

OPERATING MANUAL



**1800 H.P.
PASSENGER
LOCOMOTIVE**

**RAPIDO TRAINS INCORPORATED
MARKHAM, ONTARIO**

FPA & FPB LOCOMOTIVE PRODUCT GUIDELINES

Thank you for purchasing the first model ever produced of MLW's FPA-2u and FPB-2u, or the latest run of our FPA-4 and FPB-4 locomotive. There have been countless models produced of ALCo/MLW cab units, but none have been based off a real 3D scan of the prototype, nor have they been given the museum-quality treatment typical of Rapido Trains, Inc. Following the great success of the first runs of FPA-4 and FA-2 models, we have now followed up with the FPA-2u and FPB-2u prototypes plus even more FPA-4 locos. Due to the falling exchange rate of Quatloos and the rising cost of black ink, we're not printing different manuals for the FPA-2u, FPB-2u, FPA-4 and FPB-4. If you bought a FPA-2u, just imagine that every time you read FPA/FPB it means FPA-2u. We hope you will be pleased with the results!

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 a long time now, eh? We've produced a metric ton of products. So just for that, we're going to make sure you LOVE your FPA/FPB. And then you'll say to yourself, "What have I missed out on all these years? I need to find and buy every Rapido model that has ever been released, in every scale! Even the free cardboard ones!"

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 in an episode of an *Ohh! Noooo! Mr. Bill*, and don't MU it to anything made by Klingons. 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.

If this is your first Rapido Manual, we should warn you up front - there's usually a good amount of humour through these manuals. Well, at least we think so. We have gotten some e-mails from people that don't agree, but we suspect that they have no sense of humour. After all, model railroading is supposed to be fun!

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

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 (sometimes only the FIRST name), meaning we have no idea what's wrong with it! If the issue with your model is 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 FPA/FPB for a considerable length of time, please realize that eventually the parts supply will run out. That, or the Earth will be sucked into a blackhole; 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 humanity) left to do your repair.

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LOK SOUND
EST. 1999

Sound-equipped Rapido models feature ESU Loksound V5 decoders. For more information, please visit www.esu.eu.

FPA/FPB DCC FUNCTIONS

F0	Headlight	F13	Rear Backup Light
F1	Bell	F14	Doppler Horn (Fast)
F2	Horn	F15	Spitter Valve
F3	Flange Squeal	F16	Drive Hold
F4	Steam Generator	F17	Auto Brake Set/Release
F5	Doppler Horn (Slow)	F18	Independent Brake
F6	Ditchlights (<i>if equipped</i>)	F19	Numberboards
F7	Dim the Headlights	F20	Radiator Fans
F8	Startup/Mute/Shutdown	F25	Sanding Valve
F9	White Class Lights	F26	Short Air Let Off
F10	Green Class Lights	F27	Air Compressor
F11	Straight to 8	F28	Air Dryer on Shutdown
F12	Switching Mode		

PROTOTYPE HISTORY

In 1955, Canadian National ordered six pairs of FPA-2 and FPB-2 locomotives from Montreal Locomotive Works (MLW), under license from the American Locomotive Company (ALCo). These were steam generator-equipped FA-2 and FB-2 locomotives that produced 1,600 hp from their ALCo 244 V-12 engines. The addition of the "P" to each name stood for "Passenger." In 1958, wanting to improve reliability and operations, Canadian National rebuilt two pairs of FPA-2 and FPB-2 units with brand new 1,800 hp ALCo 251 V-12 engines, as well as enlarged fuel tanks and other visual improvements. These units were given the designation FPA-2u and FPB-2u and were numbered 6758/6858 and 6759/6859.

All four units would survive into service with VIA Rail Canada and FPA-2u 6758 would go on to live beyond its VIA years with the New York & Lake Erie Railroad. The two rebuilt A-B sets would become the prototypes for the production of the MLW FPA-4 and FPB-4.

Built in 1958 and 1959, the FPA-4 and FPB-4 were some of the most iconic locomotives operated in passenger service by CN and VIA Rail Canada, becoming the ultimate example of the ALCo/MLW FA family with the highest horsepower and fastest gearing. CN ordered 34 FPA-4 and 12 FPB-4 locos to practically dieselize the rest of their eastern Canadian steam-powered passenger trains.

Unlike the F-Units on many American railroads, the FPA-4 and FPB-4 locomotives did not operate in matched sets. They were mixed into CN's passenger locomotive pool and could be seen in service with a variety of other locomotives. The FPB-4 locomotives had two steam generators so were particularly useful in very cold weather and could be seen behind passenger and freight engines that were not equipped with steam generators or pass-through steam lines.

The fleet of FPA-4 and FPB-4 locos were transferred to VIA Rail Canada in 1978. They were retired in May 1989 when the cost of upgrading them to the new electronic Reset Safety Control from the old dead man's pedal proved to be cost prohibitive. Canadian regulations prevented any locomotive without RSC from leading a passenger train after March 1989. Fortunately, that regulation didn't apply to American railroads, so a number of FPA-4 and FPB-4 locos ended up on short lines and tourist lines across the USA.

BREAK-IN

Just so we're clear, that doesn't mean break into anyone's layout room to steal their FPA/FPB. And don't break into a hobby shop either because that is really frowned upon. Just buy more for yourself. But this isn't about that kind of break-in.

Every locomotive needs a break-in period. Your FPA/FPB has been tested at our factory for about two minutes – maybe – just to make sure everything functions as it should. 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, you put your FPA/FPB on a test loop and just let it run in each direction for an hour or two. Fast and slow. Don't have it pulling anything either while you're breaking it in.

There already should be enough grease in the gearbox so you don't need to add any. Just let the thing run. If you are running this thing on track on the carpet, please vacuum first. You have no idea how many models come back to us with gearboxes full of carpet fluff and pet fur. Our models are not pet-proof.

HOW TO HOLD YOUR LOCOMOTIVE

Hold your FPA/FPB gently, and with much love, care, and attention. Your model has numerous delicate parts, especially on the roof and underframe. 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 the last turkey leg at a renaissance faire. We're assuming you don't want to do that, so the FPA/FPB should be picked up carefully. It is best to pick it up with your fingers along the bottom edge of the body. That way you won't leave greasy fingerprints on the sides and you also won't stress any of the delicate parts. Always make sure your hands are free of shmutz before touching your engine, otherwise you'll shmutz up your fuel tank. Hey – if your hands have enough oil on them that could be realistic.

If you are taking your FPA/FPB to the club all the time and regularly handling it, stuff will likely break off. Sorry. The little bits are made of plastic and metal and attached 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, with the current global supply crisis, unobtainium has become unobtainable.

We suggest wrapping your FPA/FPB 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 or very brave. Remember to apply the CA to just the part and not the model (don't ask us how we know this).

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 the assembly workers danced the night away to the rockin' tunes of Wowkie Zhang the night before your model was put together, there may be a couple of bugs. 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. 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 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 any underbody piping or conduit. If they do, see that everything is firmly installed.

MISSING OR DAMAGED PARTS

If you open your FPA/FPB box and discover that something has obviously been bumped in transit and is damaged, please contact us. If a part has broken off, the easiest way to reattach it is with a drop of white glue. You can't ruin the paint finish with white glue. If you don't like to touch your model trains, you are welcome to send the engine back for us to glue that doodad back on with white glue. 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.

We try to make our models courier- and mail-proof, but there really is no way to protect a model from damage when it is used in a game of football at the UPS or FedEx distribution center. Model trains generally don't survive well after being "spiked" because Tony scored a 2-point conversion to give the warehouse handlers the victory over the truck drivers. Although argued, there was no flag on the play.

More information about our limited lifetime warranty and parts diagrams for the FPA/FPB can be found towards the end of this manual. Since there are so many optional parts the one small bit that you just lost might not be on the diagram. In that case, just call in to our parts department and tell them that you need the little thingy that attaches to the bracket on the do-hicky above the whatchamacallit. They will ask you whether you need the right-hand or left-hand part. Be sure to have that information handy.



REMOVING THE SHELL

If you need to open up your FPA/FPB it is actually quite easy to do. Just be sure to remember these important points:

- There is a perception filter built into the circuitry of your locomotive. Should anything pop off while you are attempting to remove or replace the shell, the perception filter is automatically activated. So the part is still in your layout room, but you will be unable to see it no matter how hard you try. Don't bother looking. It is completely hidden. We tried to turn off the perception filter but to do so requires a sonic screwdriver, and the sonic screwdriver at the Rapido factory was destroyed by a visiting fish-like alien ex-con with a keenly-developed taste for fine art and a predilection for destroying things.
- To that end, please make every effort to ensure nothing flies away. Work on a clean, white surface. In fact, paint all the walls, the floor and the ceiling white, wear white coveralls, and remove everything else from within a three-mile radius of your workbench, especially (but not limited to) vegetation, people and sounds.
- Turn the locomotive upside down in a foam cradle (painted white, of course) and remove the front coupler. Pull the coupler box out of the pilot and turn the loco right-way up. Now spread the shell in the center and wiggle it off. Carefully. You may wish to slide business cards between the sides and the chassis to assist this process. Don't forget about the transporter lock.
- That's it, really.
- No, really. It's that easy!

OPTIONAL PARTS

Over the lifetime of these units, some details were changed. In order to create the most accurate models we possibly can (within practical limitations!), we have tooled multiple wee bits. We have installed most of these parts at the factory to represent the prototype units as they appeared in the schemes offered. However, in many cases railroads added grab irons, diaphragm striker plates, sunshades and other appliances during the lives of the locos without changing the paint. We have included several additional parts in a small plastic bag which can be installed as desired to match specific units at specific points in time.

OPERATION – DC (SILENT)

If your FPA/FPB loco 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.

— 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.

INSTALLING A SILENT DCC DECODER

The FPA/FPB contains a motherboard which 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 (recommended) or a 21-pin adapter to attach an 8-pin or a 9-pin decoder. Your chosen decoder should have six function outputs.

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 tinker around with resistors. Just plug in the recommended decoder and you have DCC.

OPERATION – DC (SOUND)

To operate your sound-equipped FPA/FPB 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. Do not use "pulse" control as it will fry your engine.

As in silent locos, the only lights that work in DC are the headlights (when going forward). The light on the rear of the loco is only used when switching and can't be turned on using a DC controller. The number boards and step lights are always lit.

Some throttle manufacturers produce special thing-a-majig which are meant to trigger the sounds in locomotives on DC layouts. As we have no involvement in the development of those thing-a-majig, we have absolutely no idea how they will affect your FPA/FPB, for good or for ill. As always, we'll try to help you fix your units if one of these thing-a-majig scrambles your locomotive's circuitry, but we can't guarantee we'll be able to, and we will need to charge you for the repair.

If you like running sound-equipped locomotives and advanced lighting features, you might want to think about upgrading to DCC. DC model railroad control dates from the 1930s. We like stuff from the 1930s. Early Hitchcock films – awesome. Rotary telephones – awesome. Beautifully-restored Packard Ninth Series – awesome. But ancient model train controller? Not so awesome. You wouldn't expect your rotary phone to be able to surf the internet. Similarly, you can't expect your DC system to be able to take advantage of the last 20 years of model train technological developments.

If you insist on sticking with DC and you want a taste of what you are missing, please read on...

OPERATION – DCC WITH SOUND

We go to extreme lengths for accuracy, in sounds as well as in looks. Our sound decoders are LokSound 5 decoders by ESU, programmed with sounds from an ALCO 251 prime mover. The sounds are 100% correct for the FPA-2u/FPB-2u as well as the FPA-4/FPB-4.

More detailed decoder instructions, including all sorts of weird CV settings we still don't understand after all these years, can be found in the ESU Loksound decoder manual. This is available for download on the FPA/FPB page in the Support section of our web site. We highly recommend using the LokProgrammer especially if you have lots of Rapido ESU-equipped locomotives. You do have lots, right?

LOCOMOTIVE ADDRESS

Your Rapido FPA/FPB 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. 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 please keep in mind that some DCC systems do not have sufficient power to program sound-equipped locomotives on the programming track. A programming track booster like the SoundTraxx PTB-100 or the DCC Specialties 246-PPX PowerPax can help significantly.

If your sounds do not operate correctly on a Digitrax system, this likely means that you need to update your DCC system and throttle software. More detailed information can be found on the Digitrax website on how to do this.

TURN ON THE SOUND

Press F8 and you will hear the FPA/FPB 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. Jason is really impatient so he turned this feature off. Refer to a full ESU LokSound 5 decoder manual for more information. You can download it from the FPA/FPB page in the Support section of our web site. The feature is called the "Prime Mover Startup Delay."

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...but why would you want to? Everyone loves ALCO engine sounds! *Bucket-of-bolts, bucket-of-bolts, bucket-of-bolts...*

Note that if you are listening to your FPA/FPB 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 FPA/FPB will promptly shut down. He or she will need to press F8 again.

FUNCTIONS

F0	Headlight	F13	Rear Backup Light
F1	Bell	F14	Doppler Horn (Fast)
F2	Horn	F15	Spitter Valve
F3	Flange Squeal	F16	Drive Hold
F4	Steam Generator	F17	Auto Brake Set/Release
F5	Doppler Horn (Slow)	F18	Independent Brake
F6	Ditchlights (<i>if equipped</i>)	F19	Numberboards
F7	Dim the Headlights	F20	Radiator Fans
F8	Startup/Mute/Shutdown	F25	Sanding Valve
F9	White Class Lights	F26	Short Air Let Off
F10	Green Class Lights	F27	Air Compressor
F11	Straight to 8	F28	Air Dryer on Shutdown
F12	Switching Mode		

FUNCTIONS: MORE INFORMATION

F1 Bell

Rings the bell, obviously enough. There are five optional bell sounds loaded on your decoder. CV164=0 is the default; the 3 other bells are 1-3 plus the awful E-bell (4).

F2 Horn

We have improved the horn file to make it easier to do a short "toot" without having a long tail off. 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 (CV163=2) is a Nathan M3H three-chime. If you'd like to customize the honker to something else, check out the "Horns" section further in this manual for the long list of options.

F3 Flange Squeal

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 neighbour complains about that nasty racket, just keep F3 on and say you can't hear them and maybe they'll go away.

F4 Steam Generator

Press F4 at any time to start up the steam. We don't include random loud blowdowns but we include the irregular hiss that you can hear coming from the regulator and blowdown valves all the time when the steam generator is operational. 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 CVs.

F5 Doppler Horn (Slow)

Everyone loves a good melody. So how about the soothing tones of a train sounding its horn going past a crossing? Well if it's soothing, then you're doing it wrong. It's supposed to get your attention and not lull you to sleep! Press F5 approaching a grade crossing or other whistle post and you'll get a doppler effect of two long, one short and a final long horn blast. This sound effect will update for both the M3H and K3L horn files found in the Sound Volume settings.

F6 Ditchlights

Ditchlights were invented in Canada in the 1960s to illuminate right-of-way ditches for rockslides and other obstructions. They became mandatory in Canada in 1975 and do not alternately flash. They are either both on or both off because their job is just to light up ditches (*duh!*).

F7 Dim The Headlights

If you are approaching a station or an oncoming train you can dim the headlights

by pressing F7. You don't want to blind the oncoming crew or your potential passengers, do you?

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.

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.

F9 White Class Lights

It was common practice for railroads to run freight and passenger trains on a schedule printed in an employee timetable. This gave a train the authority to be where it was at the time shown, but in the event your railroad needed to move some unscheduled cargo, you will want to turn on the white class lights. These would be used when pulling any "extra" non-scheduled train, such as a track inspection train, a Christmas special, or local switcher, letting the towermen know this train is not in the timetable; Form 19s might be required. On scheduled passenger or freight runs, the white lights are off.

F10 Green Class Lights

Green class lights were only used on a train when there was another section of the same scheduled train following it using the same timetable authority. That was rare, but could often happen during busy tourist seasons, holidays, or at times of heavy freight traffic. If you model another section of your passenger or freight train during one of your op sessions, make sure that all preceding trains have the green lamps lit; the last section is the "normal" scheduled train and has no green lights.

F11 Straight to Run 8

Normally when you crank up the throttle on a DCC/Sound-equipped model loco, you get all those lovely distinct notch transitions as the decoder plays them in order from Idle to Run 1, Run 2, Run 3, etc., all the way to Run 8. But on prototype passenger engines, it is normal to want to accelerate quickly to keep a train on schedule. Therefore, we have included a "Straight to 8" feature. When F11 is turned on, the engine sounds will quickly go right to full throttle, simulating your FPA/FPB pulling hard. After you get your train moving up to the speed you want, turn F11 off and the engine sounds will slow back down to your throttle setting.

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.

F13 Rear Back-up Light

Turns on the light on the rear of the unit.

F14 Doppler Horn (Fast)

Much like the F5 Doppler Horn, this one is largely the same and updates just as with the F5 horn. The only difference is that we've kicked up the throttle all the way, so this doppler is just as you'd hear with an FPA screaming towards your level crossing doing 80 mph. That's fast, eh?

F15 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 F15. 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 it's shut down). But if you prefer to not hear it at all, just press F15 to silence the spit. You can change the sound by setting CV166 from 0 to 1, 2, or 3.

F16 Drive Hold/Full Throttle

ESU's "Full Throttle" feature allows you to play the prime mover of your FPA/FPB like a musical instrument. When you press F16, 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.

"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 F16 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 FPA/FPB may take off like a race car or slow down like it's running through molasses.

F17 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.

F18 Independent Brake

F18 works just like the brakes on a real engine. Press F18 and you put on the brakes. Turn off F18 and the brakes come off, so you can start moving again. If you

want to, you can remap this feature onto a lower function button by following the instructions in the full ESU Decoder manual, which can be downloaded from the FPA/FPB page of the Support section of the Rapido web site or use the LokProgrammer.

F19 Turn Off Number Boards

The number boards on your models are on by default. If you want to turn them off just press F19.

F20 Radiator Fans

On the FPA/FPB, the radiator fan is inside that large circle on the roof at the end of the unit. By default, this fan is automatic, meaning the sounds turn on and off at seemingly random times. But if you need to take direct control of all the fans in your life, press F20 to hear that buzzing whine whenever you want.

F25 Sanding Valve

Steel wheels on steel rails are rather slippery when wet. To increase traction, blow some sand down on the rails with F25. Just remember, it's against the rules to sand the rail when on top of a track switch.

F26 Short Air Let Off

No, this is not about the Wednesday after Taco Tuesday. You get a simple release of air when you hit F26, that's it. "Psssst!" Kind of like shushing someone at your local library.

F27 Air Compressor

Pump that air up! By pressing F27, this will activate the air compressor but by default, the sound file will randomly play this feature.

F28 Air Dryer on Shutdown

After you shutdown a locomotive "in real life", the air dryer will continue to "spit" for a time. To hear the spitters spit after shutdown, turn on F28.

CUSTOM SOUND SETTINGS

There are optional horn recordings included with your FPA/FPB, and you can change them around by changing the value of CV 163. The default is the Nathan M3H three-chime. The following optional horns are also included.

We've also chosen defaults in the remaining categories because someone had to make the important decisions. They can all be changed by adjusting the value of their respective CVs.

Please see the option lists on the next page for all the variations for air horns, bells,

air dryers, and brake squeals.

Horns

- CV163=0 Nathan M3H (*Default*)
- CV163=1 Nathan K3L (Rapido)
- CV163=2 Nathan K3L
- CV163=3 Nathan K3H
- CV163=4 Nathan M3
- CV163=5 Nathan K5L
- CV163=6 Nathan K5H
- CV163=7 Nathan K3LA
- CV163=8 Nathan M3R1
- CV163=9 Nathan M5R24
- CV163=10 Nathan P3
- CV163=11 Nathan P5
- CV163=12 Nathan P5A
- CV163=13 Nathan P5R24
- CV163=14 Nathan K3A
- CV163=15 Leslie S3L

- CV163=16 Leslie S5T
- CV163=17 Leslie A-200
- CV163=18 WABCO E-2

Bells

- CV164=0 Bronze Bell #1 (*Default*)
- CV164=1 Bronze Bell #2
- CV164=2 Bronze Bell #3
- CV164=3 Bronze Bell #4
- CV164=4 Transtronic E-Bell

Air Dryer

- CV166=0 Air Dryer #1 (*Default*)
- CV166=1 Air Dryer #2
- CV166=2 Air Dryer #3
- CV166=3 Air Dryer #4

Note that after you change the horn, bell or any other sound effect, you *may* 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 volume settings have been designed to be layout friendly. That means that they will not sound particularly loud if you are accustomed to other manufacturers' locomotives BLASTING at full volume out of the box. They will also not sound particularly loud if you are going deaf like Jason. (He's modeling Spadina Yard with its engine terminal and 40 idling locomotives. You should be able to hear his layout from Cincinnati.) You can easily make the sounds louder if you regularly operate your locomotives at shopping malls, train shows, or on airport runways. If you want the sounds to be even louder, we suggest you give up scale modeling and go buy a real FPA or FPB.

You can also adjust the relative volume levels of the different elements of the sound recordings. If you are the type of guy who wants his FPA/FPB bell heard in the next province or state, you have lots of room to increase its volume. Ours is set at level 62 of a possible 128.

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 manually change any of the individual volume control CVs, you must set CV32 to 1. CV32 is used as index selection register and if you don't set it first, unspeakable things may happen to your unit. You must set CV32 to a value of 1 every time before changing any individual volume CV settings; the Master Volume CV63 does not require this step.

Or just get a LokProgrammer. Yes, we are repeating ourselves. No, we will not teach you how to use it!

FPA/FPB SOUND VOLUME SETTINGS

KEY	FUNCTION	CV	DEFAULT	RANGE	YOUR VALUE
	Master Volume	63	155	0-192	
F1	Bell Volume	283	64	0-255	
F2	Horn Volume	275	118	0-255	
F3	Flange Squeal Volume	403	50	0-255	
F4	Steam Generator Volume	435	80	0-255	
F5	Doppler Horn (Slow) Volume	411	255	0-255	
F8	Diesel Volume	259	255	0-255	
F14	Doppler Horn (Fast) Volume	419	255	0-255	
F15	Air Dryer Volume	387	80	0-255	
F17	Brake Set/Release Volume	483	65	0-255	
F18	Independent Brake Volume	339	65	0-255	
F20	Radiator Fans Volume	315	128	0-255	
F25	Sanding Valve Volume	355	30	0-255	
F26	Short Air Let Off Volume	443	80	0-255	
F27	Air Compressor Volume	307	50	0-255	

FACTORY RESET

On your FPA/FPB, 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. You did keep notes, right?

You can NOT lose all of the pre-recorded sounds on your FPA/FPB decoder by doing a factory reset. If you manage to lose all of the sounds on your locomotive then you have probably set fire to your decoder with a voltage spike. Open up your locomotive and pour out the molten solder.

AWESOME SLOW SPEED THINGY (NOT RECOMMENDED)

On previous Rapido locomotives we have recommended using the “Awesome Slow Speed Thingy” (our term) to adjust the motor settings. With the current ESU V5 decoders such as the ones fitted to these models we have found that this is not necessary. We have calibrated the low speed settings on the decoder at the factory to work best with our motor and drivetrain.

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 on the FPA/FPB page 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 FPA/FPB locomotives. 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 FPA/FPB 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 worn out 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.

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VIA Rail FPA-2u 6759 . Spadina Roundhouse, Toronto.

Brian Schuff photo. Kaluza-Mueller collection