

viewLOCK II

VIDEO ENCRYPTION SYSTEM



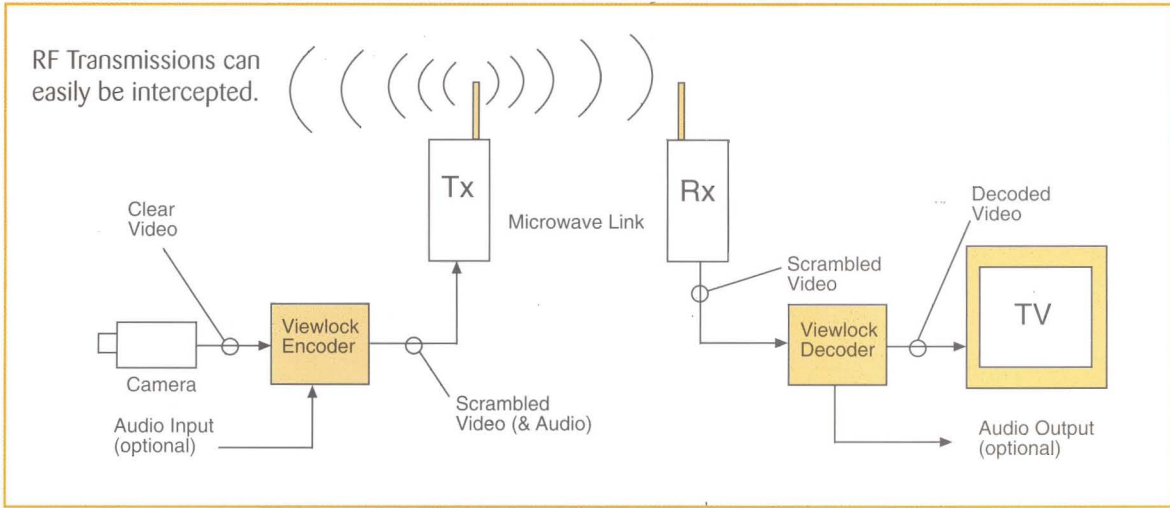
- **Highly secure**
line cut and rotate video scrambling with user-programmable encryption keys.
- **Very low DC power consumption**
less than 55mA at 12 Volts DC.
- **Optimised for use with video surveillance links**
very fast lock-in time, tolerant to noise & interference.
- **Ideal for covert installations**
rugged & weatherproof miniature housings.
- **Advanced features and options**
on screen display of status, optional digital audio scrambling.

Viewlock II is an advanced video encryption system designed to protect law enforcement video surveillance links from interception. The system offers an excellent level of video security by employing dynamic line cut and rotate scrambling combined with multiple encryption keys. Highly secure digital audio scrambling is also an option via the system's Audiolock upgrade.

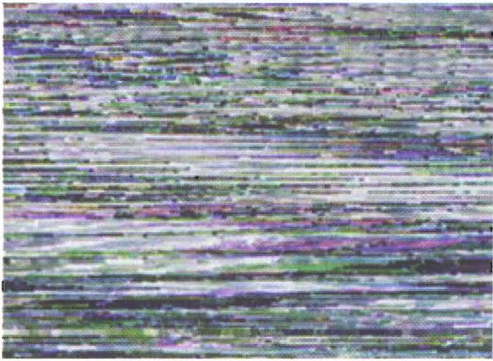
Viewlock II is compatible with any analogue video link and, with its fast lock-in time and robust performance, is ideal for use with RF links - even in marginal reception conditions. Furthermore, with its small dimensions, rugged construction and ultra-low DC power requirement Viewlock II is perfect for covert installations.

With these outstanding features, together with proven in-field reliability, Viewlock II is now established as the leading video encryption system for the protection of covert video surveillance transmissions by the world's law enforcement agencies.





Typical Viewlock II installation



Screen shot of Line cut & rotate video scrambling



Screen shot of Decoded picture

Installation & Operation

Viewlock II is very straightforward to set up and install. The encoder is simply inserted in the video path to the transmitter and the decoder between the receiver and viewing monitor. Only a DC supply in the range of 6 to 17 volts is then required to operate the system. Viewlock II has been specifically designed for installation in covert environments; the units are small, take very little current and are enclosed in rugged milled housings that are weatherproofed to IP65 specifications.

Video Scrambling

Viewlock II randomly cuts and rotates each active picture line, offering a very high level of picture concealment and security whilst maintaining link compatibility. Viewlock II even automatically configures itself for 525 line NTSC or 625 line PAL operation and is therefore compatible with almost any transmission system used throughout the world.

Viewlock II has been optimised to operate with demanding transmission systems such as RF & microwave video links. It has a very fast "lock-in" time, excellent decoded picture quality and high tolerance to multipath and noise. Indeed, robust in-field performance is a major strength of the Viewlock II system and its operation is virtually transparent to any link, resulting in little or no effect on range or performance.

Security

Secure algorithms, seeded by a unique primary key held in unreadable memory, is used to generate the scrambling sequences. Sequence seeds are then sent, via an encrypted over-the-air data channel, to the decoder. Only if the primary keys match, will the decoder be able to de-scramble the received video. To enhance the security of the system even further, the user may programme his own 256 bit secondary key via optional PC software. This secondary key, which is only known by the user, is used to customise the sequence generation even further and may be changed as frequently as required via optional PC software.

On Screen Display (OSD)

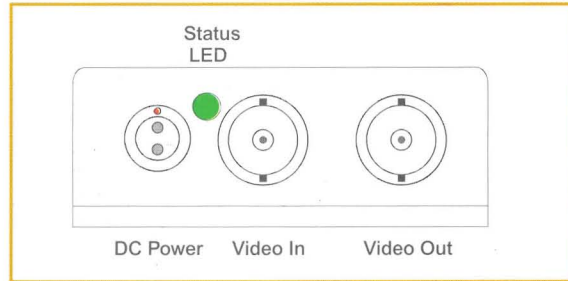
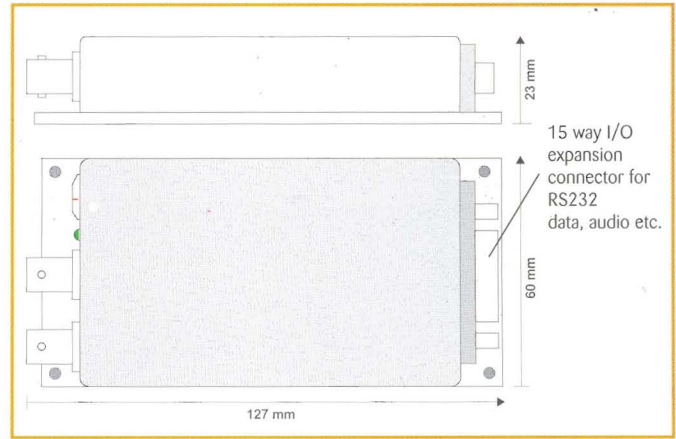
Viewlock II includes an on-screen-display as standard showing information about the status of the link. The OSD shows "Secure" when the link has been successfully encoded and decoded, and "Insecure" when the video has not been scrambled. To aid fault finding and installation Viewlock II also displays additional messages such as a "No Link", when there is no video at the input of the decoder, and "No Video" when the encoder's input is absent. It is possible to change these messages, and their position, via the PC configuration software.



Viewlock II with expansion connector

Digital Audiolock Upgrade

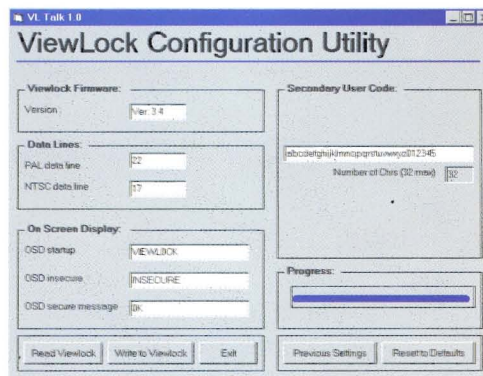
The Digital Audiolock upgrade scrambles one (or optionally two) audio channels along with the video, resulting in a very compact package that completely protects covert surveillance links. The system embeds digital audio data within the video's vertical blanking period. The data is encrypted under control of the Viewlock's encryption algorithms, resulting in a highly secure transmission. Digital Audiolock may be configured to transmit one channel of 10 kHz bandwidth, or two channels of 5 kHz. As the encrypted audio is embedded within the video, traditional link audio sub-carriers are not required, so Digital Audiolock may be used to up-grade links without such an audio capability.



Viewlock II dimensions and interfaces

PC Configuration Software

All Viewlock II units include an RS232 interface which may be used to configure the unit. Optional PC software allows the user to programme the 256 bit secondary code, the on-screen-display messages and the line used for the encrypted data channel. The software runs with any PC operating Windows 3.1x / 9x and only requires a free RS232 (Com) port.



Serial Telemetry & Data Port Options

Viewlock II may be upgraded to transmit RS232 data at up to 9,600 baud from the remote surveillance site to the receiving location. The encoder also has 8 TTL compatible inputs which are transmitted via the encrypted data channel to the decoder. This port may be used to receive status information from the remote surveillance site, or control the decoder's on-screen-display messages.

Specifications

General

Mechanical Size.....	130 x 60 x 23 mm (including connectors)
Operating temperature range.....	-10 to + 70°C
Finish.....	Hard black anodised aluminium
Weight.....	220g (approx)
Video input / output connectors.....	BNC
Indicators.....	Bi-colour LED
DC power connector.....	2 pin Lemo
DC power requirements.....	6 to 32 V DC @ 0.8 Watts (eg < 55 mA @ 12V)
EMC compliance.....	EN55022 class A EN50082-1 FCC part 15B class A

Video

Scrambling method.....	Line cut & rotate
Number of cut points.....	> 256
Video standards.....	PAL, NTSC (525 & 625 lines)
Video input level.....	1 Vpp 75Ω
Video limits for function.....	1 Vpp ± 50%
Digital sampling rate.....	8 bits at 22.5 MHz
Video bandwidth.....	to 5.5 MHz
Signal to noise.....	> 55 dB weighted > 60 typ weighted
Differential gain.....	< ± 5%
Differential phase.....	< ± 5°
Lock-in time.....	< 0.5 second max.
Data line.....	PAL: 24, NTSC: 17 (user programmable)

Audio (optional)

Scrambling method.....	Encrypted digital audio sent as VBI data
Audio input level.....	10mV to 4 Vpp, 100 kΩ
Audio output level.....	2 Vpp nominal, 1 kΩ
Audio bandwidth.....	100 Hz to >5 kHz dual channel 100 Hz to >10 kHz single channel

Viewlock II is a registered Trademark

Due to continuous product improvement, we reserve the right to change specifications without notice. E&OE.

Ovation Systems Limited

Springfield Barn
London Road
Milton Common
Oxfordshire OX9 2JY UK

Tel: +44 (0)1844 279 638

Fax: +44 (0)1844 279 071

Email: sales@ovation.co.uk

Web Site: www.ovation.co.uk

Represented by:

