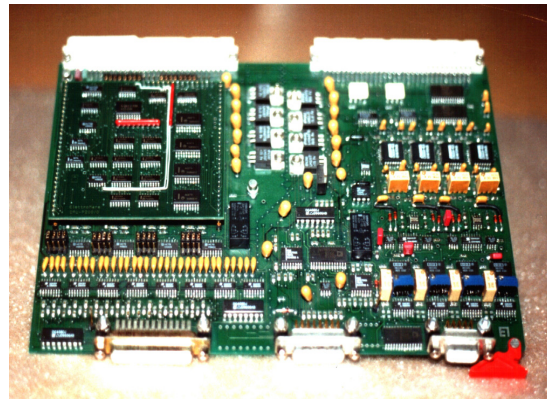# ST SKYTECH

CORRELATED DOUBLE SAMPLER
CDS-A000 / A700

Features
Fully synchronized image acquisition
CIA software supported
4 independent video channels
16 independent bias voltages
Bias voltage telemetry
6U standard board

Applications
CCD controllers
Astronomy
Scientific research

The CDS Correlated Double Sampler board represents the result of 10 years of experience in the field of CCD image acquisition. The CDS board is designed for input conditioning, filtering and A/D conversion of 4 independent CCD video signals. The 4 channels can be used for the simultaneous control of 4 different CCDs (arrays) or the management of 4 sections of the same CCD. All signals are generated at the same clock rate from a 20MHZ system clock, so as to provide an optimal synchronization between stimulation and output.

The CDS board provides 16 independent clock voltage rails and 8 independent bias voltages. Bias and clock voltages are individually programmable and provided with a telemetry circuit for remote control and tuning.
By means of the CIA software library, User can preset the characteristics of each pixel processing signal, such as voltage rails and timing waveforms, in accordance with CCD requirements, actual application or personal preferences. A simple, intuitive Waveform Editor is part of the CIA package, to allow fast and easy programming of Your personal CCD Controller.

The Correlated double sampling circuit is available in many different configurations (contact factory). In all cases, the CDS input circuitry can be easily optimized, thanks to the following features:
- SW-programmable Clamping signal
- SW-programmable Offset voltage
Each input channel can be individually configured.

The CDS board is compatible with one or more SPC board. Using at least one CDS and 1 SPC board, You can build a powerful, complete and flexible CCD controller for any scientific application!

SkyTech

Technical Characteristics

Model	min	typ	max	Units	Notes
Value					
Video input					
Number of independent channels		4			
Gain		68.66		µV/ADU	Fine tunable
Bandwidth		100		KHz	
Resolution		16		Bit	
Differential input range		±200		mV	
INL			±1	LSB	
Throughput		25		kSPS	
Offset	-2.5		+2.5	V	SW programmable
Clocks					
Number of independent signals		16			
Output range	-10		+10	V	SW programmable
Telemetry	**Provided for each channel**				
Bias					
Number of independent signals		**8**			
Output range - VB1, VB2, VB3 - VB4 - VB5,VB6,VB7,VB8	10 20 20 -13		20 30 30 +13	V	(A000) SW programmable (A700) SW programmable SW programmable SW programmable
Telemetry	**Provided for each channel**				

Ordering information

P/N	Description
CDS-A000_0.00	Correlated Double Sampler Board
CDS-A700_0.00	Correlated Double Sampler Board