

APPLICATION NOTE

AMPEX TBC 6/TBC 7

INSTALLATION OF THE AIF-3 INTERFACE WITH THE AMPEX TBC 6/7 TBC'S IS AS FOLLOWS:

- 1) Set the first 5 dipswitches on the AIF-3 interface to the desired VTR number as described in the system manual. Switches 6-8 should be off.
- 2) Install the interface and connect to the coax party line, but do NOT yet connect the 25-pin ribbon cable to the VTR.
- 3) Set the jumpers in the TBC as follows:

VIDEO OUTPUT PWA	J21 (Remote Black Lvl) set to B-C
	J22 (Remote Video Lvl) set to B-C
	J23 (Remote Subc. Phs) set to B-C
	J24 (Remote Chroma Lvl) set to B-C
	J26 (Remote Chroma Phs) set to B-C

TAPE CLOCK PWA	J26 (Remote Edit Ready Cal) set to B-C
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- 4) Re-install the PWA's, and make sure the two ribbon cables are plugged into the front of the boards. These are the connections to the TBC remote connector on the rear of the TBC.
- 5) Set the front panel H-phase switch to the "0" position. (There is no remote/local selection for this adjustment; the remote connector is simply wired across the switch, so it must be positioned with all contacts open.) Be sure that this is done before the AIF-3 interface is connected or damage may result. Now connect the ribbon cable between the interface and the TBC Remote connector.
- 6) Power up the TBC. Everything should now be operational from the CP-150 panel (except picture position, which isn't supported on this TBC).
- 7) Apply an known RS-170A signal to the TBC and check the range of the "COLOR FRAME" control on the CP-150. The status indicator should light around the middle of the adjustment range. If it doesn't, this control may be centered by adjusting (SLIGHTLY!) R195, "Burst Crossing", on the TAPE CLOCK PWA. Make sure the video is proper SCH phase before making the adjustment.

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INSTALLATION (CONTINUED)

8) The Ampex TBC 6/7 systems exhibit significant variation in control voltages required for 'unity' or calibrated operation. Because of this characteristic, the AIF-3 interfaces include a method by which the TBC's can be adjusted to unity values, and then these required adjustment offsets can be saved in non-volatile memory within the interface. The result is that once this calibration is done, +000 on the control panel really corresponds to unity in the TBC.

The procedure is as follows:

- a) Do all of the previous installation steps.
- b) Using the CP-150 panel, preset all of the timing functions to +000.
- c) Using the CP-150 panel, adjust the TBC for the desired unity output levels from the TBC.
- d) Without changing anything on the CP-150, set DIPSWITCH #6 on the AIF-3 interface to the ON position. This first stores the offset in novram (really EEPROM), and then adds this offset to all future adjustments.

Since the control values are still set to non-zero numbers, the output levels from the TBC will jump out of unity (by the amount of offset). However, when the control panel is set back to +000, the output levels will be exactly the original calibrated ones.

Note that the control range is reduced by the amount of offset. For example if you set a control to +200 and then turned the dipswitch #6 on, this control would hit its upper limit at +311 on the control panel (+200 +311=511, normal maximum range). For this reason you should probably not store offsets more than about 150 or 200, so that you will have some adjustment range left. If unity is more than this far out, you may have an underlying TBC problem anyway.

Also note that this offset feature applies to all eight functions on the CP-150 (including timing). If you want to use it on the timing functions, eliminate step (b) above, and the timing adjustments will be stored as offsets also. I don't really recommend this, though because it may severely restrict the adjustment range of the timing functions. (It's good for a final trim of the COLOR FRAME, though).