

[Home Page](#)[News Blog](#)[STEM, Tours, & Education](#)[On-Line Exhibits](#)[Products & Technologies](#)[Information & Resources](#)[Audio, Photo & Video Galleries](#)[Shop](#)[More vintageTEK](#)

Barrie Gilbert

Barrie was likely the most famous analog circuit designer in the world. He was born in England and started at Tektronix in November of 1964 in Wim Velsink's New Generation Group in Bldg 81 (Sunset plant). He moved with the rest of Engineering to the new Technology Center building 50 in March 1966. Here is his photo from the Employee Photo Album.



This February 02, 1968 TekWeek article features George Wilson and Barrie Gilbert.

George Wilson, Barrie Gilbert speak at next Friday's Engineering seminar



George Wilson (right), Preproduction Engineering, and Barrie Gilbert, Advanced Instrument Development, discuss the circuit Barrie covers in his paper at the Engineering seminar next Friday and in Philadelphia later this month.

George Wilson, Preproduction Engineering, and Barrie Gilbert, Advanced Instrument Development, will be featured speakers at the Engineering seminar in the Technical Center auditorium from 12:30 to 1:30 p.m. February 9.

George, who will present a paper on "Monolithic Junction FET-NPN Operational Amplifier," will describe a monolithic operational amplifier with a unity gain bandwidth of 55 MHz, a slewing rate of 200 volts per microsecond and input currents of 500 picoamps developed by utilizing a compatible non-junction FET

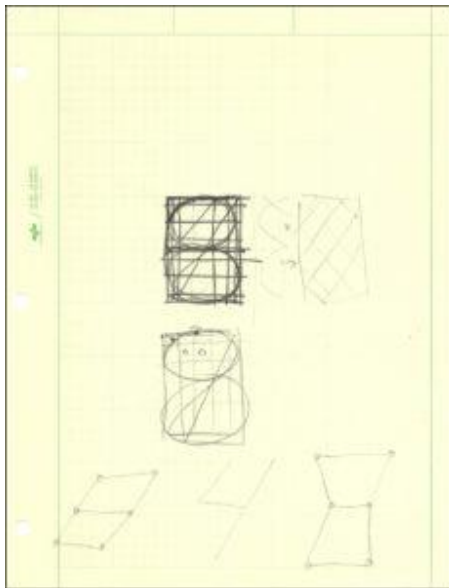
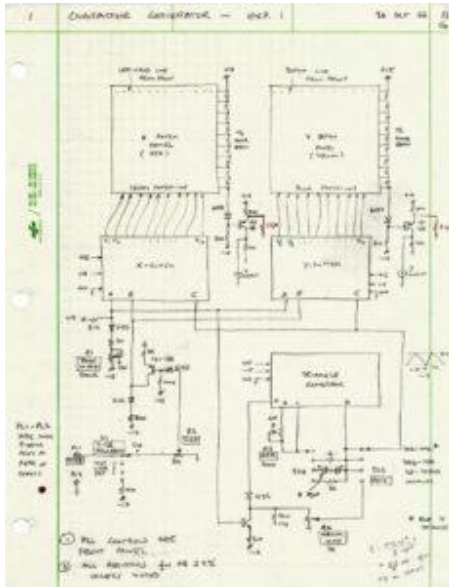
process.

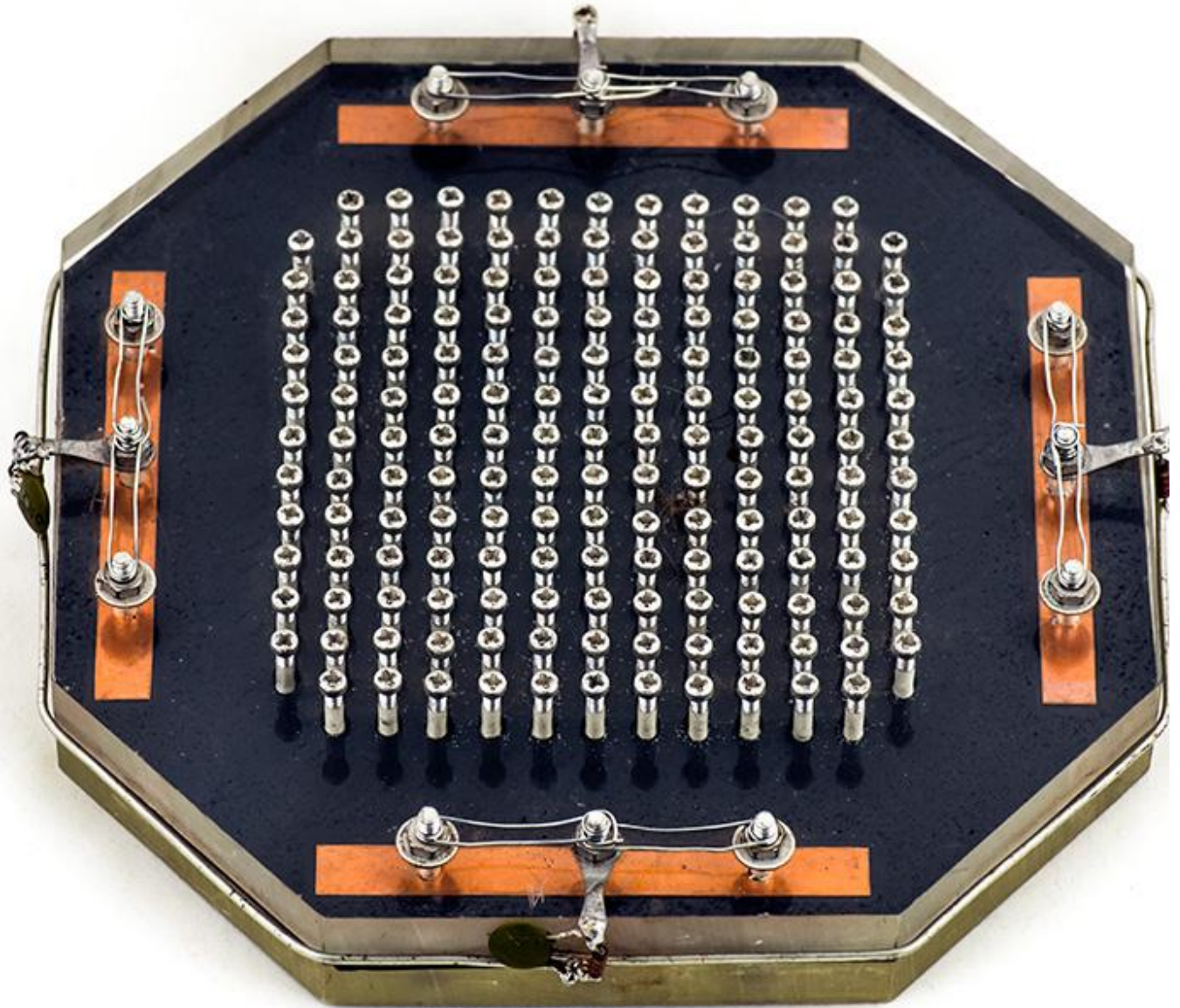
Barrie, who will present a paper on "DC to 500 MHz Amplifier/Multiplier Principle," will describe a monolithic gain-cell exhibiting sub-nanosecond current gain-cell using only transistors. The transfer curve is linear to overload and is temperature insensitive. The gain may be varied electronically in less than a nanosecond.

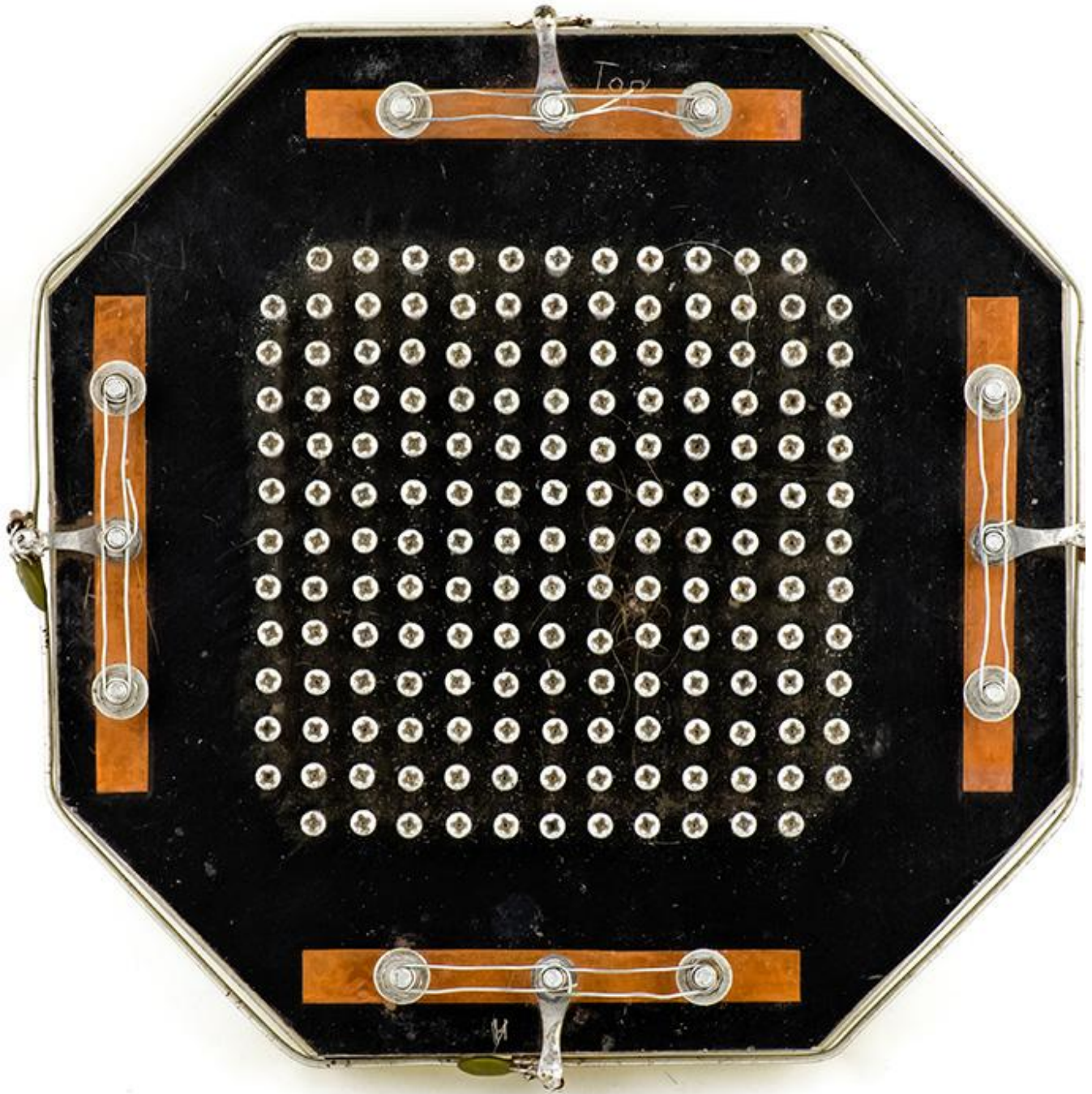
George and Barrie will present the papers at the 1968 Solid State Circuits Conference in Philadelphia February 14-16.

To the average oscilloscope user Barrie was the person who invented, created, and designed the unique knob readout system that displayed the knob information (e.g. V/Div, time/Div) on the screen of the CRT. This was much earlier than any other readout system. It was used in the 7000 series of oscilloscopes introduced in January 1969.

These three sets of notes from his design are dated October 21, 1966. Click on the images to view the PDF







This December 22, 1969 article in Electronics describes the architecture and features of the character generator. Click on the image to view the PDF.



To the electrical engineer, Barrie was the person who wrote two ground-breaking articles in the December 1968 issue of the prestigious IEEE Journal of Solid State Circuits with two ground-breaking articles. These articles introduced a new concept that came to be known as the *translinear principle*. Circuits described in these two articles are, to this day, given Barrie's name: The Gilbert Gain Cell, and the Gilbert Multiplier.

This August 07, 1970 TekWeek article features Barrie receiving a prestigious IEEE award.

Barrie Gilbert receives IEEE achievement award

Barrie Gilbert, senior electronics engineer in the Laboratory Oscilloscope Group, is one of two recipients of the 1970 IEEE Region Six Achievement Award.

The other recipient is Dr. Richard A. Montgomery, manager of the Navy Systems Branch of The Boeing Company in Seattle.

The Achievement Award, given for early recognition for outstanding professional accomplishments in the Sixth Region of the Institute of Electrical and Electronics Engineers, will be presented in Los Angeles at the WESCON sponsors luncheon August 25 by Lang Hedrick, Region Six director.

Region Six has some 33,000 members in 32 sections of the western United States, Alaska and Hawaii.

Barrie will be cited for his contributions to integrated circuit design by using electrical integration to enable a much higher density of integrated components.

He has been a heavy contributor to Tek's 7000-series instruments, particularly in the development and execution of the read-out — a unique feature of the series.

He has authored many technical papers, has been awarded a British patent for improvements in circuits employing transistors, and has a number of patent applications in process.

Born in Bournemouth, England, in 1937, Barrie received the HNC degree in Applied Physics from Bournemouth Municipal College in 1962. He worked on engineering projects for the UK government and Mullard Ltd. in England before coming to Tektronix in 1964.



LANG HEDRICK (left), Region Six IEEE director, chats with Barrie Gilbert, senior electronics engineer, about the 1970 IEEE Region Six Achievement Award that Barrie will receive August 25 in Los Angeles.

Barrie returned to England in 1970, then returned to Tektronix in May 1978. He worked for George Wilson in the Monolithic Circuits group on the third floor of building 50.

Barrie was interviewed on November 30, 1977 January 17, 1978 regarding the read-out effort and the 7001 series oscilloscope development which was part of the "On The History and Environment Of Tektronix" document on our [History of Tektronix](#) page. Click on the image to view the PDF.



In this set of notes dated August 1977 Barrie describes a handheld device he calls a Window Box. This is a service aid in a small form factor similar to the scientific calculators of the day that combines the functionality of an oscilloscope, voltmeter, counter / frequency meter and calculator. Click on the image to view the PDF.

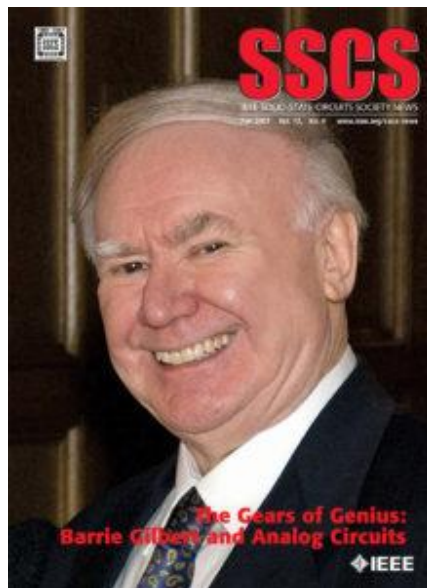


These July 5, 1978 notes for an IC Circuit Techniques meeting describe the Super Emitter Follower and the MultiTANH principle. Click on the image to view the PDF.



Barrie left Tektronix in 1978 and went to work for Analog Devices, Inc. Barrie was always partial to the Beaverton area so Analog Devices setup a remote design center in Beaverton. Barrie's wife Alicia Moore was an Electrical Engineer at Tektronix, working in buildings 50 and 59 Integrated Circuits. They met after Barrie had left Tektronix.

He also had the cover of the Fall 2007 IEEE Solid-State Circuits Society News issue and virtually the entire issue devoted to him. He has about 100 patents. Click on the image to view the PDF but *note that the document is hosted at www.semanticscholar.org*.



Barrie died on January 30, 2020.