

Madison Marathon

by James W. Stelpflug

On Sunday, May 29, the first annual Madison Marathon took place on a 26 mile loop through the city. Covering the city-wide event was the task of WMTV and its crews. Before any of the runners began warm-ups and before the camera crews started setting up, Tom Weeden and the engineering department had to prepare for the event.



The first area that needed planning was communications. Coordination began with Advanced Mobile Communications early in March of this year. A unique plan was needed for the first annual event in Madison. The outline of the plan created established that the director would need constant communication with the full crew. The talent would also need continuous IFB. The mobile crew units would need a channel to talk back to the station. So, a communication plan was drawn up.

To address the director's audio, an outgoing continuous intercom channel was fed from WMTV by way of a Marti system at 450.25 Mhz. Another outgoing channel was fed from WTSO's equipment from WMTV for the talent IFBs at 455.6125 Mhz. A third channel located at 465.65 Mhz was used for the return channel from the production crews in the field. WMTV's in-house Motorola system located at 800 Mhz was used for engineering communication and microwave alignment. Once the communications were established, the next step was to construct a route for the video and audio to be sent back to the station.

The microwave used for the marathon was like a spider's web. A total of nine transmitters were used to link back

Continued on page 3

FIBER OPTIC OSP

PART 7 - PLANT PROTECTION

by Neal McLain
Communication Technologies, Inc.

This is the seventh, and last, in a series of articles about fiber optic Outside Plant (OSP).

In previous articles in this series, we have discussed the planning and construction of a hypothetical privately-owned fiber network. In this article, we discuss the various means of protecting the network.

WHAT WE MEAN BY "PROTECTION"

"Protection," as it relates to fiber optic OSP, has one overriding objective: protecting the actual glass fibers from any situation which would require the installation of additional optical splices. Support structures, such as poles, manholes, conduits, and splice housings, can be repaired or replaced without signal degradation; but the addition of a splice or two in the fiber can have a significant detrimental affect on the signal.

Several measures can be taken to protect the fibers. They include: physical protection to prevent unintentional damage; careful route planning to avoid forced relocations; and legal procedures. We will discuss each of these measures in detail.

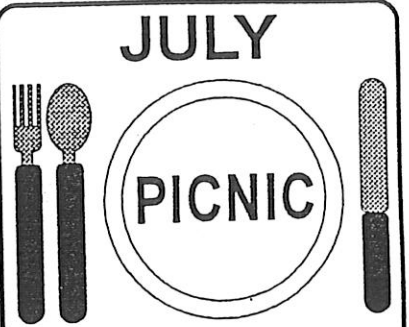
PHYSICAL PROTECTION TO PREVENT UNINTENTIONAL DAMAGE

Unintentional damage to fiber plant can be caused by several factors, including water, errant vehicles, construction workers, falling objects (ice; tree branches), and animals (especially squirrels).

Water-damage prevention techniques are fairly obvious. The cable should be certified by the manufacturer for the intended purpose; if the cable is to be installed underground, it's likely to be under water continuously. All splices should be protected by weatherproof housings designed for the purpose.

Measures to protect the fiber from errant vehicles are usually obvious from an inspection of field conditions. Typical measures include:

- Careful placement of splice cabinets and other above-ground structures associated with underground plant. Such



JULY
Saturday, July 30
12 noon

Greenfield Park Fitchburg

The Chapter will provide brats, burgers and hot dogs. Bring a dish to pass and beverages. Please RSVP by July 25 by calling Denise Maney at 277-8001 or Leonard Charles at 274-0041. See map on insert.

IN THIS ISSUE

Minutes.....	page 2
SBE National News.....	page 5
FCC Rulemakings.....	page 6
NAB Seeks Technology Improvements.....	page 7

structures should be placed as far off the traveled roadway as possible, and, if conditions permit, placed behind barriers such as utility poles, drainage ditches, or bridge structures.

● Proper strand installation. The supporting strand for overhead plant should be solidly tensioned and guyed. A properly-installed strand is stronger than many of the wooden poles which support it: I've seen accidents in which the lower portion of a wood utility pole was broken away by a runaway vehicle, but the upper part of the pole remained intact, suspended in midair by the combined tensions of the electric power cables and communications strands.

● Proper riser placement. Transition risers, between underground and overhead plant, should be placed on the "safe" side of the pole, away from direction of a vehicle leaving the roadway.

Continued on page 4

CHAPTER 24 OFFICERS

CHAIR:

Leonard Charles (WISC-TV)
W - 271-4321
H - 274-0041

VICE-CHAIR:

Paul Stoffel (WHA-TV, WI Public TV)
W - 263-2175
H - 241-4621

SECRETARY:

Mark Croom (WNWC-FM)
W - 271-1025
H - 221-1979

TREASURER:

Stan Scharch (WISC-TV)
W - 271-4321
H - 831-1168

COMMITTEE APPOINTEES

Program Committee:

Mark Croom	271-1025
Denise Maney	277-8001
Kerry Maki	833-0047
Steve Zimmerman	274-1234

Membership: Leonard Charles

Sustaining Membership: Fred Sperry

Strategic Plan: Dennis Behr

Special Events: Kevin Ruppert

Certification and Education:

Jim Hermanson (Past-Chair)
Tim Trendt, UW-Platteville

Frequency Coordinator: Tom Smith
work 608-263-2174
home 608-837-2729

SBE National Vice-President & Liaison:

Terry Baun (Chapter 28 Milwaukee)
414-449-5300 (voice)
414-449-5380 (fax)
414-873-7807 (BBS)

June Business Meeting Minutes



Chapter 24 of the Society of Broadcast Engineers held a luncheon meeting on June 23, 1994 at Kick's on Whitney Way in Madison. Leonard Charles opened the meeting at 12:10, and the minutes were approved as printed in the June Newsletter. Stan Scharch presented the Treasurer's report, with the Chapter balance. The Newsletter deadline was announced by Paul Stoffel as July 10, with the folding party to be held at WKOW-TV on July 13 at 7PM.

Chuck then announced the names of the new officers, and described some of the discussion from the recent Officer's organizational meeting. He stated the officers' decision to ask most of the people receiving complimentary copies of the newsletter for a donation to help cover postage costs. Other items discussed at the Officers' meeting included the meeting schedule and committee appointments for the year.

Chuck then gave a scholarship update regarding the regular annual scholarships to be given by the Chapter, announced that a recipient had been named for the Distinguished Service Award (to be announced officially later), and also described the submissions made to the SBE National for possible awards.

The membership report showed 68 renewed or new members in Chapter 24, 3 still in arrears, and a total of 172 copies of the Newsletter mailed last month. Sustaining membership continues at 24.

Upcoming special events were announced, including the tour of the MRC Telecommunications facility in Brookfield for June 30, and the family picnic at the Greenfield Park shelter in Fitchburg for July 30.

The frequency coordination report showed a fairly busy month, with 4 requests for information and new information received for the STL transmitters for WMGN, WJJO, and WLJK in Lake Geneva.

Chuck reported news from National SBE; our Chapter rebate; also some proposed bylaw changes are in the Signal. He reported that National was also involved in some significant FCC matters in recent months.

Jim Engeseth of the Dane County Emergency Management Agency was introduced, and he presented a program on the status of the department's progress in moving its facilities into the new county jail building.

Mark Croom, Secretary

Manual Edit for UVW-1800 Beta

by Dan Maney

Sony UVW-1800 Betacam VTR's omit the buttons for editing. All edit functions are available with an RM-450 editor. For applications where occasional simple edits are needed, a small box with those buttons was designed. It has 4 toggle switches for VIDEO TIMECODE AUDIO1 AUDIO2 and a push button to enter manual edit mode. The box sends the RS-422 commands to the VTR to select the type of edit mode, and to initiate the manual edit. The savings of UVW verses PVW or BVW plus not needing an RM-450 editor was the incentive for the project. (*editor's note: call 277-8001 for more information.*)

Marathon

Continued from page one

to the station and to other locations along the course. Multiple transmitters were borrowed and rented. Locally acquired microwave equipment included a frequency agile unit at 2Ghz and two 7 Ghz units. A 13 Ghz microwave was used from NBC as well.

To establish what sites were to be used, a Terrain Analysis Program was used from Softwright to study the entire course. Using the software, WMTV could make rough estimations of where they could send clear signals back to the stations. Because it is only a computer program, the calculations weren't always true to the actual terrain or buildings.

A total of six units covered multiple locations throughout the course. WMTV's Live Van was mobile for a few locations. The Live Van lit up on the 2 Ghz microwave band on channel 3 center. WMTV's Production Van was also used as a mobile unit and lit up on 2 Ghz channel 2 center. The third unit was WMTV's Ford Explorer which used a borrowed transmitter to light up on 2 Ghz channel 6 center. These three vehicles piggy-backed around the course to cover multiple sites on the course. Two Isuzu pick-up trucks were set-up to follow the lead male and female runners. Each truck was equipped with a camera and a transmitter in the bed. The transmitters sent their signal on 2 Ghz channel 7 + offset, to a helicopter circling above.

Whenever the helicopter could receive the trucks' signals, it relayed the signal on 2 Ghz 4 center to WMTV. If the trucks could not hit the helicopter (which happened most of the time), they would try to send their signal, line of sight, to WMTV on 2 Ghz 5 center. Besides the course action, a

full three-camera EFP crew was stationed at the Coliseum to cover the start, finish and announcers' table. The entire remote set-up was sent back to the station on one of WHA's 7 Ghz transmitters.

In order for WMTV's facilities to receive and route the signals to the correct destination, some "hot wiring" had to be done. A local station's agile receiver was used to pick up video only signals. WMTV's standard receiver picked up anything on the 2 Ghz band at 4 center. Everything beyond that was run through a downconverter from 2 Ghz to the L Band (950 - 450 Mhz). From there the signals were sent into three Agile-Omni Satellite Receives. The receives were then sent through five different framesyncs and patched into the production board.

Tom Weeden, in charge of this important stage, found himself very busy trying to keep track of which signal was coming in from which receiver, how it was patched and even where each remote unit was located. Despite the multiple difficulties, the signal routing and coordination was organized very well.

Even though much preparation was done and most of the event went fairly smooth, everyone learned added things that could have been done differently. Overall, the efforts of WMTV to pull together the first annual Madison Marathon television coverage was excellent, and it was an event to be remembered.



Chapter 24 Meeting Dates for 1994-1995

July 30, 1994	Saturday Picnic
Aug. 23, 1994	Tuesday
Sept. 21, 1994	Wednesday
Oct. 20, 1994	Thursday
Nov. 22, 1994	Tuesday
Dec. 21, 1994	Wednesday
Jan. 19, 1995	Thursday
Feb. 21, 1995	Tuesday
Mar. 22, 1995	Wednesday
Apr. 20, 1995	Thurs. Elections
May 23, 1995	Tuesday

Milwaukee
Madison
Chicago

VIDEO IMAGES

Jim Braun
District Sales Manager

Video Images, Inc.
2137 S. Stoughton Road Madison, WI 53718-2851
(808) 221-8888

COMARK

Jim Rogers
Western Regional Sales Manager

Western Office 12612 Arabian Way Poway, CA 92064	TEL: (619) 748-2151 FAX: (619) 748-1879 C-Serve: 70410,2032
--	---

a THOMSON - CSF Company

BTS

A PHILIPS AND BOSCH COMPANY

Steve C. Peck
Regional Sales Manager

Broadcast Television Systems, Inc. 10800 W. Higgins Rd., Suite 500 Rosemont, IL 60018	Direct (808) 248-9797 Main (708) 803-8090 FAX (808) 248-8283
---	--

COMMUNICATIONS TECHNOLOGIES INC.

8213 MIDDLETON SPRINGS DRIVE
MIDDLETON, WISCONSIN 53562-2773
808/831-4636
FAX 608/836-1848

CONSULTING ENGINEERING FOR THE BROADCASTING
AND CABLE TELEVISION INDUSTRIES

DICK GALL NEAL McLAIN

Ned White
Branch Manager

Roscor Wisconsin
600 West Virginia Street
Milwaukee, Wisconsin 53204
Phone: 414-223-2800
1-800-843-3879
FAX: 414-223-3434

SCHARCH ELECTRONICS CO.

Small Business Communications
1105 Middleton Street
MADISON, WI 53717-1078
(608) 831-2266 (800) 831-2266

Tower Erectors Antenna Specialists

RICHARD WOOD
PRESIDENT

BROADCAST
MICROWAVE
LAND MOBILE

1985 WEST RIDGE ROAD P.O. BOX 51
COTTAGE GROVE, WI 53527 (608) 839-4075

Fiber Optic OSP

Continued from page 1

Construction work is a frequent cause of damage to underground cable plant. This is particularly true in the case of a fiber cable placed within the right-of-way of a public road. Such cables are vulnerable to damage from three sources:

- Installation and maintenance of underground "laterals" to provide utility services to adjacent buildings. Almost all buildings are served with laterals for natural gas, water, and sanitary sewer; in addition, laterals may exist for electric power, telephone, and cable television service.
- Installation and repair of structures within the right-of-way, such as utility poles, streetlights, signs, and traffic signals.
- Construction and repair of the roadway itself.

Several measures can be taken to prevent construction-related damage:

- Depth: the deeper the better. At a minimum, the depth should meet the National Electrical Safety Code requirement of 24 inches for cable located in public right-of-way. Using boring techniques, as discussed last month, it's possible to place the fiber much deeper — as much as 15 feet deep, below all laterals.
- Permanent signs, placed at intervals along the cable route. Such signs are common sights along roadways and railroads; Figure 1 shows a typical marking sign used by Mid-Plains Telephone.
- Temporary markings, using flags or paint. Temporary markings are placed by the owner of each underground facility at the request of any construction contractor.

Protection from damage from falling objects and animals is provided by the use of "innerduct", a tough flexible plastic tube through which the fiber cable is pulled. Innerduct was originally developed for use inside buried conduits; hence the name. Four separate innerducts, each containing a separate fiber cable, can be pulled inside one 4" PVC conduit.

In spite of its name, innerduct is also used by itself. In overhead plant, it's lashed to the strand, in the normal position in the communications space of utility poles. In underground plant, it's directly buried using any of the standard burial techniques discussed last month. The innerduct is usually placed first, and the fiber cable is pulled through later; however, several manufacturers now of-

fer pre-packaged "cable-in-duct" combinations.

Besides providing direct mechanical protection, innerduct offers another advantage: if the fiber cable is damaged beyond repair, an entire segment can be replaced relatively easily, with no increase in splice count.

ROUTE PLANNING TO AVOID FORCED RELOCATIONS

Forced relocation of outside plant frequently results from roadway construction projects. In a typical scenario, the transportation authority acquires additional land adjacent to the existing right-of-way, and all utilities are required to move to new locations within the newly-acquired right-of-way. The new location may increase or decrease the total length of the fiber cable; the problem, of course, arises when the total length increases.

The best way to avoid forced relocation is to avoid heavily-traveled roads in the first place. A municipal street though an established residential neighborhood is far less likely to be widened than a county or state highway.

However, if main roads must be used, it's possible to accommodate future forced relocations by placing extra slack in the cable when it's first installed. An extra slack section — sometimes as much as 300 feet — is installed in each segment of the cable, at the approximate midpoint between planned splice points. In the case of overhead plant, the slack may be lashed to the strand in the shape of a long figure-8, or coiled and stored in a pole-mounted enclosure. In the case of underground plant, the extra cable is coiled and stored in an appropriate housing. In either case, the slack is available to accommodate forced relocations without having to add splices.

LEGAL PROCEDURES

Section 182.0175 of the Wisconsin Statutes is an important legal tool for owners of underground facilities. This statute specifies notification and liability procedures related to excavations in the vicinity of underground utility facilities; hence, it's sometimes called the "Diggers Hotline" statute.

Section 182.0175 establishes a "bouncing ball" of liability:

- A contractor — or anyone else — planning any kind of excavation is required to notify the owners of all underground transmission facilities. The statute is intentionally broad in its definition of "underground facilities": it includes every kind of facility without regard to ownership, purpose, or contents.

If the contractor fails to notify the owner of any facility, he is liable for any resulting damage.

- Once the contractor has notified the owners, the liability ball is now in their court. Each owner must, within three working days, mark the location of his facilities in the field. Mark



Figure 1. A typical sign identifying the location of an underground fiber-optic cable.

ings may be made with paint, flags, or a combination of both. The color of the marking is specified in the statute; communications cables must be marked using "safety alert orange".

If the owner fails to mark his facilities, or marks them inaccurately, he is liable for any resulting damage.

- Once the owner has marked the facilities, he has tossed the liability ball back to the contractor. The contractor must take all necessary precautions to protect the facilities. One

JOIN US AT THE 1st ANNUAL SBE PICNIC IN THE PARK



**Society of Broadcast Engineers
CHAPTER 24 MADISON, WISCONSIN
Saturday, July 30, 1994**

**12:00 NOON TIL
GREENFIELD PARK IN FITCHBURG
(see map on reverse side)**

**Please bring your beverage and a dish to pass.
(Beer is allowed in the park)**

**The SBE will be providing the Brats, Burgers, and Hot Dogs.
Let Denise know if you can bring a grill.**

**BUT, we need to know what and how many you want.
SO Please call, or send a message via SBE BBS or mail to:**

Maney Logic 277-8001
4535 Thurston Lane
Madison, WI 53711

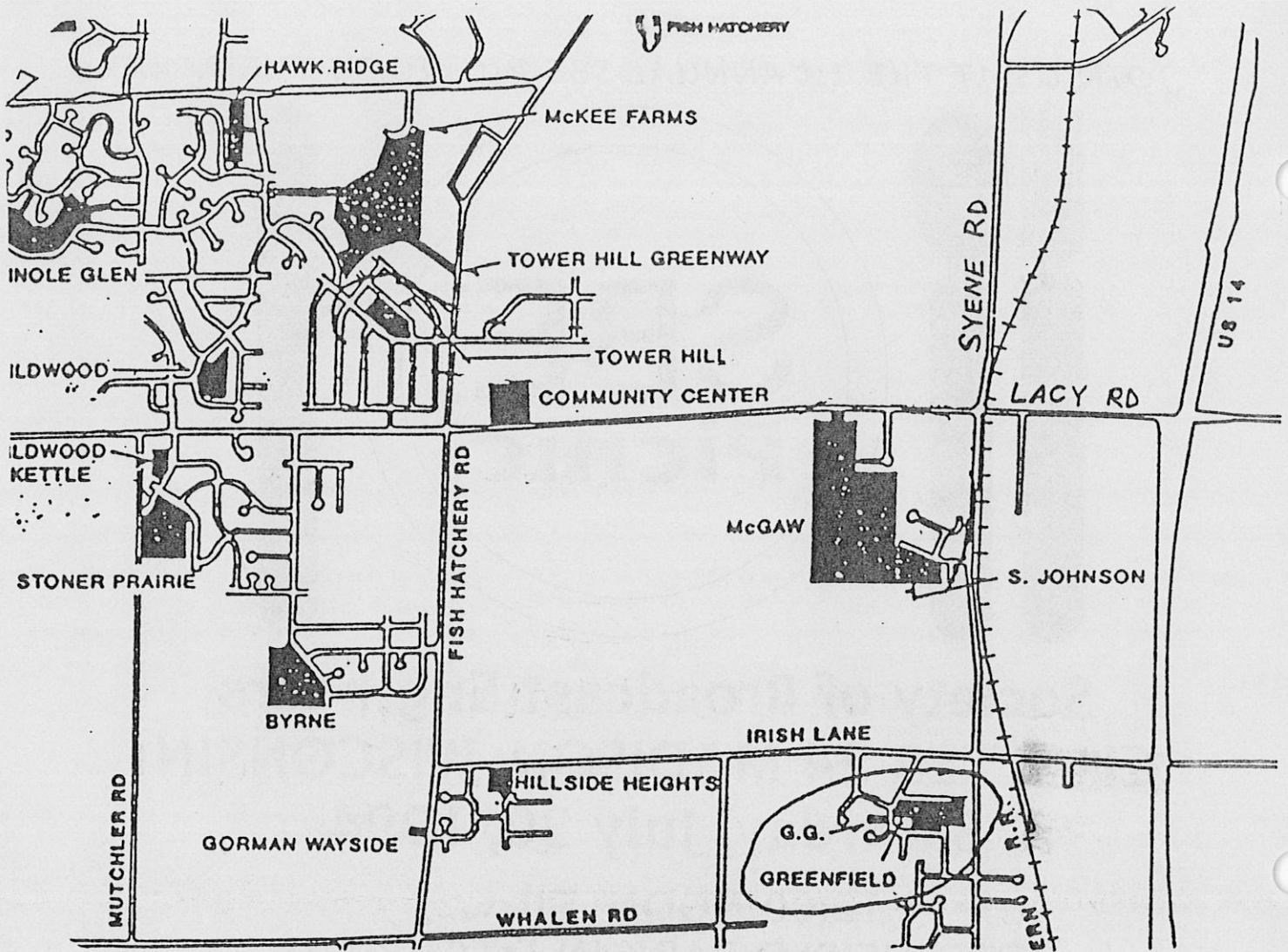
or

Leonard Charles 271-4321 or 274-0041 (home)
WISC-TV 3
7025 Raymond Road, Madison, WI 53719

PLEASE RSVP BY JULY 25

Visitors and guests are welcome at all our SBE events!

Program Committee: Kerry Maki 833-0047 Denise Maney 277-8001 Steve Zimmerman 274-1234 Mark Croom 271-1025



SBE Family Picnic
Greenfield Park • Fitchburg
Saturday July 30
 Noon to ...

RAIN OR SHINE

Directions: From IRISH LANE (between Fish Hatchery and Syene Roads) to EAST HILL DRIVE to GREENFIELD PARK ROAD

Plenty of parking...extra parking lot on Maloney Tr.

PLAYGROUND • HORSE SHOE PITS • BASKETBALL
VOLLEYBALL • BASEBALL

Feel free to bring extra grills, lawn chairs, blankets.
 Restrooms are available.
 Picnic tables and electrical outlets located in the shelter.
 Beer OK, no hard liquor

particularly noteworthy precaution: he cannot use any kind of power-operated excavating equipment (backhoe, bulldozer, jackhammer, etc.) within 18 inches of any marked facility.

If the contractor damages any properly-marked facility, he is liable for any resulting damage.

This statute generally works well. However, there's been a lot of disagreement, and some litigation, over three issues:

- Cable depth: if an underground cable is not placed at least 24" below the surface (the minimum depth specified by NESC), contractors — and their insurance carriers — generally reject any damage-related liability claim even if the damaged cable was correctly marked.

- Legal Occupancy: if the owner of an underground facility cannot establish a clear legal right to occupy the underlying land, insurance carriers frequently reject damage-related liability claims. This is particularly true in the case of damage caused by an agent of the landowner.

- Facility Ownership: if the contractor fails to notify "all" facility owners, he is considered liable, under the statute, for damage to facilities owned by any party not notified. But "all" is a very broad term: it includes everything from gas transmission lines to lawn sprinkling systems. How does a contractor know which companies own facilities in the work area? How does he know that he has notified "all" owners?

DIGGERS HOTLINE

In an effort to assist contractors comply with Section 182.0175, the state's major utility companies have established Diggers Hotline. Diggers Hotline is a "one call" notification system operated by Diggers Hotline, Inc., a non-profit corporation owned by its member utility companies. Similar one-call systems exist in every state.

Membership in Diggers Hotline is open to any party which owns any kind of underground facility located anywhere in Wisconsin. The membership roster includes public utility companies, gas transmission companies, cable television companies, municipal and county governments, utility districts, and several departments of the state government. Private companies, such as Oshkosh Truck, also are members.

In theory, Diggers Hotline works like this:

- The contractor places one call to Diggers Hotline (800-242-8511).
- The Diggers Hotline operator enters the information into a computer.
- The computer figures out which Diggers Hotline members own underground facilities in the work area, and relays the information to all owners via teletype or fax.

There's still a loophole, however: Diggers Hotline relays notifications only to its members. The contractor is still legally responsible for notifying all other owners. How does he know who those other owners are?

Frequently, he doesn't.

So now we face the question: who is liable if the contractor damages the underground facilities of a party who is not a member of Diggers Hotline?

A literal interpretation of the law would hold that the contractor is liable. But in practice, the answer is not that simple: in some damage cases, contractors have successfully claimed that failure to join Diggers Hotline constitutes contributory negligence on the part of the facility owner.

So where does this leave the owner of a private fiber-optic facility?

As a practical matter, the issue comes down to this: membership in Diggers Hotline is not mandatory, but the cost of membership must be weighed against the costs which result if the facility is damaged. These costs can be substantial: the direct cost of repairing the damage, the indirect cost resulting from loss of the use of the fiber facility, possible signal degradation resulting from additional splices, and the possible legal costs of enforcing a rejected claim in court.

National Elections:

The following people, all incumbents, were nominated and approved by the Board to stand for election later this year: President: Chuck Kelly, Broadcast Electronics; Vice President: Terry Baun, Criterion Broadcast Services, Milwaukee; Secretary: Keith Kintner, KLCS-TV, Los Angeles; Treasurer: Bob Goza, KMOV-TV, St. Louis

Running for Board Seats:

Leonard Charles, WISC-TV, Madison, WI; Michael Fast, WCBM Radio, Lutherville, Maryland; incumbent; Dave Johnson, CompuServe; Michael McCarthy, MRE Contract Engineering, Chicago, IL; Troy Pennington, WZZK Radio, Birmingham, AL; incumbent; John Schneider, RF Specialties, Seattle, WA; incumbent; Tom Weber, WISH-TV, Indianapolis, IN

Liability Insurance Proposals

The SBE National Office has been working for some time on securing General Liability Insurance for those members who are involved in Contract Engineering. Feedback is being sought on the possible rates.

\$100,000 limit	cost \$1,000
300,000 limit	cost \$1,100
500,000 limit	cost \$1,300
1,000,000 limit	cost \$1,500

Professional Liability would also be available at about the same rate. For example, \$500,000 coverage for both general liability and professional liability would cost \$2,600. Please send or fax your feedback to the National Office.

SBE OFFICE RETURNS TO FORMER HOURS

After a trial period of over two months, the National's extension of business hours will expire. The intent was to provide increased accessibility to members, particularly in western time zones. It was found that the phone calls averaged just over one call a day between 4:30pm and 6:30pm. To make the most productive use of their resources, the decision was made to return to the former operating hours of 8:30am to 4:30pm Eastern time. The SBE will continue to utilize an answering machine during all hours the office is closed, and the fax machine remains and excellent tool for 24 hour communication to the National Office.

SBE National News

from SBE "SHORT CIRCUITS VIA BBS" and Leonard Charles

SBE MEMBERSHIP DRIVE WINNERS ANNOUNCED

The SBE membership drive, "One New Member" has concluded with 47 new members recruited by SBE member sponsors. SBE President, Chuck Kelly, pulled the lucky winners name's from the "Official Prize barrel" on Saturday, June 25. The winner of the Grand Prize, a trip for two to Los Angeles for the SBE Engineering Conference, October 12-15, is Berton G. Brown of Chapter 88 in West Palm Beach, Florida. Berton recruited Brian M. Johnson, who will receive one free full registration to the SBE Engineering Conference.



RULEMAKINGS

MM Docket No. 93-114, FCC 94-120 Radio Broadcast Services; Low Power Television Service; Application Acceptance Standard; Four-letter Call Signs

The FCC has issued final rules relaxing the standards for acceptance of applications, expanding waivers concerning terrain shielding, and allowing four letter call letters for low power TV stations.

The FCC has relaxed its "letter perfect" standards in the acceptance of applications. An applicant will now be able to correct errors or omissions in an application if that application is substantially complete. The applicant will have thirty (30) days to correct the application from the date of notice from the FCC. The FCC stated, that with the reduction of applications for low power TV and the length of time between filing windows before an applicant can refile, it is easier to allow for the correction of errors on applications.

The second part of the rule making is that of expanding waivers in regards to terrain shielding between mutually-exclusive applications. This will make it easier in processing applications of two stations asking for the same channel to ignore any overlap that would be blocked by some natural obstruction such as a mountain. The FCC says that they have had no problems with interference in terrain shielding cases.

The last item in the rule making will now allow low power TVs to use four letter calls instead of the five character alpha-numeric calls that are currently used. A new low power station will be assigned the five character call, and, if the station desires a four letter call, they may apply for one after they receive their construction permit. The four letter call must be followed by the letters LP (WXYZ-LP) for low power. All other rules for broadcast call signs will apply. It is hoped that the use of four letter calls will lessen confusion to viewers in station promotion and rating surveys. The FCC dictated the LP suffix because the service is regulated as a distinct service. LPTV stations are

not under multiple ownership restrictions, and rules pertaining to children's programming, prime time access, public files and main studio locations. Any Low Power TV with a four letter call will be required to submit a drug certification statement as required by Section 1.2002 of the rules. The FCC will issue a public notice in the future that states an implementation period with the oldest existing stations getting first chance and new permittees going last.

Published in FEDERAL REGISTER on June 20, 1994, on pages 31552 through 31557.

PCS SERVICES

The FCC is making many rulemakings pertaining to Personal Communication Service before the first auctions in the fall. If you are interested in PCS, now is the time to keep track of the changes in trade magazines and FCC notices.

Wireless Cable Systems Plan To Go Wireless

Five equipment manufacturers will join the largest wireless cable operator in the development of a digital system using the Zenith VSB digital TV system. Joining American Telecasting will be Zenith, Andrew Corp., California Amplifier, EMCEE Broadcast Products and Microwave Filter Co.

With digital compression, it is hoped that the wireless cable industry will be able to increase channel capacity. They are currently limited to a maximum of 33 channels by the use of allocated channels and leased ITFS channels.

At the recent wireless cable association convention, many new products were introduced including smaller antennas and addressable down converters.

dynatech

MARK ROSS
General Project Manager
D²S² DigStore

6400 Enterprize Lane
Madison, WI 53719

Phone: 608-276-4680
Fax: 608-276-4684

DYNATECH
VIDEO GROUP
The best professional video in the world

DBS Service Starts

DirecTV and USSB have started to sell receivers to the public. The first two markets were Jackson, Miss., and Shreveport, LA., with units going on sale on June 17. Tulsa, Okla., Albuquerque, NM., and Little Rock, Ark., markets were to be selling units by the end of June.

In Jackson, 20 dealers signed up and were expecting 100 to 150 units. At the end of the first week, they reported a virtual sell-out. One dealer in Shreveport said he had out-of-state customers who were following the start date for sales.

The DBS service will be rolled out this fall nationally.

As a counter move, Primestar started a national advertising blitz worth \$55 million for their medium power DBS service. They currently have 70,000 subscribers for their service which uses a 36-inch dish.

Preceding information compiled by Tom Smith with information from Broadcasting & Cable Magazine.

Americans who have or use:

VCR	85%
Cable	63%
ATM Card	48%
Personal Computer	31%
Premium Cable	27%
Modem	12%
Fax Machine	6%
Satellite Dish	4%

Source: The Role of Technology in American Life, Times Mirror Center for the People and the Press, May 1994, page 17

TECTAN

High Performance
Audio Transmission Products
For Video Microwave Systems

STL Composite Stereo (TV or FM Radio)
STL Discrete Audio Channels (90dB+S/N)
Satellite Up- and Down-Link Audio Channels

For your local representative call: (800)TECTAN1

SONY Kevin Peckham
Account Manager
Broadcast Products Division

Sony Communications Products Company
1200 North Arlington Heights Road
Nasca, Illinois 60143
Telephone (808) 271-3778
(708) 773-8046

Service Center (708) 773-6037
Emer. Tech. Assist. (201) 833-9533
National Parts Center (800) 538-7550

NAB Seeks Improvements

Compiled by Tom Smith

The NAB has issued requests for proposals for two technology research projects. Both projects concern television and its transmission.

The first project is for the development of the coded orthogonal frequency division multiplexing system (COFDM) for the transmission of advanced television (ATV) signals. COFDM, which uses multiple carriers, is being developed in Europe and Japan for ATV and is considered by some to be potentially superior to the proposed U.S. system. Currently being tested, the U.S. system uses a form of VSB signal.

Supporters include FOX, NBC, Capital Cities/ABC, The Association of Independent Television Stations, and the Association of Maximum Service Television.

July 8 was the deadline for proposals and the NAB hopes to raise \$1.2 million for the project.

The second project, that the NAB is seeking development on is for an improved set-top TV antenna. The NAB estimates that 60 percent of the TV's in the U.S. receive their signals off the air.

While about 65 percent of the homes in the U.S. have cable, many of the second and third sets in a home may still be using rabbit ears. They also noted that most improvements to antennas have been to roof-top systems.

Channel Master has already expressed an interest. They feel that with the introduction of Direct Broadcast Satellite, many viewers will be dropping cable and will need a method of receiving local stations.

The Satellite Broadcasting and Communications Association has also issued requests for proposals on improved antennas because of DBS.


Winegard said that they did not plan to begin any set-top antenna research. They feel that to improve reception, a large antenna is needed to gather as much signal as possible. They will focus development on roof-top and attic antennas.

Source: *Broadcasting & Cable*

The owner of an Eastern Wisconsin radio station has died. 69-year old Andrew Brusda suffered a fatal heart attack. He owned station WAUN in Kewaunee. Before building the radio station in the early 1970's, Brusda was a radio engineer in Green Bay. (Thanks to Mark Heller, WTRW, Two Rivers, for the above story.)

CHAPTER 24 SUSTAINING MEMBERS

Broadcast Communications
BTS
Clark Wire and Cable
Comark Communications
CTI
Dynatech Video
Electronic Industries
Emmons Associates
Fuji Film I&I
Harris Allied Broadcast
Maney Logic
Panasonic Broadcast
Roscor Wisconsin
Scharch Electronics
Skyline Communications
Sony Broadcast
Tectan, Inc.
Teleport Minnesota
The Tape Co.
Video Images
WISC-TV 3
WKOW-TV 27
WMSN 47
WMTV 15

Panasonic 

Panasonic Broadcast Systems Company
Division of Matsushita Electric Corporation of America

1707 N. Randal Road, #1-C-3
Elgin, IL 60123-7847
(608) 493-2819
(708) 468-5160 **HERB VAN DRIEL**
(608) 493-2519(fax) **Central District Sales Manager**

 **HARRIS ALLIED**
BROADCAST EQUIPMENT


MITCH MONTGOMERY
District Manager - RF Sales

BROADCAST DIVISION Phone: 816-891-7300
8418 NW Beech FAX: 816-891-8323
Kansas City, MO 64153 U.S.A. Quincy: 217/222-8200


"Tower Site Maintenance" by 

Broadcast Communications
P.O. Box 730
New Glarus, WI 53574
608/527-5674 (FAX) 

608/527-5670 Call Today!


27
WKOW
MADISON 

(608) 274-1234
Fax# (608) 274-9514
5727 Tokay Boulevard, Madison, WI 53719

 **GORDY DAILEY**
BROADCAST SALES

ELECTRONIC INDUSTRIES INC.
19 E. IRVING AVE • P.O. BOX 286 • OSHKOSH, WI 54902
distributors of electronic equipment and supplies

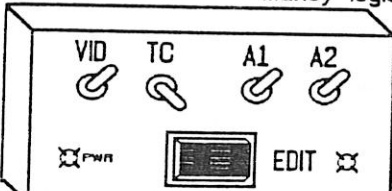
PHONES: 414-235-8930 IN-STATE WATS: 1-800-445-0222
414-739-8900 OUT OF STATE WATS: 1-800-558-0222
FAX: 414-235-4233

 4155 SIBLEY MEMORIAL HWY.
EAGAN, MN 55122-1904
(812)890-3920 • FAX (612)890-7009

EMMONS ASSOCIATES, INC.
DISTRIBUTORS AND REPRESENTATIVES • TELEVISION EQUIPMENT

KEITH EMMONS

Manual edit for UVW-1800
maney-logic



 **The Tape Company**

Tim Galassini
801 Sivert Drive
Wood Dale, Illinois 60191
708-595-3113 Phone
708-595-0052 Fax

ORDERS: Contact
Order Processing

Quality People... Quality Service

SBE CHAPTER 24 NEWSLETTER

Broadcast Communications

● Recently, Broadcast Communications was invited to Saipan to conduct a five-day, tower safety school for Far East Broadcasting Company. The engineering students gathered from around the world for updates on federal regulations, as well as proper procedures for inspecting and maintaining communication towers.

● The Educational Services Division of Broadcast Communications has been recognized by the SBE for recertification credit for the course Tower Technology 1. A total of five Continuation Education Credits (CEU's) can be obtained by attending the five-day course. By meeting the requirements, Broadcast Communications has been added to the growing list of Technical Training Facilities, Colleges and Technical Institutions that provide programs to engineers. The Tower Technology 1 course is currently taught to the cellular industry, government agencies and the broadcasting industry. Plans are underway to provide class modules throughout the U.S. in one to four-day increments to system integrators, engineers, technicians and purchasing agents in all the communication industries. A course curriculum can be obtained by calling Broadcast Communications at 608-527-5670.



FUJI FILM I & I
Imaging Information

SEDATE HOLLAND
ACCOUNT REPRESENTATIVE
PROFESSIONAL PRODUCTS
MAGNETIC PRODUCTS DIVISION


FUJI PHOTO FILM U.S.A., INC.
1285 HAMILTON PARKWAY
ITASCA, IL 60143
(708) 773-7200 • (800) 877-0555



CLARK WIRE & CABLE
(708) 272-9889
Fax (708) 272-9564
1-800-CABLE-IT!
Susan Clark
151 S. Pflugsten Road #B
Deerfield, IL 60015

15
WMTV

615 Forward Drive, Madison, Wisconsin 53711
Phone: 608-274-1515
Fax: 608-274-2737



Everybody knows it's on...



7847 BIG SKY DRIVE MADISON, WI 53719
(608)833-0047 FAX(608)833-5055




MADISON CBS WISC-TV
3



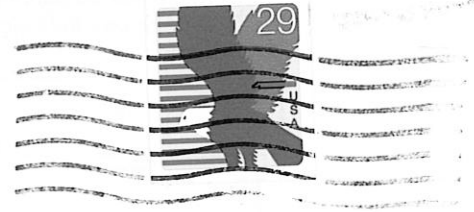
TELEPORT MINNESOTA

A communication service of Midwest Cable & Satellite, Inc.
11th on the Mall
Minneapolis, MN 55403-2450
FAX (612) 330-2401

Mark Durenberger
Director of
Technical Operations
(612) 330-2433



SBE Chapter 24 Newsletter
3538 Concord Avenue
Madison, WI 53714-1237



FIRST CLASS MAIL

Broadcasters Clinic 1994
and
Upper Midwest Regional Society of Broadcast Engineers Conference

November 8-9-10, 1994
Holiday Inn Southeast
Madison, WI

Tom Weeden
6802 Putnam Road
Madison, WI 53711-3959

Newsletter edited on Pagemaker 5.0 by: Paul Stoffel and Mark Croom Typist: Joanne Stoffel
Contributors this month: Fred Sperry, Tom Smith, Neal McLain, Leonard Charles, National SBE Office, Dan Maney
Jean Muehlfelt, James Stellpflug, Chris Cain for downloading information from CompuServe®

© 1994 by SBE Chapter 24. Views expressed herein do not necessarily reflect the official positions of the Society, its officers, or its members. SBE Chapter 24 regrets, but is not liable for, any omissions or errors. The Chapter 24 Newsletter is published twelve times per year. Other SBE Chapters are permitted to use excerpts if attributed to the original author, sources and SBE Chapter 24.