



# SMBK

## Signal Mast Base Kit

### Features & Specifications

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- Makes all of your signals plug ‘n play with 10 pin connectors.
- Mast base for ANY scale or model signal you wish to use.
- Can be used as an N scale signal when painted and decorated.
- Current setting resistors are built in to the board.
- Pads are provided to make it easy to attach any signal to the mast base.

### Parts List

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3 Signal Masts

### Signal Masts

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The Digitrax Plug ‘N Play Signal Mast consists of signal mast with two signal heads, each with three integrated LEDs and a Plug ‘N Play Signal Mast Base that makes it easy to connect the Signal Mast to the SE8C Signal Driver Cable. Your SE8C includes one of these as for use as a test mast.

### How do you use these signal mast circuit boards?

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The mast can be cut off the base and you can attach any of a variety of types of model signal masts in any scale you choose to the Plug ‘N Play Mast Base.

#### OR

These signal masts can be decorated using third party components to create a finished N-scale signal mast that can be plugged in to your Digitrax signaling system.

The Plug ‘N Play Signal Mast Base has a 10-Pin plug that simply plugs into the sockets on the SE8C Signal Driver Cables. Current setting resistors for your LEDs and pads for wiring alternative types of signal masts are included on the mast base. The SE8C can accommodate a variety of signal types including searchlight signals with either 2-lead or 3-lead type bi-color green/red LEDs.

The SE8C signal control cables can be mounted in a horizontal clamp under the layout and an access hole, or slot, can be cut to allow the signal to be plugged in from above. Using this method there is no need to wire the fragile signals and wires from underneath the layout. Scenery and/or a relay base can be used to cover the plug-in hole. All signals and wiring can be bench tested for correct operation before installation on the layout. The Plug ‘N Play Signal

Mast Base can also be used with conventional mast mounts as a to make them plug and play.

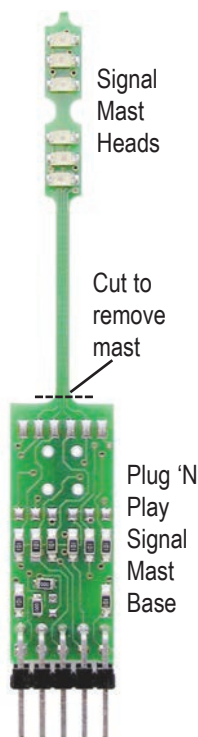
**Warning:** Current setting resistors with a minimum value of 100 ohms must be used with all LEDs operated with your SE8C. These resistors are incorporated into the Digitrax Plug 'N Play Signal Mast Base board. If you do not use this board, you must add your own resistors to prevent damage to the board.

## Customizing the Signal Masts

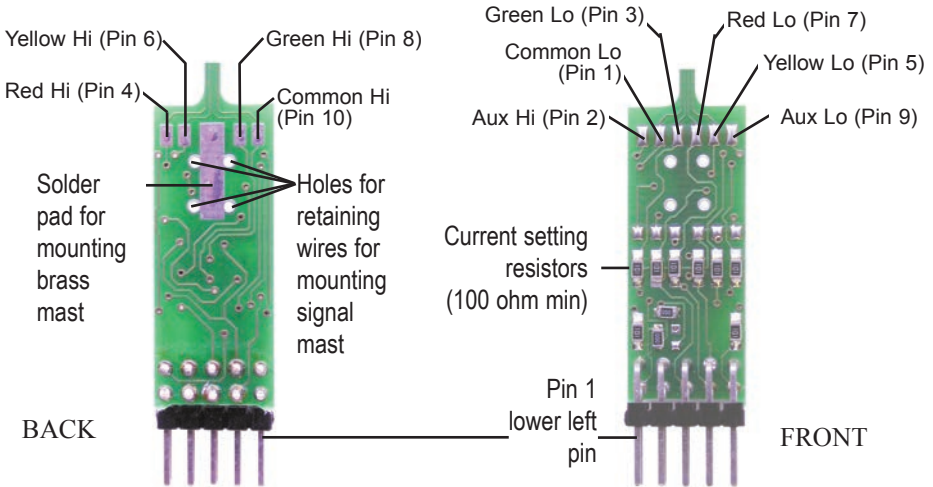
You can use the Digitrax Signal Mast Base for connecting any signal mast in any scale you want to use to the Signal Driver Cable.

1. Cut the Digitrax Signal Mast off the Plug 'N Play Signal Mast Base.
2. Set the angle and height for the new mast and solder it to the large pad provided on the back of the Signal Mast Base. (See figure next page). Or use the 4 holes in the board for a pair of retaining wires to hold the signal mast in place. Be sure to insulate the Signal Mast Base from the signal you are attaching if there is any chance that it might touch the traces on the circuit board and cause a short circuit!
3. The Plug 'N Play Signal Mast Base provides the resistors required for connecting the LEDs on the signal mast. Solder the wires from your signal mast directly to the associated pads on the Signal Mast Base as indicated in the following schematics and photos.

For clarity, the following examples use a line name for each Signal Mast Base solder pad to avoid confusion with wire colors. In the first example, 3/3 Signal heads with green, yellow and red LEDs, the line names correspond to the LED colors. One Signal Mast Base must be used for the A<sub>1</sub>/A<sub>2</sub> signal heads (A Orientation) and one for the B and C signal heads (B/C Orientation). See figure Sample Layout Security Element (Plant)--for a typical signal location.



## Plug 'N Play Signal Mast Base (pad number and pin out)



### Signal Head Examples:

**3 over 3 dual "G" type signal heads** such as the Tomar H-866, can be connected to a Plug 'N Play Signal Mast Base (with the signal-mast removed). The white common anode lead (for both heads) connects to Common Lo (Pin 1) pad and the signal's longer wires from the red/green/yellow LEDs from the Lower (dwarf) signal head connect to Red Lo (Pin 7), Green Lo (Pin 3) and Yellow Lo (Pin 5) pads on the front of the Signal Mast Base. The shorter 3 wires from the upper head connect to the pads on the back Red Hi (Pin 4), Yellow Hi (Pin 6) and Green Hi (Pin 8).

**Single signal heads** such as Tomar H-856 (type "G"-3 LED vertical) or H-855 (3 LED target) connect the white common to Common Lo (1) and connect the 3 color leads to the Lo (1, 5, 7) pads for the dwarf signal or the Hi (4, 6, 8) pads for the mainline signal. The combinations are shown in the schematic.

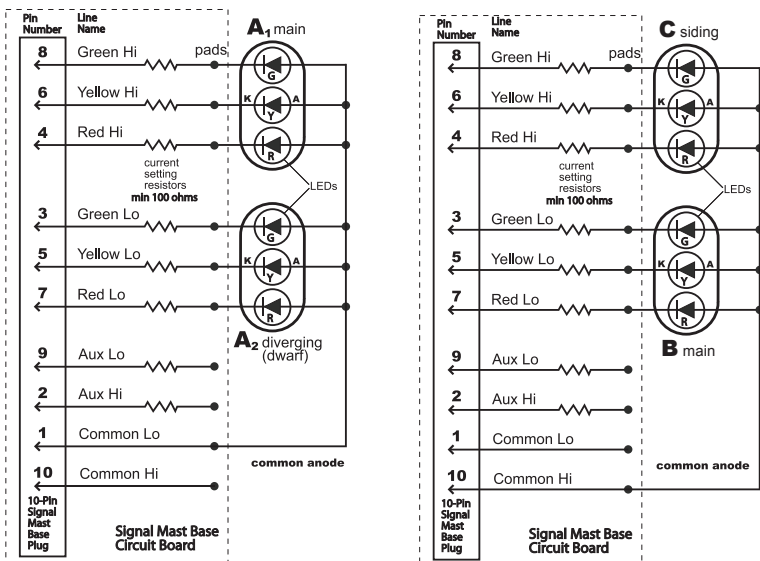
**2-LED signals**, such as Tomar N-857 with only red and green LEDs, omit the yellow pad connection and use the red and green pads for LED control.



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## Signal Schematic

### 3/3 Dual Signal Heads (Green, Yellow, Red)



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