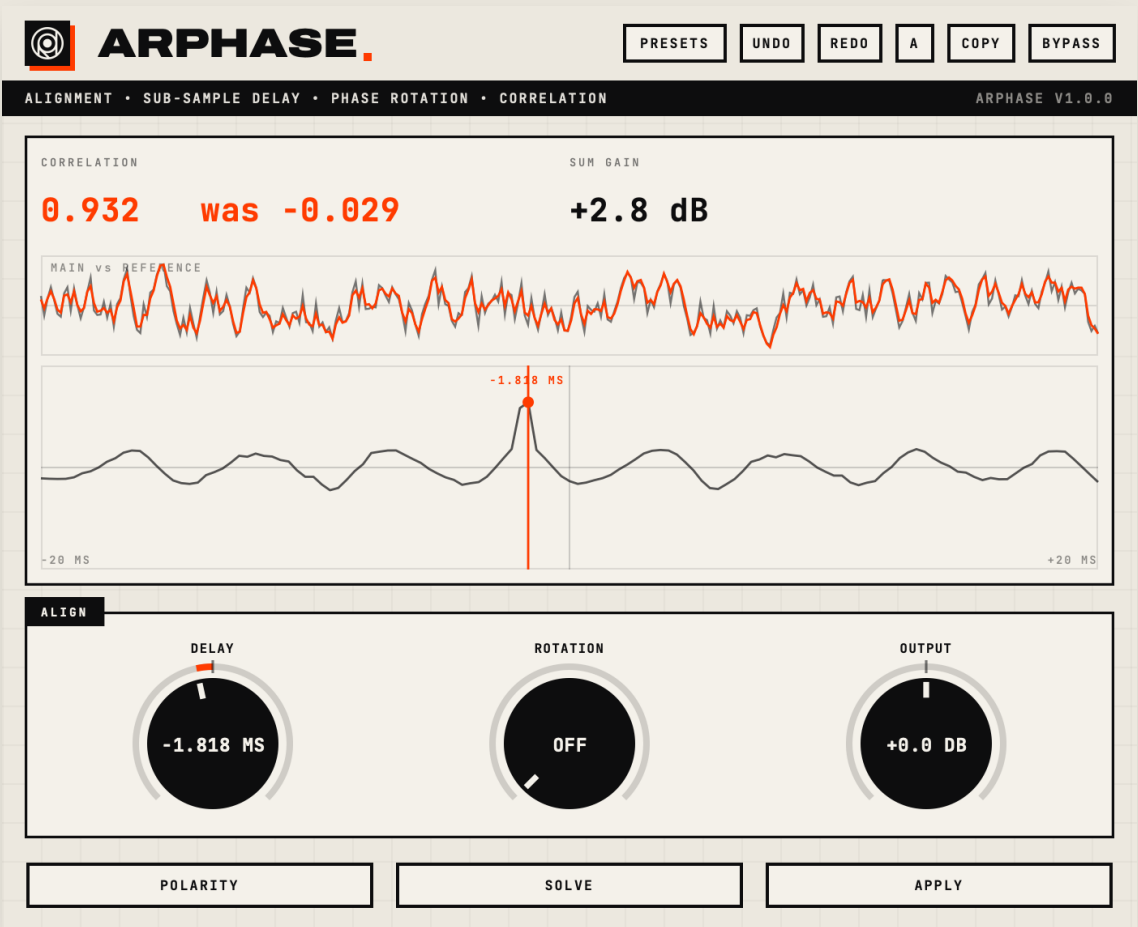


ARPHASE

ALIGNMENT



VERSION

1.0.0

FORMATS

AU • VST3

PLATFORMS

macOS • WINDOWS

DOCUMENT

USER GUIDE

01 WHAT IT DOES

ARPHASE moves a signal in time and in phase without changing its tone. Put it on one microphone, route the other one into its sidechain, and it tells you how well the two agree – before and after – while you work.

DELAY shifts the signal anywhere between -20 and +20 ms in steps of one thousandth of a millisecond. At 48 kHz that is a twentieth of a sample, and the shift is real rather than rounded: asking for +0.001 ms measures as 0.048 samples. **POLARITY** is an exact inversion. **ROTATION** turns the phase of the whole signal by any angle without touching how loud any frequency is.

SOLVE listens to the last three seconds, tries every delay within ±20 ms, and reports the one where the two microphones agree most. It shows you the entire search, so you can see why it chose what it chose instead of trusting a number.

What that is worth is not subtle. Two microphones 63 cm apart on one drum, summed: the offset puts a comb notch through the body of the sound. Aligning them brought **13.7 dB back at 300 Hz** – measured on the recording, not estimated. The overall level barely moved, which is exactly why the ear notices the tone and the meter does not.

02 INSTALLING

macOS

Run **ARPHASE Installer.pkg** and follow the steps. You can choose which formats to install, and whether to install for every user or only for yourself. The package is signed and notarised by Apple, so it opens normally.

Windows

Run **ARPHASE Installer.exe** and follow the steps. The plugin is placed in the shared VST3 folder. The installer is not code-signed, so SmartScreen may warn you: click **More info**, then **Run anyway**. This is only needed once.

After installing

Rescan the plugin list in your DAW. ARPHASE appears under **Ajanss Records > ARPHASE**.

03 ROUTING THE SECOND MICROPHONE

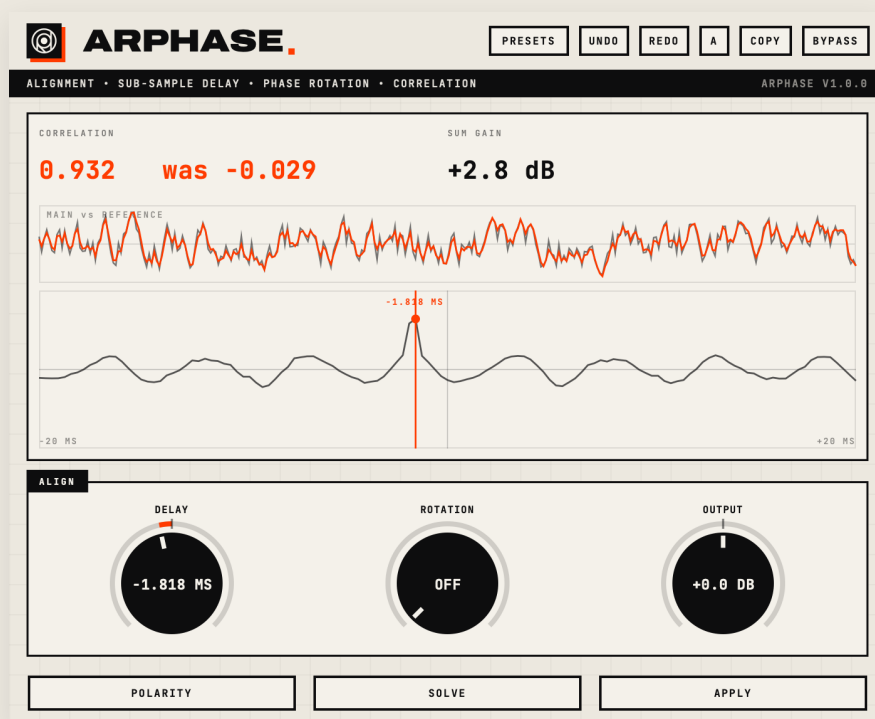
ARPHASE compares two signals, so it needs the second one. Put the plugin on the track you want to move, and send the other microphone to its sidechain input. Nothing is routed by default, and the display says so until something arrives.

LOGIC PRO	Open the plugin, then pick the other track from the Side Chain menu in the plugin header.
ABLETON LIVE	Use the VST3. Open the plugin, click the arrow to show the sidechain panel, and choose the other track as the Audio From source.
REAPER	Send the other track to channels 3/4 of the ARPHASE track, then set the plugin pin connector so inputs 3/4 feed the sidechain.
CUBASE • NUENDO	Switch the sidechain on in the plugin header, then send the other track to it from that track's routing.
STUDIO ONE	Turn on the sidechain in the plugin header, then enable the ARPHASE sidechain as a send destination on the other track.
PRO TOOLS	Bus the other microphone, then pick that bus as the key input in the plugin header.

The two signals must reach the plugin at the same time. If your DAW delays one of them – a long chain on one track and nothing on the other – ARPHASE will measure that delay too, because it is really there.

Requirements – macOS 10.13 or newer, Intel or Apple Silicon (universal binary). Windows 10 or newer, 64-bit. Formats: Audio Unit and VST3 on macOS, VST3 on Windows.

04 THE INTERFACE



CORRELATION

How well the two signals agree right now, with the value from before the plugin next to it. +1 is identical, 0 is unrelated, -1 is opposite. This is the number you are trying to raise.

SUM GAIN

What you gain by summing the two microphones, compared with summing two unrelated signals. +3.0 dB means they agree completely, 0 dB means the second microphone adds nothing, and a negative number means they are cancelling.

MAIN vs REFERENCE

The last 6.7 ms of both signals drawn on top of each other – the processed main in orange, the reference behind it. When the two lie on top of one another they are aligned. This is the fastest way to see what the numbers are telling you.

DELAY CURVE

Every delay SOLVE tried, and how well the two agreed there. The marked point is the answer it took. A tall, lonely peak means the answer is certain; several peaks of similar height mean the material is tonal and the choice is genuinely ambiguous.

NO REFERENCE

Nothing is routed into the sidechain. The meters and SOLVE need it; DELAY, POLARITY, ROTATION and OUTPUT keep working without it.

05 CONTROLS

DELAY	-20 to +20 ms in steps of 0.001 ms. A positive value delays the main signal, a negative value moves it earlier. The plugin reports a fixed latency of 21 ms, which is what makes a negative value possible at all – your DAW compensates for it, so nothing arrives late.
POLARITY	Inverts the main signal. The inversion is exact.
ROTATION	0 to 360°. Rotates the phase of the whole signal without changing how loud any frequency is. Use it when the two microphones are not simply late relative to each other – a speaker cabinet and a DI, for instance, where no single delay lines them up. At 0° the network is not used at all and the signal passes bit for bit; the knob reads OFF there.
OUTPUT	-24 to +24 dB. It does not affect the meters, which measure alignment rather than level.
SOLVE	Measures the last three seconds and reports the delay where the two signals agree most. It also finds an inverted relationship, so a microphone pointing the other way does not confuse it.
APPLY	Writes what SOLVE found into DELAY.
BYPASS	Passes the input through untouched – still delayed by the reported 21 ms, so switching it does not move the signal in time and the comparison stays honest.

SOLVE needs about three seconds of both signals playing together. Press it while the section is playing, not while the transport is stopped.

06 PRESETS

Open the browser with **PRESETS**. It has two categories: **FACTORY**, which ships with the plugin, and **USER**, which is yours. Click a preset to load it, or browse with the keyboard.

↑ ↓	Move through the list. The highlighted preset loads as you go.
← →	Switch between FACTORY and USER.
ESC	Close the browser.
SAVE	Type a name in the field and press SAVE to store the current settings as a user preset.
RENAME • DELETE	Act on the selected user preset. Factory presets cannot be changed or removed.

Factory bank — 15 presets

The delays are not invented. Sound travels 343 m/s, so 1 ms is 34.3 cm; every number below is the distance printed next to it. They are starting points – the right answer is different in every recording, and SOLVE is what measures it.

RESET	0.000 ms	OVERHEADS (1 M)	2.900 ms
POLARITY FLIP	0.000 ms	OVERHEADS (1.5 M)	4.400 ms
SNARE TOP / BOTTOM (14 CM)	0.410 ms	ROOM MIC (3 M)	8.700 ms
KICK IN / OUT (34 CM)	1.000 ms	ROTATE 45	45°
KICK IN / OUT (51 CM)	1.500 ms	ROTATE 90	90°
DI / AMP (17 CM)	0.500 ms	ROTATE 135	135°
DI / AMP (34 CM)	1.000 ms	ROTATE 270	270°
GUITAR PAIR (10 CM)	0.300 ms		

07 STARTING POINTS

Two microphones on one drum

Put ARPHASE on the one you trust least, route the other into the sidechain, play the section, press SOLVE, then APPLY. Watch SUM GAIN: if it climbs towards +3 dB you have found it. If it goes negative, switch POLARITY on.

The curve has several peaks

Tonal material – a ringing tom, a bass note held through the take – agrees with itself once per cycle, so more than one delay looks right. The curve shows this instead of hiding it. Solve over a busier passage, or pick the peak nearest zero.

DI and amp

Start with DI / AMP (34 CM) and solve from there. If no delay lines them up, the cabinet is doing something a delay cannot undo – leave DELAY where SOLVE put it and turn ROTATION until CORRELATION peaks.

Do not round to whole samples

The distance between two microphones is almost never a whole number of samples. Rounding to the nearest one leaves up to half a sample of error. At 48 kHz that is 10 microseconds: 90 degrees at 24 kHz, 45 degrees at 12 kHz, and still 22 degrees at 6 kHz. That is why DELAY steps in thousandths of a millisecond.

Checking your work

Turn POLARITY on and listen: what is left is what the two microphones do not have in common. The quieter it gets, the better they are aligned.

08 WHAT WE MEASURED

Level change from the delay, 50 Hz-19 kHz	within 0.001 dB
Level change from a 90° rotation, same band	0.000 dB
Rotation at 0°, and BYPASS	bit for bit
SOLVE on a copy shifted by a fraction of a sample	within 0.0001 ms
Copy shifted 1.317 ms, aligned and inverted	-72.2 dB
Comb notch filled by aligning a two-mic drum pair	+13.7 dB at 300 Hz

09 SUPPORT

For questions, bug reports and feature requests, please reach us on Instagram at [@ajanssrecords](#). Please include your operating system, your DAW and its version, the plugin format you are using, and the plugin version shown in the top right of the window.

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