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MEDIA IN TRANSIT

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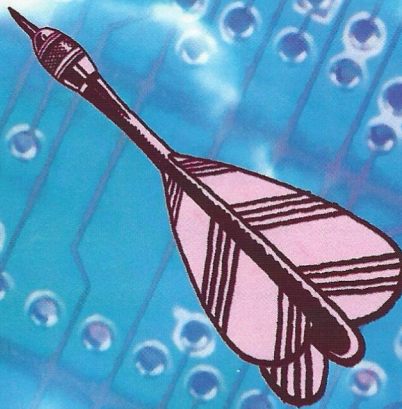
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meet the
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of the
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Age*



winter 1996

Media in Transit: Special National '96 Conference Edition

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COLLEGE BROADCASTER

the magazine of opinion and record for student electronic media

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THIS MAGAZINE IS PRINTED ON RECYCLED PAPER WITH SOY INKS 

letters

Much discussion about college radio format

The listserv has been a hotbed of activity surrounding a recent posting which asked:

Hi Everyone,

I have been lurking around for the past couple of weeks, but now I have to post. Please forgive me if I do this incorrectly. I have been reading several articles on college radio stations. But I haven't found a single thing on the "college" format. Our radio station's format is smooth jazz and vocals.

Some of the articles I've read talked a lot about alternative bands. So is it safe to assume that "college" format plays alternative music. If so what are some of the advantages and disadvantages to this type of format. Please e-mail me privately. Thanks in advance and have a nice day.

—Chris— chraclif@mars

Some noted responses of interest to stations are:

You've hit on one of my "pet" subjects, one I could go on about for days. I'll spare you the detailed spiel, and — at the risk of sounding flippant — I'll give you my thumbnail answer:

There is no such thing as (and shouldn't be) a college "format." A common misconception is that there is one thing that all college stations "should" be. Each station is in a unique situation and needs to program itself accordingly. Each station should determine the best means for the station to serve its audience, its institution, and its staff.

When I say that there is no such thing as a college format, don't assume that I am saying that all college stations should be free-form or block programmed. These approaches will be appropriate for some stations, but not for others.

When many people refer to the "college format" they are referring to some variation on the modern rock/alternative/progressive

genre. As long as you limit the discussion to generalities, these stations might all appear to be doing the same thing. However, when you talk specifics you will find these stations are really quite different. They stratify along the lines of indy vs. major label, free form vs. restricted playlists, and more.

What's most important, in my view, is to first, consider the interests of the audience, then the needs of your institution and your staff. Station programming is all too often driven primarily by the wishes of its staff. It's the "I want to do a _____ program" syndrome. Sometimes this is thinly masked by the excuse "a lot of people want to hear a _____ program," which conveniently matches the personal tastes of the speaker. Don't use your station as your personal jukebox; you don't need a transmitter if you don't intend to put your audience first.

Don't worry about what everyone else is doing; figure out what your station needs to do.

Joel R. Willer (twiller@alpha.nlu.edu)

General Manager, KNLU-FM

Most stations play alternative because that's what the record labels send them free copies of the most, and in part because the students attracted to those stations like it. It also means it's easier for stations to get concert tickets, promotional merchandise, etc., from companies if they stick to that format. But the disadvantage is that the radio market in every city is saturated with alternative and there's no way a college station is going to win a battle with a commercial station playing the same format, unless they go to an extreme niche of alternative, but then they risk alienating the campus audience they're supposed to serve.

For MUCH more discussion of this topic (and the opportunity to meet face-to-face with college stations of alternative and non-alternative program formats), come to the NACB National Conference in Providence in November.

Glenn Gutmacher

utmach@usa1.com

WWW: <http://www1.usa1.com/gutmach/>

Be sure to check the listserv for other responses and comments and to attend the National '96 seminars on music programming and formats.

Web mania

Hi folks. KSMC's new web page is up and running at:

<<http://fermat.stmarys-ca.edu/~ksmc>>

By this November, we plan to have KSMC netcasting with RealAudio via this site. Okay, I'm done gloating.

Matt Sudbury General Manager

KSMC, 89.5 fm, Saint Mary's College

NACB: If your station has a web page with items of interest for fellow broadcasters, please e-mail us your address, so we can let others know.

Contribution deadlines

When is the Spring deadline?

We are interested in sending an article and some pictures of a promotion we had at the Rock, 550KULV.

Shane, R/tv assistant

550KULV, University of La Verne

NACB: College Broadcaster loves submissions by students and faculty. This is the Magazine of Opinion and Record for the Student Electronic Media. We welcome input from members and stations about the issues that affect them. Contact NACB for an editorial calendar and issue close dates. If you have an article of interest, mail or e-mail (nacb@brown.edu) your article (preferably on disk).

NACB/College Broadcaster

71 George St.

Providence, RI 02912-1824

CD theft revisited

Hello from Hawkeye-land. I wanted to talk a little about how my radio station combats the common problem of CD theft.

When this subject has come up in the past, I have heard everything from "go with a different delivery system" to "don't hire people who will steal things". These ideas may be impractical, so I might suggest implementing a system similar to the one that we use at KRUI.

The essence of this system is what we call the "discrepancy log". Every incoming jock is required to check through each of the CDs in our music rotation and note any missing CDs in the log. We have over 1,100 CDs in rotation. Each CD is color-coded and numbered in a manner that makes it very easy to check. A jock can usually examine the entire music rotation in several minutes. Upon completion of the CD check, the jock must then sign the log along with the outgoing jock.

from the DISC of the editor

This issue of *College Broadcaster* is a special concise edition which focuses on the Pursuit of Excellence using emerging technologies and the National '96 to help student electronic media outlets attain their goals. As an organization, NACB strives to help our members, stations, and departments, address common concerns and operational problems in order to allow them to focus on more creative endeavors. The pages of this magazine, the Station Handbook, the National and regional conferences, the Station Support Network... all are a means to make sure the wheel isn't constantly being reinvented with the start of a new academic year or a turnover in station management. We're here to assist your daily station operations, as well as your individual and station's growth and development.

Whether your station needs engineering assistance, legal advice, or fresh programming ideas and news about the latest equipment to deliver sharper, technologically driven, content — consider us a resource. NACB's student radio and television stations, faculty members, students and professionals form a membership network and are all vital towards helping your station increase awareness of its achievements and can help you and your station to meet the challenges of the digital age. Within the pages of this issue you'll find information on: digital production tools which student radio and TV stations can incorporate into their budgets and/or keep abreast of when making the transition to the professional marketplace; new and proven promotions ideas to involve your station in creative community activities; and how Media In Transit can get you on track for the road to success at the National Conference.

It's no coincidence that the Pursuit of Excellence edition of *College Broadcaster* is distributed at the 1996 National Conference. With this issue in hand, attendees at the National are able to rise to the many excellent and informative opportunities presented at the seminars, Media Workshop and Awards Ceremony. If you're attending the National, be sure to speak to other member stations about their programs and policies, ask speakers questions and collect business cards from professionals, talk with exhibitors and test out their equipment and services. The people you meet and keep in contact with after the conference closes will become valuable allies in you and your station's pursuit to attain the highest quality standards. If some members of your station are unable to attend the National, share the information and experiences you've gained with them. Bring them back seminar handouts and exhibitor materials and encourage them to personally experience the excitement and exchange next year. Both Kristine Hendrickson and I look forward to seeing you at the National and towards hearing how you and your station have aspired to excellence during the course of the year!

Kelley Cunningham

If a CD is missing, our Music Director checks back through the logs and pinpoints exactly when the CD disappeared.

Most importantly it's imperative to instill a sense of trust and responsibility to the staff: that they are part of the equation of station integrity and they are being fully depended on and trusted. High moral and esprit de corps greatly impacts the fashion in which staffers treat station equipment.

Our system is reinforced by several other station policies, including a sign-in sheet for any in-studio guests.

By using this system, CD theft at KRUI has been virtually eliminated. Through its successful implementation, an atmosphere is created within the organization where theft is not tolerated. There may be a "bad apple" that comes along periodically, but with the use of "discrepancy logs" your station's management team has the ability to pinpoint the problem and save your music rotation!

*Andy Roethler, General Manager
KRUI, U. of Iowa*

NACB: Good advice for a different approach to the problem — look at the root of the problem: staff members who don't care about the station are inclined to steal. Making staff members more a part of the station and improving morale, in addition to a logging system, in the long term have the best potential.

Write to us! *College Broadcaster* welcomes your comments and criticisms, about the magazine, NACB projects, or anything else on your mind! Send them to:
Feedback, NACB, 71 George St.
Providence, RI 02912-1824

station news

WKPS feeds to MSNBC

In September at the Penn State U. campus one person was killed and two others were wounded in a shooting/stabbing on the student union lawn. The news went national, and PSU's college station WKPS covered the story for MSNBC.

EAS updates courtesy of WEOS

Here is some insight from the New York State Emergency Communications Committee newsletter.

First, the January 1 date will not be extended. That is the deadline for all broadcast stations. Cable operators get 6 more months. As of today (10/20/96), there are only 4 manufacturers that have FCC type accepted units for sale. I will post their numbers below. The prices range from \$1250 - \$2500, and no two are alike, but they all comply with FCC minimums. Your state may actually require more. In addition, should you want to automate your EAS, the \$1250 unit may not be as easy to do it, as the \$2500 unit. So, it is good to consider what unit to buy that will fit your operation.

A note to 10 watt FM stations: The FCC requires an EAS Decode only for Class D FM stations. However, no manufacturer has provided a decoder only. And none are in the pipeline at this point. Therefore, you have to buy one of the FCC type approved systems.

With the end of the Semester or terms approaching in November and December, don't wait too long. You may be out of compliance. In addition, check with your state's SECC. The FCC has two (2) mandated monitoring assignments. Most states and the FCC are recommending two (2) more inputs sources.

The current EBS gear you now have, has to be maintained until January 1, 1998. So, you can not just boat anchor the old EBS units. You have to maintain this system until the end of 1997.

Handy information:

EAS Manufacturers as of 10/20/96

TFT 800-347-3383

SAGE 800-622-0022

(note: this is Harris Allied's phone #)

Gorman-Redlich 800-547-2346

Holly Anne 888-432-7463

There are some additional manufacturers awaiting FCC approval. One is Burk. Other phone #'s that may be useful for questions:

Frank Lucia, Director EAS, FCC Washington
202-418-1220

David Sturdivant, EAS, FCC Washington
202-418-1224

Society of Broadcast Engineers
317-253-1640 (EAS Primer \$25)

National Association of Broadcasters
800-368-5644 (EBS-EAS \$39.95)

Please note: This is not an endorsement of ANY equipment, dealer, or other items related to EAS in this message. It is provided for information only.

Michael Black, WEOS-FM, Geneva, NY
Black@hws.edu

New station salute!

NACB is pleased to welcome the following stations to our membership. We look forward to working with them and encourage other members to share their ideas with them in *College Broadcaster*, on the listserv, and at the National and regional Conferences.

BEC-TV, Bloomington Schools,
Bloomington, MN

WFMQ-FM, Cumberland U., Lebanon, TN

WYMM-FM, Messiah College,
Granham, PA

WCMU & Channel 58, Millersville U. of
PA, Millersville, PA

WLOZ-FMca, U. of N. Carolina at Wilm-
ington, Wilmington, NC

WVAW-AMcc, Virginia Wesleyan College,
Norfolk, VA

UNI-TV, U. Northern Iowa, Cedar Falls, IA

SCCC-TV/Channel 44, Sussex County
Cmty. College, Newton, NJ

A D V E R T I S E R I N D E X

Autogram	08	214.424.8585
BEA Writing Division	19	—
BSW	18	800.426.8434
CCL Cruise Lines	19	—
CNN Newsource	IBC	619.239.8462
Computer Prompting Corp.	19	301.738.8487
Far Point Productions	17	800.257.6154
Seth Kean + Associates	19	800.301.9527
KNIN-FM	19	—
Leightronix	19	517.694.5589
LPB	IFC	610.644.1123
Museum of Broadcast Communications	19	312.629.6001
Radio Systems, Inc.	BC	800.523.2133
Radio Works	12	—
SONY	10	800.635.SONY
Tara Cruise Lines	06	800.276.0818

Please feel free to contact *College Broadcaster's* advertisers directly to learn more about their products and services.

For advertising information, call Kelley Cunningham at 401.863.2225, fax 2221 or e-mail nacb@aol.com.

industry news

FCC on-line

The Mass Media Bureau of the FCC went on line this year and can be accessed at www.fcc.gov/mmb.htm. The site includes a database of technical information and other useful bits regarding station operations and regulations.

Industry mourns Winston H. Cox

The CEO of Cybersmith, a chain of computer-equipped cafe's, and former chairman of Showtime Networks died in Manhattan on September 21, 1996. Winston H. (Tony) Cox, was an advocate for women and minorities in cable and an opponent of gra-

tuitous violence on television. He began his career at Time Inc. in 1965 while earning his MBA from Harvard. He joined HBO in 1976, becoming the network's executive vice president of operations and president of the HBO Network Group in 1982. He joined Showtime in 1987. Cox was most known for securing the rights to televise the Mike Tyson heavyweight championship fights. While working to secure those rights, he also worked to reduce violence on television by helping launch the cable industry's Voices Against Violence campaign. Winston Cox's career spanned a lifetime of dedication towards improving the industry and making it a more accessible arena for future participants.

Gannett's loss is MSNBC's gain

Gannett recently announced that it will pull the plug on its NewsTalk Television by the end of the year. Launched in 1988 as the Talk Channel, NewsTalk has been a victim of poor ratings, and a small subscriber base. Some NewsTalk subscribers will be picked up by NBC-owned MSNBC which has entered into agreement with MSO Multimedia Cablevision to move its 400,000 NewsTalk sub-

scribers to MSNBC. NBC will reportedly pay Gannett for a limited time a percentage of the subscriber fees it earns from MSNBC on Multimedia Cablevision. NBC officials report that they are talking to other MSOs carrying NewsTalk about arranging similar deals.

Children's programming expansion

More networks are getting involved in the expanding marketplace of children's programming. CBS recently announced a deal with Children's Television Workshop to create programming for the network's Saturday morning line-up. Although CBS already has two hours of educational programming, they are looking to Children's Television Workshop for three half-hour series, with the hopes of securing one for the Fall of 1997. Also, Fox is gearing up for the Nov. 1st launch of its 24-hour children's channel in Latin America. The channel will be transmitted in Spanish, Portuguese, and English and will target 19 countries throughout the region.

Sources: FCC publications, Broadcasting & Cable, and Electronic Media.

C O N F E R E N C E S + E V E N T S

november

- 15 Community Radio Program Awards deadline, National Federation of Community Broadcasters. 415.771.1160
- 18-22 Comdex, Las Vegas, NV. 617.449.6600
- 21-24 Southern Public audio Fall Workshops & Conference, Nashville, TN. 205.934.2606

december

- 6-8 AEJMC 1996 Winter Meeting, Atlanta, GA 803.777.2005

january

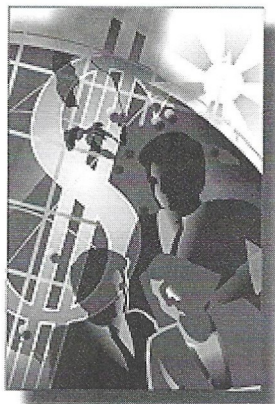
- 13-16 Annual National Association of Television Program Executives (NATPE) Conference, New Orleans. 310.453.5258

february

- 21-23 NACB Mid-Atlantic Regional Conference, Geneseo, NY. 401.863.2225

april

- 3-5 NACB Southwestern Regional Conference, Austin, TX. 401.863.2225



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Save \$25.00 if you reserve your cabin before September 30, 1996

Day	Port	Arrive	Depart
Thursday	Port Canaveral, Florida		4:30 p.m.
Friday	Nassau, Bahamas	10:00 a.m.	
Saturday	Depart Nassau for "Fun Day at Sea"		7:00 a.m.
Sunday	Port Canaveral, Florida	7:00 a.m.	



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#4481Q2 (March 16).

HO



07/11/96

Everything moves.

The earth as it orbits the sun, people as they live their lives, and time as it passes from one era to another. The world of media is also moving. Its realm is being affected not only by changes in technology, but also through the continuous flow of students from the academic to professional levels.

NACB recognizes that student radio and television operations provide training for some of the most creative minds in the industry. We want those who share in our operation, to discover how far their creativity can take them.

"Media In Transit", the theme for the National '96 is designed around the fluid nature of both the student world, and the world of the communications industry.

The student who enters the studio after leaving home for the first time faces as large a transition as the graduate entering the "real world". The National offers a chance for students and station members to gain knowledge which will help them get from one point to another faster. Seminars focused on various aspects of production, programming, promotions or management assist students in their quest to improve the operations of their station in addition to their own skills.

The National '96 also offers Faculty Forums which put advisors in touch with their peers and professional counterparts. Sessions such as "Using the Internet as a Learning/Teaching Tool" and "Building Bridges to the Outside World" incorporate resources extending beyond the campus for the purpose of enhanced training and development.

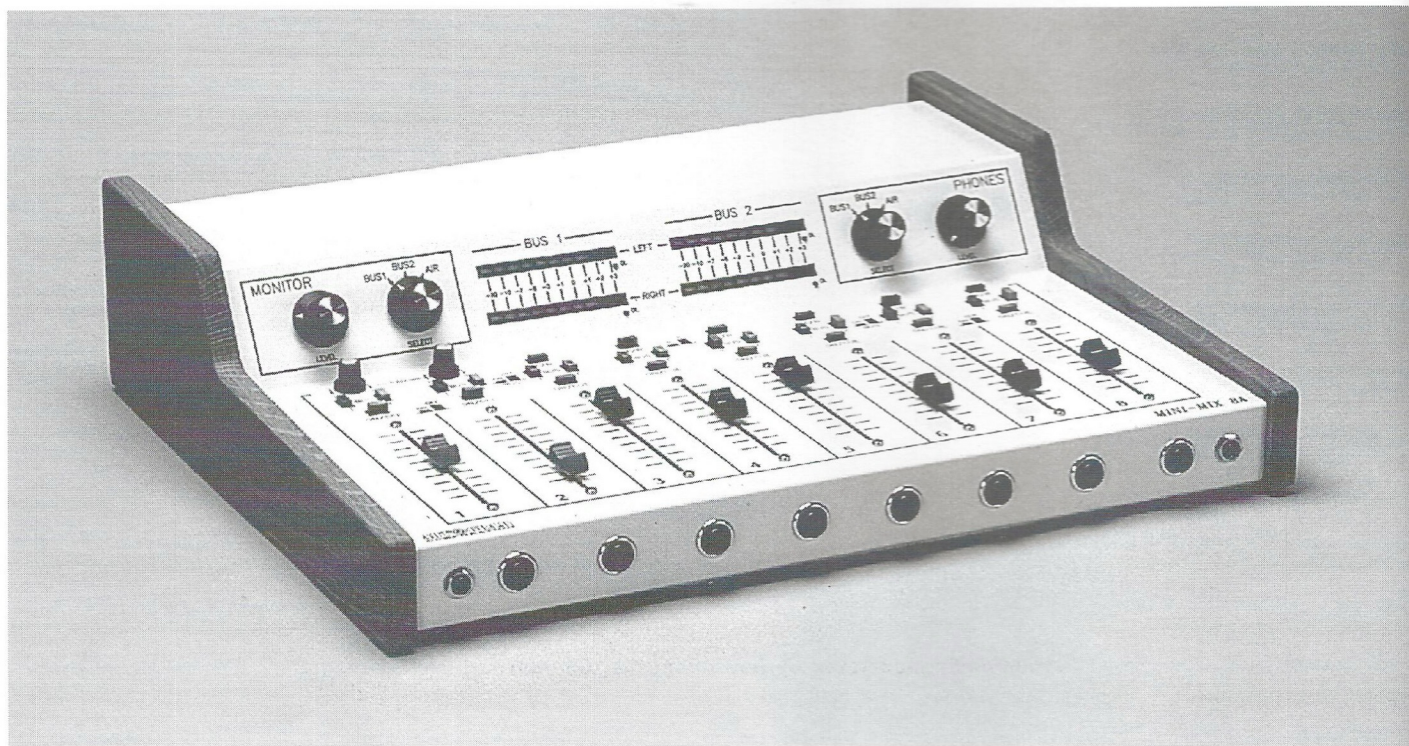
The Media Workshop plays a primary role in putting conference attendees in touch with the latest innovations and technical resources. More than a trade show, the Media Workshop provides demonstrations which utilize a hands on format. Attendees are able to interact on a more personal basis with exhibitors, and can gain insight which will prove useful when dealing with station upgrades and equipment, or when seeking additional areas for internship or career opportunities.

MEDIA IN TRANSIT

Emphasizing creativity and learning in the face of new technology, Media In Transit has something for everyone. Whether attending the National '96 in person or in spirit, we encourage you to keep your ideas flowing. Use the listservs, contribute to *College Broadcaster*, and improve your regional involvement with other stations near you. The strength of student electronic media lies in its ability to produce the future of media. We support your efforts.

Are you using a recording console in your on-air studio?

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at last, some



PROMOTIONAL IDEAS

for your station to try!

The National Association of Broadcasters Show (NAB) in Los Angeles provides radio and TV broadcasters prime educational and networking opportunities. One seminar which emphasized how broadcasters can learn from each other was "Promotions! Promotions! Promotions!" moderated by Bob Duchesne, General Manager, WQCB-F/Brewer, ME, and Jay Mitchell, President, Jay Mitchell Associates. Student broadcasters can easily customize these relatively affordable ways to gain awareness of their station and its programming. While the seminar was designed for radio promotions, student TV outlets can conduct some of these same promotional events — even as segments for a comedy variety show.

Unique ways for ticket giveaways

- 1 Play on the band's name: For example, for Pearl Jam concert tickets, audience members at a club were asked to dive into lots of jam and pull out a pearl.
- 2 Have audience members answer "What would you do for these tickets?" Have the most creative (legal) answer perform the stunt.

Getting the most out of a concert

- 1 Hand out bumper stickers after the show.
- 2 Conduct a poster contest (individuals create an interesting banner/poster with your station call letters) outside of the concert venue for free tickets.
- 3 Pass out fans with station call letters at an outdoor show.
- 4 Have audience members sing for concert tickets at the station remote.

- 5 Worst seats in the house: One lucky winner and a guest get the worst seats in the concert venue, are treated to a ride in a beat up car to the show, and get a great dinner at a local fast food joint.

- 6 Best seats in the house: Decorated seats are placed in the venue where the winner and guest get to sit for the concert and then get to take their seats home.

Street stunts

- 1 Carve pumpkins with a chainsaw or conduct pumpkin bowling for Halloween.
- 2 Giveaway free (or for the station's tuning) gasoline before a holiday weekend.

Public service fundraising

- 1 Have Community Collection: Rent or borrow a pickup truck and drive through neighborhoods in area and collect pennies and change until the truck is full.

- 2 Broadcast from a dumpster/booth on a golf driving range. Audience members buy golf balls for charity. Prizes go to individuals who hit a target — like the dumpster or booth.
- 3 In colder climates, try an egg ride. A station DJ rides a snowmobile with an egg in his/her snowsuit. For each pledge of a set amount, the DJ has to ride another mile with another egg. (The ride itself can be tied to a local winter sporting event to encourage people to watch the ride.)

Remotes

- 1 Broadcast live from voter's registration areas.
- 2 Broadcast live from an imaginary place using sound effects.
- 3 Dress up a remote with nerf darts or helium balloons.
- 4 Shoot snowballs into a garbage can with a Thighmaster.
- 5 Have a bicycle (or tricycle) Olympics.

Before you say "There's no way my station can afford to do these promotions", remember most professional stations can't really afford to do them either. Instead they work out trade arrangements (or barter) for the concert venues or with the prize providers in either promotional announcements, underwriting announcements, ad space on bumper stickers or program guides, etc. No money need exchange hands!

One often noted benefit of more creative and kooky promotions is the press coverage that radio stations can receive from television and print media. So don't forget to send press releases to campus and local media when planning a promotion for your station.

There are certainly a number of ways in which stations can promote themselves while working within their budgets. If your station has conducted and unusual and effective promotion which you'd like to share with other members be sure to post your ideas to the listserv or e-mail the NACB office. Station managers, DJ's, etc., can then brainstorm ideas that will not only benefit the station's awareness on campus and in the community, but can also provide practical experience for pursuing excellence in future careers.

Kelley Cunningham

OUR FAMILY OF S-VHS EDITING THAT CAN MAKE ANY (NOT THAT YOU'LL



Some video projects are

thrilling from the moment you roll tape, while others could use a little help in post. Which is why Sony offers an entire family of S-VHS editing systems sure to make any video sensational.

For starters, our SVO-5800 and SVP-5600 editing decks have the sophisticated features required for

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For the ultimate S-VHS editing system, our FXE-100 is the perfect match for truly stunning

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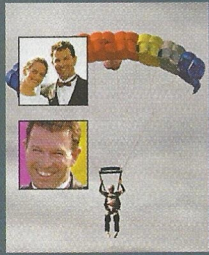
The FXE-100 is an integrated editor/switcher/audio mixer/digital effects device. With 99 edit memory and an RS-232C port for importing/exporting your edit deci-



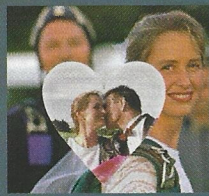
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husband and



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digital delivery systems

One aspect of the digital buzz is the digital delivery system. The NAB cart has long been the analog standard for spot delivery and automation. There are numerous stations that still use carts for music, promos, and spots. And why not: they work and they usually sound okay. But the machines need constant upkeep and cleaning.

Let's examine some of the digital solutions for delivery. Several systems are becoming more commonplace and affordable while the sound quality is superior to the cart system. No more cringing when you hear a cart misplay on the air.

There are two main kinds of digital systems for cart replacement. The first is still dependent on a removable media system (like minidiscs and digicart). The second is a hard disk based delivery system.

Cost consideration is a huge factor because when you decide to switch to a new standard. You have to make sure the technology can be added or retrofitted to your studios and that your staff members will be able to effectively use it. Suffice it to say it's not hard to get people psyched about ditching the cart system.

Cart replacement

The minidisc format currently has a stranglehold on this area. Sony, Denon, and Tascam offer several models that allow you to record 74 minutes of audio cuts on a single disc. Production can be recorded on minidisc and be played back in the airstudio. A complete minidisc system costs in the \$6-7K range for a recorder unit and a playback unit.

The Minidiscs are very durable and have a high storage capacity because unlike compact discs, the audio is compressed when recorded. This can sometimes result in a loss in sound quality.

It comes as no surprise that minidiscs are much easier to handle than carts as well as being much easier to listen to.

Several stations are using the minidisc as a CD replacement system and the principle on-air music delivery system. This is most often as a theft deterrent vehicle or a way to control which album tracks are played on the air.

Hard disk based digital

Hard disk based digital delivery systems are a very popular delivery solution. All you have to do is punch a few buttons and pull up the sound file to be played. Fundamentally, the computer system holds all the sound files and in the studio there is an interface to cue up your selection and play it over the air.

The coolest thing about hard disk based digital delivery systems is that you never have to physically handle the media. In some ways it's much easier to keep track of files. There are several systems that are comparable in price with the minidisc configurations.

Digilink

The Digilink system is a fully functioned on-air delivery and automation package. It's a multipurpose digital audio workstation for satellite, CD and hard disk automation as well as on-air assist applications and audio production. The DigiLink III also functions as an on-air playback/scheduling device and a production recorder/editor simultaneously. The DL3-600 is a workstation with 10 hours of stereo audio storage and runs around \$8K.

360 Systems

360 Systems offers several solutions including the DigiCart/II and Instant Replay. The DigiCart/II allows you instant access to up to 10,000 cuts with a few keystrokes. In addition to record and play features, it provides several non-destructive fade and gain features. The unit stores up to 16 hours of stereo audio on hard disk and the base cost is \$4,200.

The DigiCart/II has several expansion and network options as it can be interfaced and controlled from a windows/PC machine. There are several attachment modules that can be used for remote access to the DigiCart server.

The Instant Replay is a smaller more portable unit that serves as a hard disk based recorder/ player. Holding up to 1000 cuts that are instantly accessible. You also have the option of cueing up tracks while it's already in operation. Priced just under \$3K, the Instant Replay is popular because it's small and relatively easy to use. It's a very basic and dependable delivery system.

Macintosh

The Power Macintosh platform is very effective as a digital delivery system and works well with PowerMacs already being used as a digital audio workstation. PowerMac systems under \$2K can be used as an editor as well as a delivery device. Also, two Macs can be networked to allow easy data transfer once cuts have been produced by another computer.

Playback over the air is very dependable and

CONTINUED ON PAGE 13



The Radio Works
invites you and your
listeners to enjoy our
1996 - 1997 season

Provided free to stations on digitally mastered cassettes, this 26 part half hour series features the best of independently produced audio theater. Now in its sixth season *The Radio Works* features programs from a wide variety of producers from around the country.

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Station Call Letters: _____

Contact Name: _____

Address: _____

Phone: _____

legal

A local cigarette and cigar shop wants us to broadcast underwriting announcements which include a brief description of their inventory, such as "The City Smoker offers domestic and imported cigarettes, cigars, bulk tobacco and chewing tobacco." Is the store's description OK to broadcast?

No, it is not. Every broadcaster (commercial and non commercial) must be particularly careful when broadcasting announcements about tobacco products. You cannot mention "cigarettes" or "little cigars", but you may mention regular cigars and bulk tobacco. You should also remember to follow the general rules about underwriting announcements: keep the text short and simple, do not mention prices, identify but do not promote, use value neutral language, and do not use any words that encourage action.

We operate an FCC-licensed college FM station. Many Friday afternoons we host a pizza and beer lunch for our staff and volunteers. Someone told us that if the FCC discovered there was alcohol consumption on the radio station premises during broadcast hours, we could be fined or lose our FCC license. Is this true?

testDrive CONTINUED FROM PAGE 12

the Macintosh interface is familiar and easy to work with. PowerMacs can also be hooked up to remote start with an airstudio console.

Cart ready

Produced by WireReady, CartReady is cart replacement software that lets you record, playback, and manage up to 5000 different audio files on your WindowsPC machine for playback over the air. This is a software based option, and requires a fully functional PC system.

Philip Palombo

Although your school administration might have an on-campus "no alcohol" rule, there is no such FCC rule. Many state broadcast associations recommend the prohibition of alcohol consumption, but the FCC remains silent on the topic.

A "no-drinking" rule for on-air personalities is certainly prudent. Should an intoxicated person present obscene, indecent or egregiously controversial programming, you are likely to have the FCC and local public interest groups knocking on your studio doors. Remember: you may adopt any reasonable standard operating procedure that is designed to maintain the integrity of your broadcast operations.

Our station's underwriting staff is very successful and is comprised of more than a dozen people. More than half of our operating budget is funded from our underwriting efforts. Recently a disgruntled volunteer left our station and became a volunteer at a nearby rival college radio station. We later learned that this person took our list of underwriters and tried to steal them away from us for the station he now works at. Is there anything we can do about this?

In almost all jurisdictions throughout the US, the law treats your account lists as protected "trade secrets", thereby preventing ex-employees or ex-volunteers from subsequently using such lists. Generally, an employee is under an obligation both during and after the termination of his employment not to divulge any "trade secrets" of his previous employer, including customer, sponsorship and account lists.

Although college broadcast stations try to operate as informally as possible, in your case it might be wise to require each underwriting employee and volunteer to sign a "letter of confidentiality" requiring them not to divulge their work-product once their employment or volunteer term is over. From a pure legal standpoint, even in the absence of a contract or confidentiality letter, terminated employees or volunteers cannot blatantly use your station's account lists. If anyone walks off the job with a printed list or computer disk that contains account information, they are stealing your trade secrets, which is punishable by law. However, once someone leaves your employ, they may contact any advertiser or sponsor that they have committed to memory. Therefore, you should establish ongoing steps to prevent the circulation of your

station's account lists, or the duplication of them on computer disks.

A cellular telephone company has approached our school about leasing space on our FM tower for several kinds of wireless communications systems. Since we are a non commercial broadcast station, would the FCC prohibit us from leasing space on our tower since such revenue may be considered "for profit"?

The FCC rules do not prohibit a non commercial broadcast station from undertaking such activities. The FCC's rules and regulations essentially relate to on-air activities. In 1981, Congress passed the Public Broadcasting Amendments Act, which empowers non commercial broadcasters the authority to use their facilities for money making purposes so long as such activities do not interfere with the station's regular broadcast responsibilities. This legislation is codified in Section 399B of the Communications Act. Therefore, from an FCC standpoint, you may rent space on your tower for-profit if this does not interfere with the regular broadcast operations of your station.

Due to budget cuts, our school's radio station has been off-air since January 1996. Will the FCC rescind our license if we do not resume broadcasting?

Yes. There are two general rules that apply. First, the new 1996 Telecommunications Act requires the FCC to rescind the license of any broadcast station that is off-air for one year. There are no exceptions. This new rule became effective February 7, 1996. If your station does not resume broadcasting by February 7, 1997, the FCC license will automatically be rescinded. Also, if your station is off-air and subject to license renewal, the FCC will not grant the renewal until the station resumes broadcasting (even if the station has been off-air for less than one year).

Cary Tepper is a partner with the firm of Booth, Freret, Imlay & Tepper in Washington, DC

As NACB's legal counsel, Mr. Tepper will respond in this column to selected questions submitted to him in writing to: NACB Legal Column, 71 George St., Providence, RI 02912-1824. Even questions we cannot print in the column will be answered. If you think that you may need to contract the services of a communications attorney, Mr. Tepper can be reached at 202.296.9100.

At first it was simple: for radio, a voice-over onto the reel-to-reel deck and edited if needed. Then you mixed in one or two sources from a record or CD dumped on a cart. If it didn't work, you bulked the cart, and did over until it was right.

For video production, you shot your footage on to video tape, and you edited it down to another machine.

Fundamentally, you had a message to convey and the analog production tools at hand were the best way to produce spots or promos for the station.

But then came the computer and the digital buzz. Sounds were being sampled and mixed with completely new and different means. You could then record a plethora of sources and arrange them exactly how you wanted them to playback with little or no loss in the sound quality. The same for video, powerful computers were being used to digitize images onto a hard drive, and you could arrange these images and audio with a great variety of effects.

The digital process allows you to work with sound more precisely, and grants you more creative freedom and efficiency in producing spots. It's important to remember however that it's not only the computer that directly makes your production better. It will always be the talent, not the tools, that get the job done.

Solutions for radio:

The first major hurdle of incorporating this technology in student radio stations is money. But this probably comes as no surprise. The questions the college station manager must ask themselves is: "how can I get a decent system that allows us to do the most things for a modest amount of money?"

The fact is that a single digital audio workstation can be incorporated into any studio

TOOLS IN TRANSIT:

fig. 1

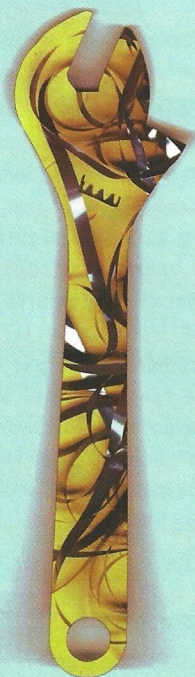


fig. 2



new technologies for INNOVATIVE production

for well under \$2,500. And in a single stroke, it will render the reel and the cart obsolete and leave you with a system similar to setups at most commercial stations.

The software based solution is the least expensive and provides you with incredible editing capabilities. Larger systems allow you better analog to digital conversion, more processing options, balanced audio line-in and line-out, digital I/O, but the cost is considerably higher.

The Macintosh platform appears to be the most dominant force in conversion to a digital audio workstation because of its ease of use and popular sound editing software. A PowerMac can be used as a DAW right out of the box because of the built-in 16-bit architecture, while PCs need a sound cart.

Most of the audio editing software packages have the same basic features. They allow you to sample sounds in mono or stereo and allow you to edit and arrange them on multiple tracks. Some packages allow for extensive sound effects and you can also pan, fade, and automate tracks. All recording is done directly to hard disk or removable media drives.

Programs contain these basic elements: The mixer window allows you to adjust volume levels and left-to-right panning. The tracks window provides a time-based view of the recording. You can select portions of tracks to move, delete, copy, or paste. The tracks window also shows the sound waveform and automation data. The transport window gives you the familiar play, stop, pause, and

CONTINUED ON PAGE 16

The digital technology revolution has more to offer your station than just production and delivery. It can provide the basis for the cleanest, best sounding radio broadcast available anywhere. It impacts the how the radio signal is processed and generated, and how well your station is heard by your listeners.

BASIC ANATOMY of a DIGITAL BROADCAST

Digital production impacts how audio is produced before it hits the air studio console. But digital technology vastly affects what happens once the audio is on its way to the transmitter. Analog systems typically dominate this realm of the broadcast chain and these components degrade over time and eventually don't sound as good as the day they were purchased.

The broadcast chain from the air studio to the antenna is easy to understand: once audio leaves your air studio, it goes to the audio processor which enhances the audio. The enhanced audio then travels (sometimes quite a long distance) into the exciter. The exciter takes all the stereo audio information and creates the FM signal. This signal is then sent to the transmitter which packs a lot of power behind it, and then to the antenna which sends it out.

The digital broadcasting revolution began the summer of 1991 when Iowa City's

KRNA was selected as the beta test sight for Harris Broadcast's new digital FM broadcasting technology.

Harris developed the Digit FM Exciter which constructed the stereo FM carrier signal from a digital input. Because all of this takes place completely in the digital realm, it provides for the cleanest sounding audio available. Coupled with digital audio processing (such as Orban's Optimod 2200 or 8200, CRL's DP100 or Cutting Edge's Unity 2000I) for a streamlined and powerful digital air-chain backbone. Essentially, the components are incredible computers with outstanding digital signal processing circuits.

According to Harris Broadcast engineer Richard Fry, the exciter acts as a computer where the digital signal processor processes all the audio. This is known as Direct Digital Synthesis of the modulated FM carrier from a digital input using a 32-bit processor. The stereo separation is the cleanest possible,

and the FM signal generated is stable and not subject to mechanical interference since all of this takes place in the digital realm.

Going one step further, a digital mixing console could allow for seamless, non-deteriorating 16-bit digital audio from CD player to the transmitter. There are only a few digital on-air consoles available currently, and they are rather expensive.

Nick Schaub, Operations Director at KRUI FM in Iowa City and a junior at the University of Iowa, describes his station's experience with developing a digital backbone.

"The revolution began in the minds of previous student management some two years ago. The plan known as 'KRUI 2000' was originally conceived to ensure 'KRUI had the facilities, foundation, and support to make it well into the next century'. The crux of this plan was the design and implementation of an all-digital broadcast chain.

EXPLORING THE POSSIBILITIES OF GOING DIGITAL IS A VERY WORTHWHILE ENDEAVOR FOR AN INSTITUTION. ANALOG BROADCAST COMPONENTS WERE NOT BUILT TO LAST FOREVER...

In 1995, KRUI student management found an unexpected opportunity with depreciation funds to set 'KRUI 2000' into motion. However, the University scheduled the station to move to a renovated house in the fall of 1995. The move provided the necessary down time to plan for new equipment as well as bury a digital studio/ transmitter link, or STL. The STL is a digital link that spans the 250 meter bridge between the Optimod 8200 digital audio processor at the studio side and the Harris Digit FM Exciter located at the transmitter site. The combination creates a cleaner, clearer, and louder FM signal for an unsuspecting Iowa City listening audience. With the digital equipment, all sound processing, stereo generation, and FM signal generation are done in the digital domain. An official station memo dated September 5, 1995, announced KRUI's first all-digital broadcast. At that moment KRUI became the nation's first digital college radio station.

Thanks to digital technology, KRUI will be a rock-solid educational facility and provide a tighter, crisper, and better sound package for the listener. The kernel of this digital

CONTINUED ON PAGE 18

record controls. Many editors also have a QuickTime movie window which allows you to view a movie and record its sound.

Macromedia's sound package SoundEdit 16 (\$379, 415.252.2000) allows you some pretty basic functions at a decent cost. SoundEdit 16's interface is designed around a waveform/track window, where you can choose a portion of a sound and delete, copy, or alter it. It provides a basic mixing function that lets you mix tracks. Disk space and memory allowing, you can create as many tracks as you need. However, the mixing and recording features can be awkward.

DigiTrax 1.2 (\$199.95) was designed for multitrack recording. Distributed by Opcode Systems, DigiTrax is the least-expensive program with multitracking capability. DigiTrax can record, mix, and play up to six tracks on a Power Mac or AV Quadra. If you fill all six tracks, you can mix down multiple tracks to a single track, or a pair of tracks for stereo. DigiTrax also has automated mix-down capabilities. The automation is pretty effective: faders and pan control positions can be recorded during playback and then be repeated. DigiTrax can sync to a SMPTE time code or MIDI sequence as well.

Pulling top honors has to be Macromedia's Deck II 2.5. One of the most popular editing tools for Macintosh, Deck II is software-based multitrack recording studio. DECK II allows you to record and edit up to 32 16-bit digital audio tracks on a PowerMac. Deck II also supports the Audiomedia II card or Sound Tools II system. It's simply a well designed program for radio work.

Multitrack visual waveform editing enables you to maintain as many tracks as you need, then make edits and changes to a file without ever altering the source material. DECK II allows you to cut within regions or objects with a single move, and allows for sample-accurate cut-and-paste arranging. Supports high-resolution 24-bit moving fader automation and easy arrow-key nudging of break points or automation regions. Features visual drawing and editing plus cut, drag, and paste of automation envelopes, automation-follows-region editing, and Quicktime support. Deck II also comes with an impressive selection of non-destructive editing tools. You can create fades and cross-fades without altering the original audio files. You can bounce several tracks to a single track while retaining the originals, allowing you to remix them in the future.

A recent entry to software based editing solutions is Digidesign's ProTools DAE Powermix (\$499) which requires a PowerMac and allows for up to 24 tracks of audio. The DAE Powermix resembles the ProTools software that comes with the ProTools system. It is also compatible with any of Digidesign's ProTools and Audiomedia hardware for upgrades.

In DAE Powermix, the mix and edit windows allow you to see and manipulate your audio, MIDI, and automation data simultaneously. ProTools has one-button recording, random-access transport with 100 auto-locate points for zoom or location, instant waveform overviews, and pre-and post-roll times set with a single mouse click. Each track can be split across up to 64 virtual tracks, for flexibility in audio management. Tracks may be edited individually, in stereo pairs or groups, you can also edit MIDI data simultaneously with audio. Drag and drop Regions onto any track, in any location, in one step and undo edits instantly. The DAE Powermix is an extremely full functioned software based digital audio workstation.

THE DIGITAL PROCESS ALLOWS YOU TO WORK WITH SOUND MORE PRECISELY, AND GRANTS YOU MORE CREATIVE FREEDOM AND EFFICIENCY IN PRODUCING SPOTS. IT'S IMPORTANT TO REMEMBER HOWEVER THAT IT'S NOT ONLY THE COMPUTER THAT DIRECTLY MAKES YOUR PRODUCTION BETTER. IT WILL ALWAYS BE THE TALENT, NOT THE TOOLS, THAT GET THE JOB DONE.

Briefly moving over to hardware/software based options, the Audiomedia II card from Digidesign (\$1295, 415/688-0600) provides you with digital I/O and better D/A and A/D circuitry. Sound Designer II version 2.8 is bundled and is a very powerful recording and editing program with a strong interface. With Sound Designer II, you can cut, copy, paste, and clear portions of a recording. It also has a pencil tool that lets you draw waveforms, thus changing the recorded sound (useful for restoring old recordings). Sound Designer II also supports plug-in modules that add EQ, a compressor/limiter, and noise reduction.

On the Windows/PC side of things Innovative Quality Software offers SAW and SAW Plus (\$599 and \$999). SAW Plus is a digital

audio workstation software package that provides up to sixteen mono or stereo tracks of simultaneous, live playback on any Windows machine with a 16bit sound card (such as Digital Audio Labs CardDPlus \$795). SAW supports multiple cart outputs and includes built-in graphic EQ, audio gate/compressor, echo effects, and auto pan.

SAW provides for hard disk editing and multi-track mixing and provides a Windows machine with simultaneous playback of up to 4 mono or stereo tracks (8 tracks max). SAW also supports multiple sound cards. Features include volume adjust, pan, mute, and solos during playback. SAW Plus is an improvement of SAW and increases the number of playback tracks up to 16 mono OR stereo tracks (32 tracks max).

Digital Audio Labs, who make various sound cards for the PC, offers the lower cost FastEddie and EdDitorPlus software for sound editing. FastEddie is a non-destructive waveform editor that offers the basic editing functions in addition to custom fades and cross fades, variable speed playback, and gain adjustment. The EdDitorPlus is an improvement over FastEddie that allows for simultaneous record, play and punch-in recording.

The audio hardware upgrade

Moving up in the realm of audio quality (specifically A/D and D/A conversion and digital I/O) are a host of products by Digidesign including Audiomedia II and III as well as the line ProTools III and 4.0 systems for Macintosh. These products are geared towards the high end professional industry and are priced much higher. Sonic Solutions also has an excellent line of audio hardware for the Mac. These systems start at the \$5K range and go significantly higher. The hardware these systems supply have dedicated processors for superior digital to analog conversion.

Very informative material on Digidesign's systems can be found on the web at <www.digidesign.com> and information on the Sonic Solutions systems can be found at <www.sonicsolutions.com>.

Solutions for television

Introducing non-linear video editing workstations to the student TV station can be tricky because of the tremendous amount of effort it takes to maintain the essential linear equipment (not to mention cost). Unlike DAWs, it's not as easy to emulate a world class non-linear editing workstation. Saving

\$10-\$20K for an effective non-linear workstation takes fiscal planning and research.

Powerful CPUs and massive storage systems are required since you need around 10megs of storage for 1 second of compressed video. The important element is video capture. Many of the high-end PowerMac systems support video capture straight of the box. But there are several 3rd party hardware options for higher quality video capture.

Suffice it to say that non-linear systems provide a wide range of creativity and options, especially when doing 3-D modeling and titling. Most of the rendered shots of spaceships in the upcoming Star Wars Special Edition film used a PowerMac 8100 based system running Electric Image.

Adobe Premiere is a very powerful software based QuickTime editing package. Premiere can use multiple layers of video, has a wide selection of key types, and you can add custom wipes/transitions, to name a few of its features. Premiere has the ability to add motion effects to your video, and to use Adobe Photoshop compatible filters for

additional effects. Adobe Premiere can import PICT, Photoshop and Illustrator file formats which makes it easy to convert your artwork and use it in a video presentation.

SUFFICE IT TO SAY THAT NON-LINEAR SYSTEMS PROVIDE A WIDE RANGE OF CREATIVITY AND OPTIONS, ESPECIALLY WHEN DOING 3-D MODELING AND TITLING.

Features include full-screen playback when used with a Radius VideoVision Studio card or a Telecast for a more professional level. Trim mode lets you adjust edits quickly and easily. Capture mode has a full waveform/vectorscope monitor to help set levels, and 16-bit stereo audio is supported on computer systems so equipped. Premiere is an excellent choice for doing video work with a modest system.

The Media 100 system by the Data Translation Group is a PCI based software/hardware digital video system. The Media 100 is an effective solution for those working

with multimedia and short video and looking for professional results with a (comparatively) modest investment. The Media 100 system is a complete, QuickTime compatible, feature-packed system that most everyone can grasp hold of and produce some great results.

Built on a modular system, the base model (\$10,995) consists of a the PCI video capture card and editing software. In addition, system requirements are 48 megabytes of ram and 2 megs VRAM. High capacity hard disk storage is also necessary. Media 100 qx is the low cost version (\$4,995), which ships with Adobe Premiere and the PCI card. A complete system including the PowerMac costs around \$14K, which is slightly more palatable for a college TV station.

Avid systems such as the Media Composer are the standard for producing high quality long-form video. Stations might wince at the \$65K base price tag which seriously puts it out of the affordability range.

CONTINUED ON PAGE 18

"As former announcers, we are excited to offer you the chance we never had, the resource to improve your most valuable asset: YOUR VOICE.

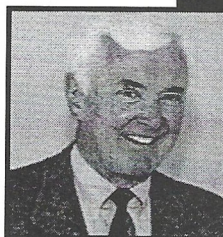
This digitally mastered cassette program demonstrates exercise techniques in practice-along sessions to help you find the voice you want and keep it!"

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43 years in practice; a Fellow of the American
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awards for outstanding clinical achievement, and
demonstrates his practice around the world.

The Avid MCXpress 1.5 is much more palatable with a base price of \$15K. It runs on a PowerMac 9500 and consists of four PCI boards and software. There are several additions that enhance QuickTime, 3-D, titling, and film matching to name a few. MCXpress boasts fast rendering time, numerous effects, and real-time titling which makes it a powerful system for under \$25K.

Ironically, Avid Videoshop 3.0 is a software based solution that utilizes PowerMac's video architecture and allows for video and audio editing right out of the box. But like Adobe Premiere, this is intended for smaller productions and multimedia.

There are several other software packages that allow for extensive 3-D work and logo work. 'Electric Image' (used in Jurassic Park) is a very powerful modeling program that runs under \$3K. Specular's 'Infini-D' is a 3D/ animation package that is widely used. 'Logo Motion' is an excellent logo producing software package for video.

Additional information on these systems can be found at <www.digital-solutions.com>.

In pursuit of excellence

Even with numerous new systems and technologies on the horizon, there are systems available today that let you produce incredible pieces of production that would have previously been extremely difficult using conventional linear methods. With the help of more powerful machines on the horizon, software based production solutions are quickly becoming the broadcast tools of today.

Although they are but a portion of station operations, digital production tools can help you shape the face of your station image, and productions. They can also take you to the next level of sound, quality, and creativity in your media.

John Barker, with contributions from Professor Leighton Pierce, U. Iowa and Barry Albright, TECHNology Ltd.

revolution is that it was conceived, carried out, and will continued to be maintained by UI students. Most importantly, the digital revolution has ensured a firm foundation for KRUI to continue broadcasting the best in alternative music, news, and sports well into the next century".

Exploring the possibilities of going digital is a very worthwhile endeavor for an institution. Analog broadcast components were not built to last forever and wear out over time. Digital broadcast components are an incredible investment in the future of your station. The sound improvement is unparalleled and vastly enhances the sound of the station.

In addition, the items mentioned above and throughout this issue of *College Broadcaster* are components that can be implemented gradually. This is world class equipment that is becoming very affordable for student radio stations to invest in. So as much as digital pertains to the quality of input sources, such as CDs or digital delivery systems, digital impacts in a major way how the audio is processed and transformed into an FM signal.

John S. Barker

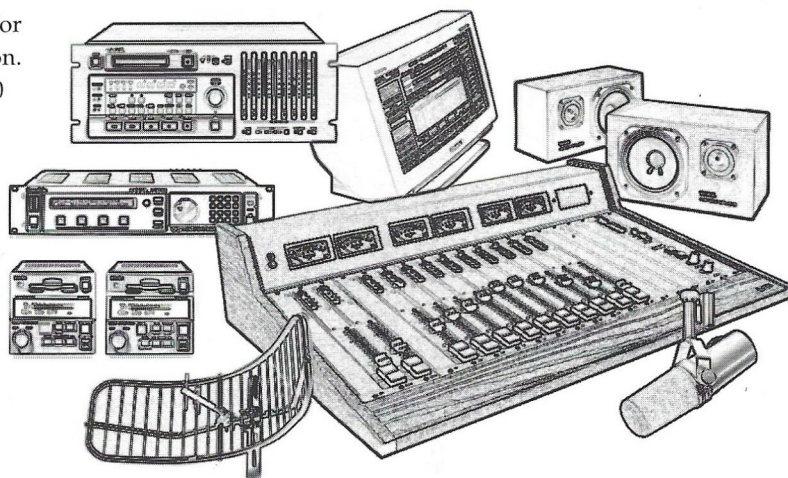
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KNIN-FM (Adult/Mainstream CHR): Looking for Morning Show Host, Production Director, and Account Executives. Digital multi-track experience a plus. Females and minorities encouraged. T/R: Jeff Hughes, PO Box 787, Wichita Falls, TX 76305. No phone calls please.

COMPETITIONS

Broadcast Education Association WRITING Division proudly announces first annual national script competition. Open to all students enrolled in any college or graduate program in the US. All scripts to be submitted in a recognized script format appropriate to entered category, typed or printed in 2 copies which cannot be returned. DEADLINE January 15, 1997.

Categories: 1. Feature Film (master scene script) 2. Television Series (master scene script) 3. Documentary (dual column format) 4. Corporate/ instructional (dual column format) 5. Interactive (whatever works)

The intention is to offer at least \$100 to the first prize in each category. The decision of the judges will be final. For further information contact Anthony Friedmann, Vice-Chair, BEA Writing Division at 102577.737.compuserve.com or fax 617.489.9666.

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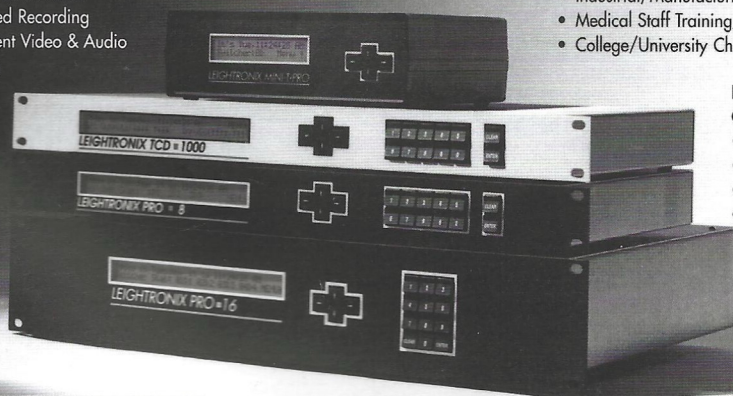
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The future of electronic communications is being reshaped as emerging technologies penetrate the professional and private sectors. Student broadcasters at high school and undergraduate radio and TV stations will witness a dramatic change possibly in the way their stations operate and most definitely in the operations of their professional counterparts. While some stations are fortunate (due, in part, to larger operating budgets) to be able to experiment with new digital technologies, others will have to keep abreast of the changes until they enter the professional world and have more immediate access to cutting-edge equipment. Whichever the case, the digital revolution and the transition from analog to digital will affect, and hopefully assist, student station operations and their quests to produce and provide excellent and innovative productions.

As an organization, NACB helps keep members, stations and departments informed of the changes affecting the media landscape. We're here to lobby on your behalf for the value and potential of student programming and productions. The 1996 Student Radio and TV Programming Awards are testament to our commitment to recognize and applaud your efforts. While digitalization will help how you produce for radio, television and film, what you produce will always be defined by your message, content and creativity. Student stations are training grounds to experiment with new forms and push existing boundaries. The experiences gained at student operations cannot be replicated. They truly are exciting and educational opportunities to find out your strengths and weaknesses.

As upcoming industry professionals who will help shape the future direction of electronic media and communications, you have access to a number of resources to help you meet the challenges of the digital age. Taking full advantage of the resources you are presented with will set your work apart from others. Your peers, faculty and professionals can assist and inspire your endeavors. Communicate with other NACB members via the listserv and meet them in per-

THE DIGITAL AGE: FINDING YOUR GROUND on the ROAD to SUCCESS

son at the NACB National and regional conferences; check out other stations' Web pages and see what they're doing on their campuses. Become a U Network® affiliate and receive new programming from other stations; submit programming to be showcased and serve as a model for others. Contribute your thoughts and opinions to *College Broadcaster*. If you have any questions about our services or have ideas for services you'd like to see implemented call us (or e-mail NACB@brown.edu) — we want to hear your ideas and know your needs. The more you use these services and network with others, the better prepared you will be to respond successfully to the changes occurring in media today.

While NACB is one of the best means for student electronic media outlets to address common concerns and find creative solutions, there are a number of ways to supplement the benefits NACB members receive. Getting involved with your state broadcasting associations are great ways to further your individual and station's professional reach. State associations can help with internship and job opportunities, as well as provide valuable information about

the community which you serve. Other professional trade associations often offer student or discounted memberships. NAB (National Association of Broadcasters), NATPE (National Association of Television Programming Executives), BDA (Broadcast Design Association), RAB (Radio Advertising Bureau) are associations which can also help your collective efforts.

The changes taking place as part of the digital revolution will impact the future of the industry. However, the very nature of electronic communications is centered around change and flux. How student and professional stations react to these necessary changes depends greatly on their interaction with each other. NACB is your bridge to developing these contacts and improving the great work you are already accomplishing. We're proud to be able to work with you during the course of the year to herald your achievements and cushion whatever mistakes may be learned from along the way.

Kelley Cunningham

CNN Newsource in the Classroom provides this invaluable teaching tool.



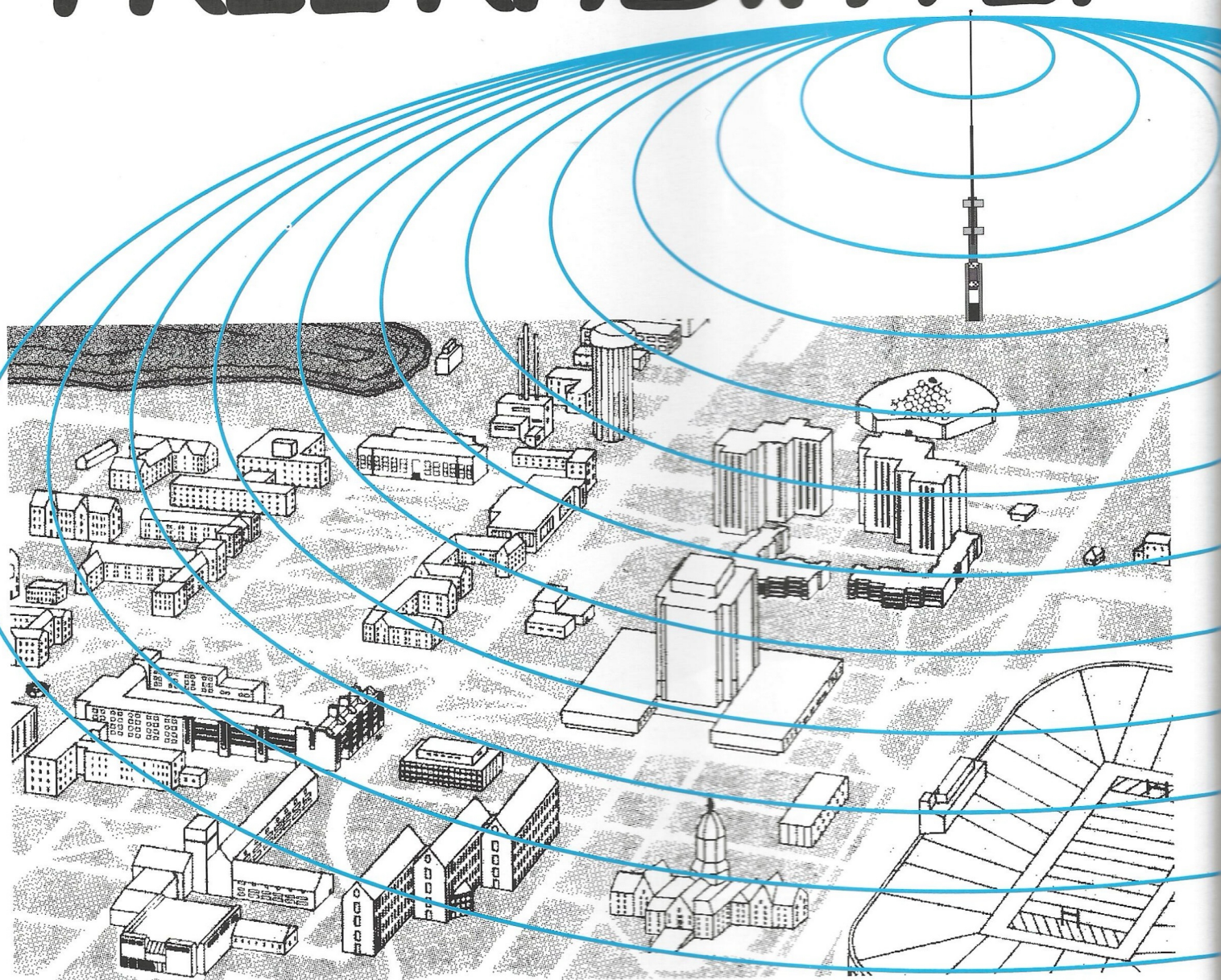
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