



Photo courtesy of C-Com Satellite Systems.

Developing DSNG

Next generation satellite equipment has given rise to next generation satellite newsgathering, taking broadcasting the news to the next, exciting level. C-Com Satellite Systems, a leader in the development, manufacture and deployment of fully automated antenna systems, explores the next generation of SNG.

Developments in the Satellite News Gathering (SNG) industry over the last 20 years have been dramatic, and have changed the way we consume news and view world events. No longer is "reporting the news" good enough. Consumers want to be "part of the news". This expectation translates into having Live News available for every major story. Innovations in satellite and Internet technologies have enabled much of this advancement.

The emergence of a new generation of satellite communications equipment combines encoding, modulation and up conversion in a compact footprint and lightweight package that is ideal for news gathering applications requiring flexibility, responsiveness, and manoeuvrability. Once at its destination, the equipment can be taken into the heart of action, wherever that may be, allowing for a live broadcast.

One of the innovators in the field of mobile satellite communications, C-COM has developed a unique range of mobile auto-deploying antennas and controllers named iNetVu™, that allows the delivery of satellite-based broadband Internet, video and VoIP services into vehicles while stationary, virtually anywhere one can drive. In conjunction with SNG specific equipment, the simple and user-friendly iNetVu™ antenna systems make it possible to deliver live content to the audience.

The iNetVu system enables journalists to deploy the antenna and acquire an Internet connection simply with the push of a button, thus making it possible to deliver cost effective 'on the spot' news reporting without the need for in-depth technical knowledge of the ins and outs of satellite technology.



The technology shift

The earliest SNG communication systems used analogue modulation, similar to conventional television and radio. During the 1990s, digital modulation supplanted analogue modulation, giving rise to the newer technology of Digital Satellite News Gathering (DSNG).

A modern DSNG vehicle, once equipped with an iNetVu mobile auto-deploy antenna system and the associated equipment required to convert the Video signals so they can be transmitted directly up to a satellite, can be deployed from practically anywhere where one can drive. The video stream is transmitted between the vehicle and a geostationary satellite and between the satellite and a control room run by a broadcast station or a TV network. In the most recent DSNG systems, Internet Protocol (IP) is used to make this happen.

When deployed in the field, the auto-deploy iNetVu antenna aligns itself automatically at a press of a button with the appropriate satellite, thus reducing the need for a highly skilled operator to be present. It can be equipped with a number of different controllers offering solutions for a varied range of applications with or without the need for an external computer to operate the system. The equipment is highly reliable and flexible and can be deployed from a transportable case, or it can be mounted on the roof of a vehicle. The iNetVu antennas are easy to configure and are ruggedized so that they are effective and operate even in the toughest of environmental condi-

tions. The demand for mobility, light weight, ease of use and fast deployment were the key drivers in the development of such systems.

Mobile broadcasters have become increasingly interested in establishing direct communications between the DSNG vehicle and the home studio. If the mobile vehicle is not able to communicate to the studio once it has reached its destination, the only option is to record the event for ultimate retransmission, but unfortunately the news will be stale by the time it can be presented. Often the site of the news is outside of cell phone coverage areas, adding an extra layer of difficulty to the reporter's dilemma. With a two-way IP link between the studio and the DSNG vehicle, the iNetVu system allows the vehicle to connect to the corporate network within minutes of arriving at the location. This can even include voice over IP (VoIP), which delivers standard voice communication (telephone) in addition to data and video.

Extending the range of the corporate network over a two-way satellite link into the DSNG vehicle has opened up new more efficient ways to put together news reports. Once a corporate LAN is established inside the vehicle, journalists are able to begin accessing video material from the studio library. This extends the artistic ability of the journalist and makes it possible to build a complete news report using live clips from the site of the event, library clips,



Photo courtesy of C-Com Satellite Systems.



and contributions from journalists in other vehicles throughout the world. The idea is to enable journalists in the field to manage delivery of broadcast-quality MPEG-2/4 content.

Using an iNetVu 1200 system, we have demonstrated a 9 megabits per second uplink to the satellite, which allowed us to broadcast one High Definition feed and one Standard Definition feed simultaneously. Both feeds were also returned to the vehicle for monitoring. Customers in the SNG segment are using iNetVu systems with 40, 80, 125 and higher wattage transmitters (BUCs) for high rate of data transmission from remote locations. In fact the system is capable of being used with up to 185 Watt BUC that fits on the feedarm of the 1.2M iNetVu platform.

The new method of transitioning to HD (High Definition) broadcasting makes it important for broadcasters to look at ways of acquiring HD footage for inclusion in their newscasts or other programming. The emergence of DVB-S2, an enhanced version of the DVB-S standard traditionally used for SD (Standard Definition) broadcasting over satellite, further adds to the efficiency of HD delivery. The iNetVu Controllers support both DVB-S and DVB-S2 broadcast standards. The DVB-S or DVB-S2 tuner is an integrated part of all iNetVu controllers and provides the option to find the satellite with and without the use of a satellite modem. The latest iNetVu 7000 Controller offers the user the option of configuring all of the required parameters by simply using the front panel buttons of the controller. The iNetVu in combination with the various advanced broadcast technologies available today presents a great opportunity for efficient and cost-effective delivery of HD broadcasts, making it possible for broadcasters to broaden their high-value premium offerings with the introduction of HD standards.

Opportunities

The demand for SNG solutions began in 1980s when the first Fixed Satellite Antenna was mounted on a truck for mobility. Most of these solutions required the presence of a highly qualified broadcast engineer to operate the equipment and establish manually the desired satellite link from a remote site. Today, using the iNetVu mobile auto-deploy antenna systems we can offer a simple 'one button solution' that makes it possible to operate the antenna system by just about anyone.

With news gathering opportunities on the increase in the US, Europe, the Middle East as well as in China and other Pacific Rim countries, iNetVu systems are being deployed for DSNG applications in increasing numbers around the world. C-COM Satellite Systems is a leader in the development, manufacture and deployment of fully automated, auto-deploy mobile antenna systems and offers six different antenna sizes with three different controller types and endless configuration of modems, modulators, BUCs and LNBs.

Though this segment is a new market for C-COM, its CTO Bilal Awada says: "The SNG market is a new opportunity for us and we

believe that we have the ability to provide our existing platforms for this market place and deliver cost effective solutions to customers who can benefit from the versatility and reliability of the iNetVu products. Our systems have been proven to work well in this market segment and we are excited to cater to new customers interested in deploying this technology for their varied applications."

To serve the SNG/DSNG market, C-COM aims at providing not only the latest but also the most cost-effective satellite communication solutions. One of C-COM's European dealers, Multi Media Satellite Services (M2Sat), has been offering broadband satellite solutions, equipment, systems and services to their customers in the press & media markets. Their signature DriveAway DSNG terminal is an integrated vehicle based iNetVu antenna system. According to M2Sat "we have selected the iNetVu antennas due to their high quality and cost effectiveness."

The iNetVu system when used for Sichuan earthquake relief gave remarkable results. Whether the vehicle was parked on a slope or a cliff, it would quickly find satellite and make it possible to provide journalists with instant communication through transmission of video in real time. Even during strong winds, the iNetVu system would re-peak and re-establish communications automatically and keep the link alive.

"We have used the iNetVu systems during wind speeds of 100 km/h, and the live broadcast did not get interrupted. This unit was deployed every day more than 15 times each day for around 40 days. It always found the satellite in less than two minutes and it operated flawlessly and reliably each and every time it was deployed. We are very impressed by the quality and reliability of the iNetVu product and look forward to buying more of them," said Mr. Yao Zhongbo, broadcast engineer for China based CCTV, China's largest national TV network.

With other customers like PLA news department, SVT, ESL, 2nd City SNG, Sohu and the like, C-COM's customer base spans from the US, Europe to the Asian continent. With introduction of new auto-deploy products, C-COM further aims at providing a new spectrum of DSNG solutions providing greater ease of operation and deployment.

"We are looking forward to becoming a key player in the DSNG market place. The iNetVu antennas have been field proven on all continents with over 1800 installed sites. We expect to see this momentum to be carried over to the DSNG market place that is a rapidly growing and will be an important market segment for us," says Dr. Leslie Klein, President & CEO, C-COM Satellite Systems Inc.

DSNG is becoming a vibrant and technically demanding sector of the global satellite industry. Keeping abreast with the latest trends in the DSNG market, players like C-COM Satellite Systems Inc. are hopeful to expand their customer base by delivering high quality cost effective and reliable auto-deploy products to the rapidly growing users of DSNG applications worldwide. ■

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