

### **Zweites Deutsches Fernsehen (Germany)**

Since January 1, 1996, ZDF (Mainz, Germany) has been on the air with its MPEG-2-coded and fully DVB-compliant main program via the ASTRA system. The video part is currently coded with 5.2 Mbit/sec compression within a share of 6 Mbits/sec on transponder 88. With the launch of ASTRA 1G in mid-1997, ZDF will fill a complete transponder, increasing transmission capacity from 6 to about 35 Mbits/sec. As this significant step is approaching, ZDF has already arranged a tight schedule for preparations, planning a digital broadcast control center combined with a new uplink station at Mainz. Considering the potential of interactivity provided by the latest generations of set-top boxes, and further considering an enormous increase of service offerings, an until now unknown quantity of options for the viewer may very

well be predicted. This leads to the growing importance of electronic program guides (EPGs).

In this new field ZDF plans to install concepts of its own and to stimulate further ideas. An EPG, as understood from a service provider's point of view, defines itself as customized guide to the potential options of services offered via a set-top box. Competing service providers will have distinct target profiles and core features of their services. Taking this into consideration, it is obvious that the possibility to offer service-specific EPGs becomes an important indicator for open competition. A system that achieves this far-reaching key demand has been designed by ZDF together with partners.

The technical provision for building independent EPGs is based on an application interface (API), which allows the delivery of dedicated software into the set-top box. Such soft-

ware shapes a variety of applications and in particular facilitates loadable EPGs. Thus the question of neutrality turns out to be simpler than before: How impartial are the advance selection processes in order to start an EPG?

It was this question in particular that led to a kind of basic EPG called "Navigator," which is started right after the set-top box is switched on. Navigator leads towards a selection or a bouquet of services. Once a selection is made, the service itself can take over, executing control with an EPG application of its own. There is just one restriction to the EPG: the mandatory option allowing the viewer to instantly re-activate Navigator on button-press. However, the concept of Navigator and EPGs will no doubt prove to be an essential jigsaw-piece for the launch of competing services sharing a single set-top box.

## International Overview

### **Australia**

#### **Atlanta Olympics**

The Seven Network provided Australia's coverage of the Olympic Games in Atlanta, broadcasting 300 hours of the event. Seven's facilities were supplied and installed by the Toronto-based Applied Electronics, Ltd.; almost all of the equipment was rented, predominantly because the coverage was in NTSC. For the 1992 Barcelona Olympics, which was broadcast in PAL format, Seven purchased equipment and after the Games used that equipment to update their facilities in the network's stations.

The Seven Network has acquired the Australian rights to all further Olympics up to 2008.

#### **Olympics Games 2000**

The contract to build the main stadium that will be used at the Olympic Games in Sydney in the year 2000 has been awarded to the Multiplex Co. The stadium will have a permanent capacity for 85,000 spectators, with an additional 25,000 seats for the

Olympics, raising the capacity to 110,000. It is believed that this will be the largest stadium ever used for an Olympics.

As mentioned in the 1993 Progress Report, a working party was set up to assist in the Sydney bid for the 2000 Olympics. That working party consists of members from the Seven, Nine, and Ten commercial television networks; Australian Broadcasting Corp. (ABC) Television; ABC Radio; the Special Broadcasting System (SBS); Foxtel; and Global Television. It is providing advice for radio and television coverage to architects and designers.

#### **Digital Compression System for ABC-TV News Interchange**

The Australian Broadcasting Corp. (ABC) has recently completed a project to provide its own television news interchange facility. The ABC decided some time ago that it would be more cost-effective to provide its own earth station facilities rather than use those provided by the domestic satellite carrier, Optus. The project consisted of placing antennas, uplinks,

downlinks, and monitor and control facilities at all capital city studios. Switching of uplinks to the satellite is nationally controlled from Sydney. Other earth stations located in diverse sites in Australia and Papua, New Guinea, can also access the satellite if required. The ABC started using this system in February 1996.

Demand for the use of this facility is very high and the ABC needs to hire additional capacity from the carriers in order to meet various program commitments. With the implementation of its own earth station infrastructure, the ABC realized that, with the use of digital compression techniques, there was an opportunity to increase the capacity of the TV interchange facility. The ABC utilizes one-half of a Ku-band transponder, which is sufficient capacity to establish three high-quality digital video compression (DVC) channels using the MPEG-2 format.

Trials carried out before full-scale implementation enabled program producers to assess the impact of digital technology on post-production processing and other factors. Results

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revealed that operating at a video bit rate of 8.1 Mb/secs produced acceptable quality pictures and no real problems with post-production processing.

The ABC has now decided to proceed with full implementation of this project, scheduled for completion by mid-November 1996.

### **New Transmitter Maintenance Contracts**

The maintenance of the public broadcasting ABC and the Special Broadcasting System (SBS) transmitters and towers has been carried out by Australian Telecom ever since these services have been on the air.

The federal government has decided to privatize the maintenance services, and to this end, two main contracts were awarded. One covered Queensland, South Australia, and the Northern Territory. Transmission facilities in these areas is diverse, from high-power transmitters in main areas to some 43 small units in remote areas that require special operations. The contract was awarded to BCL in conjunction with Broadcast Transmission Services (a division of the WIN Corp.), Seven Queensland, S.E. Telecasters, and British Aerospace.

The other contract covers New South Wales, the Australian Capital Territory, Victoria, Tasmania, and Western Australia and was awarded to Telstra. Again, a widely dispersed operation of types of transmitter facilities and of geographical areas is found in this operation.

### **Australian Film, Television and Radio School**

The Australian Film, Television and Radio School (AFTRS), a federally funded training establishment in Sydney, has established a Digital Training and New Media Department to address major training needs in digital imaging, multimedia development, and nonlinear editing. The focus of the department is on retraining film and television professionals across Australia in the practical uses of applicable digital technologies. Short courses offering seminars, workshops, and hands-on training were designed to introduce industry professionals, such as producers, directors, script writers, editors, designers, and animators, to the possibilities of working in

this new digital arena.

In September 1996 the Silicon Graphics digital training center opened in Sydney, while Kodak sponsored an introduction to Cineon.

Major developments in digital-based facilities and training were undertaken. Two new digital training labs based on the Macintosh platform were created in Melbourne and Sydney, and a high-end special effects, graphics, and animation lab based on the SGI platform was installed in a specially designed graphics suite. New media elements were integrated into the 1996 full-time syllabus and new media-related short courses were greatly expanded. The SGI lab and the associated high-end software consists of one SGI-Onyx with Infinite Reality Engine and Sirius serial digital I/O to a central network and the SDI-based television production studio, four SGI High-Impacts, one SGI Indigo Extreme, one Sierra DDR, and one SGI Indy Presenter. The software includes the complete package of SoftImage, Alias, Flame, Flint, AVID-Parallax Advance, and Matador. Post-graduate full-time digital media specializations will be introduced in 1997.

Positioning for digital-based training was not limited to new media technologies. The first two Avid off-line editing systems were installed, while the first stages of a major digital television and radio studio projects were implemented to provide state-of-the-art facilities. Research was conducted to determine the industry's training needs.

1997 will see a greater focus on television, documentary, and new media. Students will be engaged to a higher degree in video- and computer-based technologies.

In January 1996 Rod Bishop replaced John O'Hara as Director of the AFTRS. The planning and implementation of the new digital facilities were supervised by the AFTRS Chief Engineer, Ernst Hadenfeld.

### **Sky Channel Satellite Feed into the Asian Region**

Sky Channel is a domestic satellite feed into clubs and pubs in Australia, carrying sports material and in particular live coverage of horse racing. These horse racing events are now available on AsiaSat2, feeding in the

Asian region. The present service is analog but plans are being made to implement it as a digital encrypted service in the future.

### **3-D Representation of Golf**

A recent innovation in televising golf matches is to produce 3-D graphical representation of the terrain. A Melbourne-based company, Pineapple Head, has developed the Green Reader, a system to produce 3-D graphical representation of golf greens. The 3-D terrain graphic is produced by taking the information from 2-D topographical maps. The system has already been used in golf coverage broadcasts and there are a number of international organizers interested in the product.

### **Outside Broadcast Vehicles**

An outside broadcast vehicle has been supplied to the Saudi Arabian Ministry of Information by the Melbourne company Mobile Television Engineering. The vehicle was constructed by Starline Special Purpose Vehicles of Sydney. The unit carries ten cameras and operates in the serial digital mode.

Two other units have been constructed, one for Foxtel and the other for Melbourne television station HSV. While the Saudi unit is an integrated vehicle, the other two are semi-trailers. The trailers are 13.7 m long, one fitted with 16 cameras and the other with 12. VTR facilities are available on both outside broadcast vehicles.

### **Telecine Installation**

To meet a growing need for film-to-tape transfers, Sydney-based post-production company Zero One Zero has installed a Rank Cintel Ursa Gold flying spot telecine. This is now the fifth Ursa Gold unit in Australia.

The telecine installation includes an Artisan Renaissance color corrector interface and this telecine installation represents a significant new enterprise for Zero One Zero as a post-production house.

### **V-Chip**

As in other countries, the introduction of the V-chip into new receivers is being actively discussed in the political arena and in the television industry.

**SMPTE '97 Conference and Exhibition**

Australia North Section will hold its biennial Conference and Exhibition from July 1 to July 4, 1997. It will be held in its usual location, the Sydney Convention and Exhibition Centre in Darling Harbour. The event continues to attract record attendances at both the conference and exhibition.

**Hope Reports**

By Thomas Hope

**The Changing Scene**

Change is the most accurate term to use when summarizing the state of the industry that Hope Reports has been tracking for a quarter of a century. That industry is best called "audiovisual" in the broad generic sense. In effect it covers all professional motion and still use of image and sound media outside of broadcast and theatrical motion pictures. The word "audiovisual" (AV) is the only unique term for this industry. Words such as communication and media are used frequently, but they both have other meanings or uses which have existed longer, belonging to other industry technologies. AV in recent years has been relegated to slide and overhead, a major mistake. Hope Reports uses AV as the professional term to encompass video, multimedia, audio, 16mm film, slide, and overheads, any medium used to communicate to an audience.

Just a decade ago AV as an industry in the U.S. amounted to \$13 billion. Today we estimate that the American AV industry in 1996 stood at \$38 billion, almost tripling over a ten-year period. The AV dollars include all product purchases (equipment, software, and expendables), production of media, services, and personnel of AV operations and facilities.

Two factors are behind that meteoric growth — the explosion in new electronic technology and the computer graphic slide medium.

**Photo-Optical to Electronic Technology**

My associate, Marvin Mindell, came up with an excellent way to look at the situation. Twenty-five years ago a well-equipped classroom or training room would have an overhead projector

(\$225), a sound film-strip projector (\$357) or a silent model (\$94), a slide projector (\$402), and a 16mm sound projector (\$860). (It must be noted that these prices are average. A school would have a lower-priced bid model; a training facility would be higher.)

Today that classroom and training facility has an LCD projector (\$5,000) and a computer (\$2,500), plus an overhead projector, screen, and audiocassette recorder. Purists such as SMPTE engineers find that image quality has suffered while audio quality is holding up and even improved.

From a perspective of usage, the overhead projector probably ranks near the top. It has become the twentieth-century chalkboard. The videocassette recorder/player (1/2-in. VHS) has been the principal motion medium presentation system.

The LCD projector coupled with a computer, is displacing the videocassette and monitor, which only a few years ago replaced the 16mm projector for motion media. And now the CD-ROM as a multimedia system is coming onto the scene.

From a pure dollar standpoint, the slide medium has been dominating the entire AV industry for more than a decade, all due to the dramatic use of computer graphics. Ten years ago the slide medium accounted for half of the AV dollars expended, \$6.5 billion of the \$13.05 billion total. Again, these amounts include all product purchases, production of media, services, and personnel.

In 1996, the slide medium was \$11.45 billion, which was 30% of the AV total estimated to have been \$38.1 billion. For the record, the slide peaked in 1994 at \$16.1 billion, which was more than half the AV total of \$31.5 billion in that year.

**Media Production Trends**

Another sign of change is in motion media production. In 1995, the 100 largest contract production companies in the U.S. did 8% less videotape production than in 1994. In contrast, film production was up 34%.<sup>1</sup>

The largest gain in media production for the Top 100 production companies was multimedia production (almost all CD-ROM) up 84%.

For the total business of the Top 100, however, the greatest gain was in stag-

ing and meetings, up 8%. It must be pointed out that meetings and staging are highly volatile, subject to the state of the economy. It blows hot and cold.

**Production Companies**

A new breed of producer has cropped up in the 1990s; an initial count indicates that there are at least 300 multimedia production companies today. As already pointed out, multimedia production is also an expanding business for the traditional contract producer.

Change is also taking place in the corporate world. Over the past decade downsizing has been prevalent, and many in-house production units have been eliminated. This trend has benefited outside contract producers.

In the 1995 census of contract production companies, Hope Reports found that there are exactly 8,000 in the U.S.; that figure is up from 7,000 in 1990. Of the 100 biggest producers, the largest grossed \$103 million in 1995 revenues. The 100th company had gross revenues in 1995 of \$2.13 million. Several of the top 100 are acquiring smaller production houses around the country to give them geographic dispersion.<sup>1</sup>

For those interested in the whole production scene, there are an estimated 2,500 documentary filmmakers, each one, in effect, a separate company. Another category is proprietary producers (700 estimated), those that produce a product to sell, such as cassette dupes, CD-ROM disks, etc. The fourth category is the feature film and television producers, which we estimate to be 450.<sup>2</sup>

Altogether, Hope Reports finds there are more than 30,000 of all types of production companies and operations in the U.S. (Table 1).

**References**

1. "America's 1996 Top 100 Contract Producers," Hope Reports, 1996, 24 pp.
2. "Contract Production for the '90s," Hope Reports, 1997, 40 pp.

**Table 1 — Production Companies and Operations in the U.S.**

Production companies	11,650
Listed, but inactive	<u>2,000</u>
Subtotal	13,650
In-house	4,000
Commercial TV, PBS & cable	<u>12,407</u>
	30,057