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FM ARMY CANBERRA

TO DSD

MOD ARMY (DI24(A))

/WRE 15 GROUP(DSD PSE PASS BY BAG)

121 SIG SQN

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C. Green
G. H. O'R
Ad(C) H
GAR 31/9/118

FROM M18. HERewith INTERIM REPORT ON ARDF TRIALS NOW BEING
CONDUCTED IN SVN

ONE. TESTS COMMENCED 19 DEC 66 AGAINST KNOWN TARGET TRANSMITTER
TILL 1 JAN 67. DUE TO EQPT FAILURES PROCEDURE ERRORS GAINING
TEAM WORK EXPERIENCE CMM FOLLOWING TENTATIVE CONCLUSIONS WERE
DRAWN.

ALFA. NINETY PERCENT ALL FIXES BETWEEN EIGHT HUNDRED AND TWO
THOUSAND METRES. REMAINING FIXES WITHIN FIVE KILOMETRES (WHICH IS
ACCEPTABLE TOLERANCE TO INT STAFF).

BRAVO. ACCURACY UNAFFECTED BY HEIGHT OF AEROPLANE.

CHARLIE. ACCURACY AND SENSITIVITY OF EQPT HIGHLY DEPENDENT ON LENGTH
OF AERIAL. A MUCH BETTER SIGNAL AND RUSTRAK GRAPH OBTAINED WITH
INCREASE IN AERIAL LENGTH EG BEST RESULTS OBTAINED USING FULL LENGTH
OF WIRE OF ONE HUNDRED AND FIFTY FEET OR APPROX THREE QUARTERS WAVE-
LENGTH COMPARED TO THORETICAL QUARTER WAVELENGTH OF FORTH FIVE
FEET APPROX.

DELTA. DISTANCE OUT FROM TARGETS EFFECTS RESULTS DRASTICALLY AND
UNPREDICTABLY. THIS WOULD BE DUE TO AERIAL PATTERN OF TARGET.

TWO. COMMENCED OPERATIONAL FLYING 2 JAN 67. DUE TO UNCOOPERATIVE BEHAVIOUR OF VC TARGETS HAVE ONLY OBTAINED ONE BEARING. TARGETS ARE HIGHLY INTERMITTENT AND HAVE LASTED FOR ONLY 2 TO 3 MINUTES SO FAR. DUE TO LACK OF CHECK POINTS IN CERTAIN AREAS CMM WILL REQUIRE APPROX TEN TO FIFTEEN MINUTES FOR 3 BEARING FIX.

THREE. GROUND TO AIR TIP OFF ESSENTIAL. SIMPLE TOP OFF CODE BY VOICE OVER AIR CONTROL NET BEING DEVELOPED. AIRCRAFT VHF FM MUST REMAIN ON THIS NET FOR ARTY SHOTS WHICH OFTEN MESS UP PRE PLANNED FLIGHTS (RANG OF 175 MM GUNS IS 34 KILOMETRES) BUT H AND I TASKS ARE CANCELLED DURING OUR FLIGHTS. ULTIMATE IN LUXURY TIP OFF WOULD BE VOICE CIPHERY TO TRANSMIT INSTRUCTIONS AND ACTUAL SIGNAL BUT THIS NOT ESSENTIAL WITH EXPERIENCED OPERATORS WHO KNOW TARGETS.

FOUR. POINTS STILL TO BE RESOLVED.

ALFA. EFFECT OF FREQUENCY AND POWER FLUCTUATIONS OF VC TXS ON ACCURACY.

BRAVO. EFFECT OF AERIAL PATTERNS OF VC TXS GIVING FALSE MAXIMUMS.

FIVE. TO ASSIST IN FURTHER ANALYSIS

SIX. CONFIDENTLY EXPECT SYSTEM TO BE WORKABLE WITHIN ITS PARAMETERS TO GIVE CONSISTENT FIXES WITHIN TWO KILOMETERS

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