

Crystal Vision

ViViD HD

HD/SDI Variable Video Delay

Keep everything in time. Use ViViD HD anywhere you need to match delays in your system.

Offset the delay caused by graphics generators in your HD virtual studio. Compensate for MPEG encoders and decoders to co-time your transmissions. Match your video to audio that's been delayed by Dolby E encoding or decoding. Or help OB vehicles using MPEG-compressed HD radio links by delaying the other signals.

ViViD HD has been carefully designed to offer the exact set of features a broadcast engineer needs in his video delay. Working with all common HD formats as well as SDI, it is effortlessly easy to set up and use. It provides over half a second of delay in HD and three seconds in Standard Definition, with a minimum setting of a few microseconds and a delay range to suit you, adjustable in individual pixels, lines or frames.

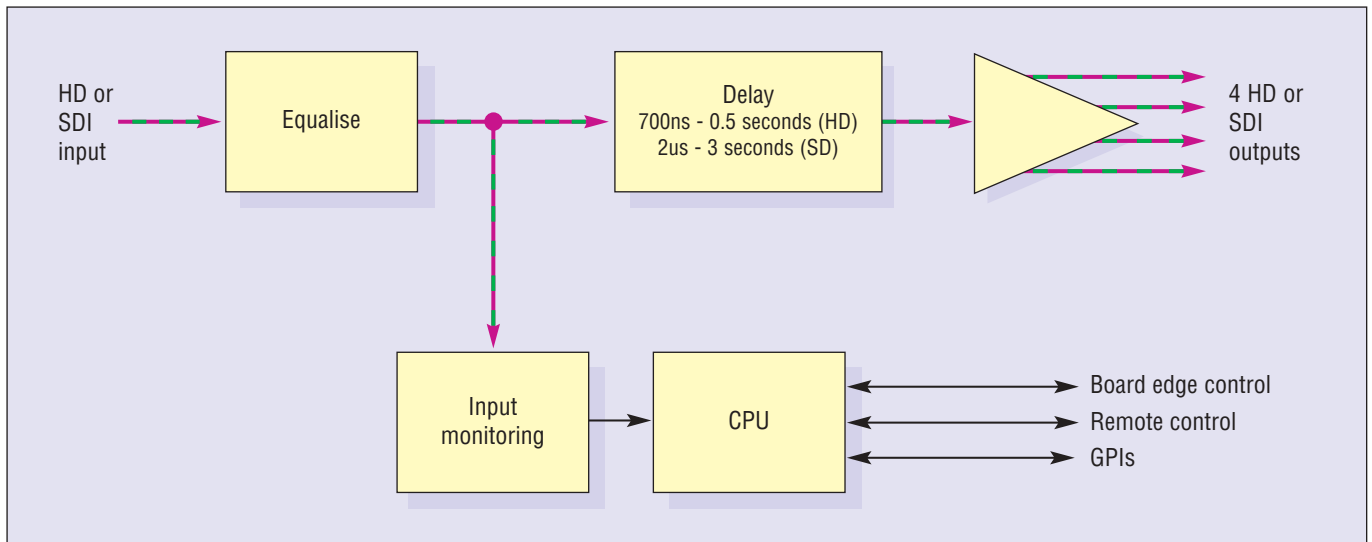
ViViD HD delays not just the active picture but the entire video stream, with embedded audio and ancillary data staying with the associated video. 16 presets can be assigned and recalled through GPI, allowing different delay values to be recalled automatically by the studio control system.

The 100mm x 266mm module can be housed in the standard frames alongside any other products from the range, including Crystal Vision's HD chroma keyer and linear keyer. ViViD HD will save you space: fit 24 boards in 4U, 12 in 2U, six in 1U or two in a desk top box. Using it with the RM29 frame rear module gives access to the four HD or SDI outputs, while control options include board edge, an active front panel on the frame, a remote control panel or the Statesman PC Control System.

ViViD HD: the essential building block in the HD television studio.



- * HD/SDI variable video delay
- * Space-saving: 100mm x 266mm module allows 12 delay lines in 2U (24 in 4U, six in 1U and two in desk top box)
- * Used to match system delays elsewhere eg. virtual studio graphics, MPEG encoders/decoders, audio processing, HD radio links
- * Maximum HD delay of 560ms (number of frames dependent on HD format)
- * Maximum SD delay of 3.12 seconds/78 frames (625 line) and 3.103 seconds/93 frames (525 line)
- * Minimum delay of 673ns (HD) and 2.3us (SD)
- * Delay adjustable in steps of pixels, lines or frames
- * Passes entire video stream
- * Four HD or SDI outputs
- * Flexible control, including PC software



SPECIFICATION

MECHANICAL

Standard Crystal Vision module 266mm x 100mm
Weight: 180g
Power consumption: 7.5 Watts

VIDEO INPUT

One HD or SDI input with reclocking
270Mbit to 1.485Gbit serial compliant to EBU 3267-E, SMPTE 259M and SMPTE 292M
All High Definition formats supported
HD cable equalisation up to 140m with Belden 1694 or equivalent (approx. 100m with Belden 8281). Cable lengths are for new HD version of frames. SD cable equalisation >250m Belden 8281 or equivalent
Input return loss: -15dB for 5MHz to 1.5GHz

VIDEO OUTPUTS

Four reclocked HD or SDI outputs using RM29 frame rear module
Output follows the input format

HIGH DEFINITION DELAY

Adjustable in steps of 1 pixel (13.5ns), lines or frames
Minimum delay: 673ns (approx. 50 pixels)
Maximum delay: 560ms (number of frames is dependent on HD format)

STANDARD DEFINITION DELAY

Adjustable in steps of 1 pixel (74ns), lines or frames
Minimum delay: 2.3us (approx. 30 pixels)
Maximum delay: 3.12 seconds/78 frames (625 line) and 3.103 seconds/93 frames (525 line)

FEATURES

Passes entire SDI stream, including HANC and VANC
16 user-defined presets to recall delay time setting

LED INDICATION OF:

Power supplies on board
HD input present
SDI input present
Time delay being adjusted

GPI OUTPUT LEVELS

Active: connect to ground, 270Ohm current limit resistors. Pulled up to +5V through 6.8kOhm

GPI OUTPUTS

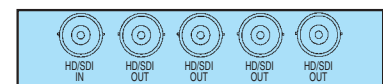
SDI input present
Audio follow output
16 preset delay values can be recalled under GPI control

LOCAL CONTROL

Board edge with 10 character alphanumeric display

REMOTE CONTROL

RS422/485
19200 baud, 8 bits, 1 stop no parity
Control from frame active front panel and remote panel
Statesman allows control from any PC on a network



RM29



ORDERING INFORMATION

ViViD HD	HD/SDI variable video delay line
Indigo 4	4U frame with passive front panel for up to 24 Crystal Vision modules
Indigo 4S	4U frame with passive front panel fitted with Statesman CPU for up to 24 Crystal Vision modules
Indigo 2	2U frame with passive front panel for up to 12 Crystal Vision modules
Indigo 2A	2U frame with active front panel for up to 12 Crystal Vision modules
Indigo 2S	2U frame with passive front panel fitted with Statesman CPU for up to 12 Crystal Vision modules
Indigo 1	1U frame with passive front panel for up to six Crystal Vision modules
Indigo 1A	1U frame with active front panel for up to six Crystal Vision modules
Indigo 1S	1U frame with passive front panel fitted with Statesman CPU for up to six Crystal Vision modules
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTA	Desk top box with active front panel for up to two Crystal Vision modules
Indigo DTS	Desk top box with passive front panel fitted with Statesman CPU for up to two Crystal Vision modules
RM29	Single slot frame rear module. Allows maximum number of ViViD HDs in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Gives access to four HD or SDI outputs
REMIND	19" remote control panel
Statesman	PC Control System

Crystal Vision Ltd.

Lion Technology Park
Station Road East
Whittlesford, Cambridge
CB2 4NL, England
Tel: +44 (0)1223 497049
Fax: +44 (0)1223 497059
E-mail: sales@crystalvision.tv
www.crystalvision.tv