

ArVis

VIDEOCONTROLLER & GEN LOCK CARD

ARVC2

The ArVis Videocontroller/Genlock Expansion Card is the vital link which interfaces the Archimedes to a variety of video sources such as cameras, tuners, videodisc-players and videorecorders as well as to signals from educational and broadcast television studios.

Captions, text and graphic images generated by the Archimedes display can be mixed with the video picture, displayed on the standard Archimedes monitor and optionally encoded so that they can be recorded onto tape.

The ArVis Videocontroller/Genlock Card is the most sophisticated video processing system available for the Archimedes. On its own it provides a complete system built onto a single width card but with the added advantage that it can be used in conjunction with the ArVis Videographics Expansion Card to extend the Archimedes graphics up to 32000 colours with a professional video framestore and real time colour digitiser.

FUTURES

- * The expansion card provides all the functions required to genlock the computer display to a composite colour or monochrome video signal (625 line PAL standard) and to decode the video signal to component RGB
- * Further processing combines the decoded RGB video picture with the RGB graphics output from the computer using high speed 'key' switching. This technique is sometimes also described as matting or overlay.
- * An optional add on sub-board gives computer controlled fades in addition to the key facility.
- * The card has a 75 ohm RGBS output from a 9 pin D connector which can drive the standard Archimedes monitor. The normal Archimedes RGB output is also simultaneously available so it is possible to use two standard RGB monitors to view both the direct computer graphics and the ArVis Videocontroller output.
- * wide band RGB signal processing. Optional PAL encoder with phaseable chromalocked colour burst.
- * Very stable professional standard genlock with instant locking on application of external video signal
- * Simple installation - plugs directly into a 2 slot or 4 slot backplane with an interconnection cable to plug onto the genlock connector on the main Archimedes circuit board

The ArVis Videocontroller/Genlock Expansion Card provides a complete genlock and video keying system to the highest possible quality for interactive video, video-projection, point of sale, and studio use. Where applications require a PAL coded signal output this is easily achieved by adding the (subcarrier phaseable) PAL encoder plug in sub-board.

The genlock circuit is based on many years experience of designing professional video equipment and BEEB-LOCK systems for earlier series of ACORN/BBC computers. Removal of the video signal causes the computer to revert to the internal display timing generators and a flywheel action ensures instant lock up and very stable timing. The system will lock to any reasonably stable PAL tape source -- disturbances to the video reference during still frame and spooling modes on domestic grade VCRs will not corrupt the computer programme.

A horizontal line phase preset adjustment is provided. In the absence of a video signal the videocontroller logic automatically switches the display output to show the Archimedes graphics.

SOFTWARE CONTROL

Normal keying of computer pixels into the video background is achieved under software control by setting the Archimedes supremacy flags.

A unique feature is the provision of a second 'shadow' key which causes certain specially coded Archimedes pixels to reduce the intensity of the corresponding video pixel -- this is particularly valuable for creating true shadow effects and for 'boxing' sub-titles to make them more prominent. This feature is widely used by broadcast television studios.

The key system can be set by a jumper link on the card to give locally controlled keys or a very much wider range of software selectable keys and masks when used in conjunction with the ARVIS Videographics Card.

APPLICATIONS

The ArVis Videographics/Genlock Expansion Card provides a complete genlock and video mix/key system to the highest quality. The system can be used to combine any computer generated colour image with a colour picture from a camera, tuner, VCR etc. to add captions, titles, graphs and other material to videorecordings.

The ArVis system is an ideal videoprocessor and genlock facility for use with interactive video disc and tape systems.

For industrial and scientific applications the genlock & overlay facility can be used to add alphanumeric data, time codes, computer processed analogue information etc. to pictures from medical cameras, security and inspection cameras, video systems, etc.

Our genlock systems were used to link images from the Halley's Comet Giotto space probe to a world wide television audience of 100 million people.

SPECIFICATION

VIDEO INPUT	1 volt p.p. composite PAL to CCIR 625 line standard, interlaced. Can also be used with colour black, comp. sync. or monochrome inputs.
INPUT CONNECTOR	Standard BNC coax socket.
INPUT IMPEDANCE	Switchable high impedance (1K) or 75 ohm terminated.
RGB INPUTS	The Archimedes RGB display signal is externally linked into the card via a cable set provided. The video input circuit can be linked internally to accept component RGB inputs instead of the decoded PAL inputs -- also via the DIN 8 pin input RGB socket.
SVHS INPUT	Consult technical sales department for availability of a Super VHS version option
OUTPUT SIGNAL	Nominally 0.7 volt RGBS from 9 pin D connector -- 75 Ohm impedance (RGB output levels can be set to 1 volt by internal preset control)
OUTPUT SYNCs.	When genlocked the output syncs. are a copy of the reference video syncs so that broadcast quality sync. signals are preserved through the system. The output syncs. are a copy of the Archimedes syncs. when genlock is OFF.
PAL ENCODED OUTPUT	Available at 1v. p.p. 75 Ohm from an optional plug on sub-board -- BNC socket. The board has preset controls for R,G,B balance, burst amplitude, luma amplitude, chroma amplitude and colour phase. Luminance delay compensation and cross colour filter.
GENLOCK	Horizontal and vertical - very low jitter. Flywheel sync. Line phase adjustable. Optional PAL encoder has chromalocked burst with 360 degree subcarrier phase adjust. Genlock automatically disabled when the video input is removed.
'LOCK IN' TTME	Virtually instant. The genlock will track unstable sources such as VCR shuttling.
KEY FACILITIES	Keying from supremacy flag of Archimedes colour palettes. Second shadow key for subtitles, spotlight effects, drop shadow captions etc. Substantial key expansion when linked to the ArVis Videographics Card.
EXPANSION OPTIONS	Additional plug on sub-board to give software controlled fades between video and computer images. The card can be easily interconnected by plug on ribbon cables to the ArVis Videographics Expansion card to form a double width system with full colour digitising, 3 image plane switching, 32000 colour graphics and extensive software image manipulation & creation.
INSTALLATION	<p>The video expansion card can be plugged into any Acorn 305, 310 or 440 series machine with an Acorn (or approved alternative) 2 or 4 slot backplane. A fan must be fitted.</p> <p>All signal connectors are mounted on the rear panel of the expansion card. The card links to the genlock header plug on the Archimedes main board via the ribbon cable supplied.</p> <p>The card is an ideal plug in system for the new 410, 420, 440 Archimedes computers</p>