



Bobbi Tull

# Satellite-Delivered Learning

One of your newest training tools is orbiting overhead right now.

By GAIL C. ARNALL

**F**ifteen years ago satellite information delivery was in its infancy. Today everyone—including trainers—takes the technology for granted. Satellite technology now provides access to a widening range of training resources.

*Arnall is director of the PBS National Narrowcast Service in Alexandria, Virginia.*

Naturally, trainers want to know what resources are available through satellite technology, how the technology works, and how much it costs.

Nothing about satellite-delivered training should mystify trainers. Jim Black, president of Videostar, a satellite network provider, for years has been stressing that "this is only television." Similarly, Elliot Gold, publisher of *BusinessTV*, a television

guide for business programming, recognizes that "we're a television society."

## What's offered

Once a company has a satellite receive dish, it can take advantage instantly of numerous programming services. The variety of programs has grown to include management seminars, preproduced videos on effective communications and

computer literacy, retail training, graduate degree courses, and a variety of other subjects.

Satellite-delivered training offers several benefits, the first being an economy of scale. There are cost savings derived from sending programs by satellite as opposed to mailing hard-copy cassettes. In addition, geographically scattered departments within the same company can participate simultaneously, via satellite, in the same training program, eliminating travel and time costs. In the case of single-company sites, small staffs can receive training that might not otherwise be affordable. Properly planned, the savings can be significant.

Training by satellite also allows a company to provide an entire work force access to either its best trainer or a particular expert. So quality control, a major consideration in company-wide training programs, can be maintained and company employees can be exposed to the highest-level experts available.

The third benefit of this technology is timeliness. Satellite-delivered programs offer immediate dissemination of information that cannot be matched by any other medium.

## Looking back

The satellite dish made its entry into corporate America in the early 1970s, but economics limited its growth. A few companies engaged in annual or semiannual teleconferences, but videocassette training made much greater inroads. "We see tape-based training as a watershed," says Douglas Brush, a partner in the management services and market research firm D/J Brush Associates, which regularly issues business television use reports. "It's either the oldest of the new technologies, or the newest of the old."

"The combination of telecommunications deregulation and growth, coupled with the increased need to communicate, has produced a new industry," says Brush. "Companies didn't need to communicate 15 years ago like they do now for a variety of reasons, like overseas competition and increased government scrutiny. Plus managers realize that they can't go it alone. The best-producing employees are well informed and well trained."

But the most compelling reason for the growth of satellite-delivered services, summed up by Hospital Satellite Network's (HSN) Tom Rasmussen, is economics. "Very simply," he says, "that's what is driving the industry. The cost of dishes has dropped because of deregulation of dishes in the 1970s and the sheer

number of companies that are installing dishes."

In each of the past three years, the number of companies installing dishes has doubled or tripled. In light of that growth, you can buy a Ku-band receive dish for as little as \$5,000 and a C-band dish for even less. [See the sidebar entitled "How Satellite-Delivered Learning Works" for an explanation of these two types of dishes.—Editor]

The reduced cost makes it easier for a company to buy a single dish or even a network of dishes. The fact is few companies purchase satellite networks exclusively to meet training needs. According to Al Bond, manager of business TV at Texas Instruments, "In a business environment, the use of a satellite network for meetings, conventions, and the like is of more use to management than its use for training. Management tends to say, 'We can do training on the satellite as well.' You can't sell a network just on training, but training will be advanced. There will be a lot more training at a reduced cost."

Bond can point to an example at his own company: "We have a plant in Johnson City, Tennessee. People there are taking

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courses out of California and from Ohio State University. Not only is that a great way for us to train them further, it's a recruiting tool for us, which we can offer as continuing education on the job."

Texas Instruments receives an engineering program via one type of satellite-delivered programming: *vertical* programming, which is aimed at a very specific audience. The number and variety of these vertical programming options are likely to increase. At the same time, companies now can receive programs that are much more generic and, therefore, applicable to a wider number of employees. As John Cusick, manager of product management for network services at GTE SpaceNet, says, "The typical company has not been able to put in a dish and say, 'Let's see what's up there.' You had to be a hospital, a high-tech firm looking for engineering, or one of those companies within the vertical markets of the networks. That's changing now."

## New direction

Preproduced generic video programming has, of course, been available for

years. With satellite delivery companies can now receive preproduced and live video programs, packaged by subject, that are of interest across industries and professions. This is *horizontal* programming.

The Public Broadcasting Services (PBS) has recently launched the National Narrowcast Service (NNS), which fits into the horizontal category. NNS subscribers can receive preproduced video programming on management and supervision, sales and marketing, effective communication, computer literacy, technical skills, and many other subject areas, all acquired from over 60 producers across the country.

NNS categorizes the prescreened programs into nine "program tracks" that can be purchased independently. Subscribers can tape off-air and use the programs in their training program for a full year. NNS also produces live, interactive teleconferences on timely subjects of interest to business. In each case the NNS subscriber can receive the teleconference directly at the work site.

Another producer of horizontal programming is the American Management

Association, which is producing a series of teleconferences with topics aimed at all levels of corporate staff, from secretaries to executives. These work much as NNS teleconferences do, with companies able to receive the programming right at the office.

Take, for example, a company with a mandate to provide first-line supervisory training. This organization might augment its own training program with special programs delivered via satellite. In some instances the programs are designed to be used in a live classroom format. In other cases the tape might be kept in a company library for individual use and career development programs. Sometimes the tape can serve both purposes.

One of the major questions facing NNS staff is how to help trainers use NNS programming effectively. Clearly, video-based training cannot meet all a company's training needs. Most video-based training can be enhanced significantly through an expert facilitator and classroom discussion. On the other hand, video-based training can be a very cost-effective means of addressing standardized information requirements, thus allowing the training staff

## How Satellite-Delivered Learning Works

The term *business television* describes programming delivered via satellite. Business television programs, either live or taped, are transmitted from third-party sources or a corporation's own television studio through cables to a special antenna or satellite earthstation called an uplink. The program signals are sent from the uplink to one of several satellites that are about 22,300 miles above the planet.

Two different kinds of satellites are used today for business television. One is called a C-band satellite, the other a Ku-band. C-band is like a commercial AM radio, while Ku-band resembles a special-use radio common to police broadcasts. Like radio, each uses different frequencies.

Satellites have several stations, called channels, that receive television signals from Earth. The different channels on the satellites are called transponders. One side of the transponder receives the signal and then the other side transmits it back to Earth.

Because the satellite operates like a radio broadcasting system in the sky, an antenna and radio tuned to the correct channel is necessary to receive programming. This radio-antenna is called a downlink. Downlinks can go by other names: earthstations, dishes, VSATs (very small aperture terminals), or TVROs (television receive only antenna).

Whatever they're called, the downlinks that receive Ku-band transmissions are smaller than their C-band satellite counterparts, making the former easier to install. And the Ku-band is reserved for satellite communications, while the C-band can also be used for Earth-based communication systems. The C-band satellite systems sometimes get interference from the C-band communications systems on Earth. On the ground, the television signal is moved through cables from the downlink to a standard television set for viewing.

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to focus on unique company training needs.

## The reach of vertical programming

Most existing satellite-delivered programming services are highly vertical, serving specialized market niches, often with a large percentage of live programming. For example, the National Technological University (NTU), headquartered in Fort Collins, Colorado, sends graduate-level engineering courses to participating companies around the country. Most of the NTU schedule is taped classroom instruction. The satellite students take the class right along with the studio students and receive college credit. Other groups sending out their own engineering programming include Associated Media-Based Continuing Education for Engineers (AMCEE) and the Institute of Electronic and Electrical Engineers (IEEE).

"This is a way to take a limited resource, such as faculty, and leverage it much further," says Mark Bradley, marketing manager for NTU. "One professor told me he can get across his point of view to a larger group of people in one satellite class than he could in 20 years of a conventional class." Conversely, a company can afford to put more of its students in class without the cost of having them leave the building.

Hospitals are another vertical market well served by satellite training. For example, the Hospital Satellite Network (HSN), with a subscriber base of about 550 hospitals, transmits both live and preproduced programming for nurses, doctors, and administrators. HSN produces four or five live, interactive programs per month and transmits approximately 300 half-hour, specially produced programs focusing on medical and clinical subjects. Subscribing hospitals have the right to tape programs for later use.

Other vertical markets served by satellite include law, accounting, and financial services. Aetna Life and Casualty, with a 15-site network, has found programming from the Institutional Research Network to be particularly effective for its investment department. The CPA TV Network, designed for certified public accountants, offers certification training programs for accountancy associations.

"Wherever you have areas being deregulated or environments that are constantly changing, you'll find big users of training. Satellite programming has responded to that," says *BusinessTV's* Gold. "Medical people never really leave the

university setting; law is a moving target; accountants have to undergo training all year long."

The American Law Network distributes biweekly American Law Institute/American Bar Association seminars for attorneys over a satellite network. In these cases individuals register and attend the teleconferences at a single local site.

## In-house productions

So far we have discussed horizontal and vertical programming from third-party sources. A growing number of companies are producing their own programming. In fact a small group of firms has gone even further and installed their own satellite network, complete with program-producing capability.

Most of the training currently offered on these corporate satellite networks is product specific. For example, Computerland brings onto the network vendors of national computer lines such as Compaq and MacIntosh to instruct retail outlets about their machines. "We'll get the top salesperson for Toshiba on the network telling how to sell big accounts for one of their products," says Al Maggio, Computerland's television production manager. "The stores get a programming guide and they tune in and can call us with questions. We think it's advantageous to see new products right at the time they come out."

The J.C. Penney company is using its satellite network for marketing and merchandising to its retail outlets. Merchandisers at the various stores can now make wholesale purchasing decisions based on clothing modeled on television. Penney's is also developing live retail sales training to be delivered by satellite. According to Paul Rush, sales manager for J.C. Penney Communication, the firm hopes eventually to market its programs via satellite to other companies.

At Texas Instruments, George Mattot, learning center manager, and his staff are exploring ways of implementing more generic training on their well-established television network. "We are developing generic training followed up by on-site facilitation," says Mattot. "You need the personal interaction. A lot of the generic programming can be accomplished now, but the important thing is you have to be able to explain the application you're teaching, show how it applies, do the role modeling."

## Questions to answer

There are two issues facing trainers using satellite-delivered programming: How

can satellite-delivered programs fit into a comprehensive training program? How much time does an employee have to watch television?

As far as how to integrate satellite-delivered programs into a comprehensive training program, NNS has received responses that suggest three approaches. First, companies could identify specific training needs that their training staff won't be able to address in the coming year and see what is available via satellite to fill those gaps. Or companies could select video programs to enhance classroom instruction already planned by training staff.

And finally, organizations can enhance their career development programs by providing individuals access to teleconferences and pretaped programs.

Pete Hollinshead, satellite manager at Chrysler, one of the first companies to install a satellite network, recognizes that there can be a problem as far as how much time employees can watch TV. "We've had to reinvent the wheel in some cases looking for programming. We have sales staff that are on the road a lot. There's a limited amount of viewing time for them."

Says Rasmussen of HSN, "The \$64,000 question is, 'What is the most ef-

fective way to use television for busy people?' I think the jury is still out. In our case we produce half-hour programs so they can be watched before work or during lunch. Sometimes, however, the case demands more viewing time."

Gold of *BusinessTV* agrees. "There won't be eight thousand people watching four day-long programs," he says. "That's a misconception. What I see is four people drawing from a universe of 8,000 short programs. They'll watch what they need to watch."

## Vendors of Satellite-Based Training

### Association for Media-Based Continuing Education for Engineers, Inc. (AMCEE)

500 Tech Parkway NW  
Atlanta, GA 30313-2446  
404/894-3362

Contact: Linda DeGrand

### American Society of Chartered Life Underwriters (ASCLU&ChFC)

270 Bryn Mawr Ave.  
Bryn Mawr, PA 19010  
215/526-2500

Contact: Jeanne Thomas

### The American Business Network (BizNet)

Chamber of Commerce of the United States

1615 H St. NW  
Washington, DC 20062  
202/463-5697

Contact: Doug Widner

### California State University, Chico

Chico, CA 95929-0250  
916/895-6105

Contact: Charles Urbanowicz

### Institute for Electrical and Electronics Engineers (IEEE)

445 Hoes Lane  
Piscataway, NJ 08854-4150  
201/981-0060

Contact: Dr. Robert Kahrman or Betty Maranca

### Independent Insurance Agent Association (IIAA)

100 Church St.  
New York, NY 10007

Contact: Kevin O'Brien

### Microage Computer Stores, Inc.

Tempe, Arizona  
602/968-3168

Contact: Gerald Jeffries

### National Narrowcast Service (NNS)

### Public Broadcasting Service (PBS)

1320 Braddock Place  
Alexandria, VA 22314-1698  
703/739-5300

Contact: Monica Morgan

### National Technological University (NTU)

601 S. Howes St.  
Fifth Floor, North Wing  
Fort Collins, CO 80522  
303/491-6092

Contact: Mark Bradley

### National University Teleconferencing Network (NUTN)

Oklahoma State University  
332 Student Union  
Stillwater, OK 74078  
405/624-5191

Contact: Don Spurrier

### Rochester Institute of Technology (RIT)

One Lomb Memorial Dr.  
Rochester, NY 14623

716/475-5166

Contact: Susan Rogers

### Simplot/Micron Technology Center

Boise State University  
Boise, ID 83725

208/385-3286

Contact: Ann Fisher

### State University of New York, Albany

1400 Washington Ave.  
Albany, NY 12222

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### Texas Instruments

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