D A T A S H E E T

ADVANCED SURVEILLANCE FOR TRANSPORTATION

Transportation environments can often prove harsh for electronic equipment, with exposure to constant shocks and vibration proving too much for some electronic systems. Encased in a ruggedised metal container, the TransVu unit can withstand this tough environment to provide constant security protection for your transportation investment.

Specifically designed for transport applications, the TransVu digital recorder and transmission unit can provide a long, trouble free service in high vibration environments and is ideal for mobile surveillance in all types of public and commercial vehicles.

Through advances in compression technology and the introduction of powerful new media processors unique to DM the TransVu can now record evidential quality JPEG images on the local hard drive, whilst SIMULTANEOUSLY allowing live images to be streamed to multiple connections in MPEG-4 format. This means images can be accessed over low bandwidth connections (such as mobile networks).

The unit will interface directly with common technology such as GPS location based equipment and various phone network protocols via a suitable interface. A range of applications can be supported ensuring data and images can be remotely received, such as SMS messaging and vehicle tracking applications ensure that the status of the vehicle can be monitored at all times.

A single TransVu is capable of multiplexing and recording up to 8 cameras whilst simultaneously handling 2 channels of audio, responding to panic alarms, processing GPS information, transmitting positional co-ordinates via SMS and streaming live and recorded video over wireless data networks. These and other features combine to make the TransVu one of the most powerful transit surveillance tools available.

FEATURES

- **NetVu Connected**
- **Simultaneous MPEG-4 transmission and JPEG recording[1]**
- **Ruggedised design with shock-proof cradle**
- **Up to 8 camera inputs**
- **Maximum record rate 25PPS (PAL), 30PPS (NTSC)**
- **Fixed and removable hard drive options available**
- **2 audio inputs**
- **6 configurable alarm inputs**
- **Vertical and horizontal installation options**
- **Advertising support via additional monitor outputs[1]**
- **Accelerometer included as standard**
- **Spot monitor variant available**
- **Power management facility to ensure optimum performance**
- **Video motion detection**
- **Report on alarm via SMS or other wireless networks**
- **Location tracking via GPS***
- **GSM/SMS/GPRS/UMTS support***

NetVu CONNECTED

* VIA SUITABLE INTERFACES

DEDICATED MICROS

TransVu

SPECIFICATION

CAMERAS
7 and 8 camera models available (7 camera version includes spot monitor output).

VARIABLE RECORD RATES PER CAMERA
Cameras connected to TransVu can be recorded at varying rates. This allows cameras in sensitive areas to be recorded more frequently without affecting the record rate of others.

RECORDING
A choice of hard disk options are available. Please contact customer services in your region or check the website at www.dedicatedmicros.com
Please note drive sizes may vary from time to time which may result in a larger drive capacity than stated being supplied with the unit. At time of press the maximum internal storage for the TransVu unit is 160GB, providing up to 2 months of digital recordings.

RECORD RATE
The standard TransVu can record at 25 PPS (PAL), 30 PPS (NTSC). Spot Monitor models record at 12 PPS (PAL), 15 PPS (NTSC)

FLASH DISK OPERATION
To ensure that surveillance and alarm reporting functions are unaffected in the unlikely event of HDD failure, TransVu has a built-in Flash Disk containing all the essential program and configuration data.

SCHEDULING
Choice of day or night scheduling offers the ability to automatically:
- Select the cameras to be recorded
- Switch alarms and activity on/off
- Alter the record rate for standard, alarm and activity recording

TIMED EXPIRY
- Timed expiry option allows images to be held for a selected number of days, images on the disk which are older than the number of days selected are not accessible

DIGITAL SIGNATURE
The use of digital signatures makes it possible to detect whether a single image or a sequence of images has been tampered with.

ALARMS
6 configurable alarm inputs available.
Options:
- Protect Alarm images from overwrite for a configurable period of time
- Capture additional still image at moment of alarm
- Instant messaging to remote network client on alarm
- Automatic archive of alarm video and audio to FTP server

PRE-ALARM
Each camera input can continuously capture a configurable number of images at a user defined pre-alarm capture. When an event occurs, the images captured before the alarm event are recorded to disk, allowing the viewer to see enhanced evidence leading up to the event.

VIDEO MOTION DETECTION
16 advanced VMD trigger zones with individual sensitivity on a 80x64 (PAL) grid for each camera.
Options:
- Protect VMD images from overwrite for configurable period of time
- Instant messaging to remote network client on VMD
- Automatic archive of VMD to FTP server

INSTANT ALARM REPORTING
The system can dial-out on alarm to a remote site to provide instant alarm notification.
- Instant alarm reporting
- Dial-out on alarm

E-MAIL & SMS NOTIFICATION
Short Message Service texts (SMS) can also be sent to a specified mobile phone number, via an SMS capable modem. The messages can be sent on alarm or other critical events and can Notify the following events on a camera by camera basis:
- Alarm
- Activity
- Camera fail
- Power up

AUDIO
The user has the option to record audio through the unit. Recorded with images, audio can be played back directly using NetVu ObserVer.

NetVu Connected
TransVu has NetVu technology built-in to ensure maximum compatibility with future developments in networked security. NetVu technology enables TransVu to fully interoperate with other NetVu compatible products from DM including the DV-IP Decoder, NetVu ObserVer and PDA Viewers. Providing interoperability between the worlds leading security companies, NetVu uses industry standard networking protocols supported by a wide range of third-party integration products and SDKs to ensure on-going compatibility for the future.

WEB BASED CONFIGURATION
Web based configuration enables system adjustments to be made remotely to a networked unit, such as change the record rate, set up the advanced VMD grids and engineering functions such as software updates – without the need for a site visit.

NETWORK CAPABILITIES
A standard Ethernet connection allows live and recorded viewing on a networked PC using DM's NetVu ObserVer software or via web pages using a standard Internet browser. Network viewing is independent and does not affect the recording or local operation.

TransVu includes a network bandwidth limitation option, which allows the bandwidth used by the unit to be capped. For low bandwidth remote network links, viewing applications can request that video is sent in MPEG-4 format, while local network viewers can simultaneously view using high quality JPEG images.
NetVu ObserVer software and Web page features include:
- Live full, quad, 6, and 8 way screens
- Frame advance/rewind, fast picture search and pause keys
- GOTO time and date
- Playback in full screen and multi-screen
- File export of digitally signed images over the network to the user's PC using NetVu software
- Archived images can be viewed using DM's NetVu ObserVer software, supplied with the product and as a free download from the DM website
- Multiple user access
- Event log
- Network viewing is also available for Mac OSX and Linux the event
- Direct replay of removable HDD via an optional USB caddy

INSTALLATION
Due to the rugged design of the TransVu unit, it is able to be installed either horizontally or vertically, allowing limited space to be maximised*

RUGGED DESIGN
Designed to conform to ETSI 5M2 (road) and EN 61371 (rail) standards with a heavy duty steel enclosure and aerospace grade suspension bushes, the TransVu can withstand prolonged exposure to the vibration and shock that is typical to road and rail transportation.

In addition, the use of a single, rugged, connector provides excellent protection for the various inputs and allows quick and easy removal / installation.

LOGGING OF VEHICLE SYSTEMS
TransVu supports logging of vehicle systems such as Tachometer, Speedometer, oil pressure etc. These logs can be exported and used to generate graphs, for example, where speeds in excess of fifty miles per hour are immediately highlighted.

ACCELEROMETER
Acceleration and braking can be monitored and acted on with the Accelerometer (fitted as standard). Playback of images can be accompanied with on screen meters indicating acceleration, braking and roll to the left and right.

PANIC BUTTON APPLICATIONS
TransVu can be implemented with a driver's Panic button. Pressing this will initiate an immediate call to the controlling station.

WIRELESS LAN CONTROL
Connected to a wireless access point or bridge an operator can instantly access any vehicle in any network linked depot.

When the vehicle returns to a depot, full control of the TransVu can be accomplished via wireless LAN (Local Area Network). The TransVu is fully DHCP capable and can therefore log on to a network with no operator intervention.

The TransVu can be specifically named, perhaps with the same identity as the vehicle's registration plate. This means that within a large organisation, with many network linked depots, the system operator can communicate with the vehicle without having to know in which depot the vehicle is currently residing.

GSM / GPRS / UMTS
GSM (Global System for Mobile communications), GPRS (General Packet Radio Service), or UMTS (Universal Mobile Telecommunication System) mobile telephone networks are all supported via a suitable interface, ensuring data and images can be remotely received.

SMS MESSAGING
With an optional SMS Terminal, SMS (Short Message Service) text messages can be sent from the TransVu to an SMS server or mobile phone.

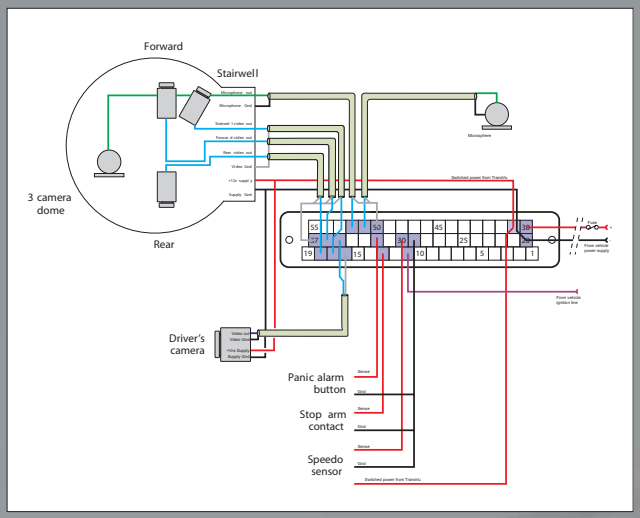
GPS
Through the use of an optional GPS unit, positional information can be relayed to a control room which may be integrated with moving map displays. GPS routes can be created and vehicles that are "off route" can be tracked and intercepted, ideal for Security applications or where vehicles need to remain on a set route.
In addition through the use in an SMS Server, GPS co-ordinates can be transmitted from the vehicle at the request of a text message.

TRANSVU MEDIA[1]
A powerful application, the TransVu Media feature allows advertising or customer information to be shown to commuters using additional Spot monitor outputs from the TransVu unit. The messaging can be location specific, advertising shops or attractions on the bus route. In addition user definable text can be overlaid on the images to add specific messages to customers. The additional revenue benefits realised by deploying a flexible advertising solution such as this can make the TransVu unit a cost effective solution.

POWER MANAGEMENT
The TransVu power management facility stops the unit recording and closes down operation 15 minutes (or a user defined time) after the vehicle ignition is turned off.
TransVu will also carry out a controlled and timed power down sequence when the vehicle voltage has fallen below a user set level.

REMOVABLE DISK DRIVE
TransVu can be supplied with a removable HDD. Located in a rugged transport specific caddy, unlocking the drive automatically powers down the TransVu. This allows easy retrieval of the HDD for maintenance/ replacement / evidential purposes, without needing to remove the entire unit.

APPLICATION
The TransVu can be used in a variety of transport based applications; from commercial vehicles such as lorries and security vans to public transport such as buses, taxis, trains and trams. The following diagram displays a typical TransVu installation in a bus, including a driver's camera, front and backwards facing cameras and a stairwell camera.



Example of TransVu wiring in a bus

In addition there are two audio microphones that will be linked to the cameras and alarm sensors to notify of engine ignition, the use of the panic alarm, the speed of the vehicle (should it surpass its designated speed), and the deployment of the stop arm (used in school buses)

Without reaching the maximum number of inputs for the unit this solution is able to provide a solid security solution that protects both passengers and driver. With the simple addition of an SMS or GPS module, messages could be sent to a remote control centre to keep operators constantly updated on the status and location of the vehicle and even provide live images.

SPECIFICATION

POWER
Voltage:
8 to 30 volts DC
Current consumption:
Typically 800ma at 12 volts DC (10 watts)

COLOUR RESOLUTION
Sampling Rate: 13.5MHz to CCIR 601
Number of pixels: PAL 720h x 512v
NTSC 720h x 448v
16.8 million colours, 256 levels of grey. 8-bit luma.

COMPRESSION
Standard JPEG format files with user definable compressed image size for high quality recording.
MPEG-4[1]

LANGUAGES
English, French, German, Italian, Spanish.

AUDIO
Audio Inputs: 2 individually selectable Mic or Line
Mic input level: 5 to 500mv
Line input level: 50 to 4000mv
Frequency response: 50Hz to 3500Hz

ALARMS
6 alarm inputs: 4 A/D type, 1 x tachometer or frequency counting input, 1 x ignition sensing for power management

SUPPORT APPLICATIONS
NetVu ObserVer

DATA CONNECTIONS
Serial Ports – 4xRS232 ports
Ethernet – 10/100Base T connection

TEMPERATURE RANGE
TransVu Unit:
0 to 55°C / 32 to 131°F
Disk Drive:
5 to 55°C / 41 to 131°F

DIMENSIONS
Case overall:
256mm x 248mm x 90mm (excludes plug & flange mount)
Base Plate area:
296mm x 260mm
Required mounting space:
350mm x 380mm x 140mm (excluding cable space or removable HDD access)

WEIGHT
4.75 Kg / 10lbs 8oz

WARRANTY
1 year warranty including HDDs

PRODUCT RANGE

TRANSVU (25PPS PAL – 30PPS NTSC)	
8 CAMERA, 2 AUDIO IN, 40GB HDD	DM/TRV1/040/08A
8 CAMERA, 2 AUDIO IN, 40GB REMOVABLE HDD	DM/TRV1/040R/08A
8 CAMERA, 2 AUDIO IN, 80GB HDD	DM/TRV1/080/08A
8 CAMERA, 2 AUDIO IN, 80GB REMOVABLE HDD	DM/TRV1/080R/08A
8 CAMERA, 2 AUDIO IN, 160GB HDD (2 X 80GB HDD FIXED)	DM/TRV1/160/08A

TRANSVU INCLUDING SPOT MONITOR OUTPUT (12PPS PAL – 15PPS NTSC)	
7 CAMERA, 1 SPOT MON, 2 AUDIO IN, 40GB HDD	DM/TRV1/040/07C
7 CAMERA, 1 SPOT MON, 2 AUDIO IN, 40GB (REMOVABLE HDD)	DM/TRV1/040R/07C
7 CAMERA, 1 SPOT MON, 2 AUDIO IN, 80GB HDD	DM/TRV1/080/07C
7 CAMERA, 1 SPOT MON, 2 AUDIO IN, 80GB (REMOVABLE HDD)	DM/TRV1/080R/07C
7 CAMERA, 1 SPOT MON, 2 AUDIO IN, 160GB (2 X 80GB HDD FIXED)	DM/TRV1/160/07C

ACCESSORIES	
40GB HDD AND 2.5" DRIVE CADDY	DM/CDY/040/TRV
80GB HDD AND 2.5" DRIVE CADDY	DM/CDY/080/TRV
REPLACEMENT 2.5" DRIVE CADDY ASSEMBLY	DM/CDY/TRV
2 METRE (6 FEET) WIRING HARNESS	DM/HARN/TRV

A heater option is also available on request for fixed drive variants only.

Please note drive sizes may vary from time to time which may result in larger drive capacity than stated being supplied.

[1] Additional product variants are available with MPEG-4 and media functions. These are not currently available in standard build products. Please contact your local customer services for advice.

FOR FURTHER INFORMATION PLEASE CONTACT CUSTOMER SERVICES IN YOUR REGION OR CHECK THE WEB SITE AT WWW.DEDICATEDMICROS.COM

FOR FURTHER INFORMATION PLEASE CONTACT

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MKT-TVU-D-003E