



## News gathering - the next generation

Human beings never tire of receiving information. No matter what time or where we are, the need to be kept updated with events is crucial to us. Emerging applications such as Mobile TV and IPTV will mean that we will eventually have access to TV wherever we are and whenever we want it so the speed of delivery from the location where the news is breaking to our TV sets is critical.



**The days of heavy antennas and** satellite newsgathering (SNG) equipment that were heavy and difficult to transport and use are well and truly over. The dawn has broken on a new generation of newsgathering equipment that is lightweight, portable, that breaks down into manageable packages and complies with IATA baggage restrictions. Once at its destination, the equipment can then be taken into the heart of the action, wherever that may be, and may be assembled in less than 30 minutes (in some cases, just 5) and then broadcasting may begin.

The equipment is ruggedised so may withstand even the harshest of conditions.

Look back at the broadcasts that we have seen recently from Sri Lanka and Thailand during the Asian tsunami, from the conflicts in Afghanistan and Iraq, from the hurricanes Katrina and Rita in the US. This equipment has meant that we can go anywhere to report on anything. Journalists and broadcasters are no longer restricted and, as there has been a huge reduction in the amount of personnel required to operate the equipment, the cost of reporting on the spot news has come down. A single journalist may now operate the equipment at the push of a button. An antenna will align itself with the satellite reducing the need for a highly skilled operator. The equipment is reliable and flexible and may be used in a certain location or mounted onto a vehicle. The problems that may have been associated at one point with gathering the news have, to a great extent, been resolved.

### So what's new?

Advent Communications introduced the world's first flyaway satellite antenna in 1989. Powerful enough to transmit broadcast quality video yet light enough to travel on a commercial airline. For the first time news crews were within hours of any major story, anywhere in the world.

At BroadcastAsia this year, Advent introduced its new FlyDrive antenna 5000 series to Asia for the first time. The 1.5 metre FlyDrive antenna solution is just one of Advent's range of vehicle-mounted and flyaway antennas. There is also a 1.2 metre FlyDrive available.

Advent designed its FlyDrive to be carried by air and then mounted on top of a vehicle in the field as semi permanent or used as a traditional flyaway – effectively bridging the gap between Advent's Flyaway Mantis antennas and the motorised NewSwift vehicle-mounted systems. The FlyDrive comes with full 3-axis motor control with manual backup, satellite auto acquisition and tracking.

Advent has also introduced a new, high performance, half-rack sized electronic package, which includes the DVE5000, AUC5000 and ACU. It is a fully integrated L-band modulator and HPA controller. The entire electronic subsystem weighs approximately 3.6 kilos. Advent's FlyDrive supports X, Ku, DBS and Ka-band



Photo courtesy of SWE-DISH.

feeds as well as C-band on the 1.5 metre antenna system.

The antennas are easy to assemble and are ruggedised so that they are effective even in the toughest conditions.

The demand for mobility, light weight, ease of use and fast deployment were key drivers in the development of ND SatCom's new SkyRAY Light antenna subsystem. SkyRAY Light offers instant, geographically independent communication in three easy steps: mount the antenna system on a car, SUV or truck, then start the autopointing and the autoacquisition process.

Dr. Gerhard Bommas, Managing Director and CTO, states: "ND SatCom strives for innovation and reliable custom solutions. SkyRAY Light is the most light-weight mobile VSAT antenna subsystem in its class in the market. The development of SkyRAY Light is a logical complement to ND SatCom's antenna subsystem

portfolio to provide our customers with immediate, effective and efficient satellite communications technology, especially when it comes to mobile IP VSAT applications and emergency preparedness."

SkyRAY Light supports broadcasters in integrating camera car operation into the production workflow and enables fast news and sports reporting in an affordable way. It extends the LAN into the field and provides a reliable broadband communication infrastructure with always-on capabilities. Besides the broadcast and disaster recovery & business continuity vertical markets, SkyRAY Light also caters to the government market for homeland security & border control applications.

#### Next-generation uplinks

UK-based SISlink provides satellite uplink services for SNG purposes. Their clients include ITN,

ITV and Sky News and they provide a fleet of SNG trucks that are on constant standby to reach any destination and broadcast quickly. Their new SNG uPod is attracting a great deal of attention. The carbon fibre uPod, introduced in 2004, is a complete, self-contained automatic uplink system that gives no compromise on performance. The uPod is easy to operate and gives exceptional performance in a very small unit. It provides a complete uplink chain in each pod (two pods equal full redundancy). The pod is PAL/NTSC analogue or SDI capable and bolts on to almost any vehicle making it easy to transport. It may be disassembled into manageable units for its flyaway mode and also has a remote wireless operation feature. The uPod may be used for satellite newsgathering, outside broadcasts, shooting, editing, DriveFly, fixed and VSAT purposes.

Norsat International unveiled its next-generation family of ultra-portable SNG (satellite news gathering) terminals in April - the Norsat GLOBETrekker SNG Terminal. "Satellite terminals are typically a trade off between portability and performance. For Norsat to provide both in the GLOBETrekker, is a testament to their engineering ability," said Tim Williams, Managing Director of UK-based SNG specialist, Sat-Comm Ltd.

The Norsat GLOBETrekker SNG Family is available as a highly integrated system which includes a carbon fibre antenna, motorised feed assembly, LNB, 40W SSPA, BUC, motorised azimuth/elevation superstructure, built-in inclinometer, compass, GPS; a baseband unit with a modulator, up-converter, spectrum analyser, DVB-S receiver, Ethernet switch, DC-DC converter, shock protected chassis; a system controller including a wired display with software and a graphical user interface. Customers may elect to use a built-in MPEG-2 encoder or employ one of their own choosing.

Packaged in rugged, self-contained IATA-friendly wheelable cases, the system easily meets the new stringent checked baggage restrictions imposed by most of the world's leading airlines including British Airways, American, Delta, Lufthansa, KLM and others. The new weight and linear length restrictions are 23kg and 157cm (L+W+H) respectively.

The terminal is particularly well suited for

"grab-and-go" applications and is well-suited for transport in small helicopters, planes and cars. It has also been designed to withstand harsh transport and operating conditions.

Options include a highly compact MPEG-2 reception and monitoring panel designed by UK-based SNG specialists, Sat-Comm Ltd. The panel includes a built-in 4:2:2 IRD capable of monitoring true broadcast quality transmissions. The monitoring panel is packaged in a single Pelican case and is available with an auto power option. The auto power enables users the ability to power the system, including the 40W SSPA from a 90-260 V AC source or a 12V DC car battery source.

### Using IP for SNG

NSSL and TET are the companies behind E-Go Solutions who, with Livewire Digital have produced an IP-based software package for store and forward video that is a cost effective and fast solution for reporting news from hot spots at short notice. The system is ideal for occasional users and can provide the broadcaster with a previously unknown level of flexibility and independence.

IP Reporter is a software package that is compatible with Livewire's M-Link store-and-forward video system. This can be installed on any laptop running Windows 2000 or XP for file transfer via any available IP connection including Inmarsat -GAN, Regional BGAN and ISDN.

Using IP Reporter, a journalist can file video footage, audio, photo and written files from almost anywhere in the world. Once the reporter has finished his/her video report, he/she can connect the camera to the Livewire interface of the laptop, and capture and encode the video in MPEG-4 or proprietary formats. This can reduce transmission time by up to a factor of 3 when compared with an MPEG-1 clip of similar quality. The simple intuitive user interface allows selection of the most appropriate compression factors for their feed and by using the IP Reporter's native acquisition feature the reporter can tailor the footage before transmitting it to the newsroom.

The IP Reporter receiver is designed to fit within the news centre in desktop or rack-mounted versions. It is particularly effective for use with the Regional BGAN system providing

a highly portable package for rapid deployment.

### SNG and interference

Developments in the satellite newsgathering industry over the last 20 years have been significant and have changed the way we think about and consume the news. However, one of the most prevalent problems facing the industry at present is that of interference. Radio Frequency Interference (RFI) has beleaguered the satellite newsgathering industry and is often down to operator error. The effect of interference on the satellite industry is significant and causes severe economic harm.

SUIRG (the Satellite Users Interference Reduction Group) is dedicated to 'stopping interference before it begins' and is a membership-funded organisation comprised of representatives from private industry and the public sector.

SUIRG works to share and disseminate information and remedies, to define equipment standards and proficiency training and also pursues programmes to reduce or mitigate satellite interference.

SUIRG have recently endorsed the very first Satellite Newsgathering training course being offered by Slingpath. The Basic SNG Operations and Practical SNG Operations courses were developed to provide a solution to the global phenomenon of satellite interference. Interference can result from poor operator skills and training. The Basic SNG Operations course offers a thorough introduction to the theoretical knowledge to use satellites.

Basic SNG Operations is an online course covering the correct procedures to access a satellite. The course is presented in seven modules and include topics such as the origins of satellite newsgathering, how to uplink, and safety hazards.

The course contains multimedia features such as interactions, animations, graphics, charts, and audio. Throughout the course are quizzes that reinforce your learning and self-check activities that test your knowledge and prepare you for the assessment.

The benefits:

- Professional training in transmission to eliminate satellite interference caused by

operator error;

- Increased confidence in rigging up, transmitting, and de-rigging SNG equipment;
- Greater effectiveness in the use of satellite bandwidth and capacity; and
- Increased credibility within the SNG industry.

After successfully completing the Basic SNG Operations course, the student is awarded a Record of Competency in Basic SNG Operations. Full certification is gained by also taking the companion course Practical SNG Operations. After successfully completing both courses, the student will be awarded a Certificate in SNG Operations. This demonstrates to any satellite operator or employer that the certificate holder has been trained and examined to an industry standard.

It is hoped that this type of pro-active attitude will not only prevent signal interference from occurring but will also heighten awareness and produce a new generation of skilled technicians who will be familiar with the equipment and what must be done in order to avoid interference in future.

The fact that satellite newsgathering is so efficient and practical nowadays is down to the advancements in satellite technology and equipment – plain and simple. We know that the tools of the trade are easy to move around and flexible and robust, but new advancements are being made on top of these making the whole SNG process more efficient.

The use of IP solutions to edit and then compress video so that it may be easily fed back to the studio via satellite or an ISDN line means that what was a long and drawn out process in the beginning is now incredibly quick and journalists can report in real time what is going on anywhere on the globe.

The ability to control SNG equipment and antennas remotely is already happening and the developments being made will surely not stop there.

News is part of our everyday lives and the importance of satellite as the most effective and successful form of newsgathering is sure to continue to advance from strength to strength, transporting us to the places that matter without setting foot out of our front door.



FlyDrive antenna 5000 series