S-Gear v2.9
User Manual

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1 WELCOME TO S-GEAR

Thanks for using S-Gear!

About S-Gear

S-Gear is a collection of guitar amplifiers and effects implemented in software. You can use S-Gear as a **standalone** application or as a plug-in with most popular music production software, often referred to as DAW (Digital Audio Workstation) software.

To use S-Gear with your guitar, you will need an Audio Interface to provide a high impedance instrument input, along with audio outputs for headphones or powered speakers. Please also see the system requirements section in the Appendix to check that your computer system is compatible.

Installing S-Gear on your computer

Download the latest S-Gear installers from the www.scuffhamamps.com download page. Then follow instructions found on the installation support page:
https://www.scuffhamamps.com/support/installation-guide/installation

After running the installer, launch the S-Gear standalone application to activate your license or to start a free trial period. You will need an internet connection for activation.

On a Mac, launch the S-Gear standalone App from the Applications folder.
On a Windows machine, launch the S-Gear Standalone App from the desktop icon.

Licensing S-Gear

A free 10-day trial period is available so that you can evaluate the software on your system. The trial will start automatically when you first launch S-Gear. When the trial period ends you must purchase a full license for S-Gear to continue using the software.

An S-Gear license allows up to three computer activations for your own use. You can deactivate a computer if you wish to move an activation to another machine. See the following website support page for detailed activation instructions:
https://www.scuffhamamps.com/support/product-activation/s-gear-activation

Use of S-Gear is subject to an End User License Agreement and you can read the full details here:
https://www.scuffhamamps.com/images/documents/eula_jan20.pdf

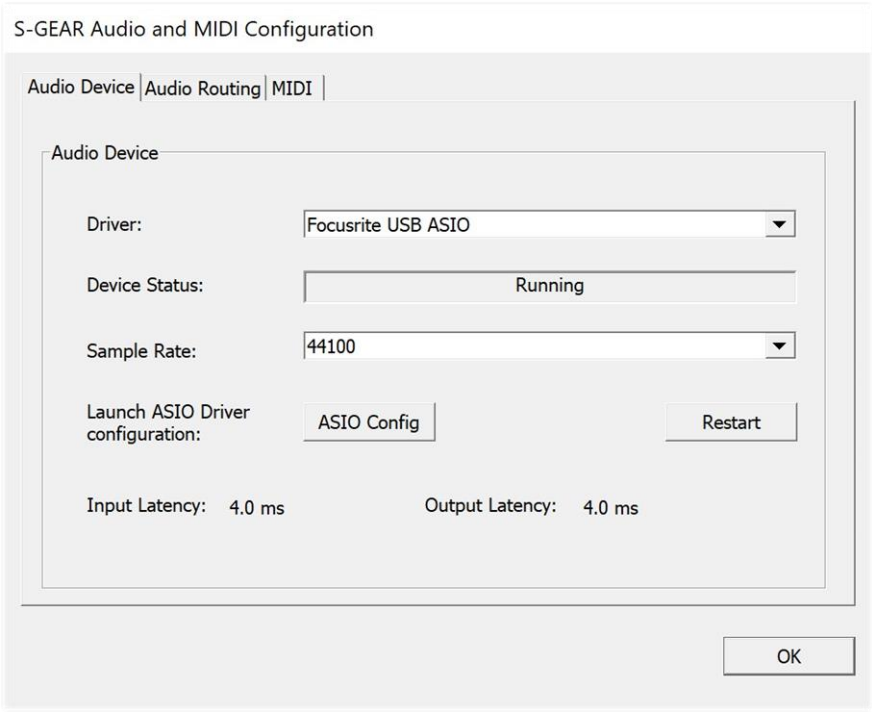
2 GETTING STARTED

Configuring S-Gear Standalone Application

To use the S-Gear standalone app on a Windows machine, you will need a dedicated audio interface with ***ASIO*** capability. We assume you have followed the instructions provided with your audio interface for correct installation.

From the ***File*** menu, select *Audio Driver Configuration* to access the ***Audio and MIDI configuration dialog box***. The first tab '***Audio Device***' provides controls to configure your ASIO audio interface.

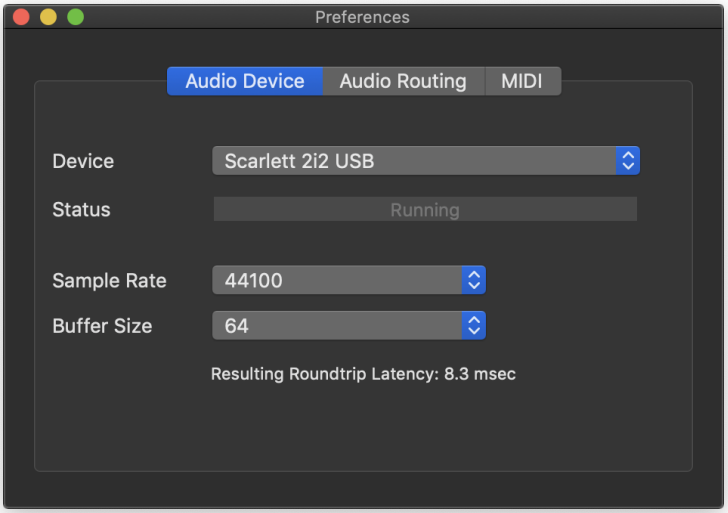
1) From the '***Driver***' dropdown list, select the correct driver for the ASIO device you wish to use.
2) From the '***Sample Rate***' dropdown list, select ***44100*** unless you specifically wish to run at a higher sampling rate.
3) If the device is connected and running, then the '***Device Status***' should indicate '***Running***'. If the device status is '***Stopped***', check that the device is connected properly, switched on, and then click the ***Restart*** button.



The S-Gear '***ASIO Config***' button provides access the audio interface configuration dialog. This interface is provided by the publisher of your ASIO driver software, so consult your audio interface documentation for specific configuration advice.

To use the S-Gear Standalone App on an Apple Mac system, you will need a dedicated audio interface with ***Core Audio*** capability. We assume you have followed the instructions provided with your audio interface for correct installation.

From the '***S-Gear***' menu select preferences. The first tab '**Audio Device**' provides controls to configure your audio interface.

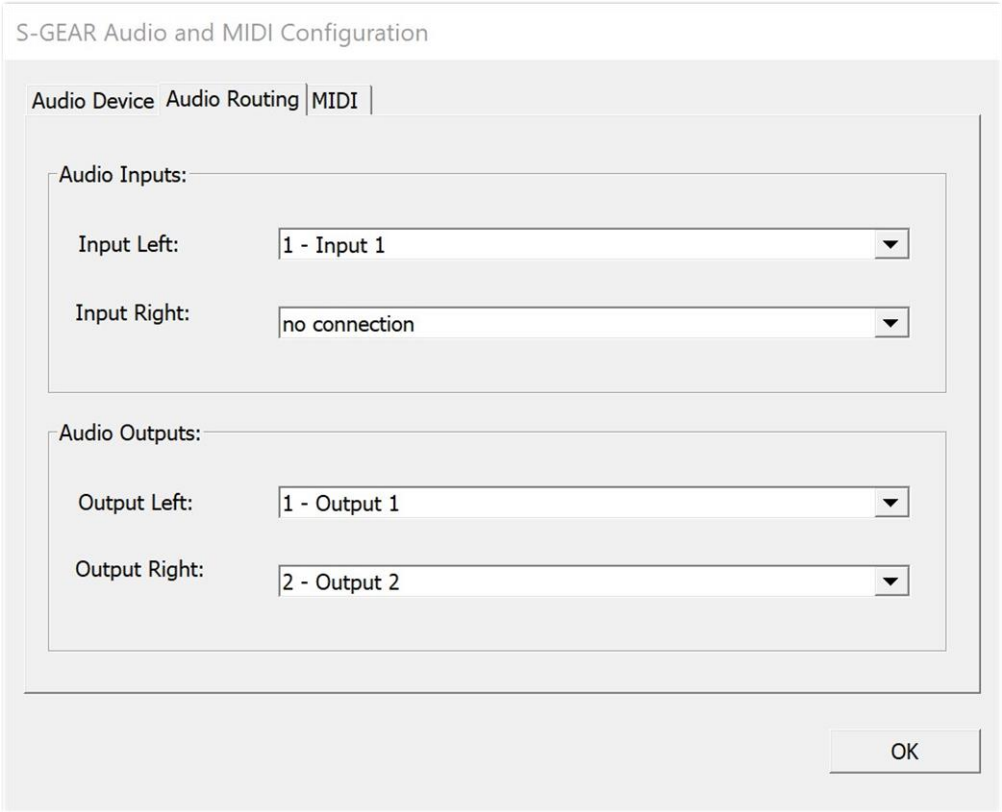


1) From the '***Driver***' dropdown list, select the driver you wish to use.
2) From the '***Sample Rate***' dropdown list, select ***44100*** unless you specifically wish to run at a higher sampling rate.
3) Select an appropriate audio buffer size using the '**Buffer Size**' dropdown list (*follow our advice below on setting audio buffer size).*
4) If the device is connected and running, then the '***Device Status***' should indicate '***Running***'. If the device status is '***Stopped***', check that the device is connected properly, switched on, then reselect the driver.

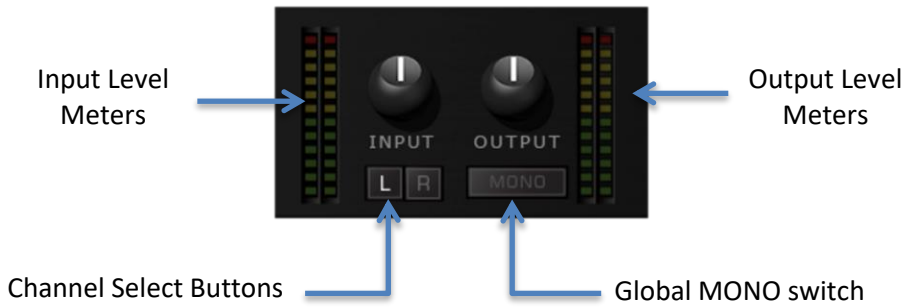
If your audio device is not detected by S-Gear on an Apple Mac:

S-Gear Standalone App expects to see a 'full duplex' audio device, i.e. one that provides both input and output channels simultaneously. If your device is not detected, it could be because it only provides an input channel, or it reports input and output channels separately. If this is the case, the solution is to create an **Aggregate Device** using the Apple **Audio MIDI Setup** utility. See the following Apple Support note: https://support.apple.com/en-us/HT202000

The second tab of the ***Audio and MIDI configuration*** (Windows) / **Preferences** (MAC), is for setting up audio input and output routing. S-Gear accepts stereo-in and stereo-out routing, however it is only necessary to provide a single mono input. The screen shot below shows a typical setup.



If the audio interface is correctly connected and configured, you should see some level on the S-Gear input meters at the bottom of the rack.



There are two ***channel select buttons*** below the input trim control, '**L**' and '**R**' that correspond to the stereo left and right input channels of the audio interface. If your guitar is connected to the left input (as per our routing example above), then make sure that the **L** button is selected and the **R** button in not selected. **Note:** You could sum two guitar inputs into S-Gear by routing and selecting both left and right channel inputs. The '**MONO**' button sums the two output channels to mono.

Input and output level meters (shown above) indicate the audio level right at the start of S-Gear processing and right at the end of S-Gear processing. S-Gear provides trim controls for input and output level and these trim settings are stored and recalled with S-Gear Presets.

Audio Interface input level

Keep in mind that there are two places where you can adjust your input gain, on your audio interface device and within the S-Gear software (using the trim control).

It is important to avoid clipping the input of your audio interface, this will most likely hard clip and sound unpleasant. We recommend running with a softer input level allowing plenty of headroom for the dynamics of your instrument.

To check your input, bypass the S-Gear AMP, EFFECTS and CAB (using the buttons on the Rack Controller), then listen to clean guitar through your interface. If you hear clipping, lower the input level on your audio device.

Setting the S-Gear Input level

Now in the digital domain, you can use the S-Gear input trim control to adjust the level more subjectively. You can drive the S-Gear amp models harder or softer according to what gives pleasing results. See the tone tips below for more advice!

Setting the S-Gear Output level

When setting output level, it is important to avoid clipping. If the meter hits the red, then back off the output trim control. Output clipping will cause hard clipping which can sound unpleasant. The output from S-Gear will be converted back into a fixed-point number and be susceptible to digital clipping if levels are not managed.

TONE TIP >

Correct input and output levels are critical to achieving a natural guitar amp tone with S-Gear. When you plug a guitar into a physical amp, you know how much impact the pickup output level has on the tones produced. Setting the input level into S-Gear is just as critical, and you will find that the dynamic behaviour of the amps differ considerably when they are driven harder or softer.

TONE TIP >

It is possible to use the S-Gear Input Trim control to deliberately drive the S-Gear Amp harder. It is OK to do this because your guitar signal is already in the floating-point digital domain, and the result will be that the first stage of the S-Gear amp is overdriven sooner. Don't attempt the same trick with your audio interface, as you are likely to get some nasty audio clipping – unless your audio interface has been designed to clip in a nice way – as most are not designed to be overdriven and the results will most likely sound bad.

The audio buffer size determines how many audio samples your interface will store up before passing a packet of audio data to S-Gear. Sometimes it is configured in samples, and sometimes in milliseconds. The bigger the value, the more latency you will suffer through your computer; however, if the value is too small, then you are likely to suffer clicks and pops since the computer cannot process one packet of audio data before the next arrives.

If you are running MAC OS X, then S-Gear standalone will present a dropdown list of available buffer sizes.

If you are using an ASIO interface with Windows, then the buffer size is configured using the device's dedicated interface.

As a quick guide to the relationship between buffer size and number of samples, use the following table:

Milliseconds	**Samples at 44100Hz sample rate**
2 ms	88 samples
3 ms	132 samples
4 ms	176 samples
5 ms	220 samples
6 ms	264 samples

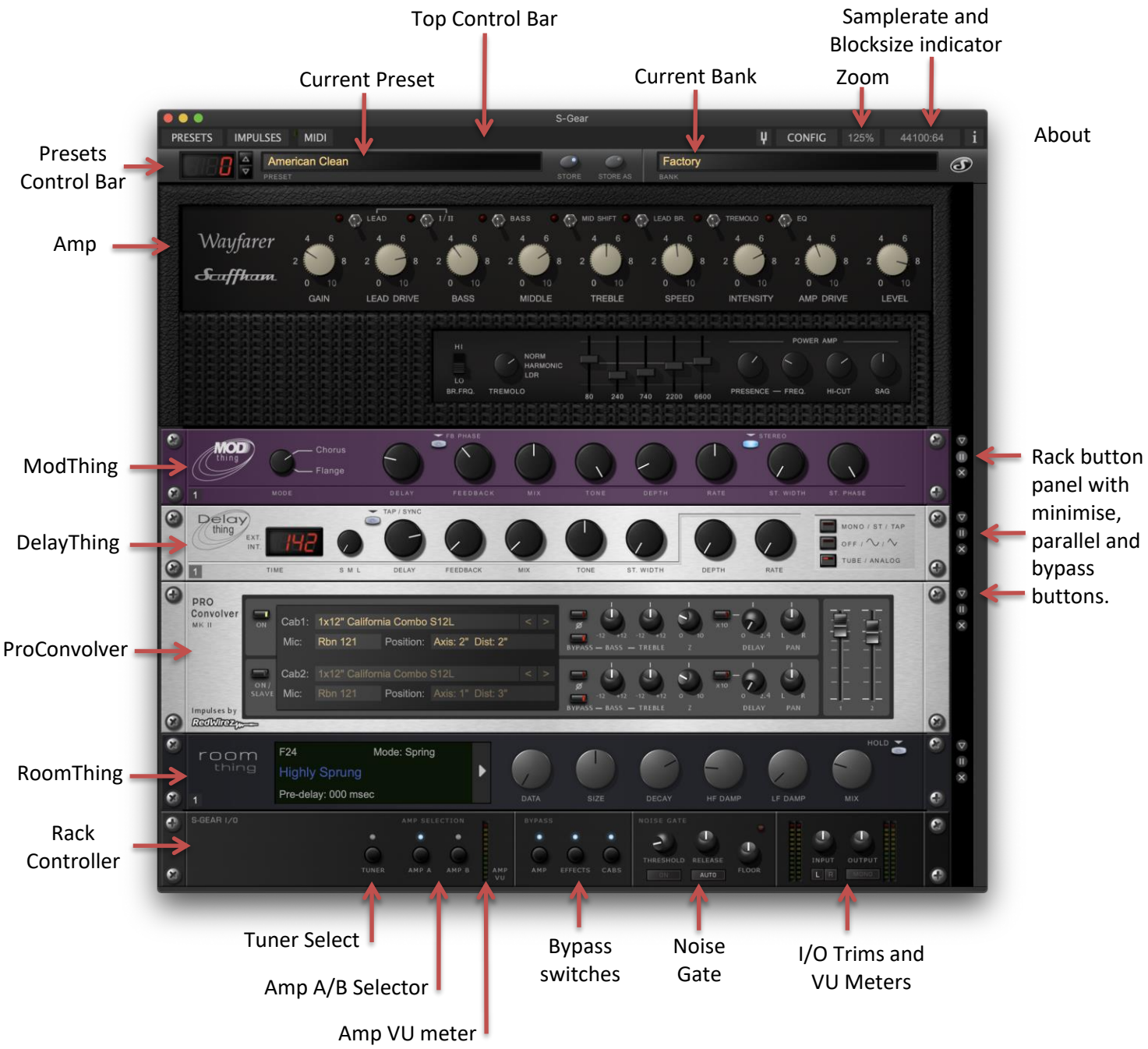
What latency is acceptable?

It is quite difficult to hear less than 6 ms latency. Consider also that sound travels at roughly 343 meters per second in air, so even with a physical amp it takes nearly 10 ms for the sound to travel 3.5 meters from the speaker to your ear.

The audio buffer size mentioned above is NOT the end of the story; your audio interface will also add considerable latency for input and output buffering (on top of the audio buffer latency). Depending on the performance of your audio interface, you will likely end up with between 4-15 ms latency through your setup. Once you become accustomed to playing your instrument with this latency, you will probably find that it does not bother you too much.

Which sample rate to use and does S-Gear sound better at higher sample rates?

S-Gear sounds just as good at 44100Hz, but your audio interface might not. For reasons of processing power, we recommend that you run at 44100Hz sample rate. If your audio interface has good quality filters, then you should achieve great results. It is often apparent that with more expensive audio interfaces, there is less perceptible difference between 44100Hz and higher sampling rates, and this is most likely because the input and output filters are of a better quality (anti-aliasing filter requirements are more demanding at lower sample rates). If you wish to run at a higher sampling rate, make sure you have enough computer processing power on tap to cope with the extra samples.



The **Zoom** button can be used to resize the S-Gear GUI to **100%**, **125%**, **150%** or **200%**. The larger zoom settings will only be available if the screen is big enough to accommodate the larger GUI size.

3 USING S-GEAR AS A PLUG-IN

Supported Plug-in Formats

S-Gear supports:

Audio Unit, **VST3** and **AAX** plug-in formats on MAC.

VST2, **VST3** and **AAX** on Windows

All plug-ins are 64-bit.

VST is a registered trademark of Steinberg Media Technologies GmbH.

Using the VST2 Plug-in on Windows

To use the S-Gear **VST2** plug-in on Windows, add the S-Gear default VST folder to the list of folders scanned by your DAW. This path can usually be entered in the options settings of your DAW. The default S-Gear VST2 folder is as follows:

C:\Program Files\Scuffham Amps\S-Gear_VST

On a Windows machine, typically you can place your VST plug-in DLL anywhere you like, and then configure your VST host to look in that location. However, we strongly recommend using the default S-Gear VST install location. This way your DAW will always find the most recently installed version of S-Gear.

DAW Presets vs S-Gear Presets

The DAW software will store the settings for all plug-in instances used in a project. These settings are stored independently to the native S-Gear Presets which you can store and organise. The DAW might also allow you to store and name plug-in Presets separately to the S-Gear Preset system.

When you save a DAW project, S-Gear will tell the DAW which S-Gear Preset and Bank were used along with any edits that have been made. When a project is re-opened, S-Gear will attempt to display the correct Preset and Bank information originally used. However, if that Preset or Bank no longer exists in the S-Gear Preset library, then the name will be displayed greyed-out.

4 PRESETS AND BANKS

Overview

S-Gear allows you to create **Presets** so you can save and recall your guitar sounds and organise them as you wish. S-Gear organises Presets into **Banks**, each Bank holding 128 Presets.

A default Bank called '**Factory**' is created containing the S-Gear Factory Presets. You can create as many additional Banks as required.

- The **currently loaded** Preset and Bank are displayed on the **Preset Control Bar**:

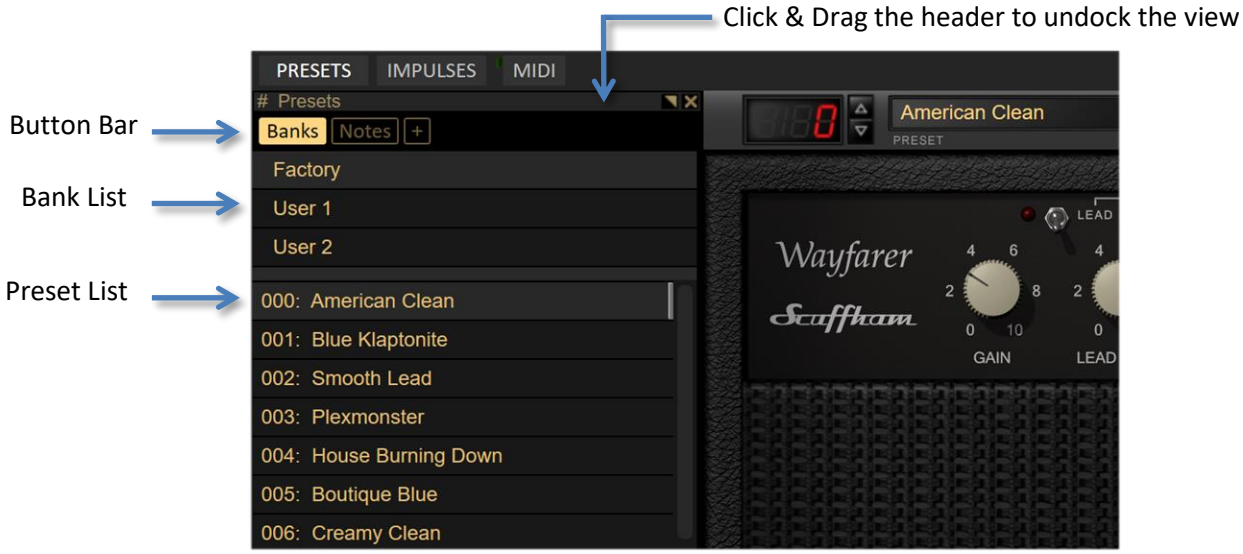
Step through Presets in the current Bank using the up/down rocker switch.

Load a Preset from the pop-up menu by clicking the Preset Name Display.

Change Bank by clicking the Bank Display to access the pop-up menu.

The Presets View

Click '**PRESETS**' on the Top Control Bar to display the **Presets View**. The Presets View can be used to organise your Presets and Banks using drag and drop functionality. For convenience on smaller screens, the view can be undocked and positioned anywhere over the main S-Gear GUI.



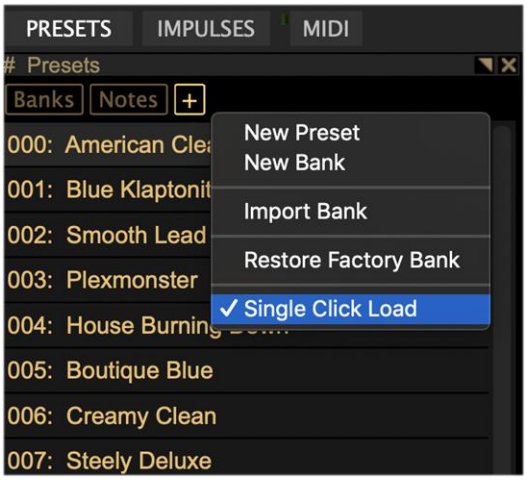
A light grey bar indicates the currently loaded Preset.

Presets Button Bar

Banks button to show/hide the **Bank List**.
Notes button to show/hide the **Preset Notes Panel**
'**+**' button to access the **Presets Action Menu**

The Preset Notes Panel can be used to make notes about the currently selected Preset.

Presets Action Menu



The **Presets Action Menu** can be used to create new Presets and Banks, import a Bank or Restore the Factory Bank.

The **Single Click Load** option changes the way that Presets are selected or loaded into S-Gear. When checked, Presets will load on a single click. When unchecked, Presets are selected on a single click and loaded on a double click.

Don't worry about editing the Factory Presets! You can restore the originals at any time. The **Restore Factory Bank** option will create a new copy of the Factory Bank. You can also restore an individual Factory Preset by right-clicking on the Preset List and selecting Restore Factory Preset.

Renaming, Duplicating or Deleting items

The Bank and Preset lists provide a **right-click menu** for operations including renaming, duplicating, or deleting an item.

Drag and Drop operations for Presets and Banks

Whilst both Preset and Bank items provide right-click menus for common functions, Drag & Drop is also an essential part of the workflow for managing Presets and Banks in S-Gear v2.9:

Drag & Drop Operations for Presets

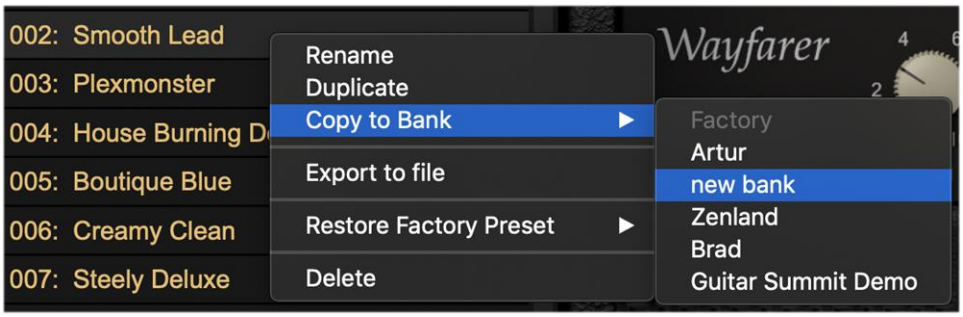
- Reorder the Preset List (by dragging and dropping Presets)
- Copy a Preset to a Bank (by dragging a Preset to the Bank List)
- Export a Preset to a file (by dragging a Preset to the desktop)
- Import a Preset from a file (by dragging the Preset .sfx file to the S-Gear Preset List)

Drag & Drop Operations for Banks

- Reorder the Bank List (by dragging and dropping Banks)
- Export a Bank to a file (by dragging a Bank to the desktop)
- Import a Bank from a file (by dragging the Bank .sfx file to S-Gear)

Workflow example 1: Create a new Bank, then copy some Presets to the new Bank

1. From the '**+**' menu, click '**New Bank**'
2. Rename the new Bank to something meaningful.
3. Select a different Bank from which you wish to copy a Preset
4. Then either
    a. Drag and drop a Preset to the new Bank
    or
    b. Right-click on a Preset and use 'Copy To Bank'



Preset Migration from an earlier version of S-Gear

S-Gear v2.9 will automatically migrate Presets from an earlier version of S-Gear. Two User Banks are created to accommodate migrated Presets (**User 1** and **User 2**):

User 1 = Contains old User Presets 000-099
User 2 = Contains old User Presets 100-199

If required, Preset Migration can be re-triggered using the Presets Action Menu. A hidden menu function to **Migrate v2.7 Presets** can be accessed by clicking Ctrl-A prior to opening the Presets Action Menu. This function may be useful if for some reason migration needs to be re-run.

5 HOW TO STORE A PRESET

Store button

The S-Gear **Store Button** provides a two-click system for storing current Preset edits. When a Preset has been edited, the Store Button is enabled, and the Store LED is lit.

- Press Store once to initiate the store operation. The LED will flash for 10 seconds, during this time you can commit the store operation.

- Press Store again to commit the store operation. The LED will turn off and the Preset saved.

The 'Store As' View

The **Store As View** provides a way to save the current Preset to a particular position or Bank. It is also possible to store the Preset to a new Bank.

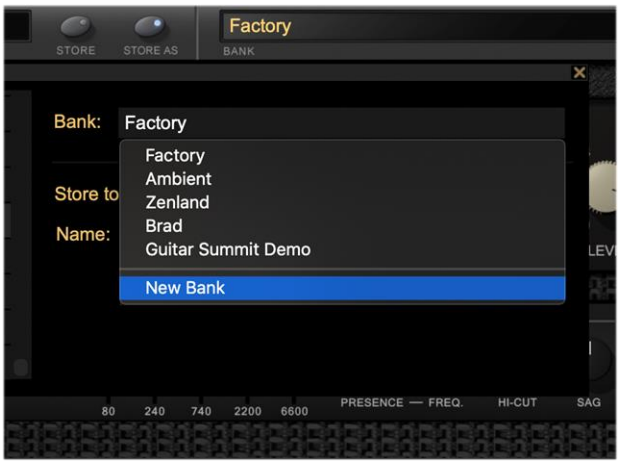
- Click Store As to save the current Preset. The Store As view will be displayed and the destination will be set to the next available Preset slot in the current Bank. The target Preset name can be edited.

- Click the **STORE** button to commit the store operation.

- Click **CANCEL** to quit.

- Store the Preset to a different Bank by selecting the target Bank from the Bank drop down menu.

- Select '**New Bank**' to create a new Bank as the target.



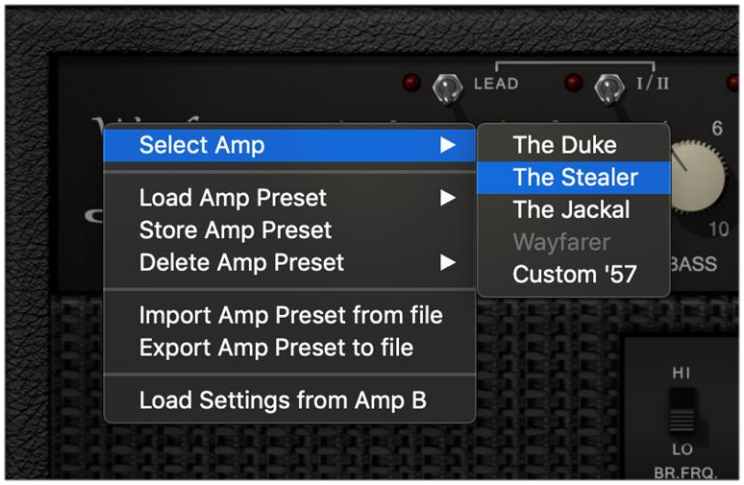
6 THE S-GEAR AMPS

S-Gear includes five original amp designs,

The Duke, **The Stealer**, **The Jackal, The Wayfarer** and the **Custom '57**.

Selecting an Amp

Right-click the mouse anywhere on the Amp to pop up the menu. Use the **Select Amp** option to change the Amp.



Amp A/B and VU Meter

Each S-Gear Preset accommodates two amp configurations A and B, and you can switch between these configurations using the Amp Selector buttons on the S-Gear I/O Rack Unit.

The Amp VU meter displays the audio level going into the rack.

In many situations, you may only require AMP A. However, when using S-Gear in a live environment it can be very useful to have two different amp setups that can be switched into the same rack of effects.

Whilst each S-Gear amp incorporates a unique power amp design, all amps provide the following common controls to adjust the behavior of the power amp.

Presence
Using the same negative feedback circuit found in typical push-pull guitar tube power amplifiers, the S-Gear presence circuit uses a tuned feedback loop to boost the upper mid and high frequencies. Presence adjusts the amount of feedback and hence the amount of high frequency boost in the power amplifier.

Presence Frequency
Presence frequency adjusts the tuning of the presence feedback circuit. Higher settings will raise the operating point to give more of a sizzle. Lower settings will produce a harder presence boost.

TONE TIP > A low presence frequency setting will boost considerably more upper mids when turning up the presence in the amp. A high setting will leave the mids alone and focus the presence control more on the 'sparkle' or 'sizzle'.

Hi-Cut
Hi-Cut adjusts the dynamic high frequency reduction applied when the power amp is pushed harder.

Sag
Increasing the Sag will increase the effect of dynamic non-linearity in the power amp.

Sag is an important control when looking for a totally natural power amp feel. As hardware tube amps start to work hard, demands on the power supply cause the amp to increasingly compress the signal. This happens even when the amp is running 'clean', and is one reason why tube amps feel more responsive than solid-state counterparts. This occurs to varying degrees depending on design, type of tubes etc., so this control is variable and not pre-set.

TONE TIP > Carefully balancing the sag with the amount of drive can be important if you are looking for a realistic spongy vintage feel. High gain players may find tighter more uncompromising tones with this control set lower but there are no rules here!

The Custom ’57 is the newest amp in the S-GEAR line-up. This is our interpretation of the favourite ‘Tweed’ amp from the late 50’s.

This is a simple amp with minimal controls. The pre-amp of the ’57 is essentially clean, but with the possibility to push the power amp into overdrive as the volume is cranked higher.

The control line-up is as follows:

Volume
Like a Tweed Deluxe, this amp starts to break up when the volume is around 4-5, and develops a rich power-amp overdrive when pushed further towards 12.

Bright
Rather than stick to a vintage correct tone section, we’ve added a bright-contour control similar to that found on *The Stealer*. This produces the bright lift of a capacitor bypassed bright volume pot, whilst maintaining a constant volume. Push the Bright control higher for glassy Fender tones, dial back for warm, rich tones.

Bass
The Bass control is a typical passive bass control. Lower the bass to tidy-up an unruly distortion or to compensate for the speaker cabinet selection.

Level
Level controls the output level of the amplifier. This control does not affect the tone of the amp in any way. It does change the level sent to the S-GEAR rack, so a hotter output may affect the tone of the rack devices (such as Delay Thing tube emulation).

Notes:
The ’57 is very sensitive to the settings of the Power Amp controls (Presence, Hi-cut and Sag). Experiment with these controls to fine tune your sounds. You will also find that working with different speaker cabinets opens up lots of possibilities with this amp.

The Wayfarer brings together elements from the classic American amp designs. Three channels, several tone shaping switches and additionally a graphic EQ between the preamp and power amp, make this a very versatile amp.

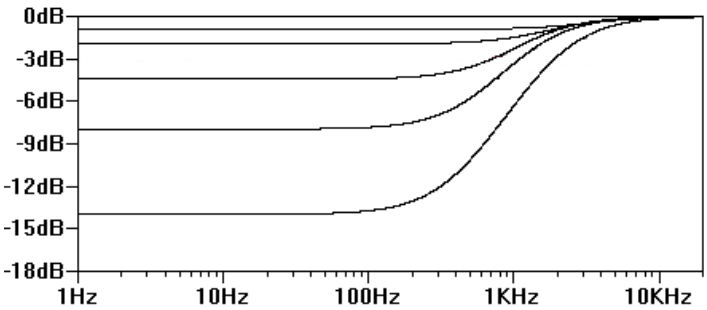
The three Wayfarer Channels:

Wayfarer Clean:
The Wayfarer clean channel is true to the classic Fender Brown and Blackface favourites. The preamp structure is a traditional Tube-Tone-Tube, with a further preamp Tube before the power amp.

The third tube stage was typically added to traditional amps to provide correct buffering to a spring reverb drive and return circuit, but it also helps add an extra slinky top end to the amp.

Gain, Bright Frequency and Amp Drive:

The Wayfarer gain control incorporates a bright bypass capacitor providing a treble lift as the gain control is lowered from full gain. This control strongly determines the overall character of the amp. The lower the gain, the brighter the tone, as illustrated in the following diagram:



The classic tube amps employing this circuit would typically have just a single volume (gain) control, and you would probably set this somewhere in the range between 2-5, giving a pronounced bright boost and characterising the sound of the amp.

Pushing the volume control higher would then create a degree of edge, then overdrive as the power amp is driven harder - the lower powered amps were often capable of producing some sweet overdriven tones.

The Wayfarer provides a continuously variable Amp Drive control, allowing you to dial-in the degree of power-amp drive required. This is a great tool for balancing the brightness vs overdrive in the clean channel, and with careful balancing you can achieve some beautiful vintage overdrive tones with tons of dynamic responsiveness from the power amp.

The other feather in the Wayfarers cap is the Bright Frequency switch located in the amps tweak section. This alters the value of the bright bypass capacitor on the gain control and hence the frequency of the bright boost achievable. The two settings, high and low are based on values found in *Fender Deluxe* and *Fender Twin* amps respectively. At the lower setting, bright boost occurs at a lower frequency producing more presence and bite, whereas the high setting operates at a higher frequency and produces a softer bright boost.

Remember that the Wayfarer clean preamp section is common to all three channels of the amp, so the Gain/Amp Drive/Bright balance discussed above applies to all channels.

Lead I
The classic hot-rodded Fender - Lead I channel adds an additional ECC83 drive stage after the clean preamp with a tailored voicing to achieve rich overdrive sounds.

Lead II
Adding two additional ECC83 drive stages after the clean preamp, Lead II is capable of producing very high gain sounds - much higher gain in fact, than any previous S-Gear amp. This channel offers another degree of intensity over Lead I, and with a slightly more aggressive voicing for heavily driven sounds. The Wayfarer graphic EQ is particularly effective for tailoring high gain Lead II sounds.

Lead Drive
The Lead Drive control comes into play to adjust the gain of the additional drive stages in the Lead Channels. Careful balancing of the Gain and Lead Drive is the key to achieving great tight overdrive sounds. Don't forget that the Gain control also alters the bright boost into the overdrive stages.

TONE TIP > If you are looking to achieve a *Boogie MKV* style tone: note that the gain control has a sweet spot at about 7.5 with the overall drive then being tailored by the Lead Drive control.

TONE TIP > Take care when setting up the Amp Drive for lead sounds. A moderate amount of Amp Drive provides a more lively dynamic overdrive tone, too much Amp Drive and you will lose sensitivity in the dynamic response.

Bass, Middle and Treble Tone controls:
The Wayfarer tone stack is based on the classic *Fender*/*Boogie* tone stack with some small modification to suit this particular amp. Like most guitar passive tone stacks, these controls are interactive, for example adjusting the Bass and Treble will also shift the centre frequency of the middle cut.

TONE TIP > The Wayfarer tone stack is positioned in front of the drive stages, so these controls will effect how the overdrive responds at different frequencies. Be careful with the Bass control – dial in a lower setting to achieve a tighter rhythm sound.

Tone switches: Bass Shift, Mid Shift, Lead Bright

Bass Shift, when engaged provides a pronounced reduction in frequencies below 250Hz, right at the front end of the preamp. Useful if you are looking for tight rhythm sounds or better control of the Bass response - especially with neck pickups.

Mid Shift, when engaged, will partially bypasses the tone stack to produce a pronounced mid boost and effective gain boost. Great for thick and harmonically rich lead tones.

Lead Bright, when engaged adds a high frequency gain boost to the Lead II channel. With Lead I, the gain boost is more even across the frequency range - the switch is slightly misnamed in this respect, but nevertheless, produces some very useful tones in each position on both lead channels.

Level
The level control provides a neutral level trim of the amp output. Use this to balance the output of the amp and observe the AMP VU meters to ensure that the signal into the rack is not clipped.

Graphic EQ
The Wayfarer's three-band graphic GEQ can be switched in using the toggle switch on the amp front panel. The GEQ provides tailoring of the mid-range frequencies BEFORE the Wayfarer power amp section. The controls are especially effective for scooping mid-range and adding extra presence bite.

Tremolo
The Wayfarer has an integrated tremolo circuit with three modes of operation, normal, harmonic and LDR. The benefit of an integrated tremolo is that as the circuit modulates, it drives the power amplifier harder and softer producing a very authentic and harmonically rich tremolo.

Tremolo Modes
The tremolo mode is selectable via a rotary switch on the Wayfarers' tweak panel.

Normal mode modulates the preamp level with a fairly even duty, similar to a bias modulated tremolo in a traditional amp.

LDR mode simulates the more choppy duty cycle of a Light Dependent Resistor based tremolo circuit.

Harmonic mode splits the signal into low and high frequencies then modulates between the two signals. This is a very harmonically rich sound with a distinct phasing effect.

Speed and Intensity Controls
These controls located on the amp front panel adjust the speed and the intensity (or depth) of the tremolo effect. Experimenting with these controls will reward with some interesting and sometimes surprising results. Intense tremolo effects can produce interesting punctuated rhythm sounds, whilst very subtle use of the intensity can work nicely for a soulful and bluesy lead tone.

The Duke is a medium gain amp that specialises in incredibly dynamic and touch sensitive tones.

Clean/Overdrive switch: This is the equivalent of placing an esoteric drive pedal in front of the amp with the added bonus of being able to simultaneously re-configure the amp voicing ahead of the Tone Stack.

There are three overdrive voicing options available, which appear in the Duke's "Tweak" panel. They are 'Normal', 'Thick' or 'Bright'.

Bass, Middle and Treble Tone controls:
The Duke tone stack originates from the *Fender Super Reverb* amp. This tone stack is different to the usual circuit found in Twin and Deluxe models, and produces an interesting mid-range response, great for digging in to a blues lead.

Boost switch: Adds an additional gain boost gain after the tone stack.

TONE TIP > For a tight driven sound, keep the Bass control at the lower settings, then use the convolver EQ section to recover some bass after the amp (see 'Pro Convolver' section).

Bass switch: This alters the bass roll off pre tone stack giving a wider range of low-end adjustment in conjunction with the Bass control knob.

Bright switch: Adds extra brightness, gain and definition in all modes of the amp.

Amp Drive switch: This switch affects the level of drive into the power amp. Disengaged, the power amp dynamics are subtle but still add an important dimension to the sound. When engaged, the power amp is pushed harder into clipping adding extra drive and dynamics.

Careful setting of the controls in The Duke will reward you with a complex and expressive sound that follows your picking dynamics beautifully.

A classic single channel design with many of the 'Hot-Rod' additions you would like to find on a hardware amp. The Stealer has excellent clarity and dynamics, and can produce a wide spectrum of exciting tones from classic rock to powerful modern blues.

Push switch: this adds an extra 10dB of clean gain in front of the amp, changing how the amp distorts. Switch off the push if you want to get a totally clean sound from a high output guitar.

TONE TIP > Engaging the push switch and lowering the gain control will give a different drive character as opposed to turning the switch off and the gain up to match.

Bright Contour control: This gives the amp a huge range of different personalities. It adjusts the amount of high end that is sent to the pre-amp drive stage.

TONE TIP > Keep this control low for a more traditional rock amp sound, or boost the highs and pull back the presence a little for notes that just leap off the pick with brilliant harmonics and sustain.

Boost switch: An extra blast of specially voiced gain in the drive section.

TONE TIP > Engaging the boost switch and lowering the gain control will give a very different drive character to turning the switch off and the gain back up.

Bass Shift switch: This alters the bass roll off pre tone stack giving a wider range of low end adjustment in conjunction with the Bass control knob.

Bass, Middle and Treble Tone controls:
The Stealer tone stack originates from the *Marshall 1959 Super Lead* amps. Positioned at the end of the preamp, this tone stack shapes the frequency response driving into the power amp stage.

Amp Drive switch: This switch affects the level of drive into the power amp. Disengaged, the power amp dynamics are subtle but still add an important dimension to the sound. When engaged, the power amp is pushed harder into clipping adding extra drive and dynamics.

The Jackal is capable of high gain rock sounds, but also sounds great clean!

Similar to the Stealer, the tone stack of this amp is positioned at the end of the preamp section, however, the amp is capable of much higher pre-amp distortion levels, thanks to the addition of an extra 'cold biased' tube gain stage.

With the right choice of speaker, the Jackal can be bright and aggressive with a powerful low end and no harshness. In essence a modern high gain design but with a dual personality, the Jackal can cover practically any style from clean, country twang to high gain rock and metal.

Clean/Dirty switch: High headroom sparkly cleans or high gain drive - the choice is yours.

TONE TIP > Keep the drive to just the minimum you need for power rhythm parts. They will sound tighter and more powerful than if they are overly saturated.

Boost switch: The 'up to 11' button. It operates on both channels.

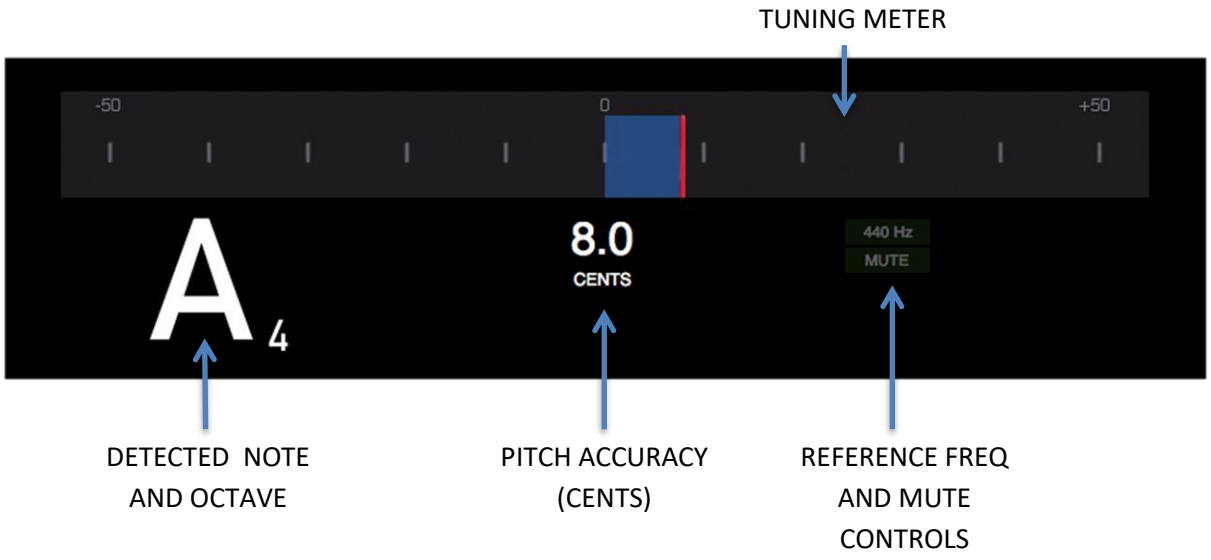
Bass Shift switch: This alters the bass roll off pre tone stack giving a wider range of low end adjustment in conjunction with the Bass control knob.

Clean Bright switch: This applies a sparkly high top boost to the clean channel only.

Bass, Middle and Treble Tone controls:
The Jackal tone stack also originates from the *Marshall 1959 Super Lead* amps, and is positioned at the end of the preamp gain structure, shaping the frequency response into the power amp stage.

Amp Drive switch: This switch affects the level of drive into the power amp. Disengaged, the power amp dynamics are subtle but still add an important dimension to the sound. When engaged, the power amp is pushed harder into clipping adding extra drive and dynamics.

7 TUNER



The S-Gear Tuner

S-Gear includes a high precision tuner designed specifically for guitar and bass guitar providing smooth and responsive metering via a high visibility analogue style display. The tuner employs fast and accurate pitch detection technology developed by Pitch-to-MIDI experts Sonuus UK. Tuning accuracy to within ½ cent (1 cent = 100th semitone) can be easily achieved.

Tuning-Up

Enable or disable the Tuner using the TUNER button on the top control bar, or the Tuner select button on the S-GEAR i/o controller. The two tuner enable buttons operate in unison. When enabled the tuner will replace the amp in the signal chain.

Play a **single note** on your instrument. The detected note and octave is displayed. The meter displays the cents value in the range +/- 50 cents. If the detected note is flat, the red needle will move to the left and a blue highlight bar is extended to clearly indicate the tuning inaccuracy. If the detected note is sharp, the blue bar extends to the right.

The red needle will remain centred for a perfectly tuned note.

To visually assist the tuning process, the meter highlight will change from blue to grey when the note pitch is within 2.5 cents accuracy, indicating an approximately 'in-tune' note.

If you find that a string on your instrument is difficult to tune, check that the string in question is ringing clearly without fret-buzz. Fret buzz can affect the pitch stability of a note, as can old strings. You will also notice that when you hit a string hard, the tuning will bend during the initial attack of the note. Keep this in mind when tuning the low strings of your guitar.

Reference Frequency

Use the reference frequency control to set the **A4 frequency**. The default value is 440Hz and can be set in the range 420Hz to 460Hz. Reference frequency can be adjusted using the mouse wheel, or by using the keyboard up/down, left/right keys whilst the frequency control has mouse focus. Reference frequency is stored globally and applies to all S-GEAR Presets.

Tuner Mute

The tuner **Mute** button simply mutes the output of the tuner for silent tuning on stage. The Mute setting is stored globally and applies to all S-GEAR Presets.

Using the S-GEAR Tuner in a DAW

ONLY ONE INSTANCE OF THE S-GEAR CAN BE ACTIVE AT ONE TIME.

When using the S-GEAR tuner within a DAW project, please be aware that only one instance of the tuner can be active at one time. To activate a Tuner instance simply click anywhere on the Tuner.

Enabling the S-GEAR Tuner via MIDI

The tuner enable/disable function can be assigned to a MIDI controller number allowing you to control the Tuner from a MIDI foot controller. For details on how to set up a MIDI controller, see the section 14 on Midi Control.

Checking the intonation of your guitar

A correctly intonated guitar will be more in-tune when fretted notes are played. A badly intonated guitar may sound out of tune when you play fretted chords or notes.

Because the S-GEAR tuner is very stable and accurate, it is the perfect tool to assist with setting the intonation of your guitar. Intonation can be checked by comparing the pitch of the harmonic at the 12^{th} fret (lightly touch the string directly over the 12^{th} fret and pluck) with the fretted, 12^{th} fret pitch. The two should be exactly the same. The intonation of each string can be adjusted by altering the scale length of the string. Refer to your guitar user manual for adjustment instructions.

8 NOISE GATE

The Noise Gate

The S-Gear noise gate includes an advanced level detection algorithm that will automatically adjust the gate release time depending on your playing. When you mute the strings, the gate will close quickly. When you sustain a note, the gate will close slowly and smoothly without introducing 'pumping' artefacts.

Enable or disable the gate using the **ON** button. The red LED will light when the gate is active.

Threshold
Use the threshold control to set the level at which the gate operates. Gate threshold can be set between -100dB and -40dB. Typically you would set this between -80dB and -60dB, depending on the level of input signal and the amount of noise coming from your input. For very quiet audio interfaces, and when using the volume control on your guitar, you should set the threshold as low as possible. For a noisier audio interface then you will need to raise the gate threshold.

TONE TIP > Setting the threshold at a higher level will affect note attack – so for the most natural tone try to keep the threshold low.

Release
Adjust the release time of the noise gate from 10 milliseconds to 3 seconds. This is the time it takes for the gate to close after the input signal has fallen below the threshold.

Auto
When engaged, the AUTO button will set the release time automatically. As described above, this mode detects when you mute the input and closes the gate quickly. Otherwise the gate will close with the full 3-second release time.

Floor
Floor sets the level at which the gate is closed. Setting this control to zero will completely mute the input signal when the gate is closed. Setting fully clockwise will reduce the input gain to 0.5x when the gate is closed.

TONE TIP > For a faster and more natural attack, set the gate floor to something higher than zero. A setting of around 0.2 works well. This is equivalent to a gate ratio of 1:8.

9 THE S-GEAR RACK

The Rack

S-Gear includes a configurable stereo rack allowing you to add, remove and re-position devices in the audio processing chain. S-Gear offers 4 different rack devices:

DelayThing - Analogue-modelled mono/stereo delay processor
ModThing, - Analogue-modelled mono/stereo modulation effects processor
RoomThing - State of the art algorithmic reverberation processor
ProConvolver - Dual 64bit convolver for applying cabinet impulse responses

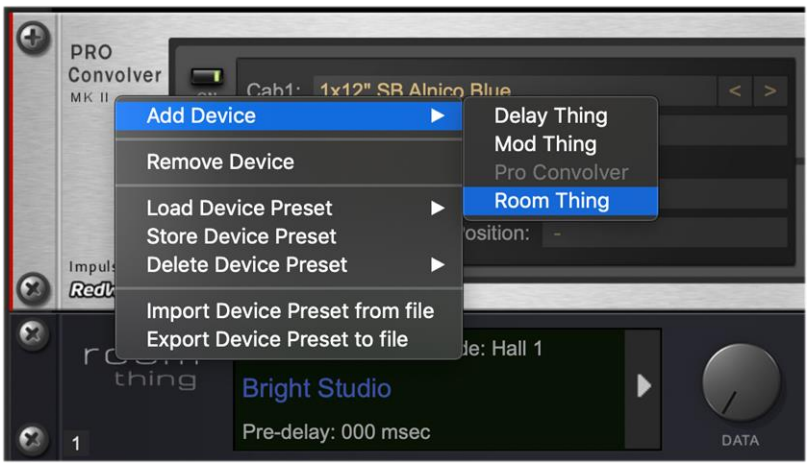
All the rack devices maintain the stereo L and R channel mix through the rack, even if a particular effect is applied in mono. This means that S-Gear rack effects can be applied to a stereo channel in your DAW without summing the L/R channels to mono on the input. Note however, when you enable an amp in front of the rack, the amp output is a mono signal fed into both channels of the rack.

Moving a rack unit

Audio processing is done from the top to the bottom of the rack. So the position of a device in the rack corresponds to the position of that device in the audio processing chain. Each device can be moved up or down within the rack by dragging and dropping with the mouse. Simply left click on the device you wish to move (to grab the rack, click an area away from the knobs and switches), and then simply drag the device up or down to the desired position.

Adding and removing rack units

To add a new device, right click within the rack to access the right click menu. From the ***Add Device*** sub-menu, select the device you wish to add. The new device will be added to the rack in the last slot. You can then move the newly added unit to whatever position you wish.



Note: if the device type appears greyed out in the device list, then it is not available to add to the current rack configuration.

To remove a device, right click on the device you wish to move (a red bar will appear at the left hand side of the device), and then select ***Remove Device*** to remove the device from the rack.

S-Gear v2.1 allows you to add the following rack devices:

2 x DelayThing
2 x ModThing
2 x RoomThing
1 x ProConvolver

The black ***Rack Controller*** device is a fixed rack unit. It cannot be removed from the rack and cannot be re-positioned. The S-Gear Noise-Gate is always applied to the (mono) input of the amplifier. Input and Output trim controls always act on the S-Gear signal input and signal output.

The rack unit Button Panel

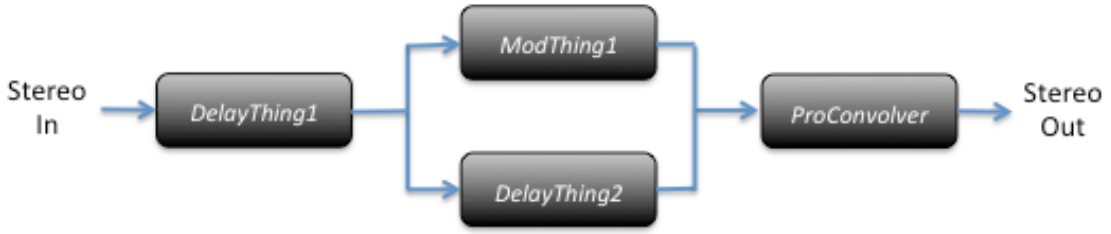
Each rack device has a dedicated Button Panel with three buttons.

Minimize button
Parallel button
Bypass button

Minimize individual rack units: The minimize button allows you to minimize and maximize the rack device for convenience.

Configure rack units for processing in parallel: The parallel button provides a simple method by which devices can be processed in parallel. When activated, the parallel button will put the corresponding rack device in parallel with the rack device directly above. You can place several rack devices in parallel if you wish. The following example shows a ***ModThing*** in parallel with a ***DelayThing***:

DelayThing parallel enabled.



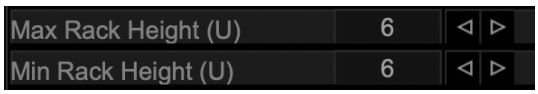
To achieve this, the third unit (***DelayThing***) in the rack has the parallel button enabled. This puts it in parallel with the ***ModThing*** above it.

Rack unit bypass: The bypass button removes the corresponding rack device from the processing chain.

When controlling the bypass function from MIDI or Automation, a two-stage bypass function can be used. Stage 1 mutes the device input, and Stage 2 removes the device from the processing chain. Stage 1 bypass is particularly useful for live performance when you wish to switch out a delay unit without cutting off the effect repeats. See the section 14 on MIDI Control for more details.

Controlling the rack height

Depending on your workspace, you may wish to limit the minimum or maximum height of the rack. This can be done from the **CONFIG** screen, by adjusting the Min and Max Rack Height parameters:



The height is measured in rack units and you can configure the rack from 1 to 8 rack units high. If the number of units in your rack exceeds the maximum rack height, then a scroll bar will appear to the right-hand side of the rack. The rack height is limited automatically so that S-Gear fits within your screen resolution.

Factory Presets for rack devices

If a rack device supports Factory Presets, these will be available by left-clicking on the left edge of the rack device, as highlighted here in yellow.

Device Factory Presets are also accessible from the rack right-click menu.

When the current rack device settings match a Factory Preset, the corresponding Preset number and name will appear in the top left of the rack device.

10 DELAY THING

Delay Thing effects

This is a sophisticated delay unit with simple controls and a wide variety of sounds.

Almost everyone loves the atmospheric tones of an analogue delay pedal. Delay Thing doesn't just approximate these sounds, in 'Bucket Brigade Delay' (BBD) mode it actually works in a similar way to an analogue 'bucket brigade' delay chip by clocking the signal through buffers at different speeds to vary the delay time, and colouring the output with a variable 'brickwall' analogue style low-pass filter.

In 'Tube' mode the signal, especially the feedback side, is sent through a tube simulation circuit to add extra harmonics and warmth. The sound is really transparent, and even a dark sounding delay is not muddy – it's kind of 'hi-fi low-fi'! (If you push the feedback section into oscillation, the tube mode will distort in a smoother fashion).

NOTE: The stereo delay operation is dependent on both channels of the Pro Convolver being in use and panned to different places in the stereo field (see the section 13 on Pro Convolver).

The knobs and switches

SML switch: This splits the delay in to three ranges - short, medium and long. It works in conjunction with the Delay Time control to set the delay in milliseconds. The actual master delay time is visible in the display.

Tap / Sync
Pressing Tap / Sync once will put Delay Thing into Sync Mode (see section below). Pressing Tap / Sync twice in succession will set the Delay Thing delay time to the tapped interval.

Feedback: The amount of signal fed back to the input of the delay lines. The operation of this varies on the setting of the Mono/Stereo/Tap switch.

In **Mono** mode the feedback is centred with the delay. In **Stereo** mode the left and right sides have independent feedback loops, if the stereo width is set high this can give the delay a lot of movement across the stereo field as the sound decays. In **Tap** mode the feedback comes from the master delay time and is more 'symmetrical' as it bounces from left to right. The feedback loop voicing changes with the setting of the **Tube (**BBD) switch. Turn up the feedback for multiple repeats, or keep it low for single delays.

Mix control: This mixes in the delayed signal with the direct sound. The direct signal stays at 'unity gain' as the mix control is advanced to the halfway point, then the delayed signal starts to take over until it is 100% 'wet'.

Tone control: This is a variable analogue style low-pass (or hi-cut) filter. The knob sweeps the turnover frequency from 2Khz (dark sounding) at minimum up to 10Khz (transparent) at maximum.

Pan / Width control: In MONO delay mode, this knob is a Pan control to position the delay output in the stereo mix. In the STEREO delay modes, adjusting this control varies the stereo width of the delay by altering the left delay time as a percentage of the right. With the control at minimum it is 100%, so the delay time will be the same on both sides - mono. Turning the control clockwise gradually modifies the left delay time until at maximum it is at 50% of the right (master) delay time giving a true left/right 'ping-pong' effect.

Modulation controls: **Depth** & **Rate**: Engaging the middle button on the far right of the unit will switch on the modulation section. There are three options, Off, Sine or Triangle wave. The depth and rate knobs control how much the delay is modulated. The Sine wave function modulates the left and right independently with a 90 degree phase shift - excellent for gentle spacious 'tape' style delay, and the Triangle wave modulates the delays with a 180 degree shift which at short delay times and a 50/50 mix gives the classic stereo chorus effect. Experimentation is the key here.

Tube (BBD) switch: This changes the filtering and drive which affects both the delay and the feedback paths to give two distinct voices to the repeats.

TONE TIP > Try adding a small amount of a short (30-70ms) stereo tap BBD delay with about a 20% width and a tiny level of feedback to create the sense of a studio space around the guitar and give it depth and realism.

Sync to Tempo

Sync Mode sets the delay according to the current tempo and the selected musical ratio. When running S-Gear as a plug-in, the current tempo will be read from the DAW software. When running S-Gear Standalone, the default tempo can be set in the CONFIG settings.

In Sync Mode, clicking on the Delay Time LED display will show the Sync Ratio menu. Click the desired ratio from the list. The table below shows how each of the menu option relates to a musical duration.

Setting	Note	Ratio
1/1	**Whole Note/Semibreve**	1/1
1/1.	Dotted	3/2
1/1 triplet	Triplet	1/3
½	**Half Note/Minim**	½
½.	Dotted	¾
½ triplet	Triplet	1/6
¼	**Quarter Note/Crotchet**	¼
¼.	Dotted	3/8
¼ triplet	Triplet	1/12
1/8	**Eighth Note/Quaver**	1/8
1/8.	Dotted	3/16
1/8 triplet	Triplet	1/24
1/16	**Sixteenth Note/Semiquaver**	1/16
1/16.	Dotted	3/32
1/16 triplet	Triplet	1/48

Sync Indicators

Delay Thing analogue modelling is limits delay times to between 20 milliseconds and 1 second. If the requested sync delay time is outside of this range, then the sync delay time will not be applied and the Sync Indicator will flash to show that Delay Thing has not achieved sync.

The Delay Time LED display uses two indicators marked **EXT** and **INT** to show when the Delay Thing is synchronised to tempo.

External Sync

When sync'd to external DAW software, the external (EXT) sync indicator will light and remain lit.

If the requested external sync time is out of range, the EXT sync indicator will flash.

Internal Sync

When sync'd to internal tempo, the internal (INT) sync indicator will light and remain lit. If the requested internal sync time is out of range, the INT sync indicator will flash and the sync delay time will not be applied.

Delay Time Range

Delay Thing delay time ranges are as follows:

SHORT	20 milliseconds	200 milliseconds
MEDIUM	200 milliseconds	500 milliseconds
LONG	500 milliseconds	1 second

11 MOD THING

ModThing Overview

ModThing delivers authentic analogue-style chorus and flanging effects, utilizing the same analogue-modelled delay line technology used in ***DelayThing*** and again uses a Tube Stage in the delay line feedback loops to provide extra warmth and harmonic richness. The main controls are designed to provide the familiar characteristics of an analogue effect device. The stereo section delivers huge versatility distilled down into two easy-to-use stereo controls.

The knobs and switches

Chorus/Flange selector switch: Selects between delay line processing modes, optimized for either chorus effects or flanging effects. Flange employs a shorter delay time and a *sine wave* modulation. Chorus has a slightly longer delay time and a *triangle wave* modulation.

Delay control: Sets the nominal length of the delay line (this is sometimes called manual on traditional analogue equipment).

	Min nominal delay (msec)	Max nominal delay (msec)
Chorus	4	24
Flange	0.33	2

Feedback control**:** Adjusts the amount of signal fed back to the input of the delay lines. More often this is used for flanging effects, but can also be used (sparingly) to thicken up a chorus effect.

TONE TIP > You can find the classic 'Jet Flanger' sounds with high settings of the feedback control, coupled with a wide sweep at a slower rate.

FB Phase button: This button inverts the phase of the delay line feedback path. This is particularly useful for producing more vocal like flanging effects (set the mix control to maximum and adjust the feedback to achieve a vocal flange).

Mix control: This mixes the effected signal with the direct sound. When running ***ModThing*** in mono mode, the mono effect output is mixed with both left and right channels, and the stereo through signal is preserved.

TONE TIP > Setting the MIX control to 100% in flange mode can give a nice range of vibrato effects.

Tone control: The ***ModThing*** delay lines include a low-pass filter stage. The tone control sets the cut-off frequency in the range 4KHz-12KHz.

Depth control: This sets the depth of the modulation. More depth gives a more intense sweep. Zero depth results in no modulation.

Rate control: Sets the speed of the modulation. For the chorus effect this ranges from 0-5Hz, and for the flange effect the range is 0-10Hz.

Stereo button: Activating the stereo button employs two delay lines, one for the left channel and one for the right channel. This button also activates the two stereo controls *Width* and *Phase*.

TONE TIP > While a big stereo picture is a beautiful thing, it's worth remembering that sometimes a mono chorus can sit better in the mix.

Stereo Width control: Adjusting this control allows you to offset the left and right channel delay times giving a wider stereo picture. Stereo width alters the right channel delay time as a percentage of the left channel delay time. The range is 0% to 50%. So at maximum setting, one channel nominal delay is set to half that of the other channel.

Stereo Phase control: This control acts on the phase shift between the modulating waveform applied to the left and right channels. At zero, the left and right modulating waveforms are in phase. As the control is increased the phase difference is increased to a maximum 180° phase difference – the classic stereo chorus/flange effect.

TONE TIP > Try placing two flangers in parallel to achieve some interesting, 'tape flanging' effects. Set the mix of both units to 100%. This configuration allows signal cancellation as the two modulators pass each other. Use a very slow modulation rate and try inverting the phase of one of the flangers.

ModThing CPU cycles

With high Depth and Rate settings, the ModThing can consume a lot of CPU cycles. If you are running on an older machine, you can reduce the CPU load by using the S-Gear economy mode. Also consider running processing in mono where possible.

12 ROOM THING

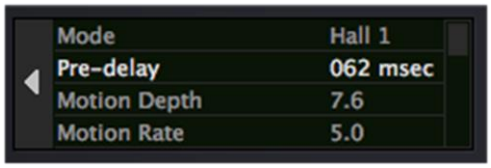
RoomThing Overview

RoomThing is an algorithmic reverb processor employing a network of delay lines and damping filters to achieve a natural sounding and flexible reverb effect with low impact on system resources.

The RoomThing display

The *RoomThing* display has two screens, the Information Screen and the Edit Screen. A swipe button allows you to switch quickly between the two screens.

The *RoomThing* Information Screen shows information about the current preset, including Mode, Name and Preset Number **F00-F29** (for Factory Presets), or '**USER**' if a User Preset is loaded from a file.



The *RoomThing* Edit Screen presents a scrolling list of parameters. Mouse click on a parameter to select it, and the row is highlighted to show the selection. The selected parameter can be adjusted using the data knob on the *RoomThing* front panel, or by rotating the mouse wheel whilst the mouse is hovering over the selected parameter. The currently selected parameter is also displayed at the bottom of the Information screen along with its current value.

Factory Presets

F00 - Medium Hall
F01 - Natural Hall
F02 - Ambient Hall
F03 - NY Studio
F04 - Bright Studio
F05 - Studio A
F06 - Studio B
F07 - Theatre
F08 - Old Theatre
F09 - Jazz Club
F10 - Slapback Room
F11 - Fresh Air
F12 - Cathedral
F13 - Basilica di Forligno
F14 - St Lucia
F15 - Astroverb
F16 - Short Plate
F17 - Rich Plate
F18 - Long Plate
F19 - Bright Plate 1
F20 - Bright Plate 2
F21 - Live Stage
F22 - Empty Messe
F23 - Cab Enhancer
F24 - Highly Sprung
F25 - Vintage Spring
F26 - Studio Spring
F27 - Heaven Room
F28 - Sound Booth A
F29 - Sound Booth B
F30 - Resonant Delays

Load a factory preset by left clicking on the *RoomThing* display, then select a preset from the pop-up list.

The Front Panel controls

Data control: Adjusts the currently selected reverb parameter (from the Edit screen). The parameter name and value are displayed at the bottom of the *RoomThing* Information screen.

Size control: Adjusts the relative size of the reverb mode between x0.5 (fully counter-clockwise) and x2.0 (fully clockwise). Reverb size is determined by the length of the delay filters in the reverberator. Smaller size will produce a more dense reverb, whilst with larger size, the reverb density builds up more slowly and the resulting decay is longer.

Decay control: Sets the amount of feedback applied within the *RoomThing* reverberator, resulting in shorter or longer decay lengths.

The next two controls adjust the amount of high and low frequency damping applied within the *RoomThing* reverberator. These damping filters simulate the effect of low and high frequency absorption that would occur in a real acoustic space. To achieve the most natural sounding reverb settings, adjust these parameters in conjunction with the ***Damping Frequency*** and ***Damping Resonance*** parameters found in the Edit screen parameter list.

HF Damp control**:** Adjusts the amount of high frequency damping applied within the reverberator. A zero setting results in no damping of high frequency, which can sound metallic and unnatural. A low setting above zero will normally produce the most pleasing reverbs.

LF Damp control: Adjusts the amount of low frequency damping applied within the reverberator. Again, a zero setting results in no damping of low frequency.

TONE TIP > Larger natural acoustical spaces often exhibit quite a lot of absorption at high frequencies, however, in a musical context, you might find that less severe high frequency damping results in a more pleasing sound.

Mix control: This mixes the reverberation signal with the direct sound. A value between zero and 50% keeps the direct sound at a unity and gradually increases the reverberation level. Above 50%, the direct sound tails off, leaving just reverberation output when the control is set to 100%.

Hold button: The hold button captures the current state of the reverberator and holds it indefinitely. This feature is best used in conjunction with a MIDI footswitch allowing you to capture a sound and continue playing over the top. You will notice a slight swell in the reverb sound after the initial capture; this is the result of the reverberator 'filling-up' with the captured input sound. When the hold button is released, the held reverberation dies away gently.

The Edit Screen parameters

Mode : Selection of *RoomThing* reverb mode. Each mode optimises the delay lines in the RoomThing for a particular type of reverb effect.

Room 1	A small acoustic space with distinct room modes.
Room 2	A variation on Room 1.
Plate	An evenly balanced reverberator with fast density build-up, producing a very good simulation of classic plate reverb units.
Booth	A very small acoustic space, which can result in very intimate 'close-up' effects.
Hall 1	A moderate size hall with distinct early reflections.
Hall 2	A very large space, useful for ambient reverb effects.
Stadium	A large space with distinct early reflections, useful for simulating arena or other large halls.
Spring	This reverberator has delays bunched in close groups in order to simulate the character of a classic three-spring reverb unit.
Delays	Nearly all reverberator delays are set to the same length, resulting in a distinct delay effect.

TONE TIP > To simulate a particular type of acoustical space, in addition to the basic room mode, consider also the correct adjustment of size, decay and damping. The above room modes provide optimised reverberator settings according to the mode. But they won't sound like the desired mode unless other parameters are configured accordingly. Use the Factory Presets as a starting point for your edits.

You might also achieve useful results by taking a mode based on a small space and using a longer decay to create a bigger (more dense) reverb, or conversely taking a big space mode and creating a smaller (less dense) reverb with a lower decay setting. A less dense reverb often sounds more open and fresh.

Pre-delay : This control adds an additional delay in front of the reverberator. Pre-delay can be set between 0 and 200 milliseconds. Most natural spaces have early reflections below 100 milliseconds. But higher pre-delay settings might also work well with a particular sound or in a mix.

***RoomThing* Motion Depth and Rate:**
Like many algorithmic reverberators, *RoomThing* uses a technique to gently alter the delay lengths of the delay line elements in the reverberator. This results in a less ringing, and a smoother more pleasing reverb decay. The next two parameters control this motion effect.

Motion Depth control: Sets the nominal depth of motion with values between 0 and 10. At high settings, you may hear some detuning in the reverberation effect and this might be undesirable depending on the context. With smaller spaces (rooms), you are more likely to hear a detuning or chorusing effect. At zero setting, there is no motion applied to the reverberator.

Motion Rate control: Sets the nominal rate of change of delay times in the reverberator with values between 0 and 10. As with the motion depth control, higher settings are more likely to result in detune. At setting zero, there is no motion applied to the reverberator.

HF Damping Frequency : Sets the High Damping crossover frequency to a value between 1KHz and 7KHz.

HF Damping Resonance : Sets the maximum resonance of the high frequency damping filters. In order to prevent oscillation, the damping resonance is limited according to the current reverb decay setting.

LF Damping Frequency : Sets the Low Damping crossover frequency to a value between 50Hz and 850Hz.

LF Damping Resonance : Sets the maximum resonance of the low frequency damping filters. In order to prevent oscillation, the damping resonance is limited according to the current reverb decay setting.

Input Spread : This control changes the character of the reverb density build-up. At a setting of zero, the input signal is injected into the reverberator in one (stereo) position. At maximum setting 100%, the input signal is injected into the reverberator in multiple positions, resulting in much more rapid density build-up in the reverberation.

Position : The position control adjusts the left/right weighting of the early reflections in the reverberation sound field.

Width : Controls the stereo width of the reverberation field. A value of 0% produces a monophonic reverb output.

The *RoomThing* Pre-EQ section provides low and high shelving EQ control positioned in front of the reverberator but not affecting the direct sound.

High EQ Gain : Sets the High EQ gain to a value between -18dB and +18dB.

High EQ Frequency : Sets the High EQ crossover frequency to a value between 1KHz and 8KHz.

Low EQ Gain : Sets the Low EQ gain to a value between -18dB and +18dB.

Low EQ Frequency : Sets the Low EQ crossover frequency to a value between 50Hz and 1KHz.

Hold Smoothing : Allows the reverb Motion effect to continue whilst the reverb is held. This results in a much smoother sounding held reverb (nice for string orchestral effects). With smoothing on, the held reverb will degenerate gradually over time. The smoothing is only effective if applied before using the reverb hold function.

13 PRO CONVOLVER

About the Convolver

Pro Convolver provides two channels of high-quality cabinet emulation and EQ. The device employs mathematical convolution to reproduce very accurately the frequency response of the target speaker cabinet and microphone combination.

Selecting a built-in Cabinet and Microphone

S-Gear provides a selection of built-in impulse responses created by IR Specialist Company ***Redwirez*** (www.redwirez.com) along with in-house impulse response measurements by ***Scuffham Amps***. See the appendix for a full list of cabs & mics.

Use the RM switch to engage Redwirez 'Remastered Mode' for longer (500ms) IR's.

Choose a cabinet model by clicking on the cabinet and selecting from the pop-up menu. Alternatively, browse through the cabinets using the left/right arrows.

Click on the mic or position boxes to access the mic adjustment screen.

From the mic adjustment screen select the mic type and position.

The Redwirez mic selection in S-GEAR provides four carefully chosen mic positions for each mic type.

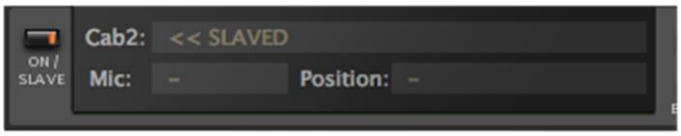
Scuffham cabinets provide a graphical tool for the positioning of the microphone. Use the mouse or keyboard arrow keys to adjust the position.

TONE TIP > Positioning the microphone close to the speaker will result is a pronounced bass response. This can be used to good effect, but use your ears to judge, if the sound is too bass heavy, pull the mic back a little.

If you wish to experiment with more microphone and cabinet combinations, you can purchase more impulse responses from www.redwirez.com. See section 16 on Loading Impulse Responses.

ProConvolver Channel Strip

Activate the channel using the ***ACTIVATE*** button. The status LED will glow green.



Stereo Slave
Channel 2 provides the possibility to slave to channel 1. Press the channel 2 activate button twice to slave the channel. The status LED will glow orange and channel 2 will duplicate bass, treble and Z settings from channel 1. Each channel will be panned hard left/right.

Phase
Each channel has a phase button allowing you to invert the channel phase.

EQ
The S-Gear EQ section includes a specially designed shelving bass and treble EQ. Like some of the classic mixing desks, these controls have a slightly high 'Q-factor' giving an overshoot in the frequency response, and yielding a more musical sounding EQ. As you boost the bass and you get a slight dip in the lower mid, cut the bass and you get a slight boost in the lower mid. The treble control reacts in a similar fashion. Use the EQ bypass button to bypass the channel EQ.

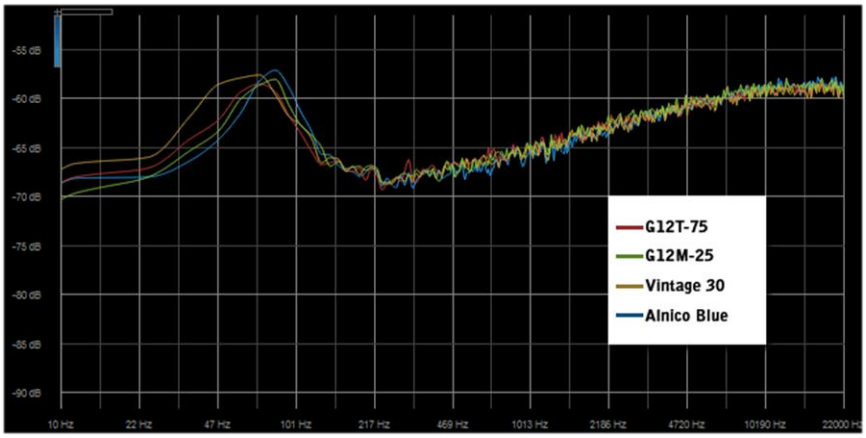
Channel Delay
Each channel includes a Delay knob and associated '**x10**' button. This control provides between 0 and 24 milliseconds of channel delay in two ranges:

0 - 2.4 milliseconds x10 button off
0 - 24 milliseconds x10 button on

Typically, a small delay would be applied to one channel or the other (NOT BOTH). This useful function can be used to apply small phase adjustments in the lower range, or add a wide stereo spread in the higher range. It is also possible to create some realistic room effects by applying a small delay and panning carefully.

Z

The unique ‘Z’ control allows you to progressively dial in the effect of speaker impedance driven by a traditional tube power amp stage, adding extra thump and sparkle to your sound, and giving a more scooped mid-range tone.



The impedance measurements for the ‘Z’ curves and the diagram were produced by Redwirez. (www.redwirez.com).

Pan & Level

Each channel has a **Pan** control and master level fader giving you up to 10dB of boost and infinite cut. The faders default to 0dB. It is best to start here, making small adjustments to balance left and right cabs together.

Master Bypass

The ProConvolver can be bypassed completely by pressing the ***CABS*** button on the S-GEAR I/O Rack Unit.

TONE TIP > Whilst it is tempting to go stereo, often a mono guitar track can sit better in your mix. Use the Pan controls to get the best results for your material.

DI and Fast IIR filters

Aside from the convolution options, S-Gear ProConvolver also offers some ‘non-convolution’ speaker emulation filters. These filters provide a different feel to the convolution based emulation, and are also a little bit leaner on processing.

- 1x12” Vintage
- 4x12” Vintage
- 4x12” Modern

Finally, there is also a DI (direct injection) mode, which allows you to apply the convolver EQ, Delay, Pan and Level settings, but with no cabinet emulation applied.

14 MIDI CONTROL

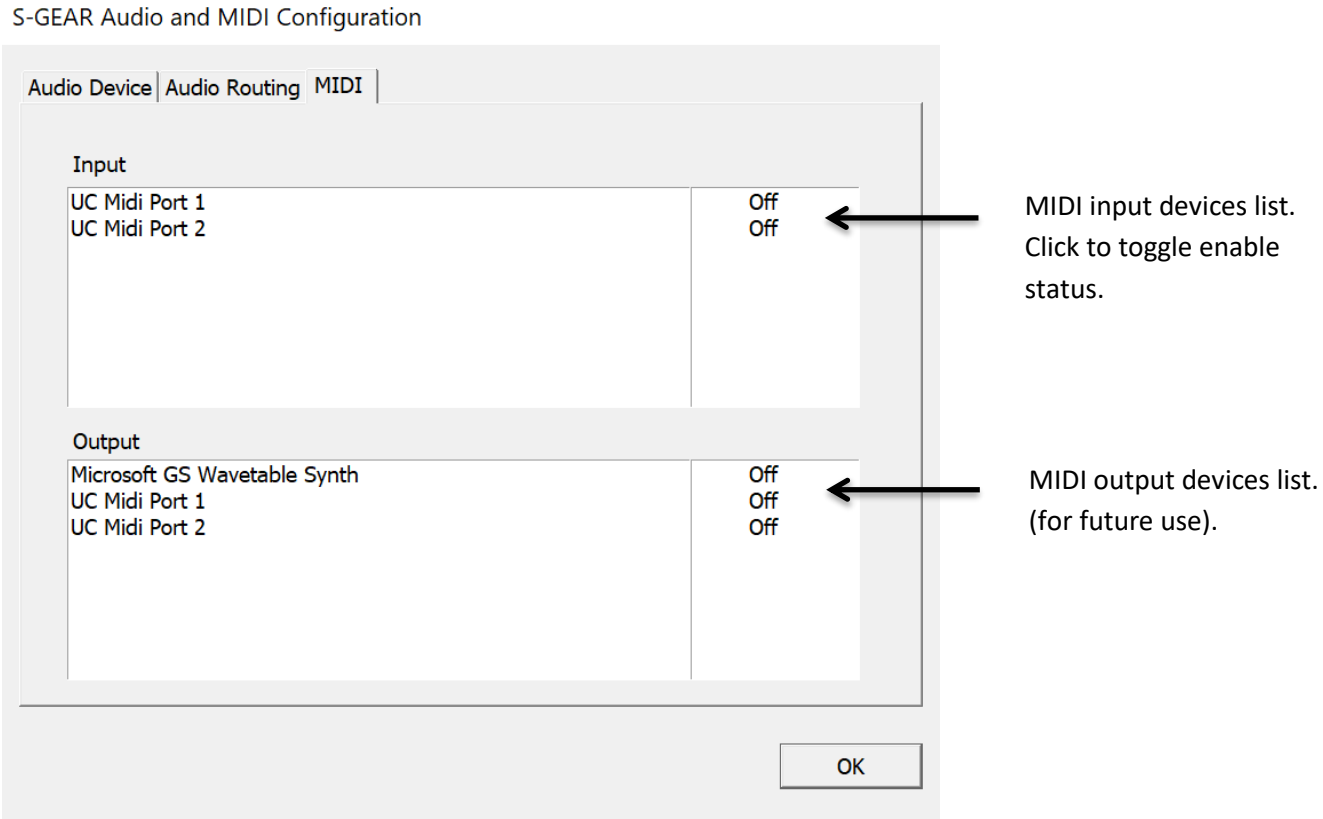
Overview

S-Gear supports MIDI control functionality. This creates the possibility to use external equipment (such as MIDI pedal boards and expression pedals) to control S-Gear sounds by recalling presets and altering parameters in real time. MIDI control can be used with both the Standalone App and VST/AU plug-in. S-Gear can listen for MIDI messages on any of the 16 MIDI channels, or all channels simultaneously if '***omni***' mode is selected. MIDI channel is configured using the ***Config view***, described in ***section 17***.

Note: All MIDI configuration settings are global and apply to all presets.

Configuring the Standalone Application for Midi

MIDI devices are selected using the ***Audio and MIDI configuration dialog box***. From the ***File*** menu, select *Audio Driver Configuration* to access the dialog. Select third tab '**MIDI**' to display a list of currently available MIDI devices. Click the '***On***'/'***Off***' status indicator to toggle the device enabled setting. The dialog box also displays a list of MIDI output devices, this is for future use; S-Gear does not currently support any MIDI out function.



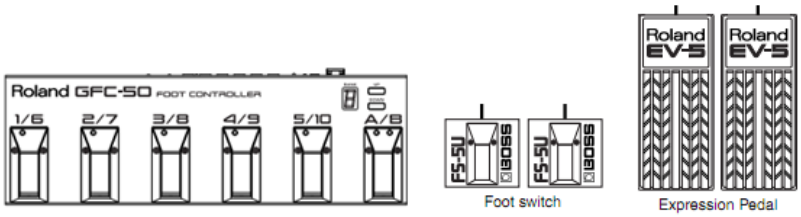
MIDI device selection is very similar on OS X. Select the preferences window from the '**S-Gear**' menu, and click the '**MIDI**' tab. A list of currently available MIDI devices is displayed, and you can use the check box to enable or disable each device. MIDI output devices are displayed but cannot be enabled. S-Gear does not currently support any MIDI out function.

MIDI Program Change

S-Gear responds to Midi Program Change messages by loading the corresponding Preset from the currently loaded Bank. It is possible to change Banks via Midi by using the Bank Up and Bank Down Midi Controllers.

MIDI Controllers

S-Gear MIDI controllers give you the means to adjust most S-Gear parameters using an external control device or external software (See the ***appendix*** for a complete list of controllable S-Gear parameters). For example, a MIDI foot controller such as the Roland GFC-50, as well as letting you recall Presets, also offers connections for two expression pedals and two switches. These connections can then be assigned to S-Gear parameters using the S-Gear MIDI Controllers. For example, you might want to assign the switches to *clean/overdrive* and *delay on/off*, and you might want to assign the expression pedals to *amp volume* and *delay time*.



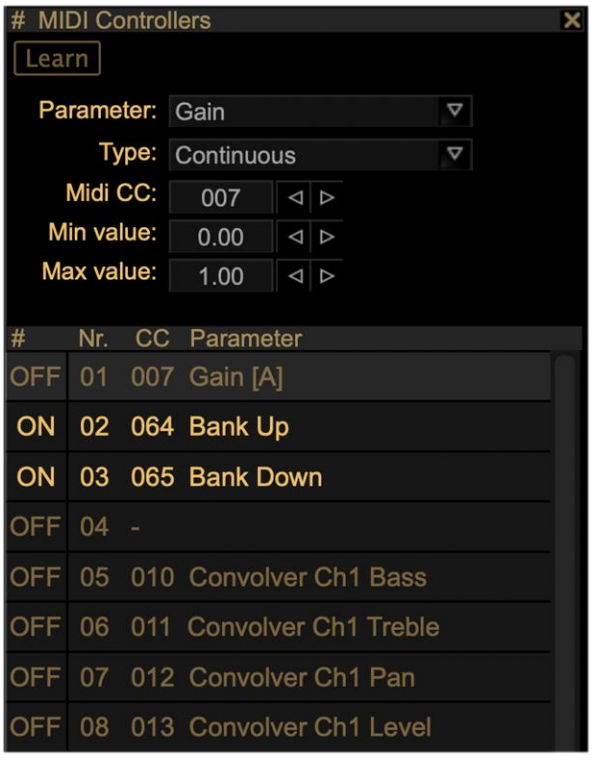
To configure MIDI controllers, access the MIDI Configuration screen using the MIDI button on the Top Control Bar. There are **fifty** S-Gear controllers that can be assigned to respond to external MIDI Control Change messages and map the values to internal S-Gear parameters.

MIDI Learn Button; when Midi Learn is enabled, S-Gear will capture the last received MIDI CC number and the last adjusted parameter.

MIDI Controller Info; provides controls to adjust settings for the currently selected S-Gear Controller.

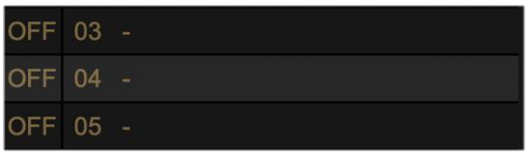
Controller list; shows MIDI CC number (control change) and internal S-Gear parameter.

Click next to the list entry to enable (**ON**) or disable (**OFF**) the controller.

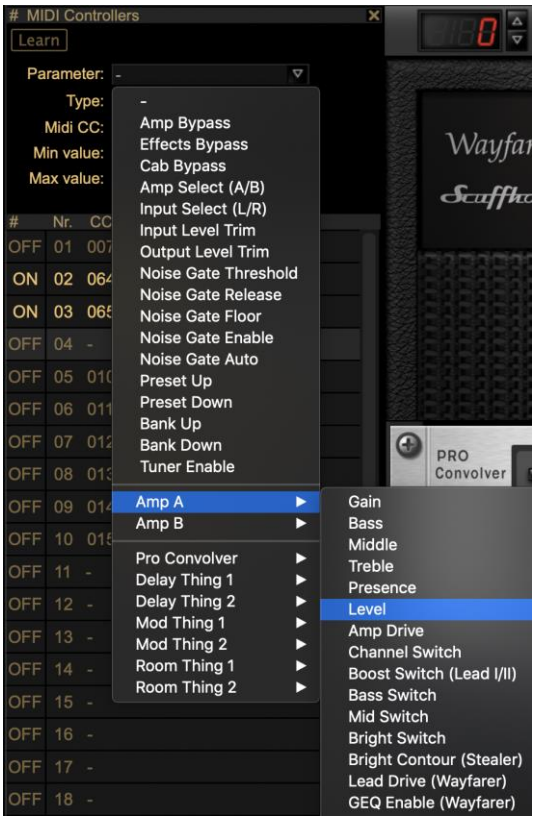


To configure an S-Gear Controller:

As an example, the following steps configure S-Gear Controller number 4 to receive messages from an expression pedal using MIDI controller change number 007, and to assign these messages to the S-Gear **Amp A** Volume parameter. *By the way, MIDI controller 007 is the standard MIDI controller number for Volume – but you don't need to stick to MIDI standard when you assign controller numbers.*



1) Click to highlight and select S-Gear Controller number 4 from the controller list.



2) Click on the parameter list box, select '**level**' from the **AMP A** submenu. *Alternatively use the Midi Learn button and adjust the Amp level control*.

   You will notice that when the Parameter appears in the controller list, it will be followed by an [A] to show that this parameter controller is director to AMP A.

3) Set the 'Type' parameter to 'Continuous' if not already set.

4) Using the Midi CC spin control, set the CC number to '007'. *Alternatively send a Midi Controller message from your connected Midi device.*

That's all. Just remember to click the ON/OFF option next to the list entry '**ON**' to enable the controller.

Setting up controller ranges:
You will notice that there are two further parameters in the MIDI Controller Info section. These are the minimum and maximum controller values. These parameters can be used to modify the range in which the controller will work. Useful if you want to limit the range of your expression pedal; or maybe you want to use a switch to select two different values of a continuous parameter.

Assigning controllers to rack devices

When assigning a MIDI controller to a rack device, you need to be aware of which rack device you are targeting. If you have two ***DelayThing*** devices in your rack, then they will be assigned numbers **1**, and **2**. Each numbered rack device displays its number in the bottom left corner. Also, on clicking the 'Parameter' drop-down menu, a label will appear at the top left corner of each rack device.

Each S-Gear MIDI Controller will respond to MIDI CONTROL CHANGE messages according to the 'Type' configuration. There are three types available '**Continuous**', '**Switch (latching)**' and '**Switch (momentary)**'. When you select a parameter as the target for an S-Gear MIDI controller, the default controller type is selected by S-Gear. You can override the default selection by selecting the controller type using the Type drop-down list.

Continuous Controllers expect a MIDI control change value between 000 -> 127 (the standard MIDI controller range). This value is then mapped to a standard range 0.0 –> 1.0 used to control the S-Gear parameter.

Incoming MIDI CC value:	S-Gear internal parameter representation:	S-Gear Internal Parameter value with range control:
000 - 127	**0.0 - 0.1**	**min value -> max value**

Switch Controllers are used to apply on/off status to an S-Gear parameter. There are two ways in which a typical foot controller will send switch messages, some are '**latching**' where the device sends a value of 00 = off and 127 = on. Others are '**momentary**', where the foot control sends value 127 whilst the pedal is depressed and then 00 when the pedal is released. The two S-Gear switch modes allow you to handle both types of message.

Switch (latching): On receiving a MIDI CONTROLLER message with value 0, the controller will be switched to the OFF state. On receiving a MIDI CONTROLLER message with value 127, the controller will be switched to the ON state.

Incoming MIDI CC value:	S-Gear internal parameter representation:
000 - 063	**Off**
063 - 127	**On**

When a latching switch type controller is assigned to a variable S-Gear parameter (such as Amp Gain). In the controller ON state, the S-Gear parameter is set to the **Max value** configured for the controller. In the controller OFF state, the parameter is set to the **Min value** configured for the controller.

Switch (momentary): The momentary switch controller type allows S-Gear to be used with equipment that sends momentary switch values (i.e. 127 when the switch is pressed, and 0 when the switch is released). When the switch is pressed, the S-Gear controller will toggle between the controller ON state and the controller OFF state.

Incoming MIDI CC value:	S-Gear internal parameter representation:
063 – 127	**Toggle state**

As with the latching switch, in the controller ON state, the S-Gear parameter is set to the **Max value** configured for the controller. In the controller OFF state, the parameter is set to the **Min value** configured for the controller.

Dealing with S-Gear three-way switches

Certain S-Gear parameters correspond to a three-way switch (i.e. Delay Range and OD Type). These work as continuous controllers with the following ranges mapping to the three switch states. You can use an incoming 0-127 switch message, and apply range control to get the desired switch selection.

Incoming MIDI CC value:	S-Gear internal parameter representation:
000 – 042	**State 1**
042 – 084	**State 2**
084 – 127	**State 3**

The following table shows how to set up the range parameters for different switch selections:

Incoming MIDI CC value:	Range Settings:	S-Gear internal parameter representation:
000 – 127	**0.0 – 1.0**	**State 1 – State 3**
000 – 127	**0.0 – 0.5**	**State 1 – State 2**
000 - 127	**0.5 – 1.0**	**State 2 – State3**

Bank Up, Bank Down, Preset Up and Preset Down Controllers

S-Gear parameters in the controller parameter list include 'Bank Up', 'Bank Down', 'Preset Up' and 'Preset Down'. These controllers can be used to change the current bank and current Preset using an external MIDI footswitch. You need to use a momentary type footswitch to use these controllers, and they will respond with an up or down action on receiving a MIDI Control Change message with a value greater than 63.

Troubleshooting Midi

If your MIDI control is not working, check the following:

- Make sure that the MIDI device is transmitting messages on the same channel that S-Gear is listening on. If in doubt, set S-Gear to '***omni***' channel mode.
- Check that the MIDI interface input is enabled in the ***Audio and MIDI configuration dialog box.***
- For MIDI controllers, remember to enable the controller and check that the transmitted controller number corresponds to the S-Gear controller number assigned.

15 DEVICE PRESETS

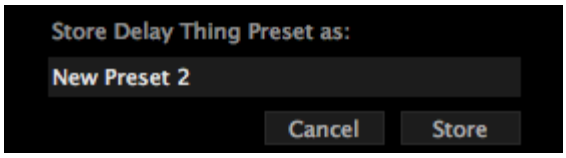
About Device Presets

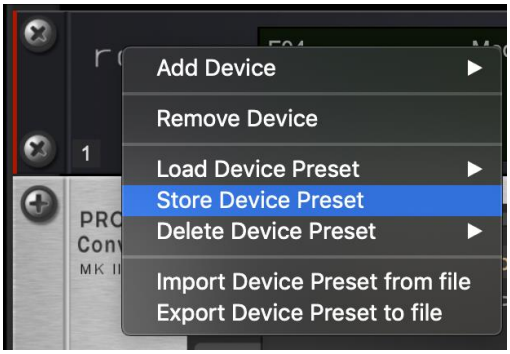
Each Amp or Effect in S-Gear can store and recall its own Presets. When you store a Device Preset, S-Gear creates a disk file in the corresponding S-Gear Device Preset folder.

Storing a Device Preset

1. Right click on the device and select ***Store Preset***.

2. Name the Preset and complete the store operation by pressing the ***Store*** button. If a Preset with the same name already exists, you will be given the opportunity to cancel the operation.





Loading a Device Preset

To load a Device Preset, simply right click on the device and select the Preset you wish to load from the ***Load Preset*** submenu.

Deleting a Device Preset

To delete a Device Preset, simply right click on the device and select the Preset you wish to delete from the ***Delete Preset*** submenu.

Importing and exporting Device Presets

Using the right click menu on any S-Gear device, the options 'Import from file' and 'Export to file' allow you to import from external SFX files and export to external SFX files. This is useful for sharing Device Presets.

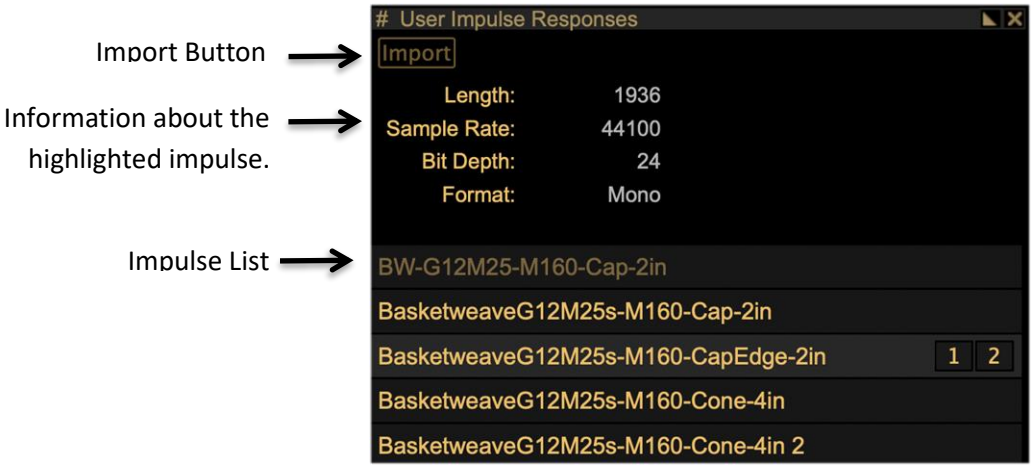
Device Presets can also be imported using drag and drop. If you drag a Device Preset SFX file over a compatible device, the device will become highlighted to show compatibility. Simply drop the file and the Device Preset will be loaded and imported at the same time.

16 LOADING IMPULSE RESPONSES

The Impulses view

Accessed using the **IMPULSES** button on the Top Control Bar, the Impulses screen allows you to import your own impulse responses into S-Gear.

Clicking on a list item highlights the impulse and displays corresponding information about the impulse response.

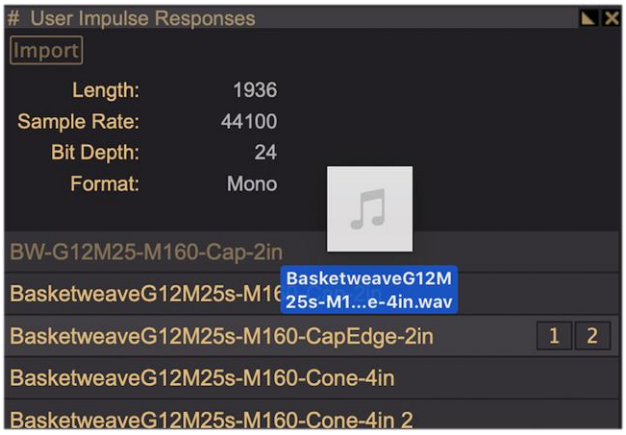


Importing impulse response files

To import impulse response files into S-GEAR:

1) Use the IMPORT button to browse the file system and import single or multiple files.

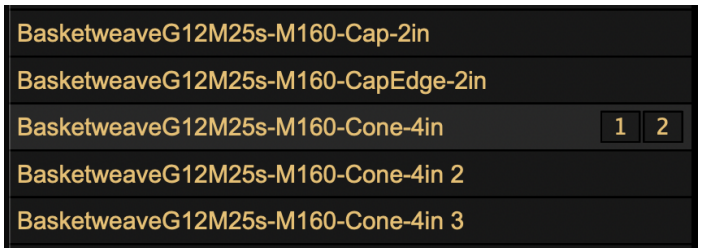
2) Drag and drop a compatible .WAV impulse file to the S-GEAR IMPULSES screen. Multiple files can be dragged and dropped in a single operation.



3) Drag and drop an impulse file directly to the ProConvolver channel. This will import and load the ProConvolver channel with the selected impulse.

Loading an impulse into ProConvolver

To load a User Impulse into one of the ProConvovler channels, click on the '**1**' or '**2**' impulse load buttons that appear over a selected impulse:



Impulse load buttons.

Alternatively, double clicking a list item highlights the impulse, and also loads it into the ProConvolver. Note: when double-click loading an impulse response, a mono impulse will be loaded into Channel 1, and a stereo impulse will be loaded into both channels of the convolve with Cab2 display indicating 'Stereo Linked' mode.

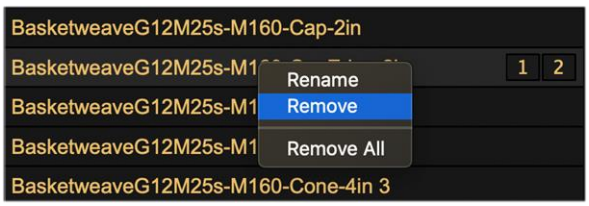
Impulse Sample Rate
S-GEAR will only load impulses where the impulse Sample Rate matches that currently configured in S-GEAR audio settings. Non-matching impulses will appear low-lighted in the impulses list and the load buttons will not be displayed.

S-GEAR does not convert the sample rate of imported impulses. For sample rate conversion of your Impulse Response files, we recommend the ***Voxengo R8brain*** utility, www.voxengo.com.

Renaming or Removing impulses

Impulses can be renamed or removed from the list using the right-clicking menu options ***Rename*** and ***Remove***.

Remove All will empty the impulse list.



User Impulses specification

Imported impulses should meet the following spec:

.WAV file format:	16 bit PCM, 24 bit PCM and 32bit FLOAT
Size:	No limit. S-GEAR applies an internal limit of 20,000 samples.
Interleave:	Mono or Stereo
Supported sample rates:	44100, 48000, 88200, 96000

User Impulse files are not exported with S-Gear Presets: When exporting or importing S-GEAR Presets that require user impulses, you must also make sure that the associated user impulses are imported with exactly the same name.

17 THE CONFIG VIEW

The Configuration screen can be accessed by pressing the **CONFIG** button on the Top Control Bar. All configuration settings are stored globally, not at preset level.

Control Knob Mode:
Control Knob Mode affects the way in which all S-Gear control knobs interact with the mouse.

- Linear - requires an up/down or left/right straight-line motion to adjust the knobs.
- Circular - requires a circular mouse motion to adjust the knobs.

Control Value Indicators:
This option allows you to enable or disable the pop-up value displays that appear when the mouse hovers over a knob or slider.

MIDI Channel:
Select the MIDI channel on which S-Gear listens for Program Change or Control Change messages. If omni is selected, S-Gear will respond to messages on any MIDI channel.

MAX and MIN Rack Height (U):
Depending on your workspace, you may wish to limit the maximum and minimum height of the rack. This can be done by adjusting the Min/Max Rack Height parameter.

The rack height is measured in rack units and you can configure the rack from 1 to 8 rack units high. If the number of units in your rack exceeds the maximum rack height, then a scroll bar will appear to the right-hand side of the rack. The rack height is limited automatically so that S-Gear fits within your screen resolution.

Default Tempo:
The default tempo is used by any S-Gear functions that require a tempo value, and when no external tempo is available (for example in Standalone operation). Currently only the Delay Thing uses temp information.

18 DEACTIVATE S-GEAR

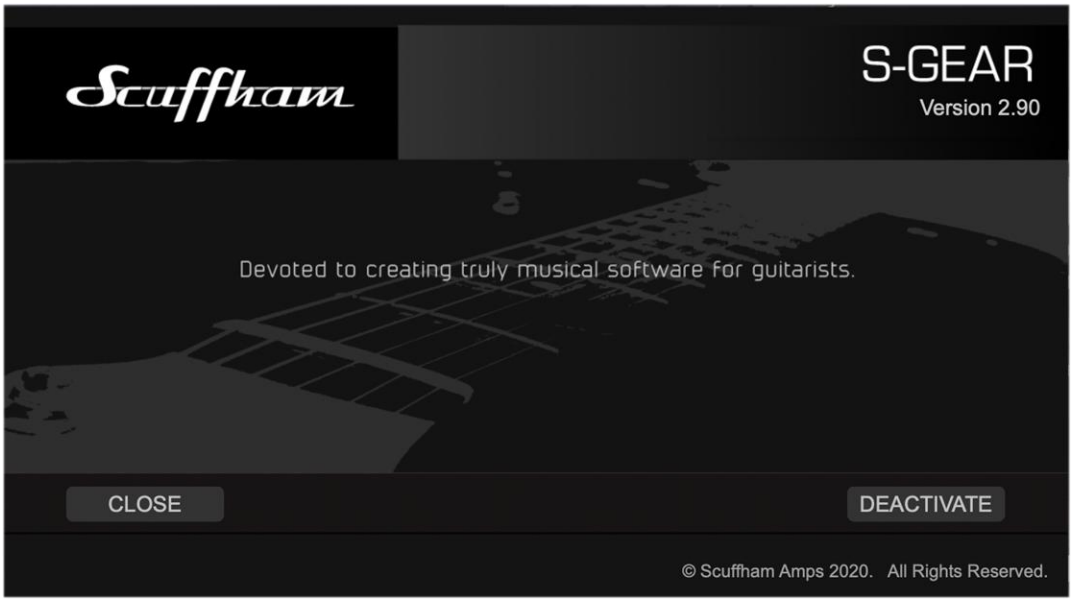
S-Gear Deactivation

From time to time, you may wish to move your S-Gear license from one machine to another. By deactivating S-Gear, you can move your license activation credit back to the Scuffham server, allowing you to activate S-Gear on a different machine.

Deactivation is initiated from the S-Gear ***About*** screen.

Access the ***About*** screen either by clicking the ***info*** button on the Top Control Bar.

From the S-Gear Standalone App, the ***About*** screen can also be accessed from the main menu.



To Deactivate S-Gear make sure your computer in online and click the '**DEACTIVATE**' button. The process will take less than a minute.

19 APPENDIX

Cabinet, Speaker and Mic options in ProConvovler II

Redwirez Cabs

NAME	REDWIREZ IR	NOTES
1x12" SB Alinco Blue	1x12" Weber Blue (Speaker Box Collection)	A super smooth Alnico 12" speaker, which sounds great for warm cleans and smooth lead sounds. A perfect partner for The Duke. These impulses are quite long and capture a little of the room acoustic.
1x12" SB Classic Ceramic	1x12" Celestion G12H30 (Speaker Box Collection)	The definitive rock speaker in a 1x12" hardwood enclosure.
2x12" Boutique Twin (M25s)	2x12" Matchless (G12M25)	Celestion 'Greenback' speakers in a quality 2x12" enclosure.
4x12" Bletchley 1960B (V30s)	4x12" Marshall 1960B (V30's)	The Celestion Vintage 30 is favourite choice for many guitarists because of its well-balanced response with both clean and dirty sounds.
4x12" Vintage Basketweave (M25s)	4x12" Basketweave (G12M25s)	A fantastic mellow vintage basket weave 4x12" with Greenback speakers.
4x12" PPC Straight Front (V30s)	4x12" Orange (V30's)	Proof of how much difference the cab makes! A totally different sound from this Orange PPC cab – way more top end sizzle giving some very modern rock tones.
4x10" NP-Tweed (P10s)	4x10" Bassman (P10Qs)	This is the classic Jenson Alnico 10" driver in a 4x10" Bassman enclosure. Great for vintage American clean and semi driven sounds.

For the full collection of Redwirez cabinet and microphone impulses, visit www.redwirez.com

Legal Notice

Any references in this User Manual to manufacturers of speakers, microphones and guitar amplifiers or any products belonging to those companies are used solely for the purpose of identifying hardware used in the production of S-GEAR impulse responses. Use of these marks does not imply any endorsement by, nor affiliation with, the owner of the trademark.

Scuffham Cabs

NAME	BASED ON	NOTES
1x12" California Combo S12L	Boogie MK III combo cabinet loaded with an EVM12L	The combination of a solid Boogie plywood cabinet and the powerful EVM12L speaker is well known for its three-dimensional sound projection and excellent balance of bright clean and warm overdriven sounds.
1x12" California Combo S12-65	Boogie MK III combo cabinet loaded with a Celestion G12-65	The G12-65 was favoured by hard rock players in the early eighties. More recently this speaker has been popularised and endorsed by Robben Ford who uses it in a ported back 2x12 cabinet with his Dumble amp.
1x12" Tweed Combo – British Blue	Tweed Deluxe 5E3 cabinet loaded with a Celestion Blue	The classic British Alnico Blue speaker is a very popular choice in the 1x12 Tweed Deluxe.
1x12" Tweed Combo S-12A125	Tweed Deluxe 5E3 cabinet loaded with a Weber 12A125	This Weber driver is widely considered to be the best equivalent to the original Jenson P12Q. A favourite for Tweed Deluxe enthusiasts.
2x12" Special Ported Cab – Alnico Gold	Two Rock Crystal 2x12" cabinet loaded with Alnico Gold drivers	The Two Rock 2x12" format cab is based on the famous Dumble 2x12" design. Alnico Gold drivers are standard in the Two Rock Crystal.
2x12" Special Ported Cab S12-65	Two Rock Crystal 2x12" cabinet loaded with Celestion G12-65s	The 2x12" Dumble design with G12-65 drivers as preferred by Robben Ford and John Mayer.

Microphone Options

NAME	BASED ON	NOTES
Dynamic 57	Sure SM-57	The SM57 is the real classic dynamic mic for guitar cabs.
Ribbon 160	Beyer Dynamic M160	The M160 provides a nice contrast; a dual ribbon mic often recommended for acoustic stringed instruments it provides a fuller frequency response with a warm and natural sound. Apparently, this was a favourite of Jimi Hendrix for mic'ing up his guitar.
Ribbon 121 (Scuffham Cabs only)	Royer R-121	Hugely popular modern Ribbon mic with a warm and natural sound. Check out the Royer website to see how many famous guitarists prefer this Ribbon mic.

Nr.	PRESET NAME	INFO
0	American Clean	S-GEAR SELECTION
1	Blue Klaptonite	
2	Smooth Lead	
3	Plexmonster	
4	House Burning Down	
5	Boutique Blue	
6	Creamy Clean	
7	Steely Deluxe	
8	Stadium Shred	
9	Luke Lead	
10	Steamin' Country	STEALER
11	BB Blues	
12	Steely Ray Blues	
13	JB Blues	
14	Fast Leslie	
15	Pali vibrato	
16	Stealer Classic Gain	
17	Stealer Vintage Gain	
18	Heaven	
19	Texas Driven Clean	
20	Clean Duke	DUKE
21	Duke SL Clean	
22	That's MISTER Ford to you!	
23	Liontone	
24	CE1 style chorus	
25	4 voice chorus	
26	80s Chorus Clean	
27	Duke Pushed Clean 2	
28	Duke's Blues	
29	Touch Sensitive	
30	Unchained Flange	JACKAL
31	Jackal Country	
32	Z Scooped Basketweave	
33	Big Power Rhythm	
34	Jackal Punchy Clean	
35	Electric Lady	
36	Edgy Jackal Delays	
37	Power Rhythm	
38	Dark Lead	
39	Jazzy Jackal	
40	American Pushed Clean	WAYFARER
41	American Lead	
42	Soulful Clean	
43	Roy's Dream	
44	Red Hook Dreamy Trem	
45	JP's MKV	
46	Scooped Wayfarer	
47	Sonoma Lead 1	
48	Sonoma Lead 2	
49	Sweet Wayfarer 2	

Nr.	PRESET NAME	INFO
50	Studio Tweed	Custom ‘57
51	Deluxe Clean	
52	Deluxe Drive	
53	Sound Booth	
54	Rich Tweed	
55	Sultan of Tweed	
56	Sultan’s Lead	
57	Custom ’57 Fat	
58	Jazz Deluxe	
59	Hurricane Tweed	
60	Gritty Rhythm	S-GEAR SELECTION
61	Stolen Clean	
62	Duke soft chorus clean	
63	Steal-8-R	
64	W8—4ER	
65	Swampy Tremolo	
66	70s Chorus Overdrive	
67	Rockman 2012	
68	MPH Shred	
69	Mayeral Clean	
70	Crunch Blues	
71	Lay Low Bari Trem	
72	Slow Leslie	
73	JS Wobble	
74	80s Metal Rhythm	
75	Palritz Gary The Loner	
76	Barking Tweed	
77	Tweed Heaven	
78	Electric Lady 2	
79	American 410s	
80	Doubler Chorus	STUDIO EFFECTS
81	Tape Delay	
82	BBD Delay	
83	Guitar EQ	
84	Transparent Chorus	
85	Soft Chorus with Feedback	
86	Vibrato Delay	
87	Flange Delay	
88	Vocal Flange	
89	Phasing Flangers	
90	Ambient Hall	REVERBS
91	Natural Hall	
92	Old Theatre	
93	NY Studio	
94	Cathedral	
95	Astroverb	
96	Rich Plate	
97	Studio Spring	
98	Sound Booth A	
99	Resonant Delays	

Nr.	PRESET NAME	INFO
100	Mojo Workin’	S-GEAR SELECTION
101	Mississippi Clean	
102	Heavy Swamp Blues	
103	Raunchy Blues 1	
104	Raunchy Blues 2	
105	Jeff McErlain Demo	
106	Texas Shuffle	
107	Plexi Crunch 1	
108	Plexi Crunch 2	
109	Stealer Punchy Crunch	
110	AC Rhythm 1	
111	AC Rhythm 2	
112	AC Crunch	
113	AC Lead 1	
114	AC Lead 2	
115	AC Lead 3	
116	Mark 2 Clean	
117	Mark 2 Lead	
118	Mark 2 Lead 4x12	
119	Tremendous Lead	
120	White Hot	
121	MKV – S12M20	
122	MKV – V30	

MIDI Controller assignable parameters

S-GEAR PARAMETER	DEFAULT CONTROLLER TYPE
Global Parameters	
Amp Bypass	Switch (latching)
Effects Bypass	Switch (latching)
Cab Bypass	Switch (latching)
Amp Select (A/B)	Switch (latching)
Input Select (L/R)	Switch (latching)
Input Level Trim	Continuous
Output Level Trim	Continuous
Noise Gate Threshold	Continuous
Noise Gate Release	Continuous
Noise Gate Floor	Continuous
Noise Gate Enable	Switch (latching)
Noise Gate Auto	Switch (latching)
Preset Up	Switch (momentary)
Preset Down	Switch (momentary)
Bank Up	Switch (momentary)
Bank Down	Switch (momentary)
Tuner Enable	Switch (latching)

Amp Parameters	
Gain	Continuous
Bass	Continuous
Middle	Continuous
Treble	Continuous
Presence	Continuous
Level	Continuous
Drive	Continuous
Channel Switch	Switch (latching)
Boost Switch (Lead I/II)	Switch (latching)
Bass Switch	Switch (latching)
Mid Switch	Switch (latching)
Bright Switch	Switch (latching)
Bright Contour (Stealer/Custom ‘57)	Continuous
Amp Drive	Continuous
Lead Drive (Wayfarer)	Continuous
Amp GEQ Enable (Wayfarer)	Switch (latching)
OD Type (Duke)	Continuous (3-way switch)
Tremolo Speed	Continuous
Tremolo Intensity	Continuous
Tremolo Enable	Switch (latching)
PwrAmp Presence Frq	Continuous
PwrAmp High Cut	Continuous
PwrAmp Sag	Continuous

DelayThing Parameters	
Delay Bypass	Switch (latching) – two stage
Delay Range (S-M-L)	Continuous (3-way switch)
Delay Time	Continuous
Delay Feedback	Continuous
Delay Mix	Continuous
Delay Tone	Continuous
Delay Width	Continuous
Delay Depth	Continuous
Delay Rate	Continuous
Delay Tap Time	Switch (momentary)

ModThing Parameters	
Modulator Bypass	Switch (latching) – two stage
Modulator Delay	Continuous
Modulator Feedback	Continuous
Modulator Mix	Continuous
Modulator Tone	Continuous
Modulator Depth	Continuous
Modulator Rate	Continuous
Modulator Stereo Width	Continuous
Modulator Stereo Phase	Continuous

RoomThing Parameters	
Reverb Bypass	Switch (latching) – two stage
Reverb Size	Continuous
Reverb Decay	Continuous
Reverb HF Damping	Continuous
Reverb LF Damping	Continuous
Reverb Mix	Continuous
Reverb Pre-delay	Continuous
Reverb Width	Continuous
Reverb Hold	Switch (latching)

ProConvolver Parameters	
Convolver Bypass	Switch (latching)
Convolver Ch1 Bass	Continuous
Convolver Ch1 Treble	Continuous
Convolver Ch1 Pan	Continuous
Convolver Ch1 Level	Continuous
Convolver Ch1 EQ	Switch (latching)
Convolver Ch2 Bass	Continuous
Convolver Ch2 Treble	Continuous
Convolver Ch2 Pan	Continuous
Convolver Ch2 Level	Continuous
Convolver Ch2 EQ	Switch (latching)

Two-stage bypass

The bypass switch for ***ModThing, DelayThing*** and ***RoomThing*** uses a special two-stage switch. Stage 1 bypass mutes the device input, and Stage 2 bypass removes the device from the processing chain. Stage 1 bypass is particularly useful for live performance when you wish to switch out a delay unit without cutting off the effect repeats.

The following table shows what values should be sent via automation/MIDI in order to trigger each stage of bypass.

		Automation	MIDI
Stage 1	Input Mute	0.5	63
Stage 2	Full Bypass	1.0	127

Supported Operating System:

- macOS 10.10 to 10.15
- Windows 10 (with updates applied)

Minimum Hardware:

- Intel Pentium class processor 2.0 GHz, 4GB Ram, 500MB Free Disk Space
- Internet connectivity for license activation

Supported Plug-In Formats:

- MAC: AudioUnit, VST3, AAX
- Windows: VST2, VST3, AAX

All plug-in formats are 64 bit.
The AAX plug-in requires ProTools 11 or later.

Supported Sample Rates:

- 44.1KHz, 48KHz, 88.2KHz, 96KHz

Audio Format:

- Mono in – Mono Out
- Mono in – Stereo Out
- Stereo in – Stereo Out (with mono processing through amp section)

Audio Interface for use with the S-Gear standalone Application:

- A full duplex audio interface driver is required
- ASIO compatible driver required on Windows systems
- CoreAudio compatibility required on Mac systems