

# Revolution Clocks

Revolutionary Word Clocking from Black Lion Audio.



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# REVOLUTION CLOCK

384.0

LOCK

DIM DISPLAY

The best word clocks  
we've ever made.

Our latest line of professional word clocks, the Revolution clock family delivers versatile, rock-solid clocking to keep all of your digital audio devices running in perfect sync at even the highest sampling rates.

With only 0.5pS RMS of jitter at the BNC outputs, they have the lowest jitter of any clocks we've ever made. When all of your devices are running in perfect sync, your productions will sound their absolute best.

You'll get the best possible performance from your existing investments with the Revolution clocks.

## Why clock?

Short answer: For supreme audio fidelity when using multiple digital audio devices.

Long answer: When running multiple digital audio devices simultaneously without clock sync, clocking jitter can result in smearing of the stereo field, and is particularly noticeable

in transients and higher-frequency material like cymbals and lengthy reverb tails.

Once a system is set up and clocked correctly, many users observe a greater sense of space and depth thanks to more accurately-reproduced reverbs and stereo imaging. Some even notice elements of their mixes they didn't even hear prior to synced clocking!

Every digital audio device has some amount of timing inaccuracies collectively known as jitter. As you add digital devices to your system, jitter compounds, because each device has its own clock with its own set of timing errors. Even when set to the same sampling rate, they will not be perfectly in sync with each other about when each audio sample starts and stops. These timing errors are responsible for the sonic artifacts mentioned above.

To avoid this, all digital devices that are communicating with each other need to follow a single primary clock that drives the rest of the devices, and that's where the Revolution Clocks come in. While we have designed the Revolution Clocks to be as close to perfect as possible, no clock is absolutely, scientifically perfect. But when you run all of your devices off of a Revolution clock, all of them will follow the Revolution's timing precisely. As a result, you won't even hear these timing-related glitches, as they are now shared (synced) across all connected devices.







## Multiple superior clocking technologies at play

These Revolution Clocks employ our patented Macro-MMC technology, developed from our years of experience in creating dedicated word clocks, as well as modifying many of the different clock designs found in other recording interfaces.

Furthermore, all Revolution clocks employ a high quality mini-transformer for galvanic isolation and parasitic interference reduction.

The Revolution Clock XC is unique among the family as the most accurate word clock we've developed to date, thanks to its Suspended Oscillation technology, which physically isolates the clocking MEMs from the mechanical vibrations of the real world. Feel free to crank the bass in your studio, it won't affect your clock timing.

## We've got a clock to fit your studio or project.

Revolution Clocks are available in three varieties to suit your needs.

All Revolution Clock BNC connections can drive up to 1,000 feet of coaxial cable, making them not only the perfect solution for improving the conversion quality of an audio interface, but also ideal for re-clocking digital mixing consoles at live shows or houses of worship... even as the primary word clock in large post-production or broadcast facilities. It can easily sync all of your digital gear together, even when located in different rooms or different buildings!

### Revolution Clock XC

Our flagship clock with a broad array of connectivity options. If you've got a device in your studio that accepts clock in, the Revolution Clock XC can drive it – up to 14 devices, eight over BNC... and it's the best clock we've made yet, thanks to its unique Suspended Oscillation tech.

- 44.1kHz - 384kHz
- A whopping eight BNC outputs
- 2 S/PDIF outputs
- 2 ADAT optical outputs
- 2 AES/EBU outputs
- 1 BNC input
- Suspended Oscillation technology

### Revolution Clock

The middle child; can drive up to seven devices, four over BNC.

- 44.1kHz - 384kHz
- 4 BNC outputs
- 1 S/PDIF output
- 1 ADAT optical output
- 1 AES/EBU output

### Revolution Clock Mini

Small but powerful. Can drive up to three devices over BNC.

- 44.1kHz - 384kHz
- 3 BNC outputs





## Set and forget

Revolution clocks are easy to set up. Simply connect your existing digital devices to the Revolution clock outputs (we recommend BNC for the best clocking signal) and set those devices to receive external clock. Use the encoder to choose your sampling rate. Done.

On the Revolution Clock and Revolution Clock XC, the encoder knob will lock after three seconds to prevent any clocking mishaps resulting from a fumbled telecaster.



## On MEMS and Suspended Oscillation

While many popular clocking solutions use quartz crystal oscillators, we've chosen MEMs (Microelectromechanical systems) oscillators for the Revolution clocks. We chose MEMs after conducting a blind shootout with the traditional quartz crystal oscillators used in our XB clocks.

The MEMs oscillators won in terms of subjective sound quality, but also won out objectively. Many clocks are "oven" stabilized for less sensitivity to temperature fluctuations; MEMs require no thermal solution for stability as their stability is less affected by temperature.

Furthermore, MEMs oscillators enjoy greater shock resistance than quartz crystals... but as if that wasn't enough, we took shock resistance one step further with the addition of our "Suspended Oscillation" technology. Suspended Oscillation uses a special vibration dampening material (Sorbothane) to float the oscillators in a manner that protects them from environmental vibrations, which of course any recording studio is chock full of. Sorbothane is also used in precision GPS devices to keep vibration from affecting the devices' function.

In our testing, Revolution Clocks using Suspended Oscillation displayed a consistently lower jitter spec while playing nearby speakers at 65dB SPL.



# Sync your mind and the rest will follow.



## Introducing Revolution Clocks.

Eliminate confusion when routing your racks of precious gear with the PBR-LIT patchbays from Black Lion Audio. Built to proven Black Lion standards of build quality and signal conductivity, the PBR LIT patchbays – available in TRS and TT/DB25 configurations – feature customizable, brightly-lit LED displays for every input and output. Simply connect a USB keyboard directly to your LIT to customize the display, or use the included PatchCAD LIT software to create custom text to export directly to your patchbay using the same port.

With PBR LIT patchbays, you'll have an easier time routing your signals while adding instant vibe to your studio. Save the labels and markers for your next yard sale.

Visit [www.blacklionaudio.com](http://www.blacklionaudio.com) to get your rack LIT.



**Revolution Clock Mini:** Portable word clock with Macro MMC and 3 BNC outs



**Revolution Clock:** Portable word clock with Macro MMC, 4 BNC outs plus S/PDIF, optical, and EAS/EBU outs



**Revolution Clock XC:** Word clock with Macro MMC, Suspended Oscillation, 8 BNC outs, and 2 S/PDIF, optical, and AES/EBU outs



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