GG AUDIO

Version 2.4

BLUE3 USER GUIDE

WELCOME TO BLUE3

Thank you for purchasing Blue3! We sincerely hope that you'll enjoy making some beautiful music together.

Blue3 is an incredibly detailed simulation of the classic tonewheel organs that we all know and love. Those B-3's, C-3's and A100's are remarkably complex pieces of machinery with thousands of electrical and moving parts, which only partially explains their very rich warmth and tone. We've painstakingly simulated every single feature and circuit and more importantly, every single source of imperfection to give Blue3 its wonderful richness and complexity.

We've tried our best to stay as true to the original instrument as possible, while still giving you features and flexibility that many players have desired over the years.

And the best part is, we've kept the weight way down without affecting the sound. Blue3 weighs 425 pounds less than the original! 575 pounds less if you count the rotary speaker!

BLUE3 FEATURES

- 91 modeled tonewheels
- Full polyphony for Upper, Lower and Pedal manuals
- 2 sets of Stereo Outputs, Main and Direct (before Tube Overdrive and Cabinet simulations)
- Includes separate plugin Spin (just Tube Overdrive and Cabinet simulations)
- Adjustable tonewheel crosstalk, leakage, wow & flutter and transformer saturation
- Turn foldback on/off for 16’ drawbar
- Continuously variable drawbars
- 9 contact key and busbar simulation
- Adjustable decay time for pedals
- Adjustable volume and decay times for percussion
- Adjustable vibrato depth and chorus mix
- 4 types of tube overdrive simulation (3 different classic tube models & high gain)
- 4 rotary cabinet simulations (classic 122, 147, high power custom & RA200) and 4x12 guitar amp cabinet
- Front stop and Memphis configurations for the rotary cabinet
- 6-way tonewheel level scaling
- 31 tonewheel sets from actual vintage organs
- Adjustable drawbar levels
- 3 band output equalizer
- Completely adjustable speed and ramp times for the rotary speaker
- Microphone spread, distance, balance and placement controls
- Accurate phase synchronization between all the tonewheels
- Accurately modeled manual tapering and loudness robbing
- Extensive MIDI controller mapping
- Low Memory/Disk usage very low CPU usage

WHAT'S NEW IN VERSION 2

- 2 additional Tube Overdrive simulations
- 2 additional Rotary Speaker simulations
- Way cool new UI with Perform, Edit & Cabinet pages
- Reverb with Room Size and Pre & Post modes
- 4 microphone setups including dynamic and condenser choices
- 3 custom/editable Tonewheel generator sets
- Proper Hammond Registration (inverted) keys with A# & B drawbar presets
- Key Contact timing now completely adjustable in Fixed and Velocity modes
- Tuning now goes to A=432 for that “magical” tuning
- More natural Crosstalk
- Better horn and drum definition in all rotary cabinets
- VST3 support
- NKS support (only with VST2)

SYSTEM REQUIREMENTS

Windows

- Compatible with Windows 7 and Windows 10
- 32 bit and 64 bit
- VST 2.4 & VST3
- AAX for Pro Tools 11 & 12 (64 bit only)
- Standalone app

Mac

- Compatible OS 10.9 - 11.x (Big Sur)
- Intel or Apple Silicon
- 64 bit
- AU
- VST 2.4 & VST3
- AAX for Pro Tools 11 & 12
- Standalone app

INSTALLATION

Windows

- Run the installer and follow the directions
- The installer will ask you for your VST folder
- AAX, if selected, will be installed in your Avid PlugIns folder
- Blue3 standalone app, if selected, will be installed in the Programs folder
- Blue3 User Guide and Read Me will be installed in the GG Audio\Blue3 folder in your Documents folder
- Blue3 Presets are installed in: YourHomeDirectory\AppData\Roaming\GG Audio\Blue3\Presets
- Blue3 Controller Maps are installed in: YourHomeDirectory\AppData\Roaming\GG Audio\Blue3\Controller Maps

Mac

- Run the installer and follow the directions
- If selected, the VST and/or Audio Unit components will be installed in the proper /Library/Audio/Plug-Ins folders
- AAX, if selected, will be installed in your Avid PlugIns folder
- Blue3 standalone app, if selected, will be installed in the Applications/GG Audio folder
- Blue3 User Guide and Read Me will be installed in the /Applications/GG Audio folder
- Blue3 Presets are installed in: YourHomeDirectory/Library/Application Support/GG Audio/Blue3/Presets
- Blue3 Controller Maps are installed in: YourHomeDirectory/Library/Application Support/GG Audio/Blue3/Controller Maps

Note: Spin, a completely separate rotary speaker plugin is include with Blue3. It has its own installer and user guide. Just use your Blue3 license to register it.

DEMO MODE

Once installed, Blue3 runs in demo mode, allowing you to check out all of Blue3's features and sound before deciding to purchase a license. There are no restrictions in demo mode, try it out all you want. We know musicians are hard working, underpaid, wonderful souls and deciding to purchase a new instrument takes time. Go for it.

After about 2 minutes, the audio signal will occasionally output some low volume crackling. That's the only restriction in demo mode. To purchase a license, go here: https://gg-audio.com.

REGISTRATION

Click on the Registration button in the top left corner of Blue3's panel. Enter your name, email and license code **exactly** the way it's shown in the email (even if there are spelling errors…**exactly**) that you received after purchasing.

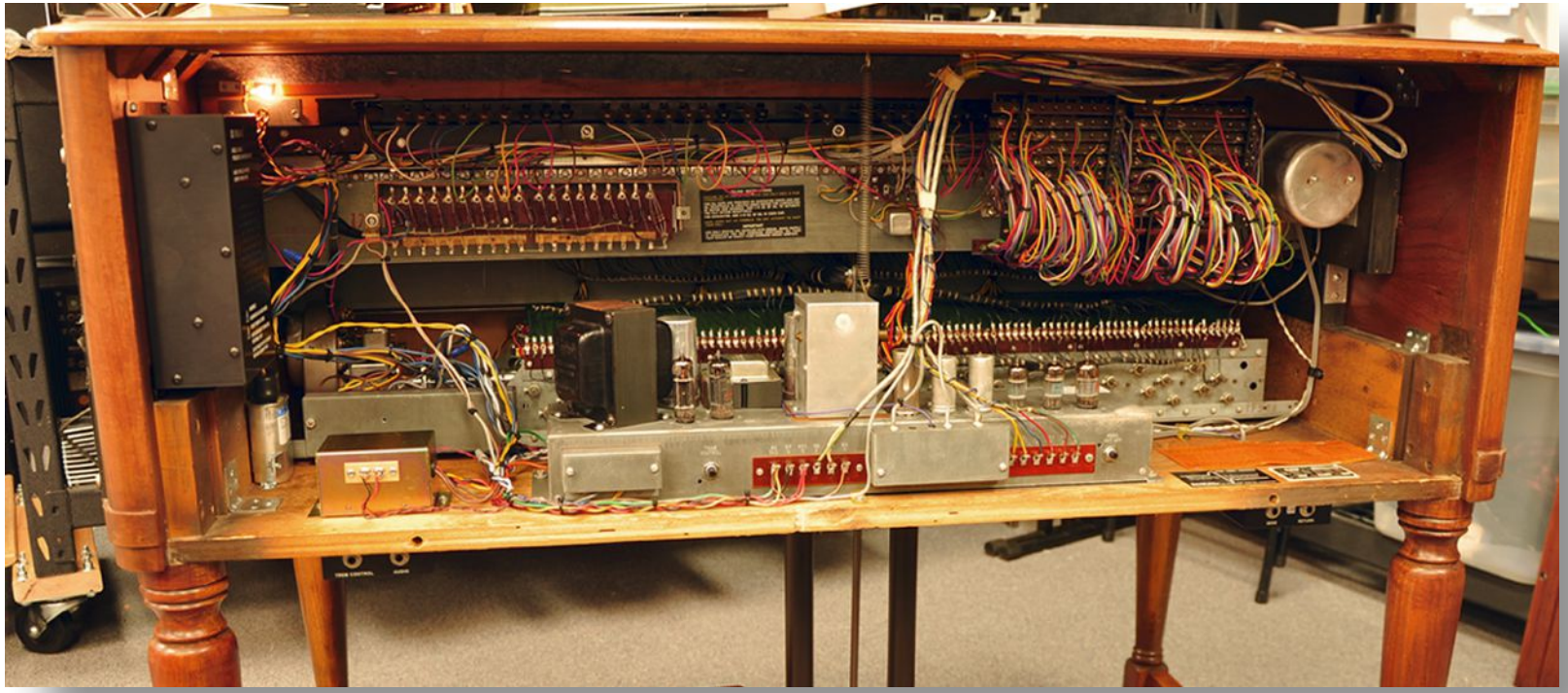
That's it. No weird copy protection. No dongle.

Go make music.

INSIDE A REAL TONEWHEEL ORGAN

The rich sound of the classic instrument begins with 91 tonewheels constantly spinning and creating their individual pitches directly next to electromechanical pickups. Every key you play produces a complex combination of these tonewheels controlled by the drawbars. Those signals are then combined in the matching transformers and sent through the vibrato/chorus scanner and combined with the percussion signal in pre-amplifier.

It looks like this:

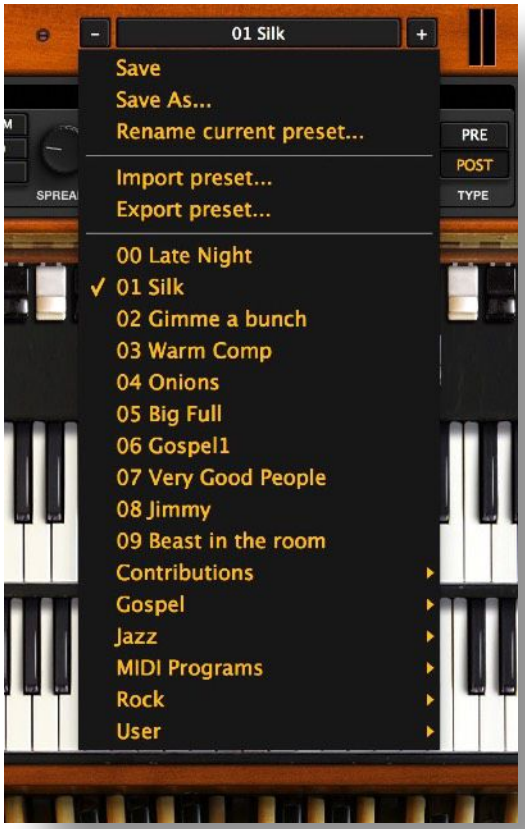


Blue3


00 Smoking Lounge
Blue3
KEY CLICK
VOLUME
TUBE OVERDRIVE
DRIVE
A
B
C
HI-GAIN
TYPE
CABINET
DIRECT
CUSTOM
122
RA200
147
4x12
TYPE
SPREAD
DISTANCE
MIC TYPE
D / D
BACK
PLACEMENT
REVERB
AMOUNT
ROOM SIZE
PRE
POST
TYPE
OUTPUT
AMBIENCE
LOW EQ
MID EQ
HIGH EQ
VOLUME
OFF
UPPER
ON
OFF
LOWER
ON
VIBRATO AND CHORUS
ON
OFF
SOFT
NORM
FAST
SLOW
3RD
2ND
SLOW
STOP
FAST
PERFORM
EDIT
CABINET
CONTROLLERS
PRESETS
SETTINGS

Preset Menu

At the top center of Blue3's screen is the preset menu. That's where you control everything concerning your presets.



The menu is arranged in a hierarchy with presets and folders. You'll see 10 of Blue3's sample presets to give you a taste of the instrument. Below that are some folders arranged by music styles (Gospel, Jazz, Rock) with more presets in them.

The User folder is blank when you first install Blue3, but it's a good place to save your presets, or feel free to put them in any of the style folders.

There's also a MIDI Programs folder which is also empty when you first install. Any presets you save in that folder will be accessible via MIDI Program Change events in your DAW. Because they are arranged alphabetically and could change as you add more presets to that folder, it might be a good idea to name those presets with a leading number (01-Great Lead, 02-Good Comp, etc), so they stay in order for the future. You can put up to 127 presets in that folder.

You can create folders and move preset files anywhere you like, but for Blue3 to load them automatically into its menu, they must be stored in Blue3/Presets folder hierarchy. All Blue3's presets are stored on your hard drive in a specific location. All Blue3 preset files end with ".b3p".

On Mac:

(yourHomeFolder)/Library/Application Support/GG Audio/Blue3/Presets

On Windows:
(yourHomeFolder)/AppData/Roaming/GG Audio/Blue/Presets

When you've made any changes to a preset, you'll see the name of the preset marked with an asterisk * to let you know that it's been modified. After you perform a Save, SaveAs or Rename, the asterisk will go away.

Something to be aware of: even just changing the speed of the rotary speaker will mark the preset modified with an asterisk. If you change the rotary's speed a lot this might not matter to you at all and you may not feel the need to resave the preset.

Save: Simply saves the state of all the drawbars, knobs & buttons to the current preset.

Save As…: Presents a dialogue box for you to name the new preset and save it in any folder you like.

Rename current preset: Does exactly what it says and renames the current preset on the disk **without** saving your current settings.

Import preset: If you have a Blue3 preset file somewhere other than the Blue3/Presets folder (maybe a friend emailed it to you, or whatever), this will let you choose that file anywhere on your hard drive and then it will immediately ask you to name it and save it in the Blue3/Presets folder for immediate use in Blue3.

Export Preset: If you'd like to send a cool preset to a friend (or us), Export preset makes it easy to save a preset file (.b3p) on your Desktop for emailing or archiving or whatever. Preset files that are created via Export are **not** added to the Preset Menu or browser.

Page Selection

These buttons at the bottom of the plugin let you choose which page you'd like to view. Some of the controls appear in multiple pages for convenience.

Perform

The Perform page gives a great overview of the instrument, including all 3 manuals (upper, lower and bass), drawbars and the most frequently used controls that you may want to adjust quickly.

Edit

While the Edit page isn't a pretty as the Perform page, it contains nearly all parameters of the sound of Blue3. This is where you can dig deep and modify every aspect of the instrument.

Cabinet

The Cabinet page contains all the same controls for the cabinet parameters as the Edit page, but also has an overhead and front view of the selected cabinet and mic placement.

Controllers

The Controllers page is where you can assign MIDI CC# to each parameter for control with your hardware controllers, as well as edit MIDI channel and transpose for each manual.

Presets

The Presets page lets you choose presets quickly. This is a great place to audition a lot of presets in folders very quickly.

Tonewheel Set

No two vintage tonewheel organs sound alike. Don't get me wrong, they sound like a B3, but if you put any two side by side in a room you'd hear a difference. One of the main reasons for that are the tonewheels. Every B3/C3/A100 has 91 constantly spinning tonewheels that produce a *somewhat* pure tone and and every time you press a key, you hear some combination of 9 of them, depending on the level of the drawbars. But…the output of the tone generators degrades over time, affected by aging capacitors among other things.

The Blue3 comes with 31 sets of tonewheels measured from many actual tonewheel organs of varying age, model and condition. Each has their own special character. Sets marked as "Wax" tend to be older instruments that haven't had their capacitors replaced, and therefore those tend to sound more mellow. The sets marked "Recapped" are either newer instruments or have had their capacitors replaced and therefore tend to sound brighter. Choose your favorites. There are plenty to choose from.

Once you've come up with a nice preset, try changing the Tonewheel Set and see how that affects the sound. Those are actual measurements from real B3s, C3's, A100's and others. If you're looking for a softer sound, try one of the wax variations. If you're looking for a screamer, go with one of the recapped or red mylar sets. Those will melt your face off.

Tonewheel Level Display - You can see the relative voltage levels of all the tonewheels in the tonewheel display next to the tonewheel set controls. They are arranged from the lowest pitch on the left to the highest on the right, somewhat like a spectrum analyzer, so you can see why tonewheel sets sound differently than others. One small note: Because the levels of the first 12 tonewheels are much hotter than the rest, they have been visually scaled to better fit in the display

Edit Custom Tonewheels… - Blue3 now includes 3 custom tonewheel sets that you can edit.

Display Order - Sequential (lowest to highest) or Cabinet (they way they appear in the terminal block inside a real organ)
Tonewheel Set - Which of the 3 custom tonewheel sets you're working on and listening to
Copy from - You can copy the settings from any other set in Blue3 as a starting point for your own editing.

Each tonewheel's output is adjustable (in mVpp). The first 12 bass tonewheels' range is 0 - 110, and all the rest are 0-45.

Bonus fun: You can draw the levels on the display with your cursor!

Tonewheel Levels

Here's where you can further customize the sound of the tonewheels to your liking. You can adjust the volume of any range of tonewheels, adjusting the bass, lows, low mids, mids, high mids and highs. This is **not** the same as adjusting the EQ because each tonewheel is used in multiple key ranges. This adjusts the levels of the tonewheels smoothly in each range.

Instead of opening the back of your vintage organ and adjusting the output of all the tonewheels with a screwdriver, you can simply turn a few knobs to adjust their output levels. So instead of *just* 31 different tonewheel sets, these adjustments give you an infinite number to choose from. Found the perfect set but you wish it had just a little more highs? (damn, we musicians are picky) Then give a little twist to the High Tonewheel level adjustment and listen to the difference. Sprinkle to taste all you want. Any adjustments done here are also reflected in the tonewheel display.

Drawbar Levels

Adjusts the output of each drawbar going into the matching transformers individually. If a certain drawbar doesn't sound as loud as you'd like or maybe sticks out too much, here's where you can modify it and make this your personal instrument.

Feel free to play and adjust these controls as much as you'd like, but you should know that these controls are a somewhat advanced feature for the real "knob tweakers" out there.

Key Click

When a key is pressed on a vintage tonewheel organ, nine separate key contacts close at *slightly* different times, making the connection to their respective tonewheels. Many factors go into the small noise or “click” that’s created when the key is closed such as dirt, velocity, tonewheel phase and more. It’s a matter of individual taste.

Volume - Nothing, a little or a lot.

Tone - Adjusts the overall brightness and character of the click. Clockwise is brighter, while counter-clockwise introduces more DC into the signal and therefore presents more of a low end thump.

Tube Overdrive

The combination of the organ's preamp and a rotary enclosure's amplifier create a wonderful growl than many players love. If you like your organ to have a little (or a lot) of dirt or grunge for character, here's where you dial it in. And just like a classic organ, the expression pedal makes a difference.

Drive - The amount of saturation. Depending on what type (see below), it goes from a subtle warmth, to a nice grunge or all the way to screaming melt your face off.

Type - 4 different tube simulations to choose from for just the right amount of "character".

Types A, B, C are all simulations of the 40 watt amplifier in a 122/147, but each with a different tube set. Without going into all of the tube manufacturers, model numbers and countries of origin, just think of them as adding progressively more dirt. "Type A" being the cleanest & warmest, "Type B" with a little more edge, and "Type C" with even more. Depending on the song, (or how loud your guitar player is on that particular evening), you can always adjust for just the right sizzle and warmth. "HI-GAIN" simulates a 100 watt British guitar amp, so it's more heavily distorted and edgier.

For those of you needing to match version 1, "Type C" is very nearly a direct match for "Classic" overdrive in the original Blue3.

Expression

On a real vintage organ, the expression pedal not only controls the volume, but also affects the overall brightness of the instrument as the pedal gets pushed further down. Blue3 responds the same way.

Because the expression control is usually connected to a volume pedal controller (MIDI CC#11), it's considered a performance control and **it's value is not saved in presets.**

Reverb

Nothing like a little reverb to “really tie the room together”.

But seriously,

Amount - Add a little or a lot to taste.

Room Size - Anywhere from a small bedroom to a large hall.

Type - This determines where the reverb is in the signal chain, specifically, pre or post cabinet. The most natural sound is for the reverb to come POST cabinet, but if you want to get a little creative (and for some of us, it’s just wrong), try putting the reverb PRE cabinet and you’ll get that reverb sound swirling around in the rotary speaker. Definitely not for everyone.

Percussion Adjustments

If you like your Percussion a little louder or softer, faster or slower, here's where you can make you can customize it to your liking. (The default value for all percussion adjustments is half way.)

Normal Level - Adjusts the volume of the Percussion when in Normal mode.

Soft Level - Adjusts the volume of the Percussion when in Soft mode.

Fast Decay - Adjusts the decay time when in Fast mode.

Slow Decay - Adjusts the decay time when in Slow mode.

Level Drop - Adjusts the amount that the other tonewheels are lowered when in Normal mode.

Paradise - Disables the decay of the Percussion completely. This modification is based on Jimmy Smith's album "Groovin' at Small's Paradise" in which he played on a broken B3. This is similar to pulling the 4' or 2 2/3' drawbar out, but is different because the volume is louder and also because Percussion is not routed through the Vibrato circuitry.

Vibrato/Chorus Adjustments

Organ players can be very picky about their Vibrato and Chorus, and rightfully so! The Vibrato and Chorus on a vintage tonewheel organ is not a standard vibrato or chorus that guitar players have used for years. The Blue3 faithfully simulates the entire Vibrato Scanner circuitry in detail. The default value for all vibrato/chorus adjustments is at the half way point.

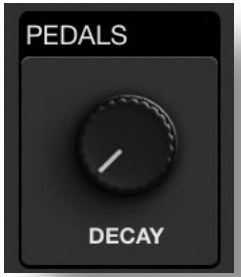
Depth - How deep the vibrato/chorus affects the sound.

Chorus Mix - How much of the non-vibrato sound is mixed with the vibrato sound in Chorus mode.

Foldback

16’ - On a B3/C3/A100, the lowest octave for the 16’ drawbar repeats the octave above so as not to use the pedal tonewheels. You can turn this off if you want which would be more like an M or L series organ.

Pedals



Decay - The length of time that it takes for the bass pedals to fade out. A normal tonewheel organ does not have this ability, but many players like this to simulate a walking bass style of playing. (The default value is in the off position.)

Condition

Here's where you can adjust the age of the tonewheel organ simulation. These would be silent in an organ in absolutely pristine condition, but if you like your instrument to have more age and character, turn these up and you'll be playing an organ that's seen a few more years on the road.

Crosstalk - The amount of the neighboring tonewheels' signal leaking into the proper tonewheels.

Flutter - Dirt and grime can make the driveshaft slightly out of round, contributing to a slight vibrato at different frequencies and levels throughout the instrument.

Leakage - The amount of tonewheels signal leaking through the drawbars when no notes are played.

Noise - Some power supply hum, amplifier hiss and rotary motor noise.

Transformers - The B3, C3 & A100 models each have 2 matching transformers where the drawbar outputs are mixed, one for the upper manual and one combined for the lower and pedal manuals. This control adds saturation/distortion and hysteresis to the signal…a little warmth and 'breathing".

Output

Ambience - Adds some room feel to the output. Not exactly a reverb, this simulates the energy of a live room.

EQ - Adjusts the lows, mids and high frequencies of the entire instrument.

Volume - The final output volume.

Horn Rotor & Bass Rotor

Some players like their rotary speaker speeds a little slower or faster. Here's where you can make your adjustments to your liking.

Slow Speed - Adjusts the speed in slow or "chorale" mode.
Fast Speed - Adjusts the speed in fast or "tremolo" mode.
Acceleration - How fast the horn or bass rotor accelerate to fast mode from slow or stop.
Deceleration - How fast the horn or bass rotor decelerates from fast mode to slow or stop.

Note for RA200: The Bass Rotor section and Horn Slow are disabled (it has no bass rotors and it's slow horn speed is fixed).
Note for Direct & 4x12: The Horn and Bass Rotor sections are disabled (for obvious reasons).

While every rotary speaker's rotor speeds are slightly different because of belt wear and other factors, we've found that the most realistic speed settings are with these knobs near straight up center.

	Minimum	Default	Maximum
Horn Slow	0.25 Hz	0.75 Hz	1.25 Hz
Horn Fast	3.0 Hz	6.75 Hz	10.5 Hz
Bass Slow	0.25 Hz	0.73 Hz	1.21 Hz
Bass Fast	3.0 Hz	6.4 Hz	9.8 Hz
Horn Acceleration	0.25 secs	1.2 secs	2.15 secs
Horn Deceleration	0.25 secs	1.5 secs	2.75 secs
Bass Acceleration	1.0 secs	6.0 secs	11.0 secs
Bass Deceleration	1.0 secs	4.5 secs	8.0 secs

When in RA-200 mode, the horn speeds are ranged like this: (like the real thing)

	Minimum	Default	Maximum
Horn Slow		fixed at 0.85 Hz	
Horn Fast	1.75 Hz	4.625 Hz	7.5 Hz

Microphones

These controls affect how we hear the rotary speaker by moving the simulation's microphones. Spread and Distance both make a *huge* difference in the way we hear the rotary speaker. Make sure you play with them to find the sound you like.

Spread - How many degrees apart are the two microphones picking up the horn. From 0 for a mono simulation to 45 degrees for a somewhat standard micing technique, to 180 degrees for a very wide stereo spread. This adjustment only affects the horn. The bass rotor is miked from one microphone and is not affected by the Spread control. If you desire a mono output for any reason, turn this to 0.

Distance - How far away the microphones are placed from the rotary cabinet. The closer they are, the more intense the throbbing is. Further away softens it out.

Balance - Counterclockwise emphasizes the bass signal and clockwise increases the horn with straight up being an equal mix of both. Adjust to taste.

Placement - Controls whether the microphones are placed near the closed front or the open back of the rotary cabinet. The sound is a little mellower and woody-er from the front, and a bit brighter from the back.

Type - You can choose the type of microphone for the horn and bass rotors separately to further refine the tone of the instrument.

- **D/D** (Dynamic on the horn, Dynamic on the bass) - A fairly standard live sound arrangement. Strong highs and punchy lows.
- **C/D** (Condenser on the horn, Dynamic on the bass) - Less biting but extended highs.
- **D/C** (Dynamic on the horn, Condenser on the bass) - Extended low end response.
- **C/C** (Condenser on the horn, Condenser on the bass) - Extended low end and smoother, extended highs…more studio-like.

We can't stress enough what a huge difference the Spread and Distance controls have on the sounds of the rotary. For live in-concert recordings, engineers typically place the mics very close to the rotary cabinet and therefore the strobing is intensified, especially at fast speed. For studio recordings, mics are placed a little further back to smooth out the intensity.

Cabinet

Type - **"DIRECT"** turns off the cabinet simulation entirely, useful if you plan to send the organ signal through your own effects chain or amplifier. The output signal is taken AFTER the Tube Overdrive circuit but before the Cabinet and as such is a mono signal.

122 simulates a vintage 122 cabinet with all its warmth and character.

147 simulates a vintage 147 cabinet with all its warmth and character. Very similar to a 122 with just a slightly different tone thanks to the unbalanced input circuitry

CUSTOM simulates a customized rotary cabinet with high output drivers and amplifier. These are the ones the big boys go on tour with. While similar to the classic 122/147 sound, you'll notice that it's a little smoother and has slightly extended low and high end.

RA200 simulates a rare guitar amplifier that was made infamous by David Gilmour. It has 3 treble speakers rotating vertically in the top half of the cabinet and 4 12" speakers in the bottom. It's not the first thing you think of when you say rotary speaker, but it's interesting and has a sound all it's own.

4x12 simulates a guitar amplifier cabinet with 4-12" speakers (note: there is no rotary effect with this type).

Diffuser - Classic rotary speakers have a diffuser at the mouth of the horn which smooths out the sound and makes it less directional. Turning off (removing) the diffuser makes it more directional along with harsher high end. Some 70's players removed the diffuser to cut through a wall of guitars better. Hey, we've all been there.

Front Stop - Forces the horn and bass rotor to face front when coming to a stop. Another feature that's not possible with a standard rotary cabinet, but much desired by some players.

Memphis - Disconnects the bass rotor from spinning and forces it to face front.

Blue3 Outputs

Blue3 plugins actually have 2 stereo outputs, Main and Direct (not to be confused with the Cabinet Type, Direct). Your DAW will normally connect to the Main output which is connected to the Cabinet Type settings.

If your DAW allows, you'll find a second stereo output called Direct, which is taken AFTER the Expression circuit and BEFORE the Tube Overdrive and Cabinet circuits. This is exactly the same as taking the direct output of a real vintage organ before going into a rotary speaker. This is where you can send Blue3's output to any effects plugins you'd like and still have the Main Output working as you'd expect.

The Direct Output is a good place to put any other plugins BEFORE going back into a rotary cabinet. You can put a phaser, flanger, wah-wah pedal or anything you'd like, and then send it to Spin for that rotary sound. Many pros have had their real tonewheel organs modified with another output for just this kinda of thing. If you've ever heard a B3 through a wah-wah pedal and into a rotary cabinet, you know what I mean.

The Direct Output also gives you a place to connect Spin which contains its own Tube Overdrive and Cabinet circuits so you could create the sound of 2 rotary speakers going at once. Try it…it's awesome.

Vibrato / Chorus

The Vibrato & Chorus on a vintage tonewheel organ are not the same thing as modern effects devices of the same name. Blue3 recreates this vintage effect algorithmically in great detail. With the UPPER and LOWER switches, you can decide if the circuit affects the upper and/or lower manual, (and just like the real instrument, the pedals go through the same circuitry as the lower manual). V1, V2, V3 select increasing amounts of vibrato, while C1, C2 & C3 select increasing amounts of chorus. A mix of the vibrato signal with the original signal is used to create the chorus sound.

Remember, you can tune the Vibrato/Chorus closer to your liking in the V/C Adjustments section.

Percussion

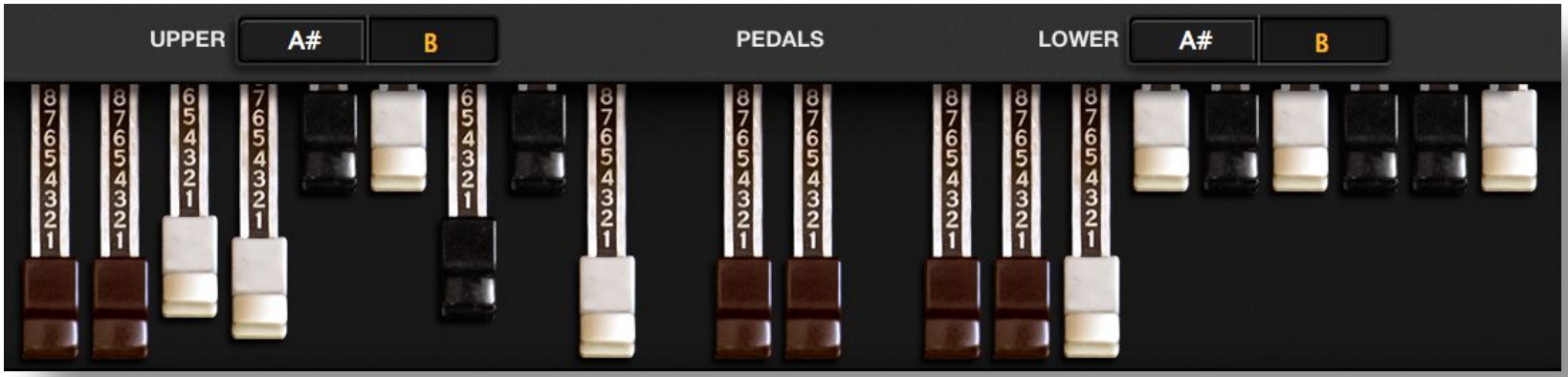
Percussion on a vintage organ doesn't mean a drummer or anything like that. Just like the real thing, the percussion circuit creates a polyphonic but single-trigger short sound either a 2nd or 3rd harmonic above the original pitch and it only works on the Upper manual. You can select whether the percussion volume is normal volume or softer, fast or slow decay and 2nd or 3rd harmonic. A couple of things to remember: Blue3 acts just like the real instrument, so when you select Normal volume, the percussion will be louder but the sound of the drawbars will be slightly lower as well. Also, the Percussion circuit “steals” the 1’ drawbar, so you won’t hear the 1’ drawbar when Percussion is on.

And of course, you can fine tune all the characteristics of the Percussion circuit in the Percussion Adjustments section.

Reality check: On the real instrument, Percussion **only** triggers when using the B registration key. You can set Blue3 to work this way or, if you prefer, have Percussion trigger in all registration keys. Go to the Settings page to change the “Percussion On All Registrations” preference.

Drawbars

And finally, the heart of a vintage tonewheel organ…the drawbars.



The Upper and the Lower manuals each have 9 drawbars, each controlling a single harmonic from one of the 91 tonewheels. They rise in pitch from 16' to 1' and as you pull them out, they get louder. They get their names, in feet, from pipe organs, where the longest pipes produce the lowest pitches and the shortest pipes produce the highest pitches. The 8' drawbar is the fundamental tone, while the 16' and 5 1/3' drawbars produce sub-harmonic tones.

It's helpful to think of them in groups of 3…lows, mids and highs. If you want to add some shimmer, pull out any of the top three. If you want some more power, pull out the middle three. You get the idea, but remember, you can't do anything wrong…move the drawbars around until you find a sound you like. Many of the best players keep moving them around throughout a song.

The pedals are controlled by two drawbars, 16' and 8'. There's not much more to say about that, is there?

The Upper and Lower manuals actually have 2 sets of drawbars each: the A# set and the B set. These correspond to the inverse keys at the left end of the keyboard and act like drawbar presets, or more precisely, registrations. This makes it easy to switch between, say, a soft comping sound to a screaming solo sound very quickly.

Split Menu

This is where you can split the keyboard between Upper, Lower & Pedal manuals.

Split Off: The Upper, Lower & Pedal manuals each respond on the MIDI channels chosen on the Controllers page.

Split Upper/Lower: Upper and Lower manuals will respond on any MIDI channel with the Upper manual responding to keys ABOVE the Split Point and the Lower manual responding to keys BELOW the split point. The Pedal manual will respond normally on the MIDI channel chosen on the Controllers page.

Split Upper/Pedals: Upper and Pedal manuals will respond on any MIDI channel with the Upper manual responding to keys ABOVE the Split Point and the Pedal manual responding to keys BELOW the split point. The Lower manual will respond normally on the MIDI channel chosen on the Controllers page.

Split Point Button: Press this button (in the above illustration as ‘D3’) to define the split point on your keyboard. This setting is not saved with each preset but will be remembered for all future sessions when any of the Split Modes are activated.

Controllers Window

Clicking on the Controllers button at the bottom right corner brings up an overlay that displays which MIDI CC#s are assigned to Blue3's parameters.

- **Blue** - Assigned, MIDI CC# displayed. If it's assigned to a specific channel, it will be displayed in below the CC#, otherwise it's OMNI.
- **Gray** - Unassigned
- **Red** - Learning mode, waiting for MIDI input

To assign, click any blue or gray control. The control will turn red with a ? displayed, telling you that it's waiting for MIDI input. Once it receives any MIDI CC message, the control will turn blue and display the CC#. To unassign any control, just double-click it.

Across the bottom of the Controller overlay page are a few more items that you might be interested in.

Rotary Control - Choose from several Mod Wheel & Sustain Pedal options to control the speed of the rotary simulation.

- **Mod Wheel**: This setting allows for switching between all three speeds, with Slow/Chorale at the wheel's lower third position, Stop/Brake in the wheel's center position, and Fast/Tremolo in the upper third of the wheel's travel.
- **Mod Wheel Toggle**: Switches to fast when you press and hold the mod wheel, goes back to slow when you release the wheel. This is mostly for Roland keyboards with combined Pitch Bend and Modulation controls.
- **Mod Wheel Temp**: Switches as soon as the modulation wheel passes the center position, regardless of whether you have moved the modulation wheel from high to low or from low to high positions. This caters for Roland keyboards with combined Pitch Bend and Modulation controls.
- **Sus Pedal Temp**: Switches to fast when you press and hold the sustain pedal, goes back to slow when you release the pedal.
- **Sus Pedal Toggle**: Switches back and forth between slow and fast every time you press the pedal.
- **Pitch Bend/Mod Lever**: Designed for use with Roland-style pitch bend/mod lever controllers. Bend down for Slow, bend up for Fast, and push the mod lever forward for stop. Very cool. *Note: Using this setting will disable pitch bending.*
- **MIDI CC**: Lets you use any MIDI continuous controller to control the speed of the rotary speaker. Slow/Chorale for the value range of 0-42, Stop/Brake in the value range 43-85, and Fast/Tremolo in the value range 86-127. When selected, other menu options will be enabled to adjust the channel, controller, min value, max value and polarity.

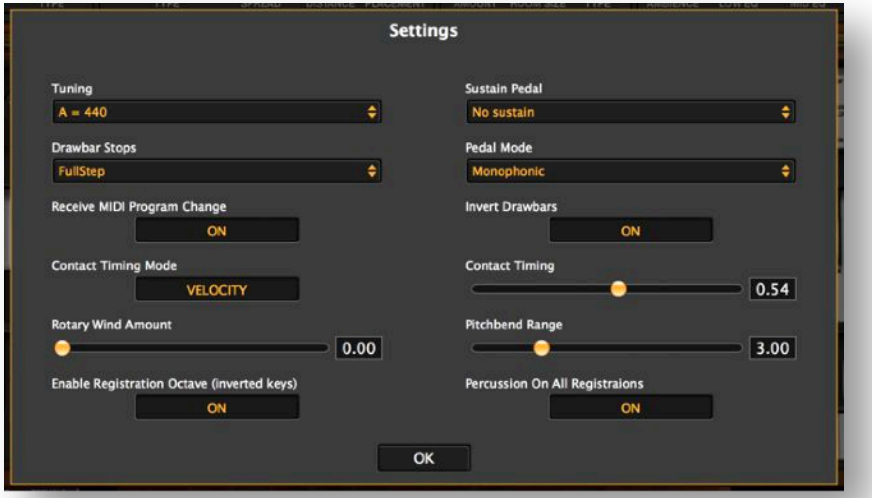
MIDI Channel & Transpose - Select which MIDI channel you'd like the Upper, Lower & Pedals to respond on, as well as the octave transpose for each.

Load/Save - Allows you to load and save your current controller map settings to file for reloading at any time. This is handy if you have a different set of hardware controllers at your home versus your studio, etc.. Some default controller maps for several hardware controllers are included in the installation.

Clear All - Removes all CC# assignments.

Reload Default CC Map - Reloads Blue3's default controller assignments.

Settings Window



The Settings button opens a window for you to customize Blue3 settings to your personal rig.

Tuning - You can adjust the global tuning of the entire instrument anywhere from A=432 to A=445.

Sustain Pedal - Choose whether the sustain pedal holds notes for the Upper, Lower, Pedals or All manuals, or not.
(go to the Controllers page to choose whether the sustain pedal controls the rotary speaker speeds)

Drawbar Stops - Choose whether the drawbars' movement are smooth or stepped

- **Full Step**: 9 steps from 0 to 8
- **Half Step**: 17 steps, 0 to 8 with half-values
- **Continuous**: Completely smooth

Pedal Mode - Choose how you'd like the pedals to respond. This greatly affects the pedal decay.

- **Polyphonic**: All pedal keys play when held down as well as when released.
- **Monophonic**: Only one pedal note plays at a time.
- **Polyphonic/Mono Release**: All pedal keys play when held down, only the last key released will decay.

Receive Program Change - Determines if Blue3 responds to MIDI program change messages.

Invert Drawbars - Some controllers work better this way.

Contact Timing Mode - In Velocity mode, the timing between key contact closures is affected by how fast you play a key, just like the real thing. In Fixed mode, the timing between key contact closures is always the same. Both modes are scaled by the Contact Timing slider.

Contact Timing: Adjusts the maximum time delay between key contact closures when pressing a key. This is based on the the MIDI velocity and affects the sound of the key click.

Tip: With about 4 or 5 drawbars all the way out, press a single key very slowly. You should hear each tonewheel engage one after the other. MIDI keyboards and playing styles vary so adjust this to your taste.

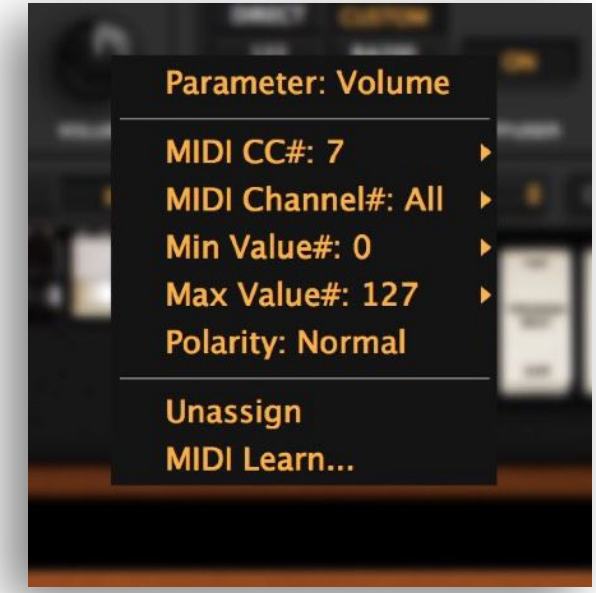
Rotary Wind Amount: Simulates the wind noise created when the horn rotors go by the microphones.

Pitchbend Range: How many steps up/down when using the pitch bend. Of course we know that a true B3 doesn't really do pitchbend, but some players have been able to trick the real thing by playing with the Start and Run switches. We simulate the same effect by slowing and speeding up the tonewheels as if we were tricking the voltage. *Note: Pitchbend will only work when the Rotary Control is not set to PitchBend/Mod Lever.*

Enable Registration Octave (Inverted Keys): Allows you to enable/disable the inverted keys changing the drawbar registration on the Upper and Lower manuals. *Note: The inverted keys are disabled when in one of the split keyboard modes.*

Percussion On All Registrations: A true B3 only plays Percussion when the B registration on the Upper manual is selected. If this is on, Blue3 will play Percussion on all registrations.

Parameter Menu



At any time, you can access a popup menu to set several parameter settings and the way they respond to MIDI Continuous Controller messages. Right-click, or Cmd/Ctl-Click on any knob, drawbar or button, and you'll see something like this.

MIDI CC# - Any number from 1-119. (0 and 120-127 are not available)

MIDI Channel - Any channel from 1-16 or All.

Min & Max Value - Depending on your controller, you may need to adjust these to make best use of the range of your controller.

Polarity - Some controllers work better reversed.

Unassign - Does what it says

MIDI Learn… - Blue3 will wait for a controller message and then assign that controller to this parameter.

Preset Browser

The Preset Browser displays a folder view of the Blue3 Presets folder. This is especially handy for trying out different presets quickly.

On the left side are the folders in a hierarchical listing. Clicking on any of them will update the Presets section on the right side. Clicking on any of the presets will load that preset into Blue3, ready to play.

You can navigate through the presets quickly with the arrow keys on your keyboard.

If you've saved a preset recently and don't see it in the list, press the Refresh button and it will go through all the folders on disk and rebuild the browser. This is especially helpful when you have more than one instance of Blue3 loaded and saved a preset from a different instance.

UI / Help Menu

Right-click (or Ctl/Cmd-click) anywhere on the UI that's not a control and the UI/Help Menu will magically appear, allowing you to customize Blue3's user interface more to your liking.

Zoom - Adjusts the window's size from 70% to 200% for those tired eyes of yours.

Finish - It's your choice between Cherry, Mahogany, Walnut or Blonde.

Knobs: 3 rotary knob choices, whatever suits your fancy.

Brightness: 2 steps brighter and darker because, why not?

Labels: Vintage or Modern label wording on the Vibrato/Chorus & Percussion rocker switches and Speed switch.

And you'll never guess what these two menu options do…

All notes off

Show User Guide

Choose whatever finish you'd look better onstage with.

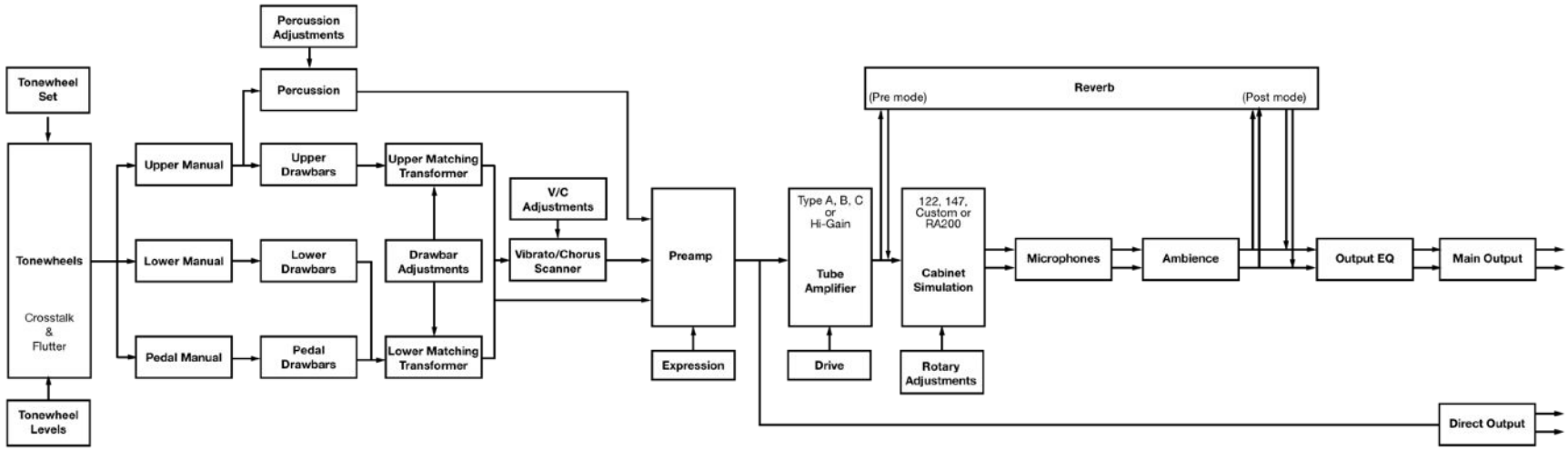
Cherry

Mahogany

Walnut

Blonde

Blue3 Block Diagram



Tips

Things to try when you're not getting what you want.

It's too bright or piercing, try:	- one of the Wax tonewheel sets - Overdrive Type A or B - 122 Cabinet - Diffuser On
It's not cutting through, try:	- one of the Recapped or Mylar tonewheel sets - Overdrive Type C or High Gain - 147 or Custom Cabinet - Diffuser Off
The rotary speaker is too thumpy, pulsing or not smooth, try:	- increasing the Distance - reducing the Spread
It sounds too clean, try:	- turning up the Crosstalk, Leakage or Transformer - a little Tube Overdrive always helps, start with Type A
It needs a little more shimmer, try:	- turning up the High and/or High Mids Tonewheel Levels - using a Condenser mic on the horn (C/D or C/C) - turning on Chorus (C1, C2 or C3)
It makes a lot of noise when I'm not even playing, try:	- you mean, like the real thing does? lol - turning down the Noise or Leakage control

One more thing…

In case you haven't noticed, included with Blue3 is another completely separate plugin, ***Spin***.

Spin is essentially a rotary cabinet without the organ. It's great to send electric pianos, guitars or even vocals through it, and it can also act as an additional rotary speaker cabinet for Blue3. That's right, why only have one speaker cabinet when you can have two!

Spin has its own installer and User Guide, but you'll notice the similarity with Blue3's cabinet controls.

Make sure to register Spin with your Blue3 license code and you're all set.

Final Thoughts

That's pretty much it. If you have any questions or comments, feel free to send us an email to: support@gg-audio.com and we'll get back to you as soon as we can.

Thanks again.

Now, go make music!

Special Thanks

A massive **thank you** to all the beta testers who contributed their time, thoughts and artistry to help make Blue3 a joy to use and make music with. They have been remarkably helpful and insightful and we're very thankful for them. But…if you find any bugs in Blue3, I'm going to blame them. ;)

And more thanks for the artists that contributed to the presets included in Blue3:

David A., Chris B., Victor E., Fin J., Antal N., Jay O., David R., Roland R., Bob T. & Jonathan T..