

Specifications

Standards	NTSC, PAL, PAL(M), PAL(N), Secam
Analog Inputs:	Analog Composite, Y/C or Component YPbPr
Differential Input	Common Mode rejection < 4.8Vp-p
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:	6 with EDH
Output Quantization	10 bits
Output Return loss	>17 dB @ 270Mbit
Output Error Coding	SMPTE EDH
Jitter Filter LBW	2Hz
Operating Temperature Range	40-100 degrees F. 40-120F Optional Heat Sink (non-condensing)
Humidity	
Power	4W Positive Rail 0.3W Negative Rail

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.

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Model 5590

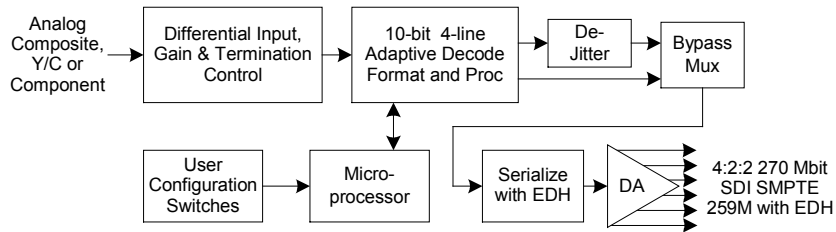
10-bit A/D

Analog Composite (4-line Adaptive Comb)
Y/C or Component YPbPr to
270Mb 4:2:2 SDI Decoder with EDH

Owner's Manual

Cobalt Digital Inc. 2003

The COBALT 5590 is a high quality full 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 compliant) 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™, MII™, or SMPTE/N10) for component inputs.



5590 Block Diagram

Features include differential inputs, user configurable 75-ohm input termination, user Proc. gain controls, de-jitter filter on/off, Color Bars on/off and Pedestal on/off. User Proc adjustments can be saved and factory defaults can be restored. The configuration controls are mounted on the card edge for in-frame adjustments.

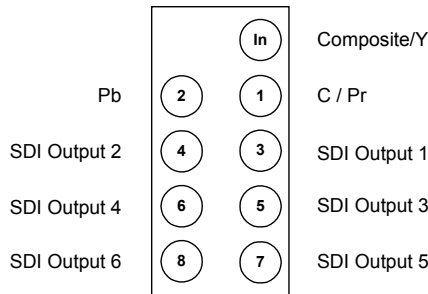


Figure 2 - External Connections

SWITCH-1 SETTINGS (Up=On Down=Off)

S1-1..4 VIDEO INPUT AND COLOR SEPARATION MODE

On	On	On	On	Composite 4-Line Adaptive Comb
On	On	On	Off	Composite 4-Line Non-adaptive Comb
On	On	Off	On	Composite 3-Line Adaptive Comb
On	On	Off	Off	Composite Notch Filter
On	Off	xx	xx	Y/C (S-Video)

S1-1..4 SETTINGS (Continued)

Off	On	On	On	Component YPbPr BetaCam™
Off	On	Off	Off	Component YPbPr MII™
Off	On	Off	On	Component YPbPr SMPTE/N10
Off	Off	On	On	Component Y only BetaCam™
Off	Off	Off	Off	Component Y only MII™
Off	Off	Off	On	Component Y only SMPTE/N10

S1-5 MANUAL GAIN CONTROL

- OFF -Manual gain control enabled
- ON -Automatic gain control enabled

S1-6 COLOR BARS ON/OFF

- OFF - Display Video
- ON - Display COLOR BARS

S1-7 JITTER FILTER

- OFF - Jitter Filter Off
- ON - Jitter Filter On

S1-8 SETUP

- OFF - Pedestal not removed (recommended for PAL)
- ON - 7.5 IRE pedestal removed (recommended mode NTSC only)

TERMINATION CONFIGURATION

Moving S8, S9, S10 to the right to turn on 75 ohm termination, to the left to remove 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.

DECODER ADJUSTMENTS S2, S3, S4, S5

Use S2 & S3 rotary switches to dial up the functions below and use S4 (Up) and S5 (Down) to adjust.

S2 S3

- 8 8 Restore factory defaults - press either S4 or S5.
- 9 9 Save user settings - press either S4 or S5.
- 5 1 Luma peaking filter up/down; both to reset (flat=default)
- 6 1 Vbit – Up=ITU; Down=SMPTE (default)

S2 S3 PROC CONFIGURATION:

To adjust Proc. set S2, S3 as shown below and press S4&S5 (Up-Down) to adjust.

Output	Y-Gain	Y-DC	Saturation	Hue
Composite and Y/C	1 – 1	1 – 2	1 – 3	1 – 4
Component	1 – 1	1 – 2	1 – 3	N/A