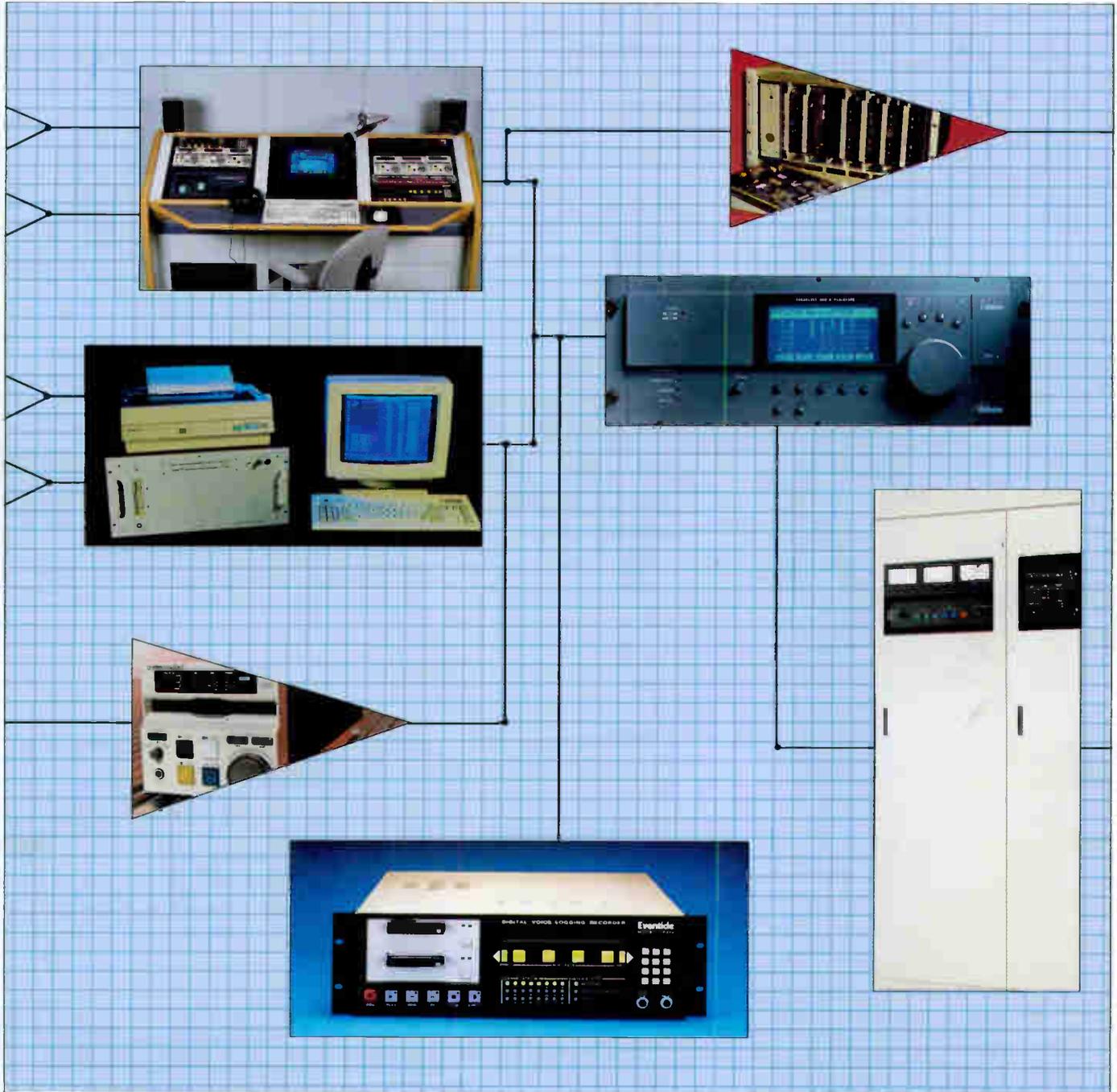


# BROADCAST

## *Communiqué*



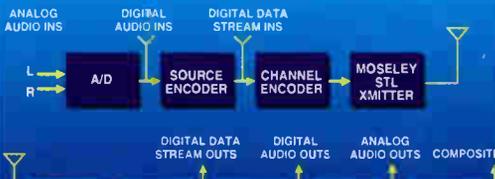
**NAB92**: It's A Digital World

**HARRIS**  
**ALLIED**

## The Digital STL Advantage

- CD-Quality Audio
- Higher System Gain
- Constant SNR
- No Crosstalk
- No Background Noise
- No Phase Distortion
- Degradation-Free Multiple Hops

## Open Architecture



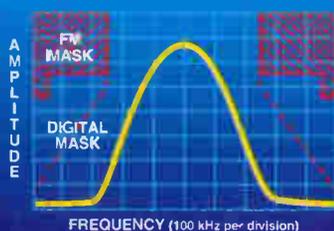
Open and optimal partition of source and channel coder. AES/EBU allows for end-to-end digital connectivity.

25 dB higher system gain translates into significant savings on antenna and transmission line costs.

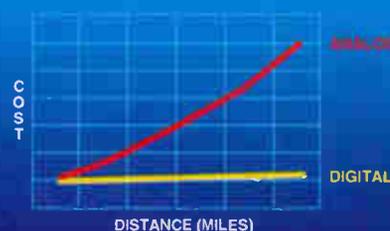
A new transmission technology that has the power to deliver CD-quality audio and solve your STL problems.

The DSP 6000 can operate in existing FCC channel allocations from 100 kHz to 500 kHz with existing analog radios.

## FCC Spectrum Compliant



## Instant Payback



# Presenting... The Digital STL Solution.

Introducing the first spectrum efficient CD-quality digital STL system. The DSP 6000 Digital Transmission System consists of the DSP 6000E source and channel encoder and the DSP 6000D source and channel decoder, and any Moseley digital-ready transmitter and receiver. The encoder and decoder can also be easily interfaced with any existing Moseley PCL 606/C or PCL 6000 series STL. The system can convey up to four 15 kHz CD-quality audio channels and two data channels, and has a built-in V.35 modem interface for

fractional T1 applications! The DSP 6000 source coder is characterized by peak level preservation, low coding delay (3.8 ms), excellent bit-error immunity, and multiple encode/decode capability. The channel coder offers spectral efficiency, constant envelope, error detection capability and perturbation tolerance.

The DSP 6000 System offers broadcasters the digital transmission advantage, continuing the Moseley traditions of innovation, reliability, and most of all, value. Call us for a color brochure with all the facts.



**Moseley**

For complete information including pricing and delivery, contact Harris Allied at 1-800-622-0022



# TAKING The Lead

## Pre-NAB '92 Reflections

**R**emember the stinging criticism that U.S. businesses can't compete because their workers are lazy? As this charge circulated in January, Harris Allied already was deep in the throes of planning for NAB '92.

At our Quincy and Cambridge, England operations, manufacturing already had begun on Harris and Harris TVT transmission equipment to be displayed. We were excited because solid state "power block" transmitters were now available *throughout* the broadcast band, giving our customers such benefits as unprecedented reliability and more.

In Richmond, staffers continued to evaluate new studio products — many with digital technology. Again, we were excited because *many* which would debut at NAB promised significant reductions in cost plus improvements in performance for our customers.

At Highland Heights, mobile production, satellite and ENG systems were being integrated for Harris Allied's *first* outside systems display. We were excited because the acquisition of Midwest's Systems Division in October had expanded in-house capabilities, enabling us to be even more responsive to our customers.

Plus, NAB '92 would mark our 70th year in the broadcasting. We were excited about that as well. With new products and expanded capabilities, we looked forward to the launch of our second 70 years and the continued privilege of being involved in an industry we love.

Nevertheless, any pointed criticism forces a look in the mirror: Even though our workers are far from lazy, were we — a U.S.-based business — merely deluding ourselves that we *could* compete in today's global market? Or did our belief that success rests with customer satisfaction from products and services of the

highest differentiated value still hold true?

We believe it does, just as it has for the past 70 years.

Looking toward April, we are grateful to have been a part of broadcasting for 70 years. We are sensitive to the force current rapid change is exerting on those we serve, and we are committed to sharing products and services that should relieve some of the pressure not just at NAB '92, but in the future.

That said, we look forward to seeing you in Las Vegas. ✓

### Planning To Attend NAB '92?

Please plan to visit Harris Allied indoor exhibit (Booth #2218) and our outside systems display.

### Staying Home This Year?

For information on any Harris Allied product or service, please complete and return the Fast Facts form in this publication.

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Need more information? Have a suggestion or comment? Mail or FAX this form!

Broadcast Communique is a bi-monthly publication of Harris Corporation, Broadcast Division, which includes:

**Harris Allied Broadcast - Quincy, IL:** Manufacturing; RF and Audio Systems; Service and Training.

**Harris Allied Broadcast - Richmond, IN:** Radio Studio and Satellite Equipment Distribution.

**Harris Allied Systems - Highland Heights, KY:** Fixed and Mobile Video and Satellite Systems.

**Harris TVT - Cambridge, England:** Manufacturing and Distribution.



# RADIO Today

**Digital:  
It's Here. It's Clear.  
It's Time To Use It.**

Microchips and software are today's driving forces in radio technology.

Today, broadcast operations are changing more rapidly than ever. Digital technology is streamlining radio operations from the on-air studio and the production room all the way to the transmitter and the satellite antenna. This April at NAB, attendees will try to make sense out of terms like *CD, SEDAT, DAT, DAB, DSP, SCSI, WORM, flopticals, waveform editing, digital satellite automation systems and removable media*. Clearly, digital technology's time has come.

Of course, many parts of the radio station have been digital for years. These include the newsroom as well as traffic and billing. Even the wacky, fast-paced "Morning Zoo" sound now comes in a digital box—the Eventide H3000B Broadcast Ultra-Harmonizer. With the H3000B, 70 pre-set sounds specifically designed for radio—telephone filters and other funny voices, even sound effects like helicopters—all are available at the touch of a button.

Satellite also is going digital. Foresighted engineers are choosing digital technology for point-to-multipoint satellite distribution not only because of audio quality, but for future enhancements. Scientific Atlanta's SEDAT (Spectrum Efficient Digital Audio Transmission) data compression algorithm is the first of these. SEDAT, the front-runner to become the new satellite standard, already has been adopted by the CBS and ABC radio networks and UNISTAR's new "Hot Country" service will be flying SEDAT as well.



Fairchild DART with SEDAT card

SEDAT squeezes three full-bandwidth audio channels into the 384 kbps data stream originally required for one channel while also boosting frequency response to 20 kHz, realizing near CD quality in most listening comparison tests. SEDAT cards are "plug-and-play" compatible with Fairchild DART 384 or Scientific Atlanta DAT 32 digital audio satellite receivers.

SEDAT highlights two of the most important reasons for going digital—dramatic performance improvements and immediate cost savings. Where else in the station can you reap these benefits? Today the answer is anywhere there's analog equipment.

Why have CD players effectively replaced turntables? Both play back pre-recorded audio, but a good pro CD player like the Audiometrics CD



Audiometrics CD 10 CD Cartridge Machine

10 CD Cartridge Machine does it faster, more reliably and with better quality. Many CD players are less expensive than broadcast-quality turntables, and the CD itself has a much longer useful life span than vinyl disks or magnetic tape.

Automation systems are still another area where digital is having a major impact. Integrated digital systems like MacroMedia's AUDISK and Arrakis' DigiLink can record, instantly cue and playback 350 to 700 30-second segments—commercial spots, IDs, liners, promos, your station's entire non-music library.



MacroMedia AUDISK

To do the same thing with analog technology would require several cart machines, cart carousels, reel-to-reels and a complex controller. You also have to perform maintenance operations like head alignment and cleaning *constantly* to keep the cart machines in good order, and still babysit the system to deal with inevitable jammed carts that disrupt your schedule and take your station off the air.

By contrast, the digital system requires no reloading or maintenance. It delivers better audio quality and can be pre-programmed for up to a week. When going on the bird is the only way to keep your system going, digital is the way to do it. Digital satellite automation is less expensive than analog, with typical systems costing between \$10,000 and \$20,000.

See these products at NAB  
Booth 2218.





### Arrakis DigiLink

For live assist operations, digital automation offers the same key advantages over analog technology: Several cart playback machines and a cart recorder can be replaced by a single digital system that records, instantly cues and plays back all your spots, liners, IDs, promos, whatever. The digital system requires no maintenance; produces CD-quality audio, and can be pre-programmed for the on-air board shift. It's also cost-competitive with multiple cart machines.

In the production studio, digital audio workstations from AKG are catching on quickly. Here, digital means faster production; more time for spec spots; greater flexibility for last-minute client copy changes, and more creative products with better audio quality. No wonder winners in today's tightly competitive market are trading their razor blades for the competitive edge of digital!



AKG DSE 7000

Soon you will even be able to record your digital productions direct to CD. On the alert for products and technologies that bring new options to broadcasters, Harris Allied has teamed up with Marantz to shatter the price barrier on recordable CDs. The stand-alone Marantz CD recorder creates and reads a temporary table of contents; interfaces with broadcast levels and impedances, and is fully compatible with Red/Orange Book standards. The unit, all in one rack-mount chassis, is priced under \$7,500.



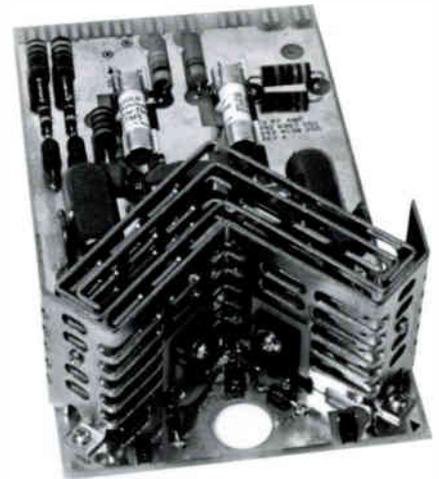
Further down the air chain, digital technology surpasses analog equivalents in reliability and ease of use. For example, Orban's Digital Optimod simplifies the previously arcane area of signal processing. Its front panel includes a "more/less" dial that adjusts multiple parameters simultaneously to deliver a signal which is as processed or as unprocessed as any PD could desire. It also can be set up for automatic dayparting.

The Digital Optimod could process the output of a hard-disk digital audio program source and feed it to QEI's 710 stereo generator with 24 bit DSP (digital signal processing). The 710 includes a "Q-Chain" output for direct digital interface with QEI's



Moseley DSP6000 Digital STL System

CAT-LINK digital STL. At the transmitter site, digital modulation monitors like Modulation Sciences' FM ModMinder combine highly accurate measurements with full remote capabilities. ModMinder also has a computer modem hookup, allowing the engineer to call up the unit and take readings from any location using a personal computer and ModMinder Remote Software (bundled with each unit) and a modem. Contract engineers love this feature, because they can check every station on their client list without ever taking the car out of the garage.



Module from Harris DX Series Digital Medium Wave Transmitter

Could digital technology even solve the problems that plague the AM band? Owners of Harris DX Series AM transmitters report increased coverage and crystal-clear sound, thanks to the digital modulation circuitry developed and patented by Harris engineers. And DX efficiency cuts power bills dramatically, saving money for owners from the day of installation.

If all this sounds exciting, it is. But a word of caution: Remember what happened with computerized accounting? Some stations waited too long. By the time they computerized, they were playing catch-up. Making the right move at the right time is the key to turning new capabilities and efficiencies into competitive profit edges. For digital radio broadcast technology, that time is now. 🚀

# Each Tiny Tape Logs A Full Week of Audio.

**W**ith analog cassettes or reel-to-reels, logging was a chore. With Eventide's revolutionary VR240 Digital Broadcast Logger, logging is a competitive weapon. Now you can store 168 hours of audio on a single DAT cassette. Record from 1 to 24 channels simultaneously on each tape. Find any audio segment on the tape in under one minute.

With power and speed like that, the VR240 can do much more than just log your own station. It's easy to monitor the competition. Keep track of the new songs in their playlist—and the new clients in their stopsets. Use other channels to record police, fire and aircraft frequencies to give your news department an extra edge.

With analog tape, logging was expensive and inconvenient. Now the VR240's digital technology slashes the cost of tape stock and eliminates the need for dedicated storage space. A week's worth of audio fits in your shirt pocket. A year's worth fits in a file drawer with plenty of room to spare. The VR240's optional label printer clearly identifies each tape with a time/date and ID stamp.

We don't have to tell you that staying competitive today means using every advantage you can get. So what are you waiting for? Call your broadcast distributor for more information on radio's newest secret weapon—the VR240 Digital Broadcast Logger from Eventide.

**Eventide®**  
**VR240 Digital**  
**Audio Logger**

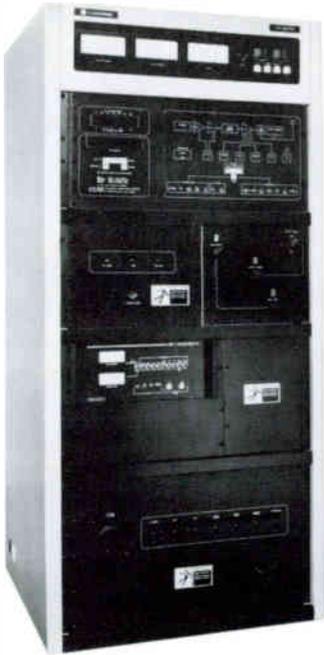
Call Harris Allied at:  
800-622-0022



**HARRIS**  
**ALLIED**

# RF Notes

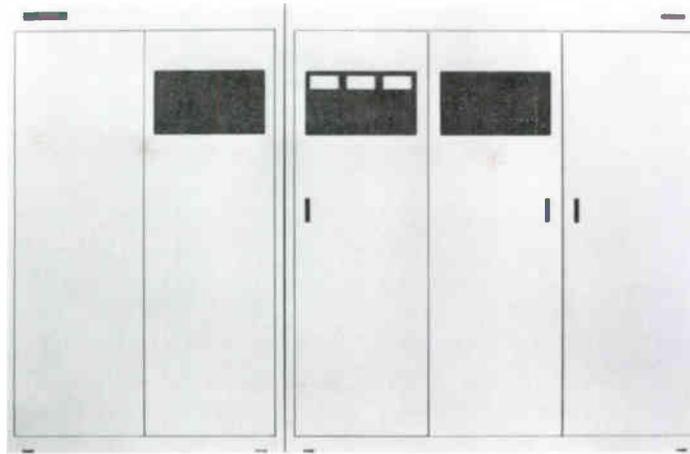
## NAB '92 Preview: Transmitter Solutions



△ HARRIS HT SERIES  
3.5 - 35 kW FM Transmitters feature a single cost-effective tube in a top-performance quarter-wave cavity design.



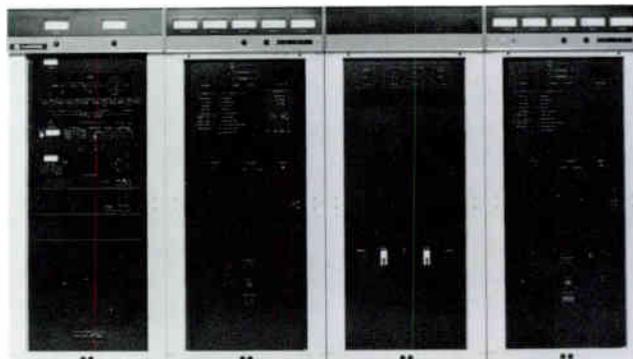
△ HARRIS TVT'S NEW  
SCEPTRE SERIES 3 - 30 kW  
UHF Transmitters. (Article on  
Page 12.)



△ HARRIS DX SERIES Digital Solid State Medium Wave Transmitters, in power levels from 10 to 1000+ kW, provide FM-quality performance; use up to one-third less electricity for reduced power costs, and offer exceptional on-air reliability.



△ HARRIS PLATINUM™ SERIES 1 - 60 kW Solid State VHF Transmitters give unprecedented reliability. Multiple hot-pluggable self-protecting 1 kW FET power amplifiers operate in a parallel/redundant configuration. The low-maintenance transmitter requires only 10% of the routine maintenance of older tube models.



△ HARRIS AND HARRIS TVT Depressed Collector Klystron UHF Transmitters, from 60 kW up, can cut transmitter power bills by half. Because high efficiency depressed collector klystrons use conventional external cavity klystron technology, stations also can avoid expenses associated with extensive staff retraining.



△ HARRIS PT SERIES 2 - 10 kW Solid State FM Transmitters offer exceptional solid state reliability. Recommended maintenance is 90% less than that required for some older tube models.

▽ HARRIS GATES SERIES 1 - 5 kW Solid State Medium Wave Transmitters provide Harris' exceptional polyphase PDM performance in an affordable feature-packed box.



# PRODUCT Showcase

**N**ow you've got the equipment, how will you mount it? Big bucks spent, great looking gear, and ugly industrial shelving?

No more! The people at Nigel B have arranged it so that you can mount all of our audio equipment and all of your video equipment in attractive, practical and efficient housings that are specifically engineered for the purpose.

Many accessories including drawers, shelves, and even the scientifically-designed operator chair shown are available in the Nigel B line.



Single Desk with Monitor Bridge

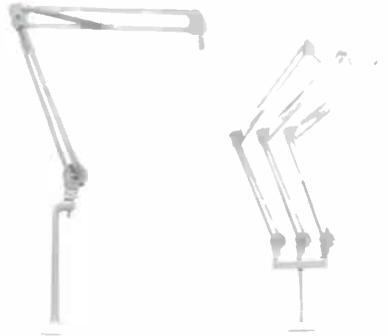


Workstation with Monitor Bridge

The single desk with monitor bridge and the workstation with monitor bridge are only two of the many variations to choose from when you call Harris Allied at 800-622-0022 for complete pricing and delivery information.

Ask for your copy of the Nigel B catalog.

**I**t's the dynamic mic arm. It's also a condenser mic arm. Whenever you see an ad or article about studios, this is the mic arm you see most in a supporting role.



Not only is it the industry's most popular single mic arm, it's now available in a roundtable three-arm version.

Several accessories are available, too. Extend it. Wall mount it. Bench mount or table-clamp mount it. A change of springs permits the AudioMetrics mic arm to support everything from a 635 A to a classic ribbon number. See our catalog for all the variations.

**T**hey're members of the family. Otari reel-to-reel technology sells to professional users more often than any other recorder, and Harris Allied is pleased to be the Number One broadcast supplier of this entire family of world class tape recorders.



What do you need? Economy, sophistication, 2-track, multi-track, automation or cartridge tape machines are available. Harris Allied has a machine and a price to fit the need and match the budget. Call us toll-free for pricing and delivery.

**H**enry Engineering just can't seem to make it big in this industry. Hank Landsberg listens; evaluates, and comes up with great small products that solve large problems.

Enter his new "no moving parts" digital message storage unit. It's perfectly suited for concert information, ski reports, sports scores and more. This new unit—DigiStor—holds up to four minutes of information for playback to your listeners. The caller always hears the message from the beginning. Calling-party-control-sensing resets the message when the caller hangs up, ready for the next call. Your digital counter can be easily interfaced.



DigiStor is great for stand-alone, utility or phone use. All functions are easy to remote control via front panel barrier strip. The price? You'll be pleasantly surprised—especially if you've priced the competition. Phone 800-622-0022 for all the information.



**A**fter heads are aligned, bias set, and all traces of oxide removed, the job is complete only after thorough de-magnetizing to preserve those precious master tapes. When it comes to thorough, only the Han-D-Mag qualifies. Han-D-Mag— a professional tool that isn't available at the corner drug store— is available in a Han-D-Kit from Harris Allied.



When you order Han-D-Mag from Harris Allied, you get several bonuses, including a magnetometer which shows built-up magnetism; helpful how-to-notes, and a probe extension which helps in hard-to-reach places.

Han-D-Mag (in its Han-D-Kit) is but one of dozens of great little products that makes your job just that much easier. That's why we're here! We believe a broadcast supply house is just that! 800-622-0022 is the only number you need to access anything from a cotton swab to a complete station.

**Y**ou call the shots— automatic or manual. Discwasher® makes both to perform the true radial cleaning recommended by compact disc manufacturers. The economical manual version features a replaceable non-abrasive cleaning pad. This radial cleaner, model FG 1102, includes the cleaning unit; a bottle of CD-1, and one replacement pad.



If you like the convenience of automatic CD cleaning, you'll want to seriously consider the motorized version, model FG 1103. Insert the disc to be cleaned; close the door, and a timed mechanism cleans for 28 seconds. Two C cells (not included) power the FG 1103. Two replacement pads and a bottle of CD-1 cleaning fluid complete the package.



# It's Almost NAB Time

**When you start to look at all those nice new radio goodies- and squeezing that budget- look to Harris Allied for assistance. We BUY- SELL & TRADE, so you have no excuse for not making money on the equipment you need to buy or sell. We're here to serve broadcasters.**

 **HARRIS  
ALLIED**  
EQUIPMENT EXCHANGE

**317-962-1471**

# SATELLITE *Update*

## Questions You've Asked: Spring Maintenance and Satellite Grounding

by JEFF NORDSTROM  
Manager— Satellite Sales

*As those of us in Richmond dig out from a Midwest Winter, we're especially looking forward to spring season sports from ESPN radio, MNR and other sports networks.*

*Plus, we've seen a recent increase of radio stations joining news networks to keep competitive pace with our changing world, and music networks continue to provide fantastic programming options. More and better programming's available through satellite, and now's an excellent time to plan for top reception! We hope these tips will help!*

**Q. What causes some satellite systems to experience reception problems each spring? It's not that reception is gone; it's just that it is not as good as it was.**

**A.** Most of the middle and northern parts of the Contiguous 48 and Canada experience freezing winter weather. As the ground freezes and thaws, the base for a ground-mounted satellite antenna can shift. Shifting moves the antenna slightly off aim, causing a corresponding drop in signal. This is most likely to happen when the cement base's foundation does not extend below the depth of the frost. Usually re-aiming will restore the system to full performance.

Occasionally we hear from station personnel who are afraid to handle the satellite antenna. We encourage these folks to follow the receiver manufacturer's instructions for antenna peaking for the best results. Most

SCPC receivers have an AGC test point for this task. Fairchild— manufacturer of the DART 384 digital audio receiver— provides a "signal quality" test point which ensures extreme accuracy for antenna realignment. If a satellite installer handles re-aiming, use your receiver to ensure the antenna is not inadvertently moved to a satellite different than the one you are trying to receive.

If your satellite antenna is close to a tower, be sure to check for damage from falling ice. Any damage to the feed and its support will cause a misaligned condition. While at the satellite antenna site, be sure to check the surface of the dish: Dents and loose panels need to be repaired.

As part of spring maintenance, be certain to check all connectors and their weather-proofing. Plastic tape alone will *not* keep water out of connectors!

**Q. What are proper methods for grounding satellite systems?**

**A.** This is a most timely question. Usually good spring storms prompt *many* stations to improve their existing grounding. In fact, much of the damage caused by lightning storms could be prevented if good grounding procedures were followed.

The most likely points of damage are the satellite antenna or the AC power lines. Of the two, the AC power line may be easier to fix. Add fast-acting spike/surge protection! I encourage installing protection to the breaker panel. The goal is to protect the whole station/studio. All studio equipment as well as computer equipment will benefit from this method. A U.P.S. will provide the best protection— and the most ex-

pensive. Simple outlet clampers will provide the least protection at the least cost. Contact your Harris Allied rep for the best protection!

Providing an earth ground for the satellite antenna requires some planning. If the satellite antenna is at the tower site, it is best to bond to the tower ground. Use a good size conductor (such as a copper strap) and keep the run short and straight.

If the satellite antenna is away from the tower site, be certain that the dish ground and the electronics ground is tied together. It is quite common to see a ground rod located at the dish, but none for the electronics. This can lead to an increase in damage if a static charge is dissipated from the studio through the satellite receiver out to the ground rod. It is far better to tie both the inside (electronics) and outside (dish) so that the earth ground potential remains the same. Another information source is the National Electrical Code and any local codes which may specify earth grounding requirements.

We hope these tips are helpful. For information on Harris Allied's range of satellite products, please phone:

**317-962-8596**

 **HARRIS  
ALLIED**  
SATELLITE EQUIPMENT

*See us at NAB Booth 2218*

# RADIO Success Story

## Microwave Local Networks: Key To Small Station Survival

**H**amilton and San Saba, Texas suffered a fate common to many small towns in the 80's—they lost their local AM radio stations. Hamilton's KOES was silent for 7 months, San Saba's KBAL for two years. But both towns have local AM radio service again, thanks to a clever use of microwave technology by forward-looking broadcasters Lloyd and Gary Moss. The Moss family owns KCLE-AM, a small successful AM daytimer in Cleburne, Texas, 23 miles south of Fort Worth. Not long ago they bought KOES-AM in Hamilton and KBAL-AM in San Saba. Hamilton's last census registered only 3199 inhabitants, San Saba just 2850.

Retail sales in both towns declined when hard times hit Texas in the mid-80's. Neither town seems capable of supporting its own radio station, but KOES was profitable from the first month, and KBAL is expected to hit the black any day now. The secret? A four-hop two-way interactive Marti microwave system that can send and receive remote control functions and EBS tests as well as phone calls and program audio. The system allows each station to operate with just two people on staff.

With the advanced microwave link, most of the programming for the Lloyd's 120-mile-long local network, called The Country Connection, originates from KCLE's studios in Cleburne. But the programming is localized—

during stopsets, the KCLE jocks can fire different commercials for each station. In addition, each station can air its own live segments and sports events. "We're very proud to have brought local service back to these towns," VP/GM Gary Moss said in a recent interview with *Radio Business Report*. Even though both stations operate with only two people, "We're giving them the kind of service it used to take eight people to do," he says.

Innovative thinking like this is what it takes to survive and thrive in the broadcast industry of the 90's. Harris Allied has all the tools you need to make creative plans like The Country Connection a reality. For more information on today's advanced microwave equipment, and how to use it to turn "losers" into "winners," call 800-622-0022. 🍀

Portions reprinted with permission from *Radio Business Report* 11/25/91 (Call 703-866-9300) and *Small Market Radio Newsletter* (Call 616-694-9357).

**Call Harris Allied**

Read all about it in the enclosed insert.

Today's two-way, interactive microwave systems make it easy to create your own "mini-network."

# TV Today

## New At NAB: Sceptre Series 3 - 30 kW UHF Transmitter Line

by IAN WATERS,  
Harris TVT

**1**t's incredibly reliable. It's economical. It features a unique broadband design. It's available in models to meet every world standard using negative visual modulation, and comes with BTSC, IRT or NICAM multi-channel stereo sound. It's engineered to give UHF broadcasters the best value for their investment.

It's Harris TVT's new Sceptre Series television transmitter line, and it will be a highlight of Harris Allied's 1992 NAB Exhibit.

Developed to extend the benefits of the best in solid state technology to medium power ranges of the UHF broadcast band, the Sceptre Series offers transmitters in power levels from 3 through 30 kilowatts.

### The Evolution of Solid State To the UHF Broadcast Band

Television transmitters traditionally have employed vacuum tubes as final output power amplifiers. However, tubes have always had one major drawback: Their finite life subjects them to instant total failure which takes the transmitter off the air.

While the first solid state transmitter was introduced in 1975 (the Harris' MW-1, a 1 kilowatt medium wave

transmitter), only recently have advances in transistor high-frequency and power-handling performance enabled solid state technology to be applied to output amplifiers of UHF transmitters.

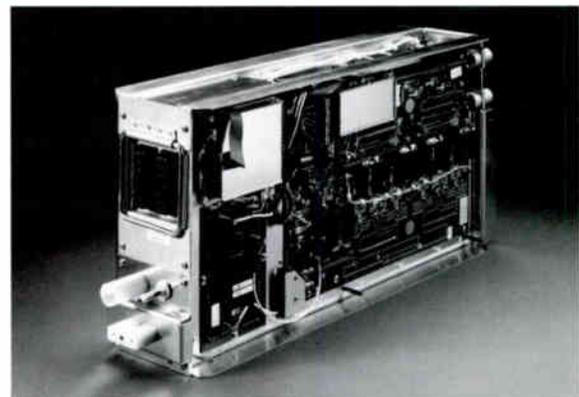
### Unique Broadband Amplifiers Maximize Transmitter Reliability

For Sceptre Series transmitters, Harris TVT has developed a unique power amplifier module. Various transmitter power levels are achieved by assembling identical modules and power supplies in a parallel configuration.

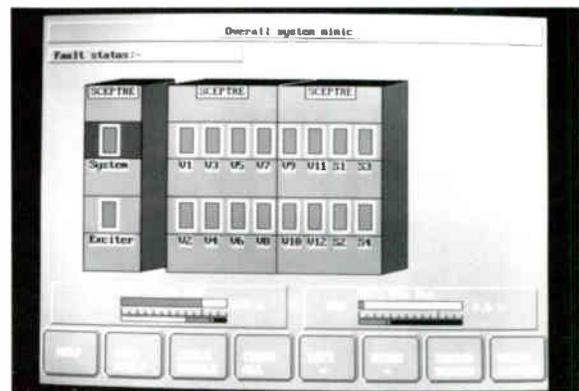
Unlike previously narrowband solid state UHF power amplifier modules used in other designs, Sceptre modules and combiners are uniquely fullband (470 - 860 MHz). Because visual and aural modules are identical, any Sceptre module can be used for either visual or aural in any Sceptre transmitter on any channel!



Sceptre Series 5 kW solid state UHF transmitter



Identical broadband visual and aural modules



VDU display provides comprehensive data

Soft failure and high reliability are inherent with the modular Sceptre design. Should an amplifier module or a power supply fail, the transmitter continues to operate at slightly reduced power until repairs are made. Amplifier modules can be removed and inserted safely while the rest of the transmitter continues to operate. As a result, standby transmitters are not normally necessary.

### Reduced Cost of Ownership

Beyond outstanding reliability, Sceptre transmitters offer reduced cost of ownership over tube transmitters. While initial cost of a solid state transmitter may be higher than a tube model, operating cost is less. Depending on service conditions, after the average break-even point of three to seven years, the Sceptre user can expect significant savings for the remainder of the transmitter's life.

Plus, elimination of a standby transmitter *can* reduce purchase price to less than a tube model!

Among reasons for reduced operating costs are:

- Elimination of routine vacuum tube replacements as well as associated labor costs.
- Significant reductions in routine maintenance requirements.
- Access to comprehensive data via telemetry system which allows monitoring and fault-diagnosis on unattended remote transmitters.
- Parallel amplifiers operating in a redundant configuration, which enable the transmitter to remain on the air even should failure occur. This allows unplanned repairs to be carried out economically at a convenient time.

- On-air module exchange capability, which minimizes spares as well as staff training requirements. Failed modules are designed for user repair or can be returned to the manufacturer.

### Control and Central Monitoring

Designed for unattended operation, Sceptre transmitters incorporate a processor-based central monitoring system with a VDU display.

Analog measurements and status from the exciter, transmitter, cooling system, etc. are digitized and fed to the processor, which monitors data continuously and stores it in memory. Each parameter has software-determined "windows" which detect if it is within satisfactory limits; high; low, or failed.

The processor provides outputs which enable the transmitter to be connected to a maintenance base.

Software supports a modem which permits the equipment to initiate a telephone call to report a failure. Users may also access data remotely.

Sceptre, an air-cooled transmitter which has a compact design requiring minimum floor space, complies with IEC 215 international safety standards. It is backed by 24-hour technical assistance as well as 24-hour access to parts.

To date, 26 Sceptre transmitters are being supplied to National Transcommunications in the U.K. and orders for an additional six transmitters have been received from Canada and Cyprus.



See us at NAB Booth 2218



In-depth knowledge and hands-on experience you can build a career on...



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# WAREHOUSE Specials

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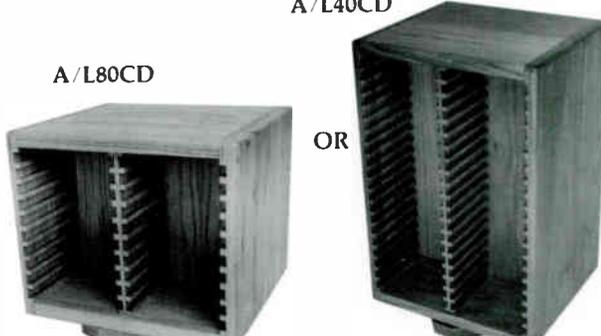


**Henry Matchbox**

With all the connections you'll need,  
as shown

**ONLY \$156**

Price of box w/all  
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A/L40CD  
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A-Line's wood lazy susan cabinets are constructed of solid oak or walnut. They hold all single CD cases and have a 15½" turn radius. Two sizes available — 40 capacity and 80 capacity.

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- Harris Allied screwdriver set • 11 pieces including regular and phillips tips ..... Only \$ 6.00 set
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# FAST Facts

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**OR MAIL** TO HARRIS ALLIED, P.O. BOX 1487, RICHMOND, IN 47375

PLEASE PRINT OR TYPE

### I'd like more information on:

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### My intended use is:

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### My need is:

- Immediate
- Near future
- Long range

### I need:

- Prices
- Product literature
- Delivery information
- Ideas or help

on: \_\_\_\_\_

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### Please:

- FAX to me
- Mail to me
- Call me

My Name: \_\_\_\_\_

My Title: \_\_\_\_\_

Company/Station: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: ( ) \_\_\_\_\_ FAX: ( ) \_\_\_\_\_



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