

RTCA Special Committee 186, Working Group 5

ADS-B UAT MOPS

Meeting #6

Impact of UAT on DME

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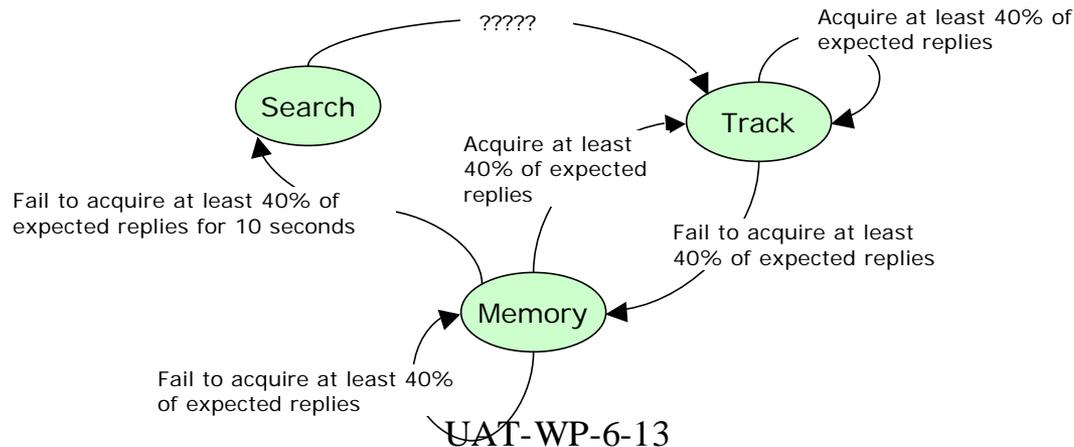
Current Status

- ❖ Received maintenance manuals for:
 - Bendix/King 62/62A/64 (complete manual)
 - Bendix/King 706/706A (complete manual)
 - Bendix/King KDM 7000 (complete manual)
 - Narco Avionics DME 890 (section 3 only)
 - Rockwell Collins DME 900 (selected pages)
 - Honeywell RNZ-850 (complete manual)

- ❖ Manuals do not contain information required to *completely* characterize behavior of these interrogators when processing received pulse-pairs.

Current Status

- ❖ Talked to manufacturers and consultants
- ❖ Paul Williams (B/K 7000, 706/706A, 62/62A/64)
 - Was unable to find relevant information
 - Believes what we are looking for might be located in some software documentation that was written 20 years ago.
 - No additional information other than what was presented in WG-5
- ❖ Mark Howk (RNZ-850)
 - Sent additional information discussing search/track criteria



Current Status

- ❖ Marty Lockner (Narco DME 890)
 - No additional documentation available
 - Then spoke with retired consultant Ron Powell
 - PRF is 30 Hz in both search and track modes
 - In approximately a 1.7 nmi range “window”, the DME must see approximately 3 out of every 10 expected replies
 - Replies are weighted in time to smooth data

- ❖ Conclusions
 - Knowledge of operation of DME interrogators is incomplete
 - Appears to be more variability than expected in how different interrogators process received pulse pairs
 - Should consider impact of UAT on interrogator’s ability to process squitter or IDENT signal