

SNC's Satellite Broadcast Solution

by Mark Stucky

Thousands of pizza-sized satellite dishes are springing up in back yards like mutant metallic mushrooms. The dishes, receiving digital satellite transmissions, provide outstanding television program reception and choices. Besides making couch potatoes euphoric, satellite communication also has many business applications.

Consumer satellite dishes connect to black boxes sitting on top of TV sets. These black boxes are generically called "Integrated Receiver Decoders" (IRDs).

Within Crown Broadcast, the Satellite Network Communications business unit, led by Daniel Enns, is creating a new breed of IRDs with the family name of SpectraCast.™ The first IRD, the DR1000, is entering production. (It will be manufactured on a Techron assembly line.)

The DR1000 is a data "engine." It receives a satellite transmission, decodes the data, and passes the data to (typically) a computer (instead of a TV).

To send information from computer to computer, why not just use a modem and telephone line? A satellite transmission, using the SpectraCast system, can transport data a *thousand times* faster than a typical computer modem. Plus, while a modem can connect a computer to only one other computer at a time, a satellite can transmit data to thousands of IRDs simultaneously.

The SpectraCast system is also more than just about computer files. Since ev-

erything is data in a digital system, encoded audio and video files can also be transported. For example, transmitting files via satellite to radio network affiliates and translators has huge market potential.

Although the DR1000 is the initial production unit, IRDs with expanded capabilities (DR2000 and DR4000) and a headend data multiplexer (DTMX1000) are currently being developed. The DTMX1000 is a controller/en-

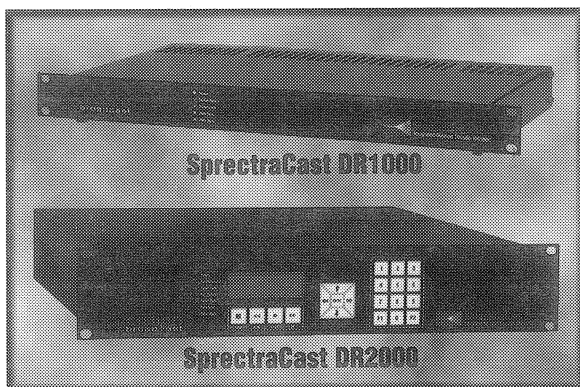
coder that allows satellite networks to use the enhanced features of the DR2000 and DR4000.

Among satellite information delivery schemes, the SpectraCast

•**Store and Forward.** Audio/video/data files can be stored as they are received for later use.

•**Variable Data Rates.** Users can select the bandwidth they need for their applications, eliminating wasted capacity.

These features make the SpectraCast system an ideal satellite broadcast solution. The great interest in these products by multimedia content providers may result in sales of thousands of units as quickly as Crown can manufacture them. ☐



Crown's new Integrated Receiver Decoders.

system has a number of distinctive features such as:

•**Multiplexing.** Multiple signals are mixed together, transmitted as one signal, and then separated back into their original forms. Multiplexing increases efficiency and lowers cost of transmission.

•**Addressed Broadcasting.** Data files can be addressed to a designated individual IRD or a group of IRDs. All other IRDs receiving the satellite transmission ignore those files.

•**Permissioning.** SpectraCast acts as a digital "spigot," permitting or blocking the reception of real-time audio programs. The network maintains control over which affiliates can receive what programs.

Top Ten Tours Choose Crown

The Top 10 grossing tours of 1996 all used Crown amplifiers when they took their shows on the road. The "Centerstage" section of the February issue of *Pro Sound News* listed the top 10 tours of 1996 according to *Performance Magazine*. The acts and touring companies are:

- #1 Kiss/Showco
- #2 Garth Brooks/MD Systems
- #3 Rod Stewart/Electrotec
- #4 Bob Seger/Showco
- #5 Neil Diamond/Maryland Sound Industries/Sound Manufacturing Inc.
- #6 Alanis Morissette/Showco
- #7 Reba McEntire/Showco
- #8 Hootie and the Blowfish/Special Event Services
- #9 Ozzy Osbourne/Showco
- #10 AC/DC/ DB Sound, L.P.

Crown's computer control sound system (IQ), a variety of Crown amplifiers and microphones were used in these tours. ☐

Sue Kurtz, State President of PSI

Sue Kurtz will cap her secretarial career April 19 when she accepts leadership for the Indiana Division of Professional Secretaries International (PSI) during their annual meeting in Goshen. Currently Vice President of the State organization, Sue came up through the ranks of Goshen's Maple Chapter, serving in various offices including the presidency.

Sue exemplifies the professionalism encouraged by PSI through informational programs, educational seminars and resources, a certification program, networking and experience in communication skills. This international

organization has chapters in countries around the world and in all the United States.

Other Crown members helping the Maple Chapter plan the State event for 18 chapters are Gretchen Neely and Sue Vicary. Speakers for the three-day event include June Alliman Yoder of Associated Mennonite Biblical Seminaries, Sam Willits, president of the Goshen Chamber of Commerce, and Goshen's new mayor, Alan Kauffman. In addition to the annual meeting they are planning seminars, officer installation, breakfast and luncheon business meetings at the Goshen Inn and Conference Center. ☺



Sue Kurtz

Partnership in the Future

by Sheila Cook and Tom Brown

On February 27th and 28th Sheila Cook and Tom Brown had the opportunity to participate in two days of workshops held at the Elkhart Area Career Center. Over 600 students participated in "Career Day" programs with multiple sessions and businesses.

This is the second year that Crown has participated along with other area businesses. Business involvement with area

educational institutions is vital for our future. Our goal was to convey to the students what to expect as they prepare to conclude their education and pursue careers. The presentations were geared toward helping students understand the expectations of businesses for their employees.

Crown's responsibility was to share with the students how to fill out applications, how to present themselves, what to expect in an interview, and what to bring

with them. It was a rewarding two days. We shared the real life experiences of an employment office. To give them an advantage by knowing what prospective employers look for in candidates, we pointed out do's and don'ts to consider in preparing for job searches.

The Career Day program is an excellent example of how a partnership of educators and industry can help develop our workforce of the future. ☺

Fifth-graders Learn About Crown Microphones

by Bruce Bartlett

In February, I had a chance to show some kids the wonder of microphones. I visited Hawthorne Elementary School in Elkhart and gave a demo/talk to two fifth-grade classes. As an introduction, I said "I'm a microphone engineer for Crown International here in Elkhart. An engineer is somebody who designs things. Almost everything you see around you was designed by an engineer, or an artist, except things that are a part of nature."

"A microphone changes sound into electricity. Everything you hear on the ra-

dio, TV, or CDs was picked up by a microphone." I brought along an oscilloscope with a mic plugged into it.

Talking into the microphone, I showed the children what various sounds looked like on the oscilloscope. We passed the mic around so the kids could see their voices. They were fascinated.

Sometimes as I was talking, I noticed that the kids couldn't keep still. At one point I had to say "Quiet, please." The teacher gave them a scolding.

Later on I showed all sorts of Crown

microphones — a boundary mic, stage mic, lavalier, handheld, and lectern mic. What got the most interest was the headworn mic we first made for Garth Brooks.

The students asked a lot of thoughtful questions, such as "How many parts are in a microphone?" "Are mics made on an assembly line?" "Does Snoop Doggy Dog use Crown mics?" And even, "How much do you make?"

It was fun talking with the kids. I came away especially impressed with how hard our teachers work to keep the kids under control! ☺

Teamwork: An Employee Safety Success Story

Based on a Report by Carmen Wegener, Environmental, Health, and Safety Specialist

“Blasting” in the Powder Coat Department is a procedure which removes coating from defective parts. The Maxi-Blast machine (see photo) uses plastic particles shot from nozzles enclosed inside a glass container to clean parts. It turned out to be the culprit not only of dust in the area, but also noise that prevented normal conversation.

Employees complained of the dust accumulation and Carmen’s visual inspection verified that there was a problem. However, the particulate (nuisance dust) level measured during her air monitoring, was 30 times lower than the level permitted by OSHA for an eight-hour period.

It was the “cloud” of dust generated during the removal of spent blasting media from the machine’s hopper drawer, that Powder Coat employees perceived as a health hazard. Two or three times during a work shift about two cubic feet of the media had to be removed from the drawer, and it took six to eight scoops from the drawer into a waste drum to get the job done.

Besides the dust, Carmen found that she had difficulty hearing and talking to

Supervisor Paul Ferry about the problem with the machine running, because of the noise. She measured the noise level at 84.8 dBA (decibels, A-weighted scale) for an eight-hour time-weighted average (TWA). OSHA mandates a hearing conservation program for employees exposed to noise

vide Kevin Wingett, who does Powder Coat maintenance, with a checklist of maintenance items which Kevin carried out. There was a 70% “noise dose” reduction during a shift. “It was then possible to converse in a normal tone inside the blasting room,” Carmen said.



Carmen Wegener and Kevin Wingett teamed up with Paul Ferry and Jim Winters to improve the Maxi-Blast machine and operation.

But the dust remained. They tried to vacuum the dust directly from the drawer into the waste drum, but before the drawer was emptied the vacuum was clogged. Jim Winters was called back. Carmen explained that “Jim instructed us in how to set up a modified ‘drop box’ system, which creates a vacuum inside the collection barrel while keeping dust away from the vacuum cleaner and motor.”

In this case, protecting workers by written procedures, training, or personal protective equipment is not necessary, since the EHS team

levels at 85 dBA, TWA or above.

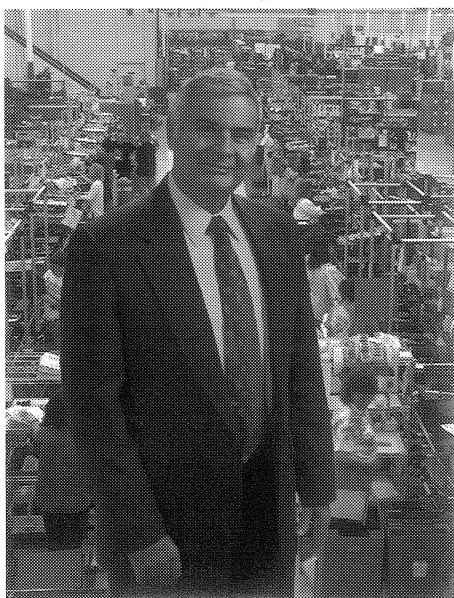
Protecting workers from these types of hazards ideally begins at the design phase through engineering controls. Enter Jim Winters, Maxi-Blast representative. He pro-

plus supervisors, employees and equipment representatives worked together to eliminate the hazards. “Best of all,” said Carmen, “Paul reports that everyone feels safer now because it is not noisy and dusty anymore.”



Electronics Education on the Move

The Indiana Electronics Manufacturing Association (IEMA), of which Crown is a member, and area high schools sponsored an Electronics Career Awareness program at several companies in Elkhart and South Bend in April. IEMA’s Mobile Electronics Manufacturing Lab (MEML) parked at Crown April 14th and 15th and interested students from Jimtown and Elkhart Central High Schools walked through it to view the assembly of a printed circuit board and try their hands at soldering. They also toured Crown manufacturing areas, met with representatives from the Lifetime Learning Center, area universities, and the United States Navy, and got some job tips from Crown’s Human Resources Department. Norm MacIntyre, Crown’s IEMA representative, and Lois Spragg coordinated this community educational outreach for Crown.



Terry Hammond

Internal Audit Fills a Need at Crown

Many of you know that Crown now has its own internal audit function. But you may not understand just what this means. The function is being developed by Paul Kowalski who was recruited by Crown because of his broad-based experience in this field. If this bit of news has stimulated a little apprehension, you are probably wondering, "Why was this function created and how does it affect me?"

Historically, audit was viewed as a type of policing function with an objective of looking for problems or wrongdoing and exposing these situations. While there probably was some validity to this perception, the practice of modern internal auditing is a far cry from what it was in the past. In fact, many of the leading accounting firms

The President's Memo...

have minimized their use of the word "audit" in favor of the more representative term "assurance" in order to dispel the negative connotations. There is, however, much more to it than a name change.

The internal audit function of today is responsible for evaluating the effectiveness and efficiency of its company's internal control systems and making contributions toward their improvement and ongoing effectiveness. But, what does "internal control" actually mean? Internal control is broadly defined as a process effected by the company's board of directors, management, and other personnel. It is designed to provide reasonable assurance regarding the achievement of objectives in the following categories:

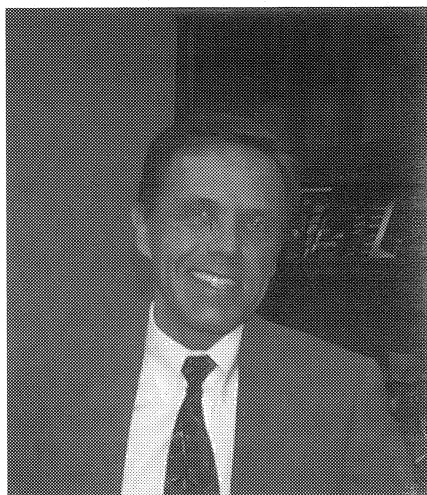
- Effectiveness and efficiency of operations
- Reliability of financial reporting
- Compliance with applicable laws and regulations

Note that the auditor's function is to evaluate operations and control systems but not personnel. To develop recommendations for improvement, however, the auditor must rely on the experience and knowledge of personnel within the function being reviewed to understand the environment. To be successful in this endeavor, the auditor encourages involvement of operations personnel.

Every employee of Crown is affected by the corporate internal control systems. The *Employee Handbook* with its policies and procedures represents an internal control. Completing requisitions and getting approval signatures are also activities that are part of an internal control system.

Crown probably could have benefited sooner from having an internal audit function, but rapid growth has created a sense of urgency. Growth causes the operations of a business to become more complicated. Control systems help provide direction and consistency to activities within a company's operation. The more complex the business, the more important is the need for effective internal control systems.

As we celebrate the 50th anniversary of Crown and develop Crown's internal audit function, we become even better in our stewardship responsibilities. I encourage your support of Paul as he assists management in maximizing Crown's potential, for the benefit of its stockholders, employees and the realization of its core values.



Paul Kowalski, Internal Auditor

Terry Hammond

The CROWN CRIER is published monthly or bi-monthly to inform employees of customer, corporate, departmental and employee news and progress. News and ideas are always welcome.

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Employee Committee Financial Report

Balance as of 4/14/97:

Savings	\$2,225.29
Checking	<u>3,217.58</u>
Total	\$5,442.79