

In addition to the Mercury and Gemini flights, space achievements undreamed of by RCA pioneers in the early 50's were being chalked up. Satellites for global navigation, communications and weather reporting were being put aloft in increasing numbers. Paving the way for the manned lunar landings or the Apollo program, there were moon mapping missions, sort and crash moon landing missions and orbits around the moon itself. The first manned Apollo space mission occurred in October 1968 with the Apollo 7 mission. On July 16, 1969, Apollo 11 carried the lunar module and astronauts Armstrong and Aldrin to the moon. In all there were eleven Apollo manned missions, culminating with Apollo 17 on December 7, 1972.

RCA played a vital role in the success of the Apollo program providing range and ship tracking and communications support plus color and black and white TV pictures, LM radar and communications, backpack radios and the moon erectable antenna.

The test range in April 1981 when the first Shuttle was launched bore little resemblance to the range at the beginning of the Missile Test Project Contract. The Range has changed tremendously since its early beginning in 1953. Throughout the 35 year tenure of the RCA Missile Test Project as missile and space missions became more complicated, more effective and competent equipment was needed to measure performance and inventive and intelligent minds were needed to solve requirement problems. Most of the systems now in use on the Eastern Test Range today were designed implemented and refined by RCA MTP engineers, specialists and shop personnel.

From the very beginning RCA MTP personnel have developed and advanced the fields of command communications, radar, timing, telemetry, electro-optics, orbital mechanics, timing and firing, range safety, data processing and frequency control and analysis. RCA personnel on the ETR are renowned as being the best informed have "written the book" on missile tracking mechanics and technology.



RADIO TRANSMITTER CONSOLE at Cape Canaveral

1954



MISSILE TEST DATA is prepared for the Computation by the FLAC computer.

THE MTP PROJECT MANAGERS

A. L. Conrad	1953-57	(Deceased)
S. D. Heller	1957-58	(Retired in Maryland)
K. M. McLaren	1958-60	(Retired in Cocoa Beach)
G. D. Clark	1960-68	(Retired in Melbourne)
D. R. Hill	1969-73	(Deceased)
A. W. Wren	1973-76	(Retired in Melbourne Beach)
T. E. Alman	1977-83	(GE Marketing)
K. F. Wenz	1983-Present	



A.L. CONRAD



S.D. HELLER



K.M. McLAREN



G.D. CLARK



D.R. HILL



A.W. WREN



T.E. ALMAN



K.F. WENZ



RCA INTERVIEWER discusses employment possibilities



1954

ORIENTATION AND INDOCTRINATION



W. T. A. BAXTER
PERSONNEL MANAGER



PREPARATION OF PAYROLL

1957



Payroll Manager John Hardos discusses an entry in the accounts receivable record with Payroll Clerk Elanor Wolfe (left) and Accountant Melba Roberts.



Payroll Clerks Jean Phillips (left) and Evelyn Smith check down range time cards and note vacations and absences on employees' individual record cards. Accountant Tim McNicholas is shown in the background.

1958



Payroll Manager John Hardos (2nd from left) receives an explanation of the RCA Plan from Frances Furthman (left), Insurance and Safety. Listening to the explanation are J. M. Ragen and Caryl Gaines of Insurance and Safety.

1959



J. SIEGEL



J.F. THOMPSON

1963



H. D. Stors



MTP insurance representatives Bay Taylor and Fran Furthman process a claim for Bob Helfrich, Performance Analysis.

1966



J. M. Hyndman



R. B. Niles



W. L. Strayer

1969



Mr. Heddendorf



Mr. Coghill



Mr. Mack

1969



Bill Marquette



J. D. Justice



H. W. Keys



D. E. Yankovich



Diving enthusiasts Bill Draper and Beverly Brawner inspect assortment of gear worn by divers.



Robert Paul Lamb



Stanley Klubeck

Occupied for the past six years, the Cocoa Beach Office is being vacated.



Helping Eau Gallie High Senior Gail Sirois, left, with some filing is Paula Hutter, Personnel.



Personnel employees gather up their belongings



Marilyn Spahr, Dick Waugh tape up boxes.



Possibly suffering from moving day blues, Pam Day contemplates work to be done. With the office swept clean, except for telephones, Dottie Mosby leaves message on blackboard.



Engineering and Drafting

From the beginning of the Missile Test Project, the RCA Engineers have played a vital role in the development of the Eastern Test Range.

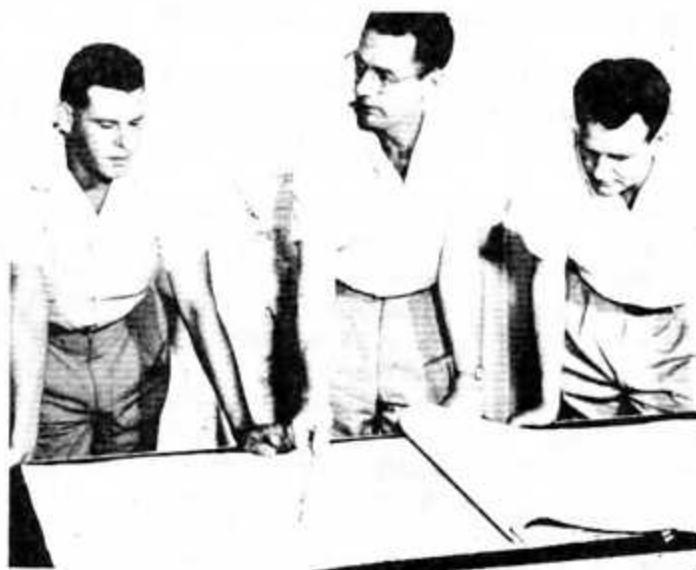
Sandy, palmetto spits of land with dirt roads and crude instrumentation in vans and makeshift buildings represented the Missile Test Project of 1953.

The monumental task of forging an instrumentation system chain extending some 10,000 miles down the Atlantic was put before the RCA MTP Engineering Department. Planning and specifications for the range were established to acquire and reduce data from missiles that would fly higher, faster and farther than ever before.

The early engineering groups of Planning and Analysis, Systems Engineering and Range Operations were directly involved in the planning, development and operations of data acquisition, transmission and processing equipment that would track these missiles.



ANALYZING DRAWINGS to determine the facilities necessary to meet radar data requirements.



MISSILE TEST RANGE requirements are determined.

By 1955, with RCA providing the engineering, operation and maintenance skills, the Atlantic Missile Range had expanded. With Engineering providing the expertise, Mod II radars and telemetry were operating at all stations as far down range as Grand Turk. Missile position computing, display, control and destruct equipment for range safety was installed at each station as far as Grand Turk and digitized data was being transmitted by cable from Grand Bahama to the mainland for post flight data reduction.

SHORAN (Short Range Aid to Navigation) and DOVAP (Doppler Velocity and Position) systems were installed and in operation to provide increased data accuracy capability.

With the frequency of tests increasing, the work volume of the photographic laboratory had increased 400 percent, and telemetry automatic reduction equipment that produced linearized analog data in graphic form was installed in data processing to meet ever-increasing requirements.

In 1957, within four years after the beginning of the MTP contract, the Range extended 5,000 miles to the Island of Ascension with over 15 instrumentation stations between.

The Intermediate Range and Intercontinental Ballistic Missiles that were to be tested for the first time in 1957 brought requirements for great volumes of data never before needed and a goal of instrumentation accuracies never believed possible.

Current information on where a missile was and where it was heading would no longer be adequate for Range Safety purposes. Upon pushing a button to destruct a 500-mile per hour aerodynamic missile the Range Safety Officer could foresee where it would impact. With ballistic missiles and spacecraft traveling 5,000, even 10,000 and 15,000 miles per hour, the missile or its debris would travel a long way after the destruct button was pressed.

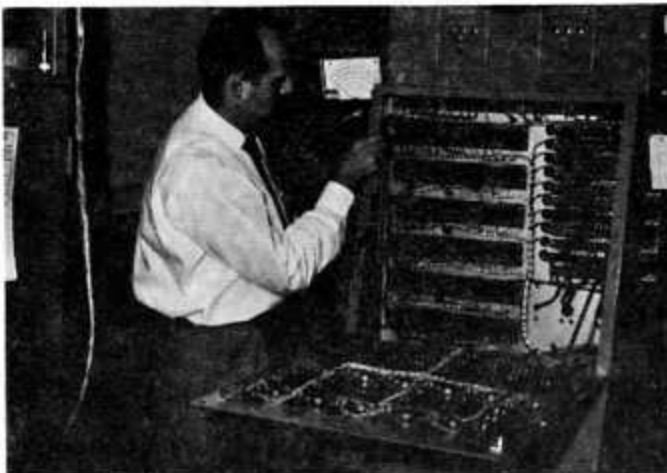
Thus was born the concept of the Atlantic Missile Range Impact Prediction System, planned and developed by RCA engineers.

The launch of Explorer I, America's first satellite, in 1958, sophisticated weaponry and the manned space flights of the 60's and 70's brought on a greater demand for more intricate and complex instrumentation support. The RCA MTP Engineering, Drafting and Shops specialists met the challenge headon.

To meet the challenge, radar, telemetry, communications and optics instrumentation was streamlined and data processing equipment modified to satisfy new and demanding requirements.

Precision radars on the Range today can track and measure a square meter object at ranges up to 300 miles. An intricate range timing system designed by RCA engineers synchronizes the operation of the entire Range and allows every missile function to be recorded in relation to the time of occurrence. Thus it permits a sequential camera to record time pulses on film along with pictures and telemetry to record time on data tape. Cape Canaveral Central Control, the heart of the tracking operation, once capable of supporting no more than one missile launch per day, now has dual countdown capability that provides simultaneous support of more than one missile operation - a system designed by RCA MTP engineers. Also automatic sequencing systems set up by RCA electronically checked each step in a prelaunch countdown, stopping it when a subsystem fails to operate.

In 1953, the present day Atlantic Missile Range was no more than a concept. Space programs were a dream of the distant future and the Matador was the only missile. During the last thirty five years of accomplishment on the Range, RCA has participated in all of them. RCA designed and engineered systems, built by RCA Shops specialists and operated by skilled RCA technicians have taken the guesswork out of missile testing.



Engineer Carl H. White checks Minitrack equipment at Antigua where he is now assigned.



Oscar L. Morris, Jr., is shown with a decoder he recently designed and developed.



EDWARD W. SHERIDAN



R. V. GODFREY



LLOYD L. YOUNG



ROBERT S. TAYLOR



C. E. PLIMPTON



SAMUEL E. LEONARD



HARRY F. KANE



ROBERT W. CORWIN



RCA Engineer Trainees who recently received certificates of completion of their one year course and received assignments to engineering positions at MTP, are shown above: Front Row (left to right) T. E. Augustin, H. Pickover, J. P. Newey, R. Gruber and J. R. Standlin. Second row, R. Ginn, J. A. Rehwinkle, C. P. Baumann, M. W. Boggs, L. R. Westerburg, M. E. Smiegal and R. P. Koberstein. Third row, J. R. Theodore, V. A. Ratner, C. Thompson, J. N. Devitt, J. P. Dickenson, W. E. Muncy, F. Minning and D. Spencer.

1958



L. F. DOBSON



A. R. MARCY

1963



Roy Bloch

1963



Theodore G. Dell
Communications Engineering

1963

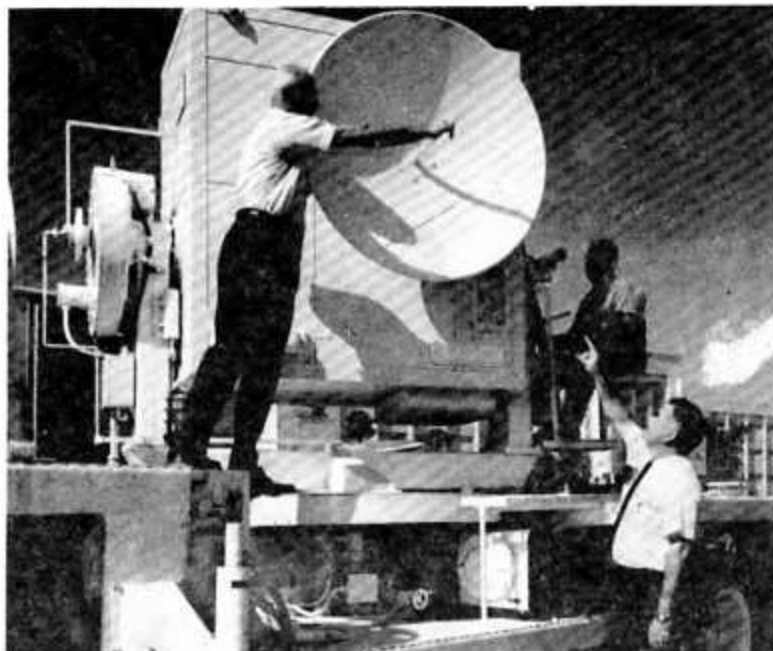


R. T. PLATT

1964



D. G. Reeder, Installation Designer in MTP's Drafting explains his work to a group of Indian River Junior College students



E. M. Felner (on ground), whose recommendation for a re-entry blackout study ultimately lead to MTP being selected to provide the ASSET telemetry ground receivers, gives instructions as Andy Mehalko, a lead technician on the ASSET program, adjusts the antenna on the Patrick AFB receiving site just across from the Tech Lab. Shown seated to the right is Clyde Moore, another ASSET program lead technician.

1964



Sam Ashdown



Mr. Bartelson



Mr. Holmes



Drafting's Charlie Payne, Shop Tech. Clarence Sherouse and Engr. Frank Tuck check Launch Area Recovery System console.

Below - Don Reeder checks a circuit. Right- Jim Andrews examines multi-wired component designed in Drafting. Below right - Bob Roberts uses one of the unit's volumes to select a part.



1966



Ray Brady (1) receives his 30-Year emblem, a tie clip, from Project Mgr. G. Denton Clark.



Max Miller



Tom Rutherford



Scott C. Fuller



Alan F. Durfee

1967 Drafting



Diane Farrington gets service pin from her dad as mom looks on proudly.



Richard E. Higgs



Mr. D'Acre