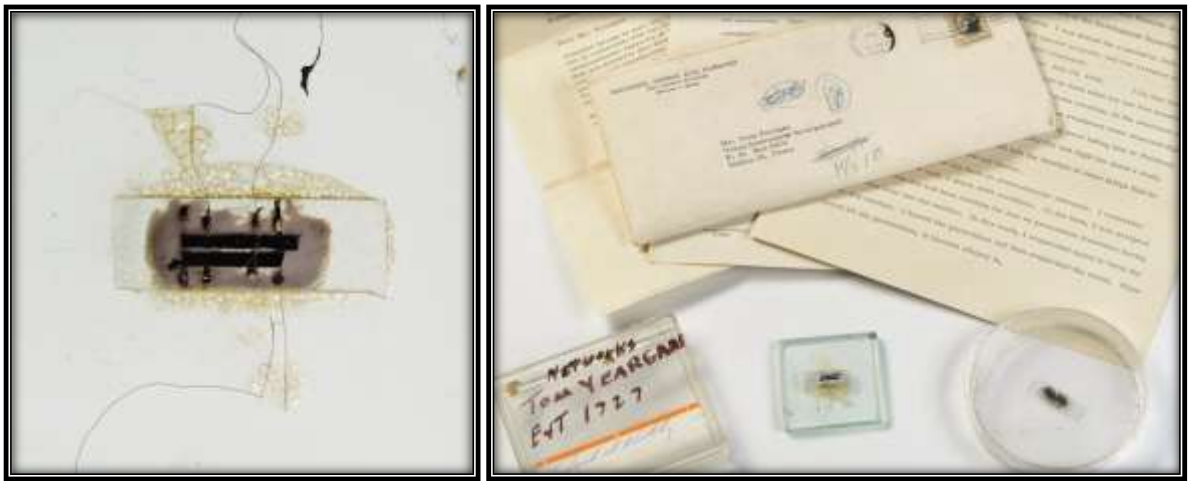
CHRISTIE'S

MEDIA ALERT | NEW YORK | 22 MAY 2014

CHRISTIE'S TO SELL HISTORIC 1958 MICROCHIP— PROTOTYPE USED IN NOBEL PRIZE-WINNING INVENTION DESIGNED BY TEXAS INSTRUMENTS' JACK KILBY

ESTIMATE: $1,000,000 - $2,000,000

ON VIEW IN CHRISTIE'S LONDON GALLERIES AT SOUTH KENSINGTON MAY 22, 23, 27 & 28; ON VIEW IN NEW YORK ROCKEFELLER CENTER JUNE 14-18, PRIOR TO JUNE 19 SALE



A prototype microchip, one of the most important advancements in the history of computing, made by Tom Yeargan for Jack Kilby, Texas Instruments, (1958), accompanied by a 3-page statement by Yeargan and another prototype silicon chip. Estimate: $1,000,000 to $2,000,000.

New York – A Nobel Prize-winning artifact of computing history goes on sale at Christie's New York on June 19: A prototype integrated circuit used by Jack Kilby (1923-2005) at Texas Instruments in 1958 to demonstrate his invention of the integrated circuit on a single chip. Virtually the birth certificate of the modern computing era, this prototype helped spawn the microchip revolution. From the clock on a microwave oven, through tablets and laptops, to the Large Hadron Collider, microchips pervade the electronic devices we use on a daily basis. Kilby's work at Texas Instruments enabled further technological breakthroughs that dramatically reduced the size and cost of computing power.

Estimated at $1,000,000 - $2,000,000, this prototype integrated circuit was built between July 18 and September 12, 1958, of a doubly diffused germanium wafer with flying gold wire and four leads by Tom Yeargan (1920-2001), a member of the team that executed Kilby's theories on how to bring miniaturization to the giant computers of the first half of the 20th century. The chip is mounted on glass and enclosed in a plastic case belonging to Yeargan, with a label signed by Jack Kilby, and is accompanied by another prototype, a silicon circuit with five gold and platinum leads, and a three-page statement by Tom Yeargan on the chronology and building of the invention of the integrated circuit, dated

March 6, 1964. The lot is part of the Sale of "Fine Printed Books and Manuscripts Including Americana," in New York. The lot will be on view in London, May 22, 23, 27 and 28, at Christie's galleries in South Kensington, before traveling to the U.S. for a viewing at Christie's New York Rockefeller Center galleries, June 14 – 18.

Electronic computers of the first half of the 20th century, based on the principles devised by Alan Turing (1912-1954), were dependent on fragile vacuum tubes, and basic telephone circuit relays, which eventually gave way to more efficient and smaller circuits with the 1947 invention of the transistor. In 1952, when British engineer Geoffrey Drummer proposed the idea of combining electronic elements into one solid block, the race was on to create an integrated circuit (now often called a microchip) that would meet the growing demand for smaller, lightweight electronic circuitry at a lower cost and drawing less power.

In May 1958, Jack Kilby joined Texas Instruments, and after a few weeks devising a solution to the problem of miniaturization of circuits, Kilby presented his plans and sketches to his bosses, who were impressed if cautious. He was given further resources, and within months, he would demonstrate a working microchip. Tom Yeargan joined the team and work started on July 18 building the semiconductor networks that Kilby designed. The current integrated circuit partially built by Yeargan is one of the prototypes from this early stage.

Then on September 12, 1958, in the presence of senior TI staff, a phase-shift oscillator circuit was demonstrated to work. Three working units had been completed, and by September 19, a flip-flop (a binary data storage circuit) had also been shown to work. In May 1959, the discovery was announced to the public; Mark Shepherd, the head of semiconductor research, called it "the most significant development by Texas Instruments since we divulged the commercial availability of the silicon transistor."

Dropping from a unit cost of $450 in 1961 to a fraction of a cent today, integrated circuits are at the heart of all modern electronic devices. Kilby never claimed sole credit for his breakthrough but credited "the contributions of thousands of engineers and scientists in laboratories and production facilities all over the world." In 2000 Jack Kilby was awarded the Nobel Prize in Physics for his part in the invention of the integrated circuit. In his acceptance speech he would credit technicians Pat Harbrecht and Tom Yeargan for their role in the construction of the first integrated circuits and quote Charles Townes: "No. I didn't build it myself. But it's based on an idea of mine!"

***Note to Editors**: Vintage tech is a growing collecting field. In Christie's online-only auction of vintage technology in July 2013, the top lot was an original Apple computer, known as the Apple-1, which sold for $387,750.*

PRESS CONTACTS: Sung-Hee Park | +1 212 636 2680 | spark@christies.com
Melissa Abernathy | +1 212 636 2680 | mabernathy@christies.com

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**Estimates do not include buyer's premium. Sales totals are hammer price plus buyer's premium and do not reflect costs, financing fees or application of buyer's or seller's credits.*

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Images available on request

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