

CROWN CRIER

Since 1971

Crown International, Inc. Employee Newsletter

January 1995

Introducing The Audio Nine-Flow Line

by Sue Ramsby with Marlin Brown

A new production line swung into action at Crown International January 23rd. It is called the "Audio Nine-Flow Line" because of the demand flow processes instituted there. Paula McBrier was named Supervisor of the new line in December, and Marlin Brown serves as the on-line Manufacturing Engineer.

Construction for "Nine-Flow" began during the Thanksgiving weekend. Since then, roller ball work tables, tech bench equipment, gravity conveyors and other new pieces of equipment have made their way to the new assembly area. The line will first build the Macro-Tech 3600VZ, and will eventually become a mixed model line for ten different amps.

Marlin explained that the ultimate goal is that amplifiers will be built according to customer order/demand. If a customer wants ten Macro-Tech 36X12s, two Macro-Tech 3600s, and four Macro References, then the line will build exactly that.

To allow the manufacturing staff to assemble continuously, three-way lights are erected high above the work stations to signal when parts are needed. A maximum of one week's worth of parts are always available to the line.

Marlin said that Nine-Flow is ergonomically correct. Employees do not have to lift amplifiers because roller ball and gravity conveyor tables are used. They use mechanical amp "flippers" to turn amplifiers over during assembly. The positions are "stand only" so there are no chairs on the line except for the sit/stand chair for the tester. A gravity conveyor delivers the heavy transformers so they do not have to be lifted from the floor.

Eight assemblers started up the line which will eventually expand to 23 positions. Cross-training will not only enable assemblers to work on various models, but also to understand the differences in assembling each one. The employees meet for approximately ten minutes at the end of each work shift to discuss any problems they might have had that day, and to come up with ideas or solutions to production problems.

Nine-Flow is serving as a prototype manufacturing system to initiate Just-In-Time (JIT) procedures throughout Crown. CAD-drawn assembly procedures are located at each position on flip charts which allow assemblers to see pictures of the procedures they need to carry out. CAD Systems Manager Garey Beck and designers Jamie Stuber and Andy Holtz have done excellent work in preparing the drawings.

The last new production line to open here at Crown was the Amcron Production Line 10 which started in December 1990. The Audio Nine-Flow Line opens another era in manufacturing at Crown. Manufacturing will continue to explore new ways to implement demand flow concepts in all production areas. According to Marlin, the faster that we achieve success with Audio Nine-Flow, the quicker other lines can be converted.



(L to R) Stephanie Detwiler, Laura Turza, Jackie Brown and Marlin Brown are smiling as they assemble the first MA3600VZs.

There's Gold in Them Thar' Halls!

Contemporary Christian singer, Carman, sent a gold record for the Audio Division to display proudly in Crown's hallway. It was "Presented to Crown Audio to commemorate the sales of more than 500,000 copies of the Sparrow Records Album, Cassette and CD, of 'The Standard'."

Crown Audio supports Carman with 64 Macro-Tech 1200, 2400 and 3600VZ amplifiers, CM-311 microphones, a TEF, and the technical expertise of Blair McNair and Doug Bullard.

Transformer Design Lab on Display

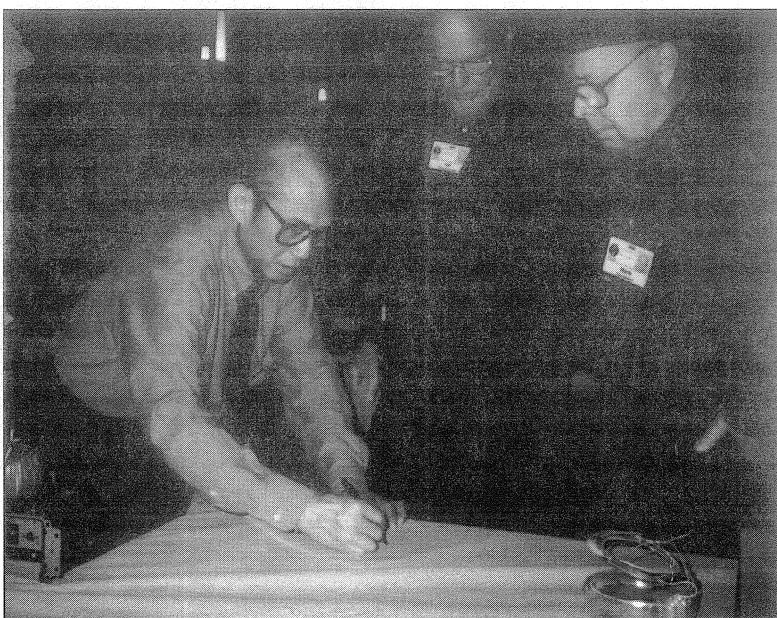
by Libby Marshall

Fabcom's Open House on January 18th featured transformer manufacturing and the new magnetics design lab of Kheemoy Chung in Plant 3. Kheemoy's enthusiasm was contagious as he welcomed visitors into the fully equipped design and testing lab.

With the computer, Kheemoy set up an online Excel spreadsheet which calculates all specifications for toroid design. ("Toroid" refers to the donut shape of the transformer.) SPICE software analyzes all parameters of integrated circuitry. A hand-held multi meter for thermal measurement interfaces with the PC.

Complete engineering design services are provided by powerful and unique pieces of equipment. The Techron Line Voltage Generator (LVG), which includes six large amps and a control box, is used to test voltage levels and run full load testing of transformers. There is a four-channel LeCroy digital oscilloscope and a signal generator. A transformer regulation test box is configured from an amplifier and a TEF 10 analyzer.

GE was on the verge of releasing a new plastic film product, ULTEMP 5000, when Kheemoy discovered he could use it in Techron 8645 transformer design. This new film enables the transformers to be built to withstand high temperatures (180°C) with the least cost. Because it is



Kheemoy Chung explains a concept to Ed Pienkowski and Herb Jacobson of HCJB.

thinner than insulating materials now being used, its volume is reduced, which helps reduce transformer size.

When Kheemoy asked Jim Wilson of GE Structured Products Division for authorization to use its Underwriters Laboratories (UL) approval, GE was excited. They wrote an article for *Design Solutions Magazine* (Vol. 2, #4), and also sent an 8645 transformer to the International Industrial Exhibit in Paris, France.

In the above article, Resource Development Manager Gerald Stanley said, "Crown transformers will help our gradient amplifiers to be used in future [GE] Signa™ models with faster imaging times and higher resolution of

anatomy. We anticipate that the increased efficiency of our new amplifier will create strong demand both from new Magnetic Resonance Imaging (MRI) customers and from existing users who wish to upgrade their systems."

Other benefits of this all-digital lab include easy transfer of test and measurement data to the automatic toroid winding equipment. Broadcast, Audio and Techron business units will be able to get quick turnaround (one week) on small quantity prototype designs.

Some 50 part numbers are programmed into the machines so they can quickly be adjusted to different products. During the Open House, Magnetics Supervisor Al Spencer's team, Rena LaBeau, Pam Burkey, Harvey Cunningham, Vicki Malk, and Jeff Yoder demonstrated their transformer winding techniques. Pam said that six years ago she did "bobbin winding" on a lathe in Fab. A batch of 30 to 50 output coils for the 7700 took her from three to five days to complete. The new Bachi Model 415 machine she uses now lets her to complete a comparable batch in about two hours.

With the fully equipped lab and state-of-the-art equipment, the Transformer Department can efficiently design transformers and manufacture them to spec. Future plans involve the purchase of more of the same type of equipment and the employment of a second shift to increase production capacity for such products as the Techron Power Products 8645 gradient amplifier. ☎

A Reporter's Worst Nightmare

Pro Sound News rookie reporter, Clive Young, conducted his first Crown interview with Terry Hammond, Crown President, at the National Association of Music Merchants (NAMM) show in Anaheim, California, January 20th.

Gerry Barclay, Audio Marketing Administrator, listened nervously and was thrilled with the good interview which resulted.

Later, back at the office, Gerry received a desperate call from Clive Young. The treasured notes of the interview were destroyed. A runny blur of ink and brown stains remained after Clive spilled coffee on his steno pad.

All was not lost, though. Terry was persuaded to call Clive "to clarify a few facts." "A View From the Top" was saved. You will see it in *Pro Sound News*!

Weather Bulletin

Tune to any of the following radio stations for reports of plant closings:

WFRN - 1270 AM and 104.7 FM

WKAM - 1460 AM

WHME - 103.1 FM

WNSN - 101.5 FM

WTRC - 1340 AM

The main telephone switchboard line, 294-8000, will alert all callers.

They Aim to Serve

by Rhonda Chapman

What you would do if our company didn't have someone to route your calls and mail? We have three "someones," Patti Harris, Tammie Putz, and Lisa Hartigan. Each has her own job title. However, they are cross-trained and "they're a terrific triple team with a single mindset to get the job done in the best interest of the entire company," says their supervisor, Ron Bradford.

Patti Harris, Switchboard Operator, handles the company's main switchboard, which takes an average of 500 calls a day from customers, vendors, employees, friends and associates. As Receptionist she greets visitors and calls the appropriate employees for them. She oversees the scheduling of the large and small conference rooms and the Plant 1 Assembly Area. She maintains the front lobby and even sells stamps. This is a fast-paced job, and when the going gets tough, Patti does her best to keep on smilin'.

Because we are an international company, we receive calls from customers who speak foreign languages. Even though she has to find employees who can communicate with them, Patti enjoys making small talk with them. They always ask how the weather is. She also says it's fun talking to those who work with famous music groups. Personnel with Sawyer Brown and Merle Haggard call quite frequently. Her co-workers describe her as someone who goes "the extra mile to serve our customers."

Mail Clerks Tammie Putz and Lisa Hartigan conduct three mail runs each day. At 8:00 am, one of them delivers and picks up the mail in Plant 1. In the mail room, they search the bins of mail from the post office for all the checks and deliver them to Accounts Receivable by 10:00 am. Then the rest of the mail is sorted into four categories: Plant 3, Plant 4, HCJB, Plants 1, 2 and 2A, the latter having 57 mail stops. They complete the morning by doing a mail run to Plant 1 offices and Plants 2 and 2A.

The afternoon begins with a third mail run to Plants 1, 2, and 2A. Then, Tammie and Lisa tackle the task of metering the out-going mail for the post office courier to pick up at 4 pm. They determine how it



L. to R.: Risa Wright, Lisa Hartigan, Patti Harris, Tammie Putz.

should go (first class, certified, parcel post, etc.), the amount of postage, which departments will be charged, and they make sure the paperwork is completed correctly. They also prepare Federal Express letters.

Every month they deliver phone lists, Crown Criers, and birthday lists, and run many reports. They deliver in-coming faxes as well.

When time permits, they work on bulk copy requests and are on call to maintain both the copy and fax machines.

This job requires 100% accuracy to meet requirements, no ifs, ands or buts. The post office has yet to return any mail to us for corrections since Tammie

and Lisa have been working in the mail room.

When asked what they like most about their jobs, Patti and Tammie like meeting people and Lisa enjoys the variety of working in the Computer Room on Fridays. A "thank you" goes to Ron Bradford for supporting their ideas for greater efficiency.

They appreciate the switchboard relief they receive from alternates Diane Turpin, Sheryl Gingerich and Risa Wright. We all can support them by giving our departments' direct dial-in phone numbers to those who might call us at work, getting our mail to the mail room by 3:30 pm, writing legibly on interoffice envelopes and moving out of the way when that huge mail cart comes down the hall. ☎

"Hey, Cousin Merle!"

by Sue Ramsby

Country and Western legend Merle Haggard received greetings from cousin Gretchen (Haggard) Neely when he was performing in Las Vegas in December. Merle is third cousin to Gretchen's father, Leo Haggard. She sent Merle a letter to give him a southern-style hello packed in with a Crown microphone headset sent to him at the Sahara.

Along with Gretchen, Merle is also a cousin to Patti Harris (switchboard) and

Joyce Malcom (Line 1). They have yet another cousin, Renee Haggard, who is a hopeful up and coming singer, performing in the Nashville area. Renee has a cassette recording in circulation.

In her letter to Merle, Gretchen gave Merle an open invitation to come and take a tour through Crown whenever he can make time in his busy schedule. If you ever do see Merle passing through the halls of Crown, don't forget to say, "Hey!"

The President's memo...

"Empowerment"

We seem to be living in a society where there is an increasing desire for freedom to do our own thing, but a decreasing desire to be accountable for the implications or results of this freedom. For example, I believe we have seen a trend in this country over the last thirty plus years in which people want more freedom but less responsibility. "Let the government or someone else be responsible," is what we hear.

Unfortunately, more freedom combined with less accountability for our actions leads to utter chaos and finally total collapse of any society. This same principle applies to a country, a city, a family—and yes, even a company.

I am a firm believer in delegation and empowerment as key management principles. In fact, I believe a viable company must empower its employees if it is going to compete effectively in the 1990s and beyond.

Empowerment, however, gives an employee newfound freedom to act with less direct supervision or direct control. As a company moves towards empowerment of its employees, it cannot effectively do this without several other ingredients. In perhaps its simplest form, I would suggest that these other necessary ingredients are:

1. Clear objectives.
2. The right tools and training to reach these objectives.
3. Measurements to determine how we are doing.
4. Accountability for results.

I believe if these four ingredients are missing, empowerment can and will lead to chaos. An "empowered" employee:

1. Understands the objective(s).
2. Has the right tools and training at his/her command.
3. Has good measurements to measure progress and results.
4. Is willing to assume responsibility for results (accountability).

I feel strongly that Crown International must aggressively move towards a greater degree of empowerment of our employees if we are to effectively compete in this highly competitive global market in which we find ourselves. Therefore, we must do a much better job of defining our objectives, giving people the right tools and training to reach these objectives and better measurement systems.

On the other hand, we must all start thinking in terms of assuming greater accountability for the results. If we as Crown employees, collectively and individually, are not willing to assume higher levels of accountability, then higher levels of empowerment are not practical. As we assume higher levels of freedom, we must also assume responsibility for our actions.

We will achieve far greater positive results as a corporation as we are willing and able to empower people. The results include personal satisfaction, higher profits and wages, and job security. Empowerment of people is a key factor in the pursuit of World Class Manufacturing status.

I will pursue this idea in future issues of the Crown Crier.



Robert Terry Hammond

The Crown Crier is published 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

As of January 19, 1995:

Balance in

Checking Account: \$4,135.69

Savings Account: \$1,744.18

Total On Hand \$5,879.87

Psalm 128:1,2

*Blessed are all who fear the Lord,
who walk in his ways.
You will eat the fruit of your labor;
blessings and prosperity will be
yours.*