

OPTIONAL FORM NO. 10  
5010-104

UNITED STATES GOVERNMENT

*Memorandum*

TO : Code 5170

DATE: 1 November 1962

HANDLE VIA

TALENT-KEYHOLE

CONTROL SYSTEMS JOINTLY Code 5430

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SUBJECT: Payload 110 and 130

Payload-experiment interface problems have led to this list of Hardware Quantity requirements for the experiment of Code 5430:

## a. Payload 110 (7102A)

Band A - Two antenna elements mounted at the Poles and measuring approximately 14"

Four filters, Tubular 1/2" dia. x 6" long.

Two Detector Mounts, Tubular 5/8" dia. x 3 1/2" long.

One Video amplifier with internal bias-box facility.

Band B - Four antenna elements mounted on the equator (equally spaced between the elements of the turnstile) each measuring 7" in length.

Six filters, tubular 1/2" dia. x 6" long.

Six detector mounts, tubular 5/8" dia. x 3 1/2" long.

One Video amplifier with internal bias-box facility.

Band C - and Band D

Six antenna elements oriented on the 36° latitude and length - 5 1/2"

Band C - Six filters, tubular 1/2" dia. x 6" long.

Six detector mounts, tubular 5/8" dia. x 3 1/2" long.

One Video Amplifier with internal bias box facility.

Band D - Six Filters, Detector Mounts, rectangular 1" x 1/2" x 3" long.

One video amplifier with internal bias box facility.

b. Payload <sup>112</sup>~~130~~ (7102B)

Band A - Two polar mounted antennas measuring 14" in length.

Four filters, tubular 1/2" dia. x 6" long.

Two mounts, 5/8" dia. x 3 1/2" long.

One video amplifier with internal bias box facility.

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Band B and C Symmetrical system of 6 antennas mounted at  $36^{\circ}$  latitude 6" long.

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

Band C - Six filters, tubular,  $1/2$ " dia. x 6" long.  
Six detector mounts, tubular  $5/8$ " dia. x  $3\ 1/2$ " long.  
One video amplifier with internal bias box facility.

Band D - Symmetrical system of 6 antennas located at  $36^{\circ}$  latitude, each  $1\ 1/8$ " long.  
Six filter - detector mounts rectangular 1" wide  $1/2$ " thick and  $3\ 1/2$ " long.  
One video amplifier with internal bias box facility.

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c. Payload ~~112~~ (7102C)

Band A - Two polar mounted antenna measuring 35" in length.  
Four filters, tubular  $1/2$ " dia. x 7" long.  
Two detector mounts, tubular  $5/8$ " dia. x  $3\ 1/2$ " long.  
One video amplifier with internal bias box.

Band B - Four equally spaced antennas on the equator, each 17" long  
Ten filters, tubular  $1/2$ " x 7" long  
Six detector mounts, tubular  $5/8$ " dia. x  $3\ 1/2$ " long  
One video amplifier with internal bias box facility.

Band C - Symmetrical system of 6 antennas mounted at  $36^{\circ}$  lat. each  $2\ 1/2$ " long.  
**Six filters, tubular,  $1/2$ " dia. x 6" long.**  
One video amplifier with internal bias box facility.  
Six detector mounts, tubular,  $1\ 1/2$ " dia. x  $3\ 1/2$ " long.

Band D - Symmetrical system of 6 antennas mounted at  $36^{\circ}$  lat. each 1 and  $1/8$ " long.  
Six combined filter-mounts, rectangular  $1\ 1/2$ " x  $1/2$ " x 4" long.  
Six video amplifiers and trigger amplifiers.

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a. First Payload for 7103 (7103A) - Four Bands with hardware described below:

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- Band A - Two polar mounted antennas 35" long.  
 Four filters, tubular 1/2" dia. x 7 1/4" long.  
 Two detector mounts, tubular 5/8" dia. x 3 1/2" long.  
 One video amplifier with internal bias box facility.
- Band B and C use a combined symmetrical system of 6 antennas  
 6" long, mounted at the 36° latitude.
- Band B - Six filters, tubular, 1/2" dia. x 6" long.  
 Six detector mounts, tubular 5/8" dia. x 3 1/2" long.  
 One video amplifier with internal bias box facility.
- Band C - Six filter tubular 1/2" dia. x 5" long.  
 Six detector mounts, tubular 1 1/2" dia. x 2 1/2" long.  
 One video amplifier with internal bias facility
- Band D - Symmetrical system of 6 antennas each 1" long  
 mounted at 36° lat.  
 Six combined filter-detectors, rectangular  
 1 1/2" x 1/2" x 3 1/2"  
 Six video amplifiers and Trigger Amplifiers.

SECOND PAYLOAD FOR 7103 (7103B)

- Band A - Symmetrical system of 6 antennas mounted on poles  
 and equator, each measuring 9" in length. Those  
 on equator equally spaced between elements of the  
 turnstile antenna.  
 Six filters, tubular 1/2" dia. x 6" long.  
 Six detectors, tubular 5/8" x 3 1/2"  
 One video amplifier with internal bias facility.
- Band B and Band C - share a symmetrical system of 6 antennas  
 each 6" long, and mounted at the 36° latitude.
- Band B - Six filters, tubular, 1/2" dia. x 6" long.  
 Six detector mounts, tubular 5/8" x 3 1/2" long.  
 One video amplifier
- Band C - Six filters, tubular 1/2" dia. x 6" long.  
 Six detectors, tubular 5/8" dia. x 3 1/2" long.  
 One video amplifier

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Band D - Symmetrical system of 6 antennas 6" long at 36° lat.  
 Six filters, tubular 1/2" dia. x 6" long.  
 Six detectors tubular 5/8" dia. x 3 1/2" long.  
 One video amplifier

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THIRD PAYLOAD FOR 7103

Band A - Six antennas (symmetrically displaced) on poles  
 and equator (17" long).  
 12 filters, tubular 1/2" dia. x 7" long.  
 Six detector mounts, tubular 5/8" dia. x 3 1/2" long.  
 One video amplifier

Band B - and Band C - share a symmetrical system of 6 antennas  
 mounted at 36° lat. and measuring 6" in length.

Band B - 6 filters tubular 1/2" dia. x 6" long.  
 6 detectors mounts 5/8" x 3 1/2" long  
 One video amplifier

Band C - 6 filters, tubular 1/2" dia. x 6" long.  
 6 detectors, tubular 5/8" dia. x 3 1/2" long  
 One video amplifier

Band D - Symmetrical system of 6 antennas on 36° latitude,  
 each 1" long.  
 6 filters, detector mounts, rectangular, 1" x 1/2" x 3 1/2"  
 1 video amplifier

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