CONSULTATIVE SERVICES RECORD
PRNC-NRL-10-631 (Rev. 2-55)

~~SECRET~~

DATE	SERIAL NUMBER	FILE NUMBER
26 Sept 1956	5436-177/56	

1. INSTRUCTIONS - This form is to be prepared in duplicate and signed by the conferee after each conference between Laboratory personnel and outside persons. Route both copies to Division Head, to Codes 4010, 1020, 1530, 1505 *(retains one copy)*, and to 1523 for file.

2. CONFERENCE DATA

(a) DATE OF CONFERENCE	(b) PLACE
26 Sept 1956	NAVAL RESEARCH LABORATORY Bld 56 Rm 223

(c) NAME(S) OF LABORATORY PERSONNEL	(d) DIVISION AND CODE NUMBER
R.B. OWENS	RADIO 5435
W.E. WITHROW	RADIO 5435C
R.D. MAYO	RADIO 5435A

(e) NAME(S) OF OUTSIDE PERSONS	(f) ACTIVITY REPRESENTED
Irving M SAFFITZ	A.I.L.
LORNE K DESIZE	A.I.L.

(g) PURPOSE OF CONFERENCE

To discuss direction finder work done at NRL for BuAer

(h) TIME CONSUMED IN CONFERENCE

one and one half hours

(i) HIGHEST CLASSIFICATION OF MATERIAL DISCUSSED OR SHOWN	(j) NRL PROBLEM NUMBER
~~Confidential~~	54R06-20

BRIEF OF RESULTS

a brief description of the VL/AAD-A, crystal video type Direction Finder which was designed, constructed and evaluated at NRL for BuAer was given by Mr Mayo. Mr Withrow explained the progress which he is making toward designing a antenna system for this D.F. for use below 1000 mc.

The two gentlemen from A.I.L. gave the indication that the Air Force Electronic Equipment Procurement policy is shifting from the aircraft Industry to the Electronics manufacturing Industry with emphasis on "Building Block" techniques to adapt various aircraft ~~planes~~ to various missions.

~~SECRET~~

HANDLE VIA BYEMAN
CONTROL SYSTEM ONLY

HANDLE VIA BYEMAN-TALENT-KEYHOLE-[illegible]
CONTROL SYSTEMS ONLY

SIGNATURE Rich D Mayo 5436A

NAVY-DPPO PRNC, WASH., D.C.

CONSULTATIVE SERVICES RECORD
PRNC-NRL-10-631 (Rev. 2-55)

~~Secret~~

DATE		FILE NUMBER
23 Mar 1956 ~~SECRET~~		

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2. CONFERENCE DATA

(a) DATE OF CONFERENCE	(b) PLACE
22 MAR 56	Bld 56 NRL

(c) NAME(S) OF LABORATORY PERSONNEL	(d) DIVISION AND CODE NUMBER
RB OWENS	Radio 5435
	" 5435A
RD MAYO	" 5435A
RW Johnson	(f) ACTIVITY REPRESENTED: Douglas (El Segundo Plant)

(g) PURPOSE OF CONFERENCE
To discuss ECM equipment for The A3D-2Q & The AD-5Q Airplanes

(h) TIME CONSUMED IN CONFERENCE
about 4 hours.

(i) HIGHEST CLASSIFICATION OF MATERIAL DISCUSSED OR SHOWN	(j) NRL PROBLEM NUMBER
~~Secret~~	54R06-17, 54R06-20

BRIEF OF RESULTS

Problems discussed:

1- Use of APA-69 with crystal video receiver (like AAR-3)
- A - Crystals and mounts to cover from 40mc to 10 Kmc.
- B - Noise from the antenna couplers of APA-69 may be eliminated by providing a broadband d-c return path for the crystal biasing current and locating it between the crystal + the antenna.
- C - Band pass filters may be required to limit the frequency band of the low band antennas.

2- Use, Construction & measurements on AT-513 & AT-630 (10-40 Kmc) Antennas.
- A - In order to use a standard unmodified 1N26 crystal as ~~the~~ model AT-513 (XB-3) antenna was examined. ~~Data was shown on Reverse~~ IN ~~SECRET~~ HANDLE VIA ~~TALENT~~-KEYHOLE-CONTROL SYSTEM ONLY Crystals sensitivity, Recommendations were made to use a modified AAR-3 rather than the ~~[illegible]~~ polarity 1N26 (CV-26R)

~~SECRET~~ see back

OVER

SIGNATURE
R.D. Mayo 5435A

HANDLE VIA TALENT-KEYHOLE-CONTROL SYSTEMS JOINT

NAVY-DPPO PRNC, WASH., D.C.

B- An inconsistency exists between the polarity of video pulses from the AT-513, AT-630 antennas and the outputs of the ADR-3 crystal video receiver.

D- Possibilities of redesign of the AT513, AT630 antennas crystal mounts to give opposite polarity of video were discouraged.

E- Origin & use of Sylvania D-799 crystal was discussed.

F- Crystal Bias versus Input Impedance Match and Optimum Bias " Video Cable Length were explained.

G- Pattern plotting range design was discussed; particularly for the 10 to 18 Kmc frequency band.

3 Characteristics of the APR-9 Receiver.