

Avionics

RGS 2000 TCAS REPLY GENERATOR



AEROFLEX
A passion for performance.

Your complete RF source for the testing of TCAS computers

The RGS 2000 TCAS Reply Generator is a self-contained RF Test Station designed to be a complete RF resource for the testing of TCAS (Traffic Alert and Collision Avoidance System) computers. User-friendly menus displayed on the electroluminescent flat panel display allow the operator to:

- Decode and display Mode S and Mode C Interrogation Data
- Measure and display port-to-port relative amplitude and phase of interrogation signal
- Measure and display interrogation pulse characteristics including peak pulse power, pulse frequency, pulse spacing, pulse width, and pulse rise/fall time
- Measure and display interrogation pulse frequency spectrum
- Simulate up to 154 intruders including generation of Mode S and Mode C instrument replies, Mode S squitter, Mode C fruit and intruder movement simulation
- Perform manual or GPIB controlled testing

GENERAL SPECIFICATIONS

TRANSMITTER OPERATION

FREQUENCY

Range

1025 to 1155 MHz

Resolution

0.1 MHz

Accuracy

± 0.1 MHz

POWER

Range

-85 to -20 dBm

Resolution

1.0 dB

Accuracy

± 1.0 dB

PULSE MODULATION

Rise Time

0.075 ± 0.02 μ S

Fall Time

0.150 ± 0.04 μ S

Width Mode C

0.450 ± 0.05 μ S[†]

Width Mode S

0.500 ± 0.05 μ S[†]

ON/OFF Ratio

>60 dB

Pulse Ripple

<1 dB

Ampl. Var.

<2 dB

UNWANTED OUTPUTS**Harmonics**

<60 dB

Spurious

<30 dB

BEARING SIMULATION**Port-to-Port Relative Phase**

Range 0 to 359°

Resolution 1.0°

Accuracy ±1.0°

Port-to-Port Relative Amplitude

Range -15 to 0 dB

Resolution 0.25 dB

Accuracy ±0.25 dB

RANGE SIMULATION**Range**

500 ft to 160 NMI

Resolution

0.01 NMI

Accuracy±0.01 nmi²**VELOCITY SIMULATION****Span**

-2000 kts to + 2000 kts

Resolution

1 kt

Accuracy1 kt²**ALTITUDE SIMULATION****Range**

-1000 to 126700 ft

Resolution

10 ft

Accuracy10 ft²**VERTICAL SPEED****Range**

-6000 to +6000 fpm

Resolution

1 fpm

Accuracy±1 fpm²**RECEIVER OPERATION**

Input VSWR

<1.2

UUT PEAK POWER MEASUREMENT**No Damage**

Max Peak 1000 W per port

Max CW 1 W per port

Normal OperationRange 0.03 W to 500 W peak per port. 1030
±10 MHz Video BW >12 MHz

Resolution 0.1 dB

Absolute Accuracy ±1 dB

Relative Accuracy ±0.25 dB

UUT FREQUENCY MEASUREMENT**Range**

1030 ±10 MHz

0.1 W to 500 W per port

Video BW >12 MHz

Resolution

1 kHz

Accuracy

± 1 kHz (sample averaging)

UUT RELATIVE PHASE MEASUREMENT**Range**

0 to 359°, 1030 ±10 MHz

0.1 W to 250 W per port, Video BW > 12 MHz

Resolution

1°

Accuracy

±1°

UUT PULSE CHARACTERISTICS MEASUREMENT**Pulse Width**

Range 0.7 to 32 μS

Resolution 0.01 μS

Accuracy 0.01 μS

Pulse Spacing

Range 0.5 to 32 μS

Resolution 0.01 μS

Accuracy 0.01 μS

Pulse Rise and Fall Times

Range 0.04 to 0.4 μS

Resolution	0.01 μ S
Accuracy	0.01 μ S

UUT SPECTRUM ANALYSIS

Scan Center

1030 MHz

Scan Width

\pm 90 MHz

Resolution

0.1 MHz

Accuracy

Amplitude

\pm 3 dB

Frequency

\pm 0.1 MHz

Input Power

125 W to 500 W

Dynamic Range

>60 dB

POWER REQUIREMENTS

Voltage

115/230 VAC, 175 W

Frequency

50/60 Hz

Note 1: Non-standard reply pulse widths may be specified via the GPIB

Note 2: Stated accuracy is valid for most scenarios. The maximum error shall not exceed the displacement of the intruder in 0.1 second as allowed by D0185 par. 2.4.1.2w.

PHYSICAL CHARACTERISTICS

Weight

109.5 lbs. (49.6 kg)

Height

12.25" (31.12 kg)

Width

19" (48.26 kg)

Depth

20" (50.80 kg)

ORDERING INFORMATION

RGS 2000-06	TCAS Reply Generator Collins ITS-700 Configuration
RGS 2000-11	TCAS Reply Generator Universal Configuration
RGS 2000-16	TCAS Reply Generator ATA TELI Configuration
RGS 2000-20	TCAS Reply Generator AlliedSignal GAA Configuration
RGS 2000-21	TCAS Reply Generator w/o Spectrum Analyzer

OPTIONAL ACCESSORIES

ACTTA-100A	TCAS Interface Unit (used in TPPT-81A stations)
------------	---

EXTENDED WARRANTY

WRGS/203C	Extended standard warranty 36 months with scheduled calibration
WRGS/205C	Extended standard warranty 60 months with scheduled calibration

CHINA Beijing

Tel: [+86] (10) 6467 2761 2716
Fax: [+86] (10) 6467 2821

CHINA Shanghai

Tel: [+86] (21) 6282 8001
Fax: [+86] (21) 62828 8002

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 Stevenage

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

USA Wichita

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

USA New Century

Tel: [+1] (913) 764 2452
Fax: [+1] (913) 782 5104



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
info-test@aeroflex.com



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