"Firing Command!"

Cape Canaveral, Fla. -- "Firing Command!"

With that ringing order, test coordinator Robert Moser tonight signalled the launching of the U.S. Army's scientific satellite at 10:48 P.M., Eastern Standard time.

Grouped around him, staring fixedly through the green portholes of the concrete blockhouse, were some of the Army's top rocket developers: Major General J. B. Medariss commanding the Missile Agency responsible for the project; Dr. Kurt Debus, Director of the Agency's Missile Firing Laboratory; his Deputy, Dr. Hans Gruene, and others.

Waiting the launching signal far away in Washington, D.C., was the Agency's Technical Director, Dr. Wernher von Braun, grouped with Dr. W. H. Pickering, Jet Propulsion Laboratory Director, responsible for the satellite, and other scientists associated with the International Geophysical Year program.

Nine and three-quarters seconds later, its fuel tanks pressurized, the high speed upper stages spinning rapidly, the giant rocket thundered into life. Flame cascaded from its base and slowly it lifted from the pad.

In fleeting seconds it gathered speed, rising majestically into a journey that would reach apex far into outer space.

There were shouts now, where there had been a tense, orderly silence earlier.

"Go Baby!" someone shouted, others clapped hands gleefully.

General Medaris and Dr. Debus hurried to the recording panels where electronic devices tracked the rocket's swift ascent. Soon the first stage, an elongated Redstone Ballistic Missile, specially modified for this mission, dropped away. The high-speed

MORE
motors, solid propellants, roared into life far beyond human vision, pushing the satellite farther away from the earth's surface.

Tensely, the Army officers, scientists and technicians watched a pen—nervously tracing on a moving chart—the course of the rocket. The pen swung to the left sharply as the rocket ran into the high velocities of the jet stream more than 30,000 feet up. It swung back seconds later as the rocket burst free of the violent winds and continued tracing a waving path.

Eight minutes after launch Gen. Medaris reported a successful launching to high Army officials in Washington, noting that it was still too early to determine if the satellite had swung into orbit.

Dr. Debus turned to an observer: "Now you see why there is no one button-pusher—this is a firing team, a small part of the bigger team at the Army Ballistic Missile Agency, the Jet Propulsion Laboratory and other installations who made this possible."

Dr. Debus announced that the telemetering instruments carried in the rocket faithfully reported separation of the booster stage and the upper stages.

"You got it off the ground," a JPL representative laughingly remarked, "now we'll take over."

His Laboratory had assembled the high-speed upper stages, carefully mated by the ABMA-JPL firing team to the Army's Redstone.

Having doffed his working gear, a chest mike and headphone, Moser walked up to Dr. Debus:
"I don't know what happened in the last ten minutes," he laughed.

The men operating the vital control panels under Moser's alert gaze were Terry Greenfield, Cluster Control; C. D. Sweat, Propulsion Panel; Ison Rigell, Generator Panel; C. A. Whiteside, Gyro Control, and W. O. Chandler, Radio Frequency and Measuring.

Captain Ballard Small, Test Conductor, stood alongside the panels in direct telephone contact with Colonel Leonard Orman, Army Test Director, at Central Control.

Elsewhere in the blockhouse, technicians tended their panels. Some monitored the missile's systems prior to launch, checking the closing and opening of valves, instantly alert to any trouble spot.

Dr. Debus explained one set of panels where adapted to each missile's requirements, giving constant recordings of temperature and pressure.

Three Dovap recorders would, after launch, report the rocket's velocity, azimuth and deviations. Other panels would report tilt, roll, yaw and pitch.

"Telemetry," said Dr. Debus, veteran of many hundreds of launchings in Germany and in the U.S., "is the eyes and ears of the missile."

He has launched all the Redstone, JUPITER and JUPITER-C missiles for the Army, whose first rockets were fired in August, 1953.