



CHAPTER 24 - MADISON, WISCONSIN
NOVEMBER NEWSLETTER 1988

Edited by: Leonard Charles

Articles Welcome!! Send them to:
Chapter 24 Newsletter
5714 Modernaire St.
Madison, WI 53711
(hard copy or text files on 360K disk)

MEETING ANNOUNCEMENT

DATE: Wed - Nov 9, 1988

*** NEW PLACE ***

ALEXANDERS of Madison
5614 Schroeder Road
Across from Vitense mini golf

Optional Dinner 5:45pm
Meeting 7:00pm
Program follows meeting

Program: COMPUTER VIRUSES

Member Dave Willow will be describing computer viruses, 'Trojan Horse' programs, and other destructive computer invaders and giving tips on how to protect your personal, mini and mainframe computers.

UPCOMING MEETING DATES

- Tuesday December 13
- Wednesday January 11 (lunch)
- Tuesday February 7
- Wednesday March 8
- Tuesday April 11
- Wednesday May 3

UPDATE....

The Dane County Telecommunications Commission delayed recommending approval of a lease with WOSBD to transmit from the city owned Larkin Street tower. The low power TV channel has been transmitting from that location without a lease since September. The reason for this delay is to give Channel 5 time to investigate interference complaints from a few private individuals who have written the commission. The interference appears on Complete Channel's cable channel 5 near the tower.

THE LEGALS....info by Doug McDonell

Accepted for filing... an application from Weather Center International, Inc. of Madison for a CP to change the transmitting site of WOSBD Channel 5 to 125 Larkin Street, ERP of .0011KW at 389 meters ANSL.

Verona, WI... effective Nov 14, amended the FM table to allot Channel 288A (105.5 MHZ) to Verona. Window opens November 15 to December 15.

Waunakee, WI... effective Nov 14, amended FM table to allot Channel 286A (105.1 MHZ) to Waunakee. Window opens November 15 to December 15.

FCC NEWS

The Commission has released a Notice of Proposed Rulemaking (MM Docket No. 88-376) concerning amending the Commission's Rules to improve the quality of the AM Broadcast Service

by reducing adjacent channel interference and by eliminating restrictions pertaining to the protected daytime contour.

The Commission proposes to modify section 73.44 by adopting new emission limitations based upon the NRSC draft Emission Limitation for AM Broadcast Transmission, which requires that emissions between 10 kHz and 20 kHz be attenuated by 25 dB relative to the unmodulated carrier; emissions between 20 kHz and 30 kHz would have to be attenuated by at least 35 dB, those emissions between 30 kHz and 60 kHz by at least 5 dB + 1dB/kHz (removed from the carrier), those emissions between 65 and 75 kHz by at least 70 dB, and those above 75 kHz by at least 80dB below carrier level. The Commission's proposal would require stations to comply with these emission limitations by January 1, 1990.

In another part of the proposed rule making, the Commission is considering allowing some stations to increase their power output. However, any power increase made possible as a result of the restrictions in Section 73.37(b) would be possible only if the 0.5 mV/m contours of other co-channel stations continue to be afforded the 26 dB protection currently provided for in the rules.

Interested persons may file comments on the proposed rule making on or before November 22, 1988 and reply comments on or before December 22, 1988

AM STEREO UPDATE....

Some think the Motorola C-Quam AM Stereo system has become the de-facto

standard with adoption by 657 stations worldwide. The Kahn system is in operation in about 100 stations.

MAINTENANCE CHECKLIST....

The FCC has released its latest list of the most common violations found by its inspection program. Here it is:

- Inadequate painting and lighting of towers
- Inadequate locked fencing around AM towers to prevent shock hazard
- EBS operation including missing or malfunctioning monitors, failure to receive or transmit weekly tests, and lack of current EBS checklist or authenticator word list.
- AM directional parameters and monitoring points out of tolerance
- Inadequate meters and transmitter control at operator's position
- Frequency and modulation outside of tolerance at TV stations
- Overpower and other unauthorized operation at noncommercial stations
- Failure to have or items missing from the station's public file
- Lack of availability of station's authorizations

SMPTE CONFERENCE REVIEW....

by Kevin Ruppert

The theme of the 130th SMPTE conference was "Innovations in Imaging and Sound" and as you might expect, the hot topic was high definition television. The Society is getting increasing pressure to come up with standards for HDTV, both for storage and transmission. William G. Connolly from Sony gave the keynote address which stressed the need for the industry to come together to adopt standards in an era of digital technology.

Many papers given concerned themselves

with squeezing an HDTV signal into 6 MHz. There are around 2 dozen different proposals for an HDTV transmission standard, some of them directly compatible with NTSC, some needing a supplemental channel. William Glenn and Karen Glenn spoke on visual psychophysics. Their system, called "VISTA", is based on 8 years of studying human visual system performance. They leave out the information you cannot see in order to allow for a smaller bandwidth. (Sounds a lot like the original premise behind NTSC.)

RCA demonstrated the most recent version of their Advanced Compatible Television system. (ACTV) This version was recently shown to the US congress in support of an American standard. They have gotten it honed to the point where the 6 MHz mode looks almost as good as the wideband system on video that contains little or no motion. (It is when something in the picture starts to move that I could tell the difference. At any rate, I was impressed with being able to go into a conference room at "30 Rock" to see it and talk to the chief of the ACTV project!)

One of the most interesting papers, at least for those of us who are confined to 6 MHz, concerned itself with "Waveform Modulation." With this system, the modulation exists on the slopes of the carrier waveform and the sinusoidal waveshape of the carrier is modified. A company in Tucson has been building the modulators and demodulators for this technique and has demonstrated it for a few different applications. According to a handout provided by the company, "alone, waveform modulation is not sufficient for HDTV transmission, but allows the transmission of additional information in a spectrum already in use without effecting the existing communication." They have already used this idea, along with bit compression techniques, to transmit digital audio over existing AM and FM carriers. At SMPTE, they showed how a second TV channel could be modulated on color

subcarrier without any noticeable artifacts on the main signal.

The main reason I went to NY was to see the equipment exhibits. On the floor, there were lots of new names, and a few old ones. Harry, AVA, ACE, and Alex were there. Alex is Ampex's new character generator which features anti-aliasing and animation. Panasonic premiered their new digital composite cassette machine. Although some have been calling this "D3", Panasonic was quick to point out that it is still not an official format and, thus, cannot have a name such as that.

(Attendees who are fed up with the format wars were facetiously calling it "M3".)

Many people are saying that there are many ways to make standard NTSC look better than it does now. Several manufacturers had new encoders that get rid of the artifacts we once thought were inherent with NTSC. Other companies claim that the artifacts can also be reduced after the encoding and are connected just before the video leaves the plant.

D2 (composite digital VTR format) was a big hit. Ampex and Sony both showed their new studio machines. The Ampex VPR-300 is the stand alone D2 machine which uses a rather hefty transport originally designed for the ACR-225 cart machine. Air bearings and a unique threading system are supposed to be gentle on the thin D2 cassette tape.

It seems like everyone has a paint system these days, including Madison's own Colorgraphics. They showed their high end DP4:2:2 paint system as well as ArtStar and Liveline 5 weather graphics.

Tektronix showed their new 1780R video measurement set: This unit has two CRT's so that two different displays can be checked at the same time. For instance, differential gain and phase

can be both be displayed while making transmitter adjustments. Many of the functions provided by the 1780 are accessed by touch screens that show up on the CRT's. Time and voltage cursors are provided to take readings. A picture display mode is provided so that the user can make sure he knows what the signal is that he is looking at. Everything is made easy with this unit, except for getting management to pay the \$9,500 price tag!

Sony showed their new BVP-50 CCD camera which shows less of the smear of earlier CCD's. NEC has a new CCD entry too. New generation CCD's promise around 700 lines of H resolution.

Although attendance was high, the exhibit floor provided a good opportunity to see the gear close up and, perhaps more importantly, talk directly to the people responsible for designing and selling it.

WHAT WE'RE PAID....

The results of this years broadcast salary survey are in. In the interest of space, only the average of all markets will be printed here along with the percentage increase or decrease over 1987.

Television median yearly salary:

- Management - \$61,500 / +.4%
- Engineering - \$34,700 / +1.2%
- Operations - \$28,900 / -6.5%

Radio median yearly salary...

- Management - \$33,000 / +3.4%
- Engineering - \$26,600 / +3.1%
- Operations - \$21,300 / +1.6%

CHANGE OF ADDRESS...The National Office has a new PO box, effective immediately!

The Society of Broadcast Engineers
PO Box 20450 Indianapolis, Indiana
46220. Phone number remains (317)
842-0836.

SBE CONVENTION REPORT....

from the Chapter 28 (Milw) Newsletter

The Third National Convention was a huge success, with about 3,300 people attending the Denver show. The exhibit space featured 340 booths! A post-convention attendee survey revealed a high degree of satisfaction with the show, with an overwhelming majority rating everything as "good" or better. Over 96% of the attendees indicated that they will be able to apply the knowledge gained at the show, and 78% said they would be back next year! We hope to see you, too at Kansas City, October 5th-9th, 1989. Next year's show will feature the official observance of the SBE's 25th Anniversary!

SOON THEY'LL THINK TOO....

NASA is developing an artificially intelligent system called the Executive Controller. The major goal is to focus research on artificial intelligence, human factors and dynamic control systems in support of total space shuttle operation. The idea is to have as many expert human logic decisions available in a computer's data base to allow it to make decisions. The idea of an Artificial Intelligence system to run space shuttle operations such as communications, tracking, life support, data processing support, guidance and navigation, power, mission ground support and more is being studied. Advanced systems are being planned that will communicate among themselves during the course of a mission.

CHANGING HANDS....

from the Chapter 28 (Milw) Newsletter

Seems like Harris Corp. is on quite an acquisition binge. In early September, Harris announced that it was acquiring Allied Broadcast of Richmond, Indiana; and now Harris has reached an agreement to purchase the GE Solid State Division... It was also announced in September that Gentner had acquired Texar, Inc., makers of audio processing equipment for AM and FM stations. Gentner will continue to manufacture and market the Texar products at Gentner's Salt Lake City facilities, with founder and former Texar President Glenn Clark acting as a consultant to the company... And in another acquisition, Jampro Antenna is now a part of TTC (Television Technology Corporation).

IN HOT WATER....

(from the Chapter 28 newsletter)

Continental Electronics was paid a visit by Federal agents recently for a search for documents in connection with an investigation on irregularities with Department of Defense procurement. Continental has been suspended from contracts with any agency in the executive branch of the federal government. Their parent, Varian Associates, is not affected by the suspension.

FINDING TRUE - "Z"

By Jerry Yacuzzi, Chapter 38

Have you ever wondered what the output of your control board really was? Even though your manual says it is 600 ohms are you SURE that is what it is? Here is a nifty way to measure the output "Z". Disconnect the wires from the output of your console and hook an AC voltmeter to the output terminals of the console. Feed a tone into the input of the console to produce a level of "1 volt" or any convenient reference. Connect a 5Kohm pot across the output. Adjust the pot to reduce

the voltage to 1/2. Remove the pot and measure its' resistance with a V-O-M. The ohmmeter reading is the actual impedance of the console.

THAT'S A NO NO....
from the Chapter 16 (Seatl) newsletter

James Earl Fike, 32 of San Diego, has been sentenced to 6 months in Jail and fined \$5000 for jamming the San Diego Police Department's operations channel. The worse part of this story is that he used re-programmed broadcast

RPU equipment to do it.

CHAPTER 24 SUSTAINING MEMBERS....

Welcome our newest sustaining members!

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and
VIDEO IMAGES
and
BROADCAST TELEVISION SYSTEMS

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Emmons Associates, Inc.
WMSN TV 47
Broadcast Communications/Jim Crooks
Ram Broadcast Systems Inc.
Allied Broadcast Equipment
WTSO AM / Z104 FM
Microtime Inc.
RW Video, Inc.
WISC TV 3
Todd Communications
3M Audio/Video
Richardson Electronics, LTD.

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