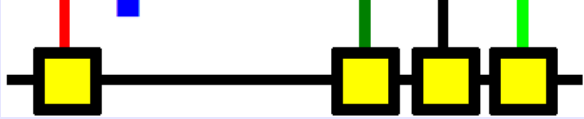- ✔ Easy to use:
  Whether you want to do simple setup by just pushing buttons on boards, or use a full-featured configuration tool, OpenLCB makes setup easy.

- ✔ Protects your investment:
  From your first two boards through huge modular layouts, OpenLCB equipment has lots of room to grow with your railroad.

- ✔ Simple to expand:
  OpenLCB equipment can be added without worrying about ID conflicts, keeping track of complicated address assignments, or ever being forced to go back and reconfigure equipment – all while working with existing model-railroad controls.
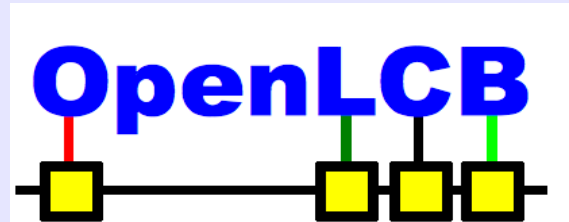

The OpenLCB project is developing a new layout control bus for model railroads, for you and me.

Please come, have a look, and lend a hand.

Join us at:

www.openlcb.org

A new way of controlling model railroads

- ✔ Easy but sophisticated, a network for model railroad control.

- ✔ From
   small,
     … to big,
       … to huge,
  OpenLCB™ will help you do what you want to do most:
  run your railroad.

OpenLCB: A First Look

In 2010, model railroaders ask a lot from the electronics on their layouts. They want to automate accessories, simplify operation of their staging yards, have fine control over layout lighting, and to build realistic dispatcher panels. Home and club layouts are getting more detailed and complicated, and existing electronics for control systems are having a hard time keeping up. OpenLCB is intended to be the next step forward, providing better layout controls for the next twenty years.

What is OpenLCB?

OpenLCB is a messaging system that helps you control your model railroad in a simple manner, with less wiring. Like the DCC standard, manufacturers and hobbyists can use the OpenLCB documents, and reference designs, to create products to do all sorts of things, while still ensuring that products from different companies will work together.

OpenLCB is a Step Forward for Layout Control

OpenLCB is a messaging system that connects accessories together in a coherent whole, in a simple manner, that lets model railroaders run their railroads.

Come and join us!

More information is available at
http://openlcb.org

OpenLCB

Getting Started:

Simple layouts can start with a few nodes (boards), for example a set of push-buttons that are used to control a set of turnouts (points). When a button is pushed, the button-node sends a message on the bus. Other nodes are taught to respond to that message and cause some action, such as turning on a light, changing a signal, or moving a turnout. This process is called the 'Producer/Consumer Model'. The messages are called 'events'; the node that sends an event is called a 'producer', because it produces the event; and the node that acts upon it is called the 'consumer', because it consumes the event.

Simplicity:

The biggest advantage to OpenLCB is not apparent unless you compare it to other buses. They require the user to choose 'node IDs', to ensure no two nodes have the same ID, and to keep track of the numbers used to represent events. While this is quite easy on small layouts, on larger layouts it is very time-consuming. On very large layouts, or layouts that are put together from multiple people's modules, such as occurs at large meets of Fremo, Free-mo, Ntrak, oNeTrak, etc. OpenLCB keeps track of node numbers, command, and channel numbers, and all that other book-keeping so that users don't have to, unless they want to. This makes putting together large modular layouts very efficient – no reconfiguring your module because its addresses are already in use, you can simply enjoy the massive layout.

Flexible Controls:

The Producer/Consumer, or P/C, Model's power comes from the fact that producers and consumers do not know of each other, allowing you to change them independently. Events can represent such abstract concepts as "Set the lighting to dawn", or "Set the layout to mainline running".

The Future:

Great care has been taken to design OpenLCB so that it has lots of room to grow. It's intended to work for the very largest modular layouts, and also to grow over the next 25 years of model railroading. The twenty-year history of DCC provides lots of examples of how creative model railroaders can think of new uses for electronics. OpenLCB has lots of capability built in to adapt for the next twenty years and more. OpenLCB provides automatic bridges to connect multiple segments together without complicated configuration or electrical issues. Also, OpenLCB has "filtering" bridges which send messages only to segments which need them, and it extends layout control with Ethernet and WiFi connections.

Easily grow as far as you want:

While OpenLCB is makes it simple to control small layouts, it really shines as your layout grows. You can add new devices to the layout without having to reconfigure others, and you don't need to worry about about addresses, board numbers or command codes, because those are handled automatically. You can try out a couple of devices on your workbench, and later move them to your layout without having conflicts with other devices, nor having to keep track of which assignment you have already made.

   OpenLCB is designed to connect to LocoNet, XpressNet, C/MRI, DCC, etc. -- you can continue to use your existing infrastructure.

The Technology:

Simple OpenLCB nodes are connected using the commercial-standard "Control Area Network bus" or CAN bus. CAN is an extremely robust technology, and is used in applications from factory floors to automobile controls. Using a widely-available standard like this makes is easy and cost-effective for manufacturers to build products that work together. A single CAN bus cable can accommodate from 50-75 nodes spread out over 300-400 feet. Should your layout grow beyond that, or you take your modules to a large modular meet, you can control the layout with two bus-segments joined by a bus-repeater. The bus-repeater node simply joins the two halves together and moves messages between the segments. The important point is that with OpenLCB you do not have to change anything else – all your configuration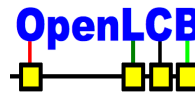 is intact and you can just continue as you were.