O Scale Signal System

THE 21ST CENTURY SIGNAL™ SYSTEM

Prototype signal systems are one of the most familiar trackside details to be incorporated on miniature rail systems. Ever since the modern position light signals were introduced by the railroads in the mid-1920s, model train manufacturers have been eager to offer them as the quintessential layout accessory. While capturing the appearance of the real thing, operation, in most cases, has been far less than prototypical... until now.

The Atlas O 21st Century Signal™ System represents a quantum leap in model signal operation and design. A perfect complement to the incredibly realistic and extremely reliable 21st Century Track® System, the signal system can be used as a standalone accessory, or can be connected to one another for completely integrated operation.

Atlas O's 21st Century Signal™ System gives you four choices of signal operation:

Stand-Alone Signal Operation - Each signal is completely independent and gives a timed Stop-Caution-Proceed aspect operation. (Simplest hook-up)

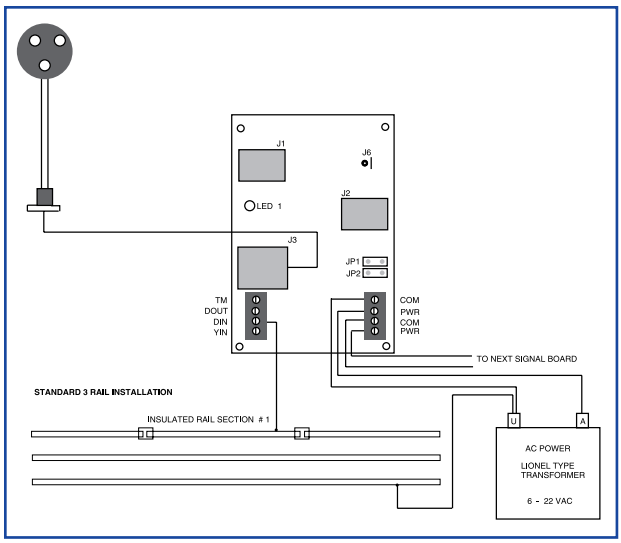
Integrated Operation - Each signal is connected together and the Stop-Caution-Proceed aspects are controlled by the blocks and signals in front of and behind your train. Hook-up between signals is accomplished easily with the Atlas O Signal Cable (Items #6937- 6939), pre-packaged in lengths of 7', 15' and 25'.

Approach-Only Signal Operation - On some prototype railroads, signals are off until a train approaches. The Atlas O Signal system has the provisions to duplicate this operation.

Complex Signaling (in conjunction with the signals and signal boards offered by Custom Signals, Inc.) - The Atlas O Signal System has been designed to be fully compatible with the products offered by Custom Signals, Inc., one of the hobby's premier custom signal builders. Phone: 845-463-1318 or **www.customsignals.com**

Available for 3-Rail and 2-Rail operation, Atlas O's 21st Century Signal™ System was designed for easy hook-up so you can get started quickly, easily, and in just a few short steps!

Please see the basic installation diagrams below and to the right:



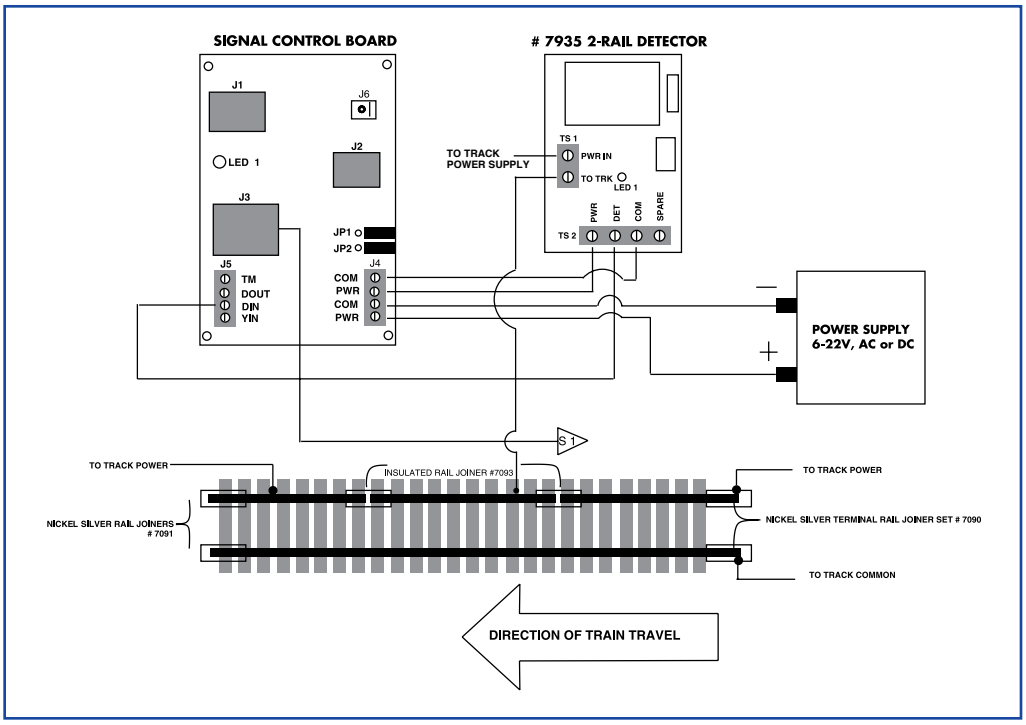
For 2-Rail & 3-Rail Operation!

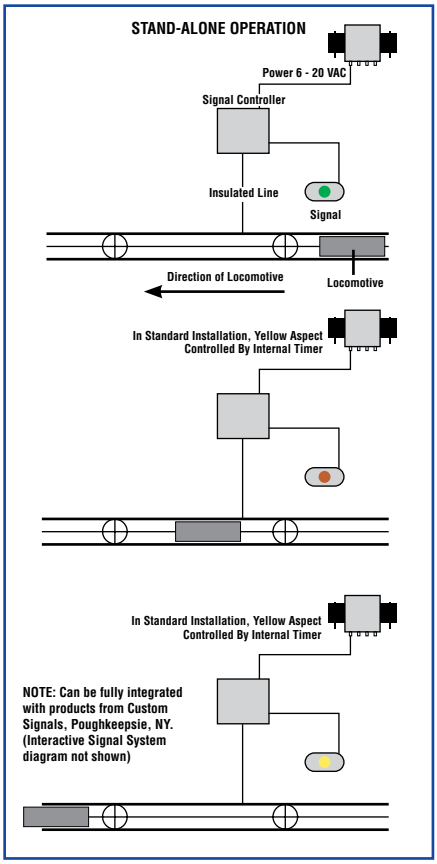
3-RAIL QUICK START DIRECTIONS:

1. Connect the wire from the insulated track section to the terminal strip connector
2. Run the power wires to your source of power (6-22VAC or DC)
3. Plug the signal into the jack

Your installation is complete!

O Scale Signal System





2-RAIL QUICK START DIRECTIONS:

1. Connect track detector to the insulated section of rail
2. Run the power wires to detector and signal circuit board
3. Connect track detector to signal circuit board
4. Plug signal into the jack

Your installation is complete!

STAND-ALONE DIRECTIONS:

Easy Hook-up is as simple as 1, 2, 3!

1. Connect power from transformer to signal circuit board
2. Connect a single wire from an insulated track section on your 3-rail layout (or detector on your 2-rail layout)
3. Plug in your signal to signal circuit board

It's that easy!

O Scale Signal System

O SCALE SIGNAL SYSTEM

Item #6911 3-Rail/#7911 2-Rail
Color Position Light Signal

Item #6925 3-Rail/#7925 2-Rail
PRR Signal

Item #6932 3-Rail/#7932 2-Rail
Type "A" Search Light Signal
(1 Light, 3 Colors)

Item #6930 3-Rail/#7930 2-Rail
Type "G" Signal

Item #7935- 2-Rail
Track Detector

Item #6937- 7' Signal Cable
Item #6938- 15' Signal Cable
Item #6939- 25' Signal Cable
(Used to connect multiple signals together for 3-Rail/2-Rail)

3-Rail Kit includes signal, trackside relay shed w/ signal circuit board & instructions. 2-Rail kit includes signal, trackside relay shed w/ signal circuit board, track detector & instructions.

SIGNAL SYSTEM FEATURES:

- Simplest, most realistic system on the market (does not require external relays!)
- Easy set-up (as few as three steps)
- Scale signal structures that have true 1/4" scale dimensions and details
- True prototype operation circuitry
- Modular design with telephone-style cord connections (for use with multiple signals, sold separately, Item #'s 6937-6939)
- Seamless integration that grows with your railroad

Item #6931- 3 Rail
Switch Signal Dwarf
(Used to indicate switch position)

To order, please find a dealer near you at http://locator.atlasrr.com. For more ordering information and pricing, please see the price list inserted in this catalog.

O Scale Signal System

Item #6934- Four Pack 3-Rail Type "G" Signal (4 each of #6930)

Item #7934- Four Pack 2-Rail Type "G" Signal (4 each of #7930)

Item #6926- Four Pack 3-Rail PRR Signal (4 each of #6925)

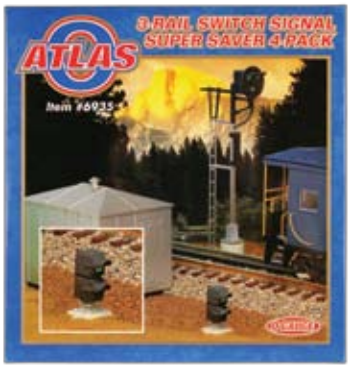
Item #7936- Four Pack 2-Rail Type "A" Search Light Signal (4 each of #7932)

Item #6936- Four Pack 3-Rail Type "A" Search Light Signal (4 each of #6932)

Item #7926- Four Pack 2-Rail PRR Signal (4 each of #7925)

Item #6912- Four Pack 3-Rail Color Position Light (4 each of #6911)

Item #7912- Four Pack 2-Rail Color Position Light (4 each of #7911)



Item #6935- Four Pack Switch Signal (4 each of #6931)

To order, please find a dealer near you at http://locator.atlasrr.com. For more ordering information and pricing, please see the price list inserted in this catalog.

HO & N Scale Signal System

HO & N SCALE SIGNAL SYSTEMS

Atlas is proud to introduce its Model RR Signal System in both HO & N Scales, offered in three styles, each complete with a signal relay shed. The signals are available as either: single target, double target (interlocking), or bi-directional single targets. Single target signals come individually packaged or in a convenient value-priced four pack. The double and bi-directional target signals are sold individually.

The Atlas Model RR Signal System features true scale dimensions and details, and includes circuitry for North American prototype operation. These signals can be used as a stand-alone accessory, or connected to one another for complete dynamic integration. They are the perfect complement to the full line of realistic and reliable Atlas HO & N gauge track systems. Multiple target signals are designed to allow modelers to incorporate most any track plan. Each signal is wired using common cathode wiring and can be incorporated into any system designed to operate with a common cathode configuration. The Atlas Model RR Signal System can be used on layouts using either conventional DC power (analog) or DCC (Digital Command Control). The only difference between analog and DCC operation is the type of block detector used. For DC layouts, use Atlas #233 Analog Block Detectors. For DCC layouts, use DCC block detectors, such as the NCE BD-20.

FREQUENTLY ASKED QUESTIONS

Q. *What do you need to get started?*
A. The number of signals and detector boards you use depends on the size and complexity of your layout. Each signal target requires a separate control board and block detector. The easiest way to get started with DC track power is to use the all-in-one pack Type G Single Target Kit, #236 (HO Scale) #2236 (N Scale). More information is available in the manual that comes with the signals.

Q. *What does the signal control board (SCB) and the block detector board (BDB) do?*
A. The signal control board and block detector board comprise the electronic "brain" of the system. The block detector senses current flow in the block. Installed under the table or mounted under your layout, the control board is capable of four modes of signal operation. It controls the input from the block detector board and output to the signal target head.

Q. *How does the stand-alone signal operation work?*
A. The Red and Green are controlled by occupancy. The Yellow is the controlled timed feature in this mode of operation.

Q. *Where do I install the signal?*
A. The signal is normally placed at the entrance to a block. (A block is any section of track that is electrically isolated from the rest of the layout.)

Q. *How do I add integrated signal operation?*
A. To add integrated signal operation of two or more signals, plug in the modular Atlas Signal Cable - Item #'s 230 (7'), 231 (15') & 232, (25'), in the length that is appropriate for your block size. Next, plug the cable into a jack, (RJ-11), on the first signal board and into the jack, (RJ11), on the other signal board. Jack 3, (RJ12), is where the signal plugs in.

Q. *How does the integrated signal operation work?*
A. Installation of the Integrated Signal Cable automatically disengages the timed Yellow feature of the stand-alone signal. All aspects are now under full control of the blocks and signals in front of and behind your train (See manual for details.)

To order, please find a dealer near you at http://locator.atlasrr.com. For more ordering information and pricing, please see the price list inserted in this catalog.

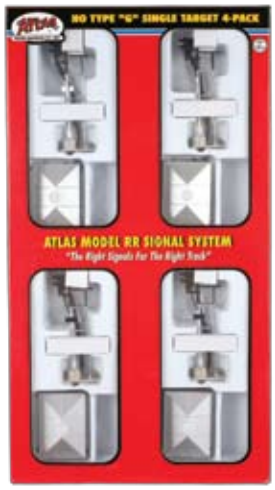
HO & N Scale Signal System

HO & N SCALE SIGNAL SYSTEMS

Item #235 - HO Type "G" Single Target A

Item #238 - HO Type "G" Double Target A

Item #239 - HO Type "G" Bi-Directional Single Target A



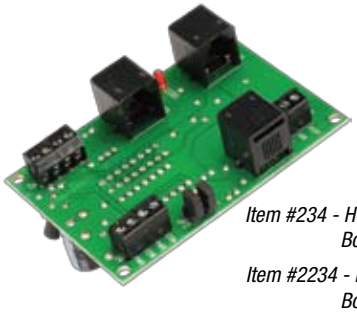
Item #237 - HO Type "G" Single Target (4-Pack) C

Item #2235 - N Type "G" Single Target A

Item #2238 - N Type "G" Double Target A

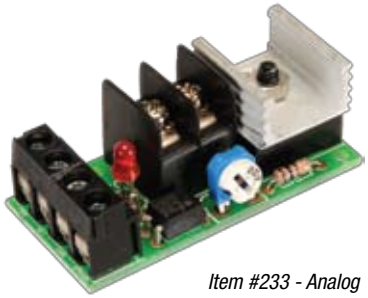
Item #2239 - N Type "G" Bi-Directional Single Target A

Item #2237 - N Type "G" Single Target (4-Pack) C



Item #234 - HO Signal Control Board

Item #2234 - N Signal Control Board



Item #233 - Analog Block Detector

Item #230 - 7' Signal Cable
Item #231 - 15' Signal Cable
Item #232 - 25' Signal Cable

To order, please find a dealer near you at http://locator.atlasrr.com. For more ordering information and pricing, please see the price list inserted in this catalog.

Tips & Tricks

Here at Atlas, we don't just make track, trains and accessories – quite a few of our employees are model railroaders themselves, and use our products on a regular basis. We've picked their brains and come up with a few tips and tricks we'd like to share to help you along in the world of model railroading. For even more helpful information, try our free online forum (http://forum.atlasrr.com/), where you can find a wealth of advice from a knowledgeable and helpful internet community of model railroaders.

N SCALE CODE 55 NUMBER OF PIECES NEEDED FOR A CIRCLE

The below information is for Code 55 track radius pieces offered by Atlas, and broken out depending on what you are using to create your circle. For example, if you are using 10" Radius Curves, then you need 16 pieces to create a circle.

- 10" Radius Curve (16 Pieces)
- 11.25" Radius Curve (16 Pieces)
- 12.25" Radius Curve (16 Pieces)
- 13.75" Radius Curve (16 Pieces)
- 15" Radius Curve (16 Pieces)
- 16.25" Radius Curve (16 Pieces)
- 17.5" Radius Curve (16 Pieces)
- 18.75" Radius Curve (16 Pieces)
- 20" Radius Curve (16 Pieces)
- 21.25" Radius Curve (16 Pieces)
- 30.609" Radius Curve # 5 Turnout Reverse Curve
- 71" Radius Curve #7 Turnout Reverse Curve

N SCALE CODE 80 NUMBER OF PIECES NEEDED FOR A CIRCLE

The below information is for Code 80 track radius pieces offered by Atlas, and broken out depending on what you are using to create your circle. For example, if you are using 11" Radius Curves, then you need 12 pieces to create a circle.

- 9 3/4" Radius Curve (12 Pieces)
- 11" Radius Curve (12 Pieces)
- 19" Radius Curve (24 Pieces)

HO CODE 100 AND 83 NUMBER OF PIECES NEEDED FOR A CIRCLE

The below information is for HO Code 100 & Code 83 track radius pieces offered by Atlas, and broken out depending on what you are using to create your circle. For example, if you are using 22" Radius Curves, then you need 16 pieces to create a circle.

- 15" Radius Section (12 Pieces)
- 18" Radius Section (12 Pieces)
- 22" Radius Section (16 Pieces)
- 24" Radius Section (16 Pieces)

SEPARATING RAIL JOINERS

Using a wire cutter, hold (don't cut) the joiner and move up and down until the joiner separates.

MAINTENANCE FOR HO AND N SCALE LOCOMOTIVES

Be sure to use only oil that is plastic compatible, a good one to use is Labelle #107. You will only need to apply a small amount of oil to the motor shafts, which come out of the motor housing and are located between the flywheels and the motor. You will also need to oil the worm bearing block where the ends of the worm shaft ride in the block. Make sure to oil both ends of the worm shaft. In some cases, if the loco has been sitting for a while, you will have to wiggle the parts to get them to break free. To clean the wheels use a paper towel and lay the towel on a piece of track that has power to the track. Apply a small amount of track cleaner to the wheels and with one end of the loco on the track and the other end on the towel turn up the power on the power pack. This will make the wheels turn, cleaning the wheels on the towel. Turn the loco around and do the other side but make sure that you wipe the track down first so you don't dirty the wheels that you just cleaned.

PAINTING TIPS

To paint fine detail, whittle a toothpick down to a very fine point and dip it in paint then carefully apply. This can be used for any small details such as painting cast on windshield wipers or fuel filler caps. It also can be used to change car lettering - such as making a 3 into an 8.

Tips & Tricks

STEPS TO SUCCESSFUL ELECTRICAL WIRE SOLDERING

You'll find the act of soldering takes less time than it takes to read these instructions! First you must tin the soldering iron, then tin the wire.

- BE CAREFUL! A soldering iron can cause burns or start fires if left unattended.
- CLEAN the tip of the cold soldering iron with a small file.
- HEAT the iron and apply flux. Apply a small amount of solder to the iron to cover the tip. (This procedure is called tinning.)
- TWIST the ends of each stranded wire to be soldered, so no wires stick out. If the wire is not pretinned, proceed to tin the wire by dipping the ends into the flux paste and touch them with the tinned tip of the soldering iron. The hot solder will flow from the iron to the wire. Copper wire will take on a silvery sheen as the solder flows.
- REMOVE the heat and let cool. The wires are now tinned. (If you use pre-tinned wire, this step is not necessary.)
- CLEAN the tip of the hot iron with the damp sponge and re-tin. When cool to the touch, take the two wires to be joined and lay them side by side in your hand with the ends even. Twist the tinned ends together as tightly as possible.
- DIP the twisted ends into the flux paste. Touch the hot tinned iron to the twisted wires until the solder flows and unites the wires. You may need to apply more solder.
- REMOVE the heat and let cool. Don't move the wires until the solder solidifies, usually after several seconds.
- FOLD the joined wires back on themselves and cover with electrical tape.
- UNPLUG the soldering iron upon completion of soldering.

The plastic insulation covering the metal wires serves at least two purposes. Insulation prevents bare wires from touching and causing a short circuit and the different colors available aid in identification of the wire, which makes the job of wiring easier. For example, wire covered in red insulation can be used for the common (c) connections while green insulation can denote connections to the control (gapped) rail, etc.

Insulation must be removed from portions of the wire prior to installation. Wire strippers in various sizes are commercially available and are the easiest way to remove insulation. Another way to strip wire is by using wire cutters. Be careful to cut only the insulation and not through the wire itself. This method may take practice to perfect.

WHAT TO DO WHEN A HAND RAIL WILL NOT GO IN THE HOLES

When you put the end railings on a locomotive, you need to clean the paint out of the holes. You do not want to make the holes bigger, so use a drill or a reamer to do this. Remember, just clean out the holes; do not make the hole bigger.

TIPS FOR A SUCCESSFUL FIRST LAYOUT

1) It is good to decide on an era to model, such as the 1940s, before purchasing your equipment. This way you are not going crazy buying a mix of locomotives and rolling stock that don't match each other. You will have a definitive theme to work on and a solid goal to work towards.
2) Lay down your track and test rolling stock on the track before permanently affixing it because the radius of the curves plays a big part here. The shorter the rolling stock, the smaller the curve radius you can use, however small rolling stock will work on a larger radius as well. With longer rolling stock, the curve radius should be larger. Keep in mind that long rolling stock will not work on smaller radius. This same principle applies to the locomotives as well. If you use bridges, tunnels and other types of structures, you must make sure that the rolling stock will have enough clearance.
3) As you lay down your track and nail it to the table top, try some of your rolling stock on it to make sure it runs smoothly.
4) When wiring your layout, use color coded wire. For example, all common rail is usually red wire.
5) Most important of all, do not wire your layout all at once! If you have a short you will have to check every single block to see where the short is. It is best to do one block at a time and then check it to see if the locomotive runs on that block, then go on to wiring the next block. This way if you wire something wrong, you will know that it is in that specific block.