

How To Reference A KONA Card

What is this “reference thing” anyway?

Video products use a Reference or Genlock input to time their outputs to a house reference. KONA does not need to be referenced to an external signal unless you are feeding its output to a device, like a switcher, that expects its inputs to be timed. In most cases leaving the Genlock set to Freerun will be okay. When KONA goes into capture mode, it automatically switches to lock to its selected Video Input. If you change the Genlock setting to something other than *Video In* while trying to capture, you will be left with unusable video.

Specific settings information:

1. The reference setting for KONA is dynamic. That is, the reference signal that Kona uses will change depending on what mode the board is in. When the board is in playback (output) mode it locks to either the Reference In or freeruns, depending on where you have set the Genlock setting in the KONA Control Panel. If it is set to Freerun, the output of the KONA board freeruns. The output is still stable and usable—it just isn't timed to an external signal. A VTR being fed this signal, assuming the VTR is looking at its Video In for reference, will be quite happy. If the KONA Genlock is set to Ref In and an external reference signal is connected, the board will genlock to that signal and its output will be in time with the video signal connected to its reference input. If Ref In is selected, but no reference signal is connected to the board, KONA will freerun. When the KONA board goes into capture mode, it switches automatically to Video In. Like a VTR, KONA must lock to its video input when capturing. Forcing KONA's reference to anything other than Video In will result in captures of unusable video. KONA's Control Panel remembers the last used settings when the board changes modes. That said, it is okay to set the Genlock setting in the KONA Control Panel to Video In for its reference.

For example:

You are in Final Cut playing back a timeline. You have the Genlock set to Freerun. You then click on the desktop which causes the KONA board to change operation—because the last time the desktop was active you set the KONA to Input Passthru (Capture) mode. Being in Input Passthru causes KONA's Genlock to switch to Video In. When you switch back to Final Cut, the application switches KONA back to output mode and sets the Genlock back to Freerun.

2. The VTR must have its servo reference set to “Auto.” This causes the VTR to look at its external reference (if one is connected) or freerun if no external reference is connected during playback. When the VTR goes into record, it looks at its Video In for reference. Forcing the VTR to always look at its video input for reference will cause problems when the KONA board is in EE, due to the VTR locking to its input, which is looking at KONA, which is locking to its input, which happens to be the VTR—a classic loop situation
3. The VTR must have its PB/EE settings set to forced playback (PB). Again, if the VTR is in EE and KONA is in EE you will get stuck in a looping mode where both the VTR and KONA are trying to lock to each other. This setting prevents that from occurring by keeping the VTR in playback mode, even when stopped.

Some users have mentioned that when they are performing an Edit to Tape, they don't have the output of the deck feeding the input of the KONA card, and that when the edit begins, the video output is unstable. The issue here is that when Final Cut starts an Edit to Tape, it tells the KONA 2 card to go into capture mode so the user can see the output of the VTR and choose an In Point on tape. At this point in time, KONA is in EE mode and there must be video at the KONA 2 input or else the output will unlock (the same situation as during a capture). So it is necessary, even when performing an Edit to Tape, to have video hooked up to the input of KONA.