



CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D. C. 20505

OFFICE OF
THE DEPUTY DIRECTOR (SCIENCE AND TECHNOLOGY)

19 OCT 1964

Dr. Brockway McMillan
Director
National Reconnaissance Office
Washington, D. C.

Dear Brock:

PUNDIT IV has the potential of providing excellent environmental data that would be extremely valuable [redacted] several other telemetry collection programs. If properly oriented PUNDIT IV could provide a rather complete frequency time history of emitters which are potential sources of interference in the bands of interest throughout the entire Soviet Bloc, and detailed power gain patterns of specific interfering emitters such as FM and TV broadcast stations.

50X1

It will not be necessary to make any changes in the prime mode (Mode B) of PUNDIT IV operation. The capability can be implemented by a few changes in the Mode A (the real time indicator) system. Thus the principal mission of PUNDIT IV will in no wise be affected.

If you agree in principal with this proposal, I will have members of my Technical staff work the details with your representative.

Sincerely yours,

Albert D. Wheelon
Deputy Director

~~SECRET~~
SECRET

NYL-0347-64
Copy 2

Handle via STEWART

Control System 410 19 00

~~SECRET~~
Handle via BYEMAN
Control System

6531



1964 DEC 23 01 28

/202102 ZEA
BT
XXXX ZEA
SIX ZERO THREE NORTH

SAFSS

SECRET 202102
PRIORITY NORTH INFO MARGO CITE WHIG 2103
MARGO REQUESTS CLARIFICATION MISSION 7309 (PUNDIT IV)
NOTE A LOCK-ON AND FLYBACK INDICATIONS IN VIDEO DATA.
UNDERSTANDING FROM DISCUSSIONS AT SEPT TECH MEETING FOLLOWS:
A 5 MILLISEC BURST OF 25 KC SQUARE PULSE REVERSALS IS
INSERTED UPON RECOGNITION IN ORDER TO PROVIDE MEASURE OF RF;
THIS IS IN ADDITION TO A 50 MILLISEC BURST OF 50 KC SQUARE
WAVE INSERTED DURING FLYBACK FOLLOWING RECOGNITION OR 50
MILLISEC OF 100 KC SQUARE WAVE DURING FLYBACK IF NO RECOGNITION
OCCURED DURING THAT SWEEP. REQUEST VERIFICATION OR CORREC-
TION OF ABOVE AND AMENDMENT TO TECHNICAL DESCRIPTION AS
NECESSARY.

SECRET
CFN: 2103 MISSION 7309 (PUNDIT IV) LOCK-ON SEPT TECH
5 MILLISEC 25 KC RF; 50 MILLISEC 50 KC 50 MILLISEC
100 KC
BT

NNNN

DISTRIBUTION		
SAFSS	A	I
SS-1		
SS-2		
SS-3		
SS-4		
SS-5		
SS-6	/	
SS-7		
SS-8		
SS-9		
SS-10		
SS-11		
RF-1		3
RF-2		3
FILE		

~~SECRET~~
Handle via BYEMAN
Control System

6531

Copy 1 of 3 Pages.
Page 1 of 3 Pages. **7309**

SECRET
Handle via BYEMAN
Control System

1964 DEC 27 10 44



SAFSS

KAA5 15
R 241635Z
FM DIRNSA
TO SAFSS

SECRET EARPOP BYEMAN CHANNELS
CITE NSA SPO 3872-4 FOR [redacted]

REQUEST WAS MADE AT THE 24/25 SEPT 64 TD MEETING, HELD AT MARGO,
FOR A 25 KC BURST OF 5 MILLISECONDS DURATION TO BE INSERTED IN
THE 'A' MODE VIDEO OF PUNDIT PACKAGES AT EXACT TIME OF RECOGNITION
AND RECEIVER LOCK-ON AS A FURTHER 'YES' RECOGNITION AID IN ADDITION
TO THE CODED FLYBACK PULSE. AT THE DECEMBER TD MEETING, PERSONAL
CONTACT BETWEEN MARGO REP AND CONTRACTOR ENGINEERS DID NOT REVEAL
THEIR KNOWLEDGE OF THIS NEED. MARGO MODE 'A' PROCESSING PLANS
FOR FUTURE PUNDITS CALL FOR USE OF THIS BURST TO STOP A COUNTER
IN ORDER TO DETERMINE FREQUENCY OF RECOGNITION. REQUEST YOU
QUERY WORTH FOR STATUS OF THIS REQUIREMENT AND RESTATE IF NECESSARY.
BT

*TV MTS
28865
NOT POSSIBLE
PUNY 50X1*

7309

N
N
N
N

16792

Copy of 3 Copies
Page of _____ Page(s)
Serial No. _____

~~SECRET~~
Handle via BYEMAN
Control System

DISTRIBUTION	
SAFSS	A I
SS-1	
SS-2	
SS-3	
SS-4	
SS-5	
SS-6	
SS-7	
SS-8	
SS-9	
SS-10	
SS-11	
RF-1	
RF-2	
FILE	

TOP SECRET

1096 280405Z ZEA

BT
XXX ZEA
WAMOO PASS MARGO

*REQUEST YOU SEND
to 55-6*

7302

06 JUN 28 21 09



~~TOP SECRET~~ 28/0330Z
ROUTINE WAMOO BLADE MARGO CITE [] 0951
EARPOP

SAFSS 04664

50X1

SUBJ: LOSS OF PAYLOAD DATA-MSN 7302
FOR YOUR INFORMATION, THE FOLLOWING REPORT AND COMMENTS
ON 7302 ANOMALIES FROM LMSC IS SUBMITTED.

PAYLOAD DATA FROM MISSION 7302 HAS BEEN LOST BECAUSE THE
VEHICLE COMMAND LOGIC HAS MALFUNCTIONED OR BECAUSE THE COMMAND
LOGIC HAS BEEN DISTURBED BY AN OUTSIDE UNKNOWN SOURCE.

LOSS OF DATA BECAUSE OF A COMMAND LOGIC MALFUNCTION HAS OCCURRED
SIX OR SEVEN TIMES. READINS COMMANDED ON PASS 17, 31, 36, 46, 47
AND 70 DID NOT OCCUR, PROBABLY BECAUSE VEHICLE TIMER LOGIC DID
NOT RESET, WHICH IN TURN DID NOT ALLOW A READIN TO PROCEED.
FURTHER LOSS OF DATA DUE TO THIS MALFUNCTION WAS MINIMIZED, AND
PROBABLY ELIMINATED STARTING WITH ORBIT 72, BY SENDING A COR-
RECTIVE RESET COMMAND AT THE APPROPRIATE TIME.

THE EFFECT OF EXTRANEIOUS COMMANDS HAS BEEN AND CONTINUES TO BE
RESPONSIBLE FOR CONSIDERABLE LOSS OF PAYLOAD DATA. FAILURE TO READ
OUT RECORDED DATA ON AT LEAST TEN PASSES (31, 37, 114, 129, 143,
174, 178, 186, 196, 305, 343) PLUS INCORRECT PROGRAMMING AND
OTHER FUNCTIONAL ANOMALIES ARE BELIEVED TO BE DUE TO UNDESIRE
COMMANDS OR THEIR EFFECTS GETTING INTO THE VEHICLE.

THREE SOURCES OF EXTRANEIOUS COMMANDS ARE POSSIBLE-COMMERCIAL
EMITTERS, NOISE TRIGGERING OF THE COMMAND DECODERS, INADVERTANT
FRIENDLY COMMANDING, AND POSSIBLY UNFRIENDLY COMMANDING. WHATEVER
THE SOURCE, IT IS IMPORTANT THAT ACTION BE TAKEN TO REDUCE THE
LOSS OF PAYLOAD DATA. IN GENERAL, THIS WILL TAKE THE FORM OF
SWITCHING OUT COMMAND CIRCUITRY AS SOON AS THE SATELLITE LEAVES
THE TRACKING STATION ACQUISITION CIRCLE. THIS ACTION HAS INHERENT
DISADVANTAGES, FOR INSTANCE OVERSEAS STATIONS MAY BE DENIED ACCESS
TO THE VEHICLE. IT IS FURTHER NECESSARY TO DETERMINE THE NATURE
OF THE INTERFERING SIGNAL. THIS CAN BE DONE SIMPLY BY RE-
CORDING THE TONE OUTPUTS OF THE COMMAND RECEIVER ON SELECTED
PASSES. POSSIBLE REDESIGN OF THE COMMAND SYSTEM CONCEPT MAY
BECOME NECESSARY.

ON 0 180 DESCENDING COMMANDS 2, 3, 2, 1, 7 WERE SENT AND
VEFIFIED. ON 186 ONLY LINK 1 CAME ON BUT T/R R/O WAS OK. THIS
MEANS THAT (1) EITHER THE COMMAND 7 WAS ACTED UPON BY THE
APPROPRIATE SPC'S AND THEN A SECOND SET OF COMMANDS CONSISTING
OF COMMAND SIX PLUS 1, 4 OR 5 GOT IN. BUT SINCE NO COMMAND 3
INTERVENED BETWEEN COMMAND SETS, THE SECOND READIN WAS INEF-
FECTIVE AND THE T/R DID NOT TURN ON OR (2) NEITHER A SIX NOR
SEVEN GOT IN-SOMEHOW A COMMAND 3 GOT IN AND NEGATED THE COMMAND
SEVEN. HOWEVER, IN ORDER TO CAUSE THE OBSERVED RESULTS, THE THREE
HAD TO BE FOLLOWED BY A 1, 4, OR 5 PLUS A SIX.

~~TOP SECRET~~
CFN: WILL RERUN ON REQ
BT

DISTRIBUTION		
SAFSS	A	I
SS-1		
SS-2		
SS-3		
SS-4		
SS-5		
SS-6	/	
SS-7		
SS-8		
SS-9		
SS-10		
SS-11		
RF-1		2
RF-2		3
FILE		

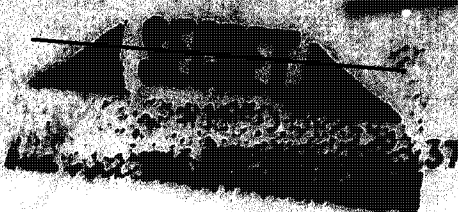
~~TOP SECRET~~

Copy 1 of 3 Copies
Page 1 of 1 Pages

4884

PRIORITY

SECRET



44111932Z ZEA

BT

XXXX ZEA

ZERO ZERO FIVE



SIX TWO FIVE WORTH

SAFE

2688

MAR 64

SECRET 111925Z

PRIORITY



MARGO WORTH WHIG CITE WAHOO 2688

EAVES-11

A. 7302

B. N/A

C. CANCEL FURTHER OPERATIONAL TASKING OF REF A. MISSION IS RELEASED TO WORTH FOR FURTHER ENGINEERING EVALUATION.  SUBMIT FINAL EAVES

-8

SECRET

CFM: 2688 -11 7302 N/A REF A EAVES-8

BT

50X1

NNNN

7302

2688

DISTRIBUTION		
SAFSS	A	I
SS-1		
SS-2		
SS-3		
SS-4		
SS-5		
SS-6	/	
SS-7		
SS-8		
SS-9		
SS-10		
SS-11		
RF-1		2
RF-2		3
RF-3		3

~~SECRET~~

Handle via BYEMAN Control System

Copy 1 of 3 Copies
Page of Pages.

Control No. _____