

Whitepaper Author:

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Sony HDCAM

Sony HDCAM HDW-F500 Essentials

System Frequency— 29.97 OR 23.976 (23.98/24P)

How do you set the deck to 29.97 (1080I) or reset it to 23.976P? You must eject any tape in the deck before performing this function. To set system frequency, you will need to access the maintenance menu. Take a pen tip and gently insert it, pushing the recessed maintenance key, in the lower left corner of the deck. You will need to go to the upper right portion of the keypad and push in *shift*—and while holding this key down—push the *execute* key. You will then need to hit the f9 key twice to get to the frequency menu.

Next go to the left hand side of the function keys. Locate *system frequency*. This is the only key to worry about; it changes the tape speeds of the deck. When you arrive at the desired speed, you simply stop and choose the execute key, f8. You will need to verify this choice, then the LCD will flash—resetting. If you have left a tape in the deck at a different speed than what you have currently set, you might experience problems and be forced to eject the tape and then turn the deck on and off. If you still have problems, it may be necessary to turn off the deck, and while turning on the deck, hold down the “1”, “5”, and the “9” keys (simultaneously). This resets the deck back to the factory defaults. Repeat the previous steps without the tape inserted.

Drop Frame Or Non-drop Frame And Capstan Lock:

Make certain that the deck is set to non-drop frame when working with 23.976P footage. (There is no such thing as drop frame 24p timecode.) Obviously, 29.97I tapes can be either drop frame or non-drop frame. The drop frame and non-drop frame setting can only be set through the 59.94I frequency mode (as is the case with many other settings, therefore, it is advisable that you set all items except frequency in 59.94I frequency and then shift the deck over to 23.976). As an example, if you need to set the field settings (2fd / 4 fd hold / 4 fd lock), you can only do this in the 59.94I mode. For 23.976P it appears as though all of the settings are acceptable, although 2fd is technically the correct setting. However, this is not the case when working with 29.97I footage. This requires the capstan to be set to 4fd lock; otherwise the capture card may produce a dropped frames prompt during capture because it cannot lock to the signal.

Servo Ref Or Signal For Output/input:

When you are digitizing, the single most important thing to remember is that the servo ref should be set to *auto*: *Home key – set up key – vtr setup f6 key, menu item 005 servo ref – f7 to change data – save/exit*. When you are outputting, the servo ref should be set to *input*. If you do make a mistake in this setting or in the capstan lock setting, your digitized video will have shifts in the color frequency, usually to a blue streaking pattern. Audio can also be muted if the settings are incorrect. The capstan lock settings are found in the menu settings: *home key – set up key – vtr setup f6 key, menu item 004 capstan lock 4fd lock for 59.94I or 2fd for 23.98P – f7 change data – save/exit*.

Black and code a tape:

The system frequency, drop frame/non-drop frame and capstan lock should be set appropriately. The servo ref should be set to *auto* for black and code. In order to set the deck to black you will need to access the internal signal generators for video and audio. These are located in the menu and vtr setup submenus: *home key – set up key – vtr setup f6 key, menu item t02 int vid sg and menu item t04 int aud sg – f7 change data – save/exit*. Set the video generator to black and the audio generator to silence.

Now exit this menu and enter the timecode menu, via the *tc* key. Hit the yellow *clr* key and enter in the appropriate start point for your tape (usually 00580000) then hit the yellow *set* key. Then go to the f3 key, *timer set* and hit this as well. The decks timecode will not visibly reset until you actually crash record (*play* and *record* keys are hit). If the timecode on the deck appears to be different when shifting between the LTC and the VITC, then you probably have an incorrect setting on the timecode generator. The timecode generator should be set to read from the LTC generator, which then feeds the VITC generator. When you are blacking and coding you will need to set the timecode to preset mode, but when you are laying back to tape, you will want the deck to be in regen mode.



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