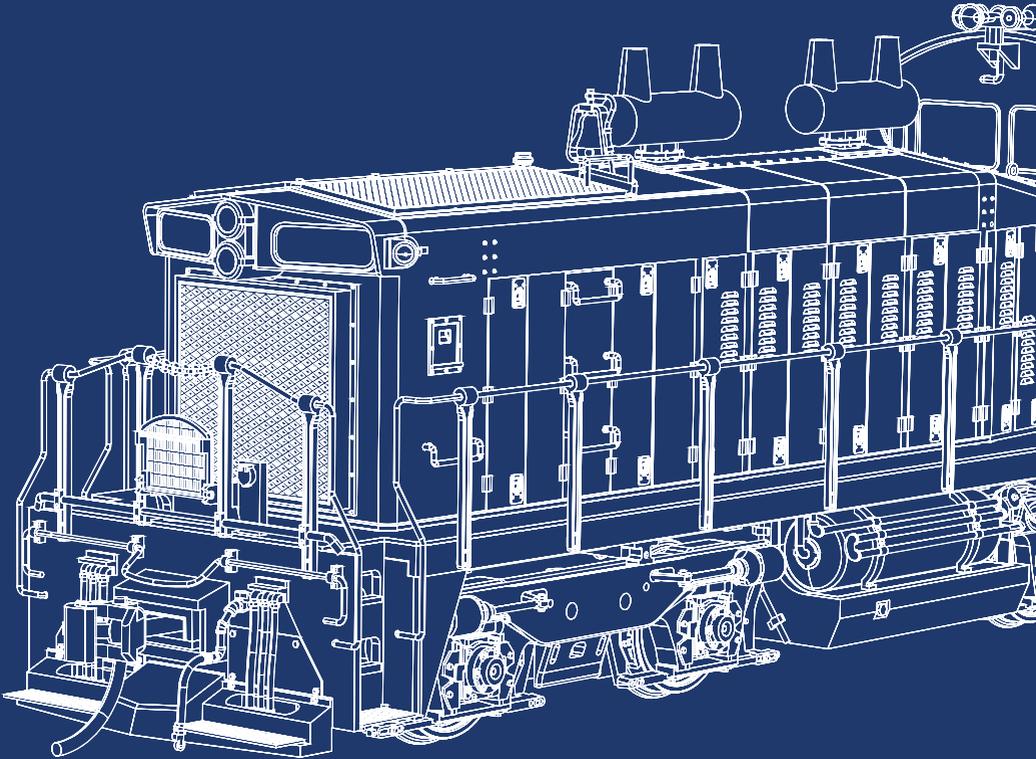


SW1200RS

OPERATOR'S MANUAL

FRANÇAIS AU VERSO



SW1200RS LOCOMOTIVE PRODUCT GUIDELINES

Thank you for purchasing this model of the quintessential Canadian road switcher, the SW1200RS. Since the infancy of Rapido, this has been one of the most requested locomotives by our customers. We are certain you will not be disappointed.

If this is your first Rapido locomotive, we have to ask – where the heck have you been? We've been producing models JUST FOR YOU for the last thirteen years and you've ONLY NOW finally noticed our advances? Just for that, we're going to make sure you LOVE your SW1200RS. And then you'll say to yourself, "What have I been missing all of these years? I want to buy every Rapido model that has ever been released, ever, in every scale! Especially that weird British one that tilts and looks a bit rude!" So we're thanking you in advance for that.

If you are a returning customer, just put your engine on the track, don't MU it with a Tyco F-unit, and don't burn it up with a cheap DC controller. Really – we'll take MUing it with a Tyco F-unit over using a cheap DC controller. Cheap DC controllers can turn Rapido models into Molotov Locomotives.

We would like to warn you that this manual contains a considerable amount of inappropriate linguistic innuendo, including four éclairs, two crevasses and an orangutan. But as these naughty things only appear in that one sentence, you don't have to worry about them any more.

As always, if there is anything amiss with your SW1200RS 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 reach us by phone, Canada Post or Messenger Yak as well.

Please do not send a faulty model back to us without first getting authorization. If you bought this model in 2018, stuck it under your layout, abandoned model railroading to start a Messenger Yak farm, and have finally returned to the hobby at the ripe old age of 173, we're most likely dead. Use your Molecules "R" Us 4D Repromatic to replicate any part that doesn't work. In fact, just program it to build your entire layout. Due to planetary overcrowding, your layout is restricted to the size of a box of Shreddies. So good luck with that.

CONTACT US!

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SW1200RS DCC FUNCTION QUICK REFERENCE

F0	HEADLIGHT
F1	BELL
F2	HORN
F3	CURVE SQUEAL
F4	FULL THROTTLE
F5	SLOW DOPPLER HORN
F6	DITCH LIGHTS (IF EQUIPPED)
F7	DIM THE HEADLIGHTS
F8	STARTUP/MUTE/SHUTDOWN
F9	CLASS LIGHTS
F10	TURN OFF NUMBER BOARDS
F11	CAB LIGHT
F12	SWITCHING MODE

PROTOTYPE HISTORY

What exactly does the “RS” mean?

In short: Road Switcher. The SW1200RS is equally comfortable in the yard or on the mainline.

As produced, the GMD (General Motors Diesel Division in London, Ontario) SW1200RS differed from the standard SW1200 by having distinctive Flexicoil trucks (a GM design offering improved suspension and ride quality versus the standard AAR-type switcher truck); 62:15 gearing for a 65-mph top speed; multiple-unit capability; and large headlight/numberboard fixtures on both ends. A 775-gallon fuel tank – vs. 500 gallons on a comparable GMD yard switcher – helped the “RS” units venture beyond yard limits. As with the standard SW1200, GM’s 12-cylinder 567C engine provided the model’s 1200 hp.

Canadian National

CNR acquired a total of 192 SW1200RS units between 1955 and 1960, numbered 1204-1397 (there is no 1269 or 1270). Because they were internally pretty much identical to the GMD-1, they received the same classification: GR-12. General Motors, Road switcher, 1200 HP. There are two main spotting variations on the CN SW1200RS. The earlier units, 1204-1290 (GR-12d/f/h/k/l) had a different style of number board above the cab. As well, 1204-1318 and 1324 had EMD-style steps rather than the usual Canadian straight steps. Contrary to modelling lore for those of us who pre-date the internet, the 1200s and the 1300s have nearly identical hoods. The louvers are the same.

Many CN SW1200RS locomotives were rebuilt into 7000-series locomotives in the 1980s, including 7100-7107. These are the famous “Sweeps,” a combination of SW1200RS and GP9 uprated to 1350 HP. Man we would love to make those one day. CN’s last SW1200RS was retired in 2014.

Canadian Pacific

Between April 12 and 20, 1957, CNR SW1200RS No. 1257 was loaned to Canadian Pacific for evaluation out of Winnipeg, as CPR accelerated its dieselization timetable and sought an effective “Branch Line Unit” (BLU) for service on low-density secondary lines. This testing led to placement of CPR’s first order for this model, 31 units delivered by GMD between June and October 1958 as Nos. 8100-8130 (class DRS-12a). They arrived in CPR’s then-standard maroon-and-grey livery with Roman lettering, although many units received script lettering prior to the introduction of the CP Rail Action Red image in 1968.

CPR acquired two more groups of SW1200RS units: Nos. 8131-8146 (class DRS-12b) in the spring of 1959, and Nos. 8147-8171 (DRS-12c) in mid-1960. Among the 1959 purchase were ten units (Nos. 8131-8140) earmarked for assignment to subsidiary Dominion Atlantic Railway in Nova Scotia (but with standard CPR lettering), where they

brought an end to DAR steam operation. In September 1960, SW1200RS No. 8171 had the distinction of being the final new diesel locomotive delivered as part of CPR's dieselization. It also proved to be the final example of the model to be built.

CPR's locomotives shared the front number board/headlight assembly with the CN units, but the rear of the cab had a more conventional arrangement and did not have integral marker lights. Many CP units were extensively rebuilt in the 1980s and renumbered in the 1200 series. The biggest spotting difference was the super ginormous sand filler hatches on the hood. Others received ditch lights and other upgrades but remained in their original numbers. CP's last SW1200RS was retired in 2012.

What's in a name?

Unofficially, the road-switcher variant of the SW1200 came to be known as the SW1200RS. While at GMD's London, Ont., plant conducting research for his book *Locomotives From London* (UCRS, 1968), the late Peter Cox sought to clarify production quantities for the SW1200, because out of the total number built by GMD only a few were purely switchers; the majority were multi-purpose road switchers. Cox suggested SW1200RS as a model designation for the Canadian road-switcher variant and GMD staff concurred, although neither the builder nor CN revised their official records. Railway historians and modellers adopted Cox's unofficial model designation, and it remains in use.

BREAK-IN

Don't break in to anyone's layout room to steal their SW1200RS. Just buy more for yourself. But this isn't about that kind of break-in.

Every locomotive needs a break-in period. Your SW1200RS has been tested at our factory for about two minutes. That is 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 SW1200RS on a test loop and just let it run in each direction for an hour or two. Fast and slow.

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 SW1200RS

The SW1200RS has numerous very delicate parts. If you want to back date it to be the quality of a model produced in 1978, then rip all the parts off and handle it like a pigskin going for a touchdown. We're assuming you don't want to do that, so the SW1200RS should be picked up carefully. The fuel tank and the middle of the long hood are both easily accessed and well balanced — 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 SW1200RS 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 SW1200RS 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 can also use CA 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 or Bill was in the factory when your model was being assembled there may be a couple of bugs. They 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.

MISSING OR DAMAGED PARTS

If you open your SW1200RS 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

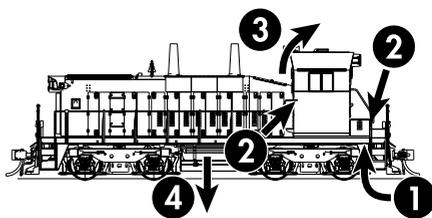
happy to. But if you do send it back to us for us to put that one part back on and other stuff falls off when we send it back to you, then tough tooties. We're not fixing it again.

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 lifetime warranty can be found towards the end of this manual.

REMOVING THE SHELL

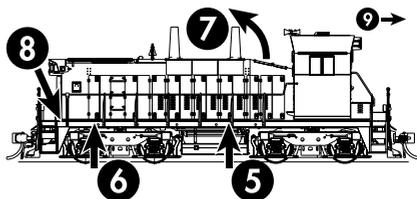
If you need to open up your SW1200RS (to install a crew, install a decoder, etc.) it is NOT like our previous models, so **please read carefully**. In fact, we suggest that you never open your SW1200RS for any reason, unless you are requested to do so by CSIS. On second thought, that is actually pretty likely (you don't want to know what we put in there) so you will need to follow these steps:

- Your locomotive is quantum linked with its counterpart in a mirror universe. Unfortunately, the model in the mirror universe has no detail parts. Should any detail parts on your model fly off, the Tantalus Field in the mirror universe will automatically retrieve those parts and install them on your model's counterpart. That means they are gone for good, or at least until molecular transporters or TOMTIT machines are invented. If you don't understand any of this paragraph, just please remember that DETAILS VERY VERY SMALL. CAN BE LOST EASY.
- 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 – but just to be safe we advise that you also work in a pressurized environment that looks like the inside of the VIA Turbo. Painted white. And then invite us over. Please?
- Turn the locomotive upside down in a foam cradle (painted white, of course) and remove the two INNER screws behind the cab (not the two that hold the end pilot and steps) **(1)**. Once removed, turn the locomotive back on its wheels and remove the 4 handrails attached to the cab (two long hood rails and two step rails) **(2)**. Then tilt the locomotive cab backwards (as though the engineer put an impulse engine into the prime mover and went forward) and remove the cab from the body **(3)**.
- Remove the fuel tank by firmly pulling it down towards the rails **(4)**. It's press fit so it will be snug, but will come loose. Be mindful of the piping and other details on the sides of the fuel tank. Please remember the Tantalus Field.



continued ...

- Turn the locomotive back on its roof and you may see the 5 tabs holding the long hood shell onto the body (two on each side, one under the front air intake). They are kind of hidden, or you may have kind of broken them. Push the two tabs closest to the cab inward (**5**), then slowly tilt the hood forwards towards the front to disengage them. Push the remaining tabs on the side of the long hood inward (**6**) and tilt a bit more to disengage (**7**). Don't tilt too far, or you'll break the front tab off (provided you have not broken it already). Once the side tabs are all disengaged, the front tab should slide out (**8**) and your shell will be free to roam the prairies of Saskatchewan (**9**). Ok, maybe we got a little carried away there.



- Any requests for replacement hoods or cabs because you broke the little tabby things will be met with laughter followed by a very polite suggestion that you find a nearby lake and jump into it.

OPERATION – DC (SILENT)

If your SW1200RS 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.

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 SW1200RS 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 SW1200RS can handle.

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 bag of popcorn left 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 we may have to charge you for the replacement parts and/or the labour involved. That's because you didn't read this bit of the manual. In DC, the number boards are always on and the headlights and ditch lights (when equipped) are directional. The class lights are installed and wired, but they will not work in DC.

INSTALLING A SILENT DCC DECODER

The SW1200RS 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 21MTC

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 ESU-designed 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.

ESU has made an SW1200RS function mapping which can be downloaded into their 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 on the SW1200RS page in 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 SW1200RS sound decoders separately; if they aren't on our web site by the time you read this, call Dan Garcia at the office and yell at him. But yell nicely please.

INSTALLING A DIFFERENT BRAND OF SOUND DECODER

Don't.

INSTALLING BATTERIES, RADIO AND A NEAT-O APP TO CONTROL THEM

Really... Don't.

ADD COMPATIBILITY TO 1970s TYCO AND LIONEL CONTROLLERS

Open model. Take out guts. Close model. Push with hand.

OPERATION – DC (SOUND)

To operate your sound-equipped SW1200RS 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: If you have purchased a sound-equipped SW1200RS and you operate your trains with a Model Rectifier Corporation RailPower 1300 DC controller, stop what you are doing immediately. No Put Train On Track. The RailPower 1300 is notorious for voltage spikes and it WILL destroy your locomotive. There is no "if" about it. We will not repair any

SW1200RS destroyed by a 1300 or any other “train set” DC controller. “Train set” DC controllers should not be used with sound-equipped locomotives. Buy one less sound-equipped locomotive (from another brand) and use the money to buy a proper controller instead.

The only lights that work in DC are the headlights, ditch lights (when equipped) and number boards. You can't turn on the class lights in DC. Some throttle manufacturers produce special doo-dads which are meant to trigger the sounds in locomotives on DC layouts. As we have no involvement in the development of those doo-dads, we have absolutely no idea how they will affect your SW1200RS, for good or for ill. As always, we'll try to help you fix your SW1200RS if one of these doo-dads turns your locomotive's circuitry into something akin to burnt toast, but we can't guarantee we'll be able to.

It is usually at this point in the manual that Jason inserts a gentle dig at his fellow modellers who won't switch from DC to DCC. The rest of the staff have repeatedly reminded him what happened the last time he did that. Something about being kidnapped by a band of journeymen from the masons' guild and being labelled a warlock. He still has nightmares about it. As long as we can keep reminding him of this event, he'll be nice to DC modellers. However, Josh is the one writing this manual and he thinks DC is for Yntaghs. Hab SoSll' Quch!

For those of you with ridged foreheads who are feeling deeply insulted, we are pleased to inform you that Josh has now been sacked.

OPERATION – DCC WITH 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... erm... a GMD-1. The prime mover is the same. The hood is the same. The exhaust stacks are the same. It sounds the same. So you can rest assured that the sounds are bang-on accurate. We have upgraded the decoder to include ESU's Full Throttle.

As we do for all of our sound decoders, we recorded the prime mover under load – it was hauling loaded grain hoppers. Locomotives sound a lot different when they are 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.

More detailed decoder instructions, including all sorts of weird CV settings we don't understand, can be found in the ESU Loksound Select decoder manual. This is available for download on the SW1200RS page in the Support section of our web site.

LOCOMOTIVE ADDRESS

Your Rapido SW1200RS comes from the factory with a decoder address of 3. We're not sure the origins of this, but we have a feeling it's related to the origins of video games when you had to turn the dial on your television to Channel 3 in order to experience the magic and wonder. That's why your SW1200RS locomotive can, in fact, play Pong. Sorry, we mean "APF TV Fun" for those of us who couldn't afford the real Pong.

We suggest if you are using DCC control that you first test that the locomotive responds on address 3. Once you have verified that the locomotive is responding you should assign it a unique address (we suggest the road number of the locomotive) 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 on your layout assigned to address 3 (the normal default address for new locomotives) that ALL of them will likely also be changed to your new address! Also be aware that if you give your locomotive a four-digit address it will not work at all if you try to run it on a friend's DC layout.

Also please keep in mind that some DCC systems do not have sufficient power to program sound-equipped locomotives on the mainline. If your sounds do not operate correctly on a Digitrax DCC system, this likely means that you need to clear the memory on your system, achieved by "clearing slot #36." A basic summary of how to do this can be found on the SW1200RS page in the Support section of our web site. More detailed information can be found on the Digitrax web site.

If you have a really old DCC system, you may find that this locomotive won't work at all – nor will many other new models. Go update your DCC system to a newer version. Your computer is updated regularly. So is your cell phone. Your DCC system should be updated as well.

TURN ON THE SOUND

Press F8 and you will hear the SW1200RS 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. We aren't keen on this feature so we disabled it. Refer to a full ESU LokSound Select decoder manual for more information on how to put it back. You can download it from the SW1200RS page in the Support section of our web site. The feature is called the "Prime Mover Startup Delay" and at the time of writing it was on page 35 of the ESU 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 SW1200RS idling nicely and then you select another engine with your throttle, 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 his or her controller, the SW1200RS will promptly shut down. He or she will need to press F8 again.

"She?" you ask. "You mean there are female model railroaders?" Yes there are and you better believe it. We believe the female contingent of model railroaders is expanding more rampantly than dandelions on your unmaintained lawn every spring, especially if you live in Rankin Inlet. So the next bit of this manual is a "women's interest" section specially tailored for the women who have bought this locomotive.

FUNCTIONS

F0	Headlights	F10	Turn Off Number Boards
F1	Bell	F11	Cab Light
F2	Horn	F12	Switching Mode
F3	Curve Squeal	F15	Brake
F4	Full Throttle	F20	Sarco Valve (Spitter) – Slow
F5	Doppler Horn	F21	Sarco Valve (Spitter) – Fast
F6	Ditch Lights (if equipped)	F22	Sarco After Shutdown
F7	Dim the Headlights	F23	Brake Set/Release
F8	Startup/Mute/Shutdown		
F9	Class Lights		

FUNCTIONS: MORE INFORMATION

F1 Bell

We have used a fantastic recording for our SW1200RS. We polled a bakers' dozen of railroaders and came to the conclusion that the bell ring rate is firmly set to "as long as it makes noise." Every engine seemingly had a different bell ring rate. We chose a nice one.

F2 Horn

We loved our last horn recording so much, we decided to use it again! 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 K3L, but we also have an M3H on the decoder. Refer to "Horns" below.

F3 Curve Squeal

Since it was never possible for an SW1200RS (or any road switcher for that matter) to SILENTLY go about working tight curves and switches without waking up half the neighborhood, we've included curve squeal for these hard-working road switchers. Press F3 for curve squeal. If your DCC system supports latching on F3, the curve squeal will continue as long as F3 is pressed. If not, you need to press once to turn on the squeal and press again to turn it off.

F4 Full Throttle

ESU's "Full Throttle" feature allows you to play the prime mover of your SW1200RS like a musical instrument, even if you've never played a musical instrument before. When you press F4, 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 allows you to simulate hauling a heavy load. On the prototype the prime mover would be up at 7 or 8 while the engine is moving slowly. If you want to shove the throttle into notch 8 and hear it slipping and struggling as it revs up, just crank up the throttle really quickly.

"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 F4 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 SW1200RS may take off. Eh.

F5 Doppler Horn

We've sourced a gorgeous K3L recorded on a moving locomotive doing about 30MPH. Beauty goal, eh? And on top of that, if you change your horn to an M3H (see Horns below), your Doppler horn automatically switches to an M3H Doppler recording.

F6 Ditch Lights (if equipped)

If your locomotive comes equipped with ditch lights, this function will allow you to activate them. Pressing F6 turns them on. Pressing F6 again will turn them off. This process can be repeated infinitely. If you are approaching a station or an oncoming train you can turn off the ditch lights and dim the headlights automatically by pressing F7. You don't want to blind anyone, now do you?

F7 Dim the Headlights

If you are approaching a station or an oncoming train you can turn off the ditch lights and dim the headlights automatically by pressing F7. You don't want to blind anyone, now do you? I'm getting a sense of déjà vu. I'm getting a sense of déjà vu. Josh, you're fired. Josh, you're fired.

F9 Class Lights

They do exactly what they say – these function buttons turn on the class lights. SW1200RS locomotives only use white class lights. The SW1200RS is not often called upon to lead two sections of The Canadian, so the greens aren't needed. And the SW1200RS isn't normally pushing commuter trains, so the red lights aren't needed. If you want to press your SW1200RS into AMT service pushing commuter trains, just smear the class lights with a red crayon.

F10 Turn Off Number Boards

The number boards are lit by default, a big improvement over many of our early models. It was annoying when you'd lose power because of a short somewhere else on the layout and then you had to go through the tedious task of turning your number boards back on. If you really want them off, press F10. We suggest you be a rebel and just leave them on. You would be a Rebel WITH A Cause. And that cause is lit number boards.

F11 Cab Light

No crew should have to write orders in the dark. Or eat their lunch in the dark. Or venture into the depths of the cab fridge (included on all SW1200RS models) in the dark. So give your crew some light by pressing F11. Pressing it again turns it off. We won't judge if you want to have a disco light show in the cab

F12 Switching Mode

If you press F12, the headlight and rear light will both be on dim. This is appropriate for switching operations or for running light on the mainline. Press F12 again to turn off the switching mode lighting.

F15 Brake

In 15 years of making model trains we have met about three people who use the brake feature on our locomotives (we found a new one last year). So we've shoved this to a higher function button. If you are one of those three people, you are clever enough to remap this feature onto a lower function button by following the instructions in the full ESU Select Decoder manual, which can be downloaded from the SW1200RS page of the Support section of the Rapido web site.

Functions F16-F19

These are not used. Don't press them. Also don't lick your locomotive.

F20 and F21 Sarco Valve (Spitter)

These functions turn on or off the Sarco Valve. On the real SW1200RS, it's always going. But you often can't hear it from a distance. In contrast, if you are close to the engine you can hear the Sarco valve pretty prominently. We feel that on many sound-equipped engines, the Sarco Valve is way too loud. So we've included two versions of it, controlled by functions. You can choose whether or not you hear the Sarco Valve, and you can choose how fast you want it to spit.

If you press F20, the Sarco Valve will be heard intermittently. If you press F21, it will be heard less intermittently. Make sure you turn off F20 first.

If you have a silent SW1200RS and you want to recreate the Sarco Valve effect, please aim away from the models. Your SW1200RS warranty does not include malfunction due to accumulated saliva. Your locomotive is also not equipped with a real Sarco valve either. Sorry.

F22 Sarco After Shutdown

On real engines you can hear the Sarco Valve after the engine shuts down, but again it is not really audible unless you are right beside it. So the default for this is “off.” If you want to hear the Sarco Valve spit for a minute after shutdown, make sure F22 is pressed.

F23 Brake Set/Release

This function turns off the brake release and brake set sounds when you start or stop moving, respectively. It has no effect on the function of the engine — it just affects the sounds.

HORNS

Canadian National and Canadian Pacific each used different horns, and we’ve included both recordings since the team at Rapido are all about fair play. But since we had to pick one, the default for all models is the Nathan K3L, with the other being a Nathan M3H. You’re more than welcome to switch the horn to whichever you like the sound of, and you can do so by changing the value of CV48. For the record, CP used the K3L and CN used the M3H. The little CN horn on your model may look a wee bit like a K3L, but how about them Jays?

- CV48-0 Nathan K3L (Default Horn)
- CV48-1 Nathan M3H

Note that you can only change the horn on a programming track or using a LokProgrammer.

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 we 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 might want to keep.

VERY IMPORTANT: Before you change any of the volume control CVs, please make sure that CV 32 is set to 1. CV 32 is used as an index selection register and if you don't set it first then we are not responsible for your resulting rage and the fact that you will probably throw the locomotive against the wall in frustration.

SW1200RS SOUND VOLUME SETTINGS

FUNCTION	CV	DEFAULT	RANGE	YOUR VALUE
MASTER VOLUME	63	192	0-192	
DIESEL VOLUME	259	128	0-128	
HORN VOLUME	275	128	0-128	
BELL VOLUME	283	50	0-128	
BRAKE SET/RELEASE VOLUME	347	40	0-128	
SHORT AIR LET OFF VOLUME	363	128	0-128	
DOPPLER HORN VOLUME	379	100	0-128	
FAST SARCO VALVE VOLUME	371	80	0-128	
SLOW SARCO VALVE VOLUME	387	80	0-128	
SARCO VALVE AFTER SHUTDOWN VOLUME	395	80	0-128	
CURVE SQUEAL VOLUME	403	128	0-128	

FACTORY RESET

On your SW1200RS, you 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 TAKE NOTES. You're out of the band.

You can NOT lose all of the pre-recorded sounds on your SW1200RS decoder by doing a factory reset. However, after performing a factory reset your SW1200RS may begin to do the Watusi and recite lines from Apocalypse Now. If that happens, you have probably lost your mind. Those elephants are not real. Lie down, relax and maybe the drumming noise in your head will stop. Dum-dum-dum-dum. Dum-dum-dum-dum.

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 ENGINES.

In order to use this automatic adjustment, you need to use Ops mode programming, i.e.

programming on the main. 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 SW1200RS will quickly take off at full speed and suddenly stop. All the HO scale beverages in the HO scale cab fridge will fall out. After that, you’ll have fabulous motor control. And a messy cab. If you ever have to reset your locomotive, you can do the automatic adjustment thingy again – it just takes a few seconds.

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 Select decoder manual. This is available on the SW1200RS page in the Support section of our web site.

LIMITED LIFETIME WARRANTY

We will do our best to solve any problems or issues that you may have with your SW1200RS 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. If you are like most of us and – after purchasing this locomotive – you dismissed it to the dungeon deep beneath your layout and are now just discovering it 35 years later after you heard it crying “run me”, then you are on your own if there are any issues. Jason is long retired and still trying to repair our sleeping car, Edmundston. The rest of us have moved to Tonga.

There are a number of things that this warranty cannot cover. If your SW1200RS arrives with a couple of loose grab irons or underbody bits, there is a very good chance that you can effect 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, such as Weldbond, works wonders for securing all sorts of parts and will not mar or damage your paint. 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 SW1200RS at full speed around a 15”-radius curve along the edge of your layout, modifying your SW1200RS to work off rocket fuel, not modifying your SW1200RS to work off rocket fuel but still filling it with rocket fuel, strapping your SW1200RS to a firecracker for an entertaining YouTube

video, 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!**

If you really hate your SW1200RS, please feel free to tell the internet model train forums of the world. Please remember that our company name is spelled T-Y-C-O and we are based in Woodbury Heights, NJ.

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