The David Sarnoff O

The 1962 Individual Awards for *Science and Engineering*

R. D. Kell

R. D. KELL, a Fellow of the Technical Staff, RCA Laboratories, Princeton, N.J., is recipient of the 1962 David Sarnoff Outstanding Achievement Award in Science . . . "*for many outstanding contributions which continue to lead to major innovations in the field of television.*"

MR. KELL, as early at 1926-27, while doing graduate work, implemented a complete operating television system. Then, joining RCA in 1930, he directed development of components for the present television system, including the first high-power, high-frequency television transmitter, the first Iconoscope camera, and the first remote-pickup and radio-relay facility. After W.W. II, his continuing television work included image-orthicon cameras and improved transmission techniques, important contributions to the rapid commercialization of television. In the early 1950's, he contributed significantly to the establishment of compatible color television as a complete working system. He continues to challenge television frontiers: His more recent contributions have been in color videotape recording and color-television reproducers.

R. Lieber

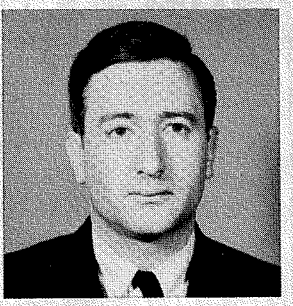
R. LIEBER, Systems Engineering, Moorestown Missile and Surface Radar Division, Defense Electronic Products, Moorestown, N.J., is recipient of the 1962 David Sarnoff Outstanding Achievement Award in Engineering . . . "*for contributions to the field of high-precision space tracking and navigational systems.*"

MR. LIEBER has contributed new and fundamental knowledge to high-accuracy prediction of satellite and missile position using surface-based tracking data, which opens new avenues to the solution of satellite tracking problems. He has made important advances in the integration of tracking, communication, and telemetry functions for support of space missions and has also pointed the way toward vehicle attitude determination from the earth. The applications for which he has developed solutions include ship, submarine, and aircraft navigation, and surveying of land locations. He has worked out commercial as well as military systems applications. As an Engineering Leader, he has demonstrated outstanding ability to plan the effort of and obtain maximum wholehearted support from the senior engineering personnel in his group.

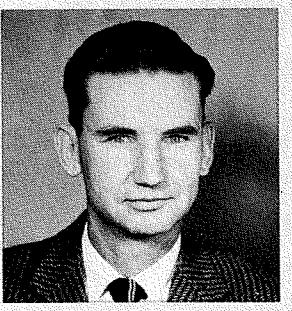
The 1962 Tea

G. B. Herzog

J. C. Miller



M. Berg



F. W. Peterson

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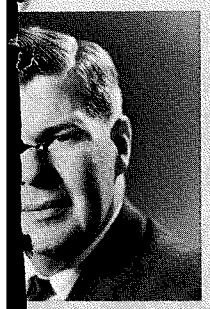
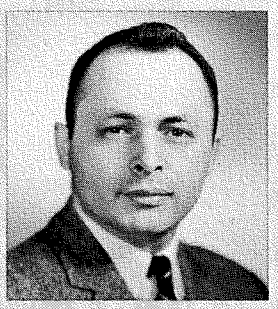
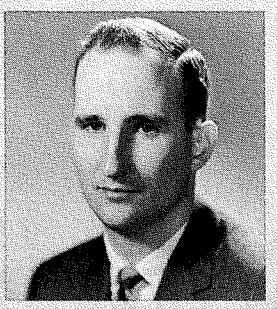
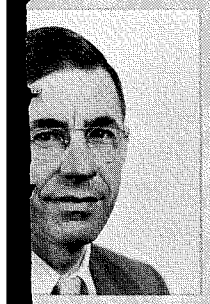

J. Lechner

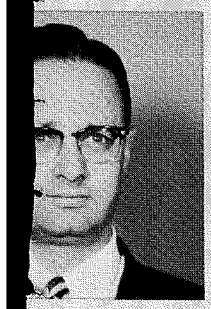

M. H. Lewin

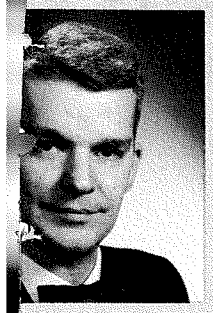

H. S. Miiller


W. Mueller


H. Nelson


H. S. Sommers


. G. Block


M. B. Shrader

M. Berg, F. G. Block, F. W. Peterson, and M. B. Shrader, members of the Cermolox Power Tube Group, Electron Tube Division, Lancaster, Pa., are recipients of the 1962 David Sarnoff Outstanding Team Award in Engineering . . . *"for entirely new concepts in power tube construction which have resulted in compact, rugged, and more powerful ultra-high-frequency tubes."*

Messrs. Berg, Block, Peterson, and Shrader were members of an engineering team that developed a new line of power tetrodes using ceramic envelopes and an internal construction permitting higher power dissipation, higher efficiency, and great ruggedness and compactness for space-age applications. The group achieved two important breakthroughs. The first was ceramic-to-metal seals of great strength which could be manufactured with ease and uniformity. This resulted in the desired compact and rugged external construction. The second was the conception and development of a revolutionary new method of making grids of precise alignment from materials with very high thermal conductivity, which gives the desired high efficiency at UHF and permits higher power output.

G. B. Herzog, B. J. Lechner, M. H. Lewin, H. S. Miiller, J. C. Miller, C. W. Mueller, H. Nelson, and H. S. Sommers, of the RCA Laboratories, Princeton, N.J., are recipients of the 1962 David Sarnoff Outstanding Team Award in Science . . . *"for team performance in conceiving and developing devices, circuits, and memories for kilomegacycle computers."*

Messrs. Herzog, Lechner, Lewin, Miiller, Miller, Mueller, Nelson and Sommers were members of a project team that undertook basic and exploratory research which has produced advances of great significance in high-speed (kilomegacycle) computers. Their work involved, among other things, a fundamental examination of phenomena and devices capable of extreme data-processing speeds. An important result of this work is basic knowledge about and circuit implementation of the tunnel diode; realization of tunnel-diode logic required the invention of entirely new concepts. The implications of this work for RCA's electronic-data-processing efforts in the future are considerable, for in addition to its significance on this project, their effort has produced a solid technological base upon which computers far beyond the present art can be built. Their work also has led to important basic knowledge and experience that may provide new commercial opportunities for tunnel and varactor diodes.

. . . About the Awards

RCA has chosen for its highest technical honors, the four *David Sarnoff Outstanding Achievement Awards* for 1962, a scientist, an engineer, a research team of eight scientists, and an engineering team of four engineers. The awards, to be formally announced by Dr. Elmer W. Engstrom, President of RCA, consist of a gold medal, a bronze replica citation, and a cash prize for each man.

The David Sarnoff Outstanding Achievement Awards for individual accomplishment in science and in engineering were established in 1956 to commemorate the fiftieth anniversary in radio, television, and electronics of Brigadier General David Sarnoff, RCA Chairman of the Board. These have been made annually since then to one scientist and one engineer.

The two awards for team performance were initiated in 1961.

All engineering activities of RCA divisions and subsidiary companies are eligible for the Engineering Awards. The Chief Engineers in each location may present nominations annually. Similarly, members of the research staff of the RCA Laboratories are eligible for the Science Awards. Nominations are made by the Research Directors.

The selection committee for both the individual and team awards in engineering includes: the Vice President, Research and Engineering, Chairman; the Staff Vice President, Product Engineering; the Director, Communications Engineering; the Vice President, RCA Laboratories; and the Vice President, Personnel.

The selection committee for both the individual and team awards in science consists of: the Vice President, Research and Engineering, Chairman; the Staff Vice President, Product Engineering; the Vice President, RCA Laboratories; the Associate Director, RCA Laboratories; and the Vice President, Personnel.