a while, but then turns itself off.

Some users may not experience the problem and won't need the filter.

# Lionel Layout Control System Sensor Track Noise Filter

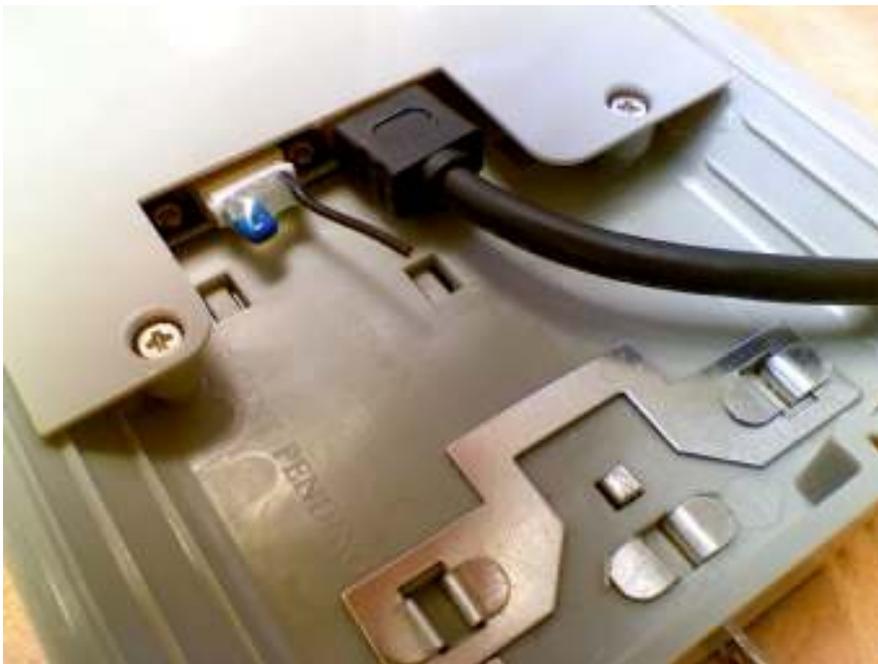
---

## **The Fix**

To solve the problem, a small filter has been designed. This simple circuit is comprised of one capacitor and an LCS PDI style connector. Smaller than a dime, it looks like this:



This filter should be installed in the unused LCS PDI connector of the last device in the users LCS module daisy-chain. In the photo below, it is shown connected to a Sensor Track, but if the last device is a different LCS product, such as an ASC2, SER2, etc., it can be installed there instead.



# Lionel Layout Control System

## Sensor Track Noise Filter

---

It is only possible to connect one Sensor Track Noise filter to an installation. One filter is all that is required regardless of the number of Sensor Tracks present. The black wire has no electrical function. It's just a tail to help pull the filter out when necessary.

### **What The SensorTrack Noise Filter DOESN'T DO**

The Sensor Track Noise Filter has no effect on other LCS modules. LCS users who do not have a Sensor Track in their layout DO NOT NEED the Sensor Track Noise Filter.

No other Sensor Track functions are affected by the filter, or the lack thereof. The ONLY issue it is designed to address is to prevent the Sensor Track from prematurely dropping out of record-ready mode.