Avid System with the Meridien Subsystem versus
Avid System with the ABVB Board Set

Changes to the Timing of Video Signals

With the introduction of the Avid system with the Meridien subsystem, genlocking is
different from that of Avid video-based editing products for Macintosh systems before
the Meridien subsystem. The system’s timing is now modeled on that of a VTR; it uses
only a single time-base that is switched between input and output. ABVB-based systems
had two independent time bases.

Note the following operation modes:

• **Timing during video capture:** When capturing (that is, recording) an input video
  signal, sync timing will be derived from that input signal. The timing of the captured
  video and audio will be correct. The green Video Sync light on the Meridien I/O box
  will be lit when synchronization to that signal is attained.

  **Passthrough video outputs:** During capture, timing of the recorded media files will
  be correct. The timing of the passthrough output signals, however, will be correct
  relative to themselves but will have slight delays relative to the input time-base. In
  particular, the composite output will have one line of additional delay, due to comb
  filter operation compared to Serial Digital and other analog modes. This is normal
  operation.

  **Passthrough audio versus video:** During capture, the recorded video and audio will
  be correctly timed. However, since passthrough audio does not undergo delay, the
  previously described video delays will exist relative to the undelayed audio. In media
  files, the video and audio will be synchronized.

• **Timing during capture for audio with no video present:** Timing will be derived
  from any signal present on the REF input. If no reference signal is detected there, the
  timing will automatically switch to an internal, free-running, highly accurate time-
  base and the green Video Sync light will not be lit.

  If you are digitizing audio only from a source that uses REF IN (with black
  burst, for example) on the Meridien I/O box for sync, the system will change the
timing reference to the video input signal when the option “Always display
incoming video in the Client monitor” is selected in the Digitize Settings dialog
box. To avoid losing the REF IN sync source, deselect this option before
capturing audio only.
• **Timing during playback:** In all playback modes, the video timing is derived either from the external genlock source (the REF input) or from the accurate internal time-base. If a composite reference signal is present on the REF input, that signal will be used for deriving genlock and system timing. The green Video Sync light will be lit. If no lock is detected to a signal on the REF input (or if no signal is present), the system will automatically switch to its internal timing source and the Video Sync light will not be lit.

*For additional information on digitizing with consumer or prosumer video decks (such as VHS, Hi-8, and some ¾-inch decks), see Limitation When Using Consumer Decks or Decks Without Time-Base Correctors.*

### Simultaneous Output Modes

The video outputs are all simultaneously active with one exception: only one of the S-Video or Analog Component outputs can be active at the same time. You select the one you want with the Video Output tool.

### Genlock Timing Adjustments

Adjusting the genlock timing to the house reference at switchers or routers can be done only in Playback mode. With Avid systems with the ABVB board set, this could have been done in Passthrough mode. You could either record your own test signal and then play it back; alternatively, you could put out a test pattern from the Avid application’s Video Output tool and use that for doing the usual H PHASE and SC PHASE adjustments.

Only one format of the active outputs can be accurately genlocked at a time. Since there is only a single adjustable output time-base, you simply set the genlock parameters for the critical output that is the one you choose to genlock. For most applications, this will be either the composite or the SDI outputs.

All the video output signals — Composite 1, 2, and 3, Serial Digital (if that option is on your Avid system), and component or S-Video — are synced to the same time base, and hence are synced to each other. However, they all have slightly different internal delays. This means that you can set the H PHASE so that only one — the one you choose — will be exactly synced to an external genlock reference. The other output signals will be properly timed relative to themselves but will not be precisely genlocked.
Operation of the Green Video Sync Light on the Meridien I/O Box

The green Video Sync light is lit whenever the timing is successfully locked to either REF or to the video input signal. If the green light is off, the timing is being obtained from the internal, free-running time base.