# TEK RETIREE NEWS

Tektronix Retiree Volunteer Program

Web Page: www.tekretirees.org A Newsletter for and by Tek Retirees November 2012


## Tektronix R7912 Programmable Transient Waveform Digitizer

*By: Hale Farley*

The following write up on the introduction of the R7912 Programmable Transient Waveform Digitizer was prepared by Hale R. Farley who worked at Tektronix from for several years. The R7912 and its replacements, the 7912AD and the 7912HB, appeared in Tektronix Products catalogs from 1975 to 1989.

This is a brief history of the development of a unique product from Tektronix. The market place had been requesting a method to capture single transient phenomena into a digital format for computer analysis. During the late 1960s a scientist from Tektronix Labs, Carlo Infante, proposed developing such a product. Infante wanted to use the oscilloscope deflection technique (3-gigahertz analog bandwidth similar to a 519 oscilloscope) to write a beam on a storage target and scan this storage target using a video scan. The result of this effort was a dual-gun scan converter whose output could either be a video display or a digital data stream representing the signal.

Once the dual-gun scan converter was a reality, John Gates, engineering manager, assigned Jim Cavoretto to form a group to complete the task of making an instrument. His group developed the electronic circuitry necessary to take the signal from the diode array storage target and process it into a signal, which could be displayed. Although the signal from the diode array storage target was small (about 9 nanoamps) it was sufficient to be amplified above the noise level of amplifiers. This led to an analog-to-digital flash converter of 512 bits vertically making a clock rate of 500 pico-seconds between samples successful. Thus a 5-nanosecond signal could be digitized into 512 elements, with a 500 pico-second interval.

In March 1973 Bob Hightower, a field engineer in the Albuquerque Field office, brought a prototype of the R7912 into Sandia National Laboratory where I (Hale) was doing laser fusion experiments under the direction of Dr. Gilbert L Cano."We were using a mode-locked laser beam (a sister to the laser from America Optics developed for lunar ranging test at NASA) to focus high energy into a deuterium foil and look at the energy released. This lab was in a warehouse, which did not have very good temperature control; thus it was difficult to keep the optics in good alignment. Using oscilloscopes like the 7904 and taking pictures of the trace was a very time consuming process thus only three or four events could be recorded in a day. We had recently purchased a large number of R7903s for this program. The raster scan display of the R7912 allowed me to keep the optics aligned in real time.

Hightower was asked to join a marketing group in Beaverton Oregon run by Bob LeBurn for transient recording and signal processing. Hightower invited me to interview in June and asked me to join his team in late July thus began my career at Tektronix. In August 1973 I became the "front man" for introducing the R7912 to the world. An electronic trade show (Northeast Electronic Show) was being held in New York City in late September. It was decided by Hightower and Leburn to show the R7912 at the trade show as well as the Nuclear Science Symposium a week later at the Sharon Palace Hotel in San Francisco, California.

Because of the upcoming events I needed to come up to speed in transient recording in less than six weeks. The show setup was to consist of a computer (DEC 11/23 with magnetic tape drive and magnetic memory), R7912, display (4010), video monitor, thermal printer (4610), and WDI Tek basic software. A laser was used as a light source for display purposes.

One of the first people who saw the show setup was President Howard Vollum. He asked several pointed questions, particularly about laser measurement and underground nuclear testing. The following week, in San Francisco, one of the people to view the setup was Walter LeCroy of LeCroy Research. LeCroy Research had a solid state digitizer 20 points at 10 nanosecond interval. Upon seeing the R7912 Walter LeCroy realized the market for his digitizer would be limited. His hairless head turned red with anger!

Major markets for the R7912 were nuclear testing, EMP simulation, laser measurements, and florescence decay in chemical process in plants. The R7912 continued to be a leading edge product for more than 35 years. Production of the R7912 ceased when the diode array storage target was no longer made. Although about 40 years have passed, to my knowledge there is still not an instrument, which surpasses the dynamic range and digital resolution of the R7912. In my professional life there are no events, which surpass the excitement of the marketing assignment of introducing the R7912.

## Mike Park – Feb 8,1931- July 24, 2012

*By: Pete Mackie*

Mike was a VP of Manufacturing for at least two decades. He was the best boss I ever had bar none. I never heard a negative comment regarding Mike's management style or his directives by any subordinate employee.

Every month or two Mike liked to gather two, or sometimes three, levels of Manufacturing managers for a motivational talk. It was not the make you feel good motivational type stuff, but rather to let us know what Mike thought our current Manufacturing mission, goals, and priorities should be. Mike could easily give a 30 to 45 minute talk without notes and not ramble nor repeat his major points.

It was his speaking style that always enthralled me. Mike would start talking very slowly gradually building his speaking pace in a ten minute, or so, warm up of where he was going with his topics. Then it was Mike's rapid fire speech pace for 15, 20, or even 30 minutes, seldom, if ever, beating one point to death. Mike kept everyone awake and listening. Mike's rapid talking pace then slowed down to the close, getting more

(See 'Mike" on page 2)

## TekWeek 40 Years Ago

*Condensed by Gary Hoselton*

**Tek products on show!** ● Tek debuted a number of new items in a 80-foot booth at the **WESCON show in Los Angeles**, including Telequipment DM 64; TM 500, TM 501, and TM 503; 211, 465, 475, and 485 portables, a number of 7000-series mainframes and plug-in units, and 613 with 4010 IDP products. More than 29,000 registered, including 4000 exhibitors representing 350 companies, and inquiries for demos are keeping the Orange and Van Nuys field offices busy. ● Interest was high at the Tektronix booth during the **International Machine Tool Show in Chicago,** with 700 firms exhibiting to 65,000 attendees. Tek showed 1700-series editors and controllers connected to machine tools in the Tek booth, and a number of systems were sold right out of the booth. Other exhibitors featured Tek controllers with their products. Interest was very high in the 211 scope as a maintenance aid for N/C machines, and five were actually sold out of the booth. ● Tek had a 900 square-foot display at the **Fall Joint Computer Conference in Anaheim, California,** showing the 4010, 4012, and 4013 terminals with 4610 hard-copy unit, 4911 reader/perforator, 4912 digital cassette unit and 613 storage monitor, and the 7623 transfer storage oscilloscope with 7A18 dual-trace amplifier, 7011 digital delay unit and 7D15 counter/timer.

**News in the Tek world!** ● Open Houses give families and friends a look at Tek products and facilities, and employees a chance to visit company areas they don't see during working hours. More than 1200 attended the **Sunday open house in Beaverton,** with cafeterias offering refreshments and departments offering demonstrations and informal tours. ● 1183 attended the **Guernsey La Villiaze plant open house,** with visiting hours between 2:30 and 9 pm so both shifts could be seen. A lot of enthusiasm and effort went into the planning of the tour routes and "live" demonstrations, and by closing time the tour guides not only had tired legs and feet but sore throats as well. ● Tek's new J16 digital photometer/radiometer appeared in "living color" on the **front cover of Electronics magazine** November 6th issue. Light conditions, both indoors and out, can be measured on the spot with this lightweight battery-operated instrument.

● Tek products in Television: **Portland KGW-TV (Channel 8)** aired a Friday evening news program about Tektronix, narrated by news director Richard Ross sitting in the KGW-TV control room surrounded by Tektronix equipment. He told how the television industry relies on Tek, pointing to the 20 or so TV products in the room, then the camera moved to the Beaverton industrial park while he described some of the philosophy of Tektronix. He stressed the company's interest in the individual contribution of all employees and the pride each employee takes in the part they play in the finished product. ● For the summer games last August, the **Olympic Stadium in Munich, West Germany,** housed 50 videotape recorder installations. They consisted of an Ampex AVR-1 videotape recorder, surrounded by Tek 561 color picture, 528 waveform and 602 display monitors, 141A synchronizing generator, plus a Tek Holland 547/1A1 scope on cart. ● Education: **Proposed Rock Creek campus** was described by Dr. Amo DeBernardis, president of Portland Community College to Tek Managers' Council. The new 250-acre campus "will be built and operated along the lines of a shopping center", and will be open in about two years. ● The **Tektronix Education Program** has scheduled 92 classes for the new school year, many technical in nature and some of general interest. 40 Teks joined University of Portland's MBA program, eight admitted without a bachelor's degree. ● An **arctic blizzard** struck the Portland area in the early afternoon of Tuesday, December 12th, with temperature dropping to zero. An urgent announcement on the paging system advised concerned Tek's to head home immediately, and facilities assisted in starting 80 cars that afternoon. Maintenance personnel boarded up a couple of windows broken by the high winds, grounds people called in an outside contractor to help plow snow, and heating oil was consumed at the rate of 12,000 gallons per day. At the Sunset plant, Washington County Sheriff's reserve deputy Bill Kepler donned his insulated garb to untangle traffic problems on SW Barnes Road at the Tek/St. Vincent intersection; Bill is also a Tek working with Telequipment products and was given a Christmas gift certificate by fellow employees as thanks for his "traffic cop" help.

### Activities

● Ceramics again held their annual wild game feed, separately for day and swing shifts. The potluck event features venison, smoked fish (samon, trout and ling cod), wild duck, elk, and caribou. The 50-foot table also held a variety of salads, casseroles, and desserts.

### Mike (cont from page 1)

more lower key with a slower speech rate. Only then did one realize that Mike had made his points and was through. I have never experienced any other enterprise Manager, anywhere that could lay issues out so concise and direct, but never in a threatening tone, like Mike did.

There's another Tek significant story about Mike that I would guess that most of you engineering folks are aware of. There was a major manufacturing plan for our "new gen" product line in that all 7000 series models would be built on assembly lines. Supported by Mike, there was almost a year long project to research, evaluate, and vendor qualify assembly line equipment and vendors. The deployment consisted of assembly line conveyers, line controllers, parts inventory workflow management, et al. Decisions were made and many equipment purchase orders were released.

A portion of the individual assembly benches in the bottom of Bldg. 47 were removed to make room for the first arriving conveyer lines. The first two feasibility and mastery conveyer lines were unpacked and bolted together. The assembly conveyers were not yet wired in to any power or line controllers. We were well on our way though. Soon, one afternoon, Mike

came over to Bldg. 47 to have a first look at what our new way of assembling 7000 series product line was going to look like.

Mike paced up and down the conveyers for five, perhaps no more than ten, minutes. He paused for a minute or two. I sensed that he was really in deep thought. Then out came the words, "this is not the Tek way of assembling instruments, Let's take this equipment out and stay with individual assembly benches for the "new gen" product lines." There was absolutely no grumbling, anger, or frustration regarding Mike's decision by those managing this project. Because when Mike issued a directive everyone who worked under him knew it was typically the right thing to do.

Looking back, over the years, most Manufacturing managers continued to feel that Mike made a major on-the-fly decision, which was the right thing to do. Like being a creative design engineer, removing assembler's individual creative opportunities to build quality instruments would have been a devastating mark against our "Tek Spirit." Mike saw this before it was ever allowed to happen. No "lets have three, perhaps five, meetings to decide what to do now." Decision made, period—moves on with no further debate. Thank goodness! Sometimes, but always, this is the right way to move ahead. Of course, Mike knew this. Manufacturing had to get ready to assemble 7000 series instruments, without delay.

**John Addis wrote:**

I think I only met Mike Park once as he was a VP of Manufacturing and I was in Engineering. But there was some sort of philosophical discussion about what Tektronix was about or how it could be improved, and Mike Park was a major participant. Afterward he took several of us to the old woodfloor tavern, The Heidelberg, at Hocken and TV Highway and bought us all lunch. The memory is vague, but the impression I got was clear. Mike was one of the good guys!

Mike is mentioned in Winning With People: the First 40 Years of Tektronix by Marshall Lee on page 172 (column 1) as a TEKEY employee, on page 230 (column 2) as one of the rising stars at Tektronix, on page 270 (column 2) as a newly named VP of Manufacturing (December 23, 1966), on page 282 (column 2) as manufacturing support for the seven newly named product groups in 1971, and on page 289 (column 1) as Manufacturing VP.

## Death Notices -- Aug, Sep, Oct, 2012

**Aamot,** Violeta Ramos – d. 8-13-2012
At Tek: 24 years
**Arthagene,** 'Jean' Rayma Mackaben – d. 1-1-2012
At Tek: 20 years
**Brinkly**, Darlene – d. 7-17-2012
At Tek: 34 years
**Davenport**, Emma L. – d. 6-24-2012
At Tek: 16 years
**Dudek**, Walter Ray – d. 1-25-2-12
**Greco,** Ray – d. 7-9-2012
At Tek 34 years
**Haffner**, Dorothy Pauline – d: 8-2-2012
At Tek: 22 years
**Jones**, Hilda Margar – d. 2-9-2012
**Karls**, Ralph – d. 5-30-2012
At Tek: 26 years
**Karr**, James – d. 8-20-2012
**Krout**, Henry – d. 11-17-2011
**Larkins**, Pat (Bill) – d. 8-18-2012
**Leonhardt**, Joseph – d. 10-7-2011
**Luck,** Irma – d. 3-2-2012
**Neher**, Gary – d. 4-28-2012
**Peloquin**, Mary – d. 7-11-2012
**Schmidt**, Faye Dean – d. 1-17-2012
**Van Cleef**, Roger Eugene – d. 7-19-2012
**Walker**, David Albert – d. 4-26-2012
At Tek: 20 years
**Whitham**, M. Audrey – d. 4-1-2012
**Yesenofski**, Joseph Stanley d. 10-23-2012

### Death Notices

We are no longer able to get death notices or length of service information from Tektronix data base.

We would appreciate any assistance retirees or members of their family can provide us. We have posted here the information we found in obituaries in the local newspapers and from family members or friends who have notified us. We need a death date, and length of service if available.

We would appreciate it very much if you would leave us a message on our voice mail at the TRVP office (503-627-4056) or you may email us at:

tek-retirees@tektronix.com

The newsletter staff is only in the office on Wednesday's from 10:00 a.m. to 3:00 p.m. each week.

## RETIREE BENEFIT INFORMATION & ADDRESS CHANGE PROCEDURE

### Retiree Medical and/or Life

Anyone who is a past employee with Retiree Medical and/or Life Insurance will need to request information or make changes in writing to A & I. You must include your signature and Social Security Number.

Tektronix Post Employment Services
A & I Benefit Plan Administrators, Inc.
1220 SW Morrison St., Suite 300
Portland, OR 97205-2222
Toll Free 1-800-778-7956
Fax: 503-228-0149

### 401k Benefit

Anyone who has a 401k benefit must contact Fidelity for information or to change their address directly with them at:

1-800-835-5092

### Cash Balance Plan

The Cash Balance Plan has been transferred to Danaher Pension Plan Processing Center with Hewitt. Questions or changes shouold be directed to:

1-800-7526

### Tektronix Retiree Volunteer Program

If you need information or to make changes to your Tektronix Retiree Volunteer Program Newletter address please notify us at:

Tektronix Retiree Volunteer Program
M/S 22-037
PO Box 500
Beaverton, OR 97077

Phone 503-627-4056
Email Address:
Tek-Retirees@Tektronix.com

## READ YOUR TEK-RETIREE NEWSLETTER ONLINE

Would you like to help save postage and read your TekRetiree Newsletter on our web page? Send your name, address, phone number and email to:

mlscott@easystreet.net

Millie will send you a notice when the newsketter is posted each quarter. If your email is changed or rejected for any reason you will receive one phone call to request an update. If you don't respond we will return your newsletter to US mail. To preview the web page and previous issues of the newsletter go to:

www.tekretirees.org

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## Editorial

*by Louis Sowa*

We are almost settled into our new office space. For the most part it works well for us, not very fancy. There is no carpet, so have cement floors. Since all of us sit in one area with five work stations communication among ourselves is good. We have a storage area separate from our work area that also serves as a conference room.

The response to our request for information about Guernsey has been great. We still have one more piece, which should be in the next issue. I decided to run the R7912 this issue instead of the Guernsey article as a break. I really like getting articles from retirees about their experiences at Tek as well as their personal travel and other activities in retirement. Articles about organizations that you volunteer with that have not already been featured would also be most welcome.

I intended to have an update on the Tek museum, but with the move didn't get it done. I do expect to get an update from Ed for the next issue. If you haven't visited the museum do it now.

**Tek-Retiree Gathering at Beaverton Elks**
**3500 SW 104th Avenue**
**Beaverton, OR**
**December 7, 2012**
**Time: 1:30**

Donations would be appreciated to help pay the space fee.

Please come, bring a friend and enjoy the opportunity to see many of your friends. and coworkers. Mark your calendar.

Tektronix Retiree Volunteer Program
M/S 22-037, PO Box 500
Beaverton, OR 97077-0001

newsletter newsletters are posted each
quart newslette is posted each quarter

**TRVP Staff**
**Pete, Peggy, Paul, Millie, Jess, Jim, Louis**
**Not shown are: Gordon Long, Neil Robin, Gary Hoseltonm, Judy Watkins, Betty Plummer, & Jerry Bonacker**

## CALENDAR

### Engineering Breakfast

Time: 7:00 a.m.

Village Inn – Beaverton

By-Monthly – Wednesday

### TERAC

6:00 p.m.

Round Table -- Beaverton

Weekly on Friday

### All Previous Tek-Employees Luncheon

2nd Monday of each month.
Time: 11:30 a.m.
Where: Peppermill Restaurant
Farmington Mall
Corner of Farmington and Kinnaman Rd.
17455 SW Farmington Rd. #26B
Aloha, OR 97007
Contact: Annetta Spickelmier
503-649-2491

### Marconi's Cronies

Meet the 2nd Wednesday of each month
(except July and August):
12:00 p.m.
Tom's Restaurant
3871 SE Division Street
Portland, OR
Contact: Jack Riley for details
Phone: 503-235-5267

### CRT Luncheons

3rd Tuesday of each month
(except June thru August)
at 11:30 a.m.
at Beaverton Izzy's
11900 SW Broadway, Beaverton Town Ctr.
Contact: Jack Neff for details
1301 East Fulton St., Apt. 233
Newberg, OR 97132-1870
Phone: 503-554-7440