

## Black Burst/Genlocking

Black Burst, also known as “genlock, reference, master pedestal, master setup, sync, and more,”<sup>1</sup> consists of an analog video signal with no picture. In other others, just black frames, a “blank video signal,”<sup>2</sup> with zero chroma and luma. Black Burst allows video sources, such as cameras and video decks, to be synchronized, which consequently provides a smooth transition in between devices, avoiding issues such as extreme color shifts, image break up, and the appearance the picture is jumping when switching between sources (since “the display device needs to readjust the horizontal and/or vertical scan to correctly reframe the image.”<sup>3</sup>) Once the various pieces of video recording and processing have their sync generators locked in and synchronized, it is said the system is genlocked.<sup>4</sup> The synchronization happens since genlock tells each device to start capturing every frame at the exact same time. This step is crucial for video editing and properly synchronizing audio to picture.

Black Burst can be generated by black burst generators, also known as house sync generators, which is often a simple box with one or more video outputs. Furthermore, Black Burst allows vertical timing and locks the color phase between signals. The actual burst section of the waveform generated by a generator “allows the phase relationship of the two signals to be timed together by sending pulses to the internal oscillators of the equipment.”<sup>5</sup>

---

<sup>1</sup> Brhoda, “Genlock.”

<sup>2</sup> “Black Burst.”

<sup>3</sup> “Genlock.”

<sup>4</sup> Poynton, *Digital Video and HDTV*.

<sup>5</sup> “Black and Burst.”

## Bibliography

- “Black and Burst.” *Wikipedia*, May 30, 2017.  
[https://en.wikipedia.org/w/index.php?title=Black\\_and\\_burst&oldid=782910879](https://en.wikipedia.org/w/index.php?title=Black_and_burst&oldid=782910879).
- “Black Burst.” inSync, October 27, 1998. <https://www.sweetwater.com/insync/black-burst/>.
- Brhoda. “Genlock: What Is It and Why Is It Important?” *Worship IMAG* (blog), June 11, 2011. <https://worshipimag.com/2011/06/11/gen-lock-what-is-it-and-why-is-it-important/>.
- “Definition: Genlock,” December 27, 2007.  
[https://web.archive.org/web/20071227035958/http://www.atiss.org/tg2k/\\_genlock.html](https://web.archive.org/web/20071227035958/http://www.atiss.org/tg2k/_genlock.html).
- “Genlock.” inSync, August 13, 2004. <https://www.sweetwater.com/insync/genlock/>.
- “Genlock.” *Wikipedia*, October 6, 2017.  
<https://en.wikipedia.org/w/index.php?title=Genlock&oldid=804020464>.
- Kovacs, J. “An Overview of Genlock,” October 1, 2001.  
<https://web.archive.org/web/20150403120241/http://www.mivs.com/documents/appnotes/an005.html>.
- Poynton, Charles A. *Digital Video and HDTV: Algorithms and Interfaces*. Morgan Kaufmann, 2003.
- Waddell, J. Patrick. “Beyond Black Burst.” n.d.  
[https://www.smpte.org/sites/default/files/section-files/Beyond%20Black%20Burst\\_0.pdf](https://www.smpte.org/sites/default/files/section-files/Beyond%20Black%20Burst_0.pdf).