

Crystal Vision



Scan Reverser

Crystal Vision has created a product to make your life easier.

What is it? It's called Flip and it is the world's first scan reverser.

What does it do? This innovative 100mm x 266mm module literally flips a picture from left to right. It does this by digitally reversing the direction of the video scan, providing a 'mirror image' of the active picture.

Why does it do this? People are more used to looking in a mirror rather than as the camera sees them and find it easier to interact with virtual objects when given this familiar view.



Do I need one? Flip is perfect for virtual studio applications, especially weather. Putting Flip into the monitor signal path provides a mirror image on the picture monitor for your presenter to watch himself, making it far easier for him to match his movements to the graphics. Flip can also correct the appearance of reverse camera angle shots on the large sports stadium replay monitors, driven from a single camera on one side. If the replay monitor is behind the camera position the crowd sees the players running towards the wrong goal - by flipping the video the players now run towards the correct goal in the replay. You might, of course, have an alternative application where you need to produce a simple mirror image.

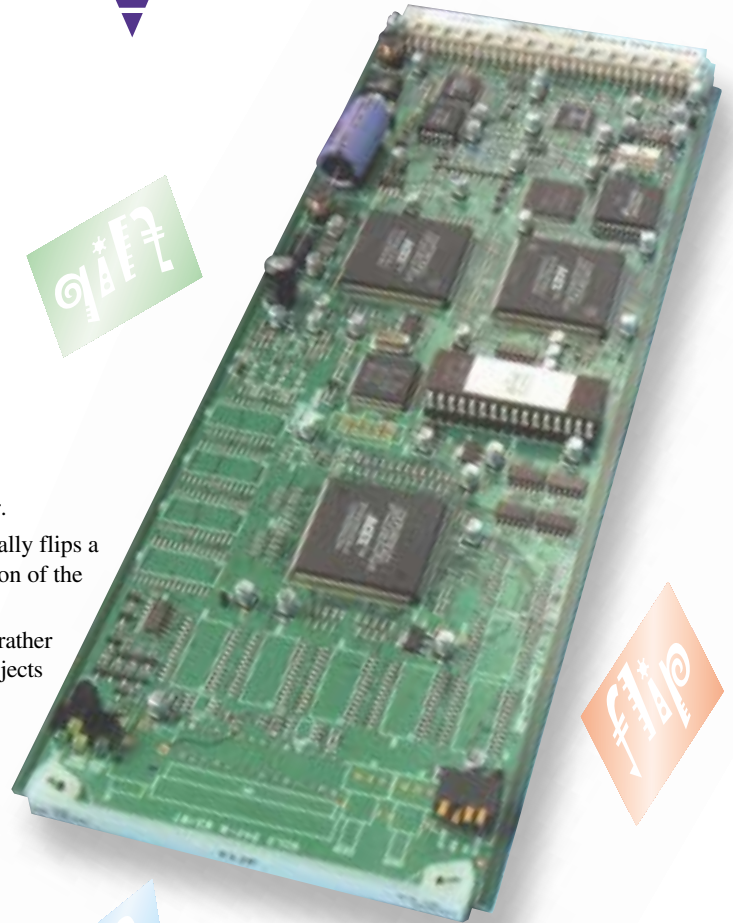
What else could I use? The only real alternative is to dedicate your DVE machine to this function or even attempt to reverse the scan coils on the monitor. Better to use the unique Flip.

What else do I need to know? Flip provides full 10 bit serial digital outputs along with 8 bit monitoring composite outputs meaning it can be connected directly to a picture monitor. Providing both reverse and bypass modes, it passes VBI data, widescreen signalling and closed-caption information unchanged, while it has an input to output delay of only 55us.

Flip can easily be integrated with any of Crystal Vision's full range of modular interface and keying products and was developed to 'round out' the company's virtual studio product range, which includes the Safire digital chroma keyer and ViViD video delay. It can be used with three frame rear modules (RM01, RM02 and RM18) depending on the outputs required, with the RM18 giving the maximum four SDI and four composite outputs.

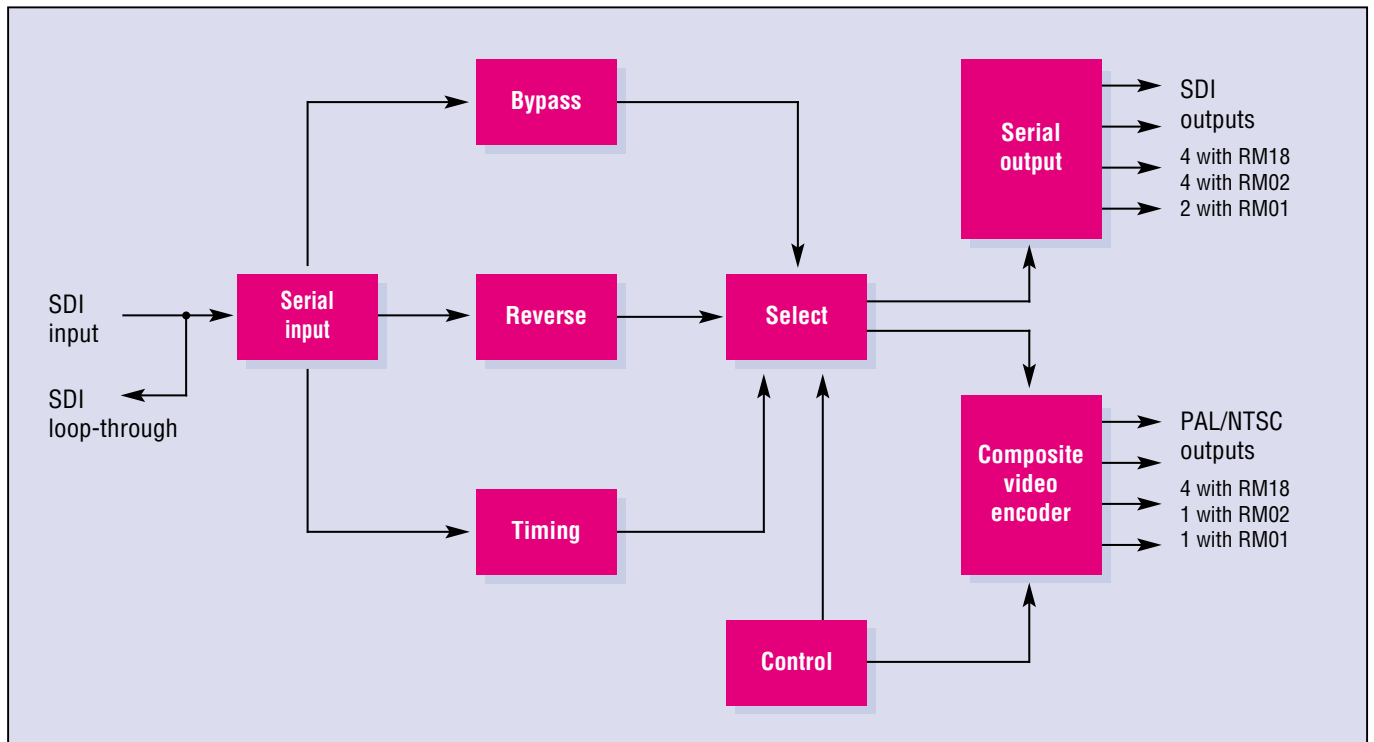
Flip can be controlled from either board edge, an active front panel on the frame or the Statesman PC Control System.

Flip: a simple idea, but incredibly effective.



- ◆ 10 bit digital scan reverser
- ◆ Produces mirror image of active picture
- ◆ Space-saving: 100mm x 266mm module allows 12 Flips in 2U (six in 1U and two in desk top box)
- ◆ Includes PAL/NTSC monitoring encoder for direct connection to picture monitors
- ◆ Ideal for virtual studios, sports stadium replay monitors or anywhere a mirror image is needed
- ◆ Reverse and bypass modes
- ◆ 55us delay
- ◆ Passes ancillary data unchanged
- ◆ Flexible control, including PC software





SPECIFICATION

MECHANICAL

Standard Crystal Vision module 266mm x 100mm
Weight: 180g
Power consumption: 6 Watts

VIDEO INPUTS

SDI 270Mbit to EBU 3267-E and SMPTE 259M
Cable equalisation >200m Belden 8281 or equivalent
Auto 625/525 line selection

SDI OUTPUTS

SDI 270Mbit to EBU 3267-E and SMPTE 259M with inserted EDH
Maximum of four SDI outputs (two outputs with frame rear module RM01 and four with RM02 and RM18)
Will drive >250m Belden 8281 or equivalent
Active reclocked loop-through provided on all rear modules

ANALOGUE VIDEO OUTPUTS

Maximum of four PAL/NTSC composite outputs (one output with frame rear modules RM01 and RM02 and four with RM18)
Frequency response: +/-0.3dB 0 to 5MHz
Noise: <-54dB weighted luminance or chrominance

LOCAL CONTROL

Board edge control of bypass

REMOTE CONTROL

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

GPI INPUT LEVELS

Electrically : Will tolerate 0V to 30V, pulled up to +5V through 10kohm

GPI OUTPUT LEVELS

Electrically: Open collector transistors 30V, 330ohm current limit resistors. Pulled up to +5V through 10kohm

GPI INPUT

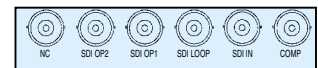
Reverse/bypass

GPI OUTPUTS

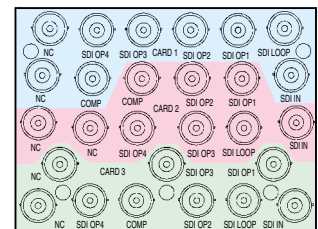
SDI input present
625/525 input standard

LED INDICATION OF:

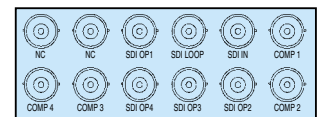
Power supplies on board
SDI input present
625/525 input standard



RM01



RM02



RM18

ORDERING INFORMATION

Flip	Digital scan reverser
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 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 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
RM01	Single slot frame rear module. Allows maximum number of Flips in frame (12 in 2U, six in 1U, two in desk top box). Gives access to two SDI outputs, one PAL/NTSC output and an SDI loop-through
RM02	Four slot frame rear module. One rear module used for three Flips, allowing nine Flips in 2U (fits in 2U frame only). Gives access to four SDI outputs, one PAL/NTSC output and an SDI loop-through
RM18	Two slot frame rear module. Allows six Flips in 2U, three in 1U and one in desk top box. Gives access to four SDI outputs, four PAL/NTSC outputs and an SDI loop-through
Statesman	PC Control System

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