

MAKO MKII

[ACS1]

AMP + CAB SIMULATOR



The [ACS1][™] is an amplifier and speaker cab simulator delivering the sound and feel of world-class amplifiers with controllable room size and complimentary speaker cabinets created by Tone Factor and York Audio. With the ACS1, players have expansive options to deliver their tone on stage, in the studio, or practicing at home. Simple controls, stereo in and out, onboard presets, and MIDI support make the ACS1 an immeasurable tool in any guitarist's arsenal.



9 volt DC, Center Negative · 300mA min*

*The use of an isolated power supply is recommended for powering all Walrus Audio Pedals. Daisy chain power supplies are not recommended.

Got questions or need a repair?

Email help@walrusaudio.com to talk with a real live human about your Walrus gear!


This product comes with a limited lifetime warranty.

[Click Here](#) for more info.


AMP MODELS

Amp Knob - Press down on the Left encoder to cycle through six different classic amp models built into the ACS1.

Designed using a detailed physical modeling-based simulation of the original circuitry, each of the cascading triode/filtering stages has been faithfully replicated, creating complex tones rich with even harmonics and subtle intercomponent asymmetries/inconsistencies. The power amp staging has been highly biased to retain plenty of dynamic warmth and headroom during Class A behavior at low gains, shifting into an increased sensitivity and overdrive in Class AB saturation to complete Valve breakup at maximum.

 **Fullerton:** Inspired by the classically snappy and clear Fender® Deluxe Reverb. Clean headroom that blooms into the fat, rich breakup that players have come to love over the years.

 **London:** Inspired by a 1962 Marshall® Bluesbreaker with a harmonically rich, valve-driven breakup. Perfect for sustained lead notes with tons of gain on tap and a punchy mid-ranged voicing.

 **Dartford:** Inspired by the legendary and jangly tones from a 1960s Vox® AC30 with all the bite and chime from the British Invasion. Higher gain settings offer plenty of saturation that represent the loudness and punch of the original amp cranked.

AMP MODELS: HIGH GAIN

Red: Inspired by the distinctively raw and punchy Peavey® 5150, producing heavy, aggressive modern metal and hard rock sounds. Powerful and saturated with a tight low end, strong midrange, and a bright, cutting high end.

Citrus: Inspired by the warm, rich, and harmonically complex Orange® Rockerverb. Classic British gain with a creamy midrange and punchy lows. Maintains clarity and definition across its entire tonal spectrum, even at high-gain settings.

Tread: Inspired by the world-famous Mesa Boogie® Dual Rectifier with massive amounts of in-your-face gain. Versatile enough to be favored by guitarists in genres from classic metal to punk, Tread offers up plenty of saturation that's heavy and ready to cut through the mix.

CABS

The ACS1 comes stocked with 12 different cabs accessed by simply pressing down on the Cab knob to cycle through the available options. Cabs 1-6 were created by Tone Factor to pair with the Fullerton, London, and Dartford amp models while 7-12 were created by York Audio to pair with the Red, Citrus, and Tread amps, but feel free to mix and match to your liking!



PHOTO COURTESY OF TONE FACTOR

The first six custom IRs are engineered by David Hislop and Kenyon Reed at Tone Factor. These IRs are based on a 90's UK-made AC30 6TB with Blue Alnicos, a Marshall JTM50 Tremolo Bluesbreaker 2x12 combo with UK-made 6402-cone G12M Greenbacks (16ohm versions that come in Marshall cabs, which are brighter than the 8ohm versions in Vox cabs), and a Vintage 1966 Fender Deluxe Reverb with it's original Jensen C12NA. [Visit tonefactor.co](http://tonefactor.co) to explore all of the complete IR packs with more microphones and placement options.

Cabs seven through twelve are engineered by Justin York at York Audio. These IRs are based on a Mesa Oversized 4x12 cabinet with Celestion Vintage 30s, an Kerry Wright 4x12 cabinet with Greenback M25s, and a Marshall 1960bv 4x12 with Celestion G12 speakers. Visit yorkaudio.co to explore their complete IR packs with more microphone and placement options.

Cabs:

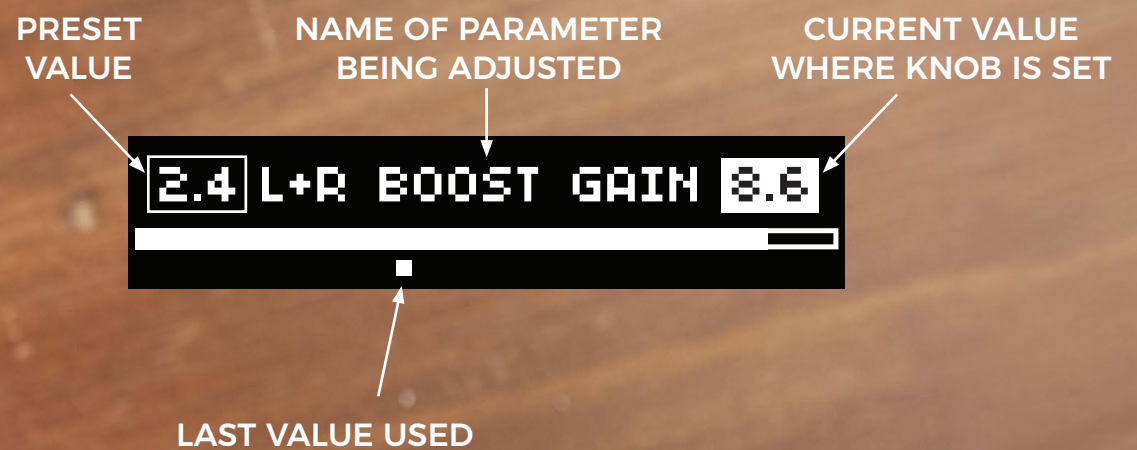
- 1: '66 Fender® Deluxe Replication / SM57
- 2: '66 Fender® Deluxe Replication / Royer 121
- 3: Marshall® JTM50 Bluesbreaker Replication / SM57
- 4: Marshall® JTM50 Bluesbreaker Replication / Royer 121
- 5: Vox® AC30 6TB Replication / SM57
- 6: Vox® AC30 6TB Replication / Royer 121
- 7: Mesa® Oversized 4x12 / SM57 + Royer 121
- 8: Mesa® Oversized 4x12 / SM58 + Beyerdynamic M160
- 9: Kerry Wright 4x12 / SM57 + Royer 121
- 10: Kerry Wright 4x12 / Sennheiser MD412 + Telefunken U47
- 11: Marshall® 1960bv 4x12 / SM58 + Beyerdynamic M160
- 12: Marshall® 1960bv 4x12 / Sennheiser MD421 + Beyerdynamic M160

CONTROLS



ADJUSTING PARAMETERS

When adjusting any knob parameter, you will see a bar appear on the screen. The higher you turn up a parameter, the fuller the bar will appear. The top left number is your stored preset value. The top right number shows the value of where the knob is currently set. The dot below the bar shows you the last value used before turning the knob.



Volume - The Volume knob controls the overall output level of the pedal. It also controls the volume of the headphones out.

Gain - The Gain knob controls the amount of gain through the amp “circuit” within each model. The amount of gain and character changes with each amp. The Gain knob also affects the overall volume just like a real amp so you may want to increase the Volume knob at lower gain settings.

Room - The Room knob engages one of three types of space emulations. Turn clockwise to add a sense of space to your signal.

Room Types:

Type 1: A tight room reverb meant to give the impression of your amp being mic'd up in various size rooms. Turn it all the way down to disengage and turn it up to add a sense of space to your sound.

Type 2: A Hall reverb emulation that simulates the acoustics of large live sound spaces with decay control.

Type 3: A Spring reverb emulation that simulates a tube amp's spring reverb with decay control.



To change room types:

1. Press down on the Left and Center encoders to enter the global menu.
2. Turn the Left encoder clockwise to scroll down to Room.
3. Turn the Middle encoder to select the type of room sound you want.
4. Use the Right encoder to change the decay of the room.

CONTROLS: EQ

Bass (Left Encoder) - The Bass knob shapes the low-end tone stack of the selected amp model. Turn up for a thicker sound and down to help tame muddy pickups.

Mid (Middle Encoder) - The Mid knob shapes the mid-range tone stack of the selected amp model. Try this control above noon for punchy raw mid-range tones and below noon for more classic scooped sounds.

Treble (Right Encoder) - The Treble knob shapes the high-frequency section of the tone stack on the selected amp model. Turn up for adding sparkle and down for taming harsh pickups.

A good starting point for each knob is around noon. The tone stack changes with each amp model and has been carefully recreated to emulate an iconic tone.



BOOST

Boost Switch - The boosted gain control goes from the non-boosted gain value at minimum to the maximum possible gain available with an additional +4db of gain. The boosted volume control provides a scaled operation over the entire range allowing for a matched output level between modes.

To set the boost amount, press the boost switch. The LED light will flash showing that the boost is on. Turning the Gain knob to zero is now equal to where the unboosted level is set. Use the Volume and Gain knobs to set boost levels to your liking. Note that the Volume knob can be set to lower the volume amount if needed. While in Boost mode, setting the Volume knob to noon is the midpoint. Turn left to lower volume or right to increase volume. Once you have dialed in your boost amount, press the Boost switch again to confirm the settings. To apply your new boost settings to your preset, press and hold down Bypass and Boost until both LEDs flash to confirm your new settings are saved.

Preset/Boost LED - The Preset LED lights up the color of the selected preset - Red, Green, or Blue. When a knob is turned, this LED turns purple to indicate the preset has been modified. When that knob crosses its saved position, the LED changes back to the color of the currently selected preset to let you know its last saved position. This is helpful when you want to tweak a parameter on a preset but cannot remember where a knob was last saved.



STEREO CONTROLS

The ACS1 is capable of running separate amps and/or IRs in each channel. For example, you can run the Fullerton amp on the left and the Dartford on the right then choose to use the same cab for both amps or mix them for unique stereo sounds.

To set up separate left and right channels:

Press down on the Middle Encoder. You will see the L+R text change to "L". This means you are now only controlling what comes out of the left channel. Proceed to set up your EQ, Amps, and Cabs to taste. When finished, press the Middle Encoder again to change to the right channel setup. You will see the "L" change to "R." Set up your right channel EQ, Amps, and Cabs to taste. Don't forget to save your settings to a new preset if you like what you hear!

Note: If you press the Middle encoder again and cycle back to the "L&R," any parameter you change at that point will apply to both the left and right channels. Any changes made to a control will sync that parameter across both channels. Select an amp and it will be applied to both sides. Dial in the tone stack, and it will match on both sides, and so on.

Use the Volume knob on each side to balance the overall level of each amp when crafting unique sounds on the left and right channels.



PRESETS

The ACS1 includes 128 total preset slots. Three presets from any chosen bank are accessible from the pedal using both stomp switches.



All 128 are accessible via MIDI Program Change messages which are outlined in the MIDI section.

o To recall a preset bank:

1. Enter the global sound menu by pressing the Left and Center encoders simultaneously.
2. With "Preset" highlighted in the first column, turn the Center encoder to select the preset bank. Press down on the Center encoder to select the bank.
3. Scroll through the presets in that bank by turning the Right encoder. Press down on the Right encoder to select your preset number.
4. Press the Left and Center encoders simultaneously to exit the menu.

o To save a preset:

1. Scroll to the preset color (red, green, blue) in the bank you want to save a new sound by pressing Bypass and Boost simultaneously.
2. Using the knobs and switches, dial in the desired sound. The Boost LED will turn purple indicating the preset has been modified.
3. To save, hold down the Bypass and Boost switches until the preset LED blinks. The preset is now saved and the LED will return to the preset color.

PRESET COPY/PASTE

Any preset can be copied and placed into another preset slot. While in the preset menu, press and hold down the Right encoder for three seconds to enter the copy/paste menu. You will have the following options:

COPY:

1. Scroll to the preset you want to copy then press and hold down the Right encoder to open the copy/paste menu.
2. Select copy.
3. The menu will now return to the preset menu.

PASTE:

1. Scroll to the preset you want to paste then press and hold down the Right encoder to open the copy/paste menu.
2. Scroll to the Paste option. You will now see the number of the slot that you have copied and will be replacing in the new slot.
3. Select Paste to confirm. The menu will now return to the preset menu.

OVERWRITE:

1. Overwrite saves the current parameter values into the preset (this is the same thing as pressing and holding both stomp switches to save a preset).

SWAP:

1. Scroll to the preset you want to swap then press and hold down the Right encoder to open the copy/paste menu.
2. Scroll to the Swap option and press down on the Right encoder to select Swap. This will return you to the preset menu.
3. Scroll to the preset slot you wish to swap with and press and hold down the Right encoder to enter the preset/swap menu.
4. Scroll to the Swap option. You will now see the number of the slot that you will be swapping presets with.
5. Press down on the Right encoder to confirm. The menu will now return to the preset menu.

BACK: Returns to the preset menu without making changes.



GUITAR INPUTS AND OUTPUTS

The ACS1 offers multiple input and output configurations and features true bypass circuitry.

- Mono In / Mono Out
- Mono In / Stereo Out
- Stereo In / Stereo Out

Headphone Jack - The ACS1 features an onboard headphone output for quiet practicing. Simply connect your headphones and adjust the Volume knob to raise and lower the headphone volume.

USB C Port - Used to load IR files and update firmware via computer via walrusaudio.io.



MIDI

The ACS1 can be controlled via standard MIDI messages. Simply connect your MIDI controller to the ACS1 MIDI "IN". Downstream MIDI devices can be connected to the MIDI "THRU" which simply lets all incoming MIDI messages pass through to your other devices. The ACS1 ships with the MIDI channel set to 1 by default.

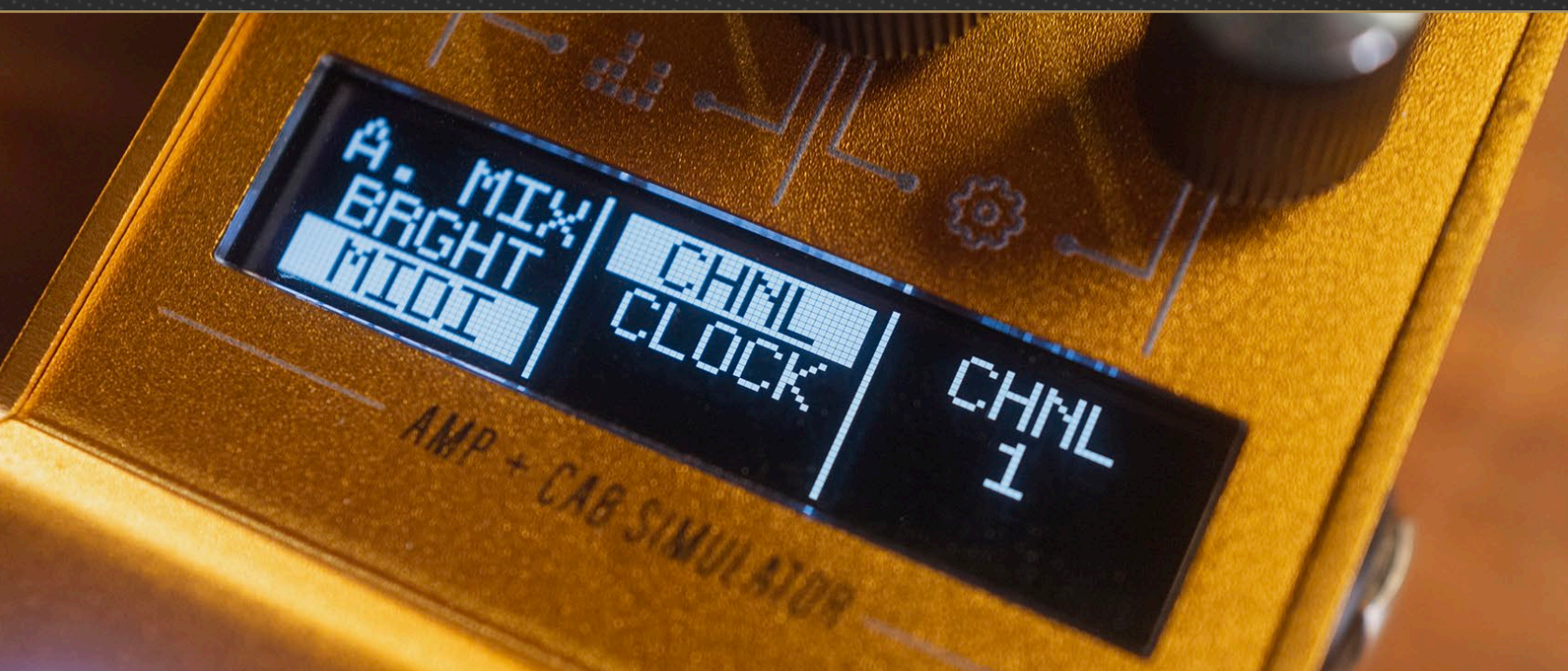


PRESET

Bank A (Red)
Bank A (Green)
Bank A (Blue)
Bank B (Red)
Bank B (Green)
Bank B (Blue)
Bank C (Red)
Bank C (Green)
Bank C (Blue)
Accessible via MIDI

MIDI PROGRAM CHANGE (PC)

0
1
2
3
4
5
6
7
8
0-127



MIDI

- o **MIDI CC** – Most parameters on the ACS1 can be controlled via MIDI CC messages. The list below shows all applicable MIDI CC numbers and their associated parameters and control values.

PARAMETER / MIDI CC # / VALUES / MIDI Range

PARAMETER	MIDI CC #	VALUES	MIDI Range
Bass Left	3	0.0 - 1.0	0 - 127
Bass Right	9	0.0 - 1.0	0 - 127
Mid Left	14	0.0 - 1.0	0 - 127
Mid Right	15	0.0 - 1.0	0 - 127
Treble Left	20	0.0 - 1.0	0 - 127
Treble Right	21	0.0 - 1.0	0 - 127
Vol Left	22	0.0 - 1.0	0 - 127
Vol Right	23	0.0 - 1.0	0 - 127
Gain Left	24	0.0 - 1.0	0 - 127
Gain Right	25	0.0 - 1.0	0 - 127
Room	N/A	0.0 - 1.0	0 - 127
Cab Left	26	0 - 11	0 - 11
Cab Right	27	0 - 11	0 - 11
Amp Left	28	0 - 5	0 - 5
Amp Right	29	0 - 5	0 - 5
Bypass	30	0 - 5	0 - 5
Boost Engage	31	0 1	0 127
Output Eq Low	N/A	0.0 - 1.0	0 - 127
Output Eq High	N/A	0.0 - 1.0	0 - 127
Ir Bypass	85	0 1	0 127
Amp Bypass	86	0 1	0 127
Gate Threshold	89	0.0 - 1.0	0 - 127
Gate Release	90	0.0 - 1.0	0 - 127
Room Select	102	0 - 2	0 - 2
Room Decay	103	0.0 - 1.0	0 - 127
Presence	104	0.0 - 1.0	0 - 127
Resonance	105	0.0 - 1.0	0 - 127



GLOBAL PREFERENCES

Access the global settings menu by simultaneously pressing down on the Middle and Right encoders. Each encoder then cycles through the column of options directly below it on the screen.

Note that the solid white bar behind the text indicates which row of text you have selected.

Press down on the Right encoder to confirm your selection in the 3rd column. Press down on the Middle and Right encoders again to return to the home screen.

Bypass IR Block

Disable the IR or Amp block to interface with external IR loader hardware, plugins, etc.

About

Shows the current firmware version.



GLOBAL PREFERENCES

Bright

Adjust the screen brightness level.

MIDI

Chnl - Select MIDI channel.



GLOBAL SOUND PREFERENCES

Access the global sound settings menu by simultaneously pressing down on the Left and Middle encoders. Each encoder then cycles through the column of options directly below it on the screen.

Note that the solid white bar behind the text indicates which row of text you have selected.

Press down on the Right encoder to confirm your selection in the 3rd column. Press down on the Left and Middle encoders again to return to the home screen.

Preset

Manually select the bank and preset slot you wish to use. After selecting a bank, presets can be cycled through by pressing the Bypass and Boost switches simultaneously. Each bank can store three presets. Up to 128 can be used via MIDI.

Room

Changes the type and size of the room.

Out EQ

The ACS1 has a global HPF and LPF at the output, post amp and cab, to trim high and low frequencies to taste. These two parameters are stored per preset.

HPF = 20Hz - 200Hz

LPF = 20k Hz - 1k Hz

Gate

Activate the noise gate to help remove noise from your signal.

Threshold - Sets the level at which the gate will open.

Release - Set how quickly the gate will close.

Amp EQ

Further sculpt your amp sounds with Presence and Resonance applied after the power amp. These parameters are stored per preset.

Presence - Apply a high shelf filter set at 5kHz up to +10dB. This will lift some upper mids and highs after the power amp EQ is applied.

Resonance - Apply a boost resonant peak filter set at 90Hz up to +12dB. This is another bass control after the power amp EQ is applied giving the amp a "beefier" sound.



FACTORY RESET

Use the following procedure to restore the pedal to its factory settings.

1. Hold both stomp switches while applying power. The screen will read "Factory reset, hold both stomps 10 seconds."
2. After 10 seconds the screen will read "Factory reset, now resetting, release both stomps."
3. Release both stomp switches. After releasing the stomp switches the screen will read "Factory reset, now resetting, keep power on."
4. Next, the display will read "Updating preset storage." This will take about 45 seconds. Once the pedal is done, the screen will return to the home screen and the Bypass LED will return to white and the Sus/Latch LED will return back to red.

Note: Performing a factory reset will cause any custom stored presets to be erased back to the factory default.



WALRUSAUDIO.IO

[Walrusaudio.io](https://walrusaudio.io) is a simple interface to update your pedal's firmware and load your own cabinet IRs. Connect a USB C cable to your ACS1 to access firmware updates and upload IR's using your computer.

*Note - Connecting a USB C cable to your ACS1 allows you to access firmware updates and upload IR's using your computer to log on to walrusaudio.io via a Chrome-based web browser.

To upload your own speaker IRs:

1. Connect the USB cable to the ACS1 and power on the pedal.
2. Click on the ACS1 pedal image.
3. Click on IR Manager.
4. Find the slot that you wish to change and click edit.
5. Click Choose IR file to upload your IR. Note the ACS1 accepts 24-bit 48kHz .wav IR files.



WalrusAudio.io

MAKO ACS1 DETAILS

MAKO ACS1

IR MANAGER

FRONT IR

A SLOT	TONE FACTOR
TF 66 DR 1X12 JENSN C12NA 57 3	edit
B SLOT	TONE FACTOR
TF MARSH BREAKER 2X12 GREEN 57 3	edit
C SLOT	TONE FACTOR
TF AC 2X12 BLUE ALNICO 57 3	edit

BACK IR

A SLOT	TONE FACTOR
TF 66 DR 1X12 JENSN C12NA 121 2	edit
B SLOT	TONE FACTOR
TF MARSH BREAKER 2X12 GREEN 121 2	edit
C SLOT	TONE FACTOR
TF AC 2X12 BLUE ALNICO 121 2	edit

The default IRs have been meticulously designed and tone matched by David Hislop and Kenyon Reed at Tone Factor. Captured with vintage and era specific amps matching the ACS1's amp models. The front default IRs were captured with SM57s and the back IRs were captured with a Royer 121 ribbon mic.

Visit tonefactor.co to explore more IR packs with more microphones and placement options.

TECHNICAL INFO

Input Impedance: 1.1M Ohms

Output Impedance: 220 Ohms

Frequency Response: 20Hz To 20kHz

Inputs: 2, 1/4" unbalanced TS

Outputs: 2, 1/4" unbalanced TS

USB Type C: For firmware updates
via walrusaudio.io

Power Requirement: Isolated 9VDC,
center-negative, 300mA minimum

Size Including Knobs/Jacks:

Height: 2.48" / 63.15mm

Width: 2.9" / 74.33mm

Depth: 4.89" / 124.37mm

Weight: .8 lbs

