OPERATING MANUAL

ALCO

1800 H.P. ROAD SWITCHER
MODEL RS-11

RAPIDO TRAINS INCORPORATED
MARKHAM, ONTARIO

RAPIDO

ALCO RS-11 LOCOMOTIVE PRODUCT GUIDELINES

Thank you for purchasing this model of the classic American road switcher, the ALCO RS-11. For years we have wanted to do this classic road switcher's Canadian twin – the RS-18 – and with the support and patience of our American customers, we just couldn't say no to this equally iconic classic. Being one of the most recognizable locomotives on the rails from the 1950s onward, we bring you the results of our blood, sweat and tears. We ran out of Jason's blood, sweat and tears, so we had to sacrifice those from all other employees to get this project finished. But rest assured no project manager was harmed in the making of this RS-11. That much.

If this is your first Rapido locomotive, we must ask – why is this your first Rapido locomotive? No seriously, we've been around now for almost 15 years and we've produced an imperial ton of US products, like the New Haven FL9s and coaches, Amtrak F40s and Cabbages, RDCs, FA-2s, B36-7s, etc. So just for that, we're going to make sure you LOVE your RS-11. And then you'll tell your friends you LOVE your RS-11. And then they'll tell their friends. And then we'll be make even more RS-11s because everyone wants one!

If you are a returning customer, welcome back! Just put your engine on the track. All we ask is you don't intentionally set it on fire, don't use it on a daredevil stunt off the layout, and don't MU it to anything made by Tyco. Oh, and REALLY keep it away from cheap DC controllers. Crappy power packs can quickly and easily give any Rapido locomotive an unwanted makeover ... and not the good kind.

Our head office is in Canada so our model train manuals are usually full of beavers and snow and stuff. We have made every effort to remove any Canadian-isms from this manual, eh? There's usually a good amount of humour through these manuals anyway, so it's always good to keep things on the lighter side. After all, model railroading is supposed to be fun, whether you're an experienced modeller or just beginning! Dang it – humor doesn't have a "u." And modelers should only have one "l." Man, it's only page one and we've already screwed up twice! Josh is the one who normally writes these manuals and he obviously didn't learn anything from the B36-7 manual he just wrote a few weeks ago. He's fired!

As always, if there is anything amiss with your RS-11 please do not hesitate to contact us. We stand by our products 100%. The best way to contact us is through email (trains@rapidotrains.com) but you can also reach us by phone, the postal service or Messenger Pterodactyl as well. Our contact info is at the back of this manual.

However, please do not send a faulty model back to us without first getting authorization. You wouldn't believe how many times we get a delivery of a broken locomotive with only a name inside, meaning we have no idea what's wrong with it! (Hey Steve – your F40PH is still sitting on the shelf in our bathroom.) If it's something simple – like a loose grab iron – then we'll likely tell you how to fix it yourself. While we generally will support repairs to your RS-11 for a considerable length of time, please realize that eventually the parts supply will run out. That, or the oxygen on this planet will. Whichever comes first, unfortunately that will dictate when we can no longer help you. Again, please make sure you contact us first so we can tell you whether there's enough parts (or oxygen) left to do your repair.

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PROTOTYPE HISTORY

Introduced in early 1956, Alco's RS-11 locomotive (catalog #DL-701), was powered by an 1,800-horsepower turbocharged V-12 version of Alco's 251B prime mover. The RS-11 rode on B-B trucks of similar design to those used under the earlier RS-3 and FA series locomotives. Its hood style carbody featured notched corners that included the corner number boards and, on most units, sand filler hatches as well. These notched corners distinguished them from their Canadian RS-18 cousins and made the RS-11 an instant design classic.

Many roads purchased RS-11s with a total of 462 units produced. The largest customers to acquire this classic road switcher were the Norfolk & Western (99 units), followed by the Pennsylvania RR (38 units), Nickel Plate (35 units) and Southern Pacific (34 units). Other customers included the Delaware & Hudson; Duluth, Winnipeg & Pacific; Lehigh Valley; Missouri Pacific; New Haven; Northern Pacific and the Seaboard Air Line. One of the most reliable of Alco locomotives, examples survived in Class 1 usage well into the late 1970s, with several still in use on short lines today.

The RS-11 could be set up for either freight or passenger service, with passenger units having a steam generator fitted into the short hood and a larger fuel/water tank beneath the frames. RS-11 units could be designated for either long hood or short hood forward operation. Some units, like the N&W's, were provided with dual control stands and could be operated with either end forward. Over the course of RS-11 production there were many noticeable changes made to the design. These included variations in carbody filter quantities and sizes, fuel tank designs, cab window size and placement and many other small details. All of these details are reflected in the Rapido model.

BREAK-IN

Please, please, PLEASE don't break in to anyone's layout room to steal their RS-11. Just buy more for yourself. But this isn't about that kind of break-in.

Every locomotive needs a break-in or "warm up" period. Your RS-11 has been tested at our factory for about two minutes ... maybe. And that's just to perform a functionality test. That is certainly not enough time to get the gears to mesh nicely or to even out any jerky operation in a new motor. We suggest that, after reading this manual, you put your RS-11 on a test loop, clean the wheels, and just let it run in each direction for an hour or two. Fast and slow. Cleaning the wheels is important because gunk gets onto the wheels in the manufacturing process.

There already should be enough grease in the gearbox so you don't need to add any. Just let the thing run.

HOW TO HOLD YOUR RS-11

The RS-11 has numerous very delicate parts. If you want to back date it to be the quality of a model produced in the 1970s, then rip all the parts off and handle it like you would a chainsaw. We're assuming you don't want to do that, so the RS-11 should be picked up carefully. We suggest you DO NOT lift by the long hood, because if for whatever reason the clips holding the hood don't hold its weight, your locomotive will have a brief skydiving experience. We don't want to risk that, so if your hands are big enough, the best way to pick up the unit is to grab it from above with your thumb and forefinger on either side of the lower edge of the fuel tank. Always make sure your hands are free of shmutz before touching your engine.

If you are taking your RS-11 to the club all the time and regularly handling it, stuff will break off. Sorry. The little bits are made of plastic and metal with glue, which is all a bit fragile. We attempted to make the small parts out of unobtainium and use Steady-State Micro Welding to install them. Unfortunately, the unobtainium was unobtainable.

We suggest wrapping your RS-11 in a plastic bag before placing it in the packaging or in your holder so you can catch bits that fall off. White glue is the recommended adhesive for reattaching the bits, although you are welcome to use CA, but only if you are very careful and very brave.

CHECKING AND ADJUSTING YOUR LOCOMOTIVE

We try and make sure that every locomotive is perfectly up to spec before it leaves the factory, but if Jason, Bill or Mohan were in the factory when your model was being assembled there may be a couple of bugs. These guys are always breaking stuff. Doing a quick pre-service check will solve most operational glitches.

- Check to see that all wheelsets are correctly in gauge using an NMRA RP-2 Standards Gauge. Should any of the wheelsets be out of gauge, then remove the affected wheelset from the truck by prying off the bottom lid of the gearbox with a small flat screwdriver and then spreading apart the sideframes. The wheelset can be regauged by grabbing each wheel and twisting. Reverse the steps to replace the wheelset, and ensure the gearbox cover is snapped into place before placing it on the track.

- Check that all underbody piping and appliances are firmly installed and clear of the track. Of particular note are the air hoses on the ends of the locomotive and both coupler trip pins. Bend up any low coupler trip pins so they don't interfere with your switches and crossings. We recommend using Kadee part #237 (Trip Pin Pliers) or Micro-Mark part #80600 (Trip Pin Bending Plier).

- Make sure that the trucks swivel freely and without binding. If they catch on anything, check to ensure that the ends of the trucks don't bind against the steps. If they do, see that everything is firmly installed. Remember to clean the wheels like we asked you to!

MISSING OR DAMAGED PARTS

If you open your RS-11 box and discover that something has obviously been bumped in transit and is damaged, please contact us. We know that some of you don't like the idea of human beings touching your models, but if it is a matter of gluing an exhaust stack back on you can do it yourself in less than a minute with a drop of white glue. If you really want to send your model back to us for us to install that, we would be happy to. But if you do send it back to us for us to put that one part back on and other stuff falls off when we send it back to you, then tough tooties. We're not fixing it again.

If you see some grab irons are missing and they are not floating around the packaging, let us know and we will send you replacements. More information about our limited warranty can be found towards the end of this manual.

REMOVING THE SHELL

If you need to open up your RS-11 to install a crew or a decoder, things work a little differently than most of our previous models, so please read carefully. In a perfect world, you should never have to open your locomotive up, but sometimes things happen. Like dropping your HO scale wrench down the HO scale exhaust. Yeah sorry, that's not coming back. But if you must retrieve it, then you will need to follow these steps:

- We recommend that you only attempt opening up your locomotive in a zero-gravity environment. That way, if a part does break off, it will just be suspended there, right where you broke it, ready for you to reinstall it. If you don't have a zero-gravity chamber, then we suggest not installing shag carpet in your workspace. Yes it looks great and yes it feels great on bare feet, but Rapido employees have experience in understanding that whatever detail bits fall into shag carpet are gone forever. No questions, it's not coming back. The only way to find it is to walk barefoot and hope that it impales your foot in the most painful way possible. And if you decide to use this method to find the missing parts, you're not covered by our health plan.

- To that end, please make every effort to ensure nothing flies away. We normally suggest you work in a room with everything white – walls, floor, ceiling, workbench, tools, clothes – everything. But doing so would be very boring (albeit practical) so that's likely not the case, is it?

- If you wish to install a crew inside your RS-11, then removing the cab is the easiest task out of these instructions. The cab is held on by 4 clips – two forward, two rearward – and with a little manipulation the cab should come free. We recommend pulling the cab straight up and not twisting or tilting it in any way, shape or form. Oh, and remember to disconnect the hand rails from the cab too or they're going for a ride.

- If you wish to change out the decoder, then unfortunately you're going to have to remove almost everything above the frame. As much as the RS-18 body is a modular design, it

doesn't lend itself well to a simple decoder replacement.

• First, start by removing the cab as explained earlier. The next step will be to remove the short hood. This can be achieved by first removing the railings from the equipment boxes on either side of the short hood.

• Next, take a small flat screwdriver and through where the cab was located, pry the walls of the short hood outwards slightly to disengage the clips (there's one on either side). This should allow the short hood to be pulled up and clear of the body. Be careful as there will be lightways and wires within the short hood for lighting.

• Finally at this point, you'll see that the remaining body shell is one piece. The remainder of the long hood is secured to the frame by a series of clips along either side. Exercise caution when attempting to remove them, as breaking them may render your shell unable to return to its normal position. Be aware of the battery boxes and any other details as well, as these are pinned to the long hood and not the chassis. And oh yes, the railings. You'll want to remove those entirely to keep them out of the way just to be safe.

• At this point you should have the entire shell off the frame. We don't know how to put it back together (we never tried) so from here you're on your own. Just read the instructions backwards and you should be ok. If you find a cryptic message while reading the instructions backwards, it's not our fault. Or better yet, just buy the sound-equipped version from the start and be done with it.

Any requests for replacement hoods or cabs because you broke the little clips will be met with laughter, followed by sadness, then laughter again, and then a very polite suggestion that you find a nearby lake and jump into it. We did warn you after all. If we can assist, then all joking aside we'll make every effort to do so. But note that we don't have a warehouse full of shells and cabs to replace the broken ones.

OPERATION – DC (SILENT)

If your RS-11 locomotive is not equipped with a sound decoder, it should function like most other HO scale locomotives. Put it on the track. Give it some juice. Watch it go. In DC, the number boards are always on and the headlights and ditch lights are directional. The ground lights are installed and wired, but they will not work in DC. Oh yeah - none of these have ditch lights. Never mind.

If you are new to the hobby (or just like to occasionally "play trains") and you have a DC-powered train set, please contact us before operating your RS-11 as it may not be safe (for your engine and/or your wallet) for you to use your controller.

Some train set throttles put out a very high maximum voltage that is not suitable for scale model trains. The maximum recommended voltage is 16 volts DC. Similarly, controllers designed for large scale trains put out a much higher voltage than your RS-11 can handle. Please see the highlighted warning not too much further in this manual.

If you use a train set throttle or a throttle designed for large scale trains, your locomotive's circuitry may end up looking like a TV dinner forgotten in the microwave after you accidentally punched in an extra digit into the timer. In such situations, we'll try our best to fix it for you, but it may be beyond salvaging. Please note we may have to charge you for the replacement parts and/or the labor involved in restoring it to its former self. That's because you didn't read this bit of the manual.

INSTALLING A SILENT DCC DECODER

The RS-11 contains a motherboard specially designed for our decoders. This is connected to the track, motor and lighting outputs. A blind plug is attached to the motherboard using a 21-pin connector. To install a decoder, remove the blind plug and install a 21-pin decoder. Your chosen decoder should have eight function outputs.

At the time of writing, we recommend only the following 21-pin decoder:

- ESU #54615 - LokPilot V4.0 DCC with 21 MTC

We feel the 21-pin connectors are superior because there are enough pins to ensure that all your lighting functions are connected. The necessary resistors are included on our motherboard so you don't have to futz around with resistors. Just plug in the recommended decoder and you have DCC. We know some of you prefer a different brand of decoder, but we honestly can't help you install it or map the functions.

We have made an RS-11 function mapping which can be downloaded into the ESU non-sound decoder (54615) so that the function buttons and motor control are exactly the same as our factory-released sound versions. This should be available for download from the Support section of our web site. If it isn't, bug us. You will need an ESU LokProgrammer to write the function mapping to the 54615 decoder. If you don't have a LokProgrammer, you can adjust CVs in the usual way.

We will be selling RS-11 sound decoders separately as soon as we can get some. Should be soon. If they aren't on our web site, call ESU in Germany and yell at a guy named Jürgen. That's pronounced "your gain." Tell him we sent you.

If you want to install a decoder other than the one we suggest, it's more than just plugging in the decoder and then playing trains. You will have to custom map all the functions. It's just how it is. We won't apologize for that. Sorry, eh.

OPERATION – DC (SOUND)

To operate your sound-equipped RS-11 locomotive on a DC layout, just give the throttle some juice. The engine will start up once sufficient voltage has been reached (around seven volts). See the note above (in Operation – DC (Silent)) about using train-set or large-scale throttles. With DC layouts, you have very little control over the sounds of your model.

— WARNING —

Rapido products are designed to operate safely between 0V and 16V. Voltages in excess of 16V - as well as irregular waveforms, voltage spikes or short circuits - may cause severe and sometimes irreversible damage to the product. "Train set" power packs are known to suffer from any one of these unexpected irregularities, whereas higher-end systems have safeguards in place to prevent this. Rapido always recommends using a power supply system that matches the quality of the models you are running. If you're reading this, you've obviously invested in top-of-the-line, museum-quality motive power and equipment, so we hope you've made the same investment with your model railroad power supply too.

While many power supply systems exist, some are known to have caused problems with model train circuitry in the past. If you have any one of the following systems, PLEASE DO NOT USE IT until you contact us for more information: MRC RailPower 1300/1370-series, Bachman Spectrum Magnum, Atlas 313 Universal Power Pack.

The DC lighting is limited. Some throttle manufacturers produce special trinkets which are meant to trigger the sounds in locomotives on DC layouts. As we have no involvement in the development of those trinkets, we have absolutely no idea how they will affect your RS-11, for good or for ill. As always, we'll try to help you fix your RS-11 if one of these trinkets turns your locomotive's circuitry into something akin to what's left of a turkey after someone left it in the oven too long because they got distracted by the game. Isn't that right, Norm?

It is usually at this point in the manual that we insert a gentle dig at our fellow modelers who won't switch from DC to DCC. We've exercised caution in the past regarding this, but it's now 2019 and we've come a long way since the days of the dodo bird and the phone pager. Yeah, remember those? Pretty sure everyone seems to have forgotten about that bit of technology by now. But don't worry, DCC isn't that scary. Besides, it's not that we're calling DC modelers Luddites or anything. Or are we?

OPERATION – DCC (SOUND)

We go to extreme lengths for accuracy, in sounds as well as in looks. Our sound decoders are LokSound Select decoders by ESU, programmed with sounds we recorded from a real 251B diesel engine actually doing some work, not just sitting idly getting load tested. So you can rest assured that the sounds are bang-on accurate. We are also now using ESU's new V5 decoder complete with Full Throttle functionality.

As we do for all of our sound decoders, we recorded the prime mover under load – it was a dead unit in tow, up a grade, both ways, in a snow storm, in July. Or maybe it was August. Anyway, locomotives sound a lot different when they are actually working. If you have decoders from other manufacturers in your locomotives you might want to check out the available line of Rapido

decoders on our web site. All of our decoder sounds were recorded under load and we simply can't stand decoders that don't have this feature. If we are sold out, see the note about calling ESU in Germany above. Remember - the guy to yell at is Jürgen.

More detailed decoder instructions, including all sorts of weird CV settings we don't understand, can be found in the ESU LokSound V5 decoder manual. This is available for download from the support section of our web site or directly from the ESU website.

LOCOMOTIVE ADDRESS

Your Rapido RS-11 comes from the factory with a decoder address of 3. We suggest if you are using DCC control that you first test that the locomotive responds on address 3 to all functions – motor, lights, sounds, everything. Once you have verified that the locomotive is responding you should assign it a unique address (normally the road number of the unit) before going any further. This can be done either on your programming track (recommended) or on the main if your system supports programming on the main. Be aware however that if you do program the locomotive on the main and you have any other locomotives assigned to address 3 (the normal default address for new locomotives) that ALL of them will also be changed to your new address! This is great if you want to simulate a bunch of kids getting into the engine shop, notching the controllers and then heading for the hills.

Note that some DCC systems get a little wonky when programming sound-equipped locomotives on the programming track because of the high current draw. If weird stuff happens, try programming on the main.

TURN ON THE SOUND

Press F8 and you will hear the RS-11 startup sequence followed by the sound of it idling. You can adjust CVs to prevent the locomotive from moving until the startup sequence has played out. Most of us at Rapido are really impatient so we turned this feature off. Refer to a full ESU LokSound V5 decoder manual for more information. As we said a couple of minutes ago, you can now download it from the Support section of our web site. The feature is called the "Prime Mover Startup Delay" and is Section 13.2 on Page 89 of the ESU LokSound V5 manual.

If you press F8 when the locomotive is already moving, it will skip the startup and the sound will just turn on. Press F8 again to turn the sound off.

Note that if you are listening to your RS-11 idling nicely and then you select another engine, your locomotive still thinks F8 is pressed so it will keep idling along. However, if someone else selects your locomotive's number and F8 isn't pressed on their controller, the RS-11 will promptly shut down. They will need to press F8 again.

FUNCTIONS

The RS-11 features a new standard for function mapping that we will be matching for most projects carrying forward. This is to better standardize our practices, as well as match locomotives available from other manufacturers. So if you note something missing below (like F6), it just means that the RS-11 doesn't have whatever function that could be (Ditch Lights!). If you have any comments or suggestions regarding our revised function mapping scheme, please call, e-mail or dispatch a hoard of locusts to our address.

F0	Headlight	F10	Brake
F1	Bell	F11	Classification Lights
F2	Horn	F12	Switching Mode
F3	Flange Squeal	F13	Gyralite *(if equipped)*
F4	Dynamic Brake	F16	Steam Generator
F5	Doppler Horn	F17	Emergency Light *(if equipped)*
F7	Dim the Headlights	F18	Ground Lights
F8	Startup/Mute/Shutdown	F19	Number Board Lights
F9	Full Throttle	F20	Spitter Valve

FUNCTIONS: MORE INFORMATION

F0 Headlight

Unlike the real thing, our RS-11 headlight is directional. Whichever direction you're travelling, the headlight will face that way. Not like some fancy streamlined FP or FPA unit where it always stays on no matter which way it's going. If you also want the headlight facing the opposite way of travel to be on, then read a little further on under the Switching Mode function.

F1 Bell

As was the case with many early air-operated bells across multiple roads, we really can't figure out an exact "factory standard" ring rate, as over the years the timing would've changed simply based on how clogged the air regulator became over time. Plus, there are steel bells and brass bells. We've programmed a few different bell recordings, so check out the "Custom Sound Settings" section for details on how to change your bell from the standard one.

F2 Horns

We love our horns. Like really! Seriously, who doesn't love a good sounding horn? So we're now providing a range of horns for you to apply to your locomotive as appropriate or as you see fit (even if it's not appropriate). To get a short "toot" just tap F2 or your "HORN" button. If you hear a long tail-off you are tapping for too long. If, no matter what you do, you just can't get the darn thing to make a short "toot," switch to NCE. The default horn is a Nathan P3, but we've included a few others. Refer to "Custom Sound Settings" below.

F3 Flange Squeal

Let's face it, when we introduced Flange Squeal on our SW1200RS, we created a monster. A really good looking and amazing-sounding monster. So, since it was never possible for anything to SILENTLY go around tight curves and switches without waking up half the neighbourhood – no matter what locomotive you have – we've included the flange squeal. Press F3 to turn it on. Press F3 again to turn it off. If your neighbor complains about that nasty racket, just keep F3 on and say you can't hear them and maybe they'll go away.

F4 Dynamic Brake

Press F4 to get dynamic brake sounds. Who does that? Well apparently a lot of people because once upon a time, we got flak for putting it in the upper echelons of functions on our old locomotives. So for that, we apologize and have brought it to the forefront of functions for your acoustic pleasure.

F5 Doppler Horn

You can play this when approaching level crossings or any other whistle post. The doppler is nicely timed for a moderately paced train blowing for a level crossing. When you change the default horn for F2, the doppler horn will also change to the appropriate tone as well. It's like we're magicians or something!

F7 Dim the Headlights

When approaching a station stop or an oncoming train, press F7 to dim your lights and turn off your ditch lights – you don't want to blind your passengers or the oncoming train's engineers. Not dimming your lights is a direct violation of what's commonly referred to as "Rule 17". The internet can answer all your questions about said rule. Ask The Google.

F8 Startup/Mute/Shutdown

While your locomotive is stationary, pressing F8 will begin the startup sequence of the engine sounds. If your locomotive is silent but already in motion, pressing F8 will skip the startup sequence and simply turn on the sound. If the sound is already on, press F8 to mute the sounds. If your locomotive is stationary, then you will hear the engine shut down sequence before the sound turns off. Didn't we just say this on page 10?

But wait, that's not all! By pressing F8 and turning on the sound, you'll also turn on the control stand lights inside the cab. How sweet is that? Press F8 again when you turn off the sound, and the lights will go out.

If you have a DCC system that only allows eight functions, you can remap the functions following the guidelines in the ESU LokSound V5 manual, which can be downloaded from the support section of our web site. Or you can upgrade to a newer DCC system, which may be less stressful. Buy NCE.

F9 Full Throttle

ESU's "Full Throttle" feature allows you to play the prime mover of your RS-11 like a musical

instrument, even if you're not musically inclined. When you press F9, you turn on "drive hold." This keeps the speed of the engine constant at whatever speed step your throttle happens to be on. Then as you increase the throttle, you hear the prime mover revving up. This sounds awesome, whether you're taking off from a commuter station stop at warp speed, or trying to get that long, slow freight over the grade.

"Full Throttle" is even neater when you throttle down, as it allows you to simulate "coasting" which is such an important part of running a real train. When you press F9 again you turn off "Full Throttle" and the engine will accelerate or decelerate to whatever speed step your throttle happens to be on. For realism it's a good idea to take note of what speed step your throttle was on when you turned on "Full Throttle" and be back at that speed step when you turn "Full Throttle" off. Otherwise your RS-11 may fly like a bird.

F10 Brake

F10 works just like the brakes on a real engine. Press F10 and you put on the brakes. Turn off F10 and the brakes come off so you start moving again. When we started making sound-equipped engines, very few people used the brake function and we left this function well out in the distant suburbs of function numbers. However, ESU's Drive Hold feature has made the brake function more popular, so we've moved almost all the way downtown to F10 to match the ESU standard.

F11 Classification Lights

We go to extreme lengths to make sure most lights on a locomotive are functional, and the class lights are no exception. Now by pressing just one button, you can cycle through almost any color you want. White. Green. Pink. Fuchsia. Cyan. Ok, maybe some of those aren't available. When you press F11, you'll turn them on. When you press F11 again, you'll turn them off. Oh, and they're directional too, just like the headlights.

Information on class lights and what the colors mean can be found on the internet, so we hope that you will learn to use them appropriately.

F12 Switching Mode

If you press F12, the headlight and rear light will both be on dim. This is appropriate for switching operations, which would be common in yards and terminals. This is the only way to turn on both the front and rear headlights at the same time. Press F12 again to turn off the switching mode and return to your regularly scheduled lighting.

F13 Gyralite *(Southern Pacific only)*

It's no surprise that SP really had a fascination with twinkly lights, and the Gyralite certainly qualifies as pretty high up on the twinkly scale. Yes we probably just made such a thing up, and yes we probably wish more railroads used Gyralites, because who doesn't like more lights? Press F13 to enable it and press it again to disable it. It's also directional so you don't have to worry about the headlight and Gyralite being on at opposing ends of the locomotive.

F16 Steam Generator

Press F16 at any time to start up the steam. We don't include random loud blowdowns but we do include the irregular hiss that you can hear coming from the regulator and blowdown valves all the time when the steam generator is operational. And because not every RS-11 came equipped with a steam generator, or if you're running a freight train that doesn't need steam heat, we've kept this feature up in the higher functions.

When you accelerate, the volume of the steam generator gets lower as you wouldn't hear it as clearly when the train is moving. If you want MORE STEAM! you can adjust the volume of the steam generator by adjusting the value of CV 299. Please refer to Sound Volume Settings (below) before attempting this. We've got a fever. And the only prescription is MORE STEAM!

F17 Emergency Light *(Southern Pacific only)*

Once again, SP locomotives have all the good stuff. Pressing F17 will turn on the red emergency lights at both ends of the locomotive. But don't worry, your locomotive isn't in a state of emergency and doesn't need to go to the hospital. It's strictly cosmetic for added effect. You just called 911, didn't you? Man - you gotta relax. It's just a model.

F18 Ground Lights

The ground lights are on all the time by default, and we think the design improvement from the original SW1200RS inspection lights means that we created yet another monster and then made it even better! But should you want to turn them off, just press F18. We originally called these Track Inspection Lights, but were dutifully corrected by Richard that the switch in the cab said "ground lights".

F19 Number Board Lights

The number boards are on all the time as a default. We hate having to turn number boards back on after a power failure. If you want to turn off the number boards, just press F19.

F20 Spitter Valve

To save you from the saliva clean-up should you try to mimic the sound of the spitter valve, we've provided its sporadic sounds on F20. By default it's always on, as the real thing would always be going when the locomotive is running (and for a few minutes after shutdown). But if you prefer to not hear it at all, just press F20 to silence the spit.

CUSTOM SOUND SETTINGS

We used to call this section "Horns and Bells" but because the V5 decoder offers so many sound setting options, we almost can't contain our excitement. It also allows us to add other customizations from time to time, when warranted. (Note: the excitement has now been contained.)

The RS-11 was used by many different roads and, as such, were equipped with a multitude of different horns and bells. We've limited it to just those two this time.

The default horn on your model is a Nathan P3. After extensive scientific research that resulted in a few chemical burns, we came to the conclusion that it really didn't matter which one we picked as the default, so we chose one that sounded good to us. You can change the default horn by changing the value of CV 163. We've also chosen a default bell too, because someone had to make the important decisions. And that someone is Mohan. Effigies of Mohan for burning are available from rapidotrains.com. The horns and bells can be changed by adjusting the value of their respective CVs.

Horns

- CV 163=0 Nathan P3 *(Default)*
- CV 163=1 Nathan M3H
- CV 163=2 Hancock Whistle
- CV 163=3 Leslie RS-5TRF

Bells

- CV 164=0 Steel Bell #1 *(Default)*
- CV 164=1 Brass Bell
- CV 164=2 Steel Bell #2

Note that after you change the horn or the bell, you need to cycle the power (turn it off and on). And changing the default horn automatically changes the doppler recording on F5 too.

SOUND VOLUME SETTINGS

The sound volumes on your decoder have been pre-set at the factory to levels that we found comfortable on our test tracks.

Sound levels are very much a matter of personal taste (especially if you are going deaf like some of us are), and what sounds great in one layout environment may sound too loud or too soft in another. Fortunately, the sound levels can be easily adjusted to best suit your own requirements and we recommend that you experiment with different settings if you don't care for the default levels.

To set the volume levels go into the program mode on your DCC system (refer to your system's manual for instructions on how to do this as each system is slightly different); enter the desired CV number; then enter the desired levels. Note that this can be done either on a programming track or on the main (ops mode) if your DCC system supports programming on the main.

We strongly recommend that you keep notes on which settings you have changed and which values were used. If you ever need to do a reset on the decoder (see "Factory Reset" below) then having good notes will allow you to easily re-enter any changes that you wish to keep.

RAPIDO

RS-11 SOUND VOLUME SETTINGS

KEY	FUNCTION	CV	DEFAULT	RANGE	YOUR VALUE
	Master Volume	63	192	0-192	
F1	Bell Volume	283	50	0-128	
F2	Horn Volume	275	128	0-128	
F3	Flange Squeal Volume	403	80	0-128	
F4	Dynamic Brake Volume	299	45	0-128	
F5	Doppler Horn Volume	339	128	0-128	
F8	Diesel Volume	259	128	0-128	
F10	Brake Set/Release Volume	483	50	0-128	
F16	Steam Generator Volume	299	45	0-128	
F20	Sarco "Spitter" Valve Volume	387	90	0-128	

FACTORY RESET

On your RS-11, you can perform a factory reset by entering a value of "8" into CV 8. Note that this will cause all of your new volume and motor settings to be lost, so you will need to reprogram any settings that you want to keep. What do you mean, you didn't take any notes? WE JUST TOLD YOU TO TAKE NOTES. You're out of the band!

You can NOT lose all of the pre-recorded sounds on your RS-11 decoder by doing a factory reset. It's just not possible. If however, after performing a factory reset, your RS-11 begins to sound like a steam locomotive, then we have absolutely no idea what you did, but you did it good. This shouldn't be possible. AT ALL! I mean really, that's all sorts of Tom Foolery right there! Oh well, if that happens then just close your eyes and pretend it's a beautiful 4-6-2 Pacific. Pay no attention to the person breaking into your layout room attempting to steal your Rapido RS-11 because they misread the instructions on Page 4.

If you are having real problems with your sounds or functions, don't call us. Call J̈ürgën again and give him a hard time. He designed the darn thing.

AWESOME SLOW SPEED THINGY

There is an awesome trick that you can use to get even better slow speed running and smoother operation. It's called the Automatic Motor Tuning Feature. This feature will automatically adjust the Back-EMF in most cases and give you phenomenal slow-speed performance. WE HIGHLY RECOMMEND YOU DO THIS FOR ALL YOUR ESU-EQUIPPED RAPIDO DIESEL ENGINES.

In order to use this automatic adjustment, you need to use Ops mode programming, i.e. programming on the main. Everyone calls it "programming on the main" except for people who speak Digitraxese. Even most Digitrax users call it "programming on the main." Jason and Mohan have told me never to say "Ops mode programming" again.

Make sure your locomotive is in "forward" and that you have lots of room in front of it on your mainline. You may have to set up pylons or a work block to keep other errant model railroaders from entering your territory. Set CV 54 to a value of 0. Then get out of programming mode and turn on the bell (press F1). We'll say this again: Make sure you have plenty of room in front of your locomotive and it is not headed for the layout edge and the basement floor!!!

Your RS-11 will quickly take off at full speed and suddenly stop. If you had previously installed an HO scale crew without five-point harnesses, then get ready to dispatch that HO scale ambulance to attend to the injured. After that, you'll have fabulous motor control, even if the crew is a little banged up. If you ever have to reset your locomotive, you can do the automatic adjustment thingy again – it just takes a few seconds. Just remember to install the harness belts if you haven't already.

MORE INFORMATION

While addressing the features that most modelers will need for normal operation, these instructions have covered just a small number of the many customizable features of your ESU LokSound decoder. For advanced users who want to more fully explore the capabilities of the decoder we suggest downloading the ESU LokSound V5 decoder manual. This is available in the Support section of our web site.

LIMITED "FIVE-YEAR-ISH" WARRANTY

We will do our best to solve any problems or issues that you may have with your RS-11 locomotive. If your locomotive has any defects that originate from the factory, we will repair your locomotive using new components or replace it outright should a repair not be possible. However, we can only replace your locomotive while we have additional ones in stock. We normally keep spares for up to six months after a model is released. And while we would love to have an unlimited

supply of spare parts, note that eventually these will run out too. If you are like most of us and – after purchasing this locomotive – you dismissed it to the shelf full of model boxes under the darkest corner of your layout and are now just discovering it 30 years later after your friend ran theirs at the club, then you are on your own if there are any issues. We've all probably retired at this point and after realizing we retired too early, we all started our own model train companies in our own basements in the hopes that one day we will achieve greatness. Except Mohan. He's still working at Rapido. He's 93.

There are a number of things that this warranty cannot cover. If your RS-11 arrives with a couple of loose grab irons or underbody bits, there is a very good chance that you can do a repair in less time and effort than it would take to contact us. Don't be afraid to do some model railroading! White glue works wonders for securing all sorts of parts and will not mar or damage your paint. Gorilla Glue... not so much. However, if parts are missing that is another story – call us or send us an email and we'll send you some replacements.

Of course, damage caused by running your locomotive at full speed around a 15"-radius curve along the edge of your layout, running your locomotive model under a real coal chute, modifying your locomotive to work off coal, pouring fuel on it and lighting it on fire to make it smoke like an old ALCO, or any other damage caused by you that we haven't been able to cover here is not covered by the warranty. However, if catastrophe does strike and your locomotive gets damaged, please give us a shout and we'll do our best to help you out. Yes, even if it was your fault we will try our best to fix your locomotive for you. Don't be shy.

ALCO

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To make a model of this calibre means we had to call upon some experts for their input. Thanks go to: Anthracite Railroads Historical Society (ARHS), Peter F. Arnold, Central Penn Rail Productions, Gareth Bayer, John Black, Paul Cutler, Tim Dickinson, Ken Goslett, Kevin Holland, Don Jaworski, Danbury Railway Museum, Scott Hartley, Richard Jahn, Ken Miller, New Haven Railroad Technical and Historical Association (NHRHTA), Norfolk & Western Historical Society, Pennsylvania Railroad Technical and Historical Society (PRRT&HS), Brian Schuff, Harry Wong and Bob Zenk. And a special thank you goes out to the men and women of the Depew, Lancaster and Western Railroad and the Falls Road Railroad Company, both part of the Genesee Valley Transportation Company.

And once again, we have to thank Richard Longpre (that's pronounced "long prey") for his efforts to decipher and translate this manual from English to Swahili, then into Welsh, and finally French. He's been doing these translations for us for probably the last 41 years, and we can't understand why he doesn't just translate them straight from English to French. We also can't understand for whom he's been translating all that time, since we've only existed as a company for 15 years. If you're looking for the French version of this manual which he so eloquently wrote, it's available on our web site rather than the usual position of being the later half of this manual book. Why? Because Jason was in China at the factory and he sent me an email asking, "Did we ever write RS-11 instructions? We need them on Friday." That was on Wednesday. Er... we hadn't.

We hope you've enjoyed this manual. I haven't slept since Wednesday. I'm taking next week off.

If the French instructions are not on our web site, like, hold on, eh? Geez, give the guy a few days to do his translation. Tabernouche! Les maudines modélistes...

This manual was written in haste by Jösh Aṅdërc̈hëk. If you take offense at any of it, you know whom to cäll.

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