Product Manager Firefinder
PEO Intelligence, Electronic Warfare and Sensors
Fort Monmouth, New Jersey 07703-5000

Maintenance Bulletin

AN/TPQ-37	FILE NO. 161	REVISION:
	DATE: 17 Sep 02	CATEGORY: Maintenance
SUBJECT: Temporary By-pass Procedure for Digital Attenuator (A17) NSN 5985-01-322-0963 P/O AN/TPQ-37	SYSTEMS AFFECTED: AN/TPQ-37(V) with MWO 11-5840-355-50 applied	

1. References: a. TM11-5840-355-30-1
   b. MWO 11-5840-355-50
   c. TM11-5840-355-20-1

2. Summary of the Problem: Currently, no testing is available for the Digital Attenuator, P/N729277-1, (NSN 5895-01-322-0963). Transmitter troubleshooting is limited to measuring the RF power output of the Traveling Wave Tube (TWT). A high input signal will result in overdriving the TWT. Low RF output could lead to a TWT replacement. Measuring the RF power output from the TWT does not check to verify that the incremental attenuation is applied from a range of No Attenuation, (TWT input = 20.3 DBm), to 15.75 Db (TWT input = 4.5 DBm). If too much attenuation is applied, the Radar RF output will measure below the minimum specifications, with diminished effective maximum ranges. Thus there is a need to determine if the Digital Attenuator is defective.

3. Indications are outlined in the current troubleshooting chart in the manual and what is to be done prior to replacing the TWT. Implementing this by-pass procedure for the Digital Attenuator and following the current procedures with the bypass will allow for determining if the system then is operational. If that does not correct the problem, the TWT, as per the TM, should be replaced. The reason for implementing this is to avoid replacing a working TWT, especially at its price and $$ coming from the unit.

4. This should be a temporary fix with estimated digital attenuators being available in the Jan 03 timeframe. A suggestion to build a Digital Attenuator Test Fixture is being evaluated at this time to assist in the troubleshooting procedures. This procedure is valid until all necessary spares and troubleshooting guidelines are in place.

APPROVED BY LOGISTICS MANAGER: *Walter Tyson*, PMFF DATE: 09/17/02

Product Manager Firefinder
PEO Intelligence, Electronic Warfare and Sensors
Fort Monmouth, New Jersey 07703-5000

Maintenance Bulletin

AN/TPQ-37	FILE NO. 161	REVISION:
	DATE: 17 Sep 02	CATEGORY: Maintenance
SUBJECT: Temporary By-pass Procedure for Digital Attenuator (A17) NSN 5985-01-322-0963 P/O AN/TPQ-37	SYSTEMS AFFECTED: AN/TPQ-37(V) with MWO 11-5840-355-50 applied	

Temporary By-Pass procedure for Digital Attenuator (A17), P/O AN/TPQ-37 (V) Radar (Con't)

References:
a. TM11-5840-355-30-1
b. MWO 11-5840-355-50
c. TM11-5840-355-20-1

Upon indication of Low RF output and prior to replacing the TWT (see TM 5840-355-20-1 Transmitter Troubleshooting Chart)/ the following procedures will be followed to bring the Radar system back to operational status:

1. Turn OFF the Logic Power Supply Circuit Breaker on the "Transmitter Power Distribution Panel"
2. Disconnect RF cables from Digital Attenuator (W341, RF in), (W342, RF out).
3. Connect a Digital Attenuator By-Pass Cable (24" RF coaxial cable (5995-01-195-3290 @$49).
4. Turn ON the Logic Power Supply Circuit Breaker on the Transmitter Power Distribution Panel.
5. Perform TWT saturation using TWT output adjustment, see Transmitter Alignment K for the AN/TPQ-37 (V)3 TM11-5840-355-30-1, page 3-330.4 (revised, 8 July 2002).
6. Disconnect Digital Attenuator by-pass cable.
7. Calibrate and connect RF Power Meter to output of RFA1.
8. Perform Transmitter Alignment J, RFA1 R18 adjustment step 2 (IAW 30-1).
9. Record RF value (using RF Power Meter).
10. Adjust RFA1 AT1 clockwise to decrease RF level 3 dB below value recorded in Step 9 above.
11. Perform Transmitter Alignment J, RFA1 R18 adjustment step 4b, c, e, and f (IAW 30-1, Test 901).
12. Re-adjust RFA1 AT1 to the RF value determined in step 9 above.
13. Stop 901 test. Perform Alignment J, RFA1 R18 adjustment step 6 (IAW 30-1).
14. Reconnect Digital Attenuator by-pass cable.
15. Perform Transmitter Alignment K (On-Trigger Delay Adjustment and Off-Trigger Delay Adjustment only) (IAW 30-1).
16. Perform Transmitter Alignment L. (IAW 30-1)
17. Perform Transmitter alignment N. (IAW 30-1)
18. Return to Mission Operations.

APPROVED BY LOGISTICS MANAGER: *Walter Tyson*, PMFF DATE: 09/17/02