Setting Controller Base-Memories / Defaults

C-Reality utilises a unique approach to primary colour correction, enabling an incredible range of control and therefore the ability to deal with even the most demanding of film.

C-Reality's Extreme Resolution Optical Scan (EROS) and APD detection system provide the foundation stone for the Primary Colour Corrector (PCC). Put simply, the extremely low levels of noise and wide dynamic range at the front-end, allow for awesome flexibility and range of lift, gamma and gain.

To achieve results that make use of the superior benefits of C-Reality it is important to ensure that your controller, da Vinci, or Pogle is pre-set to optimised defaults. These can be stored in Base memories (da Vinci), or Notes (Pogle).

All telecines need to be driven correctly to ensure that the very best pictures are maintained in all respects and especially in terms of signal to noise performance and dynamic range. The important settings here are the PEC/APD controls.

Whilst Cintel ensure that the scanner is in a near optimised mode on power up and under local control, switching to remote control, by necessity, will overwrite any locally stored settings. It is therefore necessary to establish these default settings within the remote controller memory.

The following document describes C-Reality and assumes that there are no base memories or notes set within the external controllers and that an auto alignment has been carried out – for best results 300uA beam current should be used. The basic concept for driving the pick up devices (PEC's/APD's) remains the same whether talking about C-Reality, Ursa or even MK3's. However the following includes specific references to functions available on C-Reality and fully featured Rascal scanners.

Da Vinci or Pandora Controller

Stage 1. – NEGATIVE FILM TYPE

The controller should be set such that you start in PRE Gamma mode only, with 'Extended PEC range' selected if applicable.

The Da Vinci GUI will indicate PRE Only mode by the 'greying out' of the post controls and a Red bar over the PRE control graphics.

The Pogle GUI indicates which mode is selected within the 'C-Reality' window, and the tracker-balls turn Red. See figs. 1a & 1b. Select Negative (Vision) log Masking (if desired).

Toggle film type to Negative mode with the scene to be transferred already in the film gate. (TAF in this example)

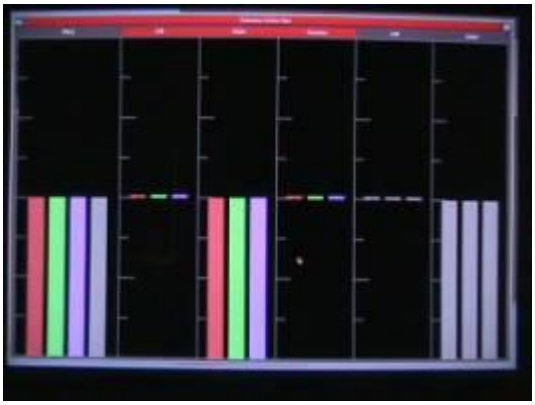

Fig. 1a
Da Vinci Colour Bar Display (PRE ONLY mode)

Fig. 1b
Pogle C-Reality PCC window (PRE ONLY mode)

Turn the master PRE Gain control up significantly and alter the master PRE Lift control such that the black level and black clip point can be seen easily on a waveform monitor (At this point all signals will be severely white clipped!). N.B. In negative, you will initially probably only see a signal in the Red Channel. See fig. 2a, 2b & 2c.

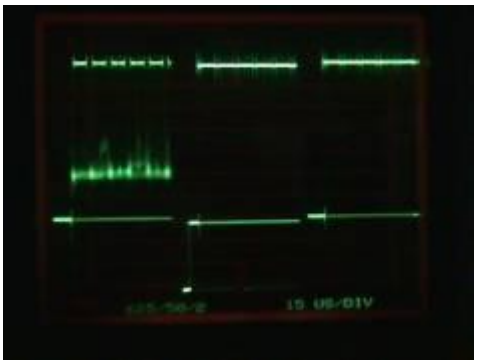

Fig. 2a–
Only red visible, all signals severely white clipped!

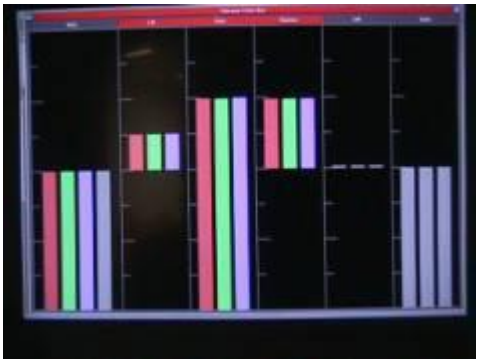

Fig. 2b
Typical ‘expanded’ control values (Da Vinci)

Fig. 2c
Typical‘expanded’control values (Pandora)

Stage 2.

Adjust all the PEC/APD controls such that the signals head towards video black i.e. you appear to be turning the signal levels down. Continue to turn the signals down until it is clear that the video is becoming black clipped. N.B. At this stage we are ONLY interested in the Blacks of the signals. See fig. 3.

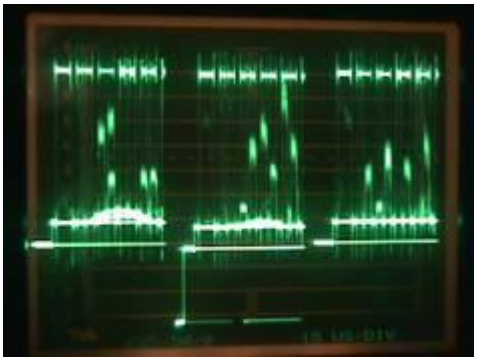

Fig. 3
R,G & B black levels clearly in clip.

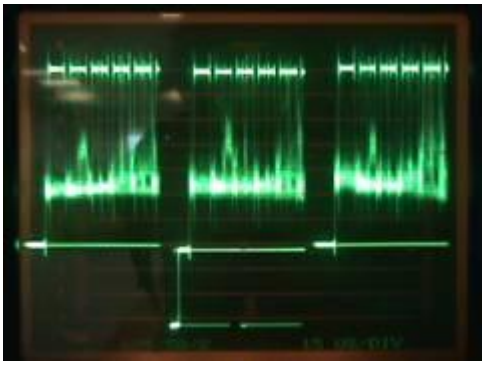

Fig. 4
PEC levels set correctly with headroom

If you do not see something similar to that shown in the figure above it may be that you need to turn the PRE lift controls a little higher or stretch the signals further with gamma or gain (N.B.gamma cannot be altered on Pogle whilst in Pre gamma mode).

Stage 3.

Now you have established where the detector clip points lie. N.B. operating in this area will result in some loss of picture information, it is now necessary to turn the signals up until the clip point is cleared and some head room allowed for.

THIS IS THE OPTIMUM SETTING FOR YOUR PEC's, THEY SHOULD NOT BE RE-ADJUSTED for the rest of this procedure. Usually this setting will be sufficiently accurate to cater for the rest of a roll but if significant exposure changes occur, it should be re-checked. See Fig 4.

Stage 4.

The PRE Lift, Gain, and Gamma controls can now be returned to more usual levels such that the blacks and whites are unclipped and balanced.

See Fig. 5a, 5b & c.

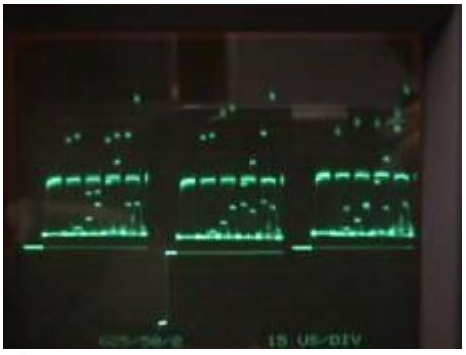

Fig. 5a

Balanced RGB – Vision TAF (no Mask)

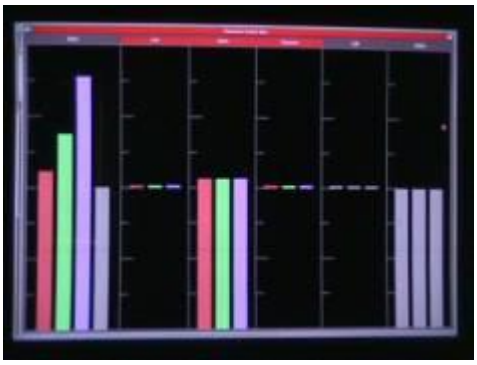

Fig. 5b
Typical Da Vinci Settings for PRE Gammas

Fig. 5c
Typical Pogle settings for PRE Gammas

The main purpose of the PRE Gamma correction is to present a balanced signal to the POST Gamma corrector, giving better luminance tracking of controls. You can now switch into POST Gamma mode where creativity can take over from Technical set up!

Cintel recommend that a Base memory or Note is created using the method described above for the latest Kodak Telecine Analysis Film (TAF).

Da Vinci or Pandora Controller

Stage 1. - POSITIVE FILM TYPE

The controller should be set such that you start in PRE Gamma mode only, with 'Extended PEC range' selected if applicable.

The Da Vinci GUI will indicate PRE Only mode by the 'greying out' of the post controls and a Red bar over the PRE control graphics.

The Pogle GUI indicates which mode is selected within the 'C-Reality' window, and the tracker-balls turn Red. See figs. 6a & 6b. Select Relevant log Masking (if desired).

Toggle film type to Positive mode with the scene to be transferred already in the film gate.

Fig. 6a
Da Vinci Colour Bar Display (PRE ONLY mode)

Fig. 6b
Pogle C-Reality PCC window (PRE ONLY mode)

Turn the master PRE Gain control down significantly such that the white level can be seen easily on a waveform. See fig. 7.

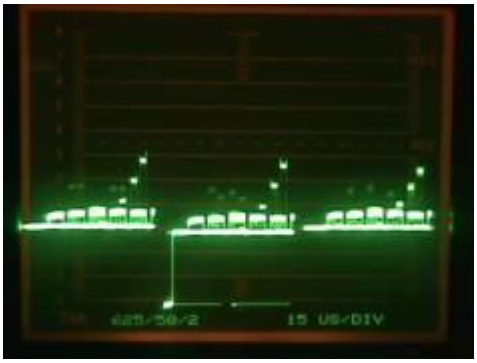

Fig. 7a – Typical view with PRE gain turned down

Fig. 7b – Typical Da Vinci Settings for PEC set

Fig. 7c – Typical Pogle settings for PEC set.

Stage 2.

Adjust the RG & B PEC/APD controls such that the signals head towards white i.e. you will appear to be turning the signal level UP. Continue to turn the signals UP until it is clear that the video is becoming white clipped. N.B. At this stage we are ONLY interested in the Whites of the signal. See fig. 8.

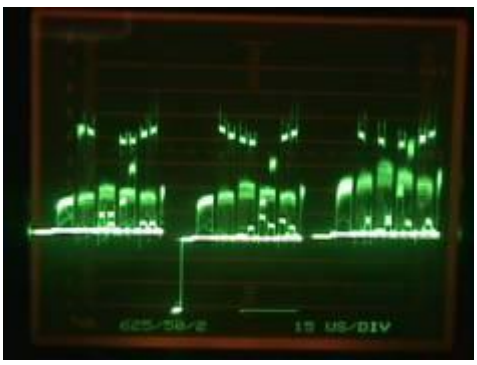

Fig. 8
R,G & B white levels clearly in clip.

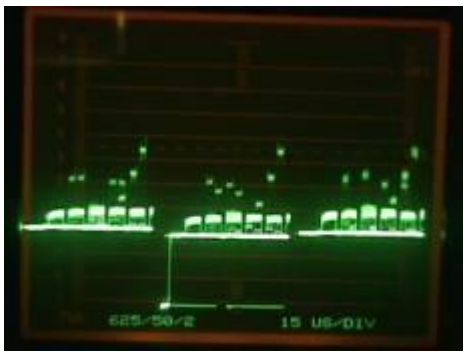

Fig. 9
PEC levels set correctly with headroom

If you do not see something similar to that shown in the figure above it may be that you need to turn the PRE Gain controls further down and readjust your PEC controls.

Stage 3.

Now you have established where the detector clip point lies. N.B. operating in this area will result in some loss of picture information, it is now necessary to turn the signals down until the clip point is cleared and some head room allowed for.

THIS IS THE OPTIMUM SETTING FOR YOUR PEC's, THEY SHOULD NOT BE RE-ADJUSTED for the rest of this procedure. Usually this setting will be sufficiently accurate to cater for the rest of a roll but if significant exposure changes occur, it should be re-checked. See Fig 9.

Stage 4.

The PRE Lift, Gain, and Gamma controls can now be returned to more usual levels such that the blacks and whites are unclipped and balanced. See Fig. 10a, 10b & 10c.

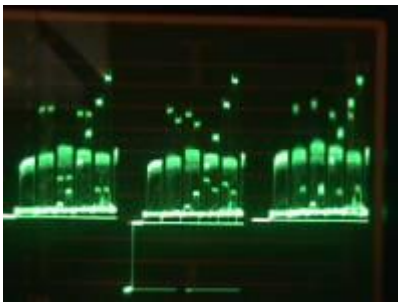

Fig. 10a
Balanced RGB – Positive TAF (no Mask)

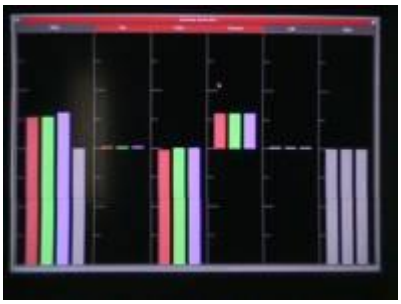

Fig. 10b
Typical Da Vinci settings for PRE Gammas

Fig. 10c
Typical Pandora settings for PRE Gammas

Stage 5.

The PRE Gain and Lift controls can now be re adjusted for a 'Flat' grade – i.e. Balanced, unclipped Blacks and Whites. You can now switch into POST Gamma mode where creativity can take over from Technical set up!

Cintel recommend that a Base memory is created using the method described above and the latest Kodak Telecine Analysis Film (TAF).

Da Vinci or Pandora Controller

Stage 1. – INTER-POSITIVE FILM TYPE

The controller should be set such that you start in PRE Gamma mode only, with 'Extended PEC range' selected if applicable.

The Da Vinci GUI will indicate PRE Only mode by the 'greying out' of the post controls and a Red bar over the PRE control graphics.

The Pogle GUI indicates which mode is selected within the 'C-Reality' window, and the tracker-balls turn Red. See figs. 11a & 11b. Select Relevant log Masking (if desired).

Toggle film type to Inter-Positive mode with the scene to be transferred already in the film gate.

Fig. 11a
Da Vinci Colour Bar Display (PRE ONLY mode)

Fig. 11b
Pogle C-Reality PCC window (PRE ONLY mode)

Turn the master PRE Gain control down significantly such that the white level can be seen easily on a waveform. See fig. 12a, 12b & 12c.

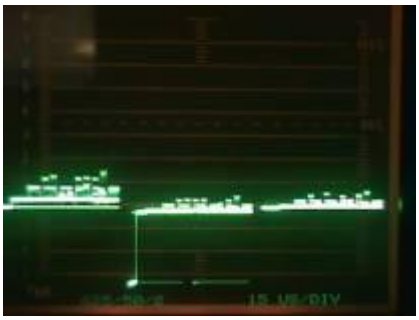

Fig. 12a
Typical view with PRE gain turned down.

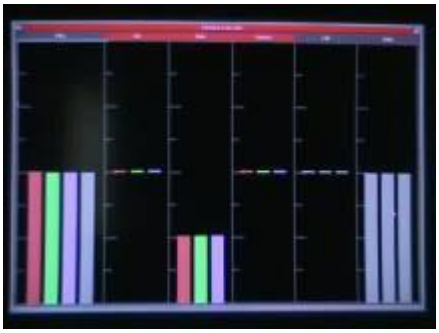

Fig. 12b
Typical Da Vinci Settings for PEC set

Fig. 12b
Typical Pandora Settings for PEC set

Stage 2.

Adjust the RG & B PEC/APD controls such that the signals head towards white i.e. you appear to be turning the signal levels UP. Continue to turn the signals UP until it is clear that the video is becoming white clipped. N.B. At this stage we are ONLY interested in the whites of the signal. See fig. 13.

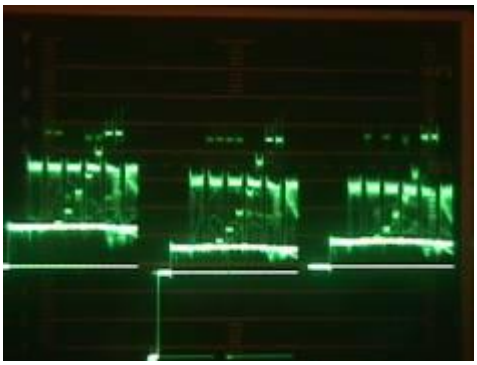

Fig. 13
R,G & B white levels clearly in clip.

Fig. 14
PEC levels set correctly with headroom

If you do not see something similar to that shown in the figure above it may be that you need to turn the PRE Gain controls further down and readjust your PEC controls.

Stage 3.

Now you have established where the detector clip point lies. N.B. operating in this area will result in some loss of picture information, it is now necessary to turn the signals down until the clip point is cleared and some head room allowed for.

THIS IS THE OPTIMUM SETTING FOR YOUR PEC's, THEY SHOULD NOT BE RE-ADJUSTED for the rest of this procedure. Usually this setting will be sufficiently accurate to cater for the rest of a roll but if significant exposure changes occur, it should be re-checked.

See Fig 14.

Stage 4.

The PRE Lift, Gain, and Gamma controls can now be returned to more usual levels such that the blacks and whites are unclipped and balanced. See Fig. 15a, 15b & 15c.

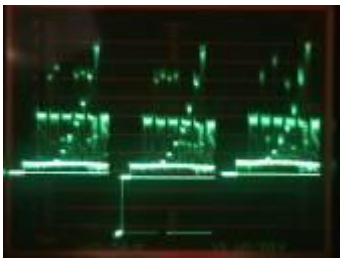

Fig. 15a
Balanced RGB – Positive TAF (no Mask)

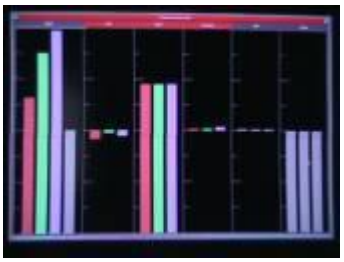

Fig. 15b
Typical Da Vinci settings for PRE Gammas

Fig. 15c
Typical Da Vinci settings for PRE Gammas

Stage 5.

The PRE Gain and Lift controls can now be re adjusted for a ‘Flat’ grade – i.e. Balanced, unclipped Blacks and Whites. For C-Reality users you can now switch into POST Gamma mode where creativity can take over from Technical set up!

Cintel recommend that a Base memory is created using the method described above and the latest Kodak Telecine Analysis Film (TAF).