TECHNICAL DESCRIPTION

STOPPER

RECONNAISSANCE SYSTEM

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EXCLUDED FROM AUTOMATIC REPRODUCING; DOD DIR 5200.20 - DOES NOT APPLY

NRO APPROVED FOR RELEASE
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The STG vector network analyzer will be added to the lab. An addition to room 2, April or May, will complete the rest of the periphery.

TRW Inc., Alvaide Electric Products Inc., will provide the transistors, switch, and signal logic subsystem. General Electric G & Space Company will provide the computer, separator, recorder, programmer, and link to the nose subsystem.
Specific Payload Characteristics

1. Antenna: The antenna assembly consists of three elements in a single structure. The antenna feeds the two low frequency channels, 1 and 2, through a chopper, and covers the range of 160 mc to 1000 mc. The second element feeds channel 3, and covers the frequency range of 1000 to 2500 mc. Each of these elements are logarithmic spirals, circularly polarized, and have a major lobe type of pattern with maximum response directed northward, and a gain varying from a maximum of isotropic to a nominal minor 6 db at the horizon.

   The third element is a narrow beam monopole with a reflector designed to reproduce the pattern of the vehicle 3-beam beamcom antenna. It covers the range of beamcom frequencies, and feeds channel 4 which recognizes attempts to elicit transponder responses.
The voltage output of each pulse rate counter is fed to another threshold circuit followed by relay logic which is activated whenever a preset level of activity is detected. The relay will remain closed for five additional activity counts.

The beacon subsystem consists of an S-band superheterodyne receiver operating at the frequencies of 2990 mc ± 5 mc, and 3090 mc ± 5 mc (signal and image). Bandwidth of the receiver is 30 mc and sensitivity is -60 db. The S-band antenna is fed to an RF bandpass filter which contains a rejection notch centered at the vehicle transponder frequency, followed by a crystal.
The recognition logic used is divided into two sub-sections, 'Logic A' and 'Logic B'. Multiple-tone FM command signals using the Type XLI 16-Command Decoder are monitored with Logic A. The tones and pulse-spacings used are noted in HMC specification 500777 (Secret). One of the six different pulse-spacings used is connected to Logic A by use of an external switch, set before flight presumably to the spacing used by the satellite vehicle.
The coded digital IFF receive system is connected to "Logic B", with the exception, individually, for the rendition of valuable results, and the automatic (or manual) issuance of, or "lockon", and for the reception of "audible" results, or sounds. Validation includes checking pulse positions, pulse lengths of the two types of results, and the parity-checking relations which are meant to apply. Logic B is permanently connected to the channels of the time-delay-comparison circuitry corresponding to the appropriate pulse spikes used with this system.
Advisory

Primary

Output impedance

Input impedance

Output level

Output frequency

Input frequency

Temperature range

Record speed

Playback speed

Track capacity

Recording time

Weight

No. of channels

Linarity

Speed control

2 1/2 in. (± 10% 1000, center freq. 3000 cps)

When the output (during playback) versus input (recorded) between 0 to 2.5 V is plotted, the curve does not deviate from the line by more than ± 0.5 V at any intermediate point.

Accomplished by a precision frequency inverter oscillator synchronizing a DC to AC motor inverter, which in turn drives a 400 cycle 6000 rps synchronous motor.
MTB model 24011\n
Model number: MTB part no. 141-4021, TST 11 CHP5 1981

Power Output: 10 watts

Deviation: ± 25 kHz

Height: 1 lb. 18 oz.

Modem used for read-out of recorded data: Channel 1

Modem used for read-out of real-time data: Channel 2

SECRET SPECIAL CLEARING