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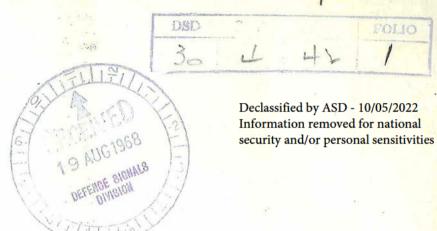
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TOP SECRET COMINT CHANNELS

THE FOLLOWING SUGGESTIONS AS TO MEANS OF POSSIBLE IMPROVEMENT
IN SHORT TERM IN RECEPTION AT ARE MADE BY WAY OF CONFIRMATION
OF POINTS RAISED DURING DISCUSSIONS AT STATION WITH DSD PARTY.
IT IS NOTED THAT MANY OF THE MEASURES SUGGESTED BELOW ARE ALREADY
BEING IMPLEMENTED OR ARE UNDER CONSIDERATION BY THE STATION.
AERIAL FEEDS.

AERIALS BE RUN IN UR 57 CABLE, THE ATTENUATION
OF THIS CABLE IS 5 DB PER 1000 FT AT 5 MC/S 6 DB PER 1000 FT AT
10 MC/S AND 8 DB PER 1000 FT AT 20 MC/S. SINCE THE DISTANCE
FROM THE INNER ENDS OF AERIALS WOULD BE OF THE ORDER OF 500
FT THE ATTENUATION WOULD NOT BE EXCESSIVE. (THE USE OF UR57
WOULD BE OF A TEMPORARY NATURE HOWEVER SINCE ITS LIFE WOULD BE
LIMITED IN DARWIN'S TEMPERATURE AND HUMIDITY CONDITIONS TO A
PERIOD PERHAPS AS SHORT AS 2 YEARS).

2. WE AGREE WITH SUGGESTION THAT FEEDS FROM INNER ENDS OF

- 3. CONSIDERATION SHOULD BE GIVEN TO PROTECTION OF CABLES FROM DIRECT SUNLIGHT, POSSIBLY BY MEANS OF OPEN CABLE TROUGHING WITH LID. CABLE WOULD OF COURSE REQUIRE TO BE LAID IN CONTINUOUS LENGTHS (.E. WITH MINIMUM NUMBER OF JOINS/ELECTRICAL CONNECTIONS BETWEEN AERIAL AND MULTICOUPLER.
- 4. THE AERIAL FEEDER REPLACEMENT PROGRAMME WOULD NATURALLY BE BASED ON REPLACING WORST FEEDERS FIRST, ATTENUATION/NOISE MEASUREMENT

ON EXISTING FEEDERS WOULD HELP IF PRACTICABLE. REPAIR OF EXISTING

UR9 FEEDERS (ATTENUATION 3 DB PER 1000 FT AT 10 MC/S), Information removed for national security and/or personal sensitivities

WOULD BE WELL WORTHWHILE PARTICULARLY ON LONGER RUNS.

- 5. ALL NEW AERIAL FEEDS SHOULD BE BROUGHT IN TO THE ERS SIGINT RECEIVER AREA AND THE DISTRIBUTED TO 1RS COMMUNICATIONS AREA.

 AERIAL DISTRIBUTION.
- NOISE/INTERMODULATION THE PV132 MULTICOUPLER SHOULD BE LOCATED

 WITH A SPLIT TO THE COMMUNICATIONS

 RECEIVER ROOM

 THE CHOSEN AERIAL FEED SHOULD BE COMMECTED

 DIRECTLY TO THE INPUT OF THE PV132 AND OUTPUTS FED TO

RECEIVERS WITHOUT ANY FUTHER SPLITTING.

7. SOME IMPROVEMENT TO THE PERFORMANCE OF THE EXISTING MULTICOUPLER ARRANGEMENT MAY BE GAINED IF THE EXISTING PYE MULTICOUPLERS IN THE IRS COMMUNICATIONS RECEIVER ROOM WERE REMOVED TO THE

AND INSTALLED AS THE FIRST AMPLIFIER OF CASCADED PYE/STC MULTICOUPLER PAIRS, AGAIN WITH A SPLIT OFF THE FIRST PYE MULTICOUPLER TO THE COMMUNICATIONS RECEIVER . SINCE THE PYE MULTICOUPLER HAS 6 OUTPUTS, THOSE OUTPUTS NOT FEEDING STC MULTICOUPLERS CAN BE BROUGHT UP TO THE AERIAL PATCH PANEL FOR USE ON PARTICULARLY WEAK SIGNALS WHEN THE HIGH NOISE FIGURE OF THE CASCADING STC MULTICOUPLER COULD BE A PROBLEM.

INTERFERENCE REDUCTION.

COMMUNICATIONS/DECRYPT SHOULD BE OBTAINED IF NEW AERIAL
COAXIAL CABLES ARE BROUGHT IN DIRECTLY TO OVER A ROUTE AVOIDING
3RS BY AS GREAT A DISTANCE AS POSSIBLE. LITTLE CAN BE DONE TO
REDUCE THE LEVEL OF RFI GENERATED BY DECRYPT EQUIPMENTS BUT BENEFIT
WILL BE GAINED BOTH IN RFI REDUCTION AND IN RADIATION SECURITY BE
USE OF LOW LEVEL SIGNALLING IN THE COMCENTRE
AND OFF-LINE TAPE PREPARATION/PAGE COPY AREA.
YOUR SUGGESTED PROGRAM OF REWIRING THE COMCENTRE IN GALVANISED
CONDUIT SHOULD FURTHER REDUCE THE INTERFERENCE GENERATED BY THE

COMCENTRE.

RECEIVER MAINTENANCE/TEST EQUIPMENT.

9. A CLEAR NEED IS NOTED BOTH FOR A CONSIDERABLE INCREASE IN INDOCTRINATED RECEIVER MAINTENANCE PERSONNEL AND FOR EARLY PROVISION OF THE TEST EQUIPMENT FOR WHICH NECESSARY ALLOCATIONS HAVE BEEN MADE.

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Declassified by ASD - 10/05/2022