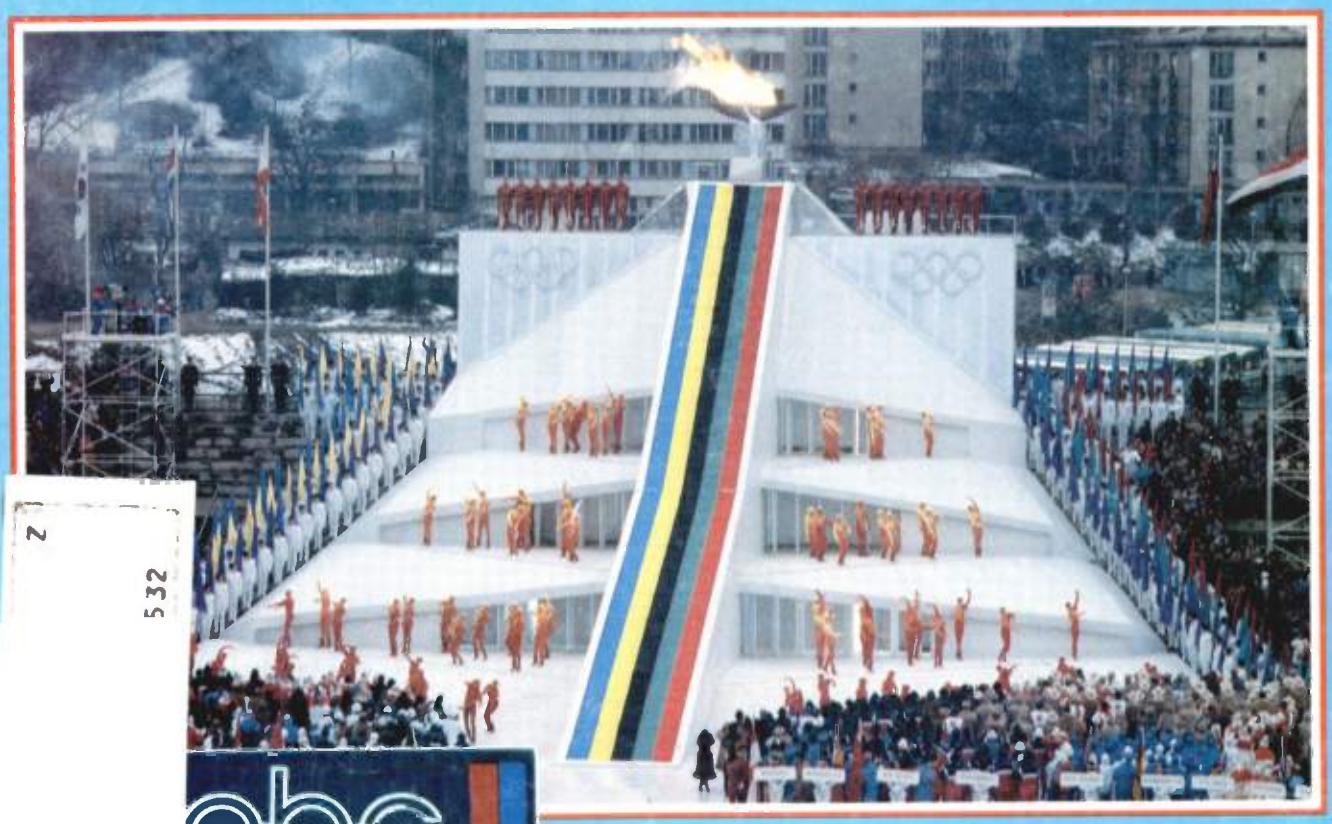
May 1984 The Leading Magazine for the Television Industry $3.00

TELEVISION/ BROADCAST COMMUNICATIONS



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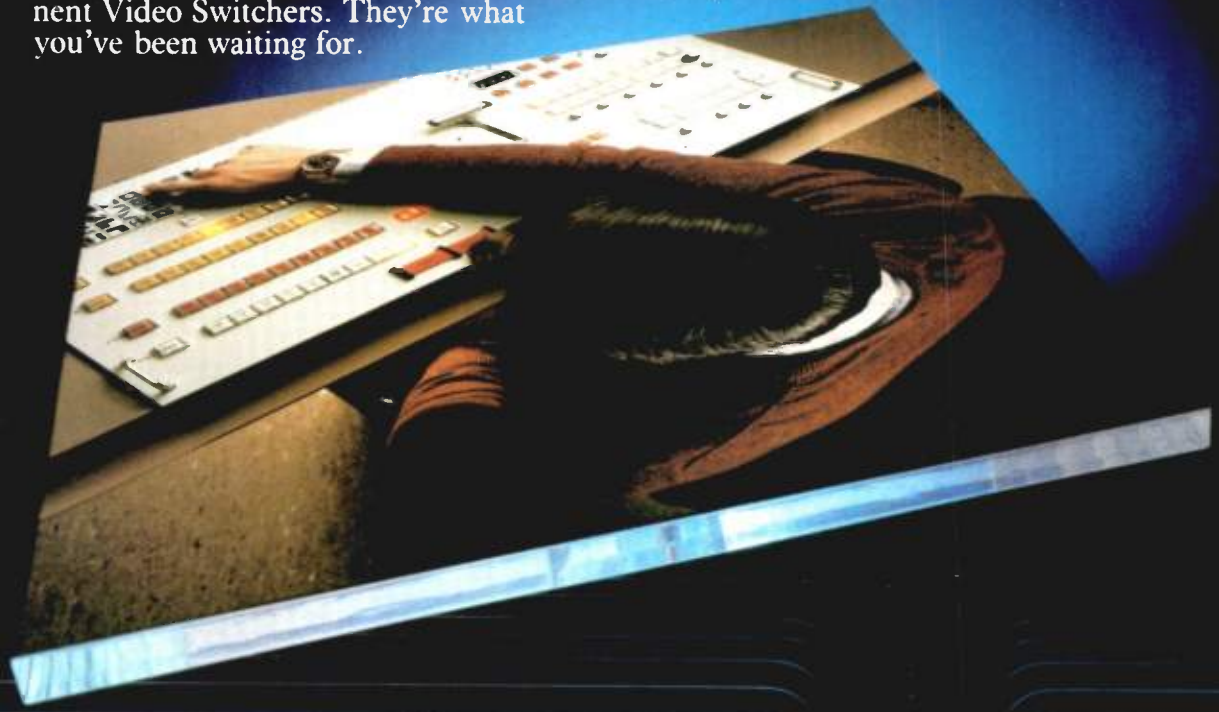

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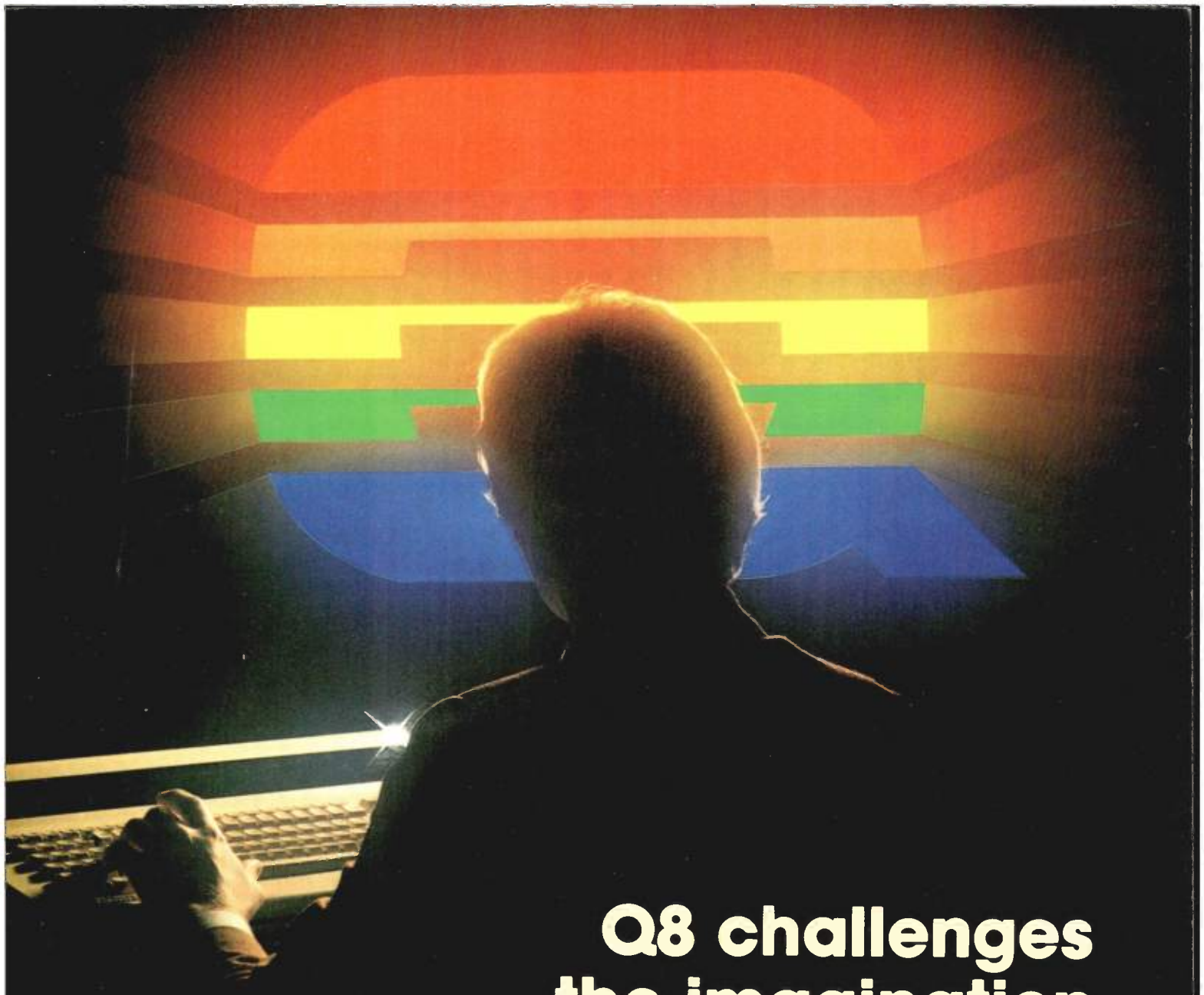

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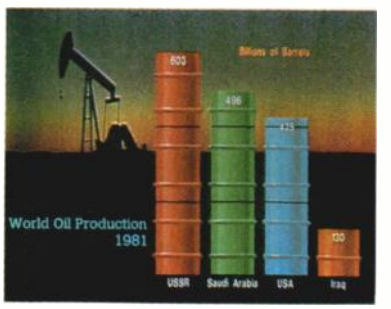

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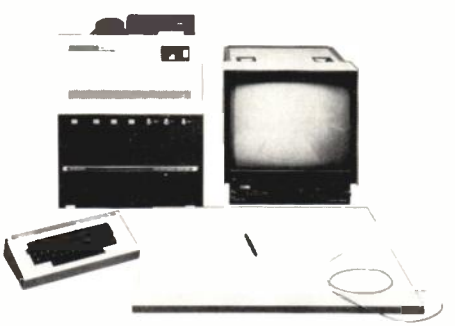

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MAY 1984

VOLUME 7/NUMBER 5

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Cover—Photos courtesy of Joe Roizen and ABC Sports.

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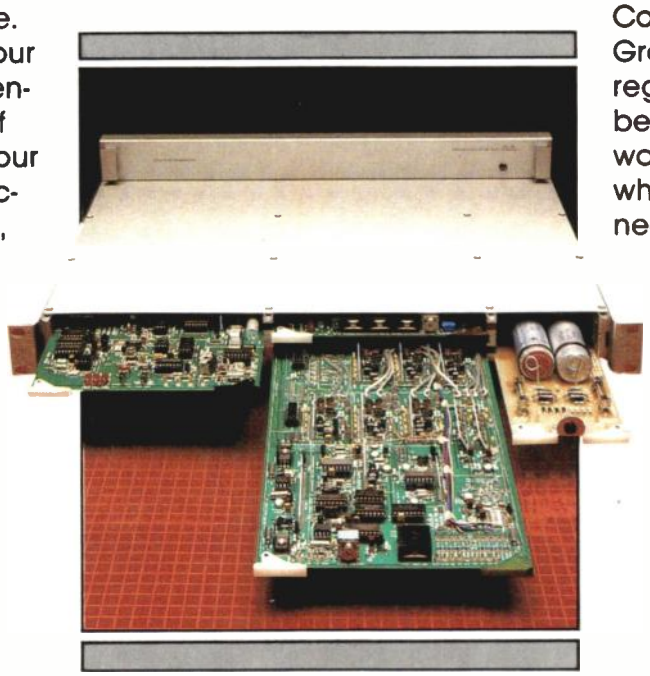

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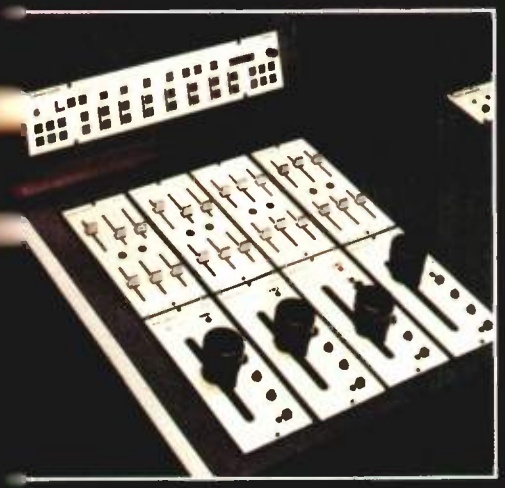

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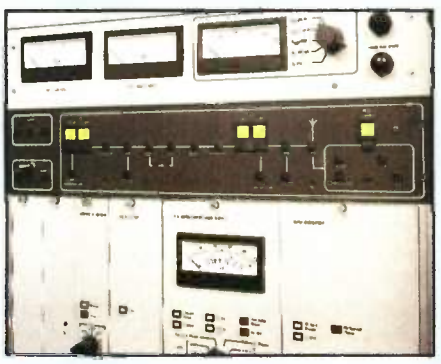

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Congratulations, Mr. Washington

BY RON MERRELL

We all knew George Washington and the Continental Army would win. But somehow it didn't matter.

Those of us who are not history majors were entertained once more by our forefathers, while learning how (although not exactly why) Benedict Arnold betrayed George Washington and his country.

Watching the CBS television miniseries *George Washington*, I was reminded that there is more than a history lesson to be gained from such a show. If we look back to *Roots* and *The Winds of War*, we're reminded that Americans are still interested in their history. . . the good and the bad.

If we stop and consider the all-time great movies, we'll find *Gone with the Wind*. Another lesson in American history, and another winner whenever it's shown.

Today we suffer through pilots and new series that never make it past the Christmas season. Stations are always on the lookout for programs that will help turn the ratings corner. Meanwhile, the trends of detective shows, doctors depicted as heroes, and now the soaps continue to dominate as the tides of viewer acceptance relentlessly participate in the ratings game.

In the midst of the trends, the entertainment industry occasionally pauses to wonder over the accomplishments of something no more mystical or elusive than our own history.

The Washington mini-series reminds us that the frantic race for something new is constantly interrupted by something so very old. So congratulations, George Washington. You've won again.

Polling on polling

The question of exit polling, which started some months ago as a skirmish, is developing into a full-scale battle. As expressed in an earlier column, there are other benefits to questioning voters as they leave the polls than the immediate news value of these reports.

Exit polling, along with pre-election polling, gives both the viewer and politician a chance to understand why the vote went the way it did.

Today we are faced with so many levels of local, state, and national government that voters are hard pressed to admit that each push of the voting-machine button was made with the knowledge that the best candidate got the vote. Few people I know have personal knowledge of the politics of every candidate on the ballot. Hence, the critics say, exit polling influences an unsure, uninformed public to hop on the popular politician's bandwagon. But I'm not so sure that attacking the polls is addressing the real issue.

The projections made from most exit polls are based more on state or national politics than on who is ready to turn the tables in a local election. If you live in Denver and hear that early polls indicate a presidential candidate is gaining enough momentum to start a landslide, that shouldn't keep you from voting. What about the local issues that may keep teachers on strike, your road taxes high, or your library outdated? People who really care are not going to let poll results keep them away from the voting booth.

Meanwhile, exit polling can be used to give broadcasters feedback on why voters favor a certain bond issue or oppose a certain politician. Perhaps the admission that a more informed electorate is relevant will influence responsible stations to present politicians' voting records and position debates. For now, exit polling is not nearly so influential to the outcome of an election as is an uninformed electorate.

Something impersonal

People are furious when the ratings devour another favorite television show. "Why doesn't someone ask *me*?" so many say. That's the helpless feeling many people experience at election time, when predictions indicate a candidate's victory when only a small percentage of the returns are tallied. The trouble is, the computer predictions are rarely wrong.

The discontented viewer loses interest when a computer tells us, according to scattered returns, which candidate will win. At least the networks add that these reports are coming from representative precincts or counties.

In one sense, and despite the prediction, the viewer at least learns why the election is moving the way it is. For example, when the majority in a region elects someone from a minority, it's important to know why. And that perspective, not just who's leading, is the essence of good reporting. □

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LETTERS

Technicians are an important investment

In reference to Bryan Boyle's article "How to Protect Your Investment" in the March 1984 issue, I feel that he is far too concerned about $20 worth of chips at the expense of the technician's personal safety. The "grounding bracelet" Boyle describes in the article is what is referred to as a "suicide bracelet" in this part of the country.

There are many different manufacturers (such as 3M) that produce conductive plastic bracelets for a reasonable fee. These plastic bracelets have a high resistance path to ground that quickly and safely drains the static charge from the human body without endangering the technician's life.

The "suicide bracelet" gets its name from the fact that many times while working on a piece of electronic gear, the technician will accidentally contact an energized connection in the unit, resulting in a mild shock. This is unfortunate, but not unusual. If, however, the technician's body is connected by a low resistance path to ground, the possibility of severe shock is greatly increased.

Extrapolating this even further, the technician will probably wear the bracelet on the less-used hand while working on the unit. Because the favored hand would probably be the one to make the contact, the current path would be directly through the chest. We feel so strongly about this aspect of personal safety that it is grounds for immediate dismissal if any of our engineers or technicians were to use such a device as you describe.

Please publish an additional article explaining these facts and urge your readers to consider personal safety above the care and well being of a piece of silicon.

David W. Davis
Manager of Engineering Television
University of Texas at Arlington

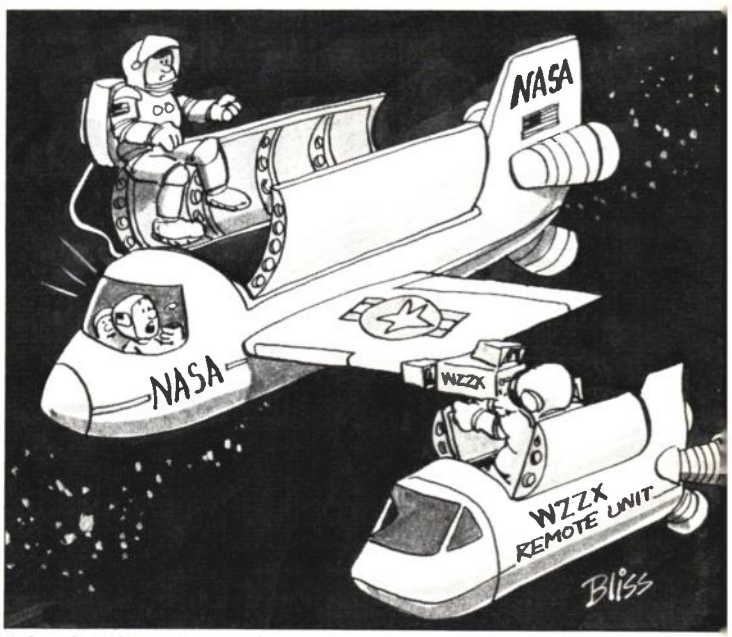
Editor's Note: The article in question was not meant as a tutorial on live-equipment service techniques in an energized environment, but rather a discussion of precautions that should be taken when handling CMOS components out of circuit. *In any equipment service area, personal safety* must *come first, regardless of the cost or importance of the equipment involved.*

If those circuits are not protected before they are placed in the device in question, the device will have to be opened more than once, thus exposing the technician to potentially hazardous voltages many times, vs. the one time to do the repair work with correctly operating parts.

A person should never *ground himself when working on high-voltage equipment (anything over 24 volts is considered high-voltage in Boyle's shop at ABC, requiring more than one technician in the room with you). The one-hand-in-the-pocket rule has to apply when working on live equipment.*

A future article will deal with personal safety when working on live equipment of all types, from high- to low-voltage systems. □

Send your comments to The Editor, TELEVISION/BROADCAST COMMUNICATIONS, 4121 West 83rd Street, Suite 265, Prairie Village, KS 66208.



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- Two (2) Ikegami HL-79 Cameras with Fujinon 17:1 Lenses
- 24 Input Grass Valley 300/3A Production Switcher
- Three (3) Ampex VPR-2B One Inch Slo-Mo Tape Machines
- Abekas Still Store System
- Solid State Logic Triple Stereo Audio Console
- Ampex ADO Digital Effects Unit
- Chyron 4100 Graphics Generator

With two "SuperTrucks" TBS has increased its ability to generate a wide range of programming from sporting events to documentaries. In addition, TBS can lease one of its units for your assignment that requires network quality. So for that major assignment in the field, put a SuperTruck on the road for you.

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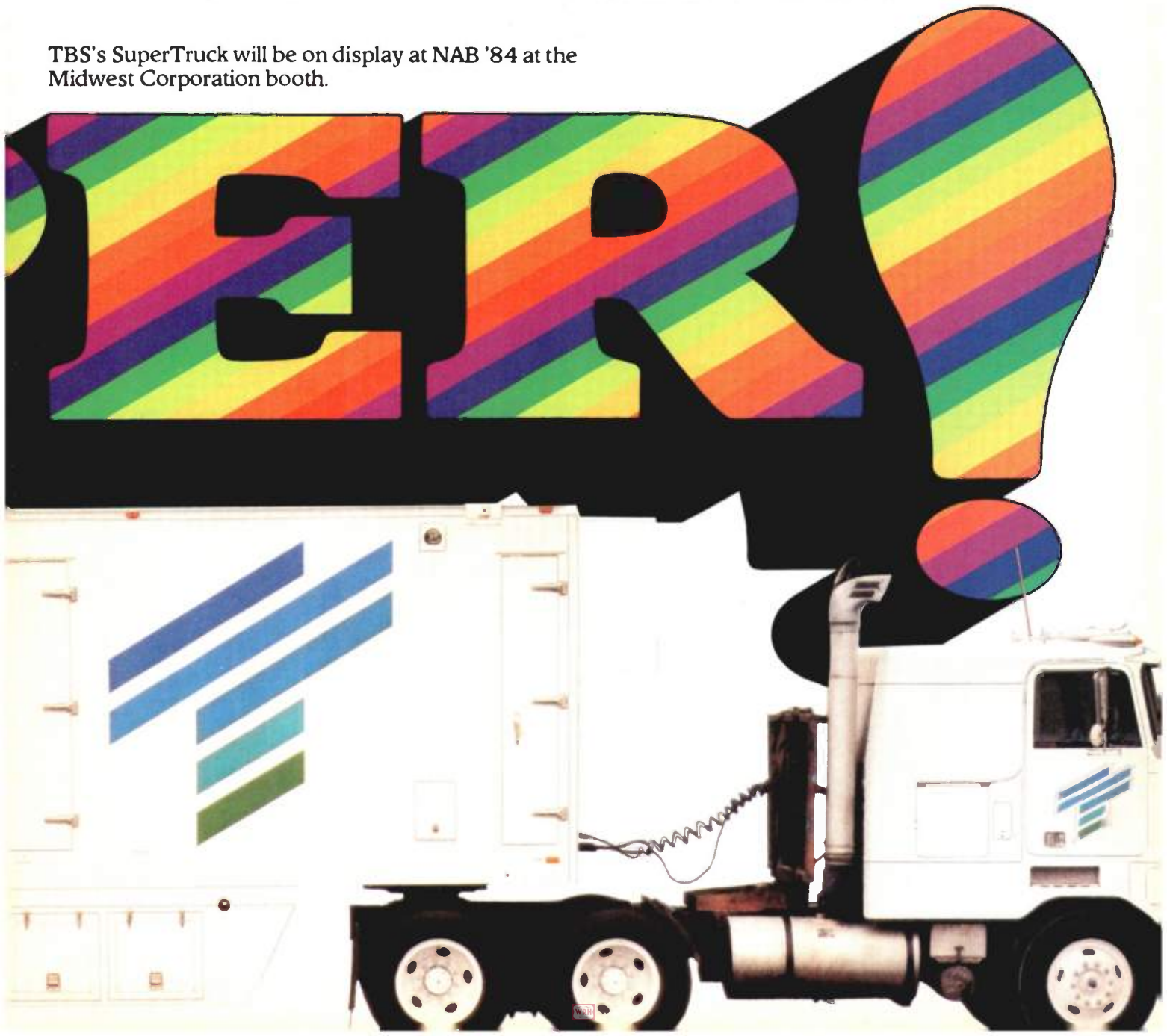
TBS's SuperTruck will be on display at NAB '84 at the Midwest Corporation booth.



INDUSTRY UPDATE

WBTV begins teletext service

Teletext service in the United States has so far been only experimental, at least from the standpoint of becoming a revenue-generating activity on the part of the television stations that have broadcast it.

In the North American Broadcast Teletext Specification (NABTS) format, CBS, NBC, Westinghouse, and PBS have carried out various on-air tests, but sponsors of the teletext pages were not required to support this new service.

WBTV, a CBS affiliate in Charlotte, North Carolina, owned by Jefferson-Pilot Broadcasting, last month became the first NABTS station to equip itself with frame-creation terminals, multiplexers, and other peripherals that permit it to carry the national Extravision teletext service put out by CBS, as well as generate pages locally.

To demonstrate the solidarity behind the NABTS format and WBTV, three networks—CBS, NBC, and Westinghouse—participated in a New York press conference April 4 sponsored by Videographic Systems of America, to announce the launch of the teletext service.

At 6:20 that evening, WBTV inaugurated official broadcasting of the Extravision service, and announced the station's support of closed-captioning for hearing-impaired viewers in the Charlotte area. During the opening ceremony at Charlotte's Discovery Place Museum, WBTV management donated three Panasonic teletext receivers to community organizations representing deaf or hearing-impaired viewers.

In a coordinated effort between VSA and Panasonic, the teletext launch in Charlotte will include specially priced teletext receivers that are now on sale at video supply centers in that city. The new model CT-5379R 25-inch color sets have a separate decoder unit that sits on top of the set and plugs into the RGB inputs of the television receiver. The suggested list price for the decoder is $300. WBTV will place sets in various public places to arouse consumer awareness and interest.

The NBC affiliate in Charlotte will carry the national NBC Tempo teletext service, but at this time will not insert local pages. Viewers with the Panasonic sets can receive both the CBS and NBC electronic "magazine" simply by tuning in the appropriate channel, and keying in the desired page number on the remote keypad supplied with the set.

WBTV Extravision is dedicated to increasing the public services the station already provides. Station management has pledged to increase captioning for the hearing impaired, to provide tornado warning services, and to use the teletext for educational purposes. The station also intends to have Extravision show a profit, by convincing sponsors to underwrite teletext pages through advertising on them.

Wheeler leaves NCTA for NABU

Thomas Wheeler, president of the National Cable Television Association since 1979, has announced his resignation. James Mooney, NCTA's executive vice president, has been chosen to succeed Wheeler.

Wheeler is leaving NCTA to become president and CEO of the NABU Network, a new service that distributes programs to home personal computers via cable systems in Ottawa, Canada. It will be tested in the United States in the Tribune Cable system in Alexandria, Virginia.

Wheeler said, "Since 1976, I have had the great good fortune to be associated with NCTA. These have been exciting times, and I will be forever grateful to the industry for the ability to grow with it. Now it is time to put what I have been preaching about cable's future into practice."

Mooney commented, "My management goal will be the same as Tom's: to strive for excellence and effectiveness in everything NCTA does. Given the fact that we have a fine staff in place, I expect a very smooth transition with no pause in any of the association's activities."

FCC praised for TV stereo authorization

The National Association of Broadcasters and the Electronic Industries Association's Consumer Electronics Group have applauded the Federal Communications Commission's authorization of television stereo sound and its decision to protect a single standard for it.

The FCC in late March also agreed to explore requiring cable systems to carry the stereo part of the signal in compliance with current must-carry rules.

In authorizing TV stereo sound, the FCC recognized the recommendations submitted by EIA/CEG on behalf of the industry. In late December, EIA's Multichannel Sound Subcommittee unanimously recommended adoption of a single transmission and single companding system.

"The FCC's decision to protect the industry's recommended standard for TV stereo is a significant, positive step toward assuring that the American public enjoys the benefits of this new stereo service at the earliest possible time," said Edward Fritts, president of the NAB.

Jack Wayman, senior vice president of EIA/CEG, said, "Stereo TV promises to add a whole new dimension to home entertainment, particularly with the advent of music video." He noted that the decision provides "an incentive for television manufacturers, broadcast equipment makers, and broadcasters to respond so that stereo and a second audio program will soon be available to the public. I would expect to see these new products at the Summer Consumer Electronics Show in Chicago in June."

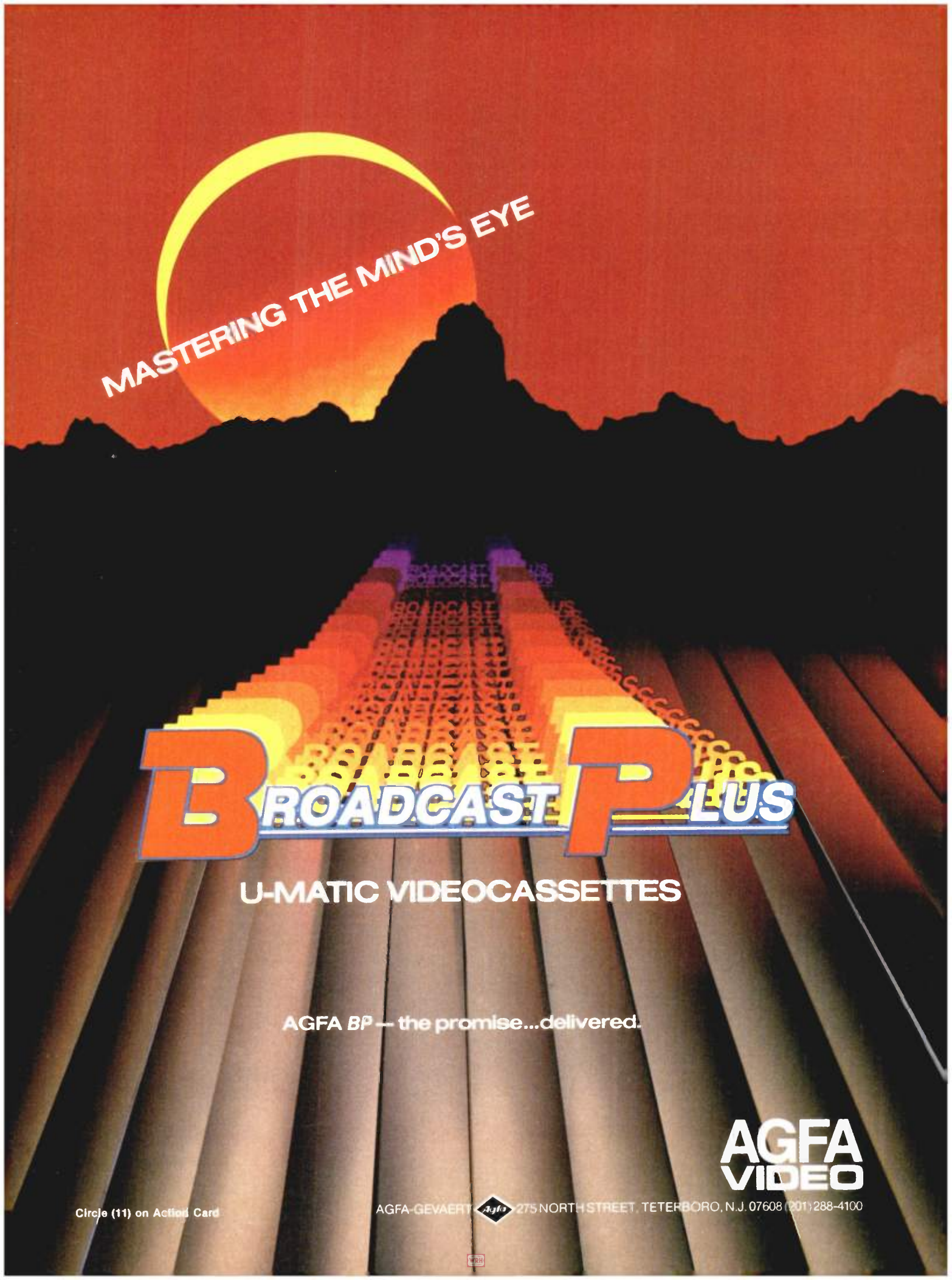
AWRT to meet in Chicago

The 1984 national convention of the American Women in Radio and Television (AWRT) will be held from May 29 to June 2 at the Palmer House in Chicago.

This year's theme is "The Challenge of Creativity." Featured speakers include FCC commissioner Mimi Weyforth Dawson, who will address the opening general session; CBS News president Edward Joyce, who will look at women's roles in network news and in the media as a whole; Judy Woodruff, chief Washington correspondent for *The MacNeil/Lehrer News Hour* and anchor of PBS' *Frontline;* and Barbara Proctor, the first woman in the United States to open a full-service advertising agency specializing in marketing to black companies.

For more information, contact AWRT, 1321 Connecticut Avenue, N.W., Washington, DC 20036; (202) 296-0009.

Continued on page 16


MASTERING THE MIND'S EYE
BROADCAST PLUS
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AGFA BP — the promise...delivered.
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AGFA-GEVAERT 275 NORTH STREET, TETERBORO, N.J. 07608 (201) 288-4100

SBE releases frequency list

The Society of Broadcast Engineer's National Frequency Coordinating Committee has released an updated list of contact persons in 71 locations around the nation. The list includes several additions and changes to previously published coordinator lists.

Any user of radio or television remote transmitting equipment is requested to check with the designated frequency coordination contact person before using RF equipment in the areas affected.

These local coordinators do not assign channels. They make possible the licensee-to-licensee contact asked for in Part 74.24 of the FCC rules.

To get a copy of the new frequency coordinator list, write the SBE, P.O. Box 50844, Indianapolis, IN 46250.

PSA competition announced

Entries for the 27th annual CINDY competition, for public-affairs and PSA films and videotapes produced in 1983, are being accepted through June 15.

The competition is organized by the Information Film Producers of America (IFPA) and sponsored by Eastman Kodak. "By recognizing the best public-affairs and PSA films," said IFPA president Marty Shelton, "we believe we are helping establish standards for excellence."

Entries will be judged on creativity, technical excellence, and how well they fulfill their objectives.

Finalists will be selected in August, and winners will be announced November 17 at the annual awards banquet in Los Angeles.

For more information, contact Nancy Kase Josten, IFPA, 900 Palm Avenue, Suite B, South Pasadena, CA 91031; (818) 441-2274.

First downtown teleport planned

The world's first downtown satellite communications teleport will be constructed atop the National Press Building in Washington, D.C.

The new satellite communications technology, called The National Teleport, will provide direct access to both U.S. and Canadian satellites from the heart of the nation's capital. For the first time, domestic and international broadcasters, news organizations, corporations, associations, and government agencies will have a convenient and low-cost means for the transmission of video, voice, and data to and from Washington.

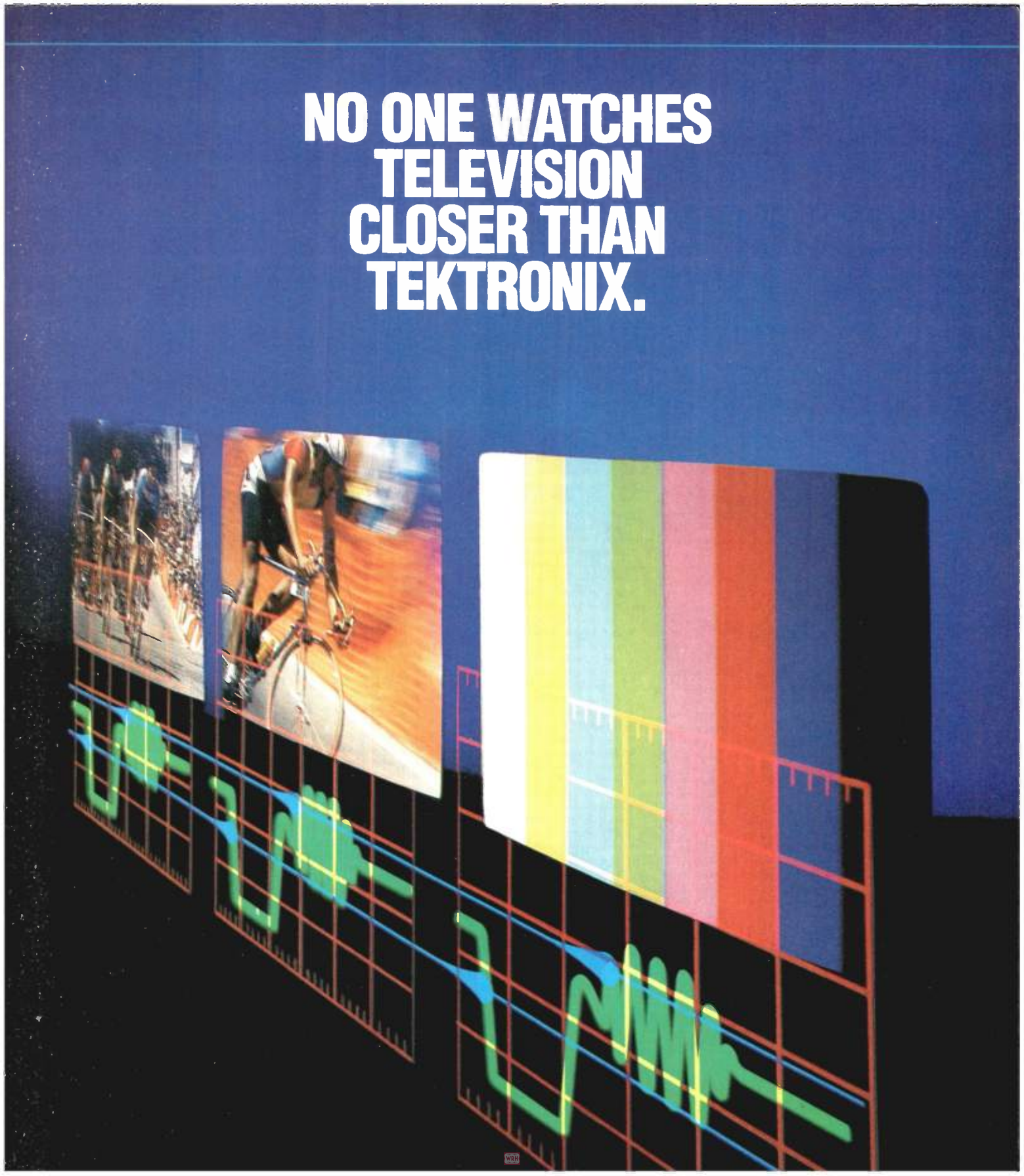
Teleport facilities are usually situated in outlying suburban locations to escape other telecommunications interference. But, because The National Teleport will use Ku-band technology, the teleport's satellite earth stations can operate in a congested metropolitan area interference free.

Initial plans call for the installation of two 5-meter Ku-band transmit/receive earth stations with multiple interconnections via fiber optics, coaxial cables, and microwave to locations throughout the greater Washington area. There will be expansion space for as many as six additional earth stations.

The facility is a partnership of National Teleport, a subsidiary of Video-Star Connections of Atlanta; and Microwave Express, a subsidiary of Pyramid Video of Washington.

Continued on page 22

NO ONE WATCHES TELEVISION CLOSER THAN TEKTRONIX.



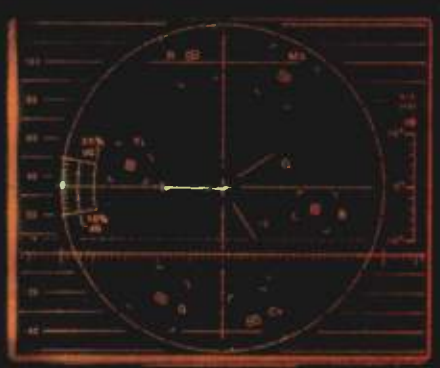
TEK TELEVISION PRODUCTS

SEE IT, SYNC IT, SAVE IT, TEST IT...GET A CLEARER

1740 Waveform/ Vector Monitor (Right) Tek's new waveform/vector monitor saves space, power consumption and cost. Both dc power and battery pack options are available. It's ideal for mobile vans and field applications.

110-S Frame Synchronizer (Above) Now joined by Tek's new 118-AS Audio Synchronizer that eliminates lip sync problems! It provides a practical solution to the audio-to-video delay caused by four-field memory video synchronizers. The 118-AS features wide dynamic range, low distortion and automatic and manual delay correction.

1980 Automatic Video Measurement Set (Top center) Tek's Answer System permits continuous, unattended monitoring of all your incoming and outgoing video feeds. It generates complete reports automatically, alerts you when measurements exceed specified limits, and can be programmed to meet your changing needs.



Tek's newest product for television: —new measurement capabilities detailed on the following page. Take a

PICTURE OF YOUR SIGNAL WITH TEKTRONIX!

2445 Portable Oscilloscope TV System (Left) Tek's state-of-the-art 150 MHz, 4-channel portable scope now offers a TV option with backporch clamp, display and readout of any line or field. Also available: a fully-programmable GPIB option.

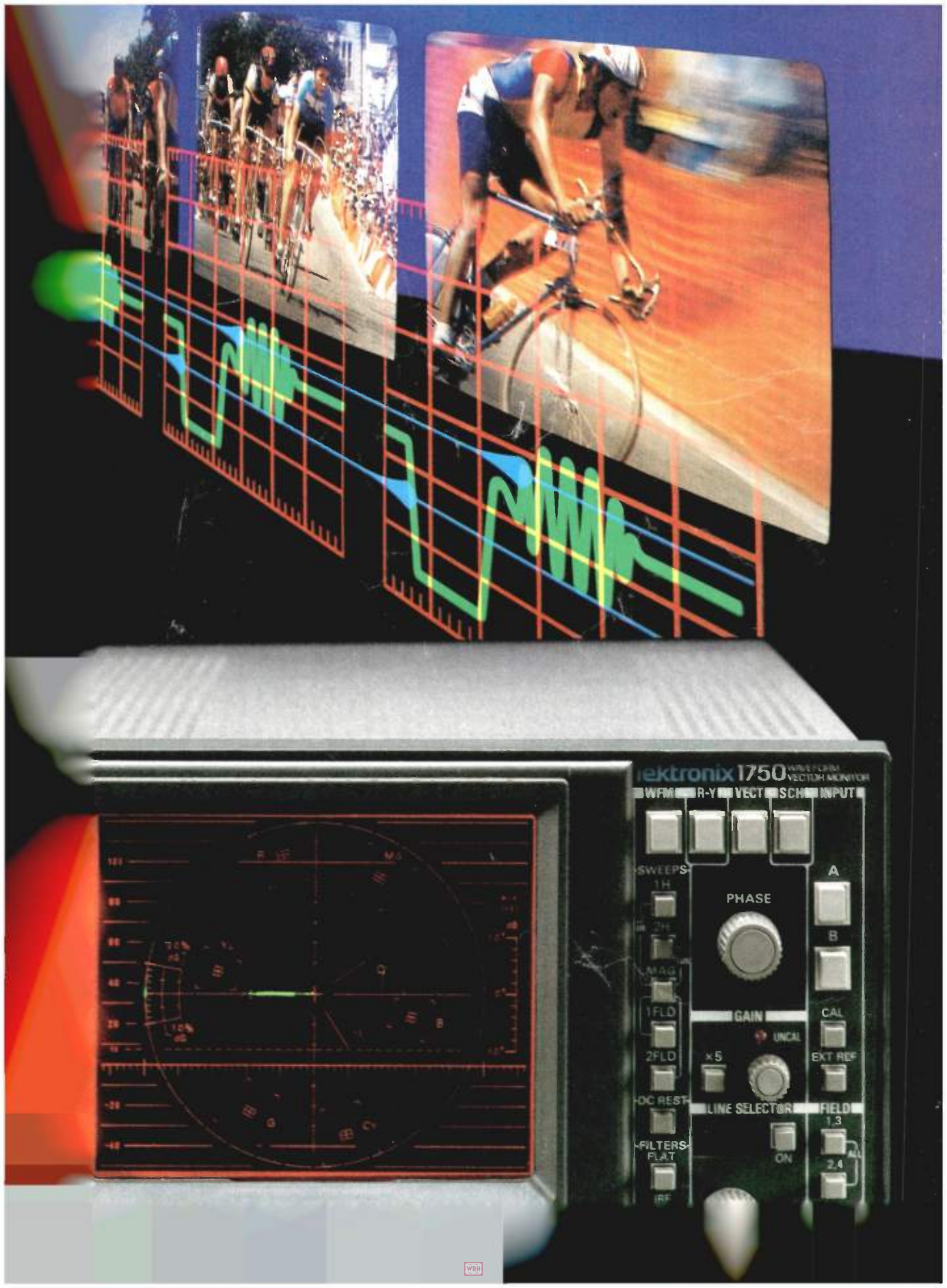
494/494P Spectrum Analyzer (Above) An unprecedented value! Counter frequency accuracy, baseband through microwave coverage and unique HELP mode to guide less experienced users. Store up to nine displays and ten set-ups in non-volatile memory. Portable and rugged, the 494 is backed by a three-year warranty!

Behind the sets, the programming, the glamor of television, success still depends on signal quality.

No one gives you better tools for measuring and maintaining video signal quality—quickly, consistently, confidently—than Tektronix.

For more than 30 years, Tektronix technology has stayed a step ahead to help you solve problems in color television: Whether you're broadcasting live feeds from a bike race in northern California... or sending signals via satellite to thousands of television stations around the world—our products are helping you get a clearer picture of the video signal.

Tek instruments give you broad test and measurement capabilities. They are accurate, easy to operate, and compatible with other broadcast equipment. Above all, Tektronix television products continue to meet the broadcast industry's needs. Take it from us: no one watches television closer than Tektronix.


ektronix 1750 WAVEFORM VECTOR MONITOR
WFM
R-Y
VECT
SCH
INPUT
SWEEPS
1H
2H
MAG
1FLD
2FLD
DC REST
FILTERS
FLAT
IRE
PHASE
A
B
GAIN
UNCAL
×5
CAL
EXT REF
LINE SELECTOR
ON
FIELD
1,3
2,4
ALL

THE NEW TEKTRONIX 1750: HEADS OFF PROBLEMS YOU DIDN'T KNOW YOU HAD...UNTIL IT WAS TOO LATE!

Our new 1750 signal monitor gives you a unique, dynamic display of SCH phase relationships.

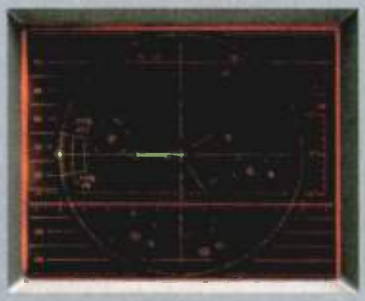
You can see at a glance if a video signal is properly SCH phased . . . or just as easily, compare two signals for color frame matching.

Hit-or-miss SCH phasing may have been tolerated in the past—but now it's costing you time and money every day.

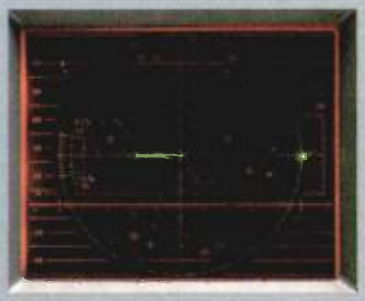
The Tektronix 1750 can help you regain control. By maintaining consistent SCH phase . . . or by seeing potential problems *before* a glitch occurs, you'll avoid the frustration of multiple passes and enjoy getting it right the first time. Saving time saves you money and makes the best use of your valuable resources.

SCH phase, of course, isn't the only parameter you need to keep on track, and SCH display is only part of the 1750's comprehensive signal monitoring capabilities. At the push of a button it also displays vector mode . . . or waveform mode, enhanced by digital line selection through the vertical interval . . . or R-Y/sweep mode for easy interpretation of differential phase distortions.

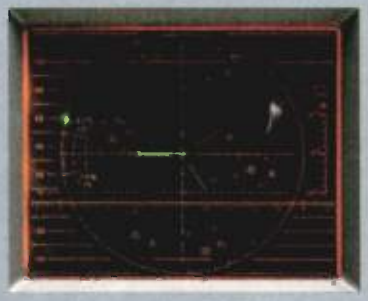
Whether used for monitoring video in production and editing environments, or for making fast and accurate measurements during equipment maintenance, the 1750 Series is a new benchmark for comprehensive performance in both NTSC (1750) and PAL (1751) standards.



Correct SCH phase relationship is clearly displayed on the 1750 when dot on the calibration circle is aligned with the vector on the − x axis.



Dot placement on the + x axis indicates an error in the color frame matching of two signals.



This 17-degree offset, indicating a 17-degree SCH timing error, would be impossible to perceive on an ordinary waveform monitor display.

A compact 5.25 inch package, mechanically interchangeable with many other "half-rack" packages, allows easy installation in new or existing facilities.

If you see the advantages of comprehensive signal monitoring, you'll like what you see in the 1750.

For more information on this or other Tek television products, or for the number of your nearest Tek sales office, call our toll-free information service today: (800) 547-1512. In Oregon, (800) 452-1877.

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Beaverton, OR 97075

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Tektronix Europe B.V.
Postbox 827
1180 AV Amstelveen
The Netherlands
Telex: 18312-18328

Canada
Tektronix Canada Inc.
P.O. Box 6500
Barrie, Ontario L4M 4V3
Phone 705/737-2700

Tektronix
COMMITTED TO EXCELLENCE

Circle (17) for Literature.

SMPTE to host audio seminar

An all-day tutorial on "Audio Aspects of Post-Production," sponsored by the Hollywood section of the Society of Motion Picture and Television Engineers, has been scheduled for Saturday, May 19.

The seminar will be held at the state-of-the-art sound facilities at Paramount Studios, Glen Glenn Sound, and Warner Hollywood Studios. It will cover the latest technological advances in audio monitoring and digital recording techniques as they affect film and video post-production.

At Paramount's music recording stage, which features a Solid-State Logic console and advanced monitoring facilities, participants will observe demonstrations of the latest 24-track digital and two-track stereo recording techniques.

At Glen Glenn Sound and Warner, demonstrations and discussion will cover modern techniques in motion-picture re-recording for Dolby cinema releases, including audio sweetening, automatic dialogue replacement operations, and Foley post-recording of sound effects.

For more information, contact Jack Spring, Eastman Kodak, 6706 Santa Monica Boulevard, Hollywood, CA 90038 (213) 464-6131.

Business Hotline

ADDA CORPORATION—The first ADDA ESP II still-store and digital-effects system, introduced in late January, has been delivered to Multi-Media Broadcasting in Cincinnati; and volume deliveries are now under way. The system is unique in that it combines still-store and graphics capabilities with digital effects, so smaller stations, cable operations, and production houses can now afford them.

FUJI PHOTO FILM—Fuji, a leader in consumer and professional photography, cinematography, graphic arts, and audio and videotape, is celebrating its 50th anniversary this year. Along with this, Fuji USA is commemorating its 25th anniversary. For the celebration, Fuji is producing and distributing *Science Graffiti*, a movie of science and industry.

ROBERT BOSCH—The Video Equipment Division of Robert Bosch Corporation, Salt Lake City, has been recognized by the consulting firm of David W. Buker as a Class "A" manufacturing company. Bosch was chosen from companies that have successfully installed and operated a state-of-the-art planning and scheduling system, and was rated on the employees' understanding and use of the equipment.

MAGNICOM—King Videocable, a Seattle-based MSO, has purchased a Magnicom MARC/10 computer system to provide a centralized, in-house subscriber management system. The system will include two DEC VAX 750 central processing units in Seattle, and 40 terminals spread over nine operating centers.

BONNEVILLE TELECOMMUNICATIONS—Bonneville Telecommunications (formerly Bonneville Satellite Communications) has begun providing the space segment for the Local Program Network (LPN). LPN, a consortium of eight television stations, uses Bonneville services during a two-hour period once a week to distribute its feature news service.

EECO—Because of its expanding video editing product line, EECO has appointed five new distributor organizations for its computer controls for video production. The distributors are Adolph Gasser, San Francisco; A&G Associates, Portland and Seattle; Media Solutions, Las Vegas; Victor Duncan, Chicago, Irving, Texas, and Madison Heights, Michigan; and MPCS Video Industries, New York City.

BTX—BTX, of Bedford, Massachusetts, and Harrison Systems, of Nashville, Tennessee, have signed an agreement covering the development of BTX automation products for incorporation into the Harrison family of audio consoles. Harrison will be offering an in-console version of BTX's Softouch audio editing system in its line of consoles and under the Harrison name. □

RTNDA Newsline

Conference agenda planned

A day-long seminar in journalism ethics and news gathering will be a major highlight of the 1984 RTNDA International Conference, according to RTNDA president-elect Lou Adler, news director of WOR Radio in New York City. The conference will be held December 5-7 at the San Antonio Convention Center.

The seminar moderator will be Arthur Miller, prominent Boston lawyer and host of the syndicated television program *Miller's Court*. The program will be produced by Media Society Seminars, which is affiliated with the Columbia School of Journalism. The director of Media Society Seminars is Fred Friendly, former president of CBS News.

Adler said, "As the producer of the 1984 RTNDA convention, I couldn't be more delighted that we've been successful in attracting such a meaningful and powerful 'centerpiece' for the gathering."

Also scheduled for the three-day conference are sessions on the relationship between government and media, opportunities for minorities, how to coach talent, and a joint session for attendees and spouses on "Broadcasting and Marriage—Can They Co-exist?"

The conference will feature an exhibition of products and services available to electronic journalists that is expected to be the largest ever assembled for an RTNDA conference.

Plans for the spouses' program are still being finalized, as are the schedules for the pre-conference golf and tennis events.

A wide choice of hotels will be available. RTNDA has reserved more than 1,500 rooms at six first-class hotels, all within a short taxi ride or walk of the convention center. The hotels are the Four Seasons, Hilton Palacio del Rio, Hyatt Regency, La Mansion del Rio, St. Anthony Inter-Continental, and the San Antonio Marriott.

For more information and a copy of the conference housing application form, contact the national office in Washington at (202) 737-8657. The hotels will accept reservations only through the housing bureau on a first-come, first-served basis.

Preregistration fee for members will be $190 and will cover the entire three-day program, admission to the exhibition, one breakfast, three luncheons, two receptions, and the closing Paul White Banquet.

Non-member registration will be $210. On-site registration will cost an additional $30.

Special arrangements have been made for discount airfares for those attending the conference. For more details, contact the RTNDA office.

The Softouch™ System Designed by Hard-nosed Engineers

SOFTOUCH is the first audio editing system to offer an intelligent building-block approach to editing for video/film and audio post-production.

The SOFTOUCH system allows users to start with as little as a two-transport synchronizer based on SMPTE time code, yet build to a fully configured 6 or 8 transport system by adding modules to meet changing needs and budgets. Any combination of multi-track audio, video or sprocketed film transports are precisely synchronized and controlled. Sound effects assembly, sweetening, dialogue replacement, Foley, re-recording, overdubbing, and telecine applications are accomplished with a single system at a cost far less than many multi-track audio transports.

SOFTKEYS™ allow frequently-performed, multi-step routines to be executed repeatedly at a touch of a single key.

SOFTOUCH provides a convenient RS-232/422 computer interface to BTX's CYPHER™ time code system and other studio equipment. For a demonstration, contact:

btx

The BTX Corporation, 75 Wiggins Avenue, Bedford, MA 01730. Tel: (617) 275-1420, Telex: 95-1887
In California: 2750 West Silverlake Drive, Los Angeles, CA 90039. Tel: (213) 664-5980

Circle (18) on Action Card

NEWSMAKERS

Joe Roizen, emerging technologies editor for *TV/BC*, has been named the ITA/Time Magazine Man of the Year. The award was made at an International Tape Association seminar in March. Roizen is also president of Telegen, a consulting firm that provides technical and market research services for the television industry.

Robert Ferrante has joined the CBS News Special Events unit as a senior producer. **John Katz** succeeds Ferrante as executive producer of the *CBS Morning News*. Also, **Mark Harrington**, a senior broadcast producer for the *CBS Evening News*, has moved to London as chief of the CBS News bureau there.

Tom Luljak has been promoted from managing news editor of *News Four Milwaukee* to news director of WTMJ-TV in Milwaukee.

Jon Janes has been appointed assistant news director at KSDK-TV in St. Louis, coming from KFVS-TV in Cape Girardeau, Missouri, where he was news director.

Jim Myers has been appointed sports anchor for WOR-TV News in New York City. Also, **Carl Cherkin** has been named sports anchor for the Saturday evening news show.

Claryce Handy has been promoted to the newly created position of director of broadcast resource programs for the National Association of Broadcasters. In addition to operating the department's employment clearinghouse, Handy will develop and implement programs for increasing the participation of under-represented groups in broadcast ownership and programming.

Jan van der Voort has joined KRON-TV in San Francisco as the human resources director, a new position. She has an extensive background in personnel and human resources.

Hattie Kauffman has been named weekend news anchor for KING-TV in Seattle. She will continue her involvement in KING's *Newscope*.

Mary Carr has joined WKYT-TV in Lexington, Kentucky, as co-anchor and special reporter. She comes from WISC-TV in Madison, Wisconsin.

Pat Mastors has been named a reporter for WJAR-TV in Providence, Rhode Island. She formerly was an associate producer for the station.

Dale Minor, former CBS News producer and writer, has been appointed vice president and senior producer for Medstar Communications, producers of the TV series *Health Matters*.

Jill Lindsay has joined WETACOM as project manager. The video teleconferencing and television production company is a subsidiary of WETA-TV in Washington, D.C.

Business Moves

Joseph Bradley has been appointed vice president of marketing for Varian Associates' Electron Device Group

(EDG), of Palo Alto, California. Bradley will supervise EDG's network of field marketing and sales offices in the United States and Europe.

Jack Breitenbucher has been promoted to national sales manager for the Broadcast and Professional Division of Hitachi Denshi America, headquartered in Woodbury, New York. He joined the firm in 1977.

Janet Peterson has been promoted from director of marketing operations to vice president of marketing and sales for ADDA Corporation, Los Gatos, California. Also, **Thomas Califano,** has been named northeast regional manager.

Beverly McGill and **Stephen Dunwoody** have joined Mycro-Tek, of Wichita, Kansas, as representatives for the company's Mycro-Vision Video Display Information System.

Charles Willingham has been appointed president and CEO of Dalsat in Dallas, which designs and installs fixed and transportable satellite earth stations.

George Guiette and **Mike Richardson** have joined Thomson-CSF as regional sales managers for the company's broadcast product line. Guiette will serve the mid-Atlantic region, and Richardson will serve the southwest region.

Attila Bitto has been named editing products manager for Sony Broadcast Products.

John Delissio has been appointed vice president of the Systems and Service Operation for Harris' Broadcast Group, located in Quincy, Illinois. Also, **Mark Fehlig** has been named broadcast sales manager for the company's Satellite Communications Division in Melbourne, Florida.

Preben Petersen has been named operations manager for Caelum Technologies in Saskatoon, Canada.

Nick Hudak has joined Panasonic's New Technology Products Group as national manager for systems development and marketing.

Joseph Volpe has been named division vice president and general manager of the RCA Broadcast Systems Division. He was formerly division vice president of operations.

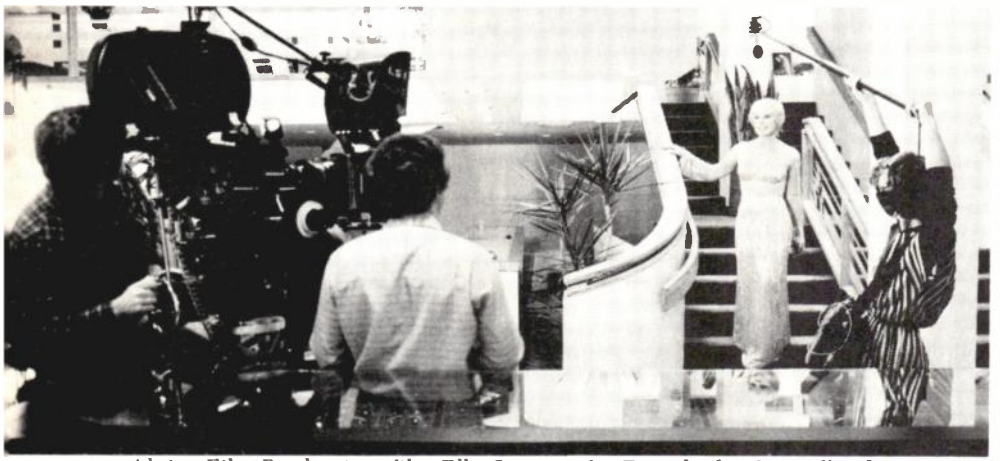
John Barraclough has been promoted from regional sales manager to operations coordinator/sales liaison for Bonneville Telecommunications/Satellite Systems Division.

Paul E. Smith has been named sales manager of Video Masters in Kansas City, Missouri.

George Birx and **Ron Nelson** will represent sales for Knox Video Products from their office in Stone Mountain, Georgia.

James Farrell and **Ernest Heisser** have been appointed western and eastern regional sales managers, respectively, for the Magnetic Audio/Video Products Division of 3M. The former position of national sales manager has been split into two responsibilities due to rapid business expansion. □

In Production



Alpine Film Productions film Elke Sommer for Everybodys Optical's ad campaign.

All eyes are on Elke Sommer

Alpine Film Productions of Denver has been selected to direct and produce several television commercial spots for Everybodys Optical, Denver's newest eyewear department store.

Alpine's Rob Dubin directs Elke Sommer, who is featured as the spokesperson for the campaign. Dressed in a Bob Mackie original, Sommer takes the audience on a tour of the unique store, highlighting its extensive selection of eye wear, its special fashion consultation services, and its complete modern lens lab.

The commercial was shot on 35mm high-speed film using the Moviecam camera and new mini-Worall head provided by Film/Video Equipment Service Company. Lighting was provided by Ken Seagren of Lighting Services, while Dee Dubin produced for Alpine. (303-777-3406)

A new image for Ohio lottery

Cranston/Csuri Productions of Columbus, Ohio, recently completed a 30-second computer-animated spot for the Ohio lottery.

With all the action comprised entirely of three-dimensional, computer-generated animation, the new spot is the latest promotional effect by the State of Ohio for its lottery program.

The imagery consists of the lottery machine propelling colorful numbered balls directly at the viewer. Each highly colored ball explodes to reveal one of the three games offered by the Ohio Lottery Commission.

Cranston/Csuri is now offering its services to independent and network affiliate television stations across the country. (614-421-2000)

A class act... all the way

WOR-TV, New York, has a new look for its *News 9*. SjoCom, a San Francisco-based production company, created promotion spots, animation, music, program opens, and a complete graphics package for the station's news program.

Graphics design elements included Chyron fonts, electronic backgrounds, ad formats, logos, and signage. Designer Chuck Overton created the program logos and graphic formats. Autographics, of Los Angeles, programmed the Chyron fonts and created the electronic backgrounds using the Aurora graphics system. Animation was designed and produced in San Francisco by SjoCom.

SjoCom, a division of Telesound Incorporated, is a creative/production company specializing in media promotion, advertising, and design. The company produces live-action spots, sales presentations, animation, and original music packages for television stations and commercial clients. (415-863-4880)

It's an open-and-shut camera lens

Encore Video Productions, located in Myrtle Beach, South Carolina, constructed a futuristic setting for two 30-second commercials for Sunshine Cameras, a regional camera retailer.

The billiard table-sized set was constructed of curved plexiglass, painted black with a complex masked grid.

Specialized lighting, including a revolving light drum and strobes beneath the plexiglass, gave the shot a flashing, outer-space look. The low-light taping was performed with Encore's Ikegami HL-79EAL camera.

The client's logo, added by a Vital Squeezoom in post-production, appeared to rise above the distant mountains and move forward to full screen, matching a light-dousing effect on the set. (803-448-9900)

Continued on page 30

Encore Video Production sets the stage for a Sunshine Camera shoot.

The Nearest Thing to

a Custom Made VTR.

Even if you could have your VTRs custom-made to fit your needs and facility, you really don't need that luxury. Now Ampex offers so many VPR-80 configurations and accessories that it's almost like having your VTRs custom-made. And all the choices are priced affordably.

There's a VPR-80 for any job in any studio, editing suite or remote truck. Along with all the options, many VPR-80 features are standard, such as AST automatic scan tracking, microprocessor-based dual-cue editing, and many more. You also get the bonus of Ampex service and support, unequalled anywhere in the world.

It's easy to match your individual needs and budget with the VPR-80 that fits best. Call your Ampex sales engineer for the details you need to make a decision.

AMPEX

Ampex Corporation · One of The Signal Companies

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Betacam takes to the streets

VCA Programs, a division of Video Corporation of America, recently completed one of the country's first on-location shoots utilizing Sony's ½-inch Betacam system. The Betacam was used for a promotion piece of VCA's upcoming feature-length music video, *Jersey: Queen of Diamonds.*

The demo for *Jersey Queen* is a fast-paced, high-action video that involves more than 20 locations. In shooting the piece, VCA put the Betacam through some grueling tests.

Michael Pelech, the camera operator for the shoot, climbed trees, ran along beaches, and sat on the back of moving cars to capture the speed and pace of the story line. (212-355-1600)

Short Takes

REALTIME VIDEO—Realtime Video Productions, of San Francisco, has just completed an interactive videodisc project involving 30,000 single-frame edits, utilizing a Sony BVH-2500 1-inch editor.

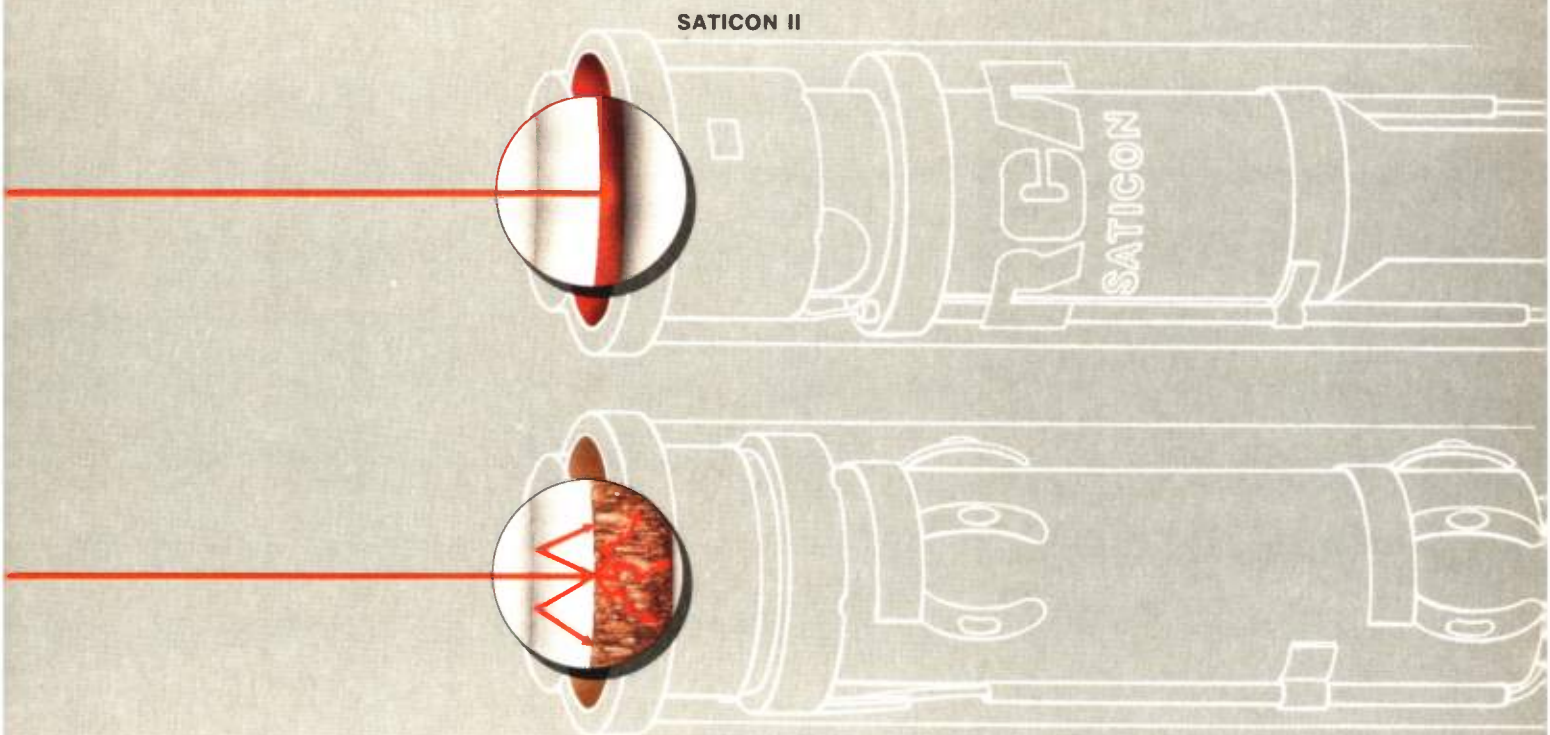
ACTION VIDEO—An MCI/Quantel Paint Box system is now being used by Action Video, of Hollywood, California. Since its installation, the Paint Box has been used by several animators to create images that have surpassed the expectations of feature film, commercial, and video producers.

CINEFFECTS—A JVC TapeHandler videocassette recorder has been purchased by Cineffects of New York. Cineffects, which specializes in multiformat videotape duplication, has expanded its dubbing room with the addition of 35 BR-64000U VHS recorders and CR-6060U ¾-inch recorders.

DEVLIN PRODUCTIONS—Citibank used Devlin Productions, of New York, to produce its first video presentation of its year-end results. Film-edited A- and B-rolls were assembled for a checkerboard construction, as is normally the case before sending the footage to a film lab for an answer print. In this case, however, the A- and B-rolls were merged on tape using a CMX 1-inch editor. Duplications of the 1-inch edited master will be sent to more than 20 Citibank offices across the country.

INTERFACE VIDEO SYSTEMS—Interface Video Systems, located in Washington, D.C., recently completed post-production on a one-hour PBS documentary for the *Frontline* public-affairs series. Video editing took place over a six-day period in Interface's Tempo editing suite. □

Part of your best work may never get past your camera tube.



What you see is not always what you get. The character and quality of your pictures are dependent to a significant degree on the camera tubes you use.

With high performance Saticon* II tubes, you can expect distinctively cleaner, clearer and sharper pictures. The reason lies in Saticon II's newly improved photoconductor. Developed through computer-aided processes, this thin glassy film allows the light to pass through without color diffusion or distortion. The end result is high resolution, distortion-free color, very low lag, high sensitivity and depth of modulation. Highlight memory (without red trail) is also significantly reduced with Saticon II.

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RCA

Take out the doubt.

Circle (25) on Action Card

CABLE CONNECTION

CNN airs live in Japan

The Cable News Network is now airing 17½ hours a day to Japanese viewers through Japan Cable Television (JCTV), a subsidiary of TV Asahi and Japan's only English-language cable channel. The agreement between CNN and Asahi represents CNN's first extended live airtime in a foreign country.

CNN will broadcast live to more than 20,000 television sets in every major hotel, 75 apartment bulidings, and embassies in Tokyo, giving viewers in Japan access to world happenings at the same time as viewers in the United States.

JCTV's schedule of movies, sitcoms, dramas, and documentaries is specially formulated to entertain foreign visitors. TV Asahi also will telecast CNN programs over the air in late-night time periods.

CNN's signal will be linked to Japan via an Intelsat satellite. (Charlotte Adams 404-827-1500)

Sports network kicks off

Home Team Sports (HTS)—a cable network servicing the "Capitol Region" of Maryland, Virginia, Delaware, North Carolina, West Virginia, and Pennsylvania—debuted April 4. The network features Orioles' baseball, Bullets' basketball, Capitals' hockey, Atlantic Coast Conference sports, and other NCAA action.

HTS plans to offer at least one live event each evening, plus informational programming, including sports news and talk shows. Among the live events scheduled are 80 Orioles', 45 Bullets', and 45 Capitals' games, plus the home playoff contests for the Bullets and Capitals.

The Washington-based network is owned and operated by Group W Satellite Communications, a division of Westinghouse Broadcasting and Cable. Programming is currently delivered to 13 cable systems via Hughes Galaxy I satellite, transponder 12. (Michael Ortman 202-728-5300)

LO station plans Olympic preview

More than 52,000 cable television subscribers will get a special preview of the 1984 Summer Olympics during May, June, and July, according to Michael Cella, station manager of Southern Connecticut Cablevision's local-origination channel, Cablevision "A."

Forty-five two-minute mini-previews and one 30-minute program—highlighting such events as boxing, gymnastics, and swimming—will be shown on ESPN, MTV, and Cablevision "A."

Cella said that each of the previews and the 30-minute program will be available for sponsorship by local businesses, an unusual opportunity because sponsorship of Olympic programs is usually relegated to national advertisers. (Nat Gilbert 203-372-7071)

BizNet provides trade-talk link

Business executives in Washington and Tokyo participated in a live, two-way international videoconference recently, entitled "Dialogue on Japan-U.S. Trade," featuring U.S. trade representative William Brock.

The *Nation's Business Special* originated in the U.S. Chamber of Commerce's BizNet studio for the U.S. transmission, with Television Tokyo providing the Japan origination from the Hotel Okura in Tokyo.

The program involved five satellites and three separate feeds for simultaneous transmission of audio and video both to and from Japan and Washington. The on-air live presentation in each location was mixed locally.

BizNet, the American Business Network, has originated nearly 70 videoconferences, three of which used international satellite transmission. (Doug Widner 202-463-5697)

Talent unions ease fee schedule

The Screen Actors Guild and the American Federation of Television and Radio Artists have amended provisions in the 1982 Commercials Contract, scaling talent compensation fees in proportion to the subscriber base of a local cable system. Changes also affect broadcast television.

Some cable industry officials had charged that the 1982 contract tended to penalize cable severely because it imposed high talent costs in relation to media cost. In effect, a fixed amount had been assessed, which increased media production costs to uncompetitive levels.

The Cabletelevision Advertising Bureau (CAB) had been working with the two unions for the changes.

In applauding the contract revisions, Vince Fazio, CAB vice president of finance, said, "Now that cable is in a position to price its product more competitively, we're going to see a period of substantial growth in local and regional business." (Ed Woodyard 212-751-7770)

Cable Briefs

FINANCIAL NEWS NETWORK—FNN has switched from satellite feeds on Satcom IV and Westar V to one on Satcom III. The network reached 15 million cable homes with the original feeds, and now has the potential to reach 30 million cable homes. FNN is now on the same satellite with CNN, the USA Network, CBN, and ESPN.

TEXAS CABLE NETWORK—The Texas Cable Network celebrated its first anniversary in March with a subscriber base of 541,000 on six cable systems. TCN's programming has doubled since its launch, and projections are to expand to 12 hours a week by December. The network also is working to expand into the remaining Texas markets and eventually move to satellite distribution.

ARTS & ENTERTAINMENT NETWORK—The top-20 MSOs head the list of affiliates providing A&E to 9 million subscribers, 2 million more than projections for the service, which debuted in February. According to Nickolas Davatzes, "Cable operators' support of A&E represents their commitment to a partnership with A&E to provide the community with the best in educational and entertainment resources."

TRIBUNE CABLE COMMUNICATIONS—Tribune Cable has begun a closed-captioned decoder program in its Alexandria, Virginia, system. Residents in Alexandria can buy decoders from the manufacturer for $205, which will enable them to read the dialogue of programs they cannot hear.

GENERAL INSTRUMENTS—General Instruments, which manufactures equipment for cable systems, has hired Ronald Putnam in the new position of group director of security. □

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WRH

More support for high tech

BY PHILLIP KEIRSTEAD

Once in a while, it's a good idea to pause and take stock. I had the opportunity to hear someone else's overview of news technology while attending a conference in New Orleans co-sponsored by McHugh & Hoffman consultants and *TV Digest*.

The speaker for a session on new technologies was Steven Steinberg, vice president and director of broadcast services for WHAS-TV in Louisville, Kentucky. Steinberg's name comes up frequently when you're discussing television technology. He's considered by many to be a leading observer of trends.

Steinberg thinks that two developments are under way that will play a major role in broadcast journalism. First, he said, "we're going to go to computer newsrooms." Second will be the development of cellular radio.

"It's going to allow you to give every single reporter or camera crew a portable telephone that they can carry anywhere in the world, and you will be able to pick up your phone on your desk and call that reporter," Steinberg said. "He can then assemble his story back in the van on a computer terminal, stick that cellular radio into it through a modem, and he's into your system right at the station."

Steinberg said there is a need to link all the computer equipment in the station—switchers, graphics devices, character generators, etc.—so that each piece of machinery can talk to the other and set itself up for human switching decisions. He thinks the newsroom computer system fits right into the trend toward increased computerization in the production department.

Design your own system

He also thinks we might see some changes in the newsroom computer industry.

"What they have to do is get to the point where it's software-based, and you go in and design that system for the way that you want to run your news department," he said. "Then you're going to start developing a database with all this news in it, and some smart editor is going to say, 'I've got a database, so why can't I sell this and start another profit center?' " Steinberg mentioned both teletext and videotex as applications of this theory.

He told the conferees that we should be seeing a new type of recording medium within two or three years. This medium, combined with the CCD camera due out this year, he said, will give television news departments a totally digital package in the field.

"We have then," Steinberg continued, "different ways that we can transmit it because, if we start with a total digital recording medium and camera, we don't have to broadcast it as pictures over microwave. We can broadcast it as digital information as one computer talking to another. So then, you have the possibility of tying that back in with your cellular radio, and you can now get signals back from places where you can't with a microwave signal."

Plan now for 2010

Steinberg thinks fiber optics will play a major role in video coverage within the next five to ten years. He said local planning is under way by telephone companies serving major cities. He encouraged broadcasters to contact the phone company and offer suggestions on utilizing fiber optics. According to Steinberg, if we move fast enough, we can create a situation in which we will be able to go into almost any public building or private home and plug into the wall and send a signal back to the station. It might take 25 years to fully convert, but it is important that we participate in the telephone company's current planning process.

The WHAS executive said high-definition television is some distance away, but the "smart" TV set, which enhances our signal, is just around the corner. He also criticized cable operators for their failure to retransmit a high-quality picture, and pointed out that while stereo sound is coming to broadcast television, most cable systems will not be able to retransmit in stereo.

Turning to the controversy over small-format cameras, Steinberg said he has told manufacturers his station will not buy ½-inch until a standard is developed. When asked about the ¼-inch format, Steinberg said: "It's a step backward from where we are today in ¾-inch in the editing process; and in some cases, although the picture quality is greatly improved over ¾-inch, everything that has been shown so far has more dropouts in it than we care to see."

His final admonition to the news executives was that they become more active, telling manufacturers what they need, rather than waiting for products to be developed that might or might not fit their operations.

"We don't speak up enough," Steinberg concluded.

New products

As I write this, it's trade-show time, and there's a rush of new products and services being introduced. You might be interested in some that have come to my attention.

Impact Limited in Lexington, Massachusetts, is selling a software package for the newsroom. Called the MASTER Data Management System, it's designed to control the internal management of a newsroom, but is not being sold as an electronic newsroom. Basically, it keeps track of such items as assignments, call lists, schedules, scripts, contracts, and equipment inventory. (617-861-8713)

Bearcat, the scanner company, has come up with a scanner to be used as a peripheral for a personal computer. The Bearcat CompuScan 2100 prints out information about the service being monitored. It also covers a wide array of frequencies and can establish monitoring priorities. (317-894-1440)

UPI is out with 2-foot and 30-inch Equatorial mini-dishes, which they say they will ship to subscribers if the subscriber agrees to install it. The wire service says it takes 90 minutes to put the dish in place.

Colorgraphics has introduced the LIVELINE IV graphics system, which allows networking. This means you can have two or more graphics creation stations in an art department. It's available as an upgrade. (608-274-5786)

Finally, Howard Kelley, a pioneer in newsroom computerization who now manages WTLV-TV in Jacksonville, Florida, is promoting the idea of a national computerized network of radio and television newsrooms, possibly operating through the RTNDA. □

Phillip Keirstead, news technology editor, is an associate professor of journalism at Florida A&M University in Tallahassee.

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BOSCH

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Local origination on a shoestring

BY SCOTT HESSEK

He came through the front door of CBN about two years ago, with lots of enthusiasm and three Frenchmen in tow.

His name was Bill Gladd, and he had come for advice on how to improve his video ministry, a local-origination program on the LO channel in the Saranac Lake area of upstate New York.

Gladd was, and is, a bundle of energy. He is one of those limitless people who sees obstacles as opportunities, and problems as something you eat for breakfast each morning.

The tale that he unfolded was a remarkable one. The Saranac Lake area, despite the influx of tourists, is what you might consider economically depressed. Families live on $6,000 a year or less. In the winter, there is a constant toss-up between staying warm and having something to eat.

Yet, out of this awkward situation, Gladd and his associates had taken nothing but their enthusiasm and created a weekly television show called *The Word Goes Forth*. They were entirely self-taught. Gladd read the Bible; and his associates, the Reandeau Boys, played and sang gospel music. Together, they infected their viewers with such a positive attitude that it was impossible not to like them, regardless of how you felt about their position.

Making the best of it

What they had accomplished, besides the program, was nothing short of a technological miracle. To create the opening for their show with virtually no money or facilities, they approached the project with enthusiasm and humor. They laid a Bible on a piece of carpet; grooved the edge of two two-by-fours and put marbles in the grooves; bought stationery-store letters and a piece of non-glare glass, on which they wrote "The Word Goes Forth" and all the titles and credits; then rolled the glass slowly along the marbles and over the Bible to get the moving-titles effect.

Getting the audio was also quite a project. While the Reandeau Boys picked a banjo and guitars in the background, Gladd tried to think of a way to announce the titles in a deep, booming voice. To get the effect, he tried several methods, including sticking his head into a corrugated metal trash can, and saying slowly, and in his deepest voice, "The Wooorrrd Gooes Foorth." The results were nothing short of amazing. Not good. Amazing. They finally had it recorded by a friend at a radio station.

Mixing together the Bible reading, the interviews, and the popular local music (all produced in Gladd's trailer home by moving the sofa aside and shooting against a wall), the show is very good for shoestring LO. It might have trouble flying in Hollywood, but it did okay on Madison Avenue.

Gladd was a featured speaker on the local-origination panel at the New York Video Expo last fall. As a demonstration of how anything can be done on less than a shoestring budget, he recorded his training episodes on tape and played them for those assembled at the conference.

The response was enthusiastic applause, and on-the-spot agreements to run his program on several large cable systems represented in the room.

An enthusiastic volunteer

Gladd is a volunteer. He keeps food on his table by selling hearing aids for a living. His singers work as they can in the fields, mountains, and forests of the area. And he voluntarily goes down on his off-hours to run the show on the local cable system.

The enthusiasm that Gladd and his associates bring to the cable company and the viewers is infectious, and represents the kind of LO programs that you can get from dedicated people.

But he has another thing going for him: consistency. That is perhaps the most crucial element in working with volunteers on local-origination projects. The question is one of commitment. Volunteers often fail to recognize the necessity for constant attention to the work at hand, so there needs to be some type of agreement, preferably written, that clearly spells out who will do what when, where, and how.

A commitment to stand by

The volunteer organization is making a pledge—a commitment—to be at your studios at, say, 8 p.m. every Thursday to produce *Have a Heart Hour*. They must understand that you can't handle a half-have-a-heart effort. Some LO operators have proposed "negative payment agreements" to handle such contingencies. Basically, the program and airtime is free unless the volunteer group does not show up as scheduled, in which case they are billed corporately or by individual member's name, for the time, effort, and costs of the stand-by staff. The legality of this may be fuzzy, so checking with your attorney would be wise before instituting such a policy; but it is a thought. In the event that they do pay a "costs" fee for the use of your studio and equipment, billing them for the unused "reserved time" would be more easily enforceable.

Dick Leghorn, whose people at Cape Cod Cablevision ran a superb volunteer local-origination training school some years ago, had developed such a spirit of enthusiasm and involvement on the part of volunteers that they would sometimes publicly challenge his whole mode of operation. That always made for lively debate, because it represented that peculiar New England tradition of biting the hand that feeds you and then complaining because it wasn't tasty enough.

A model to follow

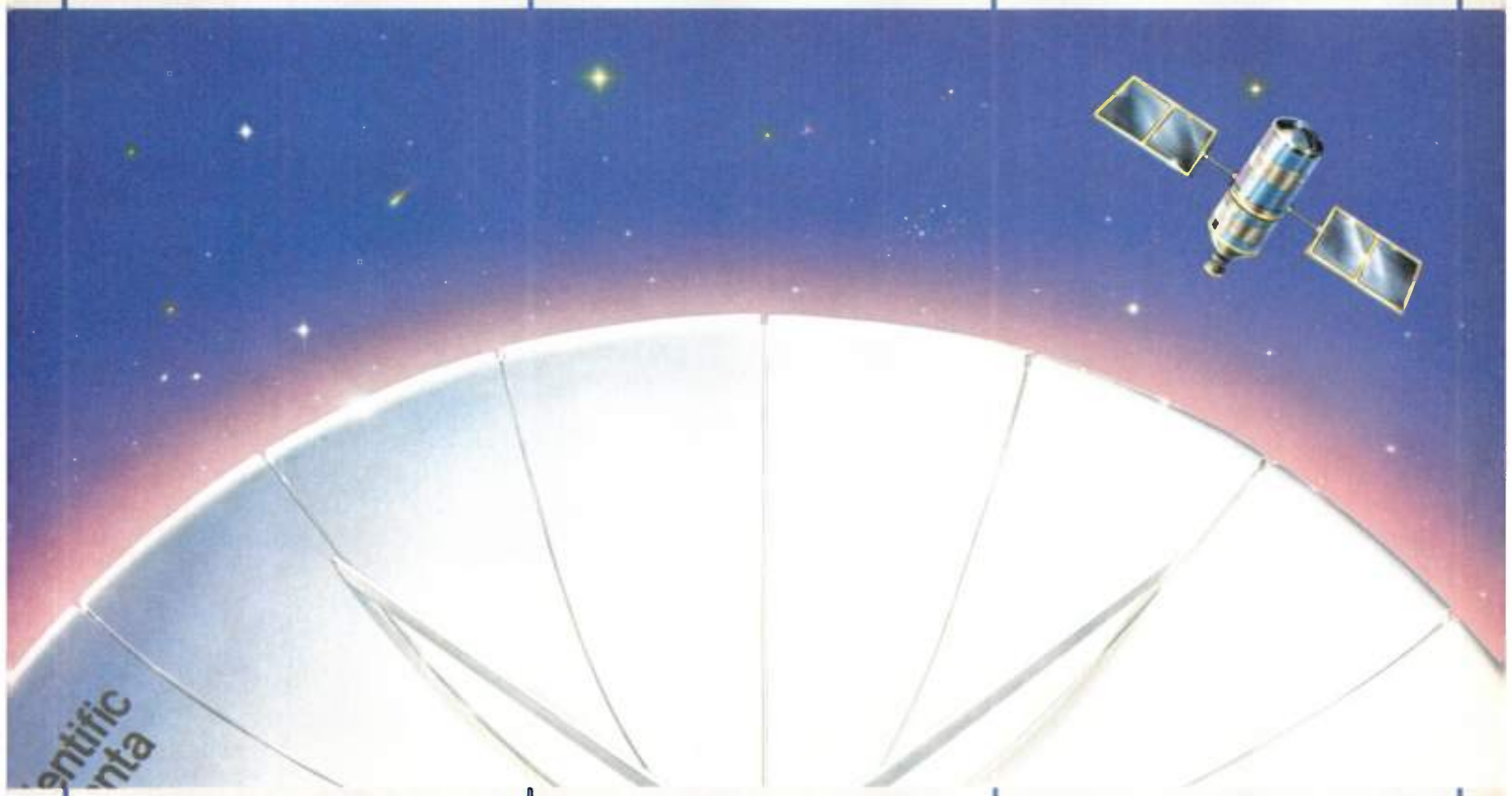
Leghorn's operation may have had flaws, but it was certainly lively, entertaining, and a model for what could be done elsewhere.

There's hope, and great opportunity, for volunteers in local origination. Every cable system is a unique case, but you can take heart that the world still has its Bill Gladds and Dick Leghorns, willing to see both sides of the picture, and work to accomplish their mutual goals together.

Editor's Note: Copies of Bill Gladd's training tape can be obtained by sending a blank tape and $15 for dubbing and handling to The Word Goes Forth, 293 Broadway, Saranac Lake, NY 12983. Make sure you attach an explanation of what you want, or your $15 may be just accepted as a contribution. For more information, call (518) 891-2840. □

Scott Hessek, cable production editor, has been involved in the broadcasting and cable industries for almost 20 years.

Scientific Atlanta



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CABLE wants to be the CONSUMER'S CHOICE

The National Cable Television Association's annual convention will have a new look this year, with the addition of a day-long program featuring the latest in cable programming.

More than 15,000 attendees are expected in Las Vegas June 3-6 to participate in technical sessions and view hundreds of exhibits, including the latest space-age technology and satellite-delivered program services. The theme of the 33rd annual convention, "Cable: The Consumer's Choice," will focus on the challenge of maintaining the current market and expanding the base of cable customers.

"With the merger of NCTA's National Cable Programming Conference with the annual convention," said outgoing NCTA president Thomas Wheeler, "cable operators and program suppliers will share a common forum. In addition to attending panels with many of the nation's top experts in programming, cable operators will have an opportunity to view the programming product in the exhibit hall."

The programming conference, an annual event since 1981, "has been a major opportunity for cable operators and program suppliers to discuss mutual programming interests," said Wheeler, who noted that the final day of the convention will be set aside exclusively for programming activities.

Twelve technical sessions are scheduled. The topics, based on technical papers, include distribution systems and devices; data communications over cable; tests and measurements; home terminals; audio, including a discussion of multichannel sound; advances in signal relays via satellite and microwave technology; commercial insertion; a "blue sky" panel look at research and future development; updates and rebuilds; addressability; and radiation measurement and prevention.

Oral presentations will address noncommercial aspects of communications issues and will be directed to cable television engineers and other telecommunications professionals. Soft-cover editions of the technical papers, including the 50 to 60 papers to be presented in Las Vegas, will be available for purchase during the convention and afterwards from NCTA.

In addition to the technical sessions, the convention will include discussions on management, programming, and legislative issues, led by cable programmers, operators, and other telecommunications experts.

This year NCTA will reveal data on two extensive research studies. One will analyze competing technologies and their impact on cable. The other will provide information on subscriber satisfaction and effective marketing techniques.

More than 200 cable equipment manufacturers and programmers will occupy the 200,000 square feet of exhibit space in the Las Vegas Convention Center, which will be open for 27 hours, 12 for exclusive viewing. A welcome reception and sneak preview of the exhibit hall are scheduled for June 3 from 4-7 p.m.

The NCTA National Awards will be presented the final evening of the convention. The six award categories include:

- Vanguard Awards—The most prestigious of the awards, presented to a man and a woman for exhibiting outstanding leadership qualities and making a significant contribution to the growth of cable television nationally.
- Challenger Award—Presented to an NCTA system or associate member 40 years old or younger for making significant contributions to cable's growth.
- Associates Award—Presented to an associate member who has made significant contributions to cable's growth.
- Science and Technology Award—Presented to a system or associate member-engineer involved in technical development and/or system operations for making significant contributions to the continuing technical advancement of the industry through manufacturing, design, application, and implementation.
- State-Regional Association Award—Presented to a member of a state or regional cable association for contributing to the development of that association and actively participating in effective state legislature and regulatory activities.
- Marketing Award—Presented to a system or associate member for providing leadership in developing marketing concepts that lead to significant consumer awareness and increased subscribership, and for contributing marketing concepts that benefit the industry.

The awards will be presented at the convention's closing dinner-dance, which will also feature singer and composer Paul Anka.

More information is available from NCTA Convention Headquarters, 1724 Massachusetts Avenue, N.W., Washington, DC 20036; (202) 775-3629. □

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VANS: Capabilities are growing faster than prices

BY RON MERRELL

The television van business isn't exactly booming, but it is improving. In fact, 1984 should be an excellent year for both the van manufacturer and buyer.

TELEVISION/BROADCAST COMMUNICATIONS talked with several van manufacturers to get a handle on business trends and to get answers to the typical questions broadcasters have when budget talks turn to vans.

If 1984 is the year to buy a van, what do the manufacturers think you should consider? Is it price vs. quality? How do van designs affect the basic unit's warranty and insurance? Are there hidden costs? What trends are apparent to van manufacturers that may affect a station's van purchase, let alone design?

Where are prices headed?

It's apparent that the national economy has improved greatly since a year ago, but what effect is this having on van prices?

At A.F. Associates, Tom Canavan told *TV/BC*, "Over the past four years, we've seen a steady increase in the price on the chassis. Of course, equipment, materials, and labor are all going up. Whether this is in line with inflation, I'm not sure. What we're looking for when we purchase the chassis is to make certain that it will withstand the rigors of TV production."

Earl Daye of Gerstenslager pointed to the chassis price hikes as an important factor. But, he added, "Overall, prices are rising. It starts with the chassis, but it's also related to material and labor costs. And since no two vans are alike, it's not easy to make a comparison. It's not dramatic, but prices are rising gradually."

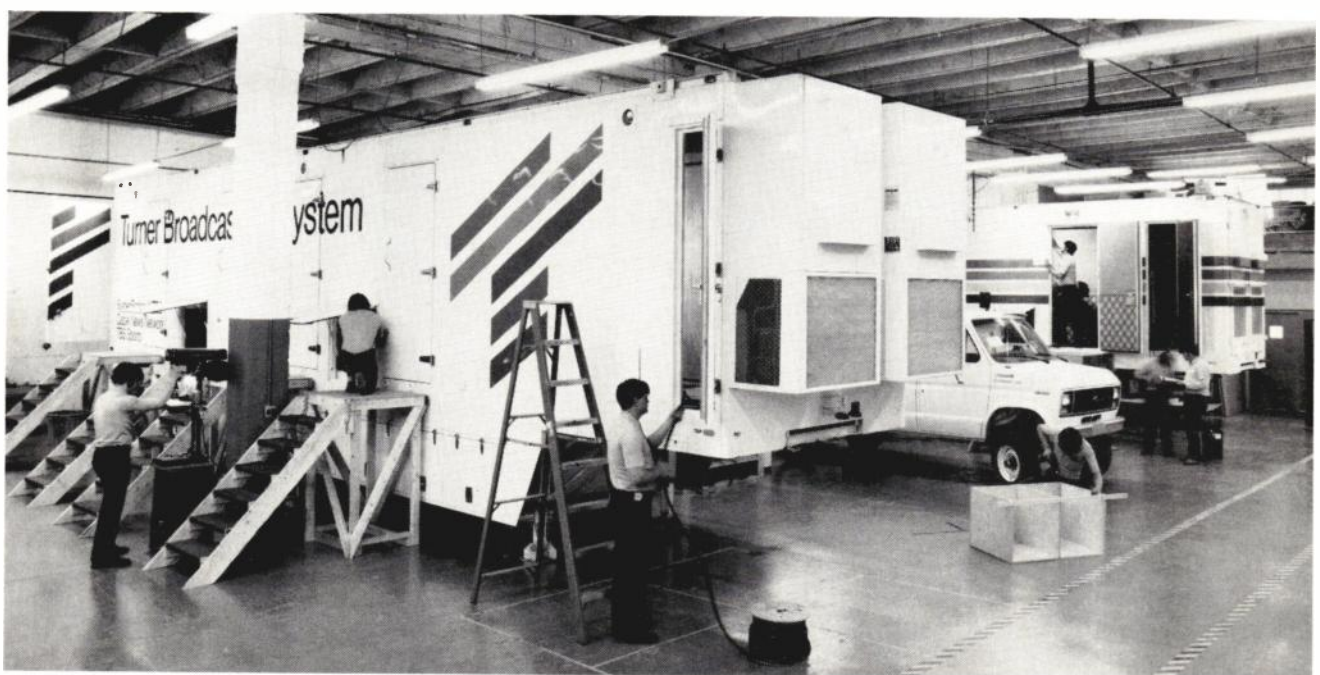
Gray Communications' Dick Schmidt sees prices holding fairly steady. But, like Canavan and Daye, he sees several factors affecting the bottom-line cost.

"Prices are steady," Schmidt said, "in the sense that the electronic equipment is steady or lower. The total may be higher because the buyer wants more sophisticated equipment in the van. This includes digital effects. But this doesn't increase the van's price as much as it increases the van's capabilities."

Ed Shook of Shook Electronic Enterprises reported that he sees basic costs rising as much as 10 to 12 percent. The trend toward higher prices has brought on another problem. "The biggest problem we face today," Shook said, "is that the buyer wants Cadillac quality at Chevrolet prices."

According to Shook, bids today are competitive, but contracts are not always awarded to the rock-bottom bidder. "That's because the buyer knows something about the reputation a manufacturer has for delivering a quality product."

Continued on page 42



Be sure to consult your manufacturer on warranty and insurance dates. If your van takes five months to build, you may be losing five months of warranty before it's delivered. (Photo courtesy of Midwest)

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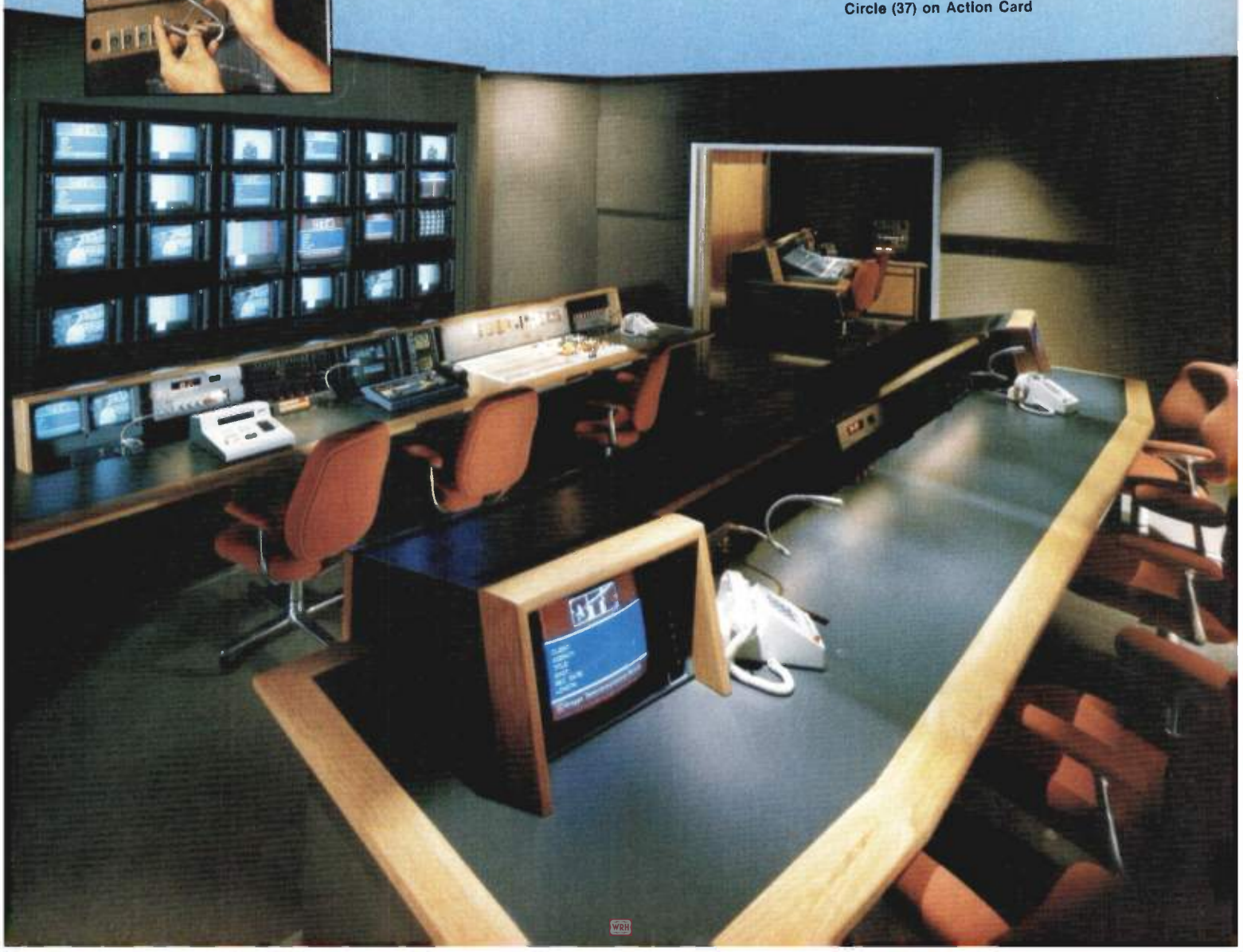

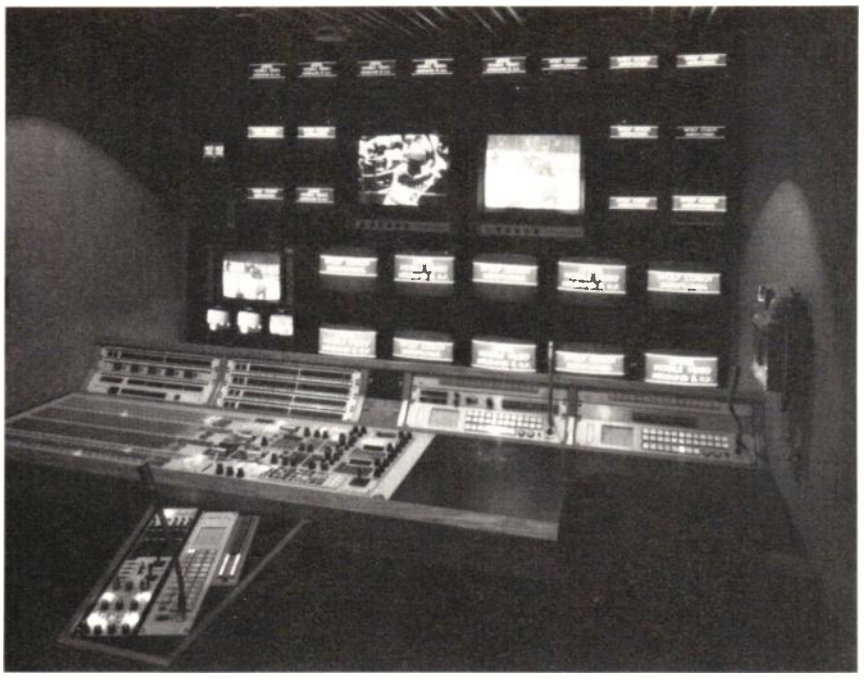

No two vans are alike. Each equipment package reflects the unique application intended by the station. (Photo courtesy of Wolf Coach)

Roscor's Steve Detch agreed that price cannot be the ultimate factor, but commented that quality is not always understood or appreciated. "People are just now discovering something that has been evident to people who have purchased vans in the past," he said. "There are a lot of things that go into these vehicles that you don't see. Many are not obvious to the person who just walks in and looks around. There are many ways to construct a vehicle, and there are as many ways to cut corners. You can cut corners and keep the costs down. The buyer won't see that today, but he'll realize it later. So the best price is not always the best deal."

Quality, of course, is a feature all van manufacturers claim to offer. They covet these reputations because a good name leads to references. There may be some evidence of cutting corners to control costs, but generally costs are controlled by competition. As evidenced by the list of van manufacturers included in this article, competition is growing.

We can leave the total-cost consideration with a pungent quote from Jack Vines of Television Engineering: "The stench of inferior quality lingers long after the sweet smell of the low price fades away."

Hidden costs and price breaks

When examining the factors that contribute to a vehicle's total cost, you may be surprised to find what some consider hidden costs. If the buyer asks the right questions, individual costs will be much more apparent.

Dick Bock of MZB & Associates offered one example. "Some modifications," he said, "may call for a lot of wiring. Anything that involves a lot of extra labor will automatically increase the cost. For example, warning indicators can be very expensive. We recently built a truck that has a beeper that goes off if the access panel is left open. And it goes off if the mast is left up and the engine is started and put into gear. What happens sometimes on masts is that you get an indication that there is no air pressure. But it may still be up. The results can be dramatic when you drive the van under an overpass with the mast raised."

Most manufacturers said buyers are considering expensive voltage- and current-regulation systems. But if the buyer and manufacturer do not discuss the list of features wanted, item by item, the buyer may be surprised when he sees the bottom line.

In the case of warning systems, the additional parts are insignificant compared to labor costs. So you should be sure to ask for a clarification of labor costs when negotiating for a van.

Most buyers believe that since manufacturers are purchasing equipment all the time, they will get volume discounts. All manufacturers said that when they do, they pass along the price breaks to the buyer. But often they don't get discounts.

Explained Schmidt: "There can be price breaks on volume buys, but not as often as you'd think. That's because we don't deal in a standard package. Also, we never seem to do two of the same designs in a row. We might do a microwave van and then turn around and build a complete production unit."

Henry Lassige of Alpha Video added another discount factor that is often overlooked. "Price breaks can be passed along to the client, but that depends on the equipment manufacturers. Some manufacturers are running behind in their orders. In a case like that, they are really not too interested in giving price breaks on volume sales. On the last van we built, one piece of equipment was on order for several months. The station is still using a loaner unit."

"Volume economy," said Henry Grove of Peirce-Phelps, "is elusive. If you look at manufacturing a van, and if you're lucky enough to find a customer who wants 10 vans exactly alike, only then can you really begin to develop some economies of scale. The fact is that when you sell the 11th van, the customer will want so many changes here and there that you essentially have to build a whole new unit.

"In my experience, the customer doesn't want a standard package. I can build a plaid van or a vanilla van. But if you want a plaid van, you'll have to pay plaid prices."

So the equipment package you ask for may be a more costly consideration than you think. For example, suppose you want Brand X, but Brand Y and Z are very close in price and quality. Ask your van manufacturer where these companies stand on deliveries and if a price break is possible. By working closely with the van manufacturer, you can cut costs without substantially lowering the quality of the equipment package. Most van manufacturers are essentially acting as consultants when a van is in the design stage.

How seriously will a van manufacturer consult with a buyer? Very seriously, at least according to Bill Stickney of Videomedia. "When people come to us to talk about a van," he said, "the first thing we do is determine if they have a valid reson for buying a van. Based on what they tell us, we may end up advising them not to buy one.

"For example, unless a buyer is into a sports or real-time transmission, a van can be a waste of money. It may be better for the station, based on their objectives, to send out camera crews and put their money into post-production. In fact, van sales may be dropping because of the new portable cameras. Previously, the only way you could get a quality signal on a remote was to use a van. But the newer cameras can give you studio quality.

"So the customer really should be aware of the negative and positive aspects of owning and operating a van. One of those negative aspects that's often overlooked is insurance."

Insuring the van

"You have to remember," Stickney

Continued on page 44

GET BEHIND THE CAMERA THAT'S OUT IN FRONT

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continued, "that with a van you are putting several hundred thousand dollars, maybe millions, of equipment on wheels. The cost of insurance can be outrageous. You must expect higher rates for equipment insurance on a van, even if you have the same equipment installed in the studio."

At MZB, Dick Bock also sees insurance as an important consideration. "We insure the van until it is accepted at our plant by the station. This is an important point to consider, because most stations go to the plant to inspect the van. It must be insured when it rolls out on the road for the trip to the station. Most stations realize, because of ENG operations, that they will need insurance on the van. However, a newcomer might be shocked when he sees the cost of insurance."

Your van manufacturer may suggest an insurance company, but the choice is yours. The point is, it should be made absolutely clear in the negotiation stage just who has the insurance and when it becomes effective.

Warranty time

Insurance on the vehicle may be tied to your warranty. In the van business, there is more than one warranty. As Dave Barnes of Midwest pointed out, "It's important to know that the equipment installed on the chassis does not exceed the manufacturer's specs. If you violate these specs, your chassis, running gear, and engine may not be under warranty."

Richard Wolf of Wolf Coach elaborated: "There are two things that happen. There's a delayed-warranty start form that we file with the chassis manufacturer so that your 12-month, 12,000-mile clock doesn't start until the delivery date. We don't want to burn up part of the warranty on the chassis we have in inventory.

"The other thing we do is weight and balance calculations to determine if there will be a necessary change in the design. We also do a detailed weight review of the equipment to make sure we're comfortably within the weight restrictions. And we furnish these figures and a review to the customer."

Gerstenslager's Daye told *TV/BC*, "Almost all chassis manufacturers have a standard warranty. It's going to cover one year or 12,000 miles. Of course, we also guarantee the work we do on the van. In most cases, if you want an extension of the basic chassis warranty, you can buy that too."

The extension may be worth considering. Most van manufacturers, however, told *TV/BC* that the chassis designs have seen few changes, reflecting perfected designs gained through the years of experience they've been on the road.

Proven chassis performance means the major concern is now your package design as a whole. Gray Communications' Schmidt said, "We guarantee our work for a period of 90 days. Generally, if there's anything wrong, it will show up in the first two or three months, or the first two or three road trips."

Again, if you want to be sure of at least your basic warranty, "you can ask for a certification that the chassis specs have not been exceeded," said Ed Shook. In fact, one manufacturer added that his company drives the van to a local weigh station so the customer can see for himself that the certified weight is correct.

Speaking for MZB, Bock recalled that many stations have built their own vans. "We don't want to go through that again. Station engineers have told me that it takes as long as a year to complete a van, because station management often wants the van to be used for particular assignments before the total job is finished. What's more, station executives think they're getting it done cheaper that way. If they ever figured the engineering time involved, I'm sure they would think otherwise.

"The art of van building is based on experience. Some manufacturers have built hundreds of vans, so they have learned what to do and not to do, and how to cut costs without degrading quality. You have to remember that weight and balance calculations are important because they affect the warranty on the chassis. Can your station engineer make those calculations?"

Climate control

Solid-state equipment does not radiate anywhere near the amount of heat of tube designs. Still, when racked up, the equipment can create the same smokestack effect of the older tube units. And, despite the progress in IC and LSIC design, they still are affected by ambient temperature. The effect usually is greater with heat than cold. That's where climate control (in the van) enters the picture.

According the Steve Detch, "The most difficult problems to understand center on climate control and power requirements. Vans built 10 years ago were basically freight vans. Someone put two air conditioners on the truck and hoped for the best. Your feet might be freezing while your head roasted, or the rack equipment might be running far too hot

Continued on page 46

Buyer's checklist

No two production vans are the same. To find out what your needs are and how different manufacturers can meet them requires careful thought and extensive communication. Following is a checklist for anyone preparing to purchase a production or remote van.

1. Have all departments who would use or maintain the van been consulted on the expectations of the van as a package?
2. Will your news and production demands keep the van on the road on a regular basis instead of in the station parking lot?
3. Will the van accommodate applications that allow your station to expand its operations? In other words, will it be cost effective now as well as five years from now?
4. Is the audio portion of the equipment package designed to put your audio on a par with your video?
5. Are all modifications that call for labor-intensive work essential to the operation of the van? This can greatly affect the cost of the van.
6. When does the warranty start on the vehicle? If it starts as soon as the manufacturer accepts it from the chassis manufacturer and it takes four months to build the van, four months of the warranty may be gone before you ever drive the van.
7. Will the manufacturer certify that he has not exceeded the chassis specs, or offer a certificate of the weight of the completed van?
8. Is the vehicle repairable in the field, or is it so heavily modified at the chassis level that an engineer or mechanic from the van manufacturer's plant must be called in to get the van on the road again?
9. How much will it cost to insure the van, and when does the insurance go into effect?
10. Is the climate-control system adequate for all seasons and assignments? Remember to tell the manufacturer how many of the crew are smokers.

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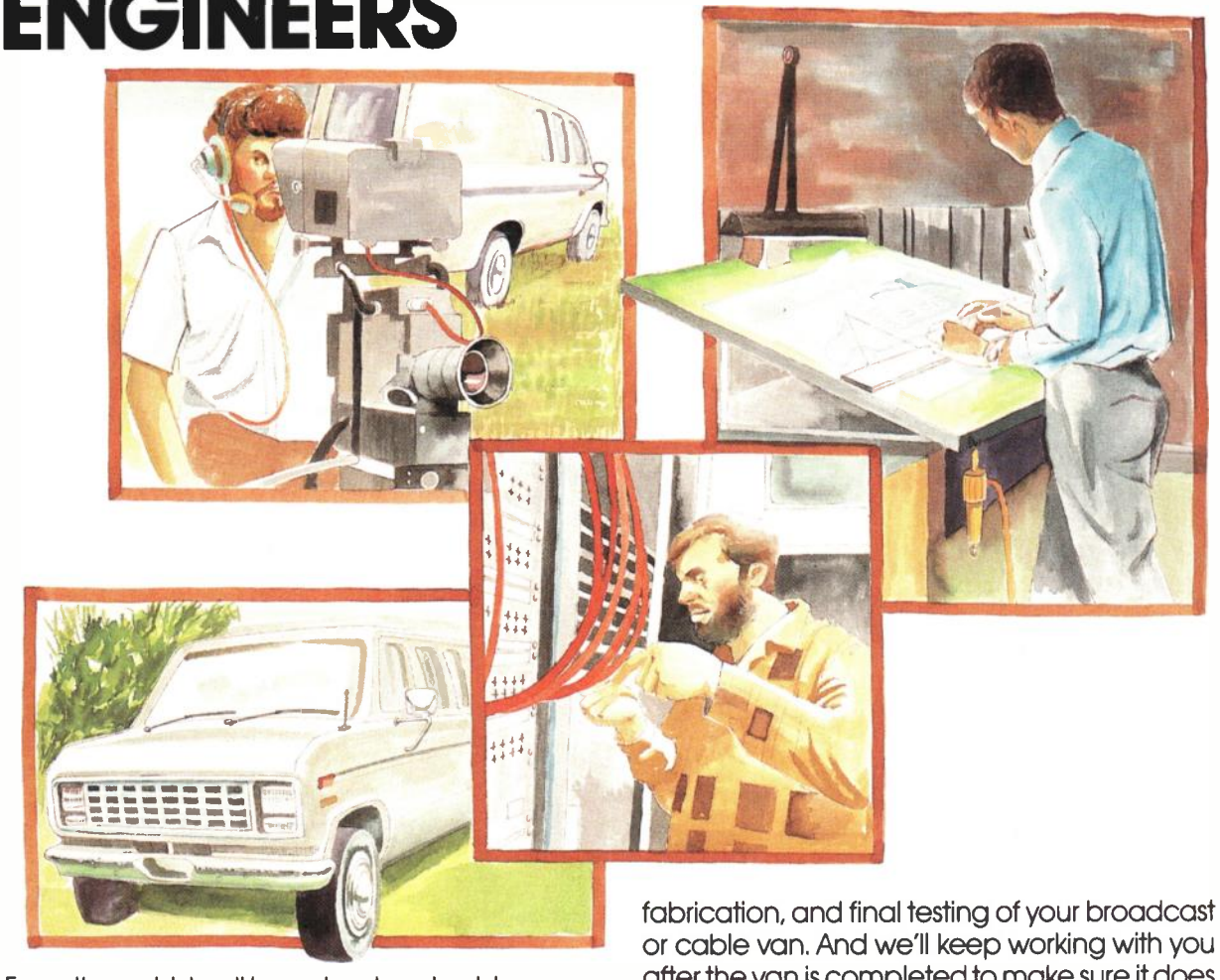

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or too cold. You must plan as carefully for these factors as you would if the equipment were being installed at the station. You might park the van on a desert shoot one day, and the next day you'll be in the middle of a Canadian winter."

Tom Canavan agreed that the issue is complex, with no easy answers. So how do you know when you have adequate climate control?

"There are complex formulas that have to be worked out," Canavan said. "The best answer I can give is that the buyer choose a good engineering company to design the van. There is a complex relationship between the various pieces of equipment and the amount of heat they give off. You also must consider the number of people who will be working in the van, the number who smoke, outside temperature extremes, expected humidity, and how much space is available to mount the air conditioner. Those are just a few of the factors that are critical to climate control."

Discussion of climate control should be brought up in early negotiations. You aren't expected to be a climate-control expert, but bringing it into the dialogue with the manufacturer will ensure that you both have an agreement on its importance to the final package.

Trends in van designs

'You're looking at an awful lot more flexibility," Richard Wolf said, "in what a van is capable of doing. The limitation is no longer the vehicle or the hardware. We have a customer in Waco, Texas, who is doing live shots 65 miles from the station. The limitation today is on the application the station conceives for the van. For example, it could be used for a roving bureau."

Doug Cook of Tele-Measurements told *TV/BC* that microwave designs for vans are aimed at being "as simplified as possible to operate."

Speaking for Centro, Fred Powers said, "One of our features is the Iso-Pak. It answers one of the complaints about vans: tying up too much equipment. This design allows the user to remove groups of equipment that can be used on other assignments. We also have a Fly-Pak that can be removed from the van and flown to a remote for a special assignment."

Powers also sees audio as becoming an even more important part of the van package. "Audio is something that all van manufacturers are looking at now, because it's getting more attention in the production process. I think the station audio engineer now has a much louder voice in the design and layout of the vehicle."

Midwest's Barnes agreed, citing the newest Turner Broadcasting van and its SSL audio board. According to Barnes, more and more buyers are asking for stereo audio capabilities.

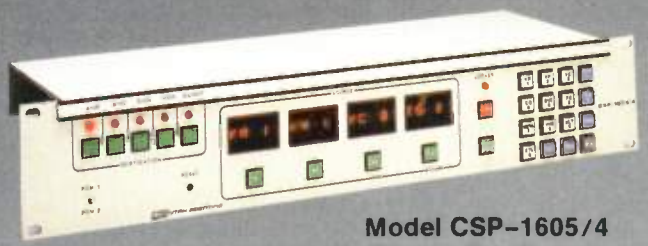
Vines of Television Engineering attributed the trend toward audio emphasis in the van to the attention the industry in general is paying to audio. The WTTW 26-foot van shown two years ago at the NAB convention is a stereo van. Meanwhile, the television industry is gearing up not just for stereo audio, but also for audio quality that will complement the video signal.

Peirce-Phelps' Grove added, "With the increasing and projected importance of audio in stereo and MTV, and with the onslaught of whatever is going to take over in digital, audio is very important in the van business."

Is the bigger van better? According to Grove, the battle is still on. "About a year ago when we delivered a van, the customer said, 'This can't be the Grass

Continued on page 48

FOUR-LEVEL ROUTER CONTROLS from UTAH SCIENTIFIC



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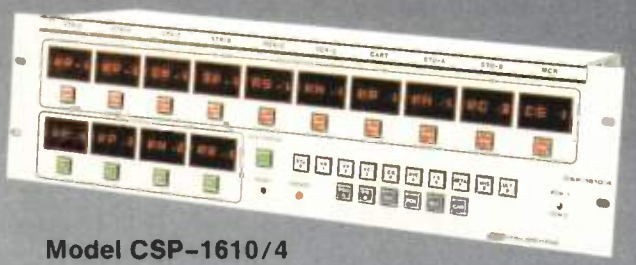

Model CSP-1610/4
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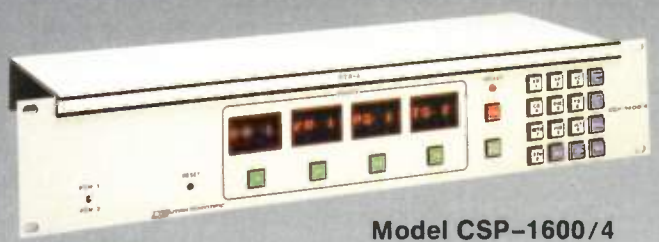

Model CSP-1600/4
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Model CSP-16160/4
Full Matrix Controller and Diagnostic Panel

This new series of microprocessor-based panels has been designed by Utah Scientific to meet the needs of the broadcast and tele-production industries for individual control of source selection on multiple switching matrices (levels).

Each panel includes four alphanumeric displays to indicate either current *Status* (steady display) or a *Preset* source selection (flashing display) on each switching level. An alternate-action *Clear* button associated with each display plus an *All Clear* button permits toggling the displays between *Preset* and *Status* modes.

The touchpad features sixteen *group name* selections (beware of panels allowing for only ten) which, with either one or two *numeral* keystrokes, accommodates up to 1600 possible source names. Each panel can be provided with a *Program Select* switch that doubles the number of controlled busses at no extra charge.

Multi-bus panels provide instantaneous statusing of all four levels each time a new destination is identified. Instantaneous confirmation of changed status is also provided each time a new Take Command is entered.

The model CSP-16160/4 panel is specially programmed for maintenance/diagnostic duties as well as for full matrix control. It operates in either *alphanumeric* (source and destination names) or *numeric* (matrix input and output numbers) modes and can perform various diagnostic routines to permit rapid isolation of system faults.

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Valley switcher I ordered. It's too little!' They came from a background where the only good switchers were big switchers. Remember? The only good cameras were the big ones? It takes a long time to blow away those old predispositions.

"If you look at the kind of production capabilities we can deliver today, all the way from the camera to the output spigot on the van, you see a lot more capability in a lot less space."

Canavan also turned his attention to the equipment package. "The van today is more operationally flexible because of the technologies that are giving us smaller, lighter, and more sophisticated equipment. We can put more sophistication in a 35-foot self-contained vehicle than we could in a 40-foot truck less than 10 years ago. But there is another aspect to the question. What we're finding is that while these capabilities within a given size have vastly increased, people want even more capability. However, they still want the people space, because people are not getting smaller."

Powers said customers are getting both: more capability and people space. "Because of the technological changes, we can put more equipment in the van without greatly affecting its weight. But this also means we have more operational space," he said.

To supply more space, Gerstenslager and A.F. Associates have been offering a van with expandable sides. At NAB this year, Wolf Coach joined them in offering this feature.

According to Richard Wolf, this new version will not have any gears subjected to the elements. "That makes it impossible for the crew to lean up against or bump into greasy gears," he said. The idea of using an expandable-side van on location isn't taking the industry by storm, but manufacturers reported a growing interest on the part of the buyers.

For ENG and microwave vans, the pneumatic mast has become a popular option. The possibility for deeper remotes is greatly enhanced, but buyers should be aware that accurate warning or height systems are critical. It's no laughing matter when a mast gets whacked by a highway overpass.

Let's communicate

Throughout this article, we have emphasized the need for the buyer to talk at great length with the van manufacturer to determine the package that will fit his specific applications. But it will be a waste of time if earlier conversations didn't take place at the station or production facility.

It can be a major problem for the manufacturer and the buyer, according to Lassige at Alpha Video. "There is a real need for basic communication at the station on what they want the van to do, which affects how the van will be built, operated, and maintained.

"I've been in some stations when different groups or departments within the station weren't communicating. That makes it impossible to design a van that really satisfies the station after delivery. We have our ideas about how the package should be designed, but what is right for one station may not be good for another. The van manufacturer might act as a consultant to the station in the early stages, but he shouldn't be put in the position of an arbitrator. When all sides communicate, the van will satisfy the applications it's intended for in the field."

Parting shots

Reputations in this business are earned the hard way, but two van manufacturers are eager to change theirs. A.F. Associates is long known for their large production and network vans. Today the company wants stations to understand that it is equally qualified to build ENG or microwave vans.

On the other hand, Wolf Coach has earned its reputation by building hundreds of smaller units. As mentioned earlier, however, Richard Wolf now has the capability to build an expandable-sides feature into a van. This feature would be included only on a large van.

Too often companies such as Lerro, Peirce-Phelps, Midwest, and Shook Electronics are drummed into the one-size reputation. That's unfortunate because van manufacturers, unlike many other broadcast manufacturers, are eager to act as consultants and design a whole new product each time they sit down to the negotiating table.

Vans today are a better buy and are more flexible than ever before. With increased competition, it's become a buyer's market. It pays to shop around, check references, and, by all means, communicate. □

Remote and video production van suppliers

AEG-Telefunken	(Circle 250 on Action Card)
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Airfax	(Circle 252 on Action Card)
All Mobile Video	(Circle 253 on Action Card)
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M/A-COM Video Systems	(Circle 268 on Action Card)
MZB & Associates	(Circle 269 on Action Card)
Marconi Electronics	(Circle 270 on Action Card)
Midwest Corporation	(Circle 271 on Action Card)
Peirce-Phelps	(Circle 272 on Action Card)
Philips Television Systems	(Circle 273 on Action Card)
RCA Broadcast Systems	(Circle 274 on Action Card)
Roscor	(Circle 275 on Action Card)
Rosner Television Systems	(Circle 276 on Action Card)
Shook Electronic Enterprises	(Circle 277 on Action Card)
Sony Broadcast	(Circle 278 on Action Card)
Tele-Measurements	(Circle 279 on Action Card)
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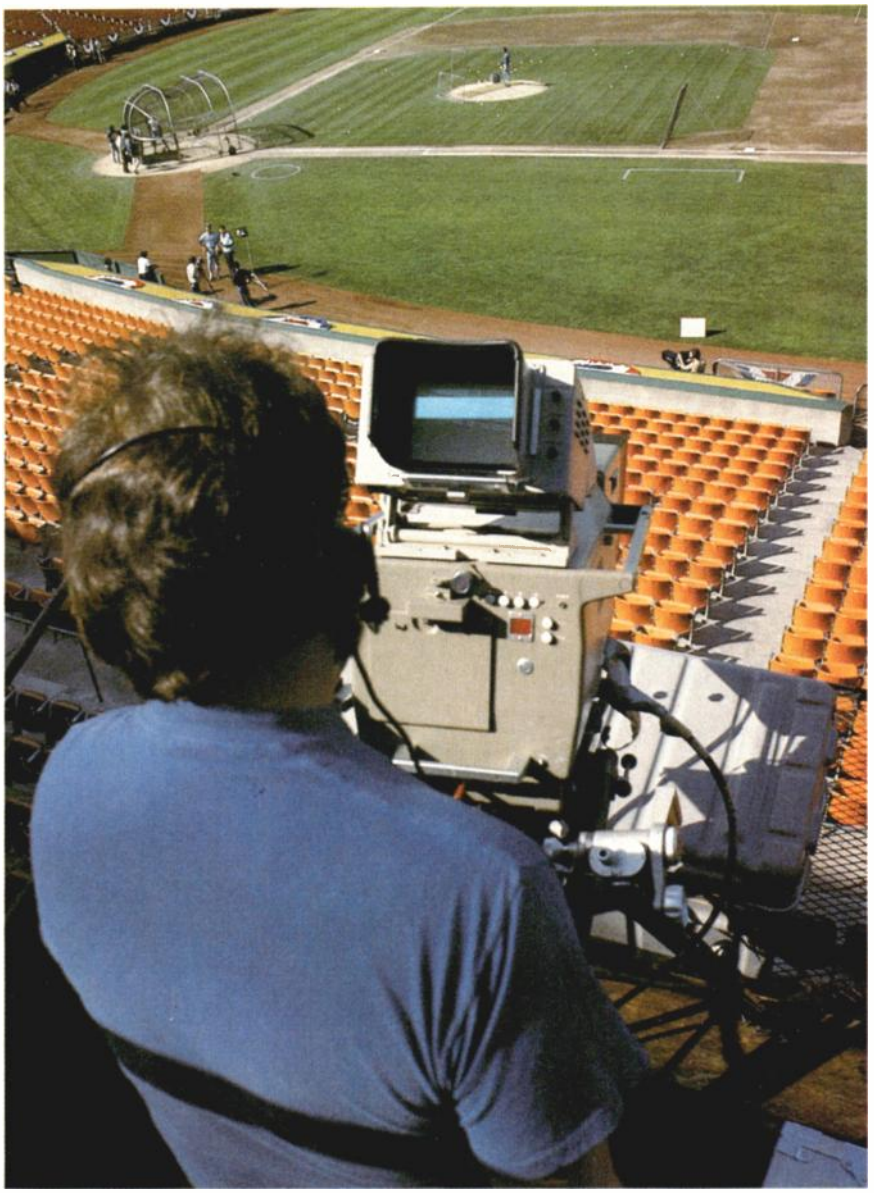

The power of the 30:1 lens on this Northwest Mobile Television camera comes home when you realize that the white rectangle on the field in the Oakland Coliseum is the registration chart. (Photos by Bob Reynolds)

Cameras on the high road

BY GLEN PENSINGER

With the Olympic Games, political conventions, and the routine run of local and network sports and specials, 1984 will surely be the year of the big truck. All of the 40 + footers are looking forward to a banner year. In fact, ABC has contracted the 30 best-equipped independent trucks in the country for its coverage of the Summer Olympics.

What sorts of cameras are being used in these trucks? What are the developments in top-of-the-line field cameras? How do the truck owners make their equipment selections, and what's important to them? This article attempts to answer these questions.

The lens behind the camera

The story of field cameras in the last few years has really been the story of lenses. For 20 years, the 18:1 zoom lens was the state of the art. Then, a few years ago, Angenieux introduced the first 20:1. Soon Schneider and Angenieux, the European manufacturers that had dominated the zoom-lens field, were joined by Japanese competitors Canon and Fujinon, and the race was off. Next came a 30:1 and then 40:1. Last year's NAB saw the introduction of a 44:1, which was two pounds lighter and had both tighter and wider angles than the 40:1 that preceded it.

For today's large-truck owner, lenses are as much a hook for potential customers as the make of camera or type of effects that are available. In a few years, the long-lens field has changed completely. What was the breakthrough? What made it possible?

Computers! But that should come as no surprise. These days, computers seem to be the answer to any inquiry that begins, "What made it possible?" In the lens field, it was computers in both design and manufacture.

Design calculations that used to take an engineer and an army of assistants three to six months to complete, now take three to six hours. It may still take three months to design the lens, but within a few hours, a lens designer can see where the problem areas are and how the latest approach to a fix has affected other parameters of the design.

In the execution of a design, computer-controlled machines have made it possible to hold mechanical tolerances that would be neither practical nor economically feasible if the work had to be done by individual tool and die makers. That is of critical importance in a lens design that must use both mechanical and optical means of compensation to hold focus and achieve uniform

Continued on page 52

FULL TIME CODE FEATURES
FULL JVC VALUE

TV reception simulated

Designed to speed the post-production process and expand control over it, the newest generation of JVC TapeHandler ¾-in. videocassette recorders offers capabilities available, until now, only on the most expensive broadcast-quality videotape recording equipment. Chief among them is SMPTE time code capability, which lets video producers interface them with existing SMPTE gear (generators, readers, etc.).

The CR-825OU editing VCR and its companion decks (the CR-665OU recorder and CP-555OU player) eliminate trial-and-error editing and facilitate off-line and computerized videotape editing.

Each TapeHandler contains a built-in SMPTE time code head that detects the code's electronic signal and "feeds" it to an optional SMPTE time code reader. With a time code generator attached, the CR-825OU and the CR-665OU can also inscribe SMPTE time code onto a third audio "address" track.

Accompanying the TapeHandlers is the VE-92 Editing Controller with joystick control, built-in time code generator, dual channel time code reader, and edit decision lister. For details, write:

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Circle (43) on Action Card

WRH

A crew from Bay Area Mobiletape captures action at the Oakland Coliseum.

transmission over its range.

Also of great importance have been lens coatings and the techniques by which they are applied. The 30:1 and 44:1 lenses have about 35 elements in them. The more glass, the less light that can pass through them. Thirty-five uncoated windowpanes stacked together wouldn't transmit enough light to read by. The constituents of coatings and the vacuum techniques by which they are deposited on the lens elements are both the pride and the closely guarded secrets of manufacturers.

From computer designs, improved coating techniques, and computer-controlled machine tools have come lenses of exceptional range and sharpness with low F numbers and reasonably flat transmission over the range.

Have we reached a plateau in lens design? Are we up against technological limits? According to the manufacturers, longer lenses and longer zoom ranges don't present an insurmountable problem. We are, however, up against a technological limit, although it's not one for the lens manufacturer.

Challenging the camera operator

By taking angles under one degree at the long end of the newest lenses, we're sorely testing the ability of a camera operator to hold a steady image, even with the best pan heads. In fact, the most recent increases in range from 40:1 to 42:1 and 44:1 have shared the increase in range between both the wide and narrow ends. They go a little bit tighter, but they have gained at the wide end too.

For 25mm tubes, Canon's 40:1 and Fujinon's 44:1 both produce a 13.5mm wide shot that comes very close to the 12.5mm wide-angle capability common in studio lenses. Schneider's 30:1 and Angenieux's 42:1 equal their widest studio lenses with a 12.5mm wide angle. Future development may see slight improvement in F-stop flatness and sharpness over the range, and in transmission and capability at the wide end. Until we see breakthroughs in camera supports, pan-tilt heads, and even camera platforms, we probably won't be seeing longer zoom lenses.

Who buys these lenses? How do they choose the camera they put them on? How big is the large-truck market?

Developments in remote trucks

Large remote trucks used to be the province of networks and stations. That is still the case in Europe; but when the conversion to color in the United States came in the mid '60s, that changed. Most stations couldn't see the need and were not willing to make the investment. The large remote-truck business became the field of the independent entrepreneur, and remains so today.

The networks own less that 10 large field units between them. Some would say that the 30 independent trucks contracted by ABC for the Summer Olympics represent the whole market. Certainly there are less than 100 and quite possibly less than 50 large trucks equipped to do network-quality pickups. It's not a large business.

Since the famine days of the early '70s, when large trucks had a very rough time making a living, the business has grown considerably. A major refitting of trucks began in the late '70s. The PC-70s and TK-44s, which formed the backbone of the business for more than 15 years, were retired, at least in part, because of the pressure of the twin innovations of triax and increased lens power.

Remotes mean long cable runs. Triax costs far less than multicore, and it's quicker and easier to install. The time was right. The miles of TV-81 cable in stadiums across the country were being pulled out and replaced by triax. By the end of 1982, the last of the old workhorses was gone.

New truck construction and refitting probably reached a peak this year because of the unusual activity generated by the political conventions and Olympics. The long-term growth and continued health of the business is due largely to the popularity of local and network sports, and the economies of satellite transmission. A few trucks can stay alive doing entertainment specials and awards shows, but the bread and butter is sports.

Truck owners choose their equipment with care. The business is competitive, and there's not a lot of margin. Not only must equipment do a job, but it must do it reliably under the worst conditions this side of network ENG. These days, reliability is taken for granted. It's normal for a truck on the PCAA tour to do 30 games in two months, with 600 miles a night between games, and not experience a single glitch.

The owners may compete for jobs, but they talk to each other about equipment, and they keep a close eye on each other's experiences. This is a field in which word of mouth sells equipment. An important factor in any purchase is what the networks and large independent producers want. If the customers are familiar with a particular brand of character generator, you have to have one to stay alive. It's not quite so cut and dried with cameras, but word-of-mouth reputation is very important.

Top-of-the-line camera features

There are a host of features on the top-of-the-line cameras to discuss, but the two topics that receive the most attention, aside from lenses, are computer control and EFP vs. full-sized cameras.

The computer is seen as both curse and blessing. In one sense, any triax camera is "digitally controlled," since the knobs at the control panel in the truck aren't really adjusting anything in the camera head; they're just sending commands to a micro that has to do the work. This level of computer control is readily accepted and has proven itself very reliable. It's the next level that generates the discussion.

Computers are now offered that not only set initial registration and color balance, but continuously monitor conditions and make adjustments as temperature and other conditions change.

Continued on page 54

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Truck operators get uncomfortable when they hear the tale of a camera that was looking at right angles to a laser beam and after a few moments capped up, paused, uncapped, paused, capped up, paused, uncapped, paused, and then capped up for good while the computer also capped all its other cameras. In this circle, stories of central computers that fail and leave the SV with no backup knobs to turn are taken seriously.

The modern top-of-the-line camera is so stable and easy to align that many video operators don't see the need for computer setup and operation. Computer-control designs that seem to have the most acceptance on the road are those that work as adjuncts to an otherwise stand-alone camera chain. The computer provides help with setup, stores the fine registration information for a number of different lenses, runs diagnostics, holds special setup information from one day to the next, and lets you shift color balance on nine cameras at once as the sun goes down; but it also leaves you with nine separate, working cameras when and if it fails.

Lens manufacturers

Angenieux	(Circle 201 on Action Card)
Arriflex	(Circle 202 on Action Card)
Buhl Optical	(Circle 203 on Action Card)
Canon USA	(Circle 204 on Action Card)
Century Precision Optics	(Circle 205 on Action Card)
Cinema Products	(Circle 206 on Action Card)
Comprehensive Video Supply	(Circle 207 on Action Card)
Crow of Reading	(Circle 208 on Action Card)
D.O. Industries	(Circle 209 on Action Card)
Frezzolini Electronics	(Circle 210 on Action Card)
Fujinon	(Circle 211 on Action Card)
GBC Closed Circuit TV	(Circle 212 on Action Card)
Javelin Electronics	(Circle 213 on Action Card)
Kalart Victor	(Circle 214 on Action Card)
Lenzar Optics	(Circle 215 on Action Card)
Panasonic	(Circle 216 on Action Card)
Panasonic Canada	(Circle 217 on Action Card)
Research Technology Intl.	(Circle 218 on Action Card)
Schneider Corp. of America	(Circle 219 on Action Card)
Tamron	(Circle 220 on Action Card)
Tiffen	(Circle 221 on Action Card)
Vicon Industries	(Circle 222 on Action Card)
Visual Methods	(Circle 223 on Action Card)
Zei-Mark	(Circle 224 on Action Card)

Field camera manufacturers

Ampex AVSD	(Circle 225 on Action Card)
Asaca/Shibasoku	(Circle 226 on Action Card)
Bosch (Fernseh)	(Circle 227 on Action Card)
Robert Bosch	(Circle 228 on Action Card)
Cinema Products	(Circle 229 on Action Card)
Harris, Broadcast Group	(Circle 230 on Action Card)
Hitachi Denshi America	(Circle 231 on Action Card)
Ikegami	(Circle 232 on Action Card)
International Video Corp.	(Circle 233 on Action Card)
JVC Company of America	(Circle 234 on Action Card)
Link Electronics	(Circle 235 on Action Card)
Marconi Communications Systems	(Circle 236 on Action Card)
NEC America	(Circle 237 on Action Card)
Panasonic Canada	(Circle 238 on Action Card)
Panasonic Video Systems	(Circle 239 on Action Card)
Philips Television Systems	(Circle 240 on Action Card)
RCA Broadcast Systems	(Circle 241 on Action Card)
Sharp Electronics	(Circle 242 on Action Card)
Sony Broadcast	(Circle 243 on Action Card)
Thomson-CSF Broadcast	(Circle 244 on Action Card)

The hallmark of the large truck is the large top-of-the-line camera. Today's typical large truck will carry three or four studio-type cameras using either 30mm or 25mm pickup tubes. Many current cameras will accommodate either 30mm or 25mm, and can work with all the variations of lead oxide tubes: triode gun, diode gun, low capacitance, anti-comet tail, and either tube-base or prism-bias light. The excellent quality of 25mm camera designs coupled with their lighter weight and lower lens costs gives them the edge in new or rebuilt trucks. To this complement, three or four portable cameras using ⅔-inch tubes will be added. The small ⅔-inch camera was originally required for its hand-held capabilities at ringside, courtside, or down on the field. As the quality of these ⅔-inch cameras improved, so did their range of application.

A place for portables

A good senior video operator will tell you that there is a difference between large and small cameras. The pictures from 30mm or 25mm tubes have more resolution. There is a bit more snap; a tad less noise. But, the same operator will also admit that the difference is gone by the time the pictures have been recorded and played back off a 1-inch tape machine or pushed through all but the very best digital-effects system. This closeness in quality and the studio packages offered for these cameras have made them welcome additions to large trucks.

From inside the truck, one of these small cameras operates just like its larger cousins. Its triax terminates in a camera control unit with most if not all the features of the larger camera. Frequently the CCU is the same for both. If there is a master setup computer, the small cameras are adjusted right along with the large ones. They use the same triax, but they cost about $40,000 less. At courtside, their 10:1 or 14:1 lenses have always been good enough. Now there are 30:1 servo-controlled lenses, large viewfinders, and good pan heads that allow these cameras to hold their own up in the stands as well.

We're not likely to see the large trucks turn to all portable cameras in the near future. There is a preference for larger cameras. At the moment, they have more lens power. Their bulk and refined support equipment make them easier for operators to handle. Customers continue to prefer them. But, even a large, 11-camera entertainment remote like the Diana Ross special used only four studio-type cameras. The rest were portables with a variety of lenses and support

Continued on page 56

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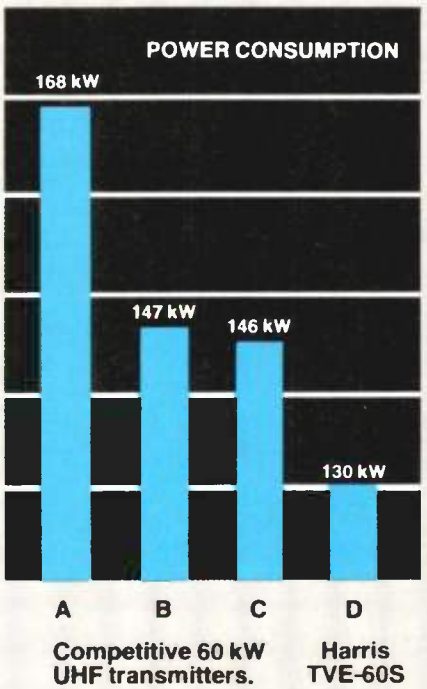
The very latest in high power UHF technology has been incorporated into the TVE-60S. For instance, a single Varian 5-cavity VKP-7550 "S" Series klystron is used for full 60 kW visual power output.

This new integral-cavity klystron is an improved, ultra-high-efficiency version of the Varian VA-950 Series that has been field proven in hundreds of UHF transmitters worldwide.



When operated with a variable visual output coupler and a mod anode pulser—both supplied as standard in the TVE-60S—the new klystron provides visual beam efficiencies ranging from 63% to 68%.

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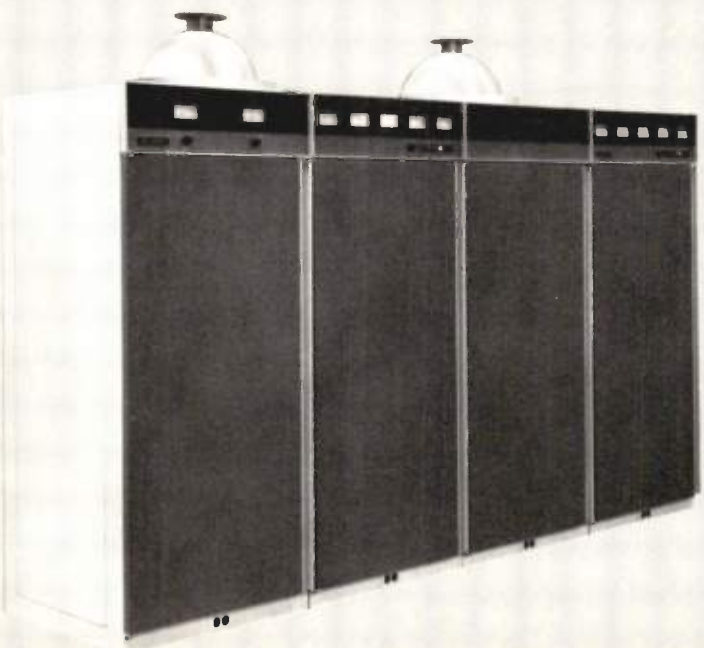
For complete information on the new TVE-60S, or the 120 kW and 240 kW versions, write or call: Harris Corporation, Broadcast Transmission Division, P.O. Box 4290, Quincy, Illinois 62305. 217/222-8200.

*Figured from the National Average Power Cost as published in "Electric Power Monthly", based on a 20-hour broadcast day, and compared with the published power consumption specification (as of Feb., 1984) on the next closest competitive 60 kW UHF transmitter. Comparisons in chart based on published specs as of Feb., 1984.



HARRIS

Circle (41) on Action Card

A large "studio" camera is readied for a college football game in California.

equipment, depending on their specific assignment.

There are a number of reasons for this. Unless you bring two large trucks together, there are usually only three or four large cameras available. Large cameras aren't available for rental in the same way that the portables are. The combination of high picture quality, long lenses, large viewfinders, triax, lighter weight, faster setup, general availability, and lower cost have given portables a permanent berth on the high road.

Looking toward the future

The next generation of large trucks will most certainly be affected by the development of high-quality ⅔-inch studio cameras. NBC was the first high-end user to put ⅔-inch cameras on the road five years ago. The TK 761s with Schneider 30:1 lenses proved it could be done. Since then, both lenses and ⅔-inch cameras have improved; and we're likely to see more improvement in this area in the near future. Hitachi has introduced the SK 970 computer-controlled ⅔-inch studio camera. Ikegami has the HK 302, and Thomson-CSF offers ⅔-inch versions of the TTV 1525. All of the lens manufacturers have 30:1 lens power for the small tubes, and NAB saw the introduction of 40:1.

To make life easier, there are a host of other features in top-of-the-line cameras that a truck operator can choose from. Most manufacturers will provide intercoms your way. Two-wire and four-wire intercoms are standard. Some offer switch selection at the camera head so the operator can arrange program, production, and engineering audio in any configuration in either ear. Some make provision on the pan bars for intercom adjustment and external viewfinder switching. More attention is being paid to overall balance of camera head and lens, and handles are being put where they're needed for easy carrying.

Considerable attention is being paid to viewfinders. A range of indicators is available. Zoom-angle indication in the viewfinder is very common. It's usually accomplished by a bar graph at the top of the screen. Center cross hair and safe title markings are readily available. Some cameras offer variable box cursors whose size, aspect ratio, and position in the raster can be infinitely varied. At least one camera can store a couple versions of this cursor for instant recall. Multiple return video circuits are multiplexed on the triax. Viewfinders can be rotated in excess of 180 degrees and tilted more than 80 or 120 degrees.

Other niceties being offered are mike inputs at the camera with phantom power; accessory rain covers for camera, lens, and operators; VIT signals; two-digit identity numbers in the camera's color-bar signal; motorized effects filter selection; and chromakey signals from the camera head in addition to RGB output. You can even have "dream scene" modulation of the sweeps or a full-color viewfinder, although these two features don't seem to have found a big following on the road.

What's to come? In April, we passed a peak in the building and refitting of large trucks. There will probably be a slowdown following the conventions and the Olympics. However, it looks as though there's a lot of work out there.

Some new trucks will be built. Both CBS and NBC are approaching replacement time for the bulk of their fleets. Retrofitting and new construction will be affected by the introduction of top-of-the-line ⅔-inch cameras with lens power equal to the 30mm and 25mm cameras. The portables and their accessories will continue to develop and put pressure on their larger counterparts. We are ripe for an improvement in pan-and-tilt heads and other camera support equipment.

If the public appetite for sports continues as it has, there's a bright future on the high road. □

Glen Pensinger, video production editor, is television editor for San Jose State University and an independent television consultant.

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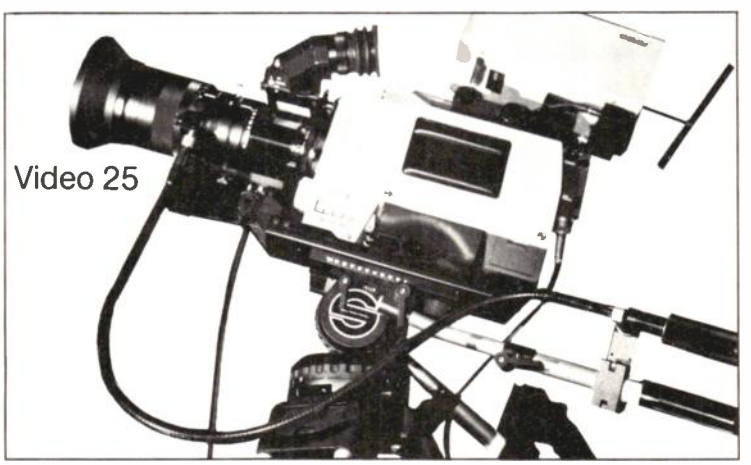

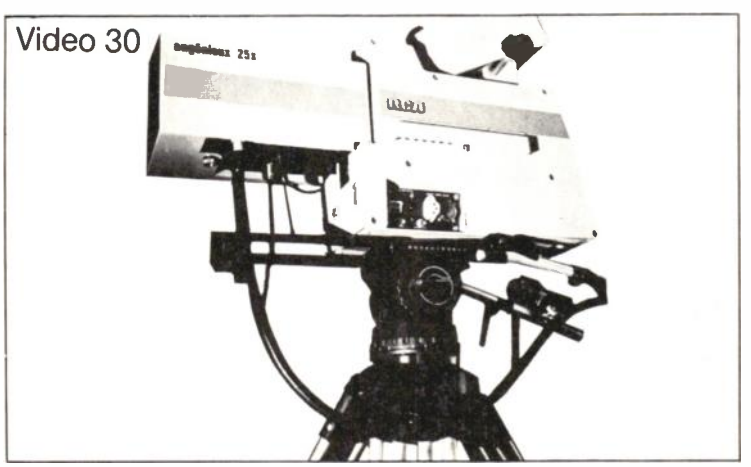

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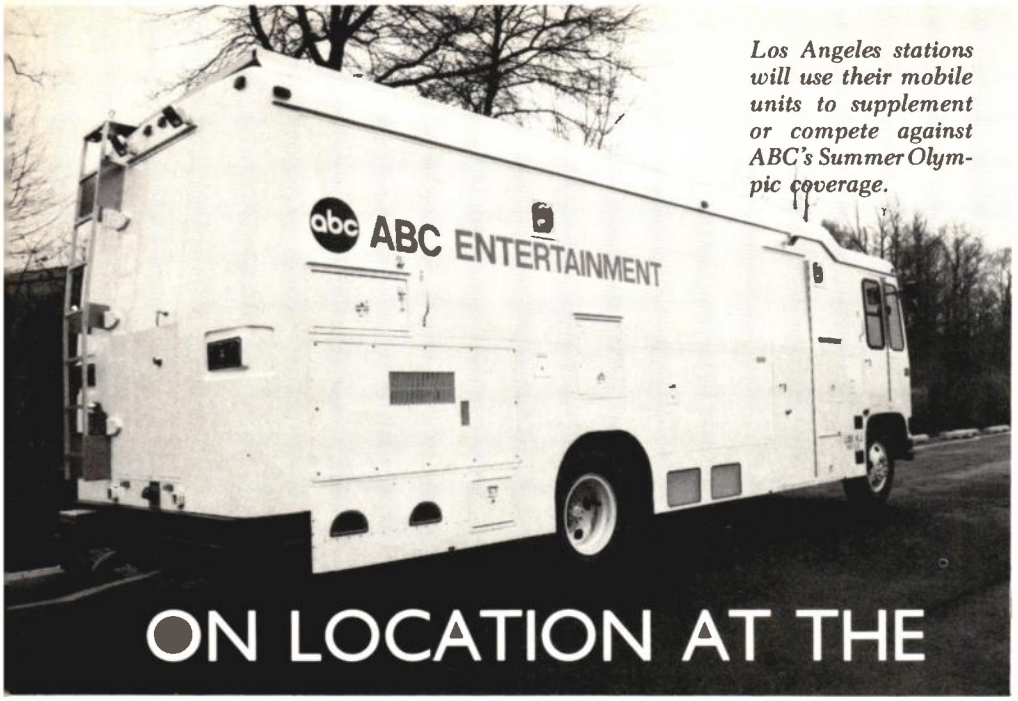

Los Angeles stations will use their mobile units to supplement or compete against ABC's Summer Olympic coverage.

ON LOCATION AT THE SUMMER OLYMPICS

BY JIM LARSON

Covering an event as immense as the 1984 Summer Olympics poses difficult problems for broadcasters. And when local stations in Los Angeles are forced to go head-to-head with a network in reporting the Games, the task can be overwhelming.

According to an article in the April 5th edition of *The Wall Street Journal*, ABC is sparing no expense in providing the most extensive coverage of the Games ever aired. The network reportedly has allocated $100 million to cover production costs, in addition to the $250 million spent to obtain the television rights to the Games. ABC also has hired hundreds of temporary employees to complete all the jobs necessary to make the productions come off without a hitch.

With all the funding and staff, it's little wonder that local stations in Los Angeles began thinking months ago about how they hope to maintain viewership once ABC begins its coverage later this summer. Organization will be the key.

According to Steve Antonitti, news director at KNBC in Los Angeles, covering the Olympics means being ready to deal with the problems the Games will impose on news gathering.

"ABC has the exclusive rights to the Games," Antonitti said. "What we're going to do is cover the impact on Southern California. Unfortunately, you very seldom know the impact until the event arrives. All we have to do is be geared up to cover news."

To accomplish this task KNBC will rely extensively on its 11 live units. With traffic problems expected to literally bring transportation to a halt at times, more of the material gathered in the field will have to be microwaved back to KNBC's studios.

Due to the mountainous terrain of the area, the station is hoping to utilize its helicopter as a relay unit in getting signals back. The effectiveness of this plan may be limited due to air-traffic restrictions imposed on the Los Angeles area.

But transportation won't be the only problem plaguing local stations in their attempts to gather news. Security in both the field and at the Games is a concern.

Jeff Wald, news director at Los Angeles independent KTLA, said the safety of crews on the streets is already a daily concern. The Olympics will heighten this anxiety.

"The (Los Angeles) Coliseum and some of the other sites are in poor areas of town. They're in high-crime locations," Wald said. "I'm also a little concerned about the possibility of terrorism."

Sensing the possibility of radical acts, this summer's Olympic Committee has enacted strict security measures. Unfortunately, these same regulations designed to alleviate the potential for a terrorist act have also severely limited the ability of stations to gather news. Special permits will be required in many locations.

However, KTLA has entered into an agreement with an Australian network that may help the station better cover the Games.

Network-10-Australia purchased rights from ABC to relay back to Australia portions of its coverage. KTLA has agreed to provide equipment and manpower to produce features designed to augment ABC's programming delivered to Network-10. In return, the L.A. independent will be privy to the material gathered for the Australians in various security areas.

"KTLA will have material the other stations won't have," Wald said. "This should give us a distinctive edge over the other stations in sidebar features."

This advantage will be important to KTLA since the station operates only four live units. Most news stations in the market will roll at least twice that number during the Games.

"I would be lying if I said I didn't want more equipment in the field," Wald said. "However, all our trucks operate on direct current with 'double-hop' capabilities."

According to Wald, camera units in KTLA's live trucks are capable of microwaving signals back to the vehicle where they are retransmitted to the station's studios. "Other stations in the market don't have this capability on a regular basis," he said. "We'll probably be doing a lot more microwaving. I'm glad we have those live trucks."

Live units will undoubtedly play a paramount role in the covering of the 1984 Summer Olympics. News will likely break fast, and competition between local stations will be keen. Having the capability to go live from virtually any location may well spell the difference between first and last place in the market.

While Los Angeles stations won't be able to provide coverage of the Games themselves, the stories associated with the Olympics will be just as important to the citizens of the city. The unique marriage between news and engineering in L.A. stations will be pushed to the limit in providing coverage of the events.

And while these stations' budgets are not as large as that of ABC, it is possible they might be in a better position to cover the special moments of the Games. A big budget doesn't necessarily mean a quality production. □

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Belden optical fiber cable is also thinner and up to 30% lighter than conventional cable. That makes it easier to install on transmission towers, or through underground ducts. A recent installation of Belden cable on a 1500 ft. vertical tower was accomplished in less than one day.

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FO-3-2A

TELEVISION AT THE WINTER GAMES:

The ultimate in high-tech broadcasting

BY JOE ROIZEN

For the American winter-sports fan, it could not have started much worse, or finished much better.

Even before the Sarajevo Olympics had officially started, the very young American hockey team lost its first match against the Canadians, by a 4-2 margin, thus dashing hopes of a repeat gold-medal performance of the 1980 Lake Placid Olympics. It was even more demoralizing since, prior to the game, the U.S. coach had helped in getting four members of Team Canada barred on controversial eligibility rules.

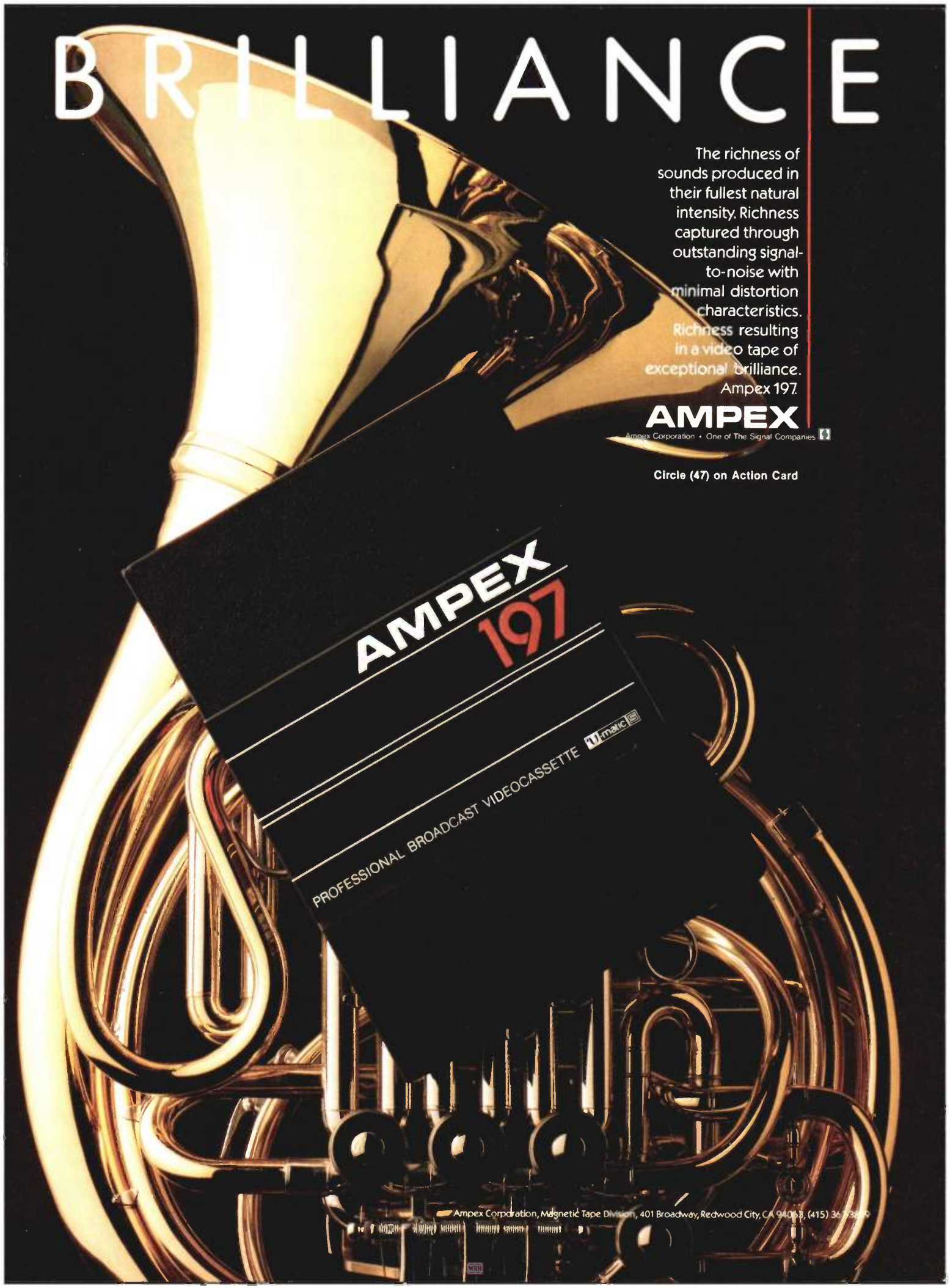
Although the Opening Ceremony was a spectacular show, it competed for viewer attention with NASA's first shuttle space walk of an untethered astronaut. Two days later, the world focused on the death of Yuri Andropov. Then the blizzard season set in on Sarajevo, and the major events that carried medal hopes for American skiers—the men's downhill and giant slalom—were postponed.

In spite of this poor start, ABC did eventually cover itself with glory, riding the winning streak that American athletes mounted toward the end of the Olympic Games.

U.S. viewers could not help but thrill to the daredevil downhill performance by Bill Johnson, the first time in Olympic history an American took the gold in this European-dominated event. A similar spectacular gold and silver finish for the Mahre twins in the giant slalom, and Scott Hamilton's figure-skating prowess

Continued on page 62

Yugoslavian young people form the Olympic rings during the Opening Ceremony of the Winter Games. Cameras on scaffolding, the track, and roaming the field captured the event for U.S. viewers. (Photos by Joe Roizen)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that earned him the gold, surely revived flagging American spirits and reactivated diminished interest in those faraway Olympic activities.

ABC, of course, had left nothing to chance in providing American television coverage. Its Sarajevo television facilities were equipped with the ultimate in high-tech equipment and the network's most experienced engineering managers. Julie Barnathan, president of engineering and operations, spearheaded a team that involved such Olympic veterans as Phil Levens, Jacques Lesgards, Marv Bader, Ben Greenberg, and Joe Di Bonis.

Saddled with the logistical and financial responsibility for the ABC television coverage, production manager Mike Pithey started more than three years earlier to plan and assemble the huge equipment complex and army of personnel that would be needed in Sarajevo.

Despite the planning, and the fact that all the equipment had been pre-assembled, pre-wired, and pre-tested in a New York warehouse before being shipped, not everything went smoothly. First, Pithey had to deal with eight different Yugoslavian television organizations that made up the composite JRT television staff.

ABC also faced some basic power problems, such as sagging voltages and actual blackouts before the games. Yugoslavia contracted to import electrical power from neighboring Czechoslovakia during the games to prevent any more problems.

ABC's equipment and peripherals included an eclectic collection of the best ABC could buy or lease from U.S., U.K., Japanese, and other prime suppliers, such as Ampex, Grass Valley Group, Datatek, Ikegami, Philips, Sony, Dubner, Quantel, ISC, NEC, Tektronix, Ward Beck, Thomson-CSF, Bosch/Fernseh, RCA, Frezzolini, Real World Technologies, Ultimatte, and more.

ABC also had a few new "secret weapons" on site to bring a new dimension to Olympic television viewing. Perhaps the most spectacular was a specially built Point-of-View miniaturized color camera that mounted on a skier's boot or helmet for a ride down the mountain, or took a luge run to provide an almost frightening firsthand view of the danger in careening down the icy track at more than 70 mph.

The Olympic logos and graphics were digital video graphics created on Quantel's computer-assisted Paint Box. Video graphics also were used to freeze digitized images of peak performance points of the athletes in front of the color cameras.

Digital video effects also were used to open and close competitive sequences, or to enhance the numerous "Up Close and Personal" athlete profiles. For the first time in an Olympiad, Ampex's four-channel ADO digital-effects unit with a combiner was used to good effect.

Sarajevo also quite likely set a new record for the number of digital converters (seven PAL to NTSC) used on a single event.

Continued on page 64

ABC is equipped for L.A.

According to ABC, the Summer Olympics in Los Angeles will be the biggest show in the history of television, and virtually all of it will be live. The opening two hours of prime-time coverage on Friday, July 22, will be followed by a record-shattering 186 hours—more than double what ABC did in Montreal in 1976, the last time the network had exclusive rights to the Summer Games.

ABC will be the host broadcaster in Los Angeles, responsible for world-pool coverage of 1,300 hours of competition at 30 Olympic venues in and around Los Angeles, some as far away as the Stanford stadium in Palo Alto, where the soccer matches will take place. The farthest distance between two venues is 190 miles.

The global television audience is predicted to reach an all-time high of 2.5 billion people. ABC's staff will number more than 3,000, and foreign broadcasters will add another 2,000 to that.

On the technical equipment side, the advance statistics are equally impressive, if not mind-boggling. Whether an image moves or stands still, ABC will have a color camera there to capture it, a VTR to record it, a digital-effects unit to manipulate it, and a microwave or fiber-optic unit to relay it.

The following list includes some of ABC's projections for the equipment it will spread around the major production centers and venues in Los Angeles, come July 22.

Venue equipment (world coverage plus ABC's unilateral coverage):

117	cameras
75	hand-held cameras
12	Bruce cameras
1	Otto camera
33	Chyrons
4	Dubners
96	VTRs
84	VCRs
14	ENG units
5	flash units
26	mobile units
404	commentator positions

Miscellaneous venue equipment:

3	houseboats for camera platforms
4	helicopters
2	60-foot custom boats
1	custom electric truck
2	electric motorcycles
4	motorcycles
4	scissor lifts
6	cranes
35	office trailers

Unilateral Broadcast Center facilities:

3	control rooms
1	studio with 4 cameras
57	VTRs
70	VCRs
12	edit rooms (10 with computerized editing)
2	Quantel 5000s
7	character generators
4	Chyrons
2	electronic still-storage units
2	Paint Boxes
1	four-channel ADO
1	single-channel ADO
1	Mirage

ABC Olympic personnel:

1400	engineers
300	production and management
1800	support personnel

Miles of cable:

660 miles

Although ABC is providing the world pool coverage, networks from other countries will still bring in their own video gear to add to the numbers already quoted. Perhaps it will be possible during the Summer Games to actually come up with a composite total for the "biggest television show on earth."

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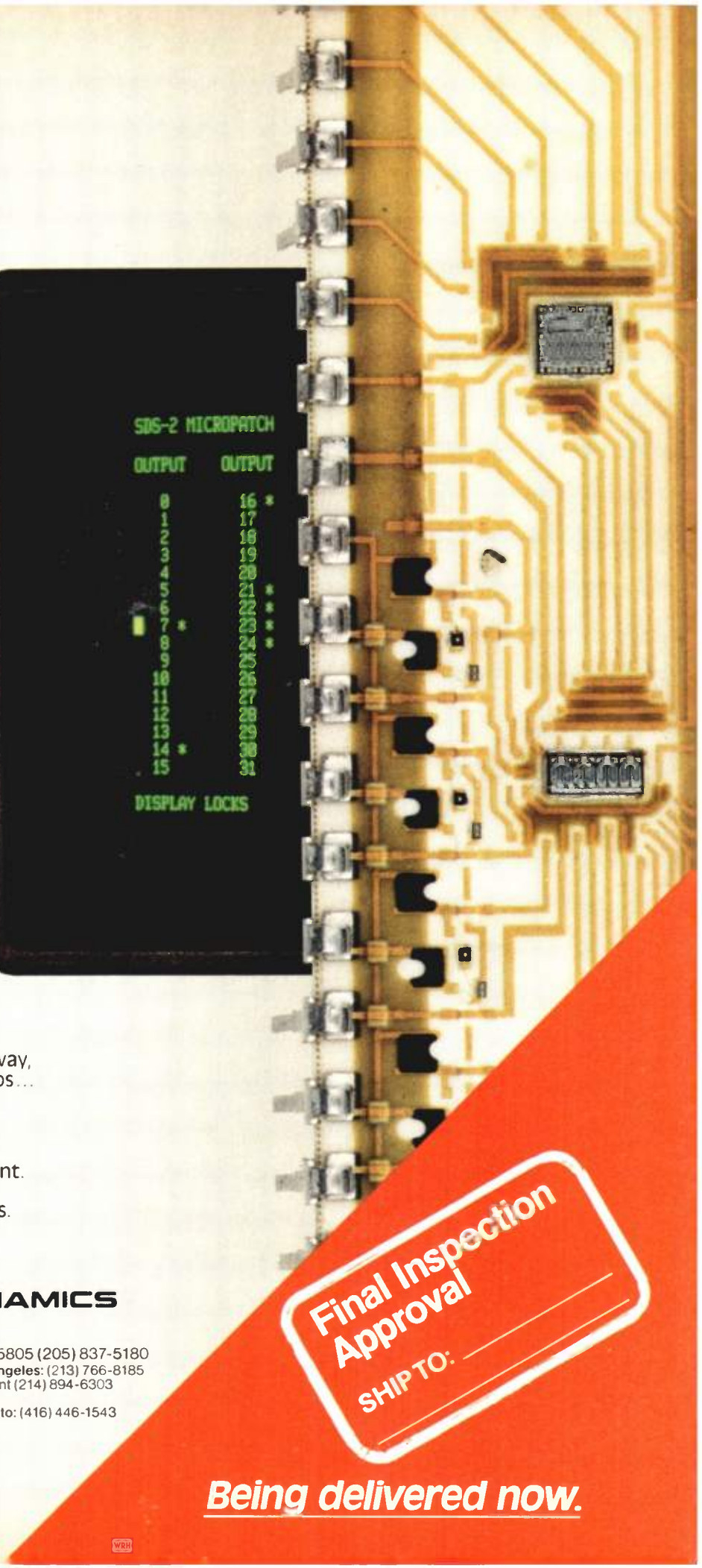

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Circle (48) on Action Card

To relay unilateral close-up pictures of the U.S. Olympic team during the Opening Ceremony at Kosevo Stadium, ABC employed a special SFP team from Paris, who came equipped with a unique wireless color camera system using a portable microwave unit. Unencumbered by trailing cables, this camera could roam anywhere while providing broadcast-quality pictures to feed into the image grid coming from the other cameras.

Unfortunately, as ABC personnel found to their chagrin, advanced technology alone does not bring high ratings. It took a positive shift of the American athletes' performances before viewers at home were willing to forsake the prime-time sitcoms for the delayed broadcast of the Winter Games. Quite likely, the six-hour time difference between Sarajevo and New York played a great role in the ratings race, as each day's Olympic results had already been reported on newscasts before ABC's edited television version appeared.

The situation will be a lot different in Los Angeles this summer, where the live action will no doubt capture a huge audience.

Most of the equipment used in Sarajevo will also be used in Los Angeles to broadcast the Summer Olympic Games. Since the Summer Games are a much larger undertaking, ABC will add much more equipment, not only to handle their own needs, but to satisfy the rest of the world's television networks, who will depend on ABC's resources as host broadcaster.

In fact, one reason ABC chose to operate an island of NTSC in a sea of PAL in Yugoslavia was because the equipment would have to operate in NTSC in the United States this summer. This time, the standards conversion will all be in the other direction, going from NTSC to PAL, SECAM, or PAL-M as the recipient countries require.

The ABC coverage

What Americans saw on their television sets while tuned to the Olympics was a unique combination of host broadcaster (Yugoslavia's JRT) coverage and ABC's own unilateral coverage. The 106 color cameras, operating mostly out of 22 mobile vans that JRT managed to field, were augmented by about 70 cameras that were under ABC control.

ABC had access to the JRT cameras providing the "clean world pool feed." These PAL signals were converted to NTSC when they entered the ABC central facility in Sarajevo. Where necessary, ABC cameras operated in PAL, so their outputs could be mixed with JRT cameras. Where ABC cameras or VTRs operated independently, they worked in NTSC. Programs edited and packaged for satellite transmission to the United States were all in NTSC.

ABC crew members equipped with ENG equipment would go out and shoot local "color" with their own commentators or well-known personalities, such as singer John Denver. In this case, the equipment would consist of an Ikegami camera and an Ampex VPR-5, the 15-pound, 1-inch, Type C portable that can be used in the field.

ABC had decided that anything that went on the air from Sarajevo (except for news pieces for *Good Morning America*) would be done in the 1-inch format. There were, however, a number of Sony U-matic machines used for first-generation coverage, which were bumped up to 1-inch for editing and transmission.

Video recording

Because of the time difference, and for

Continued on page 66

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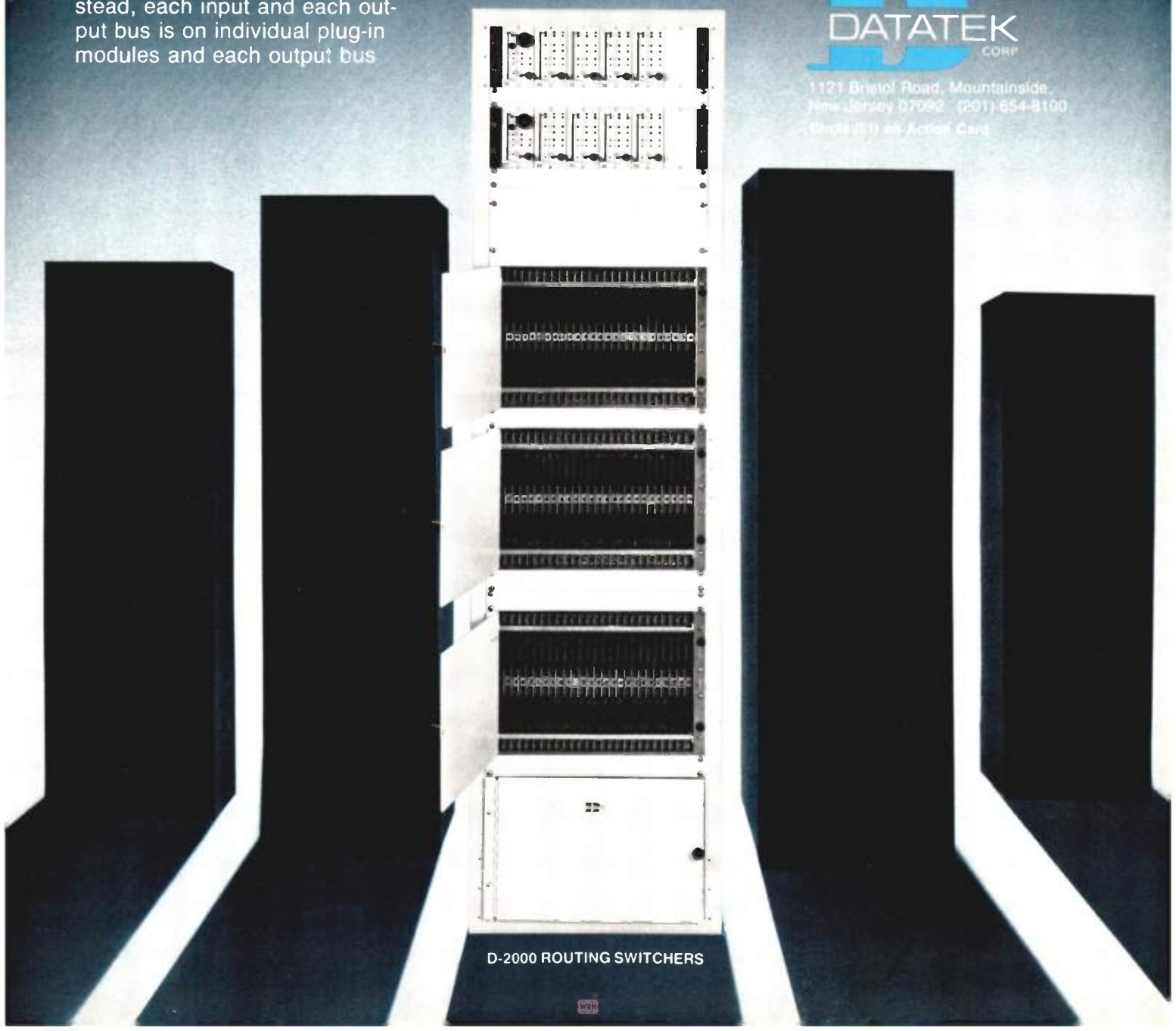

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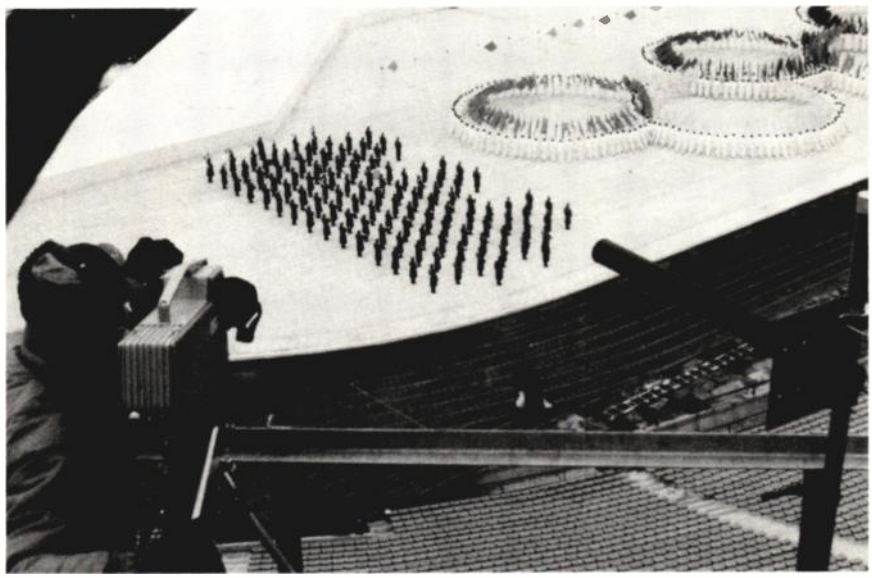


An RCA TK76 camera atop a light platform 150 feet above the Olympic stadium records a rehearsal for the Opening Ceremony.

other programming and archival purposes, virtually everything that was covered by television cameras was recorded on videotape. Three categories of VTRs were used in Sarajevo.

Most were Ampex 1-inch, Type C helical machines. ABC had 36 of them at the TV center, with almost the same number used by the JRT world pool, and in mobile vans at the venues. About 30 Bosch/Fernseh BCN 1-inch B-format machines were in use by JRT; and more than 30 Sony BVU 800 ¾-inch U-matic cassette VTRs were used for ENG-type recordings and archival or backup purposes.

All the VTRs were fed with Ampex videotape, the "official supplier" for the Sarajevo Games. All the recorders were backed up by service teams and spare-parts depots installed at the TV center by the principal suppliers: Ampex, Bosch/Fernseh, and Sony. For example, Ampex alone had more than 30 technical staff members on hand to provide support and maintenance for the large equipment installation.

Videotape editing

Virtually all the editing for on-air use was done on the 1-inch helical machines, and the ABC installation was the most extensive. Since all the composite programs beamed to the United States were edited, this area was very busy during the duration of the Games.

The JRT center had 12 editing suites, 10 of them operating in NTSC and two in PAL. Each suite was equipped with two playback and one record VTR (Ampex VPR-3s; an ISC editing system specially tailored for this application; and a Grass Valley Group 1600 switcher, to control transitions between the VTRs and other source signals.

James Hite, a Colorado Springs test engineer from Ampex, explained that ABC chose the VPR-3 machine for its ability to do frame-accurate edits. He estimated that ABC was doing 1,000 + edits per day, and precision was very important.

Mike Fisher, director of equipment planning for ABC, described the process by which the ISC editing system was selected. ABC editors doing studio production work are normally familiar with the large CMX editing systems, while ENG crews usually work with smaller Convergence editors. Since both types of personnel would be working in Sarajevo, they needed an editing system that could be learned easily by both types of editing teams.

Dave Bargen of ISC worked closely with the ABC engineers and production staff, to create an editing system that met this requirement. In the end, the system checked out so well in Sarajevo that ABC told Bargen he could cancel his plans to be on site during the games. They did not want to turn him into the proverbial Maytag repairman.

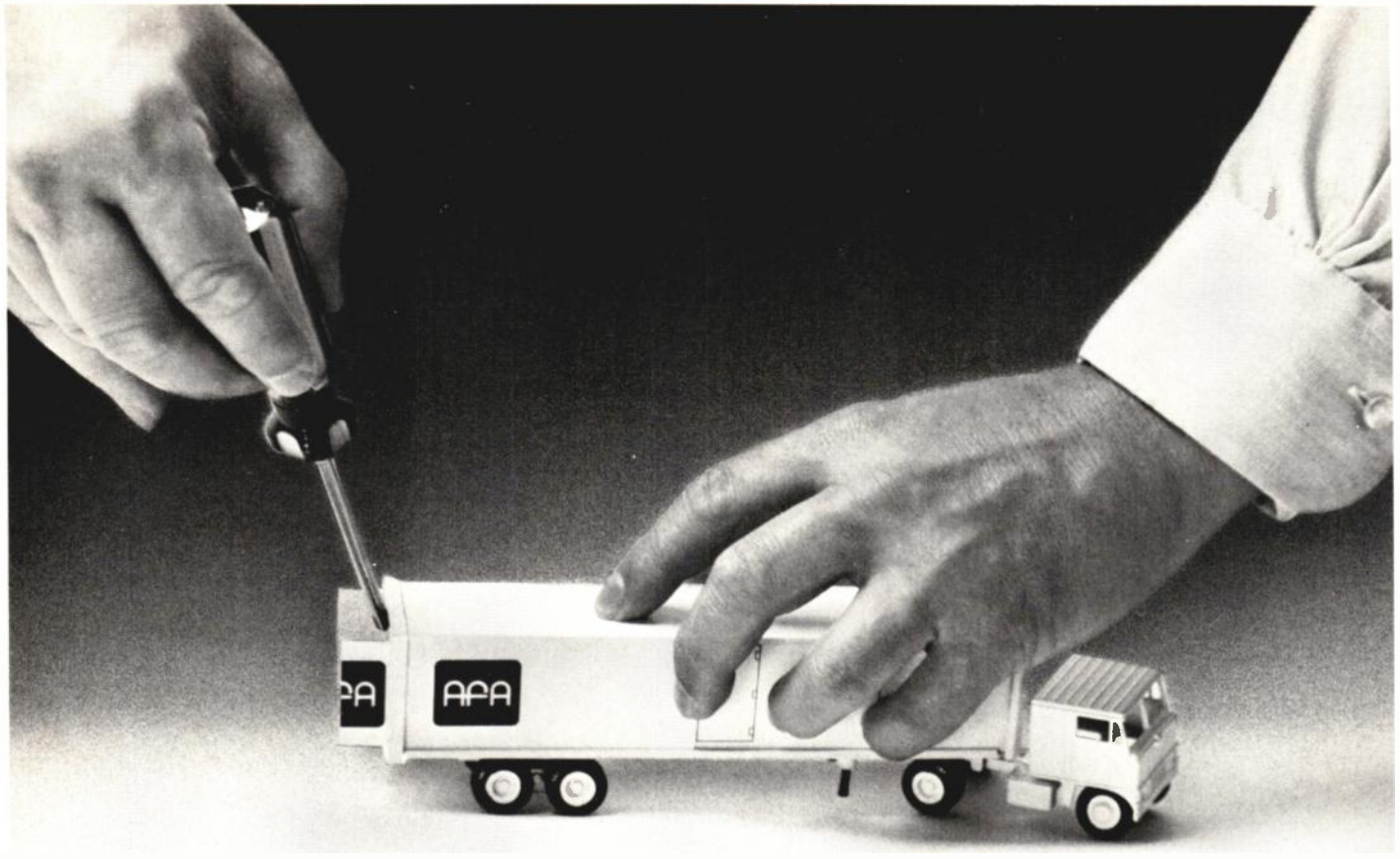
Instant editing was, in fact, the cornerstone of ABC's superb coverage of the Winter Olympics. And literally all the competition that American viewers saw was processed on an ISC editing system.

Manipulating images

Digital television devices played a major role in the Sarajevo games, starting with the seven standards converters that took the PAL input video signals and transformed them around the ABC complex at the JRT center.

Two Ampex ADO units and one

Continued on page 68



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The Ward Beck audio board in Control Room A, ABC's on-air central control, is operated by Dick Roes.

Quantel Mirage digital-effects generator were used to manipulate video images, logos, Olympic graphics, and the like, so as to create maximum visual impact on the home screen. One striking effect was the 3-D ABC logo at the start of each program. Digitized images of many standard Olympic scenes (national flags, the Olympic flame) were catalogued in still-stores, and were available for instant recall at the keyboard entry of a computerized address.

In addition, ABC had a Quantel Paint Box and several Dubner systems to create new graphics for on-site use. A graphic artist using the Paint Box's electronic palette could create colorful drawings of Olympic-oriented scenes, including stylized athletic-discipline symbols, medallion forms, course layouts, and background artwork that enhanced the commentators' descriptions of events and people.

A good example was the digitized frozen frame that closed out the skating sequence of each competitor. As the skater or skaters finished their presentations, the last scene was "posterized" in digital form and left on the screen while the commentators finished their remarks.

The digital still-stores also helped to put the athletes' faces on the screen at the appropriate times, and in the selected places. As the competition appeared, prerecorded still images of them and their current standings could be recalled quickly from the disc libraries and inserted into the television image.

Bigger and better

Every Olympiad brings out new technology in an effort to give the Games a different or more interesting look for the ever-increasing audience. Sarajevo was no exception.

Coverage by ABC, JRT, Canada's CTV, and a few other networks benefitted from better, smaller, and lighter helical VTRs; improved and miniaturized cameras and microwave units; a greater use of fiber-optic links; and, for JRT at least, the use of a teletext system to distribute Olympic information to the press and public, with strategically placed Gorenje teletext receivers.

The overall effect was one of a well-planned and well-executed operation that gave every viewer a front-row seat to the Winter Olympics in Sarajevo. □

Joe Roizen, emerging technology editor, is president of Telegen, a Palo Alto, California-based consulting firm.

Olympic coverage keeps growing

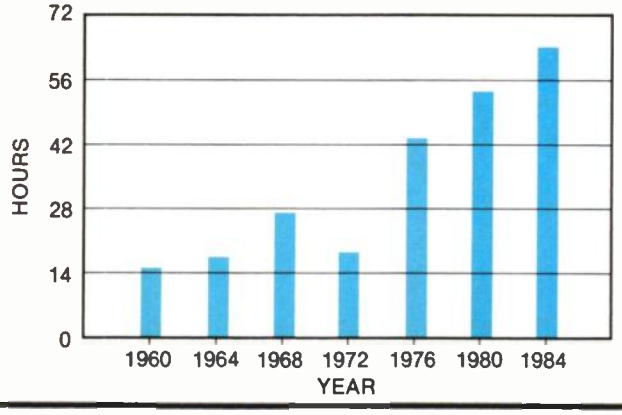
As television increases its importance as the medium by which the U.S. viewer gets to see the Olympic pageantry and competition, the number of hours dedicated to this quadrennial event has climbed steadily.

The following two charts show the increase in Winter Games' coverage, except for the NBC coverage of Sapporo in 1972; and the similar steady increase of the Summer Games since 1964 in Tokyo, except for the 1980 Moscow Games that the United States boycotted.

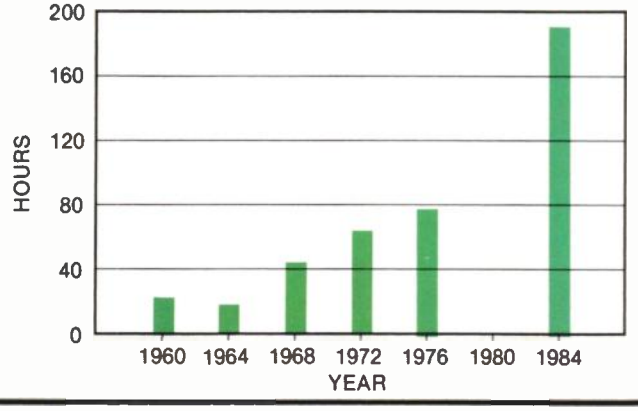
NBC had won exclusive rights to the Moscow Games by paying the Soviet Olympic Committee $87.5 million. Luckily, the network had insured its participation with Lloyds of London and collected $75 million in compensation. American viewers only saw short news items of the Moscow Games.

ABC plans to provide U.S. Olympic fans with a monumental 188 hours of coverage from Los Angeles this summer.

Total Hours Of Coverage Winter Olympics



Total Hours Of Coverage Summer Olympics



LOOKING TOWARD CALGARY:

AN INTERVIEW WITH CTV'S JOE COLSON

BY JOE ROIZEN

Joe Colson was in charge of the CTV operation in Sarajevo that provided Canadian TV viewers with their window of the Winter Olympic Games. It was, in fact, a bigger window than the one ABC gave American viewers, since it covered 105 hours of transmission as compared to ABC's 67 hours.

CTV had also recently been awarded the role of host broadcaster for the XV Winter Olympics in 1988, to be held in Calgary, Alberta, Canada. As a result, Colson will also plan and supervise that monumental television undertaking.

As busy as he was with his hectic schedule at the JRT television center in Sarajevo, he did find some time to talk about the CTV operation there, as well as offer some thoughts on the Calgary Games.

TV/BC: *You must be excited about the Calgary Olympics. How do you think they will be different for television broadcasters?*

Colson: The CTV Network, as the host broadcaster of the Calgary Olympics in 1988, will not have an arm's-length organization as in the past, but will be in a one-on-one situation—the CTV Network, the Calgary Olympic Committee, and the world broadcasters, with no one in between. In that way, I hope to have a very close and efficient operation that all broadcasters will be happy with. As VP of operations and engineering, I will do everything I can to make the TV coverage in Calgary great for everyone.

TV/BC: *Getting back to Sarajevo, is it true that Canada is the second largest television group here covering the games, in terms of personnel and scope of coverage?*

Colson: I believe that is true. Unfortunately, I have been too busy to go around to do a survey myself. However, from what I can see, I would say yes. We have a contingent of something in the area of 230 to 240 people. I believe ABC has something in the area of 600 or more. I have not had a chance to talk to my American colleagues about that aspect, but we are proud of what we are doing.

We have a full-blown operation here as well; and we are serving all of Canada, not just our network. This includes the TVA Independent French Network, the CBC Television Network English service, and the CBC Television Network French service; so we have a very large operation. To do this, we have a three-camera studio, extensive VTR editing facilities, 12 1-inch VTRs, and 11 ENG units.

TV/BC: *I understand also that you certainly have the largest collection of VPR-5s, and I wondered why you chose to bring these 1-inch portable machines rather than do it on some smaller format, like ¾-inch.*

Joe Colson

Colson: Actually CTV headquarters has always been an Ampex house, and I personally have used Ampex equipment for I don't know how many years that I have been in television—right back to the VR1000. Our experience with using 1-inch ENG units (as opposed to ¾- or ½-inch) has been good. I believe the choice I made was because of the excellent results we had in 1980 in Lake Placid, where we used VPR-20s.

One of the advantages of using 1-inch in the field, if you are also using 1-inch in your plant, is that you can come in with your ENG equipment, you can pick up the tape, and if you are in a rush you can dump it on a machine and be on-air within seconds, instead of having to bump up to any other mode to edit or to feed the network.

We had some growing pains with the VPR-5, but they were very, very few. In fact, we have not had any serious problems with it. The small size and light weight lends itself beautifully to our needs. ENG crews are able to climb mountains without having to use snowcats, because they are not lugging 54 pounds of recorder around with them. The other nice thing about it is that it will handle, if you take the cover off, up to an hour's tape. So with all those advantages, the VPR-5 is excellent for this application.

TV/BC: *Is there anything unusual about the CTV coverage in Sarajevo?*

Colson: Yes, absolutely. Many things are unique to the CTV coverage. One is that CTV in itself will try to go live as often as possible. We do edit of course, and produce taped and edited products; but our mandate here in Sarajevo is to cover the Canadians. We have to Canadianize everything, and as a result, we will use the original coverage rather than editing.

The second thing I think that is prob-

Continued on page 70

A CTV ENG team gets ready to interview silver medalist Brian Orster.

ably unique about our coverage is that we are transmitting a total of 105 hours, or 50 percent more than ABC. As an example, today I believe we have something like 14 hours of transmissions; and providing the materials for all of the Canadian networks takes a lot of the people here in Sarajevo. We, the Canadians, work as a very unified team in a situation such as this. We help each other, and, of course, as broadcasters we help everyone that needs the help. Mind you, we do borrow, and we go and look for help from other broadcasters as well; but broadcasting, like engineering, is a universal product. We are very happy so far with what is happening.

TV/BC: *What, if anything, do you think will be different in Calgary, from a technical standpoint?*

Colson: I think there will be great differences in Calgary. First of all, in 1988, we are going to be looking at a lot of digital equipment that is going to be on the market that we do not have today. You probably know that we are looking at cameras right now that do not use straight analog processes. I think in Calgary we will have much equipment digitization. I think we might probably see the first digital VTRs in production.

In Calgary, I am planning on having uplinks that will access both Intelsat birds as well as the domestic birds. I have to discuss this with both Telecom of Canada and Intelsat, but that is my idea. I want to make it as easy as possible for the broadcasters; I want to make it as efficient an operation as we can; and I want to remove, as much as possible, the cumbersome regulations governing broadcasting that we are faced with today.

TV/BC: *As a last question, do you get any part of that $309 million ABC paid for the exclusive rights to the Calgary Games?*

Colson: We sure as hell don't. Our budget is structured; we presented our bid; that was it. We will do the job and come in probably under budget. □

Joe Roizen, emerging technologies editor, is president of Telegen, a Palo Alto, California-based consulting company.

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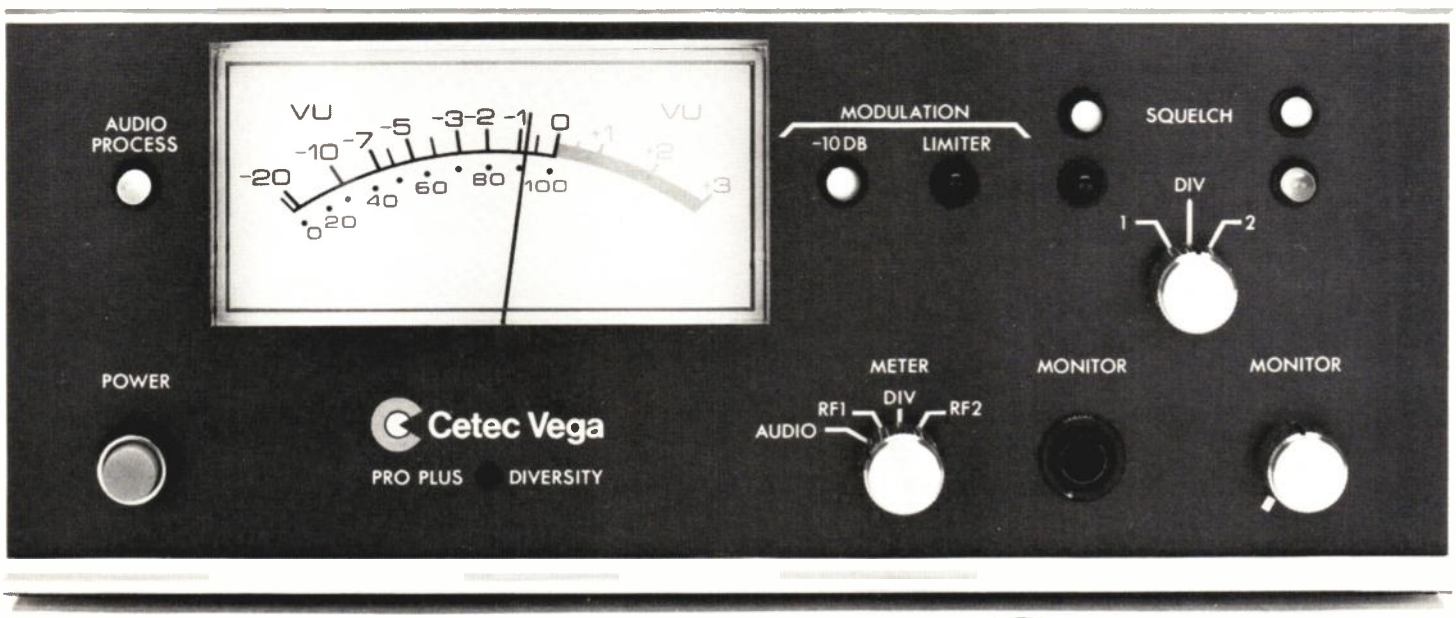

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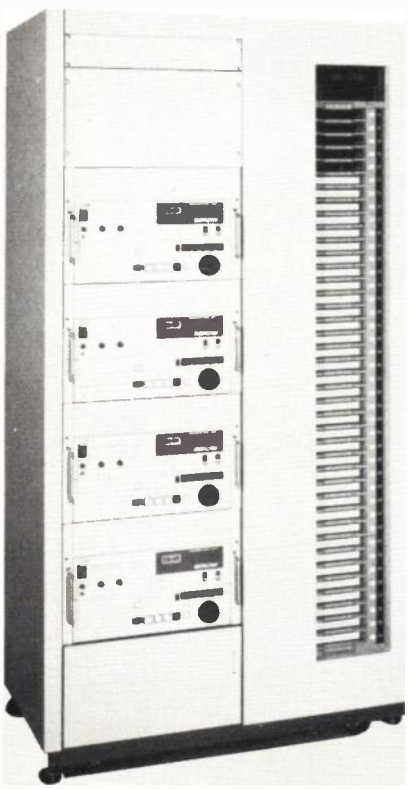
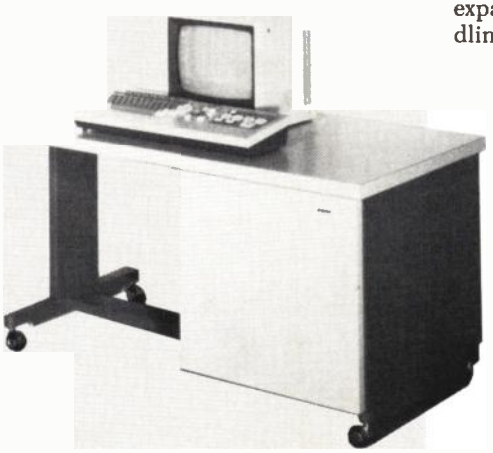
Betacart signals new era in automated spot technology

BY ROBIN LANIER

Radio broadcasters have been able for years to automate the airing of a sequence of short spots. The equipment for this function has improved over the years in precision, flexibility, and reliability, reflecting advances in computer techniques and audio recording.

Television broadcasters, however, have suffered from a serious lag in automated spot techniques. The first generation of video spot players, originating in the early '70s, necessarily used quad recording and 2-inch tape. The unavoidable complications of this technology made the machines bulky and expensive, and not quite as reliable as needed.





Although more than a decade has passed and videotape recording technology has advanced rapidly, there have been few developments in automated video spot players. The recent successful development of systems producing broadcast-quality signals on ½-inch tape opens valuable potentials to broadcasters in this area.

Sony Broadcast has taken its proven Betacam™ ½-inch-tape technology and added a body of new developments to produce an entirely new kind of multiplay video spot system. Called the Betacart, the multicassette system is designed for easy, reliable, and flexible handling of a wide range of video spots, using up-to-the-minute computer techniques and video recording technology to lift the operation far above the qualities of the 10-year-old quad systems.

Betacart made its debut at the 1984 National Association of Broadcasters convention in Las Vegas, with Sony planning to begin high-volume deliveries of the system late this year.

The advances in the new system, compared with the quad systems, are matched by savings in the original and operational costs. Sony has targeted a price of approximately $180,000 for the basic system. The cassettes cost $10 each for 22 minutes of play, compared to the quad cartridge cost of $25 to $30 for three minutes of play. The system's high reliability will save broadcasters money through reduced "make-good" costs and expanded application of automatic handling of video spots into the newsroom.

System configuration

The Betacart system is based on four BVW-40/10-type decks, a proven technology with more than 1,000 units in the field. To the four decks have been added a storage bin holding 40 Beta cassettes, and an automatic elevator system that loads designated cassettes into specific transports, at the time required.

A unique feature of the Betacart is the automatic alignment of the

Continued on page 74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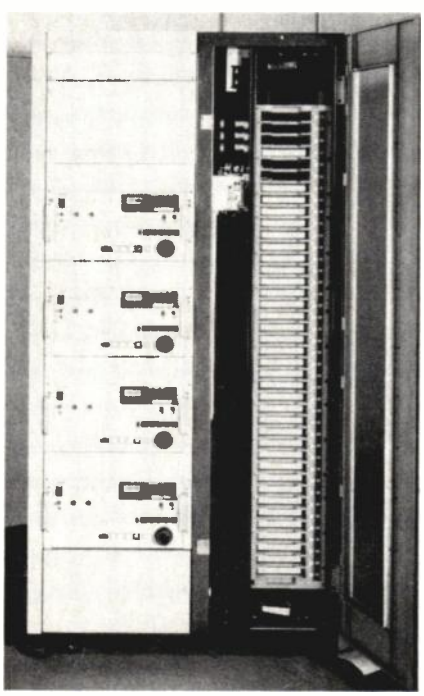
elevator transfer mechanism to the individual replay decks. During the machine's initialization process, the elevator senses where a particular deck is positioned physically and automatically stores the data in the housekeeping software for use in locating the precise position of the deck later in the replay sequence.

Likewise, any mechanical tolerances attributed to the elevator's mechanical system are automatically compensated by this calibration technique. This feature is important not only for the daily calibration, but also for times a deck is removed for routine maintenance and is replaced with another deck. It is only necessary for the operator to enter the initialization routine in order for the elevator to be recalibrated to a mechanically new position of the replaced deck.

Record or play only

Betacart is offered in two forms: one with no record capability (using four play-only decks), and the other with one deck that both plays and records. The playback-only system is for applications when cassettes will be recorded off-line on the standard BVW-40 recorder/editor. Off-line recording saves time and money by not tying up the main play system when recording has to be done.

The Betacart holds up to 40 Beta cassettes, which are loaded into specific transports by the automatic elevator system. The machine identifies the cassettes from their bar-code labels.



For those situations requiring the ability to make a recording within the cassette machine, the system can be equipped with one BVW-40-type recorder/player.

It is conceivable that, in the future, some overnight satellite recordings might be required. Sony envisions that at that time a software package could be offered that would automatically record the signal coming from the network video feed.

Control systems

Betacart is capable of accepting inputs from three sources in order to establish a playing order for the cassettes in the machine. The first and most simplistic approach is to enter a play list from the machine's control keyboard. The data are then displayed on the video display unit. Cassette titles requested but not yet loaded into the storage bins are indicated by a flashing warning sign displayed on the VDU.

Second, the data may be entered from the station's host computer through an RS-422 serial communications channel interface.

Third, the play list may be entered on a micro-floppy disc, which is prepared off-line and inserted into the system's disc drives.

The housekeeping related to the machine's internal threading, unthreading, cuing, etc. is supplied as part of the basic machine. When Betacart is connected to a station's host computer, all the handshakes and status of the machines are transmitted to the host computer for display or printing an as-run log, or for display on a controller VDU monitor.

An RS-232 port is provided for the printing of the as-run log. At the option of the user, the play list may be updated from a remote source. This application is useful for news operations where last-minute changes are being made as the program is being aired.

Operating characteristics

The system's flexible programming feature allows changes in sequence to be made at any instant. Unlike earlier quad machines, it is not necessary to put very short spots at the beginning or end of sequences. A cassette can be taken out or changed with a single keystroke.

For ENG applications, there is a unique freeze mode that is useful when a live voice-over is timed to be longer than the video material it is supporting. If the voice-over is obviously too long, the video sequence may be frozen while the announcer completes the story. Also, using the freeze mode, the system effectively has a zero-start-time characteristic permitting instant start.

Cassette ID and cuing

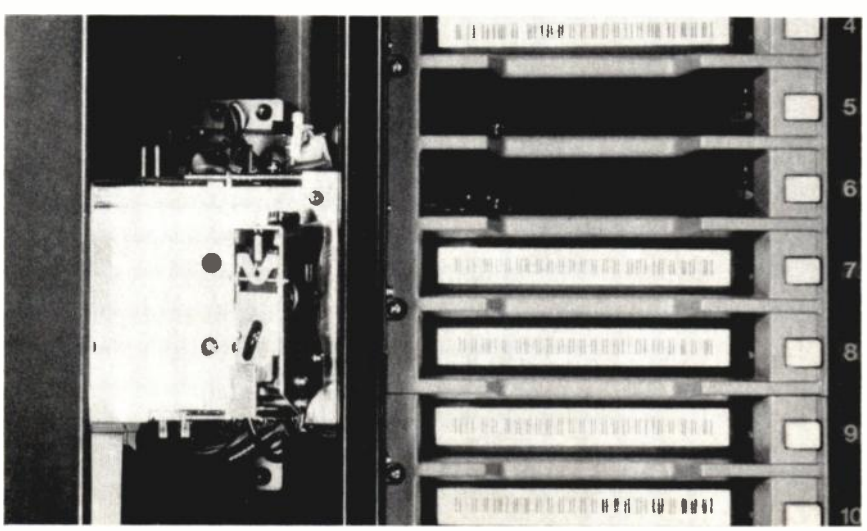
The system offers a simple and convenient way to identify cassettes. The operator prepares a bar-code label utilizing the BVW-40. The label can be made and attached to the cassette in less than 20 seconds. The code is an Interleaved 2 of 5 code, and has a 16-character capacity. Also, the start-of-message and end-of-message data are printed on the label to permit the machine to cue to the correct position.

The bar code is read by the transfer of the cassette from the storage bin into the elevator and back to the bin. It is not necessary for the tape to be threaded and cued in order for the operator or the computer system to know what is loaded into the bins of the cassette machine.

In addition to the coded data recorded on the label on the outside of the cassette, identification is printed within the cassette in English.

Betacart utilizes time code in order to establish the start and end of the mes-

Continued on page 76



because digital performance doesn't have to cost a lot!

The reason . . .

Before we began designing our first product, **we asked users what they wanted in a time base corrector.** The answer most repeated was performance and price. We call the product, the *nova 500.*

Quality Pictures.

Our engineering staff worked with video engineeers and video users measuring the acceptance level of various digital word sizes and sampling rates. 6, 7, and 8 bit word sizes, as well as, 3 times and 4 times subcarrier sampling systems were considered. Although it was found that 7 bit, 3 times subcarrier was acceptable for ¾" and ½" helical scan VTR's, the staff opted for a higher order of magnitude in performance by choosing the **8 bit, 4 times subcarrier** design for the *nova 500.*

The same careful effort went into choosing the correction window size. 2, 4, 8, 16 and 32 lines of correction were investigated. Again, the higher order, **32 lines,** was chosen.

¾" and ½" video tape recorders work with a technique called heterodyning. This is a method by which the frequency spectrum of video signals can be reduced during the tape recording process. During tape playback, the process is reversed in order to recover the full video frequency spectrum. The process causes a number of unwanted effects including loss of high frequency information, viewed as a lack of picture sharpness, and increased picture noise. Heterodyne's effects are additive in nature. "Single wire" time base correctors also use the heterodyne process, thereby adding to the overall picture degradation. The *nova 500* was designed for **full bandwidth picture correction.** By providing a subcarrier feedback output to the VTR, the user keeps the unwanted effects of heterodyning to a minimum.

Small Package.

With great effort, the time base corrector functions were laid out on one printed circuit board. The result is the *nova 500,* a one rack unit high (1.75") package. This is **a space-saver** in an edit suite, equipment rack and/or small production/news van. Power supplies, PC board and mechanical frame weigh in at less than 11 lbs., **a weight-saver.** Power consumption is rated at less than 50 Watts, **a Watt-saver.**

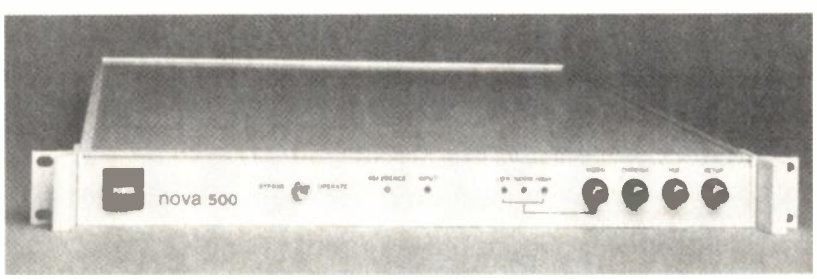
Reliable.

So, we purchase only **pre-tested** components that are temperature cycled, **burned-in** and tested prior to assembly. Then, each *nova 500* is thoroughly burned-in after **assembly and testing;** and finally, it goes through our **quality control** process. Furthermore, we use power supplies which operate at no more than 55% of their rated capacity, thereby prolonging power supply and component life.

Low Cost.

Above all, our efforts have translated into lower engineering and manufacturing costs. We have accomplished this by designing the *nova 500* to include only essential high performance time base correction circuitry, all on one PC board, using low power consumption.

The bottom line . . . the *nova 500* is the lowest priced digital time base corrector around.



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nova systems, inc.

Circle (59) on Action Card

sage. It is only necessary for the cassette machine to read this data and cue to the correct time code point once the tape is threaded into the decks.

In preparing the bar-code data, the time code output of the BVW-40 is routed to a bar code writer by simply typing in the 16 alphanumeric characters prior to identifying the cassette plus activation of SOM and EOM push buttons. Unlike systems currently in use, it is easy to establish the beginning and ending points simply by jogging the BVW-40 forward and backward one frame at a time to establish the ideal start point.

The system can also operate without the label to allow for fast airing of spots, such as a fast-breaking news program. The operator simply puts the cassette ID into the computer via the keyboard. When the cassette goes into the machine, the computer notes that the label is missing and automatically carries out the operation according to the information separately entered with the keyboard. The operation will be the same as if the label were on the cassette.

Outputs

Two modes of operation exist for the Betacart system. The first, familiar to most stations, is when the output from the transports are multiplexed into one continuous string of video on one coax. The Betacart expands this application, particularly in the news department where more than one output from the machine may be desired. Because the output from each transport is internally time base corrected, it is a relatively simple matter to route the individual outputs for the individual decks to what can

Betacart unveiled at New York press conference

Although Sony Broadcast Products didn't officially introduce the Betacart BVC-10 until the NAB convention, the company offered its major clients and the press a sneak preview of this multiple-cassette, random-access, videotape playback unit at its New York City headquarters on April 5.

Sony also announced other new products slated for NAB exposure.

According to Sony spokesman Peter Dare, the Betacart is aimed at the commercial spot market in television. It can also be used to compile and replay ENG sequences made on Betacam units, in their original component signal format.

Betacart is a novel approach that Sony is hoping will replace existing quad cart machines. Several models are used widely in the broadcast industry. With the quad 2-inch tape format now phasing out of studio operations in favor of the 1-inch helical machines, it is reasonably certain that quad carts also will become less desirable for commercial spot applications.

Peter Dare of Sony, above, explains Betacart's numerous features. Upper right, the system gets a workout.

Sony's entry into this potential market will no doubt satisfy many broadcasters now looking for a solution to handling television commercials more efficiently.

The Betacart takes advantage of the component signal recording format, used on Sony's combo camera, to produce high-quality color images from a ½-inch Betamat-type cassette running at six times normal longitudinal speed. Each cassette provides 20 minutes of play time, more than enough for any single commercial message, and even adequate for virtually all ENG recordings.

As detailed more fully in the accompanying article, the Betacart holds 40 cassettes, which are shuttled to four playback decks by a vertical elevator mechanism. Average cycling time per cassette is 10 seconds. Each cassette has a bar-code label that permits computer control of the system.

Freeze frame on video is possible at entry points, with instant image start-up, and a 300-millisecond delay for stable audio when operating. A Sony 3.5 micro-floppy disc holds the sequencing software program, which selects and cycles the cassettes in the desired order.

The Betacart has a second function in which up to three video outputs can be obtained simultaneously, and mixed for news program production. Sony believes this will prove to be a cost-effective and efficient alternative to current quad cart machines, and will open up new applications for random-access replay of short television program segments.

be considered multiple outputs from the machine.

Betacart has a user-selectable option of one, two, or three video outputs when in the news transmission mode of operation. A 4 × 3 video switcher assigns the outputs of the four decks to three output video lines. The function of switching the decks is controlled by the machine's internal software. The flexibility of being able to mix three video sources from one machine becomes obvious when viewing the network evening news. Digital video effects, fades, mixes, and cuts can be accomplished between video sources emanating from the one machine.

Regarding failure protection, if one deck fails, the computer says "delete deck four," for example, and immediately reprograms the sequence automatically to run on the three operable decks.

If the elevator were to fail, the decks can be pulled forward and loaded by hand. The bar code can be read manually and the operation will proceed as it would have with elevator loading.

If primary power fails, the Betacart's virtually foolproof emergency power system assures 24-hour operation. A capacitor of 3 farad rating provides enough energy to hold all material in memory for a 24-hour period.

Operator warnings

Since the system is operated on a totally random-access basis, it could be difficult to determine which cassettes have played and which are waiting. To aid the operator, a warning system indicates those finished and those waiting. A warning light positioned beside each bin tells the operator whether that cassette is required for the play list. If not required, the light goes out and the tape can be removed.

If the operator attempts to remove a cassette when the red light is lit, a warning buzzer sounds. If the operator then removes the cassette, a warning signal appears on the video display units. If the cassette is not replaced in time to accomplish the desired playing sequence, the system will simply skip over the cassette and play the next scheduled cassette.

For this article, the representation of the sequence of events has been simplified. The algorithm describing this sequence is much more detailed.

Built-in diagnostics

A built-in diagnostic system allows maintenance technicians to analyze step-by-step any mechanical problems. The system can position the elevator beside bins and transports should a mechanical problem exist.

Special attention has been paid to this particular area since the elevator is practically the only element in the system that is not backed up in event of a failure. As mentioned earlier, however, manual operation can keep the machine working in the event of elevator failure.

As already noted, a new level of reliability was a basic objective in the design of the system. Many of today's quad machines have a failure rate as high as one play in 200. The Betacam decks used in the Betacart have been in field use for nearly 18 months with a high reliability record.

It seems fair to expect, therefore, that the Betacart system will match that reliability, providing a valuable service to the television industry. □

Robin Lanier has written about the broadcast industry for 25 years. He is grateful to Peter Dare, manager of product development at Sony Broadcast Products, for his assistance with this article.

Protecting your LNA from lightning strikes

BY JIM LARSON

Every now and then there surfaces a product that R&D engineers hesitate to talk about with outsiders.

Perhaps the device employs radical design parameters to be strictly kept from competitors. Or possibly the product becomes vulnerable to failure under extenuating circumstances. Whatever the case, the mere mention of the device to normally cordial and outgoing engineers can trigger timid or potentially defensive responses.

Often times this is the case when designers of satellite-reception systems are queried about the interactions of low-noise amplifiers (LNAs) with lightning. It seems the correlation is something they would just as soon forget.

That is not to say lightning becomes a serious threat to a facility's LNAs every time a storm front passes through the area. Chances are that a well-grounded antenna and pedestal assembly won't be any worse for the wear even if lightning should happen to strike relatively close to the dish site.

An examination of what has and what can be done to protect LNAs from damaging induced voltages associated with a lightning strike can help minimize a station's chances of suffering a loss. And, with more and more stations abandoning traditional long lines in favor of satellite reception of network and other programming, this assurance can be extremely important.

To fully understand the problem lightning poses to LNA circuitry, all you have to do is consider the primary function of the device: to faithfully amplify very low inputs to a useful output level. The dilemma here is that associated with lightning is an electromagnetic field of such intensity that upon entering the LNA, it can overload the circuitry designed for low-level inputs.

According to Dr. John Basart, professor of electrical engineering at Iowa State University, the collapsing electromagnetic field not only overwhelms the input stages of the LNA, but it can also induce voltages within the device itself. The process is similar to what occurs within a wire when it is placed in a changing magnetic field.

There is no simple solution to this problem. Due to the very nature of the device, an LNA must operate near the receiving dish designed to concentrate and then direct signals to its input. Protection from the elements simply is not feasible. The antenna and its assembly must be outdoors. Shielding, another potential solution, would only serve to render the device inoperable.

"If the circuit is completely shielded, then the lightning can't get into it," Basart said. "But if it can't get into it, neither can the desired signal."

So then, how can these sensitive amplifiers be protected from the damaging effects of a lightning strike? The answer to this question can only be fully appreciated by analyzing the damage dealt by a "typical" strike.

According to Ken Johnson, principal engineer for Scientific-Atlanta, most LNAs are damaged by lightning entering the device through a cable connected to an output terminal.

"Lightning often strikes through the output cable of the LNA," Johnson said. "The signal then propagates up to damage the output transistor or the output voltage regulator."

Most LNAs have only one output terminal, which also serves as an entry point for the power used to operate the device. Voltages induced in this cable cause most of the damage done to the amplifier.

Of course, a direct lightning strike need not occur to generate sufficient voltages to harm sensitive components within the LNA. If a bolt finds ground even several hundred yards from the dish, the strength of the collapsing electromagnetic field might be sufficient enough to cause damage. If this is the case, it would seem impossible for an LNA to survive a direct hit unscathed.

"There will never be a solution to stop the damage from a direct lightning hit. I don't think that is possible," Johnson said. "You can't protect the front end of an LNA from a direct lightning strike."

The damage incurred by an amplifier sustaining a direct hit to its input usually involves the loss of field-effect transistors (FETs) or gallium arsenide field-effect transistors (GaAs FETs) and their related components. These transistors, providing a minimum gain of at least 45 dB, are extremely sensitive devices. They are capable of providing both a large dynamic range and amplification figure while still producing a low noise temperature. But these impressive characteristics are coupled with at least one major drawback: the high sensitivity of the amplifiers means they are susceptible to overloading.

And unfortunately, induced voltages are not the only way the FETs are lost. Incoming signals can sometimes be too large.

Even though the transistors are passing signals in the 3.7 to 4.2 GHz band, and you would expect the field strength of the lightning-created signals at these frequencies to be very low, that is not necessarily the case.

"Lightning produces a broadband emission that covers the whole spectrum range," Basart said. "The strength of the emission does reduce as the frequency goes up. But it goes up quite a ways without reducing too much."

Indicating that there is such a thing as a "typical" lightning strike is a bit of

"Designers of LNAs must be careful not to introduce too many protective devices or risk sacrificing performance."

a misnomer. No two hits—or for that matter, the damage caused by them—ever seem to be the same. The lightning can induce voltages in cables connected to the LNA or in the components in the device itself. Or it can simply overload the amplifier by producing too great a signal. To guard against all these possibilities is a seemingly impossible task.

However, companies that manufacture LNAs have developed several safeguards to protect against damage caused by lightning.

A device common to the input section of most, if not all, LNAs is an isolator. This instrument has two primary functions. First, it minimizes SWR by allowing signals to pass through its section of the waveguide in only one direction. Any reflected signals are simply absorbed. In this process, the isolator performs a second function of limiting the frequencies passed to a specific desired band.

"[The isolator] simply provides some attenuation of the signal outside the frequency band of interest," Johnson said. "A lightning strike is usually a direct DC voltage coming into the input, and the isolator provides some rejection to a direct DC voltage."

While an isolator hardly represents complete protection from a lightning strike, it does help. But designers of LNAs must be careful not to introduce too many such devices or risk sacrificing performance.

"Normally any loss in the line from the antenna to the first FET reduces the noise temperature performance of the LNA," Johnson said. "So the desire is to keep that as small as possible and to introduce as few perturbations as possible."

Since performance takes precedence over protection in devices like LNAs, manufacturers have little choice but to leave the front end of the devices unshielded. However, there are steps they can take to safeguard the output sections of the amplifiers where the majority of damage normally occurs.

A number of companies have designed circuits that protect voltage regulators from current surges entering from the cable connected to the LNA output. Special monolithic regulator assemblies isolate the RF section of the amplifiers from line transients, ripple, and over voltage. Other circuits provide a route to ground for voltages that attempt to enter the device through the RF output line.

Perhaps more important than all of the LNA design modifications utilized to protect the amplifiers from lightning damage, is the physical location and grounding systems of the antenna assemblies themselves. If a receiving dish is not adequately grounded so that it can dissipate static electrical charges, the most sophisticated circuitry in the world is not able to save delicate solid-state devices from sustaining damage.

Bob Pizzi, applications engineer for Amplica, said there is nothing that can be done to protect LNAs from the damage dealt by a direct hit. But adequate grounding can help in near misses.

"Good grounding means that you're not waving a flagpole around inviting a hit," Pizzi said. "A close hit is still hard to protect against though."

According to Pizzi, it is imperative that the antenna, frame, feed assembly, and all lines be well grounded. In response to this need, many, if not all, manufacturers have provided direct routes to ground within their reception systems. However, this doesn't necessarily imply that the entire assembly is properly grounded.

Dan Landreth, marketing manager for broadcast video products at Scientific-Atlanta, said ground conductivity and pressure at the reception site are important considerations in selecting a location for a dish. Without decent measurements for these, it's difficult, if not impossible, to establish an effective grounding system. For Scientific-Atlanta, the first step in protecting a dish involves the construction of a circular ground rod arrangement.

"Our normal installation involves a ring ground system," Landreth said. "A ring ground system consists of eight-foot rods that are sunk into the ground at about six- to eight-foot intervals in a circle around the foundation of the antenna.

"These are all connected together with a copper braid and then grounded with a wire from each of the three legs of the antenna. The moving part of the reflector is grounded to the main mount of the

Continued on page 80

antenna because a pivot point is involved."

According to Landreth, more elaborate grounding systems are available for dishes located in areas subject to a large number of lightning strikes. This additional equipment consists of grounding or lightning rods placed on the subreflector and on the upper limit edges of the main reflector.

If it is determined that the ground supporting the reflector and the pedestal is a poor conductor, several methods are available to improve its conductivity. Chemicals can be injected into the soil, or the rods used to carry the static charges can simply be buried deeper within the ground. However, rather than be forced to deal with these types of problems after the fact, you should conduct a survey of ground conditions before ever constructing a receiving assembly.

Landreth emphasized that dishes should not be constructed on hard rock or on a site of a fresh fill. The ideal area for the assembly should be composed of soil compacted enough to support the pedestal and reflector, and with a conductivity figure sufficient enough to ensure all static charges will be dissipated quickly.

In addition, a number of other factors should be considered when selecting a site for a future dish. One of these is proximity to other potential grounding sources.

"Most of our installations end up existing in areas where they're closely located to a taller tower," Landreth said. "These [structures] end up being much more conductive, and as such, take the hits most of the time."

Landreth also admonished broadcasters not to locate their dishes close to high-voltage power lines.

"You certainly don't want to be looking through high-tension power lines or above them," he said. "There you have such a large mass of metal up in the air that it's going to go wild until it's grounded; and they'll reradiate a lot of this energy."

It's difficult to assess how much damage LNAs incur from lightning strikes each year. Manufacturers contend only a small number of the devices are returned to them annually for repair. However, no one can be sure how many of the amplifiers are beyond restoration following a strike.

A good engineer charged with maintaining a reception system will take a second look at his assembly's grounding system. The examination can save potentially costly outages and repairs. □

Jim Larson is associate editor.

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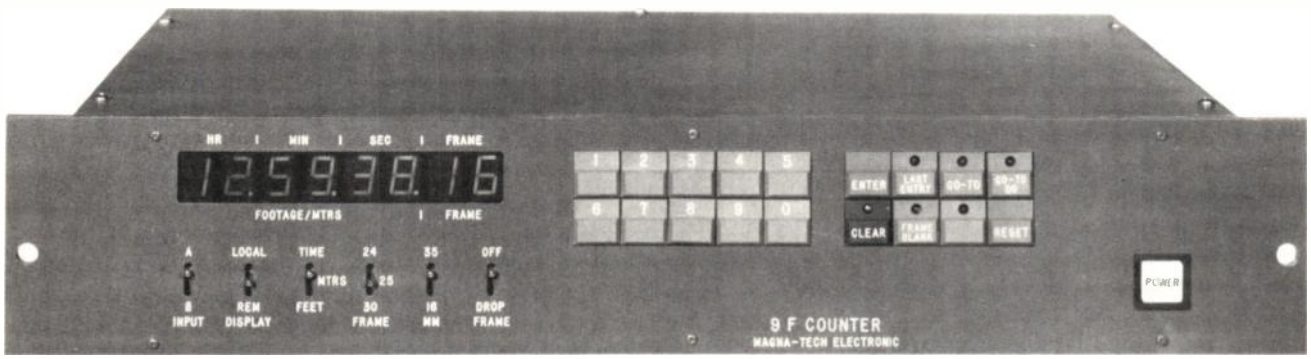

Frame rates of 24, 25 and 30 frames are selectable from the front panel with the 30 frame dropframe and non-dropframe selectable.

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Real-world costs for LO

BY JOHN KOMPAS

The third week of January 1984 was a week that, according to some experts, marked the start of a new era in big-city cable franchising. It dropped the curtain on a confusing three-year period that saw the large cities, one after another, steadily increase their demands for services and perks in exchange for those franchises.

Horror stories abound, from the city that insisted it receive a new library from the franchisee, to the town that wanted new trees planted along all of the trunk runs. These kinds of requests were encouraged by franchise-hungry cable companies that saw gold in the hills of the big cities.

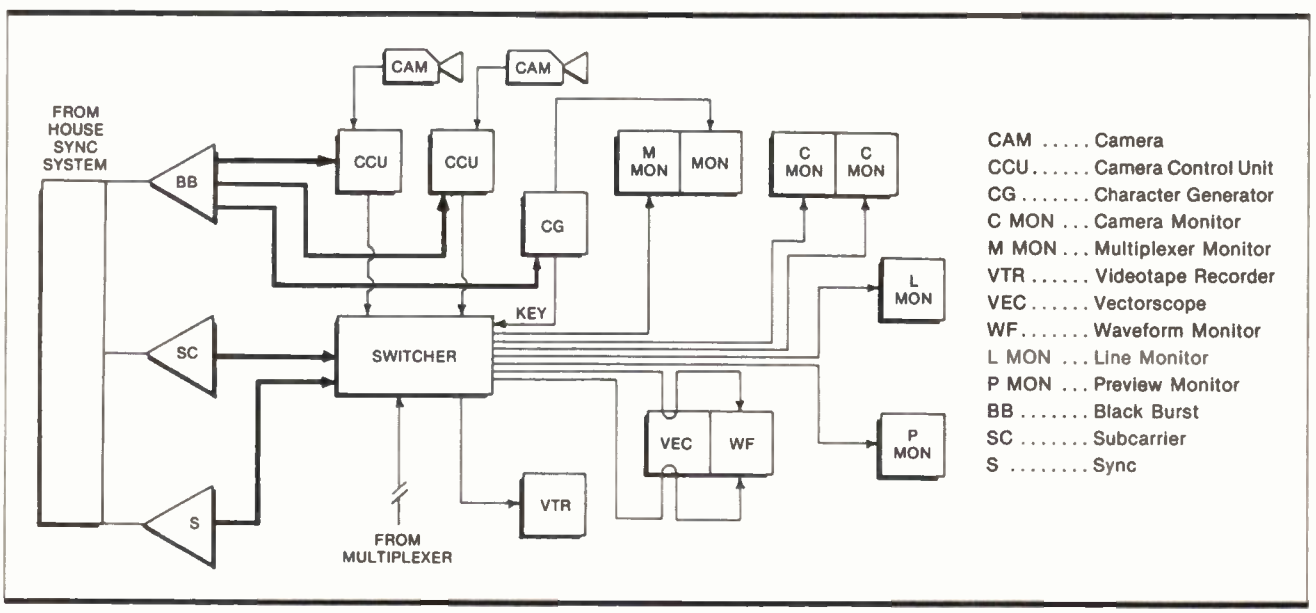
But that fateful week in January at a press conference in Milwaukee, Drew Lewis, the new chief of Warner Amex's cable division, told a shocked city that his company could not deliver on all the perks written into its contract, and he requested that the contract negotiations be re-opened. Shock waves were set off again later that week when Lewis visited Dallas and Cincinnati. One of the major concessions that he asked of Milwaukee was a reduction in the number of community-access studios from 16 to six. The cost savings would be several million dollars.

The question that surfaces at this point is, why should Warner have promised to spend so much money in the first place? It wasn't really necessary. Equipment quality has risen so fast over the last couple of years that "broadcast quality" is now obtainable for a lot less than before. High-resolution, three-tube cameras used to sell for a minimum of $40,000; today that same quality is available for less than $10,000. And a high-quality studio system that used to sell for several hundred thousand dollars can now be purchased for as little as $80,000.

Equipment on a budget

Now I know there are probably some skeptics who say it just can't be done. But let me propose for your consideration the following local-origination/community-access system: our studio will measure 25 feet by 30 feet and will be located in the same building as the cable operator's head end and business office. This gives the town's people a facility where they can develop special-interest programming, while the same studio can be used by the cable operator to produce general-interest programming for the town.

First, of course, are the cameras—the heart of any video system. Our minimum level of quality is a three-tube Saticon or Plumbicon camera that will produce at least 500 lines of horizontal resolution with at least a 55 dB signal-to-noise ratio.



List price for two of these cameras with studio accessories is about $25,000.

Both cameras must be supported by tripods and heads. Here the quality factor is in the ability of the heads to provide smooth and jerk-free panning and tilting. For our system, we chose a new system with fluid heads. List price for both tripods is $3,400. In order that both cameras can be operated synchronously, they must be fed either individual pulse drives or a black burst signal that is common to the entire system. For this requirement, we chose a sync generator with individual black burst and pulse outs, which will be routed through the system by using pulse and video distribution amplifiers. This generator also provides a full-field color-bar output, which will be used to balance color in the system after it is assembled. The total cost is $2,300.

Both cameras can be switched and effected with a special-effects generator. There are several excellent companies to choose from for this item. For example, one three-bus, eight-input generator features double-entry, a 12-pattern effect module, internal and external keying, pattern modulation, and much more, for $5,245.

Selecting a monitor

Now for the monitors. Two dual 9-inch monochrome monitors should cover our needs and will cost about $1,200. The line monitor should be chosen with great care. Some of the features you should look for are dual inputs; individual control of the color guns (especially blue, since this feature will help you color balance your monitor to the system signal); an 8-pin VTR connector; underscan; and cross pulse.

If you choose a Trinitron-tubed product, make sure there is a switch available that can disengage the enhancement feature that Sony builds into its tubes. There is nothing more annoying than seeing a beautiful picture during production and ending up with something a lot less when you play the tape back on a conventional television. For this very important choice, the cost will be about $2,360.

Several excellent-quality waveform monitors and vectorscopes are available. Every quality system will have at least one of each; the price tag, about $4,300.

Adding up the cost

Up to this point, we have accumulated only $43,805 in expenditures at list price. Our next purchase will be a pair of ¾-inch editing VTRs with an editing controller. Again we have several companies manufacturing this subsystem. The system I selected lists for about $16,000. That brings our running total to only $59,805.

We now have purchased the majority of our equipment, with $20,000 left over for lights, audio, cabinets, and accessories. It should be obvious that the $80,000 high-quality studio is possible. There is no need to bid more. But no matter what you spend, your most important contribution to a successful production studio is attitude.

If you believe that the studio you are providing for the community is a drain on your budget, it will become just that. But if you are willing to support your expenditure with the time and effort needed to involve it in the community and to get the community involved with it, you can have another profit plateau. Remember that advertisers are always looking for new and innovative ways to talk to the public. If you have the equipment and the community on your side, ad sales—and profits—will follow. □

John Kompas is president of Kompas/Biel & Associates, a consulting firm in Milwaukee.

PRODUCT PREMIERE

Character generator options (Circle 101)

LAIRD TELEMEDIA—Two options for Laird's model 7200 character generator are now available.

The model 7204 dual-channel option affords a true preview/program capability whereby one channel can be on air while the other channel is used to edit a different display. In addition, if two keyboards are used, the system can be operated as two independent channels with the exception of the disc drives, which are time-shared.

In the independent channel mode, operators stationed at two different keyboards can each control one channel. For totally independent operation, each channel can have its own resident fonts, pages, color files, etc. In addition, each channel can be in a dynamic mode (rolling or crawling) regardless of the state of the other channel.

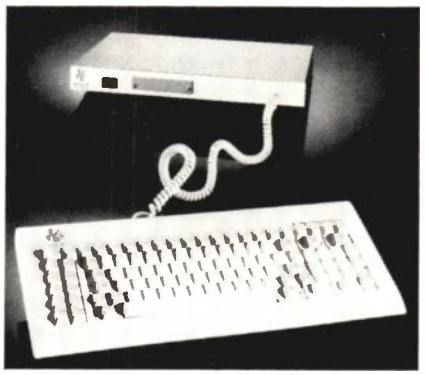
A new control keyboard, model 7212, also is being introduced for use with the 7200. It is capable of controlling page display information and auto-sequence files that are already on the disc. The low-profile, narrow keyboard was designed to be used in areas where size is an important consideration.

Graphics character generator (Circle 102)

KNOX VIDEO PRODUCTS—The K100 Chromafont series from Knox Video Products is a new kind of graphics generator in the $3,000 to $5,000 range. The series combines the professional features of top-of-the-line units with advanced low-cost architecture.

Fonts are loaded into the K100 with plug-in modules. The font memory has the capacity for more than five full multiple-size, proportionally spaced fonts, which can be mixed on the screen and individually colored, underlined, and flashed.

An 8,000-character non-volatile memory can be configured in as many as 256 lines and up to 64 pages. A unique dual 512-color palette with smooth inter-palette fade allows more than 250,000 color combinations, as well as positionable drop-shadowing.



Knox Video Products graphics character generator

Other features include multispeed forward and reverse roll and crawl; superscript and subscript capability; independent full-screen status-preview display; graphic separators; and full-screen editor with automatic line and page centering.

Scamp modules (Circle 103)

AUDIO + DESIGN—Audio + Design has introduced two new Scamp modules: the S30 expander/gate and S31 compressor/limiter using the latest in advanced VCA technology.

The expander/gate features hold circuit, log/anti-log release network, 60 dB attenuation range, pre-emphasis in sidechain, key input, variable expander/gate slope, and computer-control mute input.

The unit offers precise slope/ratio control from 1:1 through the range of 1:1.2 to 1:3 into the gating range, 1:4 (soft) and 1:20 (hard).

The range control, while being manually set, will also vary automatically with the slope/ratio selected according to the theoretical maximum for that ratio. In the gating modes, a maximum of 60 dB attenuation is possible reducing the 12 dB on a slope of 1:1.2.

The S31 compressor/limiter features ratios of 1:1 to 20:1 (continuously variable), separate limiter threshold, side chain access, computer-control mute input, threshold down to − 50 dBm, and selectable log/lin release.

A separate feed-back peak limiter can be moved by an indexed 20-position threshold pot over a range of 20 dB from 0 dBm to + 20 dBm. The limiter has an auto attack and release function, and operation is indicated by a single red LED.

Fiber-optics system (Circle 104)

GRASS VALLEY GROUP—The Grass Valley Group now offers a new option for the Wavelink model 3291 system of fiber optics that provides concurrent audio and data transmission with video on a single fiber. Until now, the Wavelink system options have included single audio, dual audio, and data. The complete system is designed to accept planned future enhancements.

This high-performance broadband communications system is designed for broadcast and telecommunications applications. Long-distance (10km) and short-distance (2km) versions, which incorporate a laser and an LED, respectively, are available.

Wavelink transmits analog signals using an LED or a laser diode source, an FM transmission method, and an Avalanche Photodiode (APD) detector. The use of FM means that the system is not susceptible to the problems of intermodulation distortion and diminished signal-to-noise ratio.

The audio-with-data option is built on a single plug-in board that is fully interchangeable with any other option board. This means that no extra rack space is required to house the facility.

The pre-emphasized baseband audio signal is modulated using a low-frequency carrier (100 kHz) and then modulated on to a 9.8 MHz carrier. Serial asynchronous data (up to 20 kbits/second) is input to the modulator board via an RS-232 interface. It is band-limited to 500 kHz to limit the spectral width of the output and then modulated on to an 8 MHz carrier. Both audio and data channels are summed together with the video channel to produce a resulting waveform that is frequency modulated on a carrier of 24 MHz.

Still-store system (Circle 105)

ADDA CORPORATION—ADDA celebrated its seventh anniversary as a pioneer manufacturer of digital video equipment with the introduction of a new generation of its electronic still-store system, the ESP II.

The ESP II is a dual-channel still processor for the creation of still images stored on a wide variety of standard computer-industry hard disc drives.

In addition, the modular design and state-of-the-art engineering permits digital-effects transitions between the two channels of video output. Effects that can be programmed between stored stills include a variety of wipes, fades, dissolves, cuts, pushes, and pulls. They are selectable at four different rates.

The ESP II still-image storage, recall, sequencing, and transition are under microprocessor control from a remote panel that measures only 3.5 inches by 19 inches.

Reflectometer display (Circle 106)

SHIVELY LABORATORIES—The model 4420 reflectometer display unit from Shively Laboratories provides fully automatic warning and trip protection for the transmitter system against excessive reflected power. The unit uses LSI circuitry to calculate incident power, reflected power, and VSWR.

The calculation of VSWR is accurate without recalibration or adjustment over an incident power range of 10 to 100 percent. A digital readout is provided to display the operator's choice of VSWR, incident power, or reflected power.

Using band-separation filtering techniques, the model 4420 offers protection for multi-station systems. A diplexer installation uses a dual directional coupler (reflectometer) in each input to the combiner. On the output side, a third reflec-

Continued on page 86

tometer measures the performance of the combined power. The band-separation filter pulls out the data for each individual frequency. The operator can thus display each station's performance both before and after the combiner.

Chyron character/graphics generator

Character/graphics generator (Circle 107)

CHYRON—The Video Products Division of the Chyron Corporation has introduced the model VP-2 character and graphics generator.

The VP-2 is a high-resolution (35 nanoseconds 1510 × 480) stand-alone unit that includes a complete keyboard and state-of-the-art micro disc drive for composing and storage.

Features include 400,000-character storage and disc drive; 512 colors with eight per page; six full fonts from a complete 45-font Chyron library, plus custom fonts and logo compose services; character planes with full horizontal and vertical overlap to any depth; auto display of selected graphics pages from disc memory in any sequence; palette animation; background graphics; and menus.

Its many applications include video production and cable television.

Audio editing system (Circle 108)

BTX—The BTX Softouch audio editing system offers a wide range of editing functions, including preparation of program material for simulcast and stereo television; video disc albums; and post-production editing of pure audio and audio for film.

Softouch provides a single-system solution to time-code applications as well as the synchronization and control of multiple ATRs, VTRs, and film transports. Also, the unit automates the post-production activities of sound-effects assembly, sweetening, dialogue replacement, and Foley.

The system consists of three intelligent, distributed modules: the Softouch editor/controller, Shadow II™ synchronizer, and a modular time code system known as Cypher™. These modules are networked together via RS-232; while transports and other studio equipment, such as consoles and special-effects cart machines, are connected via straightforward interfaces.

The system directly controls and synchronizes any combination of up to four multitrack audio, video, or sprocketed film transports while supporting additional transports in a "chase-lock" synchronization mode.

The status of any edit or control operation is determined with a glance at the system's real-time information center. Data provided includes master and slave time code to eight digits, as well as transport control, locations, servo mode, and record status information simultaneously for four transports. In addition, an alphanumeric command display prompts the user with messages throughout the editing process.

Vertical interval data transmission (Circle 109)

TORPEY CONTROLS—A system for sending time-of-day information and other cue and control data embedded in video has been demonstrated by Torpey Controls & Engineering.

The system consists of an encoder that will insert up to 48 bits of data into the video signal on a line selected between 11 and 16, which then is transmitted or recorded with the normal picture. A decoder, placed in the video signal path and selected to that line, will deliver the 48 bits of data to the intended equipment.

The system can be used, for example, to send 24 bits of time-of-day information, keeping network affiliates synchronized at all times. Other data bits can be used for remote-signaling source identification and switching.

Time code peripherals (Circle 110)

EECO—EECO has introduced a new line of SMPTE time code generator and reader peripherals for computer-assisted video post-production.

Called EECONOLINE, the peripherals are designed for entry-level post-production and editing applications. They complement the existing EECO line of full-feature time code products. The peripherals include the MTG-55 longitudinal time code generator, the TCR-65 time code reader, and the VCG-75 video character generator.

The MTG-55 outputs serial time code. Time code is formatted in hours, minutes, seconds, and frames. The MTG-55 is useful for indexing video and audio tapes for subsequent material location and editing.

The TCR-65 uses 0.4-inch red LEDs to display time code in hours, minutes, seconds, and frames. The unit is able to read and decode longitudinally recorded time code from videotapes, audio tapes, and magnetic film.

The VCG-75 reads SMPTE time code from videotape or other sources, and outputs this data as video characters. The output data can be burned into or super-

EECO time code peripherals

imposed over the source video on a monitor. Time code is read at 1/20 to 20 times normal playback speed, in either forward or reverse mode. The VCG-75 allows the user to correlate specific video frames with time code information without looking away from the video monitor.

Image enhancer (Circle 111)

VIDICRAFT—The 1310 horizontal and vertical image enhancer from Vidicraft represents a significant step forward in affordable image enhancement. The manipulation of picture elements line-to-line (vertical enhancement) as well as within a scan line (horizontal enhancement) gives an improvement of picture detail and clarity unattainable with a simple horizontal enhancement.

The 1310 features 2H processing of vertical detail, noise reduction, and split-screen comparison. 2H processing utilizes information from three successive lines to form a symmetrical enhancement signal.

Noise usually increased by enhancement is minimized by a combination of two techniques: coring, which reduces noise in all areas of the picture; and a level-dependent circuit, which suppresses enhancement in the darker areas of the picture where noise is more visible. A split-screen mode allows side-by-side comparison of unenhanced and enhanced video.

The unit is intended for use in minimizing detail loss in tape duplication and improving the visual clarity of pictures reproduced by ¾-inch and ½-inch format VCRs.

VHS editing recorder (Circle 112)

JVC—JVC Company of America is marketing a versatile VHS editing recorder. The BR-8600U front-loading recorder performs professional assemble and insert edits, either in stand-alone or system configurations.

VHS editing is a practical, cost-effective alternative to ¾-inch and 1-inch video editing, especially for small production operations, including local cable and low-power television systems.

The BR-8600U has three sets of video heads: one pair for standard two-hour recording and playback; another for still-frame and shuttle search; and a pair of rotary erase heads. This latter pair is supported by a blanking switcher, frame-servo mechanism, and horizontal phase lock, assuring accurate editing with almost no distortion at edit points.

Lights (Circle 114)

ARRIFLEX—Arrilites, Arriflex's newest series of lightweight open-faced 650W, 1,000W, and 2,000W tungsten luminaires, is designed for EFP and motion-picture production. It is the first complete lighting series constructed of fiberglass-reinforced, injection-molded thermoplastic housing with an aluminum inner shell.

The Arrilites feature anodized aluminum reflectors with a beam-angle variation ranging from an extreme high-intensity spot to a smooth flood setting. Beam angle is adjusted by moving the reflector, not the lamp, which eliminates filament vibration and prolongs lamp life. Each head tilts 270 degrees.

The series also features integral accessory holders and fully rotatable barn doors, and will accept standard barn door and scrim sizes. Each head features rugged plastic tilt knobs with recessed bearings, a specially designed lampholder, optional wire safety mesh, and 16-foot cables. □

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