

# Avionics

## IFR 6000 Ramp Test Set

**AEROFLEX**  
A passion for performance.



The IFR 6000 is a compact, lightweight and weatherproof unit designed for testing transponder modes A/C/S, TCAS I and II as well as DME.

- One main user screen for each test mode
- Detachable antenna
- Large display
- Simple user interface
- Lightweight and compact <8 lbs. (3.6 kg)
- Battery 6 hours plus duration
- Fully FAR part 43 appendix F compliant
- European Elementary and Enhanced Surveillance

*The IFR 6000 features an extremely easy to use interface where every parameter the user commonly needs to view is displayed on screen.*

### Controls

Dedicated Mode keys for XPDR, DME and TCAS allow quick selection of the operational mode.

The application dependant softkeys and data select/slew keys provide an intuitive man machine interface.

DME mode is provided with dedicated keys for frequency/channel selection and RF level control. For frequently varied parameters in DME and TCAS modes, such as Range and Rate, dedicated keys are provided.



### Operational Modes

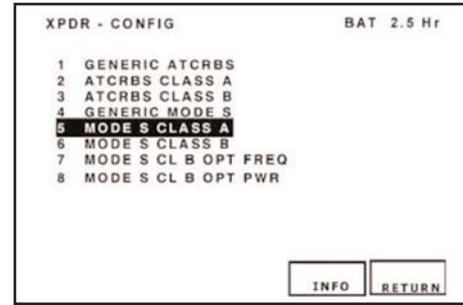
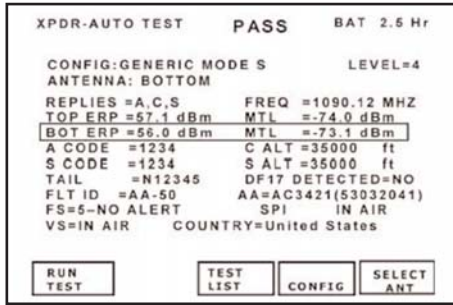
Each operational mode has one main user screen. The operational modes are:

XPDR (Sub-Modes: ADS-B MON, ADS-B GEN & GICB)

DME

TCAS 1, 2 (Sub-Modes: TIS)

Most tests can be completed without leaving the main user screens. This simplifies the line technician's testing task.



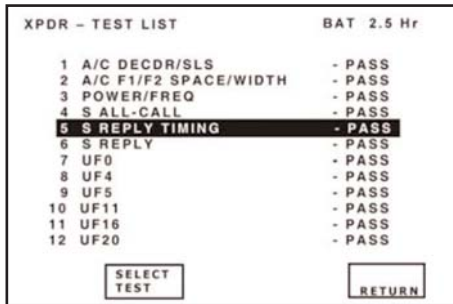
## Mode S and ATCRBS Transponder

### Xpdr Auto-Test:

Every parameter the user commonly needs to view is displayed on one screen.

The auto-test performs all tests defined by FAR Part 43 Appendix F, including the proposed Eurocontrol additional tests.

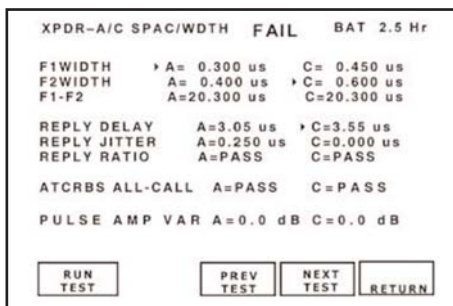
The tests are tailored automatically according to reported transponder level to avoid erroneous failures.



The test list is selected from the auto-test screen. This provides an easy means of selecting any of the individual tests that comprise the auto-test.

Tests on the 2nd screen (not shown) include:

- 13 UF21
- 14 UF24
- 15 ELEMENTARY SURVEILLANCE 1
- 16 ELEMENTARY SURVEILLANCE 2
- 15 ENHANCED SURVEILLANCE



Individual tests may be reviewed for failures which are identified by an arrow symbol.

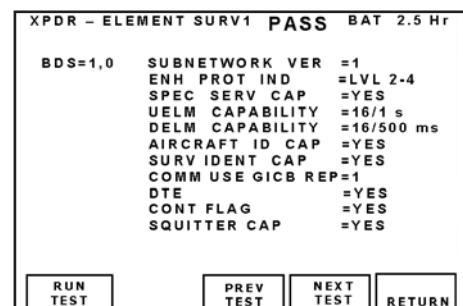
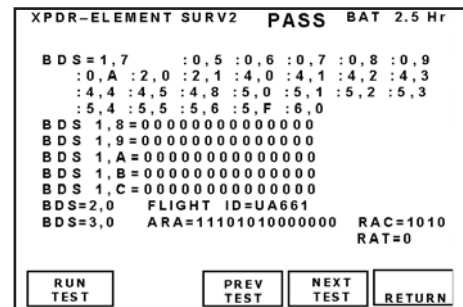
User selects config required for test.

If the class of the transponder is unknown, the generic config may be selected which applies to the widest limits.

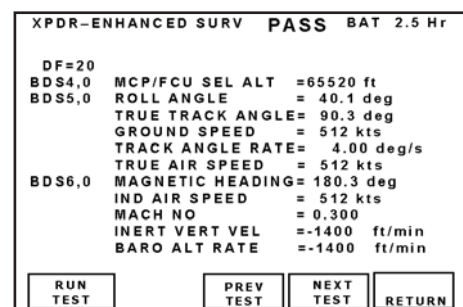
The test set will automatically determine the Mode S transponder level.

The selected config parameters may be displayed by pressing the INFO softkey.

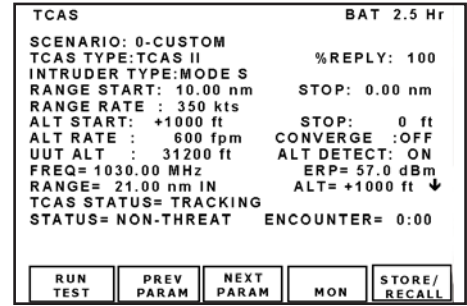
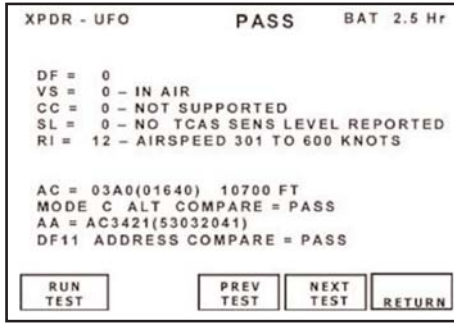
Eight predetermined configs are provided to meet the currently fielded transponder test needs.



The Eurocontrol Elementary Surveillance DAP's (Downlink Aircraft Parameters) are displayed on two screens



Eurocontrol Enhanced Surveillance DAP's are displayed on one screen.



No more HEX data field interpretation!

All Mode S Format tests display parameter in engineering units.

**TCAS**

TCAS types...

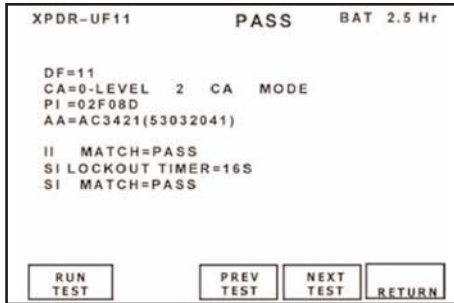
TCAS 1 MODE C

TCAS 2 ATCRBS

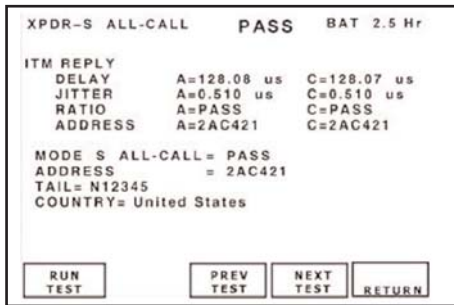
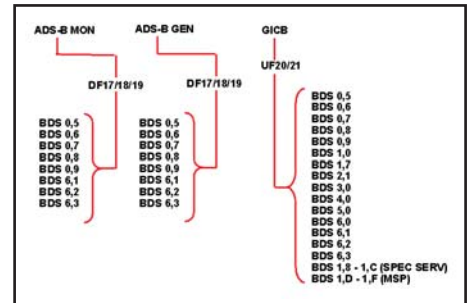
TCAS 2 MODE S

The Auto-Altitude feature interrogates Mode S XPDR of A/C under test to obtain current altitude.

Select pre-stored named scenarios directly from the auto-test screen.



Comprehensive II / SI code and lockout timer test

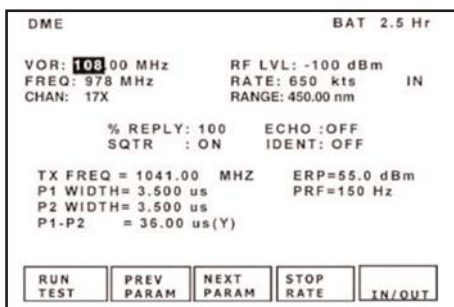


**ADS-B and GICB**

ADS-B MON: Used to monitor DF17 extended squitter from transponders and DF18 extended squitter from 1090 MHz ADS-B emitters.

ADS-B GEN: Used to generate DF17/DF18 extended squitter, simulating transponders and 1090 MHz ADS-B emitters.

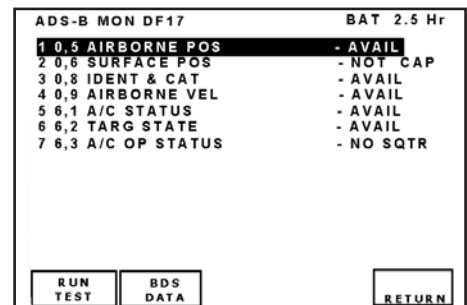
GICB: Used to monitor DAP's (all fields).



**DME**

All the user needs are on one screen.

- RF level control for track sensitivity tests
- Supports all DME/TACAN channels selectable in VOR paired channels
- Full UUT measured parameters are displayed.

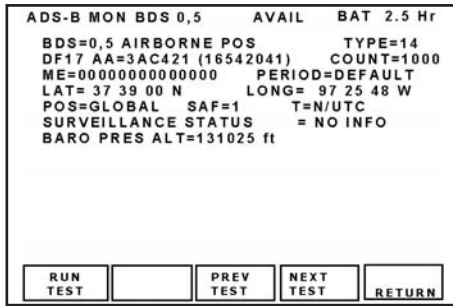


**ADS-B MON:**

The ADS-B MON LIST shows BDS formats supported.

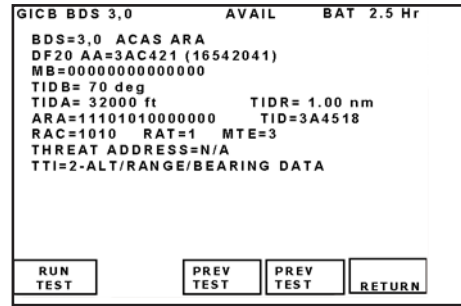
The BDS status is annunciated to indicate if the squitter has been captured, not available or not seen.

The BDS DATA key displays the BDS DATA screen for the selected BDS number.



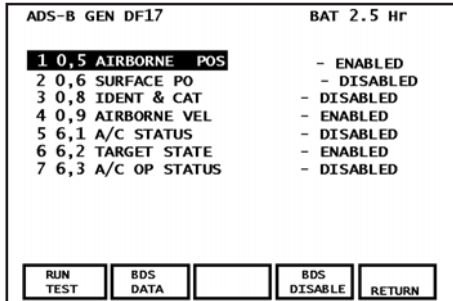
**ADS-B MON:**

The BDS DATA screen displays full content of selected BDS format being received via DF17 or DF18 extended squitters.

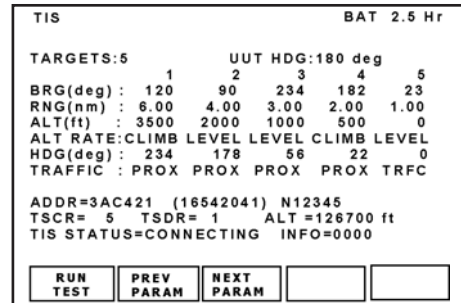


**GICB:**

BDS DATA screens display full content of the selected BDS format being received via GICB DF20 or DF21 in RTCA/ICAO engineering units.



The BDS ENABLE/DISABLE key enables or disables the selected BDS number for squittering via DF17 or DF18 extended squitters. The BDS DATA key displays the BDS DATA screen for the selected BDS number.



**TIS**

Up to 5 static intruders may be simulated relative to the A/C (UUT).

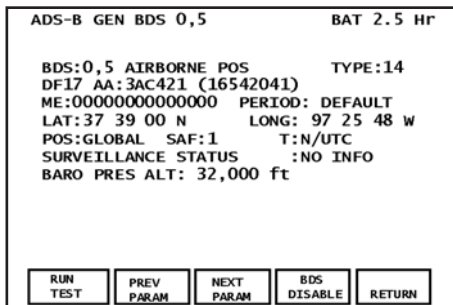
**General**

**Radiated Testing:**

The IFR 6000 is supplied with a lightweight fully sealed directional antenna that may be test set mounted, hand held or tripod mounted.

**Direct Connect Testing:**

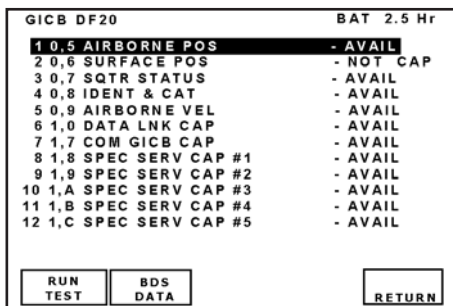
The IFR 6000 may be directly connected to the UUT via a supplied RF coax cable via the RF I/O port.



**ADS-B GEN:**

BDS DATA screens display full content of the selected BDS format in RTCA/ICAO engineering units.

The NEXT & PREV PARAM keys select data fields for editing via the data slew keys.



**GICB:**

The BDS LIST shows BDS formats supported.

The BDS DATA key displays the BDS DATA screen for the selected BDS number.



## Transit Case:

The IFR-6000 is supplied in a rugged plastic transit case which provides stowage for the test set, directional antenna, RF coax cable, antenna shield, breakout box, and power supply/charger.



## SPECIFICATION

### DME MODE SPECIFICATIONS

#### SIGNAL GENERATOR

A 5-minute warm-up period is required for all specifications.

#### OUTPUT FREQUENCY

##### REPLY FREQUENCY

###### Range

962 to 1213 MHz

###### Accuracy

$\pm 10$  kHz

#### OUTPUT LEVEL

##### ANTENNA PORT

###### Range

-67 to -2 dBm at Antenna port

###### Resolution

1 dB

###### Accuracy

$\pm 2$  dB

###### Distance to UUT antenna

6 to 300 ft with supplied antenna

##### RF I/O PORT

###### Range

-115 to -47 dBm

###### Resolution

1 dB

###### Accuracy

-95 dBm to -47 dBm  $\pm 1$  dB

###### Accuracy

-115 dBm to <-95 dBm  $\pm 2$  dB

## REPLY PULSE SPACING

### P1 to P2

$12 \mu\text{s} \pm 100 \text{ ns}$  (X Channel) @ 50% peak

### P1 to P2

$30 \mu\text{s} \pm 100 \text{ ns}$  (Y Channel) @ 50% peak

## REPLY PULSE WIDTH

### P1/P2

$3.5 \mu\text{s} \pm 0.5 \mu\text{s}$

## ECHO REPLY

### Control

On/Off

### Position

$30 \text{ nmi} \pm 1 \text{ nmi}$

### Amplitude

-11 dB  $\pm 1$  dB relative to reply level

## REPLY PULSE RISE AND FALL TIMES

### ALL PULSES

#### Rise Time

$2.5 \mu\text{s} \pm 0.25 \mu\text{s}$  (10% to 90%)

#### Fall Time

$2.5 \mu\text{s} \pm 0.25 \mu\text{s}$  (90% to 10%)

## REPLY DELAY

### X CHANNEL

#### Fixed Reply Delay

$50 \mu\text{s} \pm 100 \text{ ns}$

### Y CHANNEL

#### Fixed Reply Delay

$56 \mu\text{s} \pm 100 \text{ ns}$

## RANGE DELAY

### X AND Y CHANNEL

#### Range

0 to 450.00 nmi

#### Resolution

0.01 nmi

#### Accuracy

$\pm 0.01$  nmi

## RANGE RATE

### X AND Y CHANNEL

#### Range

10 to 6500 kts

#### Resolution

1 kts

#### Accuracy

$\pm 0.01\%$  typical, tested to  $\pm 0.5\%$

## SQUITTER

### PRF

2700 Hz

### Accuracy

$\pm 2\%$

### Distribution

Per ARINC 568

## REPLY EFFICIENCY

---

### Range

0 to 100%

### Resolution

1% increments

### Accuracy

± 0.5%

## IDENT TONE

---

### Selection

Selectable three letter code

### Frequency

1350 Hz

### Accuracy

± 2 Hz

## UUT MEASUREMENTS

---

### ERP

---

### Range

+47 to +64 dBm

### Resolution

0.1 dB

### Accuracy

± 2 dB

## DIRECT CONNECTION PEAK PULSE POWER

---

### Range

+47 to +64 dBm

### Resolution

0.1 dB

### Accuracy

± 1 dB

## FREQUENCY

---

### Range

1025.00 to 1150.00 MHz

### Resolution

10 kHz

### Accuracy

± 20 kHz

## INTERROGATION PULSE WIDTH

---

### P1 AND P2 PULSE WIDTHS

### Range

2.00 to 5.00  $\mu$ s

### Resolution

1 ns

### Accuracy

± 50 ns

## INTERROGATION PULSE SPACING

---

### P1 to P2 Spacing

10 to 14  $\mu$ s (X Channel)

### P1 to P2 Spacing

34 to 38  $\mu$ s (Y Channel)

### Resolution

10 ns

### Accuracy

± 20 ns

## INTERROGATION PRF

---

### Range

1 to 300 Hz

### Resolution

1 Hz

### Accuracy

± 2 Hz

## TRANSPONDER MODE SPECIFICATIONS

---

## SIGNAL GENERATOR

---

## RF OUTPUT FREQUENCY

---

### Interrogation Frequency

1030 MHz

### Accuracy

± 10 kHz

## RF OUTPUT LEVEL

---

### ANTENNA PORT

MTL + 6 dB typical, automatically controlled for a MTL range of -83 to -68 dBm

### Range

-67 to -2 dBm at antenna port

### Resolution

0.5 dB

### Accuracy

± 2 dB

### Distance to UUT antenna

6 to 200 ft with supplied antenna

### RF I/O PORT

MTL + 6 dB typical, automatically controlled

### Range

-115 to -47 dBm

### Resolution

0.5 dB

### Accuracy

-95 to -47 dBm, ± 1 dB

### Accuracy

-115 to <-95 dBm, ± 2 dB

## ATCRBS/MODE S INTERROGATION PULSE SPACING

---

### MODE A

#### P1 to P2

2.00  $\mu$ s ± 25 ns

#### P1 to P3

8.00  $\mu$ s ± 25 ns

### MODE C

#### P1 to P2

2.00  $\mu$ s ± 25 ns

#### P1 to P3

21.00  $\mu$ s ± 25 ns

### MODE S

#### P1 to P2

2.00  $\mu$ s ± 25 ns

#### P1 to P6

3.50  $\mu$ s ± 25 ns

#### P1 to SPR

4.75  $\mu$ s ± 25 ns

#### P5 to SPR

0.40  $\mu$ s ± 50 ns

## INTERMODE INTERROGATION PULSE SPACING

---

### MODE A

#### P1 to P3

8.00  $\mu\text{s} \pm 25 \text{ ns}$

#### P1 to P4

10.00  $\mu\text{s} \pm 25 \text{ ns}$

### MODE C

#### P1 to P3

21.00  $\mu\text{s} \pm 25 \text{ ns}$

#### P1 to P4

23.00  $\mu\text{s} \pm 25 \text{ ns}$

## INTERROGATION PULSE WIDTHS

---

### MODE A,C,S,INTERMODE

#### P1,P2,P3

0.80  $\mu\text{s} \pm 50 \text{ ns}$

### MODE S

#### P6 (Short DPSK Block)

16.25  $\mu\text{s} \pm 50 \text{ ns}$

#### P6 (Long DPSK Block)

30.25  $\mu\text{s} \pm 50 \text{ ns}$

#### P5

0.80  $\mu\text{s} \pm 50 \text{ ns}$

### INTERMODE

#### P4 (Short)

0.80  $\mu\text{s} \pm 50 \text{ ns}$

#### P4 (Long)

1.60  $\mu\text{s} \pm 50 \text{ ns}$

## INTERROGATION PULSE RISE AND FALL TIMES

---

### ALL MODES

#### Rise Time

50 to 100 ns

#### Fall Time

50 to 200 ns

## PHASE MODULATION

---

### ALL MODES

#### Transition Time

$\leq 80 \text{ ns}$

#### Phase Shift

$180^\circ \pm 10^\circ$

## SLS LEVELS

---

### ATCRBS

#### SLS Level (P2)

-9 dB, -1 to +0 dB relative to P1 level

0 dB, -0 to +1 dB relative to P1 level

Off

### MODE S

#### SLS Level (P5)

-12 dB, -1 to +0 dB relative to P6 level

+3 dB, -0 to +1 dB relative to P6 level

Off

Note: SLS level is automatically controlled in the SLS LEVEL test.

## INTERROGATION TEST SIGNALS

---

### MODE S

#### PRF

50 Hz  $\pm 5 \text{ Hz}$

#### ATCRBS

#### PRF

235 Hz  $\pm 5 \text{ Hz}$

## UUT MEASUREMENTS

---

### ERP (@ 1090 MHZ)

---

#### Range

+ 45.5 to + 59 dBm (35.5 to 800 watts)

#### Resolution

0.1 dB

#### Accuracy

$\pm 2 \text{ dB}$

#### Direct Connection Peak Pulse Power (@1090 MHz)

#### Range

+ 46.5 to + 59 dBm (45 to 800 watts)

#### Resolution

0.1 dB

#### Accuracy

$\pm 1 \text{ dB}$

## TRANSMITTER FREQUENCY

---

#### Range

1087.000 to 1093.000 MHz

#### Resolution

10 kHz

#### Accuracy

$\pm 50 \text{ kHz}$

## RECEIVER SENSITIVITY, RADIATED MTL

---

#### Range

-67 to -79 dBm into 0 dBi antenna

#### Resolution

0.1 dB

#### Accuracy

$\pm 2 \text{ dB}$ , typical

## RECEIVER SENSITIVITY, DIRECT CONNECTION MTL

---

#### Range

-67 to -79 dBm

#### Resolution

0.1 dB

#### Accuracy

$\pm 2 \text{ dB}$

## REPLY DELAY

---

### ATCRBS

#### Range

1.80 to 7.00  $\mu\text{s}$

#### Resolution

10 ns

#### Accuracy

$\pm 50 \text{ ns}$

## REPLY DELAY, MODE S AND ATCRBS MODE S ALL-CALL

### Range

125.00 to 131.00  $\mu$ s

### Resolution

10 ns

### Accuracy

$\pm$  50 ns

## REPLY DELAY JITTER

---

### ATCRBS

### Range

0.00 to 2.30  $\mu$ s

### Resolution

1 ns

### Accuracy

$\pm$  20 ns

## MODE S AND ATCRBS MODE S ALL-CALL

### Range

0.00 to 6.00  $\mu$ s

### Resolution

1 ns

### Accuracy

$\pm$  20 ns

## PULSE SPACING

---

### F1 TO F2

### Range

19.70 to 21.60  $\mu$ s

### Resolution

1 ns

### Accuracy

$\pm$  20 ns

## MODE S PREAMBLE

### Range, P1 to P2

0.8 to 1.2  $\mu$ s

### Range, P1 to P3

3.3 to 3.7  $\mu$ s

### Range, P1 to P4

4.3 to 4.7  $\mu$ s

### Resolution

1 ns

### Accuracy

$\pm$  20 ns

## PULSE WIDTHS

---

### F1 AND F2

### Range

0.25 to 0.75  $\mu$ s

### Resolution

1 ns

### Accuracy

$\pm$  20 ns

## MODE S PREAMBLE

### Range

0.25 to 0.75  $\mu$ s

### Resolution

1 ns

### Accuracy

$\pm$  20 ns

## PULSE AMPLITUDE VARIATION

---

### Range, Mode S (Relative to P1)

+3 to -3 dB

### Range, ATCRBS (Relative to F1)

+3 to -3 dB

### Resolution

0.1 dB (0.01 dB via RCI)

### Accuracy

$\pm$  0.5 dB

## DF 11 SQUITTER PERIOD

---

### Range

0.10 to 4.88 sec

### Resolution

10 ms

### Accuracy

$\pm$  10 ms

## DIVERSITY ISOLATION

---

### Range

0 to >20 dB (Depending on Test Distance)

### Test Distance

1.83m (6ft) to 28.96m (95ft)

### Resolution

0.1 dB

### Accuracy

$\pm$  3 dB

## TCAS MODE SPECIFICATIONS

---

## SIGNAL GENERATOR

---

## OUTPUT FREQUENCY

---

### REPLY FREQUENCY

1090 MHz

### Accuracy

$\pm$  10 kHz

## OUTPUT LEVEL (SIMULATED ERP)

---

### ANTENNA PORT Note 1

#### Radiated power at 0dBi UUT antenna

-68 dBm typical @ 10 Nmi Range, automatically controlled

### Range

-67 to -2 dBm at Antenna port

### Resolution

0.5 dB

### Accuracy

$\pm$  2 dB

### Distance to UUT antenna

6 to 300 ft with supplied antenna

### RF I/O PORT

#### Automatic mode

-68 dBm @ 10 Nmi Range, automatically controlled

#### Manual mode Range

-115 to -47 dBm

### Resolution

0.5 dB

### Accuracy

-95 to -47 dBm,  $\pm$  1 dB

### Accuracy

-115 to <-95 dBm,  $\pm$  2 dB



## REPLY PULSE SPACING

---

### MODE C

#### F1 to F2

20.30  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to C1

1.45  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to A1

2.90  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to C2

4.35  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to A2

5.80  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to C4

7.25  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to A4

8.70  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to B1

11.60  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to D1

13.05  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to B2

14.50  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to D2

15.95  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to B4

17.40  $\mu\text{s} \pm 25 \text{ ns}$

#### F1 to D4

18.85  $\mu\text{s} \pm 25 \text{ ns}$

### MODE S

#### P1 to P2

1.00  $\mu\text{s} \pm 25 \text{ ns}$

#### P1 to P3

3.50  $\mu\text{s} \pm 25 \text{ ns}$

#### P1 to P4

4.50  $\mu\text{s} \pm 25 \text{ ns}$

#### P1 to D1

8.00  $\mu\text{s} \pm 25 \text{ ns}$

#### D1 to Dn (n=2 to 112)

1.00  $\mu\text{s}$  times (n-1)  $\pm 25 \text{ ns}$

## REPLY PULSE WIDTHS

---

### MODE C

#### All Pulses

0.45  $\mu\text{s} \pm 50 \text{ ns}$

### MODE S

#### P1 through P4

0.50  $\mu\text{s} \pm 50 \text{ ns}$

#### D1 through D112

0.50  $\mu\text{s} \pm 50 \text{ ns}$ , 1  $\mu\text{s}$  chip width

#### Reply Modes

TCAS I / II Mode C (with altitude reporting)

TCAS II Mode S formats 0, 11, 16

## REPLY PULSE AMPLITUDES

---

### ATCRBS

$\pm 1 \text{ dB}$  relative to F1

### Mode S

$\pm 1 \text{ dB}$  relative to P1

## REPLY PULSE RISE AND FALL TIMES

---

### ALL MODES

#### Rise Time

50 to 100 ns

#### Fall Time

50 to 200 ns

## PERCENT REPLY

---

### Range

0 to 100%

### Resolution

10%

### Accuracy

$\pm 1\%$

## REPLY DELAY

---

### ATCRBS

3.0  $\mu\text{s} \pm 50 \text{ ns}$

### Mode S

128  $\mu\text{s} \pm 50 \text{ ns}$

## RANGE DELAY

---

### Range

0 to 260 nmi

### Resolution

0.1 nmi

### Accuracy

$\pm 0.02 \text{ nmi}$

## RANGE RATE

---

### Range

-1200 to +1200 kts

### Resolution

10 kts

### Accuracy

10%

## ALTITUDE RANGE

---

### Range

-1000 to 126,000 ft

### Resolution, Mode C

100 ft

### Resolution, Mode S

25 ft

## ALTITUDE RATE

---

### Range

-10,000 to +10,000 fpm

### Resolution

100 fpm

### Accuracy

10%

## SQUITTER

---

### Control

On/Off

### Rate

0.8 to 1.2 seconds, randomly distributed

## RECEIVER

---

### PULSE SPACING

#### ATCRBS (Mode C All Call)

S1 to P1	2.0 us
Accepts	$\leq \pm 200$ ns
Rejects	$\geq \pm 1.0$ us
P1 to P3	21.0 us
Accepts	$\leq \pm 200$ ns
Rejects (<10% Replies)	$\geq \pm 1.0$ us
P1 to P4	23.0 us
Accepts	$\leq \pm 200$ ns
Rejects (<10% Replies)	$\geq \pm 1.0$ us

#### Mode S

P1 to P2	2.0 us
Accepts	$\leq \pm 200$ ns
Rejects (<10% Replies)	$\geq \pm 1.0$ us
P1 to SPR	4.75 us
Accepts	$\leq \pm 200$ ns
Rejects (<10% Replies)	$\geq \pm 1.5$ us

## SUPPRESSION

---

#### ATCRBS (P2 or S1)

>0.5dB above level of P1 <10% Replies

## UIUT MEASUREMENTS

---

### ERP (@1030MHZ)

---

#### ATCRBS

##### Range

+43 to +58 dBm (20 to 631 watts)

##### Resolution

0.1 dB

##### Accuracy

$\pm 2$  dB

#### MODE S

##### Range

+43 to +58 dBm (20 to 631 watts)

##### Resolution

0.1 dB

##### Accuracy

$\pm 2$  dB

### DIRECT CONNECTION PEAK PULSE POWER (@1030MHZ)

---

#### ATCRBS

##### Range

+43 to +58 dBm (20 to 631 watts)

##### Resolution

0.1 dB

##### Accuracy

$\pm 1$  dB

## MODE S

### Range

+43 to +58 dBm (20 to 631 watts)

### Resolution

0.1 dB

### Accuracy

$\pm 1$  dB

## FREQUENCY

---

### Range

1029.900 to 1030.100 MHz

### Resolution

1 kHz

### Accuracy

$\pm 10$  kHz

## TCAS BROADCAST INTERVAL

---

### Range

1.0 to 12.0 sec

### Resolution

0.1 sec

### Accuracy

$\pm 0.2$  sec

## MISCELLANEOUS INPUT/OUTPUTS

---

### RF I/O

#### Type

Input/Output

#### Impedance

50  $\Omega$  typical

#### Maximum Input Level

4 kW peak  
10 W average

#### VSWR

< 1.3:1

#### ANTENNA

##### Type

Input/Output

##### Impedance

50  $\Omega$  typical

##### Maximum Input Level

10 W peak  
1/2 W average

#### VIDEO

##### Type

Output

##### Impedance

50  $\Omega$  typical

##### Generate Video Level

1.1  $\pm$  0.4V peak to peak into 50  $\Omega$

##### Receive Video Level

Proportional to IF level

##### Baseline

$\pm 0.5$ V referenced to ground

## TEST ANTENNA

---

### VSWR

< 1.5:1

### Gain

6 dB, Typical

## TIME BASE (TCXO)

---

### Temperature Stability

± 1 ppm

### Aging

± 1 ppm per year

### Accuracy

± 1 ppm

### Test Limit

± 0.3 ppm

## BATTERY

---

### Type

Li Ion

### Duration

> 4 hrs continuous operation

> 6 hrs, Typical

## INPUT POWER (TEST SET)

---

### Input Range

11 VDC to 32 VDC

### Power Consumption

55 W Maximum

16 W Nominal at 18 VDC with charged battery

### Fuse Requirements

5 A, 32 VDC, Type F

## INPUT POWER (SUPPLIED EXTERNAL AC TO DC CONVERTER)

---

### Input Range

100 to 250 VAC, 1.5 A Max, 47-63 Hz

### Mains Supply Voltage Fluctuations

≤ 10% of the nominal voltage

### Transient Overvoltages

According to Installation Category II

## ENVIRONMENTAL (TEST SET)

---

### Use

Pollution Degree 2

### Altitude

≤ 4800 meters

### Operating Temperature

<sup>NOTE 3</sup> -20°C to 55°C

### Storage Temperature

<sup>NOTE 4</sup> -30°C to 71°C

### Relative Humidity

95% ±5% from 5° to 30°C

75% ±5% from 30° to 40°C

45% ±5% from 40° to 55°C

## ENVIRONMENTAL (SUPPLIED EXTERNAL AC TO DC CONVERTER)

---

### Use

Indoors

### Altitude

≤ 10,000 meters

### Operating Temperature

0° to 40°C

### Storage Temperature

-20°C to 71°C

## PHYSICAL CHARACTERISTICS

---

### DIMENSIONS

#### Height

11.2 inches (28.5 cm)

#### Width

9.1 inches (23.1 cm)

#### Depth

2.7 inches (6.9 cm)

#### Weight (Test set only)

< 8 lbs. (3.6 kg)

## SUPPLEMENTAL INFORMATION

---

### Test Set Certifications

Altitude, operating	MIL-PRF-28800F	Class 2
Altitude, not operating	MIL-PRF-28800F	Class 2
Bench Handling	MIL-PRF-28800F	Class 2
Blowing Dust	MIL-STD-810F	Method 510.4, Procedure I
Drip-proof	MIL-PRF-28800F	Class 2
Explosive Atmosphere	MIL-STD-810F	Method 511.4, Procedure 1
Relative Humidity	MIL-PRF-28800F	Class 2
Shock, Functional	MIL-PRF-28800F	Class 2
Vibration Limits	MIL-PRF-28800F	Class 2
Temp, operating <sup>NOTE 5</sup>	MIL-PRF-28800F	Class 2
Temp, not operating <sup>NOTE 6</sup>	MIL-PRF-28800F	Class 2
Transit Drop	MIL-PRF-28800F	Class 2
Safety Compliance	UL-61010B-1	
	EN 61010-1	
	CSA 22.2 No 61010-1	
EMC	EN 61326	

## EXTERNAL AC-DC CONVERTER CERTIFICATIONS

---

Safety Compliance	UL 1950 DS
	CSA 22.2 No. 234
	VDE EN 60 950
EMI/RFI Compliance	FCC Docket 20780 Curve "B"
EMC	EN 61326

## TRANSIT CASE CERTIFICATIONS

Drop Test	FED-STD-101C	Method 5007.1 Paragraph 6.3, Procedure A, Level A
Falling Dart Impact Vibration, Loose Cargo Vibration, Sweep Simulated Rainfall	ATA 300 FED-STD-101C ATA 300 MIL-STD-810F	Category I Method 5019 Category I Method 506.4 Procedure II of 4.1.2
Immersion	FED-STD-101C MIL-STD-810F	Method 5009.1 Sec 6.7.1 Method 512.4

### Notes

- NOTE 1 Simulates a 50.5 dBm XPDR ERP at 10 nMi range.
- NOTE 2 Level automatically controlled based on actual distance to UUT antenna.
- NOTE 3 Battery charging temperature range: 5°C to 40°C (controlled by internal charger).
- NOTE 4 Li Ion Battery must be removed below -20°C and above 60°C.
- NOTE 5 Temperature range extended to -20°C to 55°C.
- NOTE 6 Temperature range reduced to -30°C to 71°C.

## VERSIONS AND ACCESSORIES

When ordering please quote the full ordering number information.

### Ordering Numbers

6000-110

6000-220

6000OPT2

6000OPT3

### Versions

IFR 6000 Mode A/C/S Transponder and DME Ramp Test Set, with US Mains Leads

IFR 6000 Mode A/C/S Transponder and DME Ramp Test Set, with European Mains Leads

TCAS (TIS)

ADS-B

### Extended Standard Warranties with Calibration for 6000

W6000/203C Extended standard warranty 36 months with scheduled calibration

W6000/205C Extended standard warranty 60 months with scheduled calibration

### Accessories for 6000

AC0820

Desk Top Stand

AC0826

Tripod

AC0825CD

IFR 6000 Operation Manual - CD

AC24006

Tripod, Dolly, Stand

#### CHINA Beijing

Tel: [+86] (10) 6539 1166  
Fax: [+86] (10) 6539 1778

#### CHINA Shanghai

Tel: [+86] (21) 5109 5128  
Fax: [+86] (21) 5150 6112

#### FINLAND

Tel: [+358] (9) 2709 5541  
Fax: [+358] (9) 804 2441

#### FRANCE

Tel: [+33] 1 60 79 96 00  
Fax: [+33] 1 60 77 69 22

#### GERMANY

Tel: [+49] 8131 2926-0  
Fax: [+49] 8131 2926-130

#### HONG KONG

Tel: [+852] 2832 7988  
Fax: [+852] 2834 5364

#### INDIA

Tel: [+91] 80 5115 4501  
Fax: [+91] 80 5115 4502

#### KOREA

Tel: [+82] (2) 3424 2719  
Fax: [+82] (2) 3424 8620

#### SCANDINAVIA

Tel: [+45] 9614 0045  
Fax: [+45] 9614 0047

#### SPAIN

Tel: [+34] (91) 640 11 34  
Fax: [+34] (91) 640 06 40

#### UK Burnham

Tel: [+44] (0) 1628 604455  
Fax: [+44] (0) 1628 662017

#### UK Cambridge

Tel: [+44] (0) 1763 262277  
Fax: [+44] (0) 1763 285353

#### UK Stevenage

Tel: [+44] (0) 1438 742200  
Fax: [+44] (0) 1438 727601  
Freephone: 0800 282388

#### USA

Tel: [+1] (316) 522 4981  
Fax: [+1] (316) 522 1360  
Toll Free: 800 835 2352

As we are always seeking to improve our products, the information in this document gives only a general indication of the product capacity, performance and suitability, none of which shall form part of any contract. We reserve the right to make design changes without notice. All trademarks are acknowledged. Parent company Aeroflex, Inc. ©Aeroflex 2006.

[www.aeroflex.com](http://www.aeroflex.com)  
[info-test@eroflex.com](mailto:info-test@eroflex.com)



Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.