

## SDI to Analog Composite Converter

**-S with Frame Synchronizer / -X with Cross Color Reduction (NTSC only) / -SX with Frame Synchronizer and Cross Color Reduction (NTSC only)**  
**A choice of program quality encoders with frame sync operation.**

The Ross DAC-8016A is a 10-bit broadcast quality encoder which accepts an SDI input signal and converts to analog NTSC or PAL, providing four outputs. One or two reclocked SDI outputs are also provided.

The DAC-8016A uses new techniques in frame synchronization and the latest available encoding technology to provide a high-quality video output. The DAC-8016A has a rich set of features such as: cross color reduction, frame synchronization (5 modes are available), extensive proc amp controls, heads-up video overlay display and a serial port display. Following the Ross tradition to be the leader in single card conversion solutions, all of the features available for the DAC-8016A are contained on a single DA-sized card.

The 10-bit encoding process and full 10-bit signal path provides excellent performance with all types of picture sources. All signal processing and encoding is done entirely in the digital domain to achieve the highest level of precision.

A special feature on the DAC-8016A is the inclusion of adjustable cable equalizer for the analog outputs. This can be set to equalize up to 90m (300 ft.) of 8281 type cable to ensure that the analog outputs are delivered to their destination without signal loss.

Standard selection is automatic between 525-line NTSC and 625-line PAL. All vertical interval signals are passed at correct amplitude and without setup. The start of active video (the end of the vertical interval) is adjustable from line 20 to line 23 in 1/2 line steps sequentially on both fields.

### (-S) FRAME SYNCHRONIZER

The DAC-8016A has an optional full frame synchronizer which resides directly on the PCB, eliminating the requirement for a mezzanine board. The DAC-8016A frame synchronizer not only eliminates all system timing issues, but it is a true synchronizer in that it can also accept asynchronous video sources (such as satellite feeds), and synchronize them to house reference with infinite phasing over an entire frame.

The DAC-8016A provides a tracking pulse output which tracks the video delay. This signal can be used with the Ross ADL-8520 Auto-Tracking Audio Delay Unit to ensure perfectly synchronized video and audio.

A unique feature of the Ross DAC-8016A frame synchronizer is its ability to perform field checking on the input video. Field checking ensures constant clean output video.

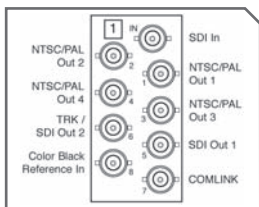
The frame synchronizer can output black or last frame freeze in the event that the input signal is lost or invalid. Forced freeze frame mode is also available. Frame synchronizer timing is based on an analog color black reference input. Ross Digital Products frames have a unique master reference input which feeds all modules. Optionally, each module can have a separate reference input, using BNC connector #8.

The DAC-8016A has been designed to use default video parameter settings that will work well in most applications. However, in order to have the flexibility to meet a wide variety of situations, each DAC-8016A comes equipped standard with an on-board proc amp.

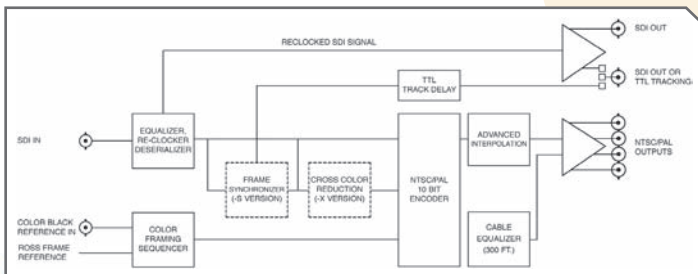
### (-X) CROSS COLOR REDUCTION (NTSC only)

The DAC-8016A achieves a major improvement in the transmitted quality of NTSC pictures with advanced cross color filter circuitry which allows for the reduction of annoying cross-color "flickering rainbow" effects. These effects would otherwise occur whenever the scene contained fine detail in the form of diagonally repetitive patterns.

Connector Diagram



Functional Block Diagram



## Features and Options

### Features:

Leitch Compatible

- Automatic standard detection - NTSC or PAL
- SDI input (SMPTE 259M-C)
- Two relocked SDI outputs
- Four analog composite outputs
- 1 or 2 relocked SDI outputs
- Frame synchronizer
- Extensive proc amp controls
- Heads-Up Video Overlay Display
- Comlink Data Port Display
- Cross Color Reduction Filter for removal of color artifacts
- All signal processing performed in the digital domain
- 12-bit output quantizing with 2X oversampling (27MHz)
- Programmable Vertical Interval (in half-line steps)
- Superblack is passed
- SMPTE 269M fault reporting
- 91m (300 ft.) output video cable equalizer maintains quality to destination
- Low power consumption
- Single card solution on a DA-sized card
- 5-year transferable warranty
- An alternative to the Leitch ENC/ENS/ENX-6801 / ENC/ENS6800+
- Fits Ross 8000 series and Leitch 6800 series frames
- Power: <6.8 Watts

### Control:

Control over the following parameters is available:

• Line Delay	• V Delay
• Line Synchronizer	• Superblack
• Frame Delay	• Vertical Interval End
• Frame Synchronizer Mode	• Cross Color Reduction
• Video Gain	• Field Checking
• Chroma Gain	• Heads-Up Display
• Hue Adjust	• Serial Port Display
• Black Level	• Freeze Mode (field 1, field 2, frame)
• Setup	• Forced Freeze
• U Gain	• Input Loss Mode (black, freeze)
• SC/H	• Hotswitch Mode (black, freeze)
• H Delay	

### Heads-Up Display:



To make configuration of the card easier, the DAC-8016A offers a heads-up display mode. The heads-up display, when activated, provides for the parameter currently being adjusted to have its value overlaid onto the output video of the card. This feature is especially convenient during setup and installation or for programming a number of cards that require an identical custom configuration. In addition, all settings can be viewed simultaneously by a PC or terminal connected to the DAC-8016A's COMLINK connector.

### Ordering Information:

Standard Equipment

- DAC-8016A** SDI to Analog Composite Converter\*
- DAC-8016A-S** SDI to Analog Composite Converter with Frame Synchronizer\*
- DAC-8016A-X** SDI to Analog Composite Converter with Cross Color Reduction (NTSC only)\*
- DAC-8016A-SX** SDI to Analog Composite Converter with Frame Synchronizer and Cross Color Reduction(NTSC only)\*

\*One User Manual is supplied with each of these RossGear products.