

U. S. NAVAL RESEARCH LABORATORY Payload Number 120

This payload is designed with the following characteristics:

Diameter - 24 inches

Weight - 100 pounds

Height of equatorial band - 21 inches

Overall height - 28 inches (with antennas folded)

Experiment:

.4 D. L. inputs

D. L. Inputs:

6 elements with dual coverage located between solar cell patches, 3 above and 3 below equator.

2 elements with single coverage on spin axis.

4 elements with single coverage on equator spaced 45 degrees from telemetry antennas.

Antenna System:

4 element turnstile located on equator.

Telemetry System:

16 channel commutator reading voltages, currents, and relay positions. Clock rate maximum for SCO's.

2 SCO's connected for redundancy.

100 mw transmitter at 136 mc to be amplitude modulated with a composite of 2 SCO outputs.

Payload will contain antenna release mechanism with 16 second delay operated by separation microswitch. Overall height to be a minimum. Fold antennas for clean separation.

HANDLE VIA

No spin systems required.

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Battery pack to be F size cells.

This payload is being designed for launch with WS 622A in November 1962.

SECRET!

July 6/?

U. S. NAVAL RESEARCH LABORATORY (S. NAVAL RESEARCH LABORATORY) (Payload Number 121 > 7/0/

This payload is designed with the following characteristics:

Diameter - 20 inches

Weight - 60 pounds

Height of equatorial band - 2½ inches

Overall height - 24 inches

Experiment

4 D. L. Inputs

- 6 elements with dual coverage located between solar cell panels,
 - 3 below and 3 above equator.
- 2 elements with single coverage on spin axis.
- 4 elements with single coverage on equator spaced 45 degrees from telemetry antennas

Telemetry

Antenna System

4 element turnstile located on equator

Input channels - one

Number of segments in commutator - 16

Number of SCO's - two (for redundancy)

Clock rate >> 1 segment/second

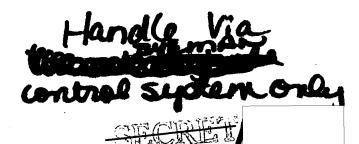
Transmitter Power - 100 mw

Modulation type - AM

Payload will contain antenna release mechanism with 16 second delay operated by separation microswitch.

Battery pack - 18 cells size F

This payload is being designed for launch with WS 622A in November 1962.



HANDLE VIA BYEMAN-TALENT-KEYHOLE-COMINT CONTROL SYSTEMS JOINTLY

TOP SECRET

A. Payload 110

Band A-

Two antenna/elements mounted at the Poles and measuring approximately 14". Four Filters, Tubular $\frac{1}{2}$ " dia. x 6" long. Two Detector Mounts, Tubular 5/8" dia. x $3\frac{1}{2}$ " long. One Video amplifier with built-in bias-box facility.

Band B-

Four antenna elements mounted on the equator xxx(equally spaced between the elements of the turnstile) each measuring 7" in length. Six Filters, Tubular $\frac{1}{2}$ " dia. x 6" long. Six Detector Mounts, tubular $\frac{5}{8}$ " dia. x $\frac{3}{2}$ " long. One Video amplifier with built-in bias-box facility.

Band C- and Band D.

Six antenna elements oriented on the 36° latitude and length-5½".

Band C-Six Filters, Tubular $\frac{1}{2}$ " dia. x 6" long. Six Detector Mounts, Tubular 5/8" dia. x $3\frac{1}{2}$ " long. One Video Amplifier with internal bias box facility.

Band D- Retector Mounts, tectangular
Six Filters,/Yukulmxmkmxmkmimxmxmmmm 1" x ½" x 3" long.
One Video amplifier with internal bias box facility.

B. PAYLOAD # 130....

Band A-

Two polar mounted antennas measuring 14" in length. Four Filters, Tubular $\frac{1}{2}$ " dia. x 6" long. Two mounts, 5/8" dia. x $3\frac{1}{2}$ " long. One video amplifier with internal bias box facility.

Band B-and C Symmetrical system of 6 antennas mounted at 36° Latitude 6" long.

Band B- Six filters, tubular $\frac{1}{2}$ " dia x 6 " long. Six mounts, tubular 5/8" x $3\frac{1}{2}$ " long. One Video amplfiere with internal bias box facility.

Band c- Six Filte rs, Tubular, $\frac{1}{2}$ " dia. x 6" long. Six Detector mounts, tubular 5/8" dia. x $3\frac{1}{2}$ " long. One video amplifier with internal bias box facility.

Band D.. Symmetrical system of 6 antennas loacated at 36° Latitude, each lige "ilong. Six Filter-Detector Mounts rectangular 1" wide ½" thick and 3½" long.

One video amplifier withinternal bias box facility. HANDLE VIA

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Control Systems Jointly

Control System only.



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C. PAYLOAD # 112....

Band A. Two paper mounted antenna measuring 35" in length. Four Filters, tubular $\frac{1}{2}$ " dia. x 7" long. Two Detector Mounts, tubular 5/8" Dia. x $3\frac{1}{2}$ " long. One video amplifier with internal bias box.

Band B. Four equally spaced antennas on the equator, each 17" long. Ten Filters, tubular $\frac{1}{2}$ " dia. x 7" long. Six Detector mounts, tubular $\frac{5}{8}$ " kia. x $\frac{3}{2}$ " long. One Video Amplifier with internal bias bix facility.

Band C- symmetrical system of 6 antennas mounted at 36° lat. each $2\frac{1}{2}$ " long. Six Filters, Tubular, $\frac{1}{2}$ " dia x 6" long. Six Detector Mounts, tubular, $1\frac{1}{2}$ " dia.x $3\frac{1}{2}$ " long. One video amplfier with internal bias box facility.

Band D...Symmetrical system of 6 antennas mounted at 36° lat. each 1 &1/8" long. Six combined Filter-Mounts, rectangular $1\frac{1}{2}$ " x $\frac{1}{2}$ " x 4" long. Six video Amplifiers and Trigger Amplifiers.

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CONTROL SYSTEMS JOINTLY

