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Video Preservation I

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### Time Base Corrector

A time base corrector (TBC), in the most basic terms, is a piece of equipment that can correct or reduce errors caused by mechanical instability and/or tape degradation. They can exist either as stand-alone devices or inside of a broadcast quality video tape recorder (VTR). The tasks that the TBC performs vary depending on the model. And how it executes these tasks can be technically complicated.

There are three main types of TBCs: line TBCs, full field TBCs, and full frame TBCs. Line TBCs digitally sample, store, and correct errors for a specific number of video scan lines. Full field TBCs can handle 262.5 lines (NTSC) at a time. Full frame TBCs can correct 525 lines (NTSC) at a time. Better, more contemporary full frame TBCs can manage multiple frames at a time. In the case of a video rack setup, the video signal from a VTR is passed to the TBC. A TBC will store the video information digitally, assign new timing information to each individual scan line based on the synchronization set by the user, and output the corrected analog signal to a viewing monitor.

TBCs also often have additional features like genlocking, drop out compensation, and proc amps. Genlocking can create a signal or receive one from a source and use that signal to synchronize multiple sources, especially when signals are being combined or switched like in a video transfer rack. Drop out compensation can detect specific lines in the video signal that are damaged and superimpose previously stored lines over the damaged signal. Proc amps allow a user to adjust the luma, chroma, IRE, gamma, phase, and more characteristics of a video signal.

## Sources

[http://www.execulink.com/~impact/tbc\\_gen.htm](http://www.execulink.com/~impact/tbc_gen.htm)

<http://www.digitalfaq.com/forum/video-workflows/3895-video-conversion-line.html>

<http://www.digitalfaq.com/forum/video-restore/2251-tbc-time-base.html>

<http://www.digitalfaq.com/forum/video-workflows/3166-video-capture-project.html>

[http://chiclassiccomp.org/docs/content/computing/PrimeImage/TBC-Sync%2BManual\\_v2.pdf](http://chiclassiccomp.org/docs/content/computing/PrimeImage/TBC-Sync%2BManual_v2.pdf)

<https://ia802707.us.archive.org/17/items/DPS295/DPS-295.pdf>