

The LPTV Report

News and Strategies for Community Television Broadcasting

Vol. 7, Issue 4 • April 1992

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The Last Link

—by John H. Battison, P.E.

From the very beginning, I have emphasized the importance of your transmitting antenna. Everything that I have learned since entering television in 1945 has pointed to the vital importance of this final link between the studio and the viewer. No matter how expensive the studio and transmitter equipment, or the home receiver and surroundings, if the final link between the studio and home is weak and noisy, the picture will have the same flaws.

In the early 80's, many of the established and professional broadcast consulting engineers were too busy — or perhaps not interested enough — to accept a large number of LPTV consulting projects. Consequently, some less than professional people began to work in the field,

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Slattery To Push LPTV Amendment In Full Commerce Committee

—by Jacquelyn Biel

Congressman Ed Markey's cable reregulation bill suffered a bumpy and sometimes acrimonious journey through the House telecommunications and finance subcommittee, finally reaching markup and a 17-7 approval vote on April 8. In the process, Rep. Jim Slattery (D-KS) decided not to introduce his LPTV must carry amendment, opting instead to bring it up when the full Energy and Commerce Committee considers the bill in May after Congress's spring recess.

By mid-afternoon on the 8th, the LPTV amendment had won unqualified support from only nine members of the 27-member subcommittee. Eleven Congressmen were against it, three would not comment, and three others were still undecided but leaning toward favoring the amendment, according to a Slattery aide.

If all six uncommitted Congressmen had voted for the amendment, it would have passed. But a defeat in the subcommittee would have killed its chances, and Slattery chose to hold out for a full Commerce Committee vote, said the aide.

The opposition to Slattery's amendment was somewhat surprising in light of the Senate Commerce Committee's unanimous support of an identical amendment to S.12 offered by Sen. Wendell H. Ford (D-KY) last May. However, the National Association of Broadcasters had been lobbying actively against it, alleging that it predicated must carry for stations on the content of their programming, a position, it said, that was sure to be struck down by the courts. The NAB was referring to the fact that, to earn must carry, LPTV stations would have to air a certain amount of locally produced programming.

"That argument is a red herring," said John Kompas, chairman of the Community Broadcasters Association government relations committee and leader of the effort to support Slattery.

"We're not talking about the *content* of the programming. We're talking about where it's produced. It stands to reason



U.S. Representative Jim Slattery

that locally produced programming will reflect the needs and interests of a community audience better than nationally or even regionally produced programming. But there is no criterion about content except for the fact that LPTV stations would agree to accept the same regulations that full power stations already abide by."

The content argument has been the pivot of the NAB's attempts to defeat both the LPTV amendment and an amendment offered by Don Ritter (R-PA) that would exclude from must carry stations programmed exclusively with home shopping. But the Ritter amendment passed the subcommittee on a voice vote of "probably an 18 or 20 majority," said a Ritter aide, a development that would seem to eviscerate the content argument against LPTV.

NAB officials, however, are still hopeful. "The bill isn't enacted yet. There's still a long way to go. The home shopping exclusion is not in the Senate bill [S.12], and we're hoping to get a bill enacted that

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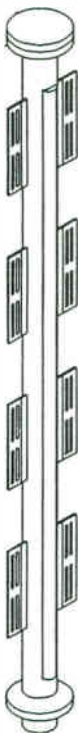
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SUGGESTED AIRING TIME	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:00 p.m.	SPORTS REVIEW	THIS WEEK IN SPORTS	QUICK GARDEN ROMANCE and ROSES	OUTDOOR TRADITION MYSTERY FORUM	GOOD OL' BOYS WESTERN THEATER	ANTIQUE CARS BACK STAGE PASS	MUSIC and STUFF
8:00	CRAFT CORNER DO IT YOURSELF	THE BIG PICTURE	ROMANCE THEATRE	MYSTERY THEATRE		SCI FI THEATRE	SCARY THEATRE
9:00	BYTES and PC's	OLD FAVORITES THEATRE	PSYCHIC VOYAGES	JUSTICE	MIND PROBE		
10:00	JAZZ and BLUES THEN and NOW						
11:00	ACTION THEATRE	RERUN ACTION THEATRE	RERUN OLD FAVORITES THEATRE	RERUN ROMANCE THEATRE	RERUN MYSTERY THEATRE		SCARY THEATRE
12:00							
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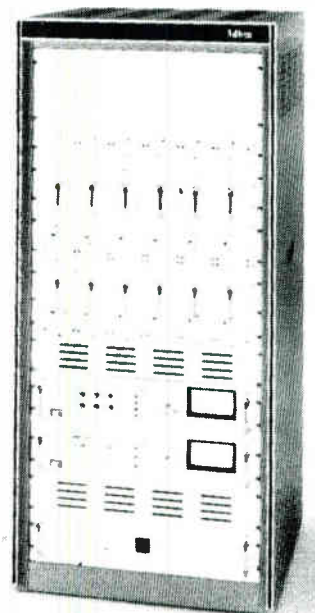
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In Our View

One of this magazine's suppliers comes out every so often with a nifty little newsletter, in a recent issue of which I found a tidbit about Faith Popcorn.

Now I remembered *that* name from a panel discussion at last November's LPTV Conference; Matt Tombers, formerly of FCB Entertainment and now with the Discovery Networks, mentioned her during his remarks.

Ms. Popcorn is a lady who identifies the future — she refers to herself as a prognosticator. She founded a company called BrainReserve which does consumer marketing and trend analysis; and she's written a book — *The Popcorn Report* — in which she predicts ten trends that will dominate the 90's, or what she calls the "Decency Decade."

Now listen up. There's probably an idea or two in here that you can use to focus your business vision a tad more.

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When things seem bad, people stay home. More money is already being spent on video rentals and take-home food.

2: Fantasy Adventure

People want safe adventures and are attracted to amusement parks, fragrances with names like "Escape" and "Spellbound," and unusual foods.

3: Small Indulgences

People will sit home and indulge them-

selves in small and very expensive items like chocolate, perfume, and gourmet ice cream.

4: Economics

Marketing to the "me." Anything that looks and feels custom-made will do very well.

5: Vigilante Consumers

Consumers are angry, bitter, and frustrated and will demand real products, benefits, and accountability.

6: Staying Alive

The fitness movement will evolve into staying alive. Consumers are afraid, and they want to know more about the environment and the source of their food.

7: 99 Lives

We are becoming a time-poor nation without patience, trying to do it all and do it quickly.

8: Cashing Out

The quality of life is becoming a priority. People are willing to take less money, leave large corporations, get off the fast track, and move to less heavily populated areas.

9: Down-Aging

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The most recent window was open from February 10-14. Barring any unforeseen delays, a new window could open before the end of the year, said Larson.

10: Save Our Society

Ethics, education, and environment will be the three E's in the 90's.

In case you want to know more, you can pick up a copy of *The Popcorn Report* at any B. Dalton's bookstore. Happy marketing!

PS. "LPTV and the Law" is not appearing this month. Peter Tannenwald has been on vacation — his column will return in the May issue.

BON MOT

There is always one moment in childhood when the door opens and lets the future in.

Graham Greene

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"turnstile" or "super turnstile" because it resembles the turnstiles found in public entrances. When mounted, this antenna resembles the pylon antenna because it is contained within a fiberglass cylinder for protection.

The turnstile antenna is very broadband and can be used as a single antenna for several LPTV stations, saving the cost of individual antennas. The pattern is classified as circular; however, with its four corners touching the inside of the circle joining them, it actually more closely resembles a square. On the sides between these four points the radiation drops off, but not enough to be significant.

I would like to include illustrations of typical antenna patterns, but space just doesn't permit. There are too many different and slightly different patterns. Talk to your consulting engineer or ask the antenna manufacturers for copies of their patterns and choose the one that is best suited to your needs.

There are small variations in gain between the various manufacturers, but it is generally possible to find just what you need. If you can't, most companies can modify a pattern to suit your individual requirements.

John H. Battison, P.E. is a consulting engineer with offices in Loudonville, OH. 

24-Hour Indecency Ban Violates Constitution, Says Supreme Court

—by Jacquelyn Biel

The Supreme Court has refused to review a 1990 appeals court ruling that Congress's 24-hour ban on "indecent" broadcast programming violates the First Amendment.

The March 3 decision put an end to the attempt by the Bush administration and Congressional conservatives led by Sen. Jesse Helms (R-NC) to do away with all indecent broadcasts. The FCC has defined broadcast indecency as language or material that, in context, "depicts or describes, in terms patently offensive as measured by contemporary community standards for the broadcast medium, sexual or excretory activities or organs."

Now the matter is back in the hands of the FCC which must recommence its proceeding to establish a justifiable "safe harbor" during which indecent programming can be aired. A "safe harbor" is defined as those times when children 17 or under are not likely to be in the viewing audience. The concept grew out of the Supreme Court's 1978 *Pacifica* decision, which defended indecency as protected speech but ruled that it could be channeled to times of the day when children were least likely to be in the audience.

The FCC subsequently defined those times as midnight to 6 a.m., but in 1988 the U.S. Court of Appeals found the hours to be arbitrary and ordered the Commission to justify them. The FCC was in the middle of that proceeding when Congress passed the 24-hour ban.


In July 1990, the FCC under Al Sikes adopted a report upholding the 24-hour ban, arguing unanimously that there was no time that it could be proven that children would not be in an audience, that a 24-hour

ban was thus "narrowly tailored" and therefore constitutional. It found that children under 17 are in the audience at all times and that alternatives such as time channeling and technological restrictions are not enough to prevent them from seeing indecent broadcasts.

The Commission did, however, allow those broadcasters who wish to air indecent programming to prove that children are not in their audience during the time they air such programming.

While it waited for the court decision, the FCC has been enforcing an earlier 6 a.m. to 8 p.m. ban on indecent programming. It has charged more than 20 full power television and radio stations with airing indecent programming and has fined fifteen of them so far. And it is presently reviewing indecency complaints against LPTV stations in Spokane and San Jose that aired allegedly indecent music videos by the rap group 2 Live Crew.

In a January speech before the Morality in Media annual rally, Commissioner James Quello expressed his concern about the part television plays in "desensitizing society to violence, rape, murder, and sexual promiscuity." Quello praised the efforts of such groups as Terry Rakolta's "Americans for Responsible Television" who concentrate on pressuring TV advertisers into refusing to support such programming. And he said the FCC has an "obligation" to "encourage constructive social values" in television broadcasts.

The Supreme Court gave no explanation for its refusal to review the appeals court decision. Justices Byron R. White and Sandra Day O'Connor voted for review. Four votes are necessary to hear a case. 

NCTA Studying Violence On Cable

The National Cable Television Association has commissioned Dr. George Gerbner, a national expert on television violence, to study violence in original cable programming. The study will be published next fall.

The study is the NCTA's response to the Television Program Improvement Act of

1990. Sponsored by Senator Paul Simon (D-IL) and Representative Dan Glickman (D-KS), the law exempts all TV networks, distributors, and program producers from anti-trust laws for three years, so that they can work together to examine violence on television and then develop voluntary guidelines to regulate TV violence.


New Book Examines Coverage of Environment

Want to bone up on the environment and learn how to present environmental issues on your newscasts? *Covering the Environmental Beat: An Overview for Radio and TV Journalists* can help.

The new book, by Lou Prato, reviews environmental coverage on the nation's radio and television stations. Included are tips on how to make sense of risk assessment information and environmental sci-

ence, as well as an extensive bibliography.

Prato is a veteran journalist, broadcast news director, and educator. Since 1983, he has been the director of Washington Graduate Programs for Northwestern University's Medill School of Journalism.

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Last Link

continued from front page

and some of these people processed hundreds of LPTV applications in production line operations.

A number of amateur engineers also popped up and delivered construction permits that were travesties of an operational system. I have come across CP's in the VHF band with 6 watts directional effective radiated power (ERP), UHF non-directionals with a couple of hundred watts ERP, and dozens of operations that never should have been filed.

Because the operating parameters met FCC Rules, the Commission had no option but to grant these CP's. But far too many of these applications specified completely unsuitable antenna operation parameters. This included ERP, antenna height, antenna orientation (azimuth), power gain, and pattern shape.

Some of these CP's are still outstanding. If you have such a CP with a low or questionable ERP, you should ask your consulting engineer if it is possible to improve the operation by changing the antenna configuration to one designed to meet your service area constraints.

When LPTV hit the broadcast world about eleven years ago, there were very few antennas designed specifically for this service. Scala and Bogner were providing various types of yagi and pylon antennas for translators, but that was about all.

Since then, however, all the major antenna manufacturers have designed products for LPTV, and several new ones have emerged. Today there are at least nine firms that make LPTV antennas, either as a major product or in addition to their regular lines. I had hoped to prepare a comprehensive tabulation of various antennas, but the amount of detail required to show every kind of antenna and manufacturer makes this impossible. So the presentation will be a little different.

Regardless of any other requirements, the transmitting antenna's function is to

couple the RF output of the transmitter into the impedance of space in the most efficient manner possible. Conversely, the receiving antenna's job is to pick up the strongest and cleanest signal available. Because antennas work the same way backwards as forwards, certain antenna designs can be used very effectively for both purposes. The yagi (herringbone) antenna is a very good example of a popular type of receiving antenna.

The Yagi

From almost the beginning, Scala specialized in yagis. They were used in large numbers for TV translators, especially in the early days of TV when station transmitter power was lower, stations per area were fewer, and translators were often VHF.

The radiation pattern from a yagi antenna is always strongly directional. For the most part, the "tightness" (or "narrowness") of the beam is controlled by the number of elements forming the "backbone" of the antenna. The more elements used, the narrower the beam — and the greater the power gain from the antenna. Adding antennas above or below the first antenna narrows the beam and increases the gain even more.

However, as with everything else in life, we can't get something for nothing. When additional antenna sections are added to increase horizontal gain, the vertical beamwidth is narrowed. This is because the power that was previously being wasted radiating upwards and downwards is now concentrated into the horizontal beam. This is not a problem unless the antenna is very high and the vertical beam very narrow. In such cases, the beam may pass over some viewers! This will be taken into consideration by your consulting engineer.

Within limits, two or more yagis can be used to direct individual beams of the TV signal in as many directions as is needed. Also if a group of yagis is "fanned out," a specific sector can be covered, while at

the same time the "backside" is protected.

In general, the simple yagi antenna per se is not used much for UHF TV transmission because its shape does not lend itself easily to ice protection. In many parts of the U.S., ice formation in winter can be very heavy and can easily break or distort an antenna. Additionally, ice formation on an antenna usually detunes the antenna, resulting in reduced transmission efficiency. The transmitter may "dump" because too much power is being reflected back down the transmission line from the antenna.

Gain and ERP

Power gain, as I mentioned before, is a very important feature of any antenna. This power gain multiplied by the RF power fed into the antenna determines the ERP. For example:

If, after subtracting coaxial line loss, we feed 0.9 kW into an antenna with a power gain of 30, the resulting ERP will be 27 kW in the direction of the main beam or lobe ($0.9 \text{ kW} \times 30 = 27 \text{ kW}$).

Sometimes the antenna power gain, when in reference to a dipole or "above a dipole" antenna, is given in decibels. You can't multiply RF power by dB, but you can very easily convert dB gain to power gain. The method is easy — don't let logarithms frighten you — but the easiest way is to call the antenna manufacturer and ask them.

To convert antenna gain in dB to power gain, use this formula:

$$\text{Power Gain} = \frac{\text{Antilog of Antenna dB Gain}}{10}$$

Example: 8.5 dB divided by 10 = 0.85. Antilog of 0.85 = 7.1 power multiplication in the antenna. |

Polarization is not usually of great concern to LPTV broadcasters. Although it doubles the total power density in the service area, it also almost doubles the cost. You need either two transmitters, or an antenna costing close to twice as much as a regular antenna.

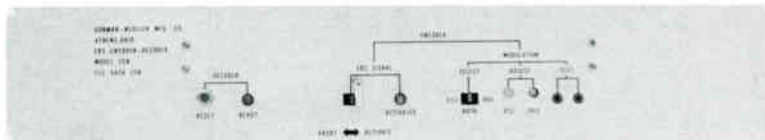
However, if your service area is very mountainous or has lots of tall buildings, polarization might be useful. Discuss it thoroughly with your consulting engineer before you rush into the additional costs and uncertain benefits.

The Pylon

Today there are several antenna types in general use for LPTV. Among these are the pylon, the panel, the zig zag, and — more recently for UHF LPTV — the turnstile or super turnstile antennas. Although you will find other types, in principle all are based, more or less, on one of these types.

Pylon antennas are basically slot antennas and consist of a cylinder ranging from 8 to 50 feet in length, depending on the channel number and the power gain. Slots, or "bays," cut in the side of this vertical cylinder produce the radiation,

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the ultimate pattern of which is controlled by "director" plates or wings that are mounted close to these slots. The configuration of these directors determines the radiation pattern.

However, some models of pylons or travelling wave antennas have the determining features for their radiation pattern set inside the metal pylon that forms the antenna.

A fiberglass panel or "radome" will prevent the formation of ice over and around the slot areas on the pylon type of antenna. Ice build-up causes the standing-wave ratio of reflected power to increase rapidly, which in turn can cause drastic antenna or transmission line failure. Because of the fiberglass radome protection covering the slots and directors, many pylon antennas look alike.

The Panel

The panel type of antenna sometimes is made up of yagi antennas enclosed within a fiberglass radome. Because the frequency of UHF TV is high, the physical size of a yagi for UHF is quite small. Therefore, several of them can be mounted in a given space to provide the gain needed.

Directivity from a single panel antenna is basically the same as that from a yagi antenna. To obtain a circular radiation pattern with panel antennas, it is necessary to mount four panels 90 degrees apart on the four sides of the antenna tower. Each panel will cover approximately one-fourth of the circular pattern.

Some panel antenna designs employ a number of simple dipole antennas within the fiberglass radome. Their operation is much the same as that of antennas employing yagis.

The Zigzag

Another style of panel antenna is made by Lindsay. This is known as the "zigzag." Inside the fiberglass panel casing is a vertical zigzag radiator which, in effect, is a vertical series of dipoles and reflectors. Each panel behaves as an individual radiator with a beamwidth that depends on the number of elements inside the radome. Again, a circular pattern requires four panels.

Gain with the zigzag can be quite high. However, regardless of antenna type, gain can be increased by mounting more panels, one above the other, with the proper spacing between them.

Mounting

Panel antennas are normally mounted on the tower faces because the panels are flat against the tower face, and there is nothing in front of or behind the panel to affect its radiation pattern. Pylon antennas, however, require more care in mounting.

In my opinion, it is best to mount pylon antennas on the very top of the tower. In fact, most of the heavier and larger pylons



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are designed to be top mounted. It is also possible to mount these antennas on brackets so that the pylon stands out from the tower face or leg. Unfortunately, when this is done, there is a pronounced directional effect, because some signal from the antenna radiates toward the tower face or leg and then bounces back to mix with the main radiation from the antenna. Such reflections normally reduce coverage and degrade the signal.

It is sometimes possible to take advantage of these reflections and turn a non-directional antenna in a directional radiator in a desired direction. Although this is

not strictly in accordance with the Commission's Rules, such selective antenna placement has been used to enhance reception in a given direction. In fact, the antenna is still classified as non-directional, but it becomes somewhat directional by virtue of the manner in which it is mounted.

The Batwing or "Turnstile"

Recently, Micro Communications, Inc. has introduced a modern version of a very early and popular antenna that was used mainly for VHF TV — the batwing antenna. This type of antenna is called the

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"turnstile" or "super turnstile" because it resembles the turnstiles found in public entrances. When mounted, this antenna resembles the pylon antenna because it is contained within a fiberglass cylinder for protection.

The turnstile antenna is very broadband and can be used as a single antenna for several LPTV stations, saving the cost of individual antennas. The pattern is classified as circular; however, with its four corners touching the inside of the circle joining them, it actually more closely resembles a square. On the sides between these four points the radiation drops off, but not enough to be significant.

I would like to include illustrations of typical antenna patterns, but space just doesn't permit. There are too many different and slightly different patterns. Talk to your consulting engineer or ask the antenna manufacturers for copies of their patterns and choose the one that is best suited to your needs.

There are small variations in gain between the various manufacturers, but it is generally possible to find just what you need. If you can't, most companies can modify a pattern to suit your individual requirements.

John H. Battison, P.E. is a consulting engineer with offices in Loudonville, OH.

24-Hour Indecency Ban Violates Constitution, Says Supreme Court

—by Jacquelyn Biel

The Supreme Court has refused to review a 1990 appeals court ruling that Congress's 24-hour ban on "indecent" broadcast programming violates the First Amendment.

The March 3 decision put an end to the attempt by the Bush administration and Congressional conservatives led by Sen. Jesse Helms (R-NC) to do away with all indecent broadcasts. The FCC has defined broadcast indecency as language or material that, in context, "depicts or describes, in terms patently offensive as measured by contemporary community standards for the broadcast medium, sexual or excretory activities or organs."

Now the matter is back in the hands of the FCC which must recommence its proceeding to establish a justifiable "safe harbor" during which indecent programming can be aired. A "safe harbor" is defined as those times when children 17 or under are not likely to be in the viewing audience. The concept grew out of the Supreme Court's 1978 *Pacifica* decision, which defended indecency as protected speech but ruled that it could be channeled to times of the day when children were least likely to be in the audience.

The FCC subsequently defined those times as midnight to 6 a.m., but in 1988 the U.S. Court of Appeals found the hours to be arbitrary and ordered the Commission to justify them. The FCC was in the middle of that proceeding when Congress passed the 24-hour ban.

In July 1990, the FCC under Al Sikes adopted a report upholding the 24-hour ban, arguing unanimously that there was no time that it could be proven that children would not be in an audience, that a 24-hour

ban was thus "narrowly tailored" and therefore constitutional. It found that children under 17 are in the audience at all times and that alternatives such as time channeling and technological restrictions are not enough to prevent them from seeing indecent broadcasts.

The Commission did, however, allow those broadcasters who wish to air indecent programming to prove that children are not in their audience during the time they air such programming.

While it waited for the court decision, the FCC has been enforcing an earlier 6 a.m. to 8 p.m. ban on indecent programming. It has charged more than 20 full power television and radio stations with airing indecent programming and has fined fifteen of them so far. And it is presently reviewing indecency complaints against LPTV stations in Spokane and San Jose that aired allegedly indecent music videos by the rap group 2 Live Crew.

In a January speech before the Morality in Media annual rally, Commissioner James Quello expressed his concern about the part television plays in "desensitizing society to violence, rape, murder, and sexual promiscuity." Quello praised the efforts of such groups as Terry Rakolta's "Americans for Responsible Television" who concentrate on pressuring TV advertisers into refusing to support such programming. And he said the FCC has an "obligation" to "encourage constructive social values" in television broadcasts.

The Supreme Court gave no explanation for its refusal to review the appeals court decision. Justices Byron R. White and Sandra Day O'Connor voted for review. Four votes are necessary to hear a case.

NCTA Studying Violence On Cable

The National Cable Television Association has commissioned Dr. George Gerbner, a national expert on television violence, to study violence in original cable programming. The study will be published next fall.

The study is the NCTA's response to the Television Program Improvement Act of

1990. Sponsored by Senator Paul Simon (D-IL) and Representative Dan Glickman (D-KS), the law exempts all TV networks, distributors, and program producers from anti-trust laws for three years, so that they can work together to examine violence on television and then develop voluntary guidelines to regulate TV violence.

New Book Examines Coverage of Environment

Want to bone up on the environment and learn how to present environmental issues on your newscasts? *Covering the Environmental Beat: An Overview for Radio and TV Journalists* can help.

The new book, by Lou Prato, reviews environmental coverage on the nation's radio and television stations. Included are tips on how to make sense of risk assessment information and environmental sci-

ence, as well as an extensive bibliography.

Prato is a veteran journalist, broadcast news director, and educator. Since 1983, he has been the director of Washington Graduate Programs for Northwestern University's Medill School of Journalism.

To order, send \$9.95 plus \$1.50 for postage and handling to the Media Institute, 1000 Potomac Street, NW, Suite 204, Washington, DC 20007.

Reaching Your Viewers

Design Your Transmitting Antenna For Best Possible Coverage

—by Kerry W. Cozad and John Tomczak

Before you ever go on the air, there are several things that you can control — or at least determine — about the transmission process. The transmit location, the transmitter type, programming, tower height, and antenna type can, typically, be specified and purchased.

However, two things that cannot be controlled easily are the environment and terrain through which you will be transmitting and equipment that the viewer will be using to receive and view your signal.

The following will show how your transmitting antenna can be used as a tool to compensate for the degrading effects of your environment. This will increase the probability that a good quality picture can be received at your viewers' locations.

Antenna Patterns

The coverage that a transmitting antenna will provide is determined by its *azimuth* and *elevation* patterns. The azimuth pattern (see Figure 1) describes the direction of the signal in relationship to the tower. This is the pattern that your consultant provides to the FCC for determining the population you will serve as well as the possibility of interference to other stations. Once filed, it is usually very difficult to make a change to this pattern without risking the loss of your construction permit.

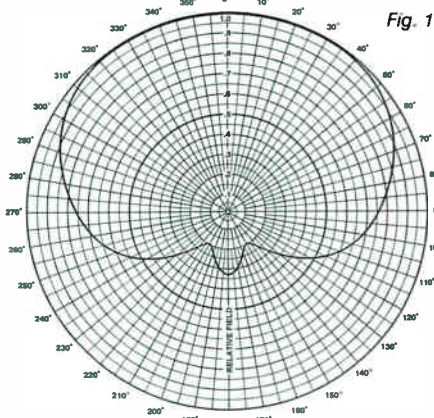


Fig. 1

The elevation pattern (Figure 2) describes what the signal level will be as you travel away from the tower in any direction. The shape of this pattern is not as critical to the FCC; however, if the tower is located near heavily populated areas, serious reception problems can occur if certain precautions are not taken. To avoid these problems, you must carefully consider your null fill, beam tilt, and gain.

Null Fill

For an antenna mounted 500 feet above the terrain, all nulls fall within three miles. If you don't have an audience

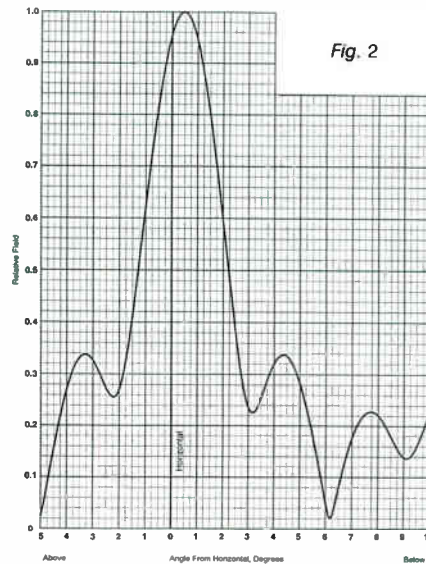


Fig. 2

there, you don't have a problem. However, if you have significant numbers of viewers within that three-mile radius, it is important to ensure consistent signal levels. Rapid variations in signal level can result in picture flutter, fading, and ghosting. Regularly, no less than 10% relative field null fill should be used when a primary viewing area falls in a minima of the pattern. You should make a point of specifying this to be sure that you get it as it is not always standard (see Figure 3).

continued

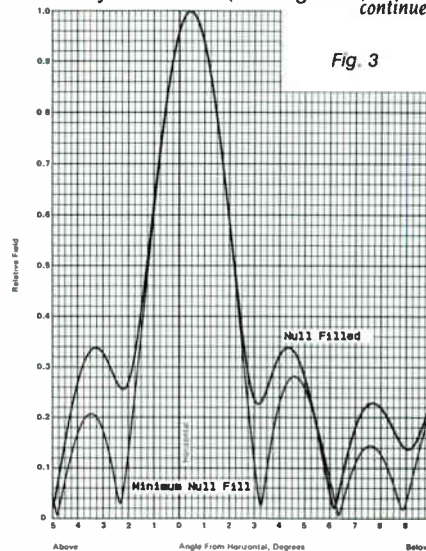
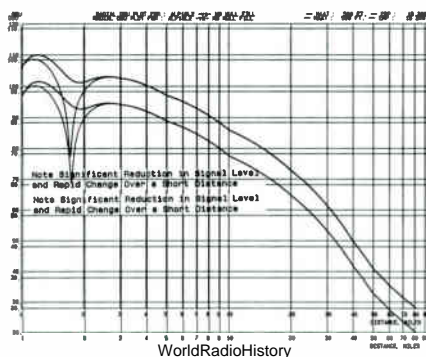


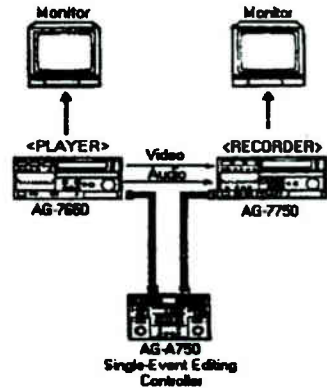
Fig. 3



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Beam Tilt

The FCC uses the "radio horizon" as a criterion for determining coverage areas. To account for the electromagnetic line-of-sight properties of radio waves, the earth's radius is assumed to be 1/3 again as large as it really is (i.e., the earth is flatter) when the distance/angle to the radio horizon is calculated. As long as a minimum of 0.9 relative field (1 dB down from the peak) is maintained on the radio horizon, the calculated coverage area does not change. This can be used advantageously to increase signal levels close to the tower by electrically tilting the an-

tenna beam downward into the coverage area (see Figure 4).

As shown in Figure 5, by increasing the beam tilt to 1.5° from the standard 0.5°, you will lose approximately one mile on the 74 dBu signal level. You don't have to note this on your FCC application, and it should not be noticeable to the viewer. But at the 2-mile distance, the signal level has been increased more than 8 dB. This can be very significant if an important viewing population is in this area.

Gain

The gain of the antenna is usually limited by two factors: the maximum cover-

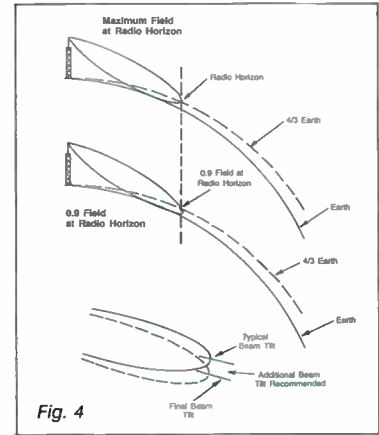


Fig. 4

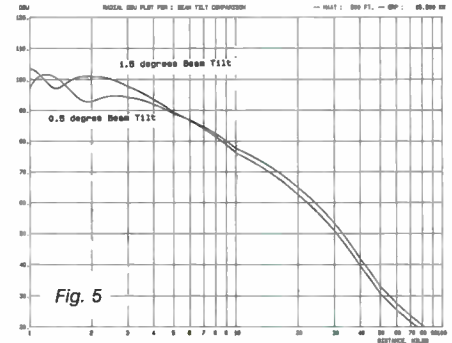


Fig. 5

age allowed (Effective Radiated Power, or ERP) and a practical limit to the antenna's height. As a rule of thumb, an antenna that is half as long as another with the same azimuth pattern will have half the gain. This results in a loss of about three miles in the distance to the 74 dBu contour (see Figure 6).

In most locations, the 74 dBu contour is important to maintain because of the present and/or future population that is located there. This situation requires a minimum antenna gain to transmit the required ERP with a maximum 1 kW transmitter.

Recently, however, there has been a great deal of discussion about eliminating the 1 kW transmitter restriction for "Community Broadcasters" while retaining the present 74 dBu contour. If this change is made, improved reception can be obtained if lower gain antennas are specified. Doubling the transmitter power means that only half the antenna gain is required to maintain the 74 dBu contour. This results in increased signal levels at significant locations inside the 74 dBu

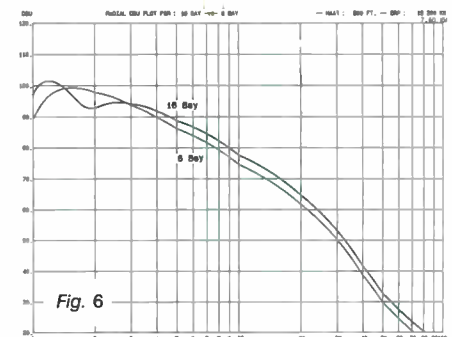
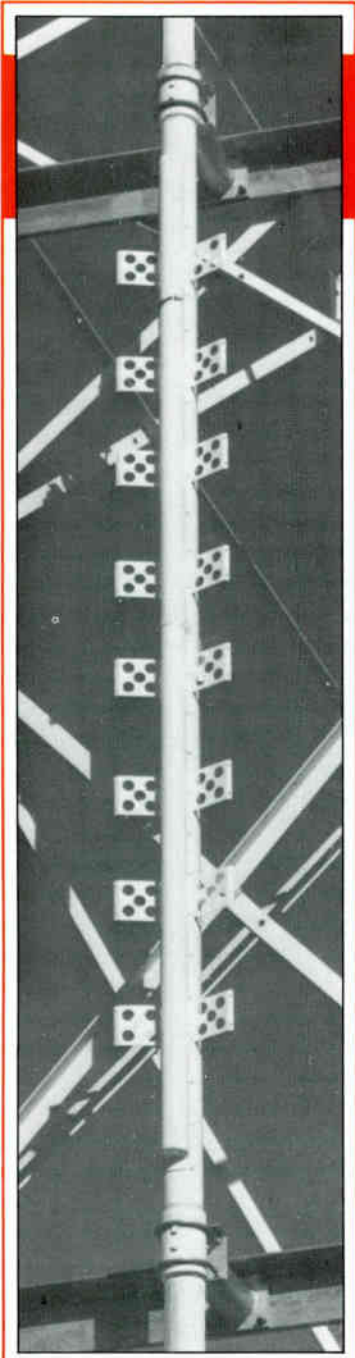


Fig. 6



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How To Build Your Bottom Line With Co-op Dollars

—by Tom Calvin

Suppose I told you that you could increase your billing from existing clients without taking extra cash out of their pockets.

While I'm at it, suppose I told you that you could build additional revenue during these poor economic times and continue to build on that revenue each and every month of the year.

Have I got your attention yet?

Well, this isn't a scam or a get rich scheme. It's a systematic approach to uncovering advertising dollars available to retailers. I'm talking about co-operative advertising dollars made available by manufacturers of brand name products to local retailers or wholesalers. This money is used to promote the manufacturer's product as well as the local retailer who carries the product. The manufacturer determines how much money a retailer will receive based — in most cases — on the retailer's net purchases of the product.

What's Your Balance?

The easiest analogy I can make is to a checking account. Imagine that the manufacturer holds an advertising checking

account for a retailer. As the retailer buys product, the manufacturer takes a percentage of the net purchase (the average is 3%) and puts it in the retailer's checking account. This continues as long as the retailer buys the manufacturer's product.

More than 5,000 manufacturers offer some sort of co-op assistance. Therefore, the average retailer may have co-op checking accounts with dozens or even hundreds of manufacturers, holding sizeable amounts of money with each one.

Remember, co-op means cooperation. Actually, it means the sharing of the cost of advertising. So in order to get the money from the checkbook, the retailer must buy advertising for his or her store featuring the manufacturer's product. In most cases, the manufacturer requires that the retailer match the dollars in the checkbook (50/50). This means that a schedule with your station costing \$1,000 is actually paid half by the retailer and half by the manufacturer, with the manufacturer's half coming from the advertising checkbook. The manufacturer simply debits the retailer's checkbook \$500 and reimburses the retailer for half of the advertising.

contour (see Figure 7). It also means lower antenna costs and lower windloads on the tower.

In summary, if you make appropriate choices regarding null fill, beam tilt, and gain, you can use your antenna to improve reception to all the viewing audience as well as avoid degradation in the close-in signal.

Kerry W. Cozad is antenna design manager for Andrew Corporation in Orland Park, IL. John Tomczak is an applications engineer for Andrew. Andrew Corporation designs and manufactures broadcast antennas and other communications equipment for the world market.

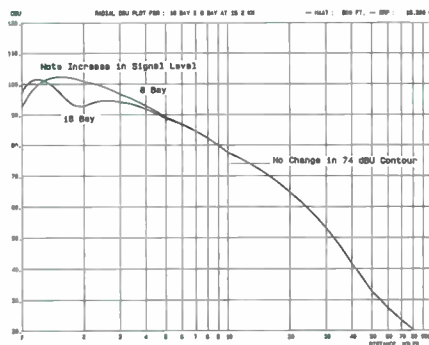


Fig. 7

Consumer ACT Video Out On Kid TV Law

A 15-minute videotape produced by Action for Children's Television (ACT) can help citizens use the Children's Television Act of 1990 to improve local television service to children, according to ACT president Peggy Charren.

"We hope this video will get people who care about children to think about what local stations are doing for local kids — and what they're not doing," said Charren.

The video — entitled "It's the Law! How the Children's Television Act Can Make a Difference" — summarizes children's TV issues and provides outlines for discus-

sion between community residents and broadcasters about programming for young audiences. Among the celebrities featured in the video are Fred Friendly, former president of CBS Nightly News, and Edward J. Markey, chairman of the House telecommunications subcommittee.

The Children's Television Act limits the amount of advertising aired during children's shows and requires TV stations to air programming that serves the educational and informational needs of young viewers. Under current rules, LPTV stations are not bound by the Act.

Benefits

What's the benefit of co-op advertising? It's simple. The manufacturer gets his or her product advertised on the local level at local rates. The retailer advertises name brands that generate store traffic, and stretches his/her ad budget at the same time. (That's especially important in bad economic times when many retailers are looking for ways to cut their ad budgets). Your station benefits by helping the retailer stretch the ad budget, which may make it possible to buy more ads on your station.

If you work it correctly, you can show retailers where to find untapped manufacturer dollars, and help them place those dollars. The result is increased revenue at three levels: the manufacturer's, the retailer's, and yours.

Tom Calvin is sales manager for the Re-CAS Division of Multi-Ad Services, a co-op ad database service listing more than 4,500 manufacturers who participate in co-op advertising. Mr. Calvin was a featured speaker on co-op advertising at the Community Broadcasters Association's November 1991 LPTV Conference in Las Vegas. In future articles, he will explain more about co-op dollars and how to get them.

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Good Selling!

—by Joe Tilton

Are We Having Fun Yet?

The phone rang. The clock showed 6:55 a.m. "Joe speaking," I answered.

"I called everywhere to find you," a woman's voice said. She continued, "Did you know the station up here is off the air this morning?"

It took a moment to figure out what the call was about. Then I remembered. This lady was a long-time fan of my station where I used to live. Eight years later, she was letting me know that something was wrong.

"I don't have anything to do with that operation now. Have you called the manager?" I asked.

"No, they won't do anything," she fumed, "We thought you could get things going here again. You know, Joe, we haven't had any fun around here since you left."

I laughed, then realized that for all the years I had lived in that small community, I didn't know I was the source of their fun!

After receiving a few more calls that day, I discovered that there had been no fun-type promotions there since I'd left. The new staff was "all business," and, in some cases, rude to the public. All emphasis was on money, yet the station went dark.

Humor Sells

One morning over coffee, my sales manager approached me with an idea. "I have a fresh approach for [client]," he said. "Humor is bound to get his attention."

We agreed that if given the chance, we could use our media to bring a major sales increase to this large, local company.

"What do you have in mind?" I quizzed.

"Listen to this," he answered. He pushed "play" on the portable cassette machine. A commercial began with fanfare, and then one of our big-voiced announcers said with deep tones and echo, "The Obit, Pick Hit of the Week." He gave sponsorship credit to the targeted business. My sales manager had created a spoof ad to break the ice, based on the newspaper's obituary column.

The plan worked. The business owner laughed so hard he cried, then said, "I like your style. Have something I can air?" The sale was made. Having fun in your business does not mean it's all a joke.

Happy Attitudes

One of my merchant-clients related a story last week about a supplier who is going through a nasty divorce. When my client called to do business, the man could only discuss his personal problems. "I sympathize with him," he said, "but I'm so depressed when I hang up, the only way to keep my sanity is to find another supplier." Problems at home or the office can kill enthusiasm and sales.

On a real estate sales-office wall, a sign reads, "Attitude is Everything." Strange, why isn't the phrase, "Money is Everything"? If the sign is correct, then how do I, the manager, create a winning sales attitude? What is the source of good attitude and fun? Me!

Does this mean you as sales leader are, in part, a counselor? Yes! Are you charged with keeping the balance between fun and seriousness? Yes! Does keeping a sales staff productive mean you keep relationships between staff members healthy? Yes!!

Have you ever heard of a "Serious (not fun) Park" where people go to be serious? What do you prefer — being around people demanding that you be serious, or those who can balance business and laughter?

Avoid the Negative

How many businesses (not just broadcast) have positions for "Personnel Directors"? This may be a surprise, but these people don't direct anything. Every staff member has the right to react in any way, to anything handed them, including direction. You are respected most when you lead by example instead of directing.

Use negative motivation (threats) and negative results will surely follow. No, it's not negative to set goals and challenges — coupled with rewards. Put a threat with a goal — "You're fired if you don't make it" — and that person might as well quit now. You'd save time by getting out on the street and making the goal yourself.

Too often, business owners feel the pinch between the bank and poor sales, and take their pain out on employees with blame and slave-driving. Sure, there are times when a goal has to be made for survival, yet killing the runner because he

came in third eliminates his chances of winning the next race...and you taking the trophy.

Positive Work Place

Beauty attracts — so does fun. One of my first goals, after taking over a station with a losing history, was to build a new building for our operation. After I disclosed my plan, one of my partners said, "A new facility will double your billing." He was right. With the beautiful new offices, the community respected us more, and clients wanted to be a part of a winning situation. The staff was so proud that they showed photos of their workplace to clients and brought them in for tours.

It's important to bring your operation into the center of activity. Placing your studios with your tower may be the least expensive way to get started but the most expensive in the long term. Being away from the commercial hub of your community is like sleeping in the next county — away from your family.

Another advantage of creating a positive work environment is that it attracts highly qualified persons to your operation. A local college asked me to make a presentation to the graduating class of their business school. I concentrated on the fun we have, and the excellent service we give our clients. Following the presentation, the dean of the school took me into her office, closed the door and said, "May I apply for a position with your station?"

Are You Having Fun?

One business owner with whom I worked arrived daily at 6:00 a.m. and worked through to 9:00 p.m. Employees felt bound to follow his example. It didn't take long for him to realize that the staff was very unhappy with him — families were furious. To cause a dramatic turn, he took every employee to a comedy club after work one Thursday. The following day was the most productive in their history. Talk around the office changed from problems with the boss, to jokes heard the night before.

It's not necessary to hire a stand-up comedian; just balance business and fun. Design an atmosphere so positive that the staff can't wait to get there. Make Monday mornings something to look forward to. This no-expense move can bring fabulous returns.

How can you keep fun in business? Condition your staff to expect leadership and praise. The dreaded "I need to talk to you," followed by critical remarks, teaches your staff to expect the worst from communication with you. Have you ever called an employee in to tell a joke, give good news, or praise him/her for a good job? If not, try this just once and watch the reaction.

Positive family support is another benefit of creating a fun place to work. You know the difference when you come home after a "bad" day, compared with a positive day, or selling a major account. When a family shares a staff-member's joy about his or her job, the whole family supports your business.

If your business is so serious to you that you're not having fun, make some changes!

Are We Making Money Yet?

When I arrive at a station and find the manager believing that the more serious you are, the more money you make, I deliberately show him or her a good time. Serious does not equal success. The secret is in the balance.

After explaining what we are going to do, I tell the sales staff, "Come on, let's hit the street and have some fun." Some think we're going to lunch early. Usually, sales managers send the staff out in the business world with the cry, "Sell! Sell! Sell!"

Public speakers know that the way to endear an audience to them and to "break the ice" is to open with comedy. How much ice needs breaking around your place? Is your cash flow frozen by below-zero attitudes?


A Russian visiting the U.S. recently asked some children at a popular fast-food outlet, "Were you paid to smile?" The Soviets have been very serious about their economy for 74 years. See where they are now?

Do your own in-house survey. Ask each person which is more important — a pleasant place to work, or money. If they're in the majority, money comes in second.

Zig Ziggler of Dallas says it this way: "Your attitude determines your altitude." And I add, your business altitude, too!

Joe Tilton has worked in broadcasting as an announcer, promotion director, chief engineer, news director, sports director, sales manager, and general manager. Presently he is a promotions writer and consultant for radio and television stations across the country.

Joe is willing to show the LPTV industry that financial success is possible in any market. He is searching for an LPTV station with a sales staff that is struggling for success. For reduced rates plus expenses, Joe will work with that facility in person and by phone, then document the successes and increases to report in this column. We will all learn from the experience and profit from the information.

If you are willing to be our test station, please call Joe at (817) 577-2754. 

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FCC Revises Spouse Attribution Policy

The FCC has abolished its automatic "spousal attribution policy" which has caused problems recently for married couples who each own interests in broadcast properties. Under the policy, the media interests of one spouse were presumed to be the other's as well. The result was that some newly married couples have found that they were violating the FCC's multiple ownership and cross-ownership rules as a result of their marriage. The rules do not apply to LPTV as yet.

As more women enter the broadcast industry, such a policy makes it harder for them to gain ownership and managerial positions and is therefore at odds with equal opportunity policies, said the Commission. Under the new policy, the relationship between spouses and their respective media interests will be reviewed individually to determine whether ownership rules have been violated. CBP

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Supplier Side

Global Communications, Inc. has announced the GS-1000 portable spectrum analyzer for the alignment of satellite antennas. Operating in the 950-1450 MHz range, the unit may be used to align any C- or Ku-band antenna or L-band system setup and maintenance. No ancillary equipment is needed as the GS-1000 powers the LNB from its own self-contained, rechargeable batteries.

Three display models are available. The bar graph mode displays 24 vertical bars corresponding to the frequencies for each C-band transponder, making this the ideal mode of operation when making adjustments to a C-band antenna. The spectrum mode displays the entire L-band spectrum in 5 MHz steps for Ku-band or VSAT antenna alignment as well as for measuring the presence of terrestrial interference. The oversample mode is similar to the bar graph display with the exception that level fluctuation due to vertical sync modulation is removed to give a more stable amplitude reading.



The GS-1000 portable spectrum analyzer from Global Communications.

The unit weighs only 4.6 pounds and is contained in a high-impact ABS enclosure surrounded by a double vinyl carrying case with foam padding throughout.

Circle (120) on ACTION CARD

TECH Electronics, Inc. has recently announced the new PVC Model 6 programmable video controller that automates programming for VCR's, satellite feeds, live audio/video, and character generators.

The unit can control up to eight VCR's. Satellite and live feeds can be used in conjunction with the VCR's for programmed playback; and character generators or title cameras with audio follow can be switched between programmed playback.

One of the best features of the PVC Model 6 is that it's easy to use. On-screen prompts lead the operator step-by-step

through the programming procedure. The Model 6 can accommodate up to 16 VCR's by means of the EXPANDER, software that increases the events per day from 100 to 500 with seven days of programming for each event.

Circle (114) on ACTION CARD



The Fluxlite lighting system from TEKNO, Inc.

The Fluxlite, a new high-performance lighting system from TEKNO, Inc. features low amperage draw and no head emission; long bulb life (up to 10,000 hours) and low bulb replacement costs (\$25 per bulb); full color spectrum with a color rendition coefficient of up to 98 (100 is daylight), providing better color saturation and eliminating all color balance problems.

The Fluxlite also offers a choice of color temperatures from 3000K to 6,300K; high efficiency optical design; numerous light shaping accessories that sharply reduce setup time; elimination of cross shadows, glare, and unpleasant highlights, especially with eyeglasses; and dimming from full to 10% without shift in color temperature or flickering.

Circle (121) on ACTION CARD

Acoustic Sciences Corporation has introduced a new acoustic wall panel based on sequenced absorption and diffusion in one-inch thick panels.

By eliminating the boominess and mush associated with existing treatments, ASC panels create an accurate, lively sounding room for broadcasting, recording, and playback.

Panels can be used individually or as part of ASC's new nearfield acoustic system series. Standard panel dimensions are 28 inches wide by 48 inches high. Custom lengths can be ordered, and sixty color options are available.

Circle (117) on ACTION CARD

CBP



Quality. From top to bottom.

At Cablewave Systems, quality is more than a promise. It's an uncompromising commitment. It always has been, it always will be. And because **BOGNER® antennas** are now manufactured by Cablewave Systems, you can expect the same rigorous attention to quality.

We offer the full range of Bogner slot array design antennas. With their patented design, Bogner antennas continuously transmit a redundant signal, which results in a brighter, sharper picture.

In addition, Bogner antennas are cost-efficient. Their unique design eliminates the need for pressurization equipment.

What's more, Bogner antennas are now part of Cablewave System's complete RF subsystems, which include Flexwell transmission lines, connectors and accessories.

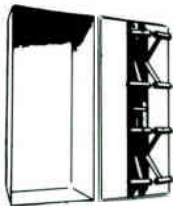
To find out more about Bogner antennas and our RF subsystems, contact Cablewave Systems.

RFS Cablewave Systems
DIVISION OF RADIO FREQUENCY SYSTEMS, INC.
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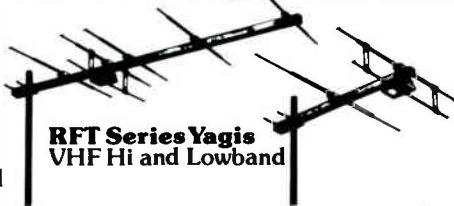
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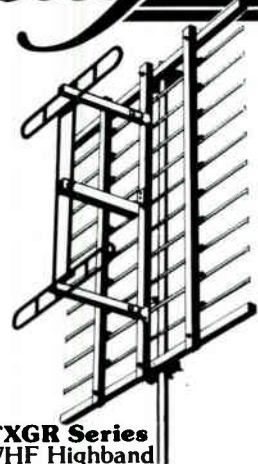
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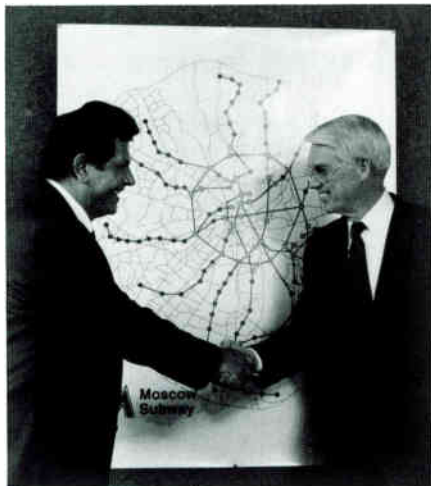
Circle (140) on ACTION CARD

Supplier Shorts

The Moscow (Russia) Metro subway system and **Andrew Corporation** have signed a joint venture agreement to develop a fiber optic network that will cover the entire metropolitan Moscow area via the 162-mile subway system.

The network will transmit multi-band radio signals for cellular telephone, AM/FM radio, cable and broadcast television, traffic control, and for emergency services, as well as for Metro operations themselves. Moscow Metro will own 69% of the venture, Andrew 31%.

Andrew will design the network, serve as general manager of the installation, and handle the sales of communications circuits to U.S. and European customers.



Yevgeny G. Dubchenko (l), director general of the Moscow Metro, and Dr. Floyd L. English, president and CEO of Andrew Corporation, after signing a joint venture to build a fiber optic telecommunications network for Moscow, Russia.

Lindsay Specialty Products is offering a new — free — antenna design service that custom tailors an antenna's signal to account for terrain, population areas, and other factors — thus maximizing signal efficiency. The company can plot any number of antennas in any direction with all relative transmitter outputs and line losses included to give the system gain, efficiency, and multiplier. Call Lindsay at 1-800-456-7046 and ask for their site survey literature package.

...

Television Technology Corporation has been awarded a half-million dollar contract to build and install a 20 kW UHF TV transmitter for Malaysian TV in Sri Lanka. The transmitter, consisting of two 10 kW tetrode transmitters, is the second unit that TTC is installing in Sri Lanka; the first was ordered in December 1991.

And at NAB '92, TTC teamed up with General Instrument's VideoCipher Division to give the first public demonstration of an HDTV signal transmitted over the air. The signal was transmitted via microwave from the HDTV World Exhibition at the Las Vegas Hilton to the Las Vegas Convention Center where TTC's XL-20U transmitter broadcast the signal on channel 15 to a standard receiving antenna back at the Hilton.

...

Microwave Filter Company, Inc. in East Syracuse, NY, has purchased Chesterfield Products, Inc. of Elmwood Park, NJ. Chesterfield designs and manufactures miniature filters covering the frequency range of 1.0 Hz to 1000 MHz. Microwave Filter's present product lines are generally add-on filters installed to work in conjunction with communications systems. This acquisition opens Microwave Filter to the new market of sub-miniature filters which are built directly into systems.

CBP

Station Shorts

Telemundo Group, Inc., a NYC-based Spanish-language TV network, has announced that their owned-and-operated LPTV station, KDO/Channel 47 in Sacramento, CA, signed on the air February 9 using the first-ever operative "flagpole" LPTV antenna by Dielectric. This antenna features a beam and pattern similar to that of the Dielectric TLP8-B.

KDO joins Stockton's KCK/Channel 52 and Modesto's KFI/Channel 61 in providing competitive coverage of the Sacramento ADI, the 14th largest Hispanic market. With KDO as the lead station, the three interconnected stations function as one station with three transmitters and reach 400,000 households.

David Newman of Sacramento Cable TV says his cable system has been receiving Telemundo via satellite feed but will begin carrying the Sacramento community stations by the end of March. According to Paul Niedermeyer from the Telemundo office in San Francisco, other major cable systems in the market are also scheduled to add the local stations.

...

W13BF/Channel 13 in Hartford, CT programs primarily to the area's ethnic groups, according to station president Lucio Ruzzier. Weekday programming comprises Spanish-language fare from Telemundo and Italian programming from RAI. Portuguese, Greek, and Polish programming is aired on weekends.

The station, which is listed in this year's "Who's Who in Connecticut," also features local programming for the area's ethnic audiences.

Channel 13's Gaetano Leone was recently promoted to general manager. Wil-

The Slattery Amendment

Here is a summary of the provisions of the LPTV must carry amendment to the House cable reregulation bill. The amendment is being offered by Rep. Jim Slattery (D-KS) and is identical to an amendment to cable reregulation bill S.12 which passed the Senate 73-18 in January.

An LPTV station would have must carry status if:

It broadcasts the minimum number of hours per day that full power stations are required to broadcast.

A "significant" amount of the station's programming is locally produced. The amount is to be set by the FCC.

The station meets the same requirements and obligations as full power stations do with respect to non-entertainment programming; programming and rates involving political candidates, election issues, controversial issues of public importance, editorials, and personal attacks; children's programming; and equal employment opportunity.

The station is located no more than 35 miles from the cable system's headend, or no more than 20 miles from the headend in the top 50 markets.

The station delivers a signal to the headend that is at least as strong as the signal level required of full power stations.

Carriage of the LPTV station would not cause the cable system to exceed the number of broadcast stations it would normally be required to carry.

The proposal would not require or allow a cable system to displace a qualified full power station in order to carry an LPTV station, and it would not change the secondary status of LPTV stations in regard to signal interference with full powers.

liam Newton is the new vice president of sales.

• • •

When CNN first received their much publicized video tape of then-hostage Terry Anderson last October, they asked TV 43 an LPTV affiliate in Hopkinsville, KY, to interview Anderson's sister, Peggy Say, in Cadiz, KY. The network was so impressed with the footage TV 43 provided that the interview with Say led CNN's 10 p.m. newscast and was featured on "CNN Headline News" as well.

TV 43 has also been honored by both the Kentucky Broadcaster's Association and the Associated Press for its news coverage. During ceremonies at the annual KBA Fall Convention in Lexington, the station received a Meritorious Service Award

for its local news of the troops deployed from Fort Campbell, KY during the Persian Gulf war.

The station also captured three AP Awards — one in the "Breaking Spot News Story" category for coverage of a toll booth accident in which four Fort Campbell soldiers were killed, and two in the "Feature/Human Interest" category for coverage of the Fifth Special Forces Homecoming and an Everly Brothers concert.

• • •

W43AT, known as NGTV (North Georgia Television), in Dalton, GA airs family entertainment 24 hours daily. The station has been recognized by the Dalton Public Schools, the Georgia National Guard, the Special Olympics, and others for its many contributions to the community.

NGTV's local features have included a forum for mayoral candidates, a TV news program starring gifted students from a local school, and a telethon/auction to benefit the Troubled Children Council. Recently, through the efforts of executive director Doug Jensen, NGTV expanded its audience after being picked up by C-4 Media Cable in neighboring Murray County. At this time NGTV is putting together a survey to determine how many viewers it reaches. CBP

Amendment

continued from front page

[both Houses] can agree on," said an NAB spokesperson about the Ritter amendment.

In a letter April 6 to subcommittee members, NAB president Eddie Fritts also expressed concern that cable operators' First Amendment rights would be violated by LPTV must carry. Referring to the requirement in the bill that one-third of a cable system's channel capacity be reserved for broadcast carriage, Fritts wrote — somewhat ambiguously — "Adding hundreds of LPTV's to the pool of eligible must carry stations has the effect of the 1/3 capacity becoming a floor and not a ceiling of channel capacity."

An NAB spokesperson later explained that Fritts feared that cable systems would lose their programming "flexibility" if LPTV stations filled up all the channels set aside for broadcast. If only full power stations had must carry, she said, systems might be able to get by with filling fewer than one-third of their channels, leaving more channels for other programming.

However, when questioned, she conceded that the NAB had not ascertained the number of LPTV stations that would be eligible for must carry under the amendment, their locations, or which cable systems, if any, would be filled to capacity if they carried local LPTV stations.

"The next step," said Kompas, "is to take the fight back to the grass roots, like we did with the Senate." Kompas engi-

neered a similar effort last year when the Senate Commerce Committee was considering S.12. At press time, plans were to mount a petition and telephone campaign among LPTV station viewers while the subcommittee members were back in their districts for the spring recess.

When Slattery made the decision to pull back, support for the amendment was assured from Representatives Ralph Hall (D-TX), Jim Cooper (D-TN), Claude Harris (D-AL), Rick Boucher (D-VA), Billy Tauzin (D-LA), Ron Wyden (D-OR), Matthew Rinaldo (R-NJ), and Mike Oxley (R-OH).

Against the amendment were subcommittee chairman Ed Markey (D-MA), Bill Richardson (D-NM), John Bryant (D-TX), Joe Barton (R-TX), Don Ritter (R-PA), Dan Schaefer (R-CO), James Scheuer (D-NY), Mike Synar (D-OK), Tom Bliley (R-VA), Energy and Commerce committee chairman John Dingell (D-MI), and Thomas Manton (D-NY).

Mike Bilirakis (R-FL) had been called away a day earlier because of a death in the family and had withdrawn his vote. Norman Lent (R-NY), Richard Lehman (D-CA), and Tom McMillen (D-MD) would not comment. And Carlos Moorhead (R-CA), Jack Fields (R-TX), and Dennis Eckert (D-OH) were undecided but leaning in favor.

Quality Solutions for the Video Professional

The BBG-2 Black Burst Generator from VAC functions as a MASTER SYNC GENERATOR and features nine crystal controlled, temperature compensated identical RS-170A Black Burst outputs. Priced at an affordable \$495, the BBG-2 includes internal trimming adjustments for Subcarrier, Sync Tip, Zero, Setup and Burst.

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Circle (3) on ACTION CARD

...at the FCC

NEW LPTV LICENSES

The following LPTV stations received licenses on the dates shown. Station call sign, location, and the name of the licensee are also given.

- K38CU Colorado Springs, CO. Zenon Reynarowych, 2/20/92.
- W20AU Atlanta, GA. Valuevision International, Inc., 2/20/92.
- W53AX Cleveland, OH. Breckenridge Broadcasting Company, Inc., 2/20/92.
- W47BD Findlay, OH. Findlay LPTV Partnership, 2/20/92.
- K55FV Houston, TX. Breckenridge Broadcasting Company, Inc., 2/20/92.
- W17BH Huntington, WV. Francis R. Santangelo, 2/26/92.

LPTV LICENSE RENEWALS

The following LPTV stations received license renewals on the dates shown. Station call sign, location, and the name of the licensee are also given.

- K11SE Bend, OR. Central Oregon Broadcasting, Inc., 2/20/92.
- K11KI Disston, OR. Row River Community TV, Inc., 2/20/92.
- K04GR Dorena, OR. Row River Community TV, Inc., 2/20/92.
- K02GL Dorena/Culp Creek, OR. Row River Community TV, Inc., 2/20/92.

NEW LPTV CONSTRUCTION PERMITS

The following parties received LPTV construction permits on the dates shown. Station call sign and location are also given.

- K67FQ Little Rock, AR. James D. Morgan, 2/13/92.
- K24DK Bullhead City, AZ. MW TV, Inc., 2/25/92.
- K69GK Phoenix, AZ. Harold L. Trumbly, 2/21/92.
- K11TE Fresno, CA. Harlan Jacobsen, 2/12/92.
- K13WF Fresno, CA. Harlan Jacobsen, 2/12/92.
- K15DM Fresno, CA. Park Broadcasting Company, 2/19/92.
- K24DJ Pueblo, CO. David M. Drucker, 2/25/92.
- W26BC Fort Walton Beach, FL. Channel 44, Ltd., 2/24/92.
- K27EB Des Moines, IA. Joseph Alfred Smith, 2/25/92.
- K46DD Salmon, ID. Ambassador Media Corporation, 2/20/92.
- W58CB Champaign, IL. Professional Impressions Media Group, 2/12/92.
- W67CQ Champaign, IL. Professional Impressions Media Group, 2/12/92.
- W10CF Normal, IL. HSN Broadcasting — LPTV, Inc., 2/25/92.
- K52EB Shreveport, LA. Act of Faith Communications, Inc., 2/25/92.
- W17BJ Danforth, ME. Craig Ministries, Inc., 2/12/92.
- K04OE Columbia, MO. Corinne R. Koenig, 2/12/92.
- K51DZ St. Robert, MO. Barbara Dille, 2/24/92.
- K09VU Albuquerque, NM. Robert F. Porter, 2/25/92.
- K25DB Las Vegas, NV. Terry Zick, 2/21/92.
- K59ER Las Vegas, NV. Adam Laird Marko, 2/20/92.
- K65FI Laughlin, NV. Richard D. Tatham, 2/20/92.
- W68CL Rotterdam, NY. Eric M. Zachs, 2/12/92.
- K38DJ Oklahoma City, OK. In Sook Lee, 2/12/92.
- K41DF Eugene, OR. A. B. Herman, 2/21/92.
- K48DZ Hermiston, OR. Melvin L. Kimmel, 2/12/92.
- K18DW Redmond/Prineville, OR. A. B. Herman, 2/21/92.
- W17BC Middleburg, PA. Heirloom Ministries,

- Inc., 2/5/92.
- K40DN Huron, SD. Crossroads Communications Company, 2/21/92.
- K53EG Sioux Falls, SD. Siouxland Christian Broadcasting, 2/21/92.
- W56CT Kingsport, TN. Holston Valley Broadcasting Corporation, 2/21/92.
- K13WD Corpus Christi, TX. Aracelis Ortiz, 2/26/92.
- K41DG Corpus Christi, TX. Jeffrey L. Hamilton, 2/21/92.
- K63EU Corpus Christi, TX. Corali Ortiz, 2/26/92.
- K46DC Dallas, TX. HSN Communications, Inc., 2/20/92.
- K19DC San Antonio, TX. Vivian Okita, 2/12/92.
- W45BA Richmond, VA. Charles W. Williams, 2/25/92.
- W19BM Virginia Beach, VA. Laura M. Beverage, 2/12/92.

ASSIGNMENTS AND TRANSFERS

- K22AG Anchorage, AK. Voluntary assignment of license granted from Echonet Corporation to Green TV Corporation on 1/31/91.
 - K07UU Fairbanks, AK. Voluntary assignment of permit granted from St. Pierre & Company to Tanana Valley Television Company on 2/25/92.
 - K13VU Fairbanks, AK. Voluntary assignment of permit granted from St. Pierre & Company to Tanana Valley Television Company on 2/25/92.
 - K26AQ Bullhead City, AZ. Voluntary assignment of license granted from Colorado River Broadcasting, Inc. to Tri-State Broadcasting, Inc. on 2/13/92.
 - K21CX Tucson, AZ. Voluntary assignment of license granted from Jana Tucker to West LPTV, Inc. on 2/27/92.
 - K39AB Bakersfield, CA. Transfer of control of Un-ivision Station Group, Inc. from Hallmark Cards, Inc. to Hallmark Cards, Inc. on 2/20/92.
 - W39BJ Waycross, GA. Voluntary assignment of
- continued*

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“We needed a professional, satellite receiving system with the flexibility to access all available programming.”

*Brad Dobbs, Vice President of Operations,
TV 43, Waukesha, Wisconsin*

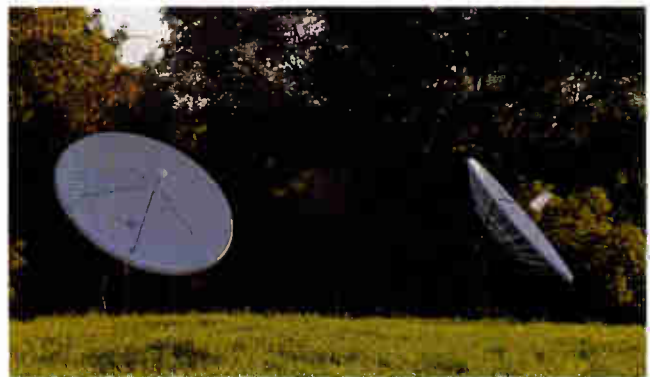
“So we chose VistaLink.™ An automated satellite receiving system from Microdyne.

VistaLink is preprogrammable, letting me access any satellite and any transponder. Any time.

Plus, I have the option of operating VistaLink remotely. That way I can set the receiver and antenna without even leaving the station.”

VistaLink is a proven system backed by Microdyne. A pioneer in satellite technology with thousands of satellite receiving installations around the world.

For complete information on VistaLink and how Microdyne can help your LPTV business, call toll-free (800) 441-9084. Or write Microdyne Corporation, 491 Oak Road, Ocala, FL 32672.



At TV 43, primary programming is received on a fixed Microdyne antenna. The VistaLink antenna rotates to receive programming from other satellites.

The VistaLink system lets you receive any satellite—any program, transponder format, or frequency—as easily as you operate a VCR.



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LPTV Distribution by State and Territory

March 6, 1992

	Licenses	CPs
ALABAMA	11	30
ALASKA	222	10
ARIZONA	32	33
ARKANSAS	10	26
CALIFORNIA	54	93
COLORADO	22	33
CONNECTICUT	3	5
DELAWARE	1	1
WASHINGTON, DC	2	0
FLORIDA	50	126
GEORGIA	23	34
HAWAII	4	32
IDAHO	20	31
ILLINOIS	15	38
INDIANA	16	28
IOWA	13	30
KANSAS	11	26
KENTUCKY	13	30
LOUISIANA	19	38
MAINE	8	22
MARYLAND	2	6
MASSACHUSETTS	8	12
MICHIGAN	13	22
MINNESOTA	51	42
MISSISSIPPI	12	21
MISSOURI	21	32
MONTANA	31	48
NEBRASKA	4	9
NEVADA	22	19
NEW HAMPSHIRE	3	4
NEW JERSEY	3	14
NEW MEXICO	17	36
NEW YORK	32	45
NORTH CAROLINA	15	31
NORTH DAKOTA	9	15
OHIO	25	42
OKLAHOMA	24	35
OREGON	28	32
PENNSYLVANIA	18	59
RHODE ISLAND	0	2
SOUTH CAROLINA	3	20
SOUTH DAKOTA	8	18
TENNESSEE	32	33
TEXAS	68	111
UTAH	22	6
VERMONT	1	15
VIRGINIA	9	28
WASHINGTON	19	26
WEST VIRGINIA	3	7
WISCONSIN	17	17
WYOMING	26	16
GUAM	1	0
PUERTO RICO	7	6
VIRGIN ISLANDS	1	3

TOTALS: Licenses: 1,104
Construction Permits: 1,498

permit granted from Women's LPTV Network to Trinity Broadcasting Network on 2/18/92.

K02NQ Columbia, MO. Voluntary assignment of license granted from Raymond A. Karpowicz to Karp-Comm, Inc. on 2/11/92.

W68BK Raleigh, NC. Voluntary assignment of license granted from Saint Augustine's College to Trustee and Communications Committee of Saint Augustine's College on 2/21/92.

K48AM Albuquerque, NM. Transfer of control of Univision Station Group, Inc. from Hallmark Cards, Inc. to Hallmark Cards, Inc. on 2/21/92.

K18CT Raton, NM. Voluntary assignment of permit granted from Grace Television Ministries, Inc. to Trinity Broadcasting Network on 2/10/92.

K42BR Terrebonne/Bend, OR. Voluntary assignment of license granted from Rodney S. Johnson to Xentor Corporation on 2/25/92.

K48BL Terrebonne/Bend, OR. Voluntary assignment of license granted from Rodney S. Johnson to Xentor Corporation on 2/25/92.

W10BI Nashville, TN. Voluntary assignment of license granted from Jim Owens Broadcasting, Inc. to James W. Owens on 2/7/92.

W61AR Nashville, TN. Voluntary assignment of license granted from Jim Owens Broadcasting, Inc. to James W. Owens on 2/7/92.

W23AD Christiansted, VI. Voluntary assignment of license granted from Kelly Guglielmi to Blackrock Broadcasting Corporation on 2/3/92.

K57FJ Spokane, WA. Voluntary assignment of permit granted from Localvision to Trinity Broadcasting Network on 2/18/92.

CANCELLATIONS

The following construction permits were cancelled and their call signs deleted on the dates shown.

K08LH Appleton, AR. Arkansas Rural TV Co-op Company, 3/6/92.

K23BK Nashville, AR. Beech Street Communications Corporation, 3/6/92.

K48CU Pueblo, CO. Full Gospel Outreach, Inc., 2/18/92.

W14BE Gainesville, FL. Robert John O'Donnell, 1/31/92.

W20AW Mexico Beach, FL. Scott Brehany, 3/6/92.

W39BG Ocala, FL. Press Broadcasting Company, 3/6/92.

W38BI St. Augustine, FL. Donald L. Jones, 3/6/92.

W21AY Tallahassee, FL. Jeff Jacobsen, 3/6/92.

K36CT Kailua/Kona, HI. Le Sea Broadcasting Corporation, 3/6/92.

K46CX Burlington, IA. Mountain TV Network, Inc., 3/6/92.

K51CR Dubuque, IA. Thomas H. Valley, 3/6/92.

K16CN Waterloo, IA. William D. Siverson, III, 3/6/92.

W29AS Highland Park, IL. Albert Morrison, Jr., 2/10/92.

W07CS Shelbyville, IL. The Cromwell Group, Inc. of Illinois, 3/6/92.

K61FH Topeka, KS. Norma Torres, 3/6/92.

W43AZ Radcliff, KY. Jimmie C. Lee, 3/6/92.

W21AZ Richmond, KY. Robert J. Spradlin, 3/6/92.

K15CQ Shreveport, LA. K. Sandoval Burke, 1/31/91.

W44AP Leonardtown, MD. Satellite Video Broadcasting, 2/28/92.

W17AV Petoskey, MI. Heritage Broadcasting Company of Michigan, 3/6/92.

W46BN Jackson, MS. American Christian Television System, 3/6/92.

K34DE Eureka, MT. Rural Television System, 3/6/92.

W15BA Cazenovia, NY. Kevin O'Kane, 3/6/92.

W19BG Champlain/Chazy, NY. Champlain Radio, Inc., 3/6/92.

W65CI Darlington, SC. James W. Owens, 3/6/92.

W16AS Sumter, SC. James W. Owens, 3/6/92.

K60EI Rapid City, SD. Rey F. Franco Perez, 3/6/92.

W60AX Knoxville, TN. Knox County Broadcasting, Inc., 2/18/92.

W66BG Union City, TN. The New York Times Broadcasting Service, 2/12/92.

K62EB Marshall, TX. Rey F. Franco Perez, 3/6/92.

K62EA Midland, TX. Gerald D. Kamp, 3/6/92.

K26DF Tyler, TX. Rey F. Franco Perez, 3/6/92.

W42BE Fairfax, VA. Fairfax Low Power Company, 9/12/91.

W04CM Richmond, VA. Krista Fordham, 2/18/92.

W11CH Burlington, VT. Susan A. Lawrenson, 3/6/92.

CHANGES OF COMMUNITY

W50BB Carmel, IN. Change of principal community granted from Indianapolis to Carmel, IN on 2/21/92.

W23AS Woonsocket, RI. Change of principal community granted to add Providence, RI to principal community on 2/12/92.

K12OK Temple, TX. Change of principal community granted to add Roy, Westphalia, Heidenheimer, Belton, and Moffatt, TX to principal community on 2/12/92.

K09VP Wichita Falls, TX. Change of principal community granted to add Jolly, Dean, Holliday, Iowa Park, and Burkburnett, TX to principal community on 2/12/92.

K68DZ Longview, WA. Change of principal community granted from original to Longview, WA on 2/21/92.

PROPOSED CONSTRUCTION PERMITS

The following LPTV and TV translator applications have been accepted for filing and are not mutually exclusive with any other pending applications. If no petitions to deny these applications are filed, they will be granted. The proposed construction permits were released March 6, 1992.

New Stations

Ch. 15 Gualala, CA. Gerhard J. Hanneman, Ph.D.

Ch. 16 Hanford, CA. Eduardo & Rosa Maria Caballero.

Ch. 35 Hopland, CA. Rural California Broadcasting Corporation.

Ch. 38 Santa Barbara, CA. Costa De Oro Television, Inc.

Ch. 22 Twentynine Palms, CA. Frances H. Gray.

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Ch. 35 Park City, UT. Fox Television Stations, Inc.

Ch. 51 Richmond, VA. James D. Morgan.

Ch. 39 Ellensburg, WA. Christian Broadcasting of Yakima. 

Modifications

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K19BJ Hollywood, CA. CBS, Inc.

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