

# AEROFLEX INFORMATION BULLETIN

## IFR 6000 XPDR/DME/TCAS/ADS-B/TIS TEST SET INFORMATION BULLETIN NO. 26 SOFTWARE & MANUAL RELEASE

### I. PURPOSE:

The purpose of this information bulletin is to notify IFR 6000 customers that software Version 03.15.00 is now available. Version 03.15.00 software was released to allow option 6 (ADSB Integrity) to be installed in the IFR 6000 as well as improvements in the XPDR, TCAS, ADSB and UAT instruments.

Updated IFR 6000 Operations (Issue 14) and Getting Started (Issue 4) manuals are also being released.

### II. DESCRIPTION:

Version 03.15.00 software provides the following changes to the IFR 6000:

- In XPDR:
  - Corrected DF11 PERIOD measurement annunciation intermittency that was experienced with some transponders.
- In ADSB:
  - On AC20-165 test, the test status was corrected to display "BAD SETUP" if the MOPS Version is earlier than DO-260B.
  - Added ADSB Integrity option.
  - Corrected erroneous key function commands and test sequences
- In TCAS:
  - Improved TCAS Reply Delay and Range Test integrity
  - Improved UUT ALT field display integrity for altitudes greater than 32750ft.
- In Altitude Encoder:
  - Improved algorithm for when the Altitude Encoder setting is XPDR to improve Mode C and Mode A intermittent display data. .
- In UAT:
  - Added additional data from UAT test dump including Emitter Category, GPS Lateral and Longitudinal Offsets and NIC reading.
  - Improved ERP measurement fluctuations.

**NOTE:** Updating the software in the IFR 6000 with version 03.15.00 will not affect the calibration of the unit. However once version 03.15.00 is installed, going back to a lower software version is not recommended but Aeroflex has confirmed that going back to v03.10.00 will not affect the calibration of the unit.

**NOTE** An issue has been found with 03.15.00 that may affect the TCAS function on some IFR 6000 units. The problem will appear in the Mode C altitude pulses being sent back to the TCAS in that the C4 pulse will not be present when it should be. This will cause the altitude being seen by the TCAS system to be incorrect and cause the TCAS testing not to work properly. This issue has been seen in a very small number of IFR 6000 units and so far only in units built before serial number 104002500 however we recommend that all IFR 6000 units getting v3.15.00 installed be checked for this issue.



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## III. TESTING INFORMATION

### A. Using an oscilloscope:

1. Power up the IFR 6000 and press the TCAS button after unit has initialized.
2. Press the SETUP button and then the DIAG soft key.
3. Press the SELECT soft key to display the TCAS Diag - Mode C Reply screen.
4. Press the NEXT PARAM soft key and set the ALT field to 126,700 ft.
5. Connect the VIDEO OUT connect of the IFR 6000 to channel 1 of the oscilloscope.
6. Press the RUN TEST soft key and verify on the oscilloscope that 4 pulses are present
7. Press STOP TEST soft key and power off the unit.
8. If only three pulses were present on the oscilloscope, the IFR 6000 will need to have the software changed back to version 3.10.00 to make TCAS work correctly.

### B. Using the TCAS system

1. Power up the IFR 6000 and press the TCAS button to enter the TCAS mode.
2. Press the SETUP and set the DISPLAYED ALT: field to ABSOLUTE.
3. Press the TCAS button and set ALT START field to +1700 ft.
4. Set CONVERGE field to OFF, set the ALT RATE field to 0 ft and set the UUT ALT field to 0 ft.
5. Set the rest of the other field on this screen as usual for testing the TCAS system.
6. Press RUN TEST and watch the TCAS display for the IFR 6000 target to appear.
7. If the IFR 6000 does not appear, verify the UUT ALT field setting is with 2000 feet of the ALT START field. If not, then change the ALT START field to 3700 and try the scenario again.
8. If the UUT ALT field is within 2000 ft of the ALT START field, change the ALT START field to 1600 ft or 3600 ft and run the scenario again to see if a target appears.
9. If no target appears when ALT START is set at 1700 or 3700 ft and within 2000 feet of UUT ALT, then the C4 pulse is missing and the IFR 6000 needs to be changed back to version 3.10.00. If a target does appear, then the unit is working correctly.

## IV. CONTACT INFORMATION:

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