

NOV. 1, 1989

THE CROWN INTERNATIONAL EMPLOYEE NEWSLETTER

WE'RE BACK!

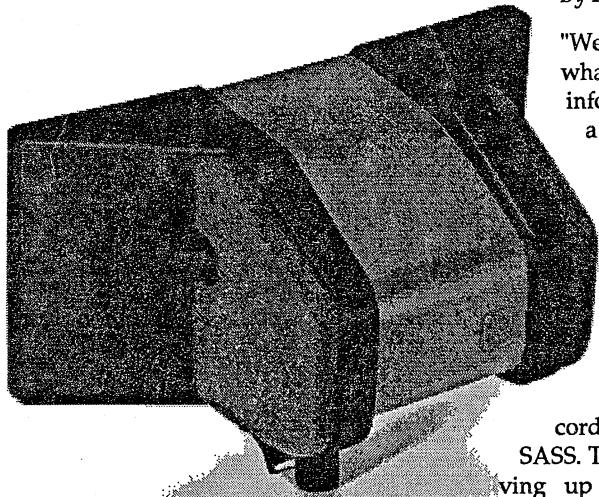
The *Crown Crier* (CC), official employee newsletter of Crown International, Inc., is back! Beginning January 1990, you will receive a new issue every month.

This issue shows our new format. Please let us know how you like it. We plan to fill each issue with news you won't want to miss—news about the company, its employees and the market place. We're also adding a *Letters to the Editor* column so we can hear from you (see details inside).

We've greatly expanded our staff to insure that CC fulfills its commission to *educate, inspire and entertain Crown International employees*. Our Editorial Staff includes: Beryl Moore (publisher), Libby Marshall (editor), Dave McLaughlin (editorial advisor), Bruce Bartlett (technical editor), David Harris (graphics editor), Michelle Rockel (asst. graphics editor) and Alan Wigent (photographer). The CC Production Staff is comprised of: Ron Ray (copy editor), Cilla Meachem (proofreader), Bobbie Roll (duplication) and Sherry Hochstetler (distribution). Sabrina Gall and Angie Gropp are your CC reporters. They are eager to hear from you. Give them your news for the Crier.

The Making of a New Mic

By Libby Marshall



"We are going to demonstrate what it can do," Tom Lininger informed Crown employees at a June assembly. He pointed to a gray plastic box on a stand. The box, a little smaller than a breadbox, is the housing for Crown's new Stereo Ambient Sampling System, the SASS microphone. Bruce Bartlett flipped a switch and we heard tape recorded sounds picked up by the SASS. The sounds of jet engines revving up to take-off, a full orchestra playing classical music and Al Unser, Jr.'s race car firing up at the Indianapolis 500 filled the assembly areas.

These sounds, unique in their amazing realism, demonstrated the quality of this new microphone. Operating on battery power, the SASS can record anywhere, from the runway of the LA airport to an English cathedral. Field testing it from Elkhart to Europe, Bruce and Tom proved its quality and another unique feature, it's easy to use—just point it and turn it on.

The SASS is a stereo microphone priced less than similar commercial products. Applications include classical music recording, stereo electronic news gathering, televised theatre or dance and stereo sound effects.

compatibility, excellent imaging over headphones and loudspeakers, wide range, smooth frequency response, low pickup of mechanical vibrations and wind noise.

Although unique in many ways, the SASS and its development also represent the many steps involved in creating any new product at Crown International. However, the SASS had a unique beginning for a Crown product. Michael Billingsley, a Vermont photographer and recording engineer, approached Crown to manufacture his patented design for a stereo Pressure Zone Microphone (PZM). The Crown PZM shape and configuration work well in this application.

Bruce, Tom and Steve Mills, Crown's mic engineering team, evaluated Michael's design by first measuring the frequency responses with the Techron TEF (time, energy, frequency) analysis system. Product line managers evaluated the market and determined there was great potential.

Bradley-Toner styled the shell with engineering input. Drawings and a clay model showed a plastic molder how to build samples. More drawings described parts needed to build prototypes. Tom called vendors to make a custom carrying case and lycra wind screen with elastic to cover the mic in windy weather. Each accessory had to be designed and tested.

Next Bruce, with the help of Sheryl Gingerich, printed out data sheets. Figures of all costs were published. Tim Bock, project coordinator, had

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The unique features of the SASS include mono

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"I Guess I Could" The First Product

By Beryl Moore

Clarence and Ruby Moore returned from the mission field on furlough, December 1944. Their Mission, HCJB, asked them to stay here and build transmitters and amplifiers needed by other mission groups. To earn a living, Clarence and Ruby began distributing tape recorders made by Pentron, Magnavox, Ampex, and Electro-voice.

One day a missionary from Brazil came to Clarence and said, "I cannot carry everything—a tape recorder, an amplifier, speakers, and a microphone. If you could just put the amplifier in with the tape recorder!"

"I guess I could," Clarence replied. "I never thought of building them myself."

The Royal eventually resulted from this conversation. Clarence took the English tape master mechanism apart and brought it up to specs. He ground the puck (the wheel that made the tape go around) and checked to see that everything was in tolerance. Then he built an amplifier and put the two in a carrying case. He also added a handheld microphone. According to Ruby Hunsberger, "By today's standards it was very crude."

The very next time the missionary from Brazil returned to the states Clarence had a Royal ready and waiting.



Letters to the Editor

We want to hear from you! Each issue we will highlight those letters of general interest which we receive. Send your letters to the CROWN CRIER Editor Libby Marshall. All letters must be signed by you so we can verify your authorship.

All material sent to us will become the property of the CROWN CRIER. We do not promise to print everything we receive and we reserve the right to edit the material sent to us. You will be notified before printing so you can approve it.



Division Leaders

By Libby Marshall

BILL GOHEEN, GIL NICHOLS and DON EGER, AMCRON, CROWN and TECHRON division managers, begin their first full year under Crown's new organizational structure in January 1990.

Amcron sells to the international market. "Equidistance" and "insiderization" describe the direction Amcron expansion will take in 1990. BILL GOHEEN offers to explain these terms to anyone who asks. Bill and his wife, Karen, are building a house for their family, Joshua, Glori and Caleb. They moved from Wisconsin, where Bill had his own business. Bill graduated from Louisiana State University and Fuller Theological Seminary.

As manager for the Crown Division of North American amplifier and microphone marketing and sales operations, GIL NICHOLS sees communication as top priority. Coordinating the efforts of the sales managers and representatives with marketing support and product manufacture requires frequent, open dialog at all levels. He says, "Quality, profitable product NOW!" is the biggest challenge facing them. Gil, his wife, Kathi, and teenage son, Aaron, became acquainted with other Crown sons and daughters at the Special Olympics in Las Vegas. Gil is a Wheaton



Don Eger

Gil Nichols

Bill Goheen

College graduate and former director of Elkhart Youth for Christ.

DON EGER begins his 26th year at Crown in 1990. He progressed from engineering and product design to the development of licensing and marketing activities for the PZM and Time Delay Spectrometry (TDS). Techron evolved out of the company's commitment to industrial marketing. Don refers to Crown International's growth from electronics to strong instrumentation "futuristic" with endless possibilities. A graduate of Valparaiso Tech and I.U.S.B., Don lives in Elkhart with his wife, Sylvia, and children, Tim and Heather.



Three Cheers for the Reps!

By Michelle Rockel

On June 11, 1989, forty-three sales representatives of Crown International arrived in Elkhart for a training meeting. Joe Wisler, Chuck Gring and Tony Satariano (regional sales managers) welcomed them to the area and then escorted them to Jim Beattie's house for a Sunday evening picnic. They were fortified by all types of food including delicious barbecued pork prepared by Joe Wisler and fresh homemade strawberry pies.

They came to the plant on Monday for a greeting from Clyde Moore and the beginning of their two-day training session. They participated in a live workshop which included hands-on experience with the Com-Tech and the IQ System. The Reps then boarded a bus to the Missionary Church Campgrounds. They wired speakers and amplifiers and took measurements such as impedance and signal level. This was all done in the rain, but

the reps enjoyed every minute of it.

After a full day of training, the Reps were treated to an elegant dinner at the Patchwork Quilt Inn. Six plaques were awarded to the reps for 5, 10 and 15 years of service and a plaque was given to Dobbs-Standford as "Rep of the Year." Two plaques were presented to reps who exceeded their quotas for the year.

On Tuesday, sales managers and engineers demonstrated differences between Crown and competitor equipment. Jim Putz and his band accompanied a demonstration of the new SASS microphone. At a rep's suggestion, they made a successful on-the-spot recording. This Rep meeting closed with a plant-wide tour.

In the past, Rep training has occurred once every two years. This session was so successful that Jim Beattie (general sales manager) feels another one in 1990 would be beneficial to Crown and its representatives.



AES Highlights... BIG FUN AT THE BIG APPLE

by Bruce Bartlett

Crowds of show-goers filled the Crown booth at this October's Convention of the Audio Engineering Society in New York City. Show attendance was high, and we enjoyed a conspicuous booth location just inside the main entry.

Our booth, though condensed in size for this show, looked handsome and displayed our products clearly. Several new products were prominently shown: The SASS stereo microphones, the IQ System 2000, and the Techron TEF-12 Plus.

The SASS is a stereo microphone using boundary technology. One model, the SASS-P, uses two ear-spaced PZMs on angled boundaries. Another model, SASS-B, is a stereo boundary mount for B&K 4006 low-noise studio microphones. Both models are easy to use and provide an excellent stereo effect.

Interest in the SASS ran very high. Many attendees listened through headphones to live SASS signals and a SASS demo tape. Other items generated interest in the SASS: ads in several magazines available at the show, an article in Recording Engineer/Producer magazine, and a paper on the SASS presented by its inventor, Michael Billingsley. Michael's speech was well received with bravos and requests for more information.

Also displayed was the Techron TEF System 12

Plus, the latest version of our TDS audio analyzer/computer. It was running current software such as POLAR.ETC, which shows both the direction and distance of sound reflections in rooms. This type of measurement was never before available.

We continuously ran a computer demo of the IQ System 2000. This system lets the user remote-control up to 2000 power amplifiers and monitor their performance. It includes a computer (Macintosh software is currently available), a PIP-IQ card that installs in each amplifier, and an interface box. The system is used with Macro-Tech and Com-Tech amplifiers, and — with modifications — Micro-Tech and Power-Base amplifiers.

After working the booth and meeting enthusiastic customers, we're confident that Crown can expect abundant orders. Thanks to everyone who worked so hard to make the show a success.



Cartoon Contest

- The Crown Crier is announcing a cartoon contest with the winner to receive a Crown T-shirt plus publication in the January 1990 issue. Please note the following guidelines:
- 1. Theme - "Quality"
- 2. Date due - November 30, 5pm
- 3. Please send to editor, Libby Marshall.
- 4. Name of cartoonist must be attached.
- 5. No laughing until publication!



...MAKING OF MIC from page 1.

CAD drawings made. The Purchasing Department requested quotes from vendors for parts and tooling and ordered parts included on a Bill of Material prepared by Jan Smith.

The Manufacturing Department then stepped in with engineers to improve the design for manufacturability. Test procedures and fixtures were developed. Performance envelopes were prepared to tell the Production Department if a new product passed or failed. The tooling and manufacturing engineers designed and constructed jigs and fixtures to be used in the assembly process.

With these developmental steps completed the engineers and manufacturing were ready for the pilot run which began the day after the June assembly. Tom and Bruce claim that next to designing a successful prototype a successful pilot run is the most satisfying part of their work. It proves the design can be manufactured.

Experienced assemblers found that longer screws were needed to hold the housing in place. The QA department discovered that paint was not ad-

hering to the front panel. After corrections were made a quality assurance team unpacked and disassembled packaged SASS microphones, examining them for potential problems. Eventually 30 microphones filled the first orders from the Audio Engineering Society (AES) show.

The February AES show in Hamburg was another first for a new product. Never before had a Crown product had its first market introduction outside the United States. The response of the European broadcasters and electronics engineers indicated a profitable future.

The field test recordings, demonstrated at the show and for Crown reps and employees in June, were impressive. However, the employees probably most enjoyed the final highlight of the SASS demonstration which left no doubt about the ability of the SASS to reproduce sound realistically. Jim Putz, shipping supervisor, played a classical guitar. It was recorded with the SASS and played back. The two performances were indistinguishable.

A mic was made!

Mr. Mic

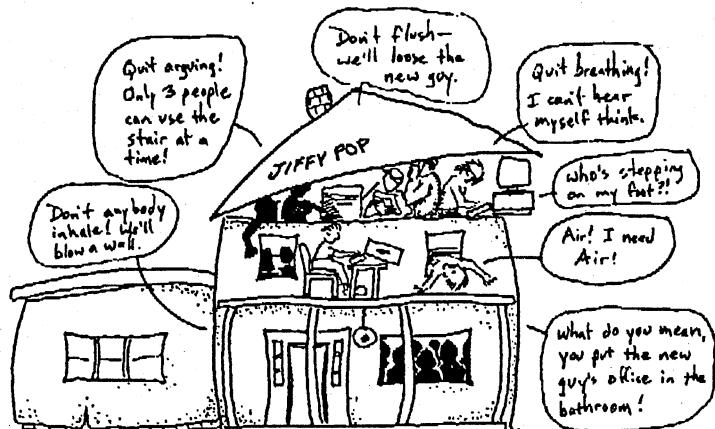
Bruce Bartlett and Steve Mills engineer recording sessions for demonstration tapes and albums in their recording business, Rolling Thunder Recording. Using Crown microphones, they practice the technology designed into new products such as the Stereo Ambient Sampling System (the SASS microphone).

Recording technology pervades Bruce's life. He experiments at home recording children and birds in the woods.

Technical writing absorbs much of his life outside and inside of Crown. Bruce's talent for editing and writing the MIKE MEMO and other Crown literature produces concise technical information for electronic professionals and users. Over 200 articles have been published under his byline in db MAGAZINE's "Recording Techniques" column. Other magazines that publish Bruce's articles are RADIO WORLD NEWSLETTER, FRETS, CIG and RECORDING ENGINEER/PRODUCER.

Bruce wrote two books, published by Howard W. Sams, Inc., INTRODUCTION TO PROFESSIONAL RECORDING TECHNIQUES and RECORDING DEMO TAPES AT HOME.

Techron Moves in Plant



Before Move



After Move

The ancestral Moore home is finally at peace now that Techron has moved into Plant 1. Richard Moore successfully bid on the house and intends to move it across the street and fix it up. He promises to fill in the hole the old home will leave.

Meanwhile, Techron is breathing sighs of relief in their spacious new location.

CROWN CRIER

The Crown Crier is the monthly newsletter for Crown International employees. Its purpose is to be both informative, inspirational and entertaining.

Your involvement is highly prized. Please contact a CC Reporter with any material you would like to see in future issues.

Publisher: Beryl Moore

Editor: Libby Marshall

Reporters: Sabrina Gall, Angie Groppe

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Like apples of gold in settings of silver, Is a word spoken in right circumstances. Prov 25:11