Specifications

Analog Inputs: NTSC, PAL or SECAM Analog Composite, Y/C or Component YPbPr
Differential Input Common Mode rejection >3.5V
Input Return Loss > 35 dB at 5 MHz
Input A to D Quantization 10-bit
A/D sampling rate 8:4:4 (2x)
Frequency Response Y 0-5.0 MHz +/- 0.25 dB
K-Factor < 1%
SCH Phase < 1 degrees
Differential Gain < 1.8%
Differential Phase < 0.8%
S/N > 50 dB
Chroma Luma Delay < 2 ns
Y/C Separation 4-line adaptive, 4-line non-adaptive, 3-line adaptive and notch filter
Conversion Time 1.25H
Digital Outputs: 4 with EDH
Output Quantization 10-bit
Output Return loss >17 dB @ 270Mbit
Output Error Coding SMPTE EDH
Jitter Filter LBW 2Hz
Operating Temperature Range 40-100 degrees F.
Humidity (non-condensing)
Power Input +5V @ 0.6 amps
Optional 7-28 VDC 4 W
Size BNC-BNC 6”x3”x1” (153x76x25mm)

This product is not authorized for use in life support systems. Product liability limited only to the replacement of this unit. Cobalt Digital Inc. does not assume any liability for loss of use due to failure of this component.

Specifications subject to change without notice.

Cobalt Digital Inc. 2006 E. University Ave. Urbana, IL 61802 USA

Owner’s Manual
The COBALT 6590 is a high-quality 10-bit analog to digital decoder for converting 525 and 625 line, analog composite, Y/C and component signals (YPbPr) to 270 Mb 4:2:2 SDI (SMPTE 259M-C) output with SMPTE EDH. The user can select four different Y-C separation modes (4-line adaptive, 4-line non-adaptive, 3-line adaptive and notch filter) for composite input and three different YPbPr inputs (BetaCam™, MIITM, or SMPTE/N10) for component inputs.

Features include auto-detection of input standard (NTSC/PAL/SECAM), differential inputs, user configurable 75-ohm input termination and user input and output Proc. gain controls. The user has a choice of direct clock output or de-jittered SDI output. Color Bar test pattern and Pedestal On/Off functions are under user control via setup switches accessible from the bottom of the 6590.

Figure 2 - External configuration settings.

### SWITCH SW1 SETTINGS

#### SW1-1 thru SW1-4

**VIDEO INPUT AND COLOR SEPARATION MODE**

(See figure 2.)

- **SW1-5** MANUAL GAIN CONTROL
  - OFF - Manual gain control enabled
  - ON - Automatic gain control enabled

- **SW1-6** COLOR BARS ON/OFF
  - OFF - Display Video
  - ON - Display COLOR BARS

- **SW1-7** JITTER FILTER (interior switch)
  - OFF - Jitter Filter Off
  - ON - Jitter Filter On

- **SW1-8** SETUP (interior switch)
  - OFF - Pedestal not removed (not recommended)
  - ON - 7.5 IRE pedestal removed (recommended mode)

#### TERMINATION CONFIGURATION

Remove top cover and locate the three termination switches located next to each BNC input. Moving the switch away from the BNC turns on 75 ohm termination. Moving the switch towards the BNC removes the termination.

#### LED INDICATOR

The front panel LED indicates video lock when On and loss of video when blinking. A dark LED indicates loss of power.

#### INPUT GAIN ADJUST


#### PROC. CONROL ADJUSTMENTS

Full control of Y-Gain, Y-Black level, Color Saturation and Hue can be User controlled via internal switches. YPbPr has no hue control. To set Proc. values set SW8 & SW7 as shown below and press UP or DWN. To save settings set SW8 & SW7 to 9-9 and press UP or DWN. To restore factory defaults set SW8 & SW7 to 8-8 and press UP or DWN. To restore last user saved settings set SW8 & SW7 to 0-0 and press UP or DWN.

#### S8-SW7 PROC. CONTROLS:

<table>
<thead>
<tr>
<th>Output</th>
<th>Y-Gain</th>
<th>Y-Black</th>
<th>Saturation</th>
<th>Hue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite and Y/C</td>
<td>1-1</td>
<td>1-2</td>
<td>1-3</td>
<td>1-4</td>
</tr>
<tr>
<td>Component</td>
<td>1-1</td>
<td>1-2</td>
<td>1-3</td>
<td>N/A</td>
</tr>
</tbody>
</table>