

### 8.3.2 White Tone

In the White Tone sub menu the colour values for the colour temperature values can be changed.

The colour temperature mode (Normal, Delta Cool, Delta Warm) or the colour (R, G, B) can be selected with the Right/Left cursor keys. The mode or value can be changed with the Up/Down cursor keys.

First the values for the Normal colour temperature should be selected. Range: 0-255, 128 represent the middle of the value (no offset difference). Then the offset values for the Delta Cool and Delta Warm mode can be selected. Note that the alignment values are non-linear. The range is: -50 to +50, 0 represents the middle value, (no offset difference).

Input signal strength:  $\geq 10$  mV rms (80 dB $\mu$ V) terminal voltage.  
Input injection point: Aerial input.

#### Alignment Method

##### Initial Set-up

- 12 minutes soaking time before carrying out Colour Temp alignment.
- Incredible Picture/Contrast+ and Active Control & Light Sensor must be switched Off for proper tracking.
- Set all colour temperature settings to their initial values, i.e. Red=135; Green=128; Blue=133.
- The offset values for Cool & Warm should be preloaded into NVM.
- The alignment is done for Normal only.

##### Method of alignments

1. Place the colour sensor of the meter at the centre of the screen with standard orientation (at 0 degree orientation).
2. Set the meter in (T, delta UV, Y) mode.
3. Set Brightness and Colour to nominal (Factory mode, Brightness 60).
4. Set Colour temp to normal.
5. Set Contrast to make the light output Y on the meter 250 nit  $\pm 10\%$ .
6. Set Green=128.
7. Adjust Red and Blue to bring delta UV and T to the value as in the table.
8. Repeat the procedure if necessary to obtain the values as in the table.

#### Expected Results

- Measured parameters: Refer to table,
- Specifications: Refer to table,
- Units of measurement: Kelvin.

**Table 8-1 Colour temperatures**

Colour temp.	NORMAL		COOL		WARM	
	T (K)	$\Delta UV$	T (K)	$\Delta UV$	T (K)	$\Delta UV$
EUROPE	8500	-003	11500	-005	7000	-005
Tolerance	$\pm 10\%$	$\pm 003$	$\pm 10\%$	$\pm 003$	$\pm 10\%$	$\pm 003$

### 8.3.3 Tuner Adjustment

AGC (RF AGC Take Over Point)

Set pattern generator (e.g. PM5580) with colour bar pattern and connect to aerial input with RF signal amplitude - 10mV and set frequency for PAL/SECAM to 475.25 MHz. For France select the L'-signal.

- Activate the SAM-menu. Go to the sub-menu Tuner, select the sub-menu option AFC Window and adjust the value to 100kHz.
- Select the AGC sub-menu.
- Connect a DC multi-meter to F306 pin1 of the tuner.

- Adjust the AGC until the voltage at pin 1 of the tuner is 3.3 Volts  $+0.5 / -1.0$ .
- The value can be incremented or decremented by pressing the right/left Menu-button on the RC.
- Switch the set to standby to store the data.

### 8.3.4 Grey Scale Adjustment

#### SDTV Grey Scale Adjustment

##### Equipment and setting

- E.g. Fluke 54200 or Philips PM5580.
- 100% "8-step grey scale" pattern.

##### Alignment Method

- Switch to TV mode,
- Press the MUTE button on RC,
- Set SMART PICTURE to SOFT mode,
- Activate the auto color function by pressing key-sequence: "INFO - MUTE - MUTE - MUTE - INFO - MENU - INFO"

##### Expected Results

- Visual check if the 8 Grey levels are correct.

#### Analog PC Grey Scale Adjustment

##### Equipment and setting

- Quantum Data 802B.
- PC input signal, with 64 levels Grey scale pattern, 1024x768 @ 60Hz (Format= 81:DMT1060, Pattern= 123:Grey 64).
- PC input at D-sub VGA connector.

##### Alignment Method

- Switch to "PC" mode.
- Press the MUTE button on RC.
- Set BRIGHTNESS and CONTRAST to nominal "50".
- Activate the auto color function by pressing key-sequence: "INFO - MUTE - MUTE - MUTE - INFO - MENU - INFO".

##### Expected Results

- Visual check if the 64 Grey levels are correct.

#### HD Grey Scale Adjustment

##### Equipment and setting

- Quantum Data 802B.
- HD input signal, Top half 100% color bar and bottom half Grey scale pattern, 1920x1080i@60Hz YPbPr (Format= 1080i30, Pattern= HDBar100).
- HD input at D-sub VGA connector.

##### Alignment Method

- Switch to HD mode.
- Press the MUTE button on RC.
- Activate the auto color function by pressing key-sequence: "INFO - MUTE - MUTE - MUTE - INFO - MENU - INFO".

##### Expected Results

- Visual check if Color bar tint and Grey scale is correct.