

Engineering Research Associates pressed the button to start Minnesota’s computer industry, 1/8/1946.

INTRODUCTION

During the VIP Club ZOOM board meeting on December 2nd, 2020 we discussed how to publicize ERA’s 75th anniversary. The next week, Club Director Gish Devlaminck suggested reaching out to Mr. Curt Brown who writes articles for the Minneapolis Star-Tribune’s Sunday papers. Legacy co-chair Lowell agreed to make contact and posted our January 2021 [Our Stories](#) monthly legacy paper. Mr. Brown also shared his reader feedback with us, quite positive and interesting – thanks to all!

An email series led to Curt Brown’s article in the Minneapolis Star Tribune January 10th issue.

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Edited with Microsoft Word, February 10, 2021

¹ Click on any section for a quick scroll thereto.

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THE ARTICLE

Mr. Brown provided us an on-line link.

Hi Don and Lowell: Thanks for letting me share Don's tale on the 75th anniversary of ERA pushing the power button to ignite MN's computer age. Here is a link to this Sunday's story:

<https://m.startribune.com/at-99-computer-pioneer-looks-back-at-early-minnesota-tech/600008677/?clmob=y&c=n>

Curt Brown - MN History columnist - Minneapolis Star Tribune

[At 99, computer pioneer looks back at early Minnesota tech.](#)

By CURT BROWN AND SPECIAL TO THE STAR TRIBUNE - January 09, 2021 - 2:23 PM – text in this section downloaded from the Star-Tribune's web site via link provided to us by Mr. Brown.

"One recent morning, 99-year-old Don Weidenbach tinkered with a balky humidifier on a workbench in the basement of his senior condo building in Edina. He has volunteered to repair busted lamps and small appliances since he and his wife of 68 years, Charleen, moved there in 2010.

"My dad was no good at fixing things, so I started early — tightening loose doorknobs and fixing toilets as a kid," he said during a break for lunch.

Weidenbach blossomed as a digital computer pioneer after World War II and forged a 30-year career as an electrical engineer in the early years of Minnesota's computer tech era. Through a dizzying swirl of mergers and spinoffs, companies such as Remington Rand, UNIVAC, Sperry, Unisys, and Control Data emerged.

Throw in Honeywell and IBM's massive Rochester facility and, by 1960, Minnesota was an early Silicon Valley — and Weidenbach was right in the thick of it. "Back then, the word 'computer' wasn't even part of the vocabulary," Weidenbach said. "We were concerned there wouldn't be a market and they wouldn't last because they were too large, used thousands of vacuum tubes and cost more than a million dollars a unit."

All that changed 75 years ago this month {sic. January 2021}, when an electronics company called Engineering Research Associates (ERA) opened its doors in St. Paul's Midway district near the old Montgomery Ward store. Computer pioneers like Weidenbach moved into a large industrial plant at 1902 W. Minnehaha Av., where wartime gliders had been built. Backed with military contracts, ERA started as a secretive company to continue the U.S. Navy's code-breaking advances that ramped up after the Japanese attack on Pearl Harbor caught the nation off guard in 1941.

While with ERA, Weidenbach developed magnetic drums the size of car tires that stored information — the grandparents of today's hard drives. A commercial computer he designed enabled a catalog company to punch in phone orders and track inventory; 70 years later, we do the same with phones in our pockets.

Weidenbach grew up in Scotland, S.D., and earned an electrical engineering degree at South Dakota State College in 1943. After joining the Army, he was trained as a radio communications expert and served in the Philippines during World War II.

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In November 1946, he took a bus from Scotland to Kasson, Minn., meeting up with Army buddy and fellow engineer Bob Erickson to go job hunting in the Twin Cities. First stop was Honeywell, where they were told it would be months before a job opened. They visited a switchboard manufacturer, which "sounded boring," Weidenbach said.

Then a stop at the state employment office tipped them to engineering openings at ERA in St. Paul. "They wouldn't tell us much about their classified work," Weidenbach said. "But the mystery intrigued us, and we accepted their job offers."

His initial monthly salary of \$215 added up to \$2,580 annually, less than \$35,000 a year in today's dollars. But his connections led him to buy stock in Control Data.

"We were the technicians, building prototypes and running tests," he said, as ERA shifted from specialized military computers to more general-purpose ones.

Early ups and downs left Weidenbach worrying if there would be paychecks on Fridays. But by 1952, ERA employed more than 700 tech workers with a backlog of orders totaling \$8 million.

The Speed Tally computer, which Weidenbach designed in 1950 with no government money, became his "pride and joy." He quarterbacked a team of technicians and engineers that enabled a mail-order company in Chicago to store its 13,000-item catalog in a drum memory. Keyboard operators could find out how much stock was available, subtracting items that were sold and adding new merchandise when it arrived. {Editor's note - see photo on page 11 hereunder.}

"It sounds ridiculously simple in today's world, but 60 years ago it was on the cutting edge!" Weidenbach wrote in 2012 for the VIP Club, an association of retirees from Minnesota computer tech companies.

By the time Weidenbach retired in 1976 at age 55, ERA had become UNIVAC and his accomplishments ranged from magnetic drum memory breakthroughs to innovations for airline reservations and air traffic control. He also helped develop Athena missile-launch computers for the military.

He and Charleen moved to Bloomington in 1960 and raised five children, none of whom followed their dad into computers. But all three daughters married engineers.

"Don is a member of the greatest generation," said Lowell Benson, a retired Univac engineer and leader of the VIP retirees' group that this month is marking the 75th anniversary of the first time ERA pushed the power button on Minnesota's computer age. "Don can be proud of being an IT pioneer."

But first, there was that leaky humidifier to fix. "It reminds me of those horrible vacuum tubes that never lasted back in the late 1940s," Weidenbach said.

Curt Brown's tales about Minnesota's history appear each Sunday. Readers can send him ideas and suggestions at <mailto:mnhistory@startribune.com>. His latest book looks at 1918 Minnesota, when flu, war, and fires converged: srib.mn/MN1918.

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REACH OUT COMMUNICATIONS

December 10th, 2020, Lowell Benson emailed Mr. Brown.

Mr. Brown, As you plan your January 2021 Sunday history stories would you consider doing a 75-year story about Engineering Research Associates (ERA) and its influence on the Minnesota/national computer industry? The VIP Club is recognizing 75 years since ERA opened their doors on January 8, 1946 read <http://vipclubmn.org/Articles/Anthologies2Go.pdf>. We are retirees from the ERA corporate lineage, comprising Remington Rand, UNIVAC, Sperry, Unisys, and Lockheed Martin. Some additional references are:

- In 1986, Sperry published a 40-year booklet, <http://vipclubmn.org/Articles/ERA40thAnniversary.pdf>.
- On April 2, 2015, the Star Tribune published your Minnesota History article: *Seymour Cray's Mind Worked at Super-Computer Speed*. {Editor's note: Mr. Cray's career started at ERA.}
- In October 2019, TPT premiered a documentary about Minnesota's computer history, <https://www.tpt.org/solid-state/video/solid-state-minnesotas-high-tech-history-35848/>.
- The Lawshe Memorial Museum in South St. Paul has an extensive display of artifacts from the ERA corporate lineage, <http://vipclubmn.org/Exhibits.html#Lawshe>.

You may have a different and unique approach to an article about the Minnesota computer industry that started with ERA. Feel free to contact me, la.gj.benson@comcast.net or the VIP Club President Harvey Taipale, hjtaipale@comcast.net. Regards, KEEP SAFE!

Lowell A. Benson, U of MN - BEE '66.

Retired Eng. Mgr. UNIVAC 1960 => UNISYS 1994 & U of MN 1994 => 2001

December 10th, Mr. Brown responded.

From: Curt Brown to: la.gj.benson@comcast.net

Subject: Re: [EXTERNAL] Candidate topic for January 2021 article

Hi Lowell: Thanks for reaching out about the 75th anniversary. I am very definitely intrigued! Am I right, the VIP Club is comprised of the retirees of those early computer technology companies? The best columns are character driven and I wonder if Millie {sic. Gignac} might be a good focus. How is she doing at 100? Any more bio info on her? I can check our archives.

Any special things going on during a pandemic to mark the 75th?

I left the Star Tribune in 2014, after 26 years, and moved to a trout stream near Durango, Colorado. Editors were nice enough to give me this MN History column as a freelancer and we have hit 315 Sundays in a row. It has become a crowd sourcing of state history. You can check out my latest book on MN in 1918 when fire, war, and flu at <http://www.tinyurl.com/MN1918> or my Amazon page at www.tinyurl.com/curt-books.

Stay well in these truly historic times

Curt Brown - MN History columnist - Minneapolis Star Tribune

December 10th, Lowell answered Curt's initial questions.

Curt: Thanks for responding, I hope that you are enjoying CO - my recollections are of the beautiful mountain vistas... Answering your questions:

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- 1) Yes, we do have a few former ERA employees in our membership list, e.g., Don Weidenbach was at the companies from 1946 'til 1976, he turned 99 in November. He is quite spry, lucid, and is a great knowledge source for computer technology of the 40s, 50s, and 60s – his mini-bios are part of our Legacy Anthology at <http://vipclubmn.org/People7.html#Weidenbach> and <http://vipclubmn.org/Articles/DonWeidenbach.pdf>. Don presently lives in a 'seniors' condo complex where he volunteers in their workshop repairing lamps and other small appliances for residents. As a human-interest story, he is from the greatest generation!
- 2) The Club's other 700+ retiree members are from the company names in this icon, e.g. I started at UNIVAC in 1960 and left from Unisys Defense Systems in 1994.
- 3) Millie is now in a retiree 'memory care' facility - would not be a good interviewee at this time. You might want to look at <https://conservancy.umn.edu/handle/11299/188541> for an oral interview conducted by Dr. Tom Misa, CBI at U of MN.
- 4) Because of the COVID-19 pandemic, we are not planning an ERA 75th celebration. Rather we are encouraging people like yourself to do 75-year newspaper articles. Examples of prior stories are linked from the Our Stories chapter of our web site, <http://vipclubmn.org>.
 - March 2008: [A Gaggle of Geeks](#) by James P. Lenfestey, prologue by Lowell Benson – used with his permission.
 - February 2010: "[The almost Silicon Valley](#)" by Tom Webb. Used with permission, originally published in the Sunday 1-2-2010 St. Paul Pioneer Press.



Please let us know if you are going to try writing an article, we can email a draft to Don W. for his factual review - yes, as a 99-year-old he does do email.

Thanks, KEEP SAFE! *Lowell Benson*, BEE, U of MN 1966
Predict the future; then plan and work to make it happen!
Cc: Club President Bcc: VIP Club Board of Directors

December 10th, [Curt Brown's article focus decision](#).

Thanks Lowell, As I looked in Millie, I realized she was more of an HR secretary as opposed to a computer scientist.

I will shift toward Don, just needed a nudge toward a human-interest angle and you provided it, thanks. Do you have contact info for Don or can you share mine? It is an impressive (if not overwhelming) website you have got going. The two links you provided with your story and the one on "almost Silicon Valley" did not work for me. Can you try again. Any photos of Don handy? If not, I can ask him. Thanks again for the awesome suggestion.

Curt Brown - MN History columnist - Minneapolis Star Tribune

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December 11th, [Another Information Email](#).

Curt: Thanks for being intrigued by the ERA 75th topic. I concur that Millie was not a computer scientist; however, she was much more than a secretary. Although she started as a secretary - over the years she took on more and more Human Resources responsibilities - ending her career (1956-86) as the first ever female director at Sperry. She was the founder of the retirees' club (<http://vipclubmn.org/History.html#Birth>), now 4th one years and counting. And she was one of the interviewees in the 2019 TPT documentary about Minnesota's computer history.

From a human-interest standpoint, Don Weidenbach has a great chronology:

ERA opened its doors on January 8th, 1946 in St. Paul. That fall, ERA hired Don Weidenbach as an electronics engineer (after WWII service in the south Pacific.) He experienced several corporate name changes until he retired in 1976 (see Legacy Logo on page 3.) He joined the 'Sperry' retirees club at its inception in 1980 to enjoy the camaraderie of other retirees. In 2006, he became an active member of the Club's legacy committee, providing a plethora of technology history tidbits. In 2017, the Club awarded the third *Volunteer Extraordinaire* certificate to Donald Weidenbach recognizing his decade supporting the Legacy committee, his Airport Guide volunteering, and appliance repairing at his retirement facility. Now in 2021 he anticipates an end to the pandemic for celebration of his 100th birthday in November.

Three technology centric highlights of his career are:

- 1) Customer support engineer for classified computers, specifically the drum memory and vacuum tube logic therein. ERA patented magnetic drum technology in 1948 - the grandfather of today's computer hard drives.
- 2) Development engineer for the UNIVAC File Computer. These machines were the start of the automation of Air Traffic Control and airline reservation systems.
- 3) Project engineer responsible for development of the Athena missile launch computer. These machines had over 300 space launches from the Cape and from Vandenberg AFB without a single scrub attributed to the computer.

Attached files for your perusal are:

- Pioneer Press 2010 article about ERA – [Almost the Silicon Prairie](#).
- Don's mini-biography including WWII and computer development responsibilities - this includes several pictures of Don.
- The ERA lineage icon, over the decades we have had a world-wide influence.
- My snapshot of Don donating his drum collage to Dr. Misa at the Babbage Institute - October 5, 2011.

Let me know which specific pictures you want to use, and I will send the .jpg images.

BTW: Mr. Weidenbach also was one of the retiree interviewees in the 2019 [TPT documentary](#). I have copied Don and our Club President Harvey Taipale so that they are aware of our communications.

Cheers KEEP SAFE!

Lowell Benson, BEE, U of MN 1966

Ps: If you point your browser to Legacy Chapters (<http://vipclubmn.org/Legacy.html>) then enter Weidenbach into the Google search box thereon – you will get links to over a dozen places that his name is mentioned in our 60 website anthology chapters.

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[December 11th, Curt emailed us again.](#)

Thanks Lowell: Apologies for disparaging Millie's contributions.... But I think we agree Don would make a stronger focus for the column. I am unsure how to get a hold of him, unless it is in an earlier email. I will dig in soon for a January column pinned to the 75th birthday of ERA.

Curt Brown - MN History columnist

[December 29th, Curt Brown had had a telecon with Don Weidenbach.](#)

Subject: Don Weidenbach

Hi Lowell: Just a quick note to say I reached out via e-mail to Don Weidenbach and hope to talk to him for a column pegged to the 75th birth of the Engineering Research Associates.

I know there are some photos of Don in what you sent me, but if there was one or two shots you could send my way in a pdf that would be great.

thanks, and happy new year

Curt Brown

[December 31st, Photos sent to Mr. Brown.](#)

Curt: Per your request, I have put several pictures into a .pdf file using a .docx file. Hopefully, these will help. {Readers, see Appendix A of this article}

KEEP SAFE! Happy New Year!

Lowell Benson, BEE, U of MN 1966

[December 31st, Curt commented about chat with Don.](#)

Subject: Re: Don Weidenbach

We had a great chat. I asked what he was most proud of and he said the Speed Tally. I will send along your picks {sic. Pictures} and hope editors use either the collage or the Speed Tally shot.

Thanks, *Curt*

READER FEEDBACK

Mr. Brown had agreed to share the article feedback that he received. Lowell also had direct response messages from Don, Dick, Chuck, and Dale.

[Don Weidenbach – 'Engineer featured in the Article'.](#)

Hi Lowell, I thought the article was great! I was surprised in that only included me, I thought that he had interviewed others and it would be a group of people involved. Anyhow, thanks for your efforts! I have received some phone calls saying they had seen the article, including Jerry Williams. He is now living at Waverly Gardens, North Oaks. His second wife died not long ago so he moved to be closer to a daughter.

So, it would be nice to have the Corvus over and get our lives back somewhat like they used to be!

Take Care, *Don*

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Richard Lundgren – VIP Club Director.

Lowell, I was just able to read the whole article at <https://www.startribune.com/at-99-computer-pioneer-looks-back-at-early-minnesota-tech/600008677/>. I am not sure why, but I can access Strib articles with being a paid subscriber.

It was a great article. I only wish that the ERA drum at the MHS could have been mentioned as part of the Greatest Generation Exhibit, still running there. I recall vividly our first visit to the basement of the MHS to view/discuss that ERA drum with curator Matt Anderson (now at the Ford Museum), Don. W. and others. Thanks Lowell, *Dick*

Charles Lefebvre – Unisys Senior Director, Eagan MN.

This morning I read the excellent article in the Minneapolis Star Tribune about one of the champions of our technology industry, Don Weidenbach, of ERA, one of the predecessors of today's Unisys Corporation. I am sure you had a lot to do with this article being published, and nice quote from you near the end of the article.

Thanks Lowell for all the positive work you do keeping our history visible and relevant, including the 75th anniversary of the founding of ERA. *Chuck*

Dale Weeks – President, Dakota County Historical Society.

Good Morning Lowell and To All of Our VIP Club members as well:

Thanks very much for these continuing articles on the origins of our computer industry in Minnesota. It is quite valuable history sharing across our state and beyond. And, if I may, to continue our discussion, see the attached Business/Strategic Plan for our Dakota County Historical Society that is now making its way into our community. {Ed note - attachment is available by request.}

Let us keep the dialogue going. Our DCHS Value Proposition is: "We make history come alive." All of us are part of that long term journey and adventure.

I look forward to hearing more from you on our DCHS Strategic Plan as we move forward in 2021 and the coming years. Fill my email box with your feedback! Thanks, *Dale*

Bonita Hill – daughter of IT Pioneer Jack Hill.

Dear Mr. Brown,

Thank you for the story about Don Weidenbach and ERA. Don spoke at my father's funeral, as my father worked with him as an engineer at ERA after the war. My Dad, John Lindsay Hill, was an engineer on the UNIVAC 1101 - Wikipedia. He went by Jack and was quite a bit older than Don. He died in 2009, just three months short of 100 years old,. I think there is much more to the story of ERA that would be interesting to people today. Jack was part of a team, is on the left in this photo.



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Extensive oral histories of some of these amazing men are available at the Charles Babbage Institute at the UMN, which also has a collection my Dad's personal papers. Because these men had security clearances, much of their story remained secret, even to Jack's wife Catherine, until the mid-1980s. That is when my brothers and I finally learned many details of our Dad's life.

{sic. The Charles Babbage Institute at the University of MN has an} Oral history interview with John Lindsay Hill. The Babbage Center has also published a book about the work of ERA. I also have a collection of his papers, including his life story, as told to charitable organizations. He was homeschooled by his grandmother until his early teens when the family immigrated to Minnesota from Canada. In Minnesota he completed high school as valedictorian of White Bear High School and then went to two years of technical school at Rochester Institute of Technology, before a winding path of jobs, military service, and then ERA.

One memory that has stuck with me is a lecture we were given at the dinner table when we were school children. Dad said "Your friends' parents will tell you that computers will take away their jobs. I want you to know that the computer is a tool like a hammer. It can be used for good or evil."

None of Jack and Catherine's three children married engineers, but they became an architect, a physician, and an engineer. And all three of us love to fix things. My brothers, Peter & David, know many things in addition to what I have shared with you. Peter found a section of Jack's oral history relating to Don, which I have pasted below. {Editor's note: oral history deferred to a future VIP Club story.} Another good source is Tom Misa, former Director of the Babbage Institute.

Thank you, and perhaps you will find there are more stories you can write about the early computer days, *Bonnie Hill*.

[Don McBeath – ERA co-op student 1955-58.](#)

Mr. Brown: I saw the article on Weidenbach that was sent to me.

I was a UofM mechanical engineering co-op work/study student with ERA from June 55 till graduation in '58. They did not hire me so worked for Brown and Bigelow for 3 months. Then I was hired by then Univac as pre-install and installation engineer on 1103/1105. After our last installation of an 1105 in Rio de Janeiro, I worked in factory final test for 2-3 years and then transferred to engineering as design engineer on the 494. Later I was a design manager in Roseville 'til offered a job in Blue Bell. Univac had acquired RCA computer group in Florida which we transferred to Roseville.

I joined Intel in AZ, and later in Oregon. Was recruited for a startup designing a "Cray Mini" in San Diego. When that got in trouble, I was laid off and took job back in San Jose designing a desktop system that never got produced. Took a summer off to travel Europe and moved to San Diego. There I started my own networking of small businesses and brokering memory parts.

I have lots of pictures of the last install in Rio of the vacuum tube 1105. *Don McBeath*

[Mark – a Minneapolis Star Tribune reader.](#)

Loved the story about Don Weidenbach. Would be great to see more stories from the early, heady tech day. *Mark*

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Tom Zemlin – grandson of an IT Pioneer.

Mr. Brown,

I enjoyed your piece in the Star Tribune on Don Weidenbach. My grandfather, George Hanson was a principle at ERA and went on to help found Control Data and Cray Research. I have a picture on my wall that I believe is from ERA with Bill Norris, Seymour Cray, my grandfather, and many other pioneers of the industry. My family has been a big part of the computer industry in MN and beyond. My father Bruce (he married George's daughter) was a long-time employee at Control Data, then went on to Medtronic and Guidant. His step brother Richard Zemlin was a pioneer of networking tech. I followed my father becoming the first Computer Science graduate at Hamline and went on to MECC to work on projects including *The Oregon Trail*. I am still involved in edTech here in MN. My brother Jim is the Executive Director of the Linux Foundation and is a major player in the Open-Source movement.

Keep up the good work. I would love to see more about the Silicon Prairie then and now!

Tom.

Arne Carlson – former Minnesota Governor.

Dear Curt, Again, an excellent story today. If my memory is correct, Bill Norris was a founder of ERA and went from there to UNIVAC and, ultimately, the founding of Control Data. This is literally what drove the economic growth of the Twin Cities during the 60's and the 70's.

If Weidenbach bought Control Data stock back then, it may have been as low as ten cents a share. I suspect he became a millionaire very quickly.

What a nifty slice of history. Well done. My best, Arne

EPILOGUE

Do you notice the chronology of this article? December 10th we reached out to Mr. Brown, January 10th his article was published, and now on February 10th we publish the story of his story.

I invite readers to search through other Information Technology Pioneering stories in all sections of our website, <http://vipclubmn.org>. If you enjoy reading parts of this anthology, consider adding your own story. Send it to Legacy@vipclubmn.org, we will find a place for it.

KEEP SAFE, LABenson.

APPENDIX A – Weidenbach Pictures

Photo images from Don Weidenbach, included and described in his on-line mini biography: <http://vipclubmn.org/Articles/DonWeidenbach.pdf>.

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1. As a youthful GI.

2. With friend Robert 'Bob' Erickson who was also an ERA->Sperry employee.



3. Don and an operator with the Speed Tally computer, a 'phone call-in' ordering system.

From Don's personal retirement ceremony pictures circa 1976, with Jerry Williams and James Wright who were ERA engineers with Don.

Mr. Williams was a circuits designer who left to form his own electronic hearing aid company.

Mr. Wright was a logic designer of the ERA 1102.



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Lowell's January 4, 2012 photo of Don's retirement memento. Donated to the Lawshe Memorial Museum in S. St. Paul.

The 1976 retirement award recognized Don's leadership in the development of the UNIVAC Athena computer as well as on the design work on the Nike-X computer system.

Background & Provenance of the Drum Collage:

Drum memory, the world's first computer hard drives, was invented at Engineering Research Associates in St. Paul, MN – circa 1946. The head of ERA in St. Paul then was William 'Bill' Norris. Mr. Norris had this 4'x8' collage made to show the various stages of drum manufacturing.



1. The collage was on his (Mr. Norris) office wall until he left to help form Control Data Corporation in 1957.
2. Plant maintenance cleaned out his office and gave the collage to Don Weidenbach who is pictured in the center holding a small drum for an airborne application.
3. Don had the collage on his home office until moving into a retirement condominium in 2010.
4. Don gave the collage to the VIP Club Legacy Committee, stored in Quint Heckert's garage.
5. Legacy committee chairman, Lowell Benson, arranged to have the collage donated to the Charles Babbage Institute at the University of Minnesota.
6. It is now hanging on the office wall of CBI – very appropriate place because the CBI Directory holds the title: "Engineering Research Associates Land Grant Chair for the History of Technology."
7. Don Weidenbach (left) donating his drum memory collage to the Charles Babbage Institute at the University of Minnesota. Accepting for CBI is then Director Dr. Thomas Misa. Snapshot by Lowell on October 5th, 2010.



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This labeled image of Don with the drums was put together by Mark Greenia of the Computer History Archives Project. Don provided the identification of the various drums.

Note that the largest drum was used in the File Computer (over 200 built) that was used for Air Traffic Control applications and early Airline reservation systems.

The small drum in Don's hands was used in project 2052, the world's first ever digital computer to operate in a flying aircraft.



VIP Club Board's Richard Lundgren nominated Don for this certificate. The Drum prototype pictured on the certificate is in the Minnesota History Museum in St. Paul, MN.