

Fiber-Optic Yard Signal Control

FAQ

System & Compatibility

Is this system compatible with DC layouts? Yes. Choose the DC Option at purchase. It works with momentary push buttons, KATO turnout controllers, and most DC turnout systems through the EASYBOARD INTERFACE.

Is this system compatible with DCC layouts? Yes. Choose the DCC Option at purchase. It accepts turnout state signals from DCC accessory decoders.

Do I need to solder anything? No. All components are plug-and-play with pre-wired harnesses.

Signals & Fiber Optics

How small are the dwarf signals? Extremely small — the fiber-optic design eliminates bulky LED housings, giving you true scale-accurate dwarfs.

Can I adjust the height of the dwarfs? Yes. Each dwarf includes an adjustable mast for N scale or HO scale placement.

Why fiber optics instead of LEDs in the head? Fiber optics allow ultra-compact heads, crisp indications, and no LED halo or bleed.

LED & Brightness

How do I adjust brightness? LEDs are pre-adjusted at the factory. If brightness needs tuning, replace with the extra LEDs included or adjust your LED DC input voltage on the MegaDwarfBoard.

Why does one dwarf look dimmer? Usually fiber seating — ensure fibers are fully inserted into the dwarf head.

Installation & Setup

How long does installation take? Most users complete installation in 20–30 minutes thanks to the plug-and-play harnesses.

Do I need special tools? No. A small screwdriver for terminals and a drill for dwarf mounting holes is all you need. You will also need some adhesive for the dwarf sockets, which are glued under the layout surface.

Can I expand the system later? Yes. The control PCB includes an expansion port for a fourth dwarf, indicator, or mimic panel.

Turnout Logic & Operation

How does the system know the turnout position? If you are running DCC, most turnout devices include an LED output. You connect that output to the MegaDwarfBoard using the terminals labeled "FROM RELAY." You only need to connect one of the turnout's outputs — this triggers the relay on the MegaBoard. If you are using a ground toggle (DC system) that is not momentary, you simply piggy-back that connection directly into the MegaBoard to activate the relay. If you are using a momentary double-press button circuit (DC system), you piggy-back those wires into the EASYBOARD INTERFACE at the labeled terminals. The EASYBOARD then connects to the MegaBoard — and you're done. If you are using KATO blue turnout activators, you piggy-back onto their output and connect to the EASYBOARD INTERFACE at the terminals labeled "KATO TYPE." From there, you connect into the MegaBoard.

Does the signal change instantly when the turnout moves? Yes. The system updates as soon as it receives the new turnout state.

Can I use this with manual ground throws? Yes of course — simply refer to the How does the system know the turnout position? section above to understand how to connect your ground throw to the MegaBoard.

Troubleshooting Guide — Fiber-Optic Yard Signal Control Kit

Use this section to quickly diagnose and resolve rare setup issues. Each item points directly to the underlying cause and corrective action.

Signal Not Lighting Up

- **Check Power Input** — Ensure the control PCB is receiving the correct voltage from your DC or DCC source.
- **Verify Plug Orientation** — Fiber-optic dwarf connectors must be fully seated; reverse the plug if unsure.
- **Inspect LED Module** — Confirm the bicolor LED is properly installed in its socket.

Signal Stuck on One Color or Wrong Aspect

- **Confirm Turnout State Input** — The MegaDwarf board only changes aspect when it receives a valid turnout state on it's relay.
- **Check EASYBOARD Wiring** — Momentary buttons or KATO controllers must be wired to the correct latch-relay terminals.
- **Test LED Module** — A damaged bicolor LED may only output one channel.

Dwarf Signal Too Dim or Too Bright

- **LED Brightness Adjustment** — The LEDs have been adjusted prior to packing. If the brightness needs tuning for your power supply, you can either try replacing them with the **extra LEDs provided in the kit** OR adjust your **power output to the LED DC input** on the MegaDwarfBoard.
- **Inspect Fiber Seating** — Ensure fibers are fully inserted into the dwarf head; partial seating reduces brightness.

Dwarf Signal Height Doesn't Look Correct

- **Re-Adjust Mast Height** — Loosen the height collar, reposition for N or HO scale, and retighten.
- **Check Mounting Surface** — Uneven scenery or ballast can cause misalignment.

Turnout Changes but Signal Doesn't Update

- **Verify that the BOARD'S Relay Click** — You should hear a soft relay click when the turnout is activated. If they don't check wiring.
- **Check DC/DCC Option** — Ensure you are using the correct version for your layout's control system.
- **Inspect Control PCB Input** — Confirm the turnout logic line is connected to the correct input terminal.

No Response When Using Momentary Buttons (DC Layouts)

- **Check Button Polarity** — Momentary buttons must be wired to the correct EASYBOARD terminals.
- **Verify Latch Relay Reset** — If the relay is stuck, power-cycle the EASYBOARD to reset state.
- **Test Button Continuity** — A faulty button will not send a pulse to the relay.

KATO Turnout Controller Not Triggering

- **Confirm Pulse Output** — KATO controllers output a short pulse; ensure the EASYBOARD is wired to the pulse terminals.
- **Check Relay Sensitivity** — If the pulse is too weak, verify the controller's power supply.
- **Inspect Terminal Tightness** — Loose screws can prevent the pulse from reaching the relay.

LED Flicker or Intermittent Operation

- **Check Power Stability** — Unstable DC supplies or overloaded DCC boosters can cause flicker.
- **Verify Connector Fit** — Reseat all plugs; intermittent contact can cause momentary dropouts.
- **Inspect LED Module Pins** — Bent pins can cause partial contact