

Reorganization sharpens QA focus, opens jobs

During October the Equipment Products Group was reorganized into three separate entities: the Large Storage Systems Group, the General Systems Group, and the Communications Division. Often referred to as "the split" by members of the three affected areas, the reorganization reflects the company's expansion in providing high quality information storage and communication products for an increasing variety of markets.

But what does the split mean in terms of quality, not only for Memorex products and services, but for the day-to-day business of designing, manufacturing, and providing them?

Each newly formed group now has its own Quality Assurance staff working in a cooperative team with similarly assigned personnel from Manufacturing, Design, and Marketing. Instead of one Quality Assurance Manager for all three divisions, each group has been assigned its own QA manager.

Tony LaPine, formerly QA Manager for all Equipment Products, has remained in this position for the Large Storage Systems Group. "Looking at the split from a management perspective," he comments, "it provides a more efficient organization. And at lower levels, it is offering new opportunities for advancement and accomplishment. We have created new jobs to be filled by our own people."

Another important aspect of the split is that it provides a focal point for individual loyalty, commitment, and achievement. John DeLasaux, Quality Manager for General Systems, points out, "We all work on the same products, the same problems. We have our own design engineers, manufacturing engineers, and of course the same quality people working together. We identify with the same efforts."

Team emphasis is also important to Ed Theis, Quality Manager for Communications. "Our morale is definitely higher," he reports. "Motivation has improved because we work together as a team."

Theis describes his division's teamwork in terms of the new model of the 1377 terminal. The 1377 is assembled and inspected in one self-contained area where each employee is part of the team.

Register now for college QA classes

De Anza College will offer six quality control courses at the Memorex Education Center during the winter quarter. All classes start the week of January 3. You can enroll the first or second night of class, or at the DeAnza campus between December 19 and 22. For more information, contact John Heldt, ext. 3663. The courses are:

Introduction to Quality Control, Tues. & Thurs., 4:30 p.m. to 6:10 p.m.

Introduction to Statistical Quality Control, Tues. & Thurs., 6:15 p.m. to 7:55 p.m.

Quality Control Applications, Tues. & Thurs., 4:30 p.m. to 6:10 p.m.

Statistical Concepts and Techniques, Mon. & Wed., 6:15 to 7:55 p.m.

Total Quality Control Concepts and Techniques, Mon. & Wed., 4:30 p.m. to 6:10 p.m.

Quality Control and Reliability Management, Mon. & Wed., 4:30 p.m. to 6:10 p.m.

"Everyone is a lot more involved now," Theis says. "For instance, if our line shuts down, we have our own engineering personnel to call on. And in our division this attitude extends directly to the customer sites through customer service reps and field



John DeLasaux
General Systems Group

engineers. Their reports come directly back to our group. As a result, we all recognize how important our particular products are to our customers and to ourselves."

"The divisions are contiguous groups providing a sense of team



Tony LaPine
Large Storage Systems Group

pride," Tony La Pine emphasizes. "And fundamentally that's where quality comes from—pride in achievement. Working closely together on mutual projects develops pride in a job done well together."



Ed Theis
Communications Division

COMMITMENT

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Directing traffic at 'Gate to Rome'

Order Processing links field to factory—fast

"The order processing organization is like the gate to Rome," says Mel Fuller, Manager of Worldwide Order Processing for Large Storage Systems. "We are the first place in headquarters the order hits on its way in from the far reaches of the empire. From here it is escorted to the right place for quick handling."

When field representatives make a sale, they submit the order to Mel's organization. Five schedulers working for him have the total responsibility to assure fulfillment of end-user equipment orders from all U.S. and international locations. Three order correspondents confirm order and delivery information by communicating to the sales branches.

"Our most important function," Mel Fuller believes, "is to maintain good relationships among all the organizations at Memorex."

"Everybody gets the same treatment here," says Mel. "Orders go through on a first-come, first-served basis." Working as a team, with a cordial attitude toward individuals, he feels, accomplishes a lot more than trying to "pull strings."

Order delivery is also dependent upon production schedules, which have to be set up in advance. If the forecasts which establish such schedules are too conservative, the stock won't be on hand to meet incoming orders. Consequently, the lead time for order delivery may jeopardize a competitive sell situation. If forecasts are too high, there will be a lot of extra stock on hand, and "we have a responsibility for finished goods inventory, too," says Mel. "To us, an uninstalled machine is like an idle jumbo jet to the airlines. It has to be rolling and in the

air. You can't afford to have one sitting around waiting for somewhere to go—it has to be going!"

One of the things Order Processing worries about is whether the field organization ordered exactly what the customer wants. "Things used to be double-checked to the point where it took an average of 17 days just to get the order to the floor," Fuller recalls. "Today, on many orders, this is done in a matter of hours—and on much higher volumes. We depend on the branch sales and field engineering team to configure the orders properly because that is what will be shipped."

Of course, Mel explains, if an order error is obvious, "we'll challenge and correct it. If something is missing or invalid, we tick a code sheet, which is returned to the branch office by the end of the week. We send a summary report out by the end of each month showing how many errors were encountered. The percentage of orders with errors has been greatly reduced,

but it's an area that still needs attention."

What happens if an order error slips through? "We apply maximum effort to recover as fast as possible," says Mel. "But this can be very expensive. All this wastes the customer's time and money and leaves him unhappy with Memorex."

In Mel's view, Order Processing is committed to developing the spirit of one common goal — field support. "From time to time," he says, "it's good to bring up the old basic question: 'What if the sales force vanished tomorrow at 8 a.m.?' Well, none of the rest of us would have a reason to exist."

"There is sometimes danger of losing sight of this in departments which do not have direct customer or field contact. But their support and response is as key as that of more direct support areas. We are spreading the word that our primary mission is to serve the customer, or help others serve the customer, in some shape or form."



IT'S A MAD, MAD WORLD—Mel Fuller fields a call as (l-r) Colleen Wilson and Linda Benenato check order status and scheduling.

They do quality work—and it's being recognized

Commitment is pleased to present the Quality Persons of the Month for October and November, (September winners were featured in the last issue of *Intercom*.) Here's what their supervisors had to say about them in their nominations:

October

Hazel Benn maintains purchase requisition-purchase order tracking logs for Equipment Purchasing. She has logged in as many as 1000 P/Rs and 400 alterations within a four-day time frame, allowing buyers maximum time to place orders.

Lola Holland consistently outperforms nearly everyone else in the 67X Final Head Assembly area. Her attitude reflects concern that Memorex products be the best and that her co-workers share her concern.



Benn

Holland



Manning

Marshall

Carol Manning, Product Planning, handled all typing, proofing, and production on the first complete business plans for the 6400 memory system, the 3220 tape drive, and the 3650/3654 disc drives.

Jim Marshall, Communications Division Test Engineer, worked above and beyond all expectations on the 1377 terminal. He gave training classes, designed and built special tools, traveled and provided general troubleshooting services.

Rick Schiller, Special Production Operations, has total test responsibility for 3640/3643 disc drives. Over the summer his units achieved 95 percent acceptance. He accomplished this by working odd hours when computer time was available.

November

Kim Beardslee was one of the first grinders to work on 3650/601 low mass slider products. She trained new grinders in quality techniques and now works on the rail grinder, the most difficult operation on the line. Her quality rate is 96 percent.

Esther Garcia, PCB Assembly, has not had a reject from QC in the last six months, in spite of potentially high defect rates due to class "A" surfaces and heat sink compound. Her attitude toward product quality is excellent.

Debi Garringer, Customer Service, performed outstandingly in scheduling complicated orders for two new customers. Said LA Marketing Represent-

tative Dave Borgeson, "When Memorex says customer service makes it happen, that means Debi."

Debi Land displays dedication to thoroughness and accuracy in her duties in Engineering Document Control. She makes an extra effort to redo jobs that are "not quite good enough" and locates and sorts materials rapidly and efficiently.

Nancy Zumini has been lead person for prototype cables and harnesses for the 3650, 1377, 1380, 601, 550 and 2089. She continually points out ways to improve production, consistently meets critical deadlines, and has averaged 93.5 percent quality for four months.



Schiller

Beardslee



Garcia

Garringer



Land

Zumini

And here's how the judges decide . . .

Each month supervisors from Large Storage Systems, General Systems, and Communications submit nominations for the Quality Person of the Month program to Dick Burris, Staff Quality Engineer. Burris is chairman of the selection committee. The other two members are Mike Studulski, Quality Assurance Manager, and Quality Inspector Irene Hirota.

Some months alternates may be asked to serve on the committee, Burris reports. This usually happens when there is a "conflict of interest" because one of the committee members has nominated a member of his or her staff.

Each committee member receives copies of all the nominations for the month, reads them and chooses the 15 he or she thinks are the best. When the committee meets to compare notes, the

unanimous choices are designated winners.

If there are more than five unanimous choices, the committee has further work to do: discussing all the choices and eliminating the extras by consensus. This is not an easy task, as each committee member is determined to keep an open mind and remain an impartial judge.

"No one member," says Burris, "is persuaded by another to vote for a particular nominee." According to Burris, the content of the supervisors' comments is given the most weight.

In tracking down defects, BST believes that ten heads are better than one

Quality awareness is a standard part of the workday at Business Systems Technology (BST), since last July a member of the Memorex General Systems Group.

Gary Richter, Quality Assurance Manager at BST's plant in Santa Ana, California, has developed a special Quality Committee to improve quality awareness and communication.

Every other week, or when required, Richter sits down with ten department heads to discuss any problems that may have arisen. The committee members are: Ray Specker, Materials Manager; Dan Chittum, Purchasing Agent; Buzz Peters, Vice President of Operations; John Colman, Manufacturing Manager; Randy Hoffstrom, Testing Lead; Dolly Holt, Inspection Lead; Mary Saunders, Mechanical Assembly Lead; Joyce Watterston, PCB Assembly Lead; Mary Ann Torp, QC Analyst; and Bob VanDelinder, Field Service Manager.

A form that accompanies each sub-assembly through the various inspection points keeps track of defects. These forms are reviewed daily by Randy, Dolly, Mary, and Joyce and the results compiled in weekly reports.

Internal problems reflected by the data as well as external problems encountered at customer sites are then discussed at the biweekly quality meetings.

"The beauty of the plan," says Richter, "is that we get immediate feedback from each department, and the departments, in turn, get almost immediate response from us. We try to highlight the problems in each phase of operations. This includes production, inspection and purchasing."

In one of the committee's projects, a system was implemented to monitor defects in PCBs manufactured by outside vendors. This effort resulted in the disqualification of three vendors and the requalification of three more. It also resulted in some engineering changes on BST artwork which made the PCBs easier to manufacture. Since then, PCB defect rates have dropped 40 percent.

Another problem arose when the committee discovered that one particular inspector had an unusually high defect rate. When she complained of frequent headaches, she was advised to



BST takes a team approach to quality, pooling ideas in biweekly meetings.

see an eye doctor, who prescribed stronger glasses.

"So we've reaped personal as well as professional benefits from this approach," Richter reflects. "The proof is in the fact that all our workmanship defect rates, from assembly through final test, have decreased by 20 to 30 percent."

In its five years of existence, BST has developed a strong, democratic tradition of quality awareness, responsibility and communication. There can be little doubt that such an attitude is an important factor in BST's contribution to Memorex quality.

More than meets the eye

How many common English words can you make from the letters in the word **QUALITY**? If you can find ten or more, send your list to *Commitment*, M/S 12-39. Look for your name in our next issue.

COMMITMENT

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We asked them & they told us: secretaries speak out on quality

Last month **Commitment** invited three secretaries—**Joyce Mitchell** of General Systems, **Sherry Foss** of the Communications Division, and **Mitzi Lang** of Large Storage Systems—to participate in a roundtable discussion about their jobs and their ideas about quality. Their comments reveal a strong sense of commitment to Memorex goals, an eagerness to learn, and a desire to perform their jobs with the highest quality possible. Here are excerpts from that interview.

Commitment: Let's start with some introductions. Tell us a little about yourself, your background, and your present job.

Sherry: I'm secretary to George Wikle, Finance Manager for the Communications Division. I've worked at Memorex for three years, first in the Audio Division as secretary to the



Sherry Foss: "It's important for secretaries to know the products. It helps you understand the purpose behind your work."

Manufacturing Manager. I'm a student at the University of San Francisco, and I'll be getting my degree in Business Administration in June. I'm also president of MAG—the Memorex Activities Group.

Mitzi: I've been here nine months, and I work for Jack Jackson, Manager of Procurement Quality and Purchase Products for Large Storage Systems. I'm from Seattle, and I have a business degree from the University of Washington.

Joyce: I started at Memorex three years ago as an order correspondent for Keith Plant, then Director of the OEM Division. About three months later he needed a secretary, and I've been his secretary since, except for two months last summer. I left Memorex to take a job in marketing and sales administration at another company. I didn't like it at all. I thought I would like a "more important" job, but I found out I really enjoy being a secretary. And as the division has grown—it's now the General Systems Group—it's become a very exciting job.

Commitment: What kind of education do you recommend for a secretary?

Joyce: I think that in any profession a college education is definitely a plus.

Mitzi: Although I have a business degree, I didn't take secretarial courses. I had trouble in the beginning because I didn't have typing and shorthand. I guess I'm glad I have a college education, but sometimes I wonder if it makes much difference.

Sherry: I was pushed to go to college. I ended up quitting, getting married, and

having kids. Now that I'm working, I find having gone to school has really helped me. I'm finishing school now because I want to; no one's prodding me. I didn't have any secretarial training, and I think an office procedures course would have been very helpful.

Joyce: I don't think there are any courses offered that actually let you know what it's really going to be like as a secretary. Every secretary's job is different, and it's like starting all over again every time you get a new boss.

Commitment: What do you think is a quality secretary?

Joyce: Professionalism really counts. Also, you have to have a personality to go along with it.

Mitzi: Some people seem to carry "professionalism" too far. They try to hold themselves above the rest of the staff. And there are those who are just the opposite; they're not professional enough.

Sherry: In my case, if I turn out work full of errors because I was thinking about what I was going to fix for dinner that night, I could foul up the annual budget. That could be a catastrophe. I have to pay attention to my work and check over everything I do.

Joyce: What I keep in the back of my mind all the time is that at Memorex there is not enough time to make mistakes. I think accuracy is very important.

Mitzi: The best thing to do is to keep a good attitude toward mistakes. Instead of dwelling on how things got out of hand, you have to fix them fast. It may not even be your mistake, but you've got to fix it.

Joyce: That's right—sometimes when mistakes are made you may not even know how it happened. Somebody else is responsible, but you are the one who has to take care of things and soothe tempers. I have to be able to look one step ahead, to almost guess what's going to happen next, so I can be ready with a solution. That's really an impor-



Mitzi Lang: "I think you have to be flexible, stay cool. I can't let the pressure get to me."

tant asset for a secretary. If you don't care enough to anticipate, it shows.

I think telephone skills are important, too. You have to be an extension of your boss and communicate well with other people.

You have to take the attitude that if there's anything you can do to make your boss's job a little easier, you should do it.

Mitzi: There's an awful lot of information you have to accumulate in order to do that. You carry a lot around in your head.

Joyce: It takes a long time to learn all



Ideas flew thick and fast in Commitment's secretarial roundtable.

of that. You're learning every day, constantly adding new information. I think when you stop learning new things, it's time to stop and analyze how effectively you're getting your job done.

Sherry: I think being tactful with everybody is most important. That includes people who report to your boss as well as his boss and everyone else involved. If people call and are in a bad mood, you can sound happy. Then their disposition tends to change. I've noticed that's happened a few times and it makes me feel good.

Mitzi: I think you have to be flexible, stay cool. I work for about 25 guys, and we just don't seem to have enough secretaries. I can't let the pressure get to me.

Commitment: Do you find that other people's attitudes, both good and bad, affect your job? What attitudes do you find most helpful?

Joyce: I know that I feel like doing a better job if my boss's attitude is a good one. Whenever I get the feeling he's really trusting me with what he's given me, I feel good. It gives me confidence, and it's much easier to work when you have confidence in what you're doing.

Mitzi: I agree with Joyce that a boss who trusts you is very important. My



Joyce Mitchell: "If there's anything you can do to make your boss's job a little easier, you should."

boss gives me a lot of freedom. That builds your morale.

Joyce: Speaking of morale builders, I had the opportunity to go down to BST in Santa Ana recently, and it was a great experience. We talk to people at these places all the time and wonder what they're like, what the place they work in is like. Visiting BST and attending a full day of presentations gave me a much better understanding of that part of Memorex.

Sherry: I think it's important for secretaries to know the products, too. It helps you understand the purpose

behind your work. I think we should have some kind of training to fill us in on the products. Working in the Audio Division gave me an education about cassette products, for instance. If someone takes you through the plant, it really makes a difference.

Joyce: I think Memorex could provide some kind of class for a new secretary just coming into the company on the paperwork we do.

Mitzi: There's no official procedures manual, and sometimes we need one. It could show you what the forms look like and what they're for. If somebody says, "You need an FCR," you could find out right away what it is.

Joyce: I'll never forget the first time I heard "PID." I thought, "A pid? It must mean something, but I have no idea what." Or I'd answer the phone and someone would say, "I'm in the Pear Orchard," and I would think, "Oh, do they have pears at Memorex?"

Mitzi: When you're starting out, you have no idea where anything or anybody is!

Sherry: I think that kind of training, maybe combined with a tour, would be best after you've been here about 90 days. By then you're familiar with your job, and you can relate better to other departments and products.

Commitment: Do you think there should also be an effort to get secretaries to think in terms of quality?

Sherry: Definitely. Quality is really part of all our efforts. If you deal with people outside the company, or even with people in another department, you're representing your boss, your department, and Memorex as a whole. The work you turn out, the way you answer the phone, the general quality of the job you do reflects Memorex quality.

Mitzi: I work with Bob Erickson, who's in charge of the Quality Awareness program. In production and inspection they're really into it. But people in office positions don't always think of their jobs in terms of quality. And that's a mistake.

Joyce: A lot of small companies seem to think that because they are small we don't care about them. That's not true. Part of a quality effort for secretaries is to make all customers feel they're equal.

Commitment: It's obvious that we have interviewed three top quality secretaries today. Sherry, Mitzi, and Joyce, thank you for sharing your thoughts with us. Keep up your outstanding work.

What makes the 677 so good? Try two years of hard work

There are disc drives, and then there are disc drives. This is what the General Systems Group learned when it began to develop the 677 disc drive specifically for the Original Equipment Manufacturer's (OEM) market.

Today the 677 is, according to General Systems Quality Manager John DeLasaux, the "standard of excellence" for disc drives "not only within Memorex, but for the entire industry."

The 677 was developed in 1975 in response to a request from Digital Equipment Corporation. Could Memorex, DEC inquired, create a machine to interface with Digital's products and capable of storing *either* 100 or 200 megabytes?

"Digital was the prime mover in our efforts," says Bill Montero, Development Engineer for the 677. Interfacing with the Digital machines brought about new quality demands on both the visual/mechanical and functional levels. According to Ken Lowe, Assembly and Test Manager, "Digital wanted the inside as well as the outside of the product to both look good and work well. This was not just a cosmetic concern. In order to facilitate field service and avoid noise and connection problems, every part had to be perfectly fitted."

In addition, there were problems in getting the 677 to interface perfectly with Digital machines. "Our first machines were completely compatible with IBM products," DeLasaux explains. "But the Digital fault recovery procedures were different. Also, their customer's expectations were different from those of a Memorex end-user customer."

In order to tackle the problem of

bringing the 677 up to Digital's specifications, a special action list was drawn up, headed by Account Manager Tom Makmann. At the same time, the creation of the Small Systems Division (now the General Systems Group) brought development, assembly and quality people together to address the action items in a team approach.

DeLasaux, Lowe, Montero, and Makmann worked directly with Digital personnel. "We told them we had some problems," says Tom Makmann, "and they worked with us all the way. We reopened every issue of manufacturing, engineering, and quality. The Digital people came out here and took a look at our plant and procedures. They gave us another set of eyes."

There followed what John DeLasaux calls a "period of adjustment" during which Digital subjected each 677 it received to a battery of tests lasting more than 50 hours. "Digital evaluated and tested more hours than we typically do," DeLasaux explains. "They gave us extremely accurate and detailed information."

As 677 quality requirements continued to rise, there was, DeLasaux says, "some strong feeling expressed that we were creating a double standard, one for the 677 and one for our other products. You can't do a job at two levels of quality, they told us. But in the end we found out that the energy expended to bring up 677 quality was applied to the other products as well. By setting our sights high, we learned that higher standards were not that difficult to accomplish. It's true that people don't work to more than one quality standard; when encouraged they do their best and reach the highest standard for all their work."



The 677's crack quality team included (l-r) Jim Keany of Digital and Memorex General Systems representatives Bill Montero, Ken Lowe, and Tom Makmann.

Ken Lowe reports that 677 quality improvement has had an effect on vendor quality requirements too; the same parts are being utilized for both end user and OEM products. "There's a flow from one to the other in terms of quality," he says. "It has been a worthwhile education for all parties concerned."

In the 677's evolution over two years, there have been at least a dozen significant changes. Error rate, reliability, and producibility have been improved. Some of the improvements have been incorporated into the 3670 and 3675 as well.

"Our goal now," says Bill Montero, "is to be able to 'drop ship' this product by eliminating the expensive extra steps involved in testing." The work of the Memorex/Digital team has already cut out some of this extra expense.

Cooperation with the customer, close team efforts here at Memorex, and availability of feedback from an elaborate testing program have all combined to make the 677 the highest quality product in its field. Tom Makmann, Ken Lowe, Bill Montero, and John DeLasaux can be justifiably proud of this achievement—developing and maintaining an industrywide standard of "memory excellence."

Quality engineers hear Wilson talk

President Robert Wilson addressed the Santa Clara Valley section of the American Society for Quality Control in November. More than 100 persons attended the monthly meeting to hear Wilson speak on "The Business of Manufacturing."

In his comments Wilson observed that "attitudes are the most important factors in improving the effectiveness of human resources. We all hear a great deal about such marvelous technical advances as sensors, computers, actuators, analyzers, and adaptive control. Many of us who are impressed with this high technology fail to realize that each human being possesses all of these advanced mechanisms and, in addition, has the capability for innovation."



Tony Fernandes' co-workers expressed their delight when he was named a Quality Person of the Month.

Building perfect assemblies

He studies the 'vibes' & doesn't forget

"Since he has been here, Tony has done a more than excellent job—I'd say bordering on superior." These words of praise for Assembler Tony Fernandes are from Larry Whitlock, Supervisor of Subassembly and Electrical Test, and Tony's boss.

Elected a Quality Person in August, Tony had no idea Larry had nominated him for the award. "But it meant a lot to me to get it," he says. "It meant that my work was noticed. It's important to me to do a good job."

"Tony's output is 100 percent quality," Larry adds. "By that I mean that he has not had a single reject, not one."

A native of Portugal's Madeira Island, Tony came to the United States

in 1964. He lives with his mother in Santa Clara and started work at Memorex in May. This is his first assembly job.

Tony has been blind since he was a teenager. He uses an Opticon system to study his operation detail sheets — assembly instructions — at home. The Opticon machine scans written material and, by generating sound vibrations, describes for him the physical configuration of the various mechanical assemblies he works on.

Although he is proud of his achievements, Tony isn't sitting back and taking it easy. He's moving on to more complicated assemblies—and still has zero rejects as his goal.

HELP WANTED (you may have a future in QA)

The Large Storage Systems Group is trying to fill a variety of Quality Assurance positions. If you know qualified candidates, ask them to call Trena Walther, ext. 3286. The open jobs include:

Senior Mechanical Engineer,
Test Engineering
Computer Programmer,
Process Control Engineering
Staff Quality/Reliability Engineer,
Quality Engineering
Senior Quality Engineer
(electrical emphasis), Procurement

Quality Engineering
Quality Engineer
(electrical emphasis), Procurement
Quality Engineering
Electronic Technician,
Quality Assurance Test
Calibration Lab Technician,
Calibration Lab
Test Equipment Maintenance
Tech., Calibration Lab
Test Engineering Manager,
(Floor Support) Product Assurance
Product Assurance Manager,
(Floor Support) Product Assurance

Have A
Quality
New Year

