

# BROADCAST

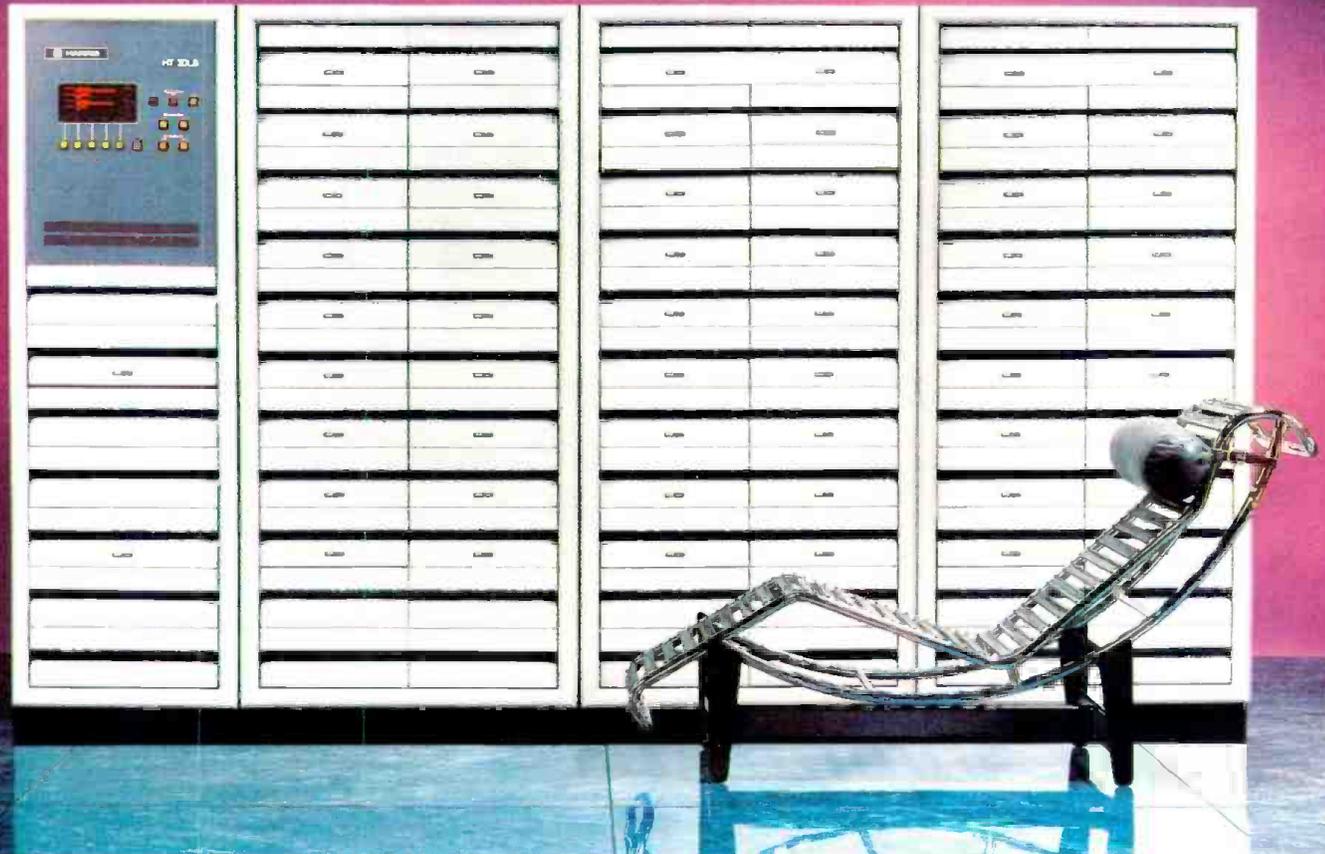
## *Communique*



Why are major networks turning to SEDAT — the latest in satellite digital audio delivery? See page 4.

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# ELEGANT SIMPLICITY



**It's obvious that Platinum Series™ solid state VHF transmitters look like nothing else in the field. But the real beauty of their breakthrough technology is inside.**

The elegance of our cooling system, for example. As it quietly distributes constant temperature air flow to each module, individual heat sinks maximize energy transfer with a patent-pending design that nearly doubles the surface area of conventional extruded heat sinks.

The simplicity of Platinum Series operation, for another. Broadband solid state PA modules eliminate complicated, time-consuming tuning and

other adjustments. And they're self-protecting against six fault conditions.

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Platinum Series transmitters from 1 to 60 kW offer a host of advantages like these. Which is why the majority of U.S. stations who bought a solid state high power VHF transmitter in the past year chose Harris as their manufacturer.

We invite you to take a closer look at the innovative Platinum Series of solid state VHF transmitters from 1 to 60 kW. Simply call Harris at (217) 222-8200, Ext. 3408, or Allied Broadcast Canada at (800) 268-6817. We'll send you full information on the Platinum Series—solid state VHF transmitters that take a quantum leap into the future of broadcasting.



Harris Broadcast Division  
Marketing Department  
P.O. Box 4290, Quincy, IL 62305-4290 USA

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# TAKING The Lead

## Fall Lessons

by Gus Ezcurra,  
Vice President — Worldwide Sales

If two words had to sum the mood at this fall's broadcast shows, they would be "optimism" and "apprehension."



### Optimism?

Well, yes — because many broadcasters are seeing signs that the worst of the Recession is over.

Apprehension? Again, yes — because many face decisions that will significantly determine their ability to compete in the near- and not-so-near future.

While it's a difficult dilemma, it is not a hopeless one. In fact, if there's

one lesson to be learned from the fall shows, it's this: Many products and services on the market today can enable you to maintain your competitive position now *and* prepare for the future.

And that is the focus of this issue of *Broadcast Communiqué*. In it we share information about such products as SEDAT — the latest enhancement for digital audio transmission via satellite which provides "near CD quality," and digitally modulated medium wave transmitters which can practically pay for themselves in reduced power costs. We take a look at HDTV in the first of two articles. We share information about 41 Harris Allied RF training programs slated for 1992 and geared to enable station engineers to maximize the life of transmission systems. We provide insight into an important enabler — leasing — in an article by Bob Doll, publisher-editor of *Small Market Radio Newsletter*.

Interested in a product or service you don't see here? Please know Harris Allied would welcome the opportunity to help you meet a specific need. Contact us any time.

\* \* \*

On another positive note, Harris Corporation has acquired two broadcast equipment manufacturing operations of Midwest Communications Corporation, Highland Heights, Kentucky.

The operations — the Systems and the Radio Frequency divisions — join Harris Broadcast Division under the new name of Harris Allied Systems. We welcome Midwest and look forward to being able to offer even more comprehensive services in the future.

As always, please let us hear from you. ☛

### Harris Allied Slates Three Road Shows Through January 1992:

- Chicago, IL: Nov. 18
- Los Angeles, CA: Dec. 4
- Orlando, FL: Jan. 8

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Harris Allied Broadcast Equipment is an operation of Harris Corporation, Broadcast Division, North America's leading supplier of radio and television broadcast equipment and systems. Headquartered at Quincy, Illinois, Harris Broadcast Division includes: Harris Allied Broadcast — Manufacturing, Quincy; Harris Allied Broadcast — Distribution, Richmond, Indiana; Harris Allied Systems, Highland Heights, Kentucky; Harris TVT — Manufacturing and Distribution, Cambridge, England, and Harris Allied Canada, Richmond Hill, Ontario. Complete addresses, phone and fax numbers for all locations can be found on page 12. ☛



# RADIO Today

## Is SEDAT In Your Future?

by Jeff Nordstrom,  
Manager, Satellite Sales

**W**ould you like to escape the upward spiral of satellite rental costs while improving your station's performance?

If your station already has a Fairchild DART 384 or a Scientific-Atlanta DAT 32 Digital Audio Receiver, these benefits can be yours with a simple new plug-in-and-play SEDAT™ (Spectrum Efficient Digital Audio Transmission) card. SEDAT was developed by software engineers at Scientific-Atlanta's Adcom Division in Melbourne, FL.

This new data compression algorithm technology fits *three* full-bandwidth audio channels into the standard 384 kbps (kilobytes per second) satellite data stream formerly required for only one channel. Additionally, SEDAT boosts audio frequency response to 20 kHz for "near CD quality" performance in most listening comparison tests.

### The Evolution of SEDAT

How did SEDAT come to be?

In the beginning, radio networks were linked by telephone wire. Telco service was pretty good (if you didn't mind writing big checks to Ma Bell) but it did have some drawbacks. For one, it didn't cover all areas of the country with equal quality. For another, it couldn't handle the volume of programming radio networks wanted to send.

Impetus to change came with the landmark court decision which ended the monopolistic telephone system in the United States. On the heels of

this ruling, line charges increased dramatically and networks took to the sky.

Forward-looking engineers chose digital audio transmission as the standard for point-to-multipoint satellite distribution. Digital technology won over other systems because it provided excellent audio quality and also inherently lent itself to future enhancement.



Users of older Scientific-Atlanta receivers can also be updated with SEDAT cards supplied by Harris Allied.

The original DAT (Digital Audio Transmission) standard accommodates the following audio channels: 15 kHz for FM programming; 7.5 kHz for AM, and 3 kHz for voice cues. The Nyquist theorem of digital audio sampling states that the sampling rate must be at least twice the highest audio frequency to be reproduced. Thus, multiplying 32 kHz (two times 15 kHz with a little fudge factor) times 12 bits (the word length) results in a data transmission rate of 384 kbps.

The satellite transponder transmits data at 8.771428 Mbps (twenty 384 kbps blocks of audio plus coding information). The receiver's front end selects the desired transponder. The receiver then locks to the satellite's data stream, distributing audio samples to all of the program modules simultaneously, in much the same way as a computer bus operates. Channel selector switches on the program modules determine when a module actually reads a sample from the data bus. Once a sample is read, it is sent to a D/A (digital-to-analog) converter, which creates an audio signal.

Although there are many different possible algorithms for compressing digital audio data, SEDAT is the front-runner to become the new satellite standard. CBS already has converted its network radio stations to SEDAT operation; ABC is in the process of doing so, and UNISTAR's new "Hot Country" format — scheduled for take-off at the end of 1991 — will be flying SEDAT as well.

### Should You Care?

What does this mean to your station?

If you never pick up programming from CBS or ABC, it probably doesn't mean much at the present. However, if you plan to run such CBS specials as the Orange Bowl, you will need a SEDAT-capable receiver to grab them off the bird. You may also need a SEDAT-capable receiver to pick up ABC's satellite programming highlights. And, within the next decade (if not sooner), it is likely that your network will switch from DAT (Digital Audio Transmission) to SEDAT.

For now, the most important advice I can offer is to verify your data transmission format. Once you try to downlink and get nothing but dead air or high-pitched garbage out of your receiver, it's already too late. If you would like more information on Scientific-Atlanta's SEDAT card, the Fairchild DART 384, or satellite audio in general, please don't hesitate to phone me at Harris Allied Satellite Sales, 317/962-8596, Ext. 245 or return the Fast Facts form in this issue. ✍



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CBS and ABC logos are registered trademarks.

# INDUSTRY *Insight*

By Bob Doll

**I**ncreased competition for a static amount of available advertising revenue. That in most radio markets, is the story this year — and, even the most “rosy” forecasts don’t see the situation changing much in the foreseeable future. After 40 years in this business, I am not surprised at the rapid growth of satellite delivered and syndicated programming. It is a response to the market: Increased



competition dictates more professional and disciplined programming. Economics dictate holding down costs.

For those who “pine” for the good-old days when there were two announcers on most shifts and an engineer at the transmitter, good business makes us ask — in this day of higher wage and benefits costs, is it really practical to have a disc jockey “listening for a record to end” when he could be out in the community covering an event or in the production room recording a “spec” ad that might bring in a new customer? With 20, 30 or more outside stations coming into even the smallest markets, “as well as the local station,” doesn’t it make sense

to channel available resources into the station’s real (and only) business — selling advertising — and creating those special listener services that give the station its U.S.P., “Unique Selling Proposition.”

The hard realities of the present time, make putting off bringing a station into the 1990s technically a bad business decision. Current lease-purchase terms make it possible to put modern technology to work immediately without disturbing a station’s cash flow. It can’t be put off “til things get better.”

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*Bob Doll is Publisher-Editor of Small Market Radio Newsletter, an 8½-year-old weekly for small market managers and investors. He offers seminars, programs, and consulting nationwide. Phone: (616) 694-9357 — FAX: 616-692-6789.*

## WHY SHOULD YOU PAY CASH WHEN GOOD CREDIT CAN LEVERAGE THAT NEW EQUIPMENT YOU NEED WITH A LEASE?

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(\*Lease financing available to qualified applicants through 3/31/92)



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# IF YOU PLAY MUSIC



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Senior Vice President  
Noble Broadcast Group

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# RF Notes

## DX Proves Worthy Of Its Name

For over 60 years, Kermit Geary has monitored the AM band for distant broadcasts. While Geary, who joined the National Radio Club in 1933, also monitors the shortwave and FM bands, he admits his first love is AM.

At his DX (Distant) Listening Post in Walnutport, Pennsylvania, on March 5, 1991, at 5:54 p.m. he picked up a farm report on 880 kHz — the frequency used 24 hours a day by 50 kW regional clear channel WCBS-AM in Manhattan, 85 miles to the east. For the next 20 minutes, he listened *not* to WCBS, but to local news, advertisements and weather broadcast by WMEQ-AM's Harris DX 10, 10 kW digitally modulated solid state transmitter in Menomonie, Wisconsin some 900 air miles away.

While Geary's most distant reception ever was a station in Tasmania, an island 200 miles southeast of Australia, the DXer recalls, "That was some time ago. Nowadays, with the crowding on the AM band, Menomonie is a pretty fair catch." In a letter to WMEQ, he wrote, "Your carrier was clean-cut and fully modulated. The tonal quality was excellent..."

### 'The Hottest Button On The Dial'

Michael A. Phillips, owner and general manager of WMEQ-AM/FM ("The Spirit of Wisconsin") enjoyed hearing from Kermit Geary — the station's most distant confirmed listener to date. Yet he adds: "More important to me are the numerous comments from listeners in the Eau Claire/Chippewa Falls/Menomonie area who say they can't tell our AM signal quality from FM. Our news talk format doesn't lend itself to heavy processing — we

basically run Motorola C-Quam stereo and that's it — but at a recent meeting of our local SBE chapter, our contract engineer was asked time and time again how we get such a loud, clean signal. We're definitely the hottest button on the dial since our upgrade."

WMEQ's upgrade, effective April 13, 1990, boosted power from 1 kW at 1360 kHz to a daytime level of 10 kW on 880 kHz. With a non-directional daytime antenna, the station now covers western Wisconsin, eastern Minnesota and northeastern Iowa. Nighttime coverage, with 250 watts power and a four tower directional array, reaches three area counties.

"This was a total rebuild," Phillips recalls. "We moved to a new site with a new building, new towers and antennas, and of course, a new transmitter. We spent a long time deciding on a transmitter, but it quickly became apparent that at this power level, there really were only two choices." Although 10 kW tube transmitters cost less, Phillips observes that "they're very inefficient compared to solid state. The payback from power cost savings is so fast that it didn't make sense to consider tube technology."

### Factory Support

A contract-engineered station, WMEQ highly values factory support. "We've

had a long relationship with Harris, and felt good about the support we could expect," Phillips says. "In the past we've occasionally needed emergency service, and they've always been terrific."

When Phillips recently visited the Harris factory in Quincy, Illinois, to evaluate an FM transmitter for another station, an emergency call *did* come in. "It was easy to see that everyone gave top priority to getting the station back on the air," he recalls. "I felt comfortable that Harris would stand behind the transmitter — whether it was one year old or ten years old."

Phillips also wanted to buy an American product if it were competitive. "The DX 10 fills the bill. Its technology is on the leading edge. The first time I opened the door and saw all those ICs, I thought, 'Now what are we going to do if this goes down?' But I liked the way Harris engineers handled the audio processing and the general design promised to be low maintenance."

### Low-Cost Maintenance

In fact, from installation on, the DX 10 has lived up to this promise. When the transmitter arrived at the site, Phillips recalls, "We took it off the truck; plugged it in; hooked up the antenna, and went on the air."

*Continued on Page 12*



## Calculate Your Power Savings

The DX 10 provides typical overall efficiency of 86% — but what can this mean to your station? We invite you to calculate your potential power cost savings with a DX transmitter, in 10, 25 and 50 kW models (and higher) by using the following formula:

$$\text{Annual Operating cost} = P/E \times H \times C$$

Where: H = Operating hours per year; P = average power output with program modulation (kW) or 13 kW for 10 kW transmitter, 32.5 kW for 25 kW transmitter, and 65 kW for 50 kW transmitter; C = cost per kW hour; and E = efficiency of present transmitter (%).

*Example:* Your 24 hour per day station replaces a 55% efficient 50 kW transmitter with an 86% efficient 50 kW transmitter. You pay U.S. \$.10 per kW hour for electricity.

H = 24 hours per day at 50 kW day and night or 8,760 hours per year  
P = 65 kW  
C = electricity rate of U.S. \$.10 per kW hour  
E = 55%.

At 55% efficiency:  $65/.55 \times 8760 \times \$.10 = \$103,572$   
At 86% efficiency:  $65/.86 \times 8760 \times \$.10 = \$66,209$   
Annual cost savings: \$37,318

# PRODUCT Showcase

**P**owered by the optional PK-5 power supply, Clearcom's new Minicom series headset stations bring high performance to a modest price. These hard-wired systems feature low distortion, low noise and great quality audio. Choose from single or double-muff style. The included mic preamp and head-phone amp are housed in the pictured metal box. 800-622-0022 is the toll-free number to call for all the details.



**T**his little timesaver comes to us all the way from England. Since we introduced Tabbie to the colonies, several top stations have discovered just how much time and effort can be saved.



If you cut and splice tape, Tabbie perfectly sets and dispenses a perfect splice every time. You never contaminate the adhesive. Why? Because Tabbie places the tab for you. No waste. Every tab is perfectly aligned on your editing block.

Usually sold in boxes of 12, only. We want you to try before you buy a box. So, buy your first Tabbie for about the same price of a "66" roll of splice tape. You'll like it so well, we're sure you'll be back for your first dozen. Two grades available — ask us for advice on the grade you need.

**A**ir Corp engineers have a radio hit on their hands. Their model 500 voice-over and on-air mic processor delivers that "ballzy" sound all announcers love. Now, they cover all broadcast bases with the announcement that their model 500-TV is now available.



Adjacent microphone crosstalk and room noise are virtually eliminated. Predictable loudness, voice-to-voice, is achieved with the 500-TV's compressor and expander sections which complement each other. Call us — we'll give you all the features that make the 500-Radio and 500-TV today's broadcast voice processor choices. You can have a faxed spec sheet today or tell us to mail it.

**N**igel B's roll-around provides great looks, terrific convenience, robust construction and highly attractive pricing...



A quick call to 800-622-0022 will reveal size, RUs, and other features and benefits on this exciting new product by Nigel B.

**F**or AES/EBU serial digital audio lines, the new impedance transformer by Canare will permit high quality 2000 ft + runs on cost-effective 75 video cable. Over a bandwidth of 0.1 to 6 MHz, VSWR is max'd at 1.1:1 and insertion loss is less than 0.3 dB. Available in XLR male (model BCJ-XP-TR) or female to 75 BNC (model BCJ-XJ-TR).

**S**till searching for what many stations now consider the best storage system for your CDs? Our storage cabinet holds 840 jewel cases for immediate access to your programmer or disc jockey. Industrial-gauge steel construction, 3 drawers and a security lock. 4 ft x 2 ft x 2 ft. Pricing and a freight quotation are available from 8 to 5 in your time zone at 800-622-0022.



**T**he Laboratories of Circuit Research, CRL, innovate again. This new Real Time Event Sequencer can control any combination of eight or one of 255 binary encoded outputs by way of a rear apron barrier strip. User may select a latch or half- or one-second contact closure on the outputs. A simple key pad configuration facilitates easy programming. Choices are displayed on a back-lit LCD display. The circular menu approach combined with 7-day clock program makes the unit simple to operate and program. Security and battery backup are included in the great price which gets even better when purchased with CRL's Audio Signature.



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**N**ot an idea...not a prototype. Digital transmission of COMPOSITE STEREO is here, now! QEI's CAT-LINK encoding/decoding provides a transparent link between your studio and your transmitter. Take advantage of T1, or 18 or 23 GHz, #22 ABAM cable (up to 5000 ft) or optical fiber. The advanced digital technology of CAT-LINK means THD/IMD of less than 0.01% and 84 db quantization. Harris Allied will fax (or mail) complete specs today. Simply call us at 800-622-0022.



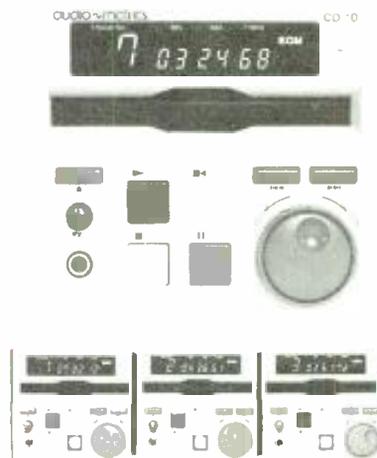
**Y**ou've read or heard about the staggering dollar amounts assessed several stations for tower light violations. The FCC is serious! FFI read the reports too. That's why they designed their new Automatic Tower Light Monitor FFI that automatically notifies the operator of tower light problems so that compliance may be met. Remote or local. Single- or multiple-tower applications. One call to 800-622-0022 will provide prompt and thorough details.



**A**true digital stereo generator with the experienced QEI name attached. The new 710 exhibits digital FIR, phase linear input filters; noise at least 90 dB below 100% modulation; THD & IMD less than .008%; separation of -75 dB and crosstalk of -83 dB. Price, availability and complete specs are all quickly available from our Broadcast Resource Center.



**E**verybody LOVES to read other people's mail. Boy! Have we got a treat for you! In the envelope housing this issue, you'll find several interesting brochures. Among them are three pages of fan letters with comments, criticism and praise on, of and for our new CD 10 CD Player by Audiometrics. Read and you will believe.

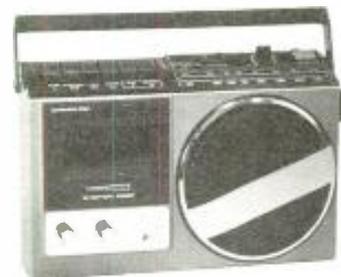


**Y**amaha's stereo M406 is a rack-mount mixer with 6 mono inputs, all of which are adjustable from mic to line level and are panable to left or right channel. EQ, effects, phantom power, XLR connectors and transformer isolation assure a lot of flexibility for the money. The headphone output is right there on the front panel and has its own separate level control VU meters standard. Mix it up! Fax or call Harris Allied for a firm quote on price and delivery.



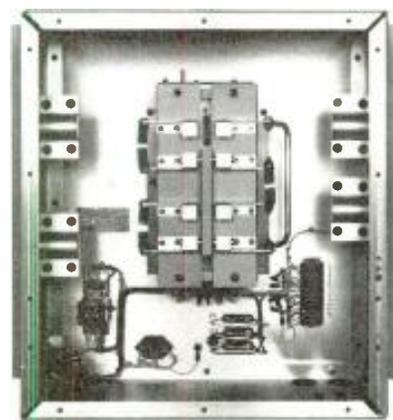
**N**eed to monitor your station? Can't stay awake 24 hours every day? Like to know the trend of your toughest competitors? Indy Audio solves the problem! Monitor your signal or a competitor's. Get a telescope of the format. Track the overnight jock.

Squeezeplay takes a snapshot of the station it's tuned to every 30 seconds continuously adjustable up to every 3½ minutes. The snapshot length may be varied by the user for as little as 2 seconds or as much as 30 seconds. Squeezeplay is priced so reasonably, you can easily buy several to monitor all your needs simultaneously. 117 vac. Need an info sheet? Just ask.



**H**arris' four-port motorized transfer switch for AM transmitters accommodates up to 8 kW RF power at 125% modulation. Ports for the main transmitter, an auxiliary transmitter and an antenna system are included, and a port for an optional test load is available. The unit comes with both 7/8-inch and 1/2-inch foam cable coax clamps for connection.

Designed around the Harris HS-4P RF Motorized Contactor, the switch provides transfer time of less than 0.5 seconds. Standard features include a 19-inch rack-mount control panel with push button operation and switch position indicator lights. The transfer switch is designed for local control or remote operation via 24 VDC contact closure.



# INSIDE Story

## Harris Names Brian Maloney To Head Broadcast Division

Harris Corporation has appointed Brian M. Maloney vice president - general manager of Harris Broadcast Division, headquartered in Quincy, Illinois.

He will succeed Thomas E. Yingst, who is retiring from full-time management but will continue to serve on special assignments.

Mr. Maloney, 48, joined Harris in 1978 as director of programs for the Government Support Systems Divi-



sion, Syosset, New York. He was promoted to vice president - programs for the division in 1983 and named vice president - general manager in 1986. He holds a bachelor of science degree in physics from Iona College; a master of science degree in electrical engineering from New York University, and an MBA from Columbia University.

## Gaylen Evans Named Director of North American Field Sales

Gaylen C. Evans has been promoted to the new position of Director of North American Field Sales for Harris Broadcast Division. Reporting to Gustavo Ezcurra, vice president of worldwide sales, Evans is responsible



for U.S. and Canadian field sales of all Harris-manufactured and distributed broadcast products.

A native of Kennett, MO, Mr. Evans worked at radio stations in high school and as an electrical engineering major at the University of Missouri, Columbia. During the Vietnam conflict, he left college to enlist in the U.S. Air Force, teaching electronics for three years and handling production for radio and TV stations on Johnson Island for one year. After service, he completed a bachelors degree in business from the University of Missouri, Columbia, then worked for RCA Broadcast Division as a sales manager for the San Francisco/Bakersfield/Hawaii territory.

Joining Harris Broadcast Division in 1979 as sales support specialist for TV-RF products, Mr. Evans was named TV-RF product manager in 1983 and manager of domestic TV-RF sales in 1986. ✍

## SEDAT Ready!



The reliable satellite receiver you've had for years, the FAIRCHILD DART 384, is ready for SEDAT (Spectrum Efficient Digital Audio Technology).

Certain radio networks (currently ABC and CBS) are incorporating SEDAT technology which will allow insertion of three audio program channels in the space previously required for one.

The cards are being manufactured by Scientific/Adcom using unique digital audio compression algorithm. These cards are compatible and ready for your FAIRCHILD DART 384!

The new cards will allow up to a 57 channel audio feed system with enhanced 20 kHz quality digital sound and future compatibility with proposed new DAB systems. Cards are also available for the S/A receiver.

Call the Harris Allied satellite professionals for complete details on the card and technology that is making it possible to expand your capabilities. The 'cards' are a hot item — don't delay...call today.



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SATELLITE EQUIPMENT

## Harris Allied Announces 1992 Training Schedule

**H**arris Allied will offer 41 technical education programs during 1992 at its Quincy, Illinois Broadcast Technology Training Center. In addition to courses on major Harris broadcast product lines, six general RF training programs are slated and will be open to any broadcaster — even those who do not use Harris transmission equipment.

Programs range from 3 to 5 days and are designed to enable participants to operate and maintain their transmitters for peak performance. Taught by Harris' full-time staff of instructors/service engineers, courses combine theoretical and practical training. Enrollment is limited and on a first come/first served basis. Complete course outlines and registration information are available by phoning the Broadcast Technology Training Center at 217/222-8200, Ext. 3589, or returning the FastFacts form at the back of this publication.

The following programs will be offered:

### • General RF Training Programs:

*AM Transmitter Workshop:* June 16-19; *FM Transmitter Workshop:* Feb. 25-28 and Aug. 18-21; *TV Transmitter Workshop:* Feb. 3-7, May 11-15, and Sept. 14-18; *RF Circuits I:* Jan. 6-10, April 20-24, and Oct. 26-30; *RF Circuits II:* Jan. 13-17, April 27-May 1, and Nov. 2-6; *Solid State RF Devices and Control Logic:* March 23-27.

### • Television Product Courses:

*BT-H/L Transmitters:* April 6-10, and Sept. 7-11; *TV-H/L Transmitters:* May 18-22, and Nov. 9-13; *HT LS/HS Transmitters:* March 9-13, and Sept. 21-25; *UHF (BT/TV/TVE/S) Transmitters:* Feb. 10-14, and Oct. 12-16; *TV-60/120UX and UM Transmitters:* Jan. 27-31, and July 20-24; *UHF Exciter Retrofit:* Dec. 1-4.

### • Radio Product Courses:

*FM-5/10/20K-G-H Transmitters:* July 27-31; *PT FM Solid State Transmitters:* Jan. 20-22; *Combination FM Workshop and HT 3.5/5/7/10FM and FM-3.5/5K1 Transmitters:* March 30-April 3, and Sept. 28-Oct. 2; *HT*

*20/25 FM and FM-25K Transmitters:* Feb. 17-21, and Aug. 24-28; *HT 30/35FM and FM-30/35K Transmitters:* March 2-6, and Oct. 5-9; *SX Series Transmitters:* March 16-20, and Oct. 19-23; *Combination AM Workshop and GATES 1/2/5 Transmitters:* June 1-5, and Nov. 16-20; *DX 10/25/50 Transmitters:* May 4-8, June 22-26, and Dec. 7-11.

### • Facilities Control Courses:

*9100 CRT Transmitter/Satellite:* July 7-10; *9100 CRT Keypad/LED Systems:* July 14-17.

## Recommended Training Sequence

• **TV Maintenance Personnel:** TV Workshop; RF Circuits I; RF Circuits II; Harris TV Transmitter

• **AM Maintenance Personnel:** AM Workshop; RF Circuits I; Harris AM Transmitter

• **FM Maintenance Personnel:** FM Workshop; RF Circuits I; RF Circuits II; Harris FM Transmitter

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### Harris Broadcast Division:

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Systems: (217) 222-8290  
FAX: (217) 224-1439

Harris Allied Broadcast Equipment  
3712 National Road West, P.O. Box 1487  
Richmond, Indiana 47375  
Telephone: General and Satellite Sales:  
(317) 962-8596; FAX: (317) 962-8961  
Broadcast Resource Center: TOLL-FREE  
(800) 622-0022; FAX: (317) 966-0623  
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Cherry Hinton, Cambridge CB1 3JU  
England  
Telephone: 44(223)245115  
FAX: 44(223)214632

## DX Proves Worthy

(Continued from Page 7)

We haven't touched a tuning knob since we got it. It just sits there."

Observing that the station has only had to replace a fuse and a module in a year, Phillips says, "Maintenance costs have essentially been zero, except for cleaning filters and a few other routine operations."

### High Reliability

WMEQ also appreciates the DX 10's high reliability. "It's been a dream transmitter," Phillips says. "Our old transmitter used to go off the air every time there was a lightning storm in the area, then we had to go out to the site and manually turn it back on or even do some repair work to get back on the air. The DX has an onboard sensor that turns the transmitter off until the fault condition passes then returns it to air automatically. It all happens so fast you can't even hear it.

"If there's a problem with the antenna, the transmitter powers down until the condition goes away then

returns to full power automatically," he adds. "For someone who's used to finicky tube transmitters, it's unbelievable."

### The Bottom Line

While Phillips expected power savings from the DX 10, he was surprised when the first power bill arrived. "I actually called the power company to come check the meter," he recalls, "because I was sure it had taken a wrong reading and I would get hammered the next month. But the bills have been that low every month."

After 18 months, Phillips says he would not hesitate to recommend the DX 10 to anyone (except his competitors): "I can't say that about every piece of equipment I've owned, but this transmitter has been a joy and Harris support has been excellent. In my opinion, anyone in this power range who doesn't look at the DX 10 is selling themselves short." ✍

For more information, please complete the Fast Facts form in this issue or phone 800-622-0022.

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AM broadcasters know the Gates name stands for durability, simplicity, reliability and performance. We knew those traditional values are still popular. But even we couldn't have guessed *how* popular. Since its introduction, the Gates Series has become the first choice of AM stations from 1 to 5 kW. Here are some of the reasons:

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- Output matching network
- Bandpass output network
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- ColorStat™ front panel diagnostics
- Open collector and dry contact remote control compatibility
- Short and long term VSWR protection with power cutback
- AC restart and fault memory
- Low maintenance "chimney" air handling

Call Harris Allied for more information on the transmitters that bring one of radio's proudest traditions up to date — the Gates Series.





## The HDTV Question

By Greg Best

Director - TV Marketing

First of Two Articles

**R**arely a day goes by when an article on HDTV doesn't appear somewhere. The public assumes it's coming. Receiver manufacturers are counting on it. The FCC has laid groundwork for determining a U.S. standard. But what about TV broadcasters who, after all, will implement it? Some are confident. Some are confused. Some are waiting to see what will happen, and a handful thinks HDTV may never happen.

Yet one thing is clear: TV broadcasters who make the correct strategic decisions about HDTV *now* stand to prosper in the future. So what does Harris Allied think *is* coming? When will it happen? What actions should broadcasters consider for the short and the long term?

### An Historical Perspective

From the first TV tests in the 1920's, TV has sought to reproduce images as they really are — in color. Thus, HDTV — expected to give viewers pictures with roughly twice the detail of the ones they're getting today — is urgently important, right? Well maybe — and maybe not.

In fact, HDTV's implementation is expected to parallel the transition from monochrome to color: By 1953 when NTSC color terrestrial transmission was adopted and the freeze on TV station licensing and construction lifted, millions of monochrome receivers already were in use. While viewers could see a dramatic difference between monochrome and color, they did not rush out to replace operating monochrome sets with more expen-

sive color ones. The transition to NTSC took 10 years or more. It occurred as NTSC receiver prices came down and old sets were ready to be replaced.

### Converting To NTSC Color Format

After much deliberation which was hotly contested at every step, the FCC adapted a color standard which met receiver-compatibility needs *and* advanced the state of the art. During the transition, TV stations broadcast a single signal which could be received in by either a monochrome or color receiver. Stations had to ensure monochrome equipment was maintained and operating at a competitive level throughout the transition.

Stations needing new monochrome equipment faced a dilemma: They knew it would be the last they would buy, but recognized competitive risks if they let the monochrome signal deteriorate or become less reliable. Many successfully managed the conversion by purchasing monochrome equipment needed to maintain market share, then gradually investing in basics needed for color transmission on a planned basis.

Of course broadcasters received no compensation from NTSC receiver sales to offset their conversion expenses. To finance the transition, many commercial stations sought capital from investors who eventually were rewarded for their patience and vision. Comprehensive ratings services developed, giving stations the quantitative information needed to secure advertising revenues to support the transition to color. RCA, proponent of the color system ultimately chosen, also offered financing.

### Enter HDTV

With HDTV on the horizon, again

consumers will need to invest in more expensive large-screen receivers.<sup>1</sup> Again stations will face huge equipment investments. But how will the consumer transition progress? Predictions are that:

- Consumers with excess disposable incomes and a propensity for luxury items generally will purchase the first receivers. Average viewers who watch TV for programming (and not format) are not expected to quickly replace operational NTSC receivers with HDTV models, which are priced hundreds of dollars (or more) higher.

- HDTV receiver manufacturers themselves — also at a transition point with NTSC inventories as well as additional orders — will make NTSC color receivers available for the foreseeable future. Over time, the price of HDTV receivers will come down.

- Initial HDTV programming will be supported by high-end advertisers. As more HDTV receivers are sold, more HDTV programming will become available and consumers will begin to appreciate its higher definition.

From a competitive standpoint, HDTV also will be available via VCR and cable.

- Continued technical advances will combine the benefits of high resolution and digital transmission (i.e., receiver frame stores, noise reduction through error correction, and adaptive equalizers), enabling consumers to see dramatic picture improvements.

It is anticipated that the transition will take 10 to 15 years. During that time, stations will need to continue to offer a highly competitive NTSC color signal while preparing for HDTV. 

### Next: Converting To HDTV.

<sup>1</sup>It's been suggested that a 32-inch screen will be needed to benefit from HDTV's higher resolution.

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Roll vehicle onto pad.



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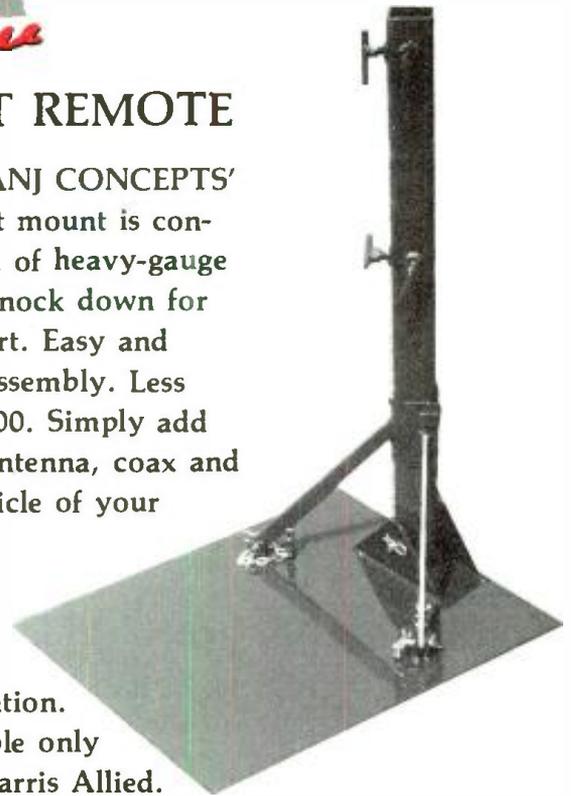


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