

Transmitter

Frequency

Range	952 MHz to 1223 MHz
Resolution	100 KHz
Accuracy	2.5 ppm
Phase Noise	>80 dBc/Hz @ 100 KHz

Power

Range (Transponder)	+5 to -110 dBm
Resolution	0.1 dB
Accuracy	± 1 dB [+5 to -100 dBm] ± 3 dB [< -100 dBm] @ 1030 MHz
Range (UAT)	+5 to -110 dBm
Resolution	0.1 dB
Accuracy	± 1 dB @ 978 MHz
Range (DME)	+5 to -110 dBm
Resolution	0.1 dB
Accuracy	± 1 dB [+1 to -100 dBm] ± 3 dB [< -100 dBm] 952 to 1223 MHz

Spectral Purity

Harmonics	>50 dBc
Spurious	>55 dBc, 350 to 1800 MHz
Residual FM	250 Hz Peak

Channels

No. of Channels	4 (XPDR/UAT) 6 (ADS-B Option)
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Diversity

Power	± 20 dB
Resolution	1 dB
Accuracy	± 1 dB
Timing	± 1 μ S
Resolution	25 nS
Accuracy	± 10 nS

Modulation

Pulse On/Off Ratio	>80 dB
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Pulse Position (high speed rise/fall time mode)

Mode A Interrogation P1-P3 default	8.0 μ S
Accuracy	± 10 nS
Mode C Interrogation P1-P3 default	21.0 μ S
Accuracy	± 10 nS
ATCRBS Interrogation P1-P2 default	2.0 μ S
Accuracy	± 10 nS
ATCRBS Interrogation P3-P4 default	2.0 μ S
Accuracy	± 10 nS
ATCRBS Interrogation Variation	± 1.95 μ S
Resolution	25 nS
Accuracy	± 10 nS
Mode S Interrogation P1-P2 Default	2.0 μ S
Accuracy	± 10 nS
Mode S Interrogation P1-P2 Variation	± 1.0 μ S
Resolution	25 nS
Accuracy	± 10 nS
Mode S Interrogation P1 to P6 Default	3.5 μ S
Accuracy	± 10 nS
Mode S Interrogation P6 Variation	± 1.95 μ S
Resolution	25 nS
Accuracy	± 10 nS
Mode S Interrogation P2 to SPR Default	2.75 μ S
Accuracy	± 10 nS
Mode S Interrogation SPR Variation	± 1.0 μ S
Resolution	25 nS
Accuracy	± 10 nS
Mode S Interrogation P5 prior SPR Default	400 nS
Accuracy	± 10 nS
Mode S Interrogation P5 Variation	± 1.95 μ S
Resolution	25 nS
Accuracy	± 10 nS
Interference Interrogation Signal #1	-44 to 400 μ S
Resolution	25 nS
Accuracy	± 10 nS
Interference Interrogation Signal #2	0 to 400 μ S
Resolution	25 nS
Accuracy	± 10 nS
Double Interrogation	0 to 400 μ S
Resolution	25 nS
Accuracy	± 10 nS

Pulse Width (high speed rise/fall time mode)

ATCRBS Interrogation P1/P2/P3 Default	0.8 μ S
Accuracy	± 10 nS
ATCRBS Interrogation P4 Short	0.8 μ S
Accuracy	± 10 nS
ATCRBS Interrogation P4 Long	1.6 μ S
Accuracy	± 10 nS
ATCRBS Interrogation P1/P2/P3/P4 Variation	0 to 1.95 μ S
Resolution	25 nS
Accuracy	± 10 nS
Mode S Interrogation P1/P2 Default	0.8 μ S
Accuracy	± 10 nS
Mode S Interrogation P1/P2 Variation	0 to 1.95 μ S
Resolution	25 nS
Accuracy	± 10 nS
Mode S Interrogation P6 Short Default	16.25 μ S
Accuracy	± 10 nS
Mode S Interrogation P6 Long Default	30.25 μ S
Accuracy	± 10 nS
Mode S Interrogation P6 Variation	
P6 Overall	-0.5 to +1.45 μ S (offset range)
P6 End	0 to 1.95 μ S
Resolution	25 nS
Accuracy	± 10 nS
Mode S Interrogation P5 Default	0.8 μ S
Accuracy	± 10 nS
Mode S Interrogation P5 Variation	0.2 to 1.95 μ S
Resolution	25 nS
Accuracy	± 10 nS
Interference Pulse Width	0.2 to 32.0 μ S
Resolution	25 nS
Accuracy	± 10 nS

Pulse Rise/Fall Time

Transponder	<50 / <50 nS
Accuracy	<50 nS

Pulse Amplitude

Video Data Block Variation	+3 to -4 dB
Resolution	1 dB
Accuracy	± 1 dB

ATCRBS Interrogation Variation	+9 to -19 dB
Resolution	1 dB
Accuracy	± 1 dB
Interference	+9 to -19 dB
Resolution	1 dB
Accuracy	± 1 dB

Block Transmissions

XPDR	2000 messages
No. of Blocks	1 to 50,000 or indefinite
Interrogation Rate within Block	User defines spacing between interrogations
Period	10 ms to 90 seconds
Resolution	1 ms
Accuracy	± 1 ms

PRF

ATCRBS Interrogations	1 to 10,000 Hz
Resolution	1 Hz
Accuracy	0.1% of setting
Mode S Interrogations	1 to 2500 Hz
Resolution	1 Hz
Accuracy	0.1% of setting

Double Interrogation

Each message:	1 to 2500 Hz
PRF	in sync or non-sync
Resolution	1 Hz
Accuracy	0.1% of setting
Interlace	1 to 400 Hz
Resolution	1 Hz
Accuracy	0.1% of setting

Interlace Ratio

Ratio	1:1 to 1:1000
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DME Simulation

Ident Frequency	1350 Hz
Accuracy	$\pm 0.02\%$
Dot Default	120 ms
Accuracy	± 1 ms

<i>Dot Variation</i>	<i>50 to 250 ms</i>
<i>Resolution</i>	<i>10 ms</i>
<i>Accuracy</i>	<i>± 1 ms</i>
<i>Dash Default</i>	<i>360 ms</i>
<i>Accuracy</i>	<i>± 1 ms</i>
<i>Dash Variation</i>	<i>150 to 750 ms</i>
<i>Resolution</i>	<i>10 ms</i>
<i>Accuracy</i>	<i>± 1 ms</i>
<i>Space Default</i>	<i>150 ms</i>
<i>Accuracy</i>	<i>± 1 ms</i>
<i>Space Variation</i>	<i>50 to 250 ms</i>
<i>Resolution</i>	<i>10 ms</i>
<i>Accuracy</i>	<i>± 1 ms</i>
<i>Code Rate Default</i>	<i>37 s</i>
<i>Accuracy</i>	<i>± 100 ms</i>
<i>Code Rate Variation</i>	<i>10 to 65 s</i>
<i>Resolution</i>	<i>0.1 s</i>
<i>Accuracy</i>	<i>± 100 ms</i>
<i>Echo Power Variation</i>	<i>-15 to +6 dB</i>
<i>Resolution</i>	<i>0.1 dB</i>
<i>Accuracy</i>	<i>± 0.25 dB</i>
<i>Echo Range</i>	<i>30 nmi</i>
<i>Accuracy</i>	<i>± 0.02 nmi</i>
<i>Range</i>	<i>0 to 400 nmi</i>
<i>Resolution</i>	<i>0.01 nmi</i>
<i>Accuracy</i>	<i>± 0.02 nmi</i>
<i>Velocity</i>	<i>0 to 10000 knots</i>
<i>Resolution</i>	<i>1 knot</i>
<i>Accuracy</i>	<i>± 0.001%</i>
<i>Acceleration</i>	<i>0 to 400 ft/s²</i>
<i>Resolution</i>	<i>1 ft/s²</i>
<i>Accuracy</i>	<i>± 0.05% of setting</i>
<i>Squitter</i>	<i>0 to 8000 Hz</i>
<i>Resolution</i>	<i>1 Hz</i>
<i>Accuracy</i>	<i>10 Hz or 2%, whichever is greater</i>
<i>Spectrum at +/- 800 KHz Offset</i>	<i>> 55dB below center frequency level</i>
<i>Reply Efficiency</i>	<i>0 to 100 %</i>
<i>Resolution</i>	<i>1%</i>
<i>Accuracy</i>	<i>± 0.5%</i>

Receiver

VSWR	<i><1.4</i>
Max Input Power	<i>+60 dBm</i>
Receiver Decoding	
<i>Messages</i>	<i>ATCRBS Interrogation and Replies</i>
	<i>Mode S Interrogations and Replies</i>
	<i>UAT Ground and Airborne Messages [UAT Option]</i>
Dynamic Range	
<i>1090 MHz</i>	<i>>40 dB</i>
<i>UAT</i>	<i>>30 dB</i>
Channels	
<i>No. of Channels</i>	<i>2, Top/Bottom</i>
Measurement	
<i>Power</i>	<i>+17 to +60 dBm</i>
<i>Resolution</i>	<i>0.1 dB</i>
<i>Accuracy</i>	<i>± 0.5 dB</i>
<i>Frequency</i>	
<i>Pulse Measurement Type</i>	<i>1090 MHz ±3 MHz</i>
<i>Resolution</i>	<i>1 KHz</i>
<i>Accuracy</i>	<i>± 50 KHz</i>
<i>Pulse Spacing</i>	
<i>Resolution</i>	<i>1 nS</i>
<i>Accuracy</i>	<i>± 10 nS</i>
<i>Pulse Width</i>	
<i>Resolution</i>	<i>1 nS</i>
<i>Accuracy</i>	<i>± 10 nS</i>
<i>Pulse Rise/Fall Time</i>	
<i>Resolution</i>	<i>1 nS</i>
<i>Accuracy</i>	<i>± 20 nS</i>
<i>ATCRBS Reply Delay</i>	
<i>Resolution</i>	<i>25 nS</i>
<i>Accuracy</i>	<i>± 20 nS</i>
<i>Mode S Reply Delay</i>	
<i>Resolution</i>	<i>25 nS</i>
<i>Accuracy</i>	<i>± 20 nS</i>
<i>Reply Jitter</i>	
<i>Resolution</i>	<i>25 nS</i>
<i>Accuracy</i>	<i>± 20 nS</i>

Environmental

Temperature

Full specified performance	23 ±5 degrees C
Operating	0 to 40 degrees C
Storage	0 to 71 degrees C
Relative Humidity	0 to 95% non-condensing

Physical Characteristics

Height	10.5 inches (26.67 cm)
Width	19 inches (48.26 cm)
Depth	24 inches (60.96 cm)
Weight	41 lbs. (18.60 kg)
Shipping Weight	53 lbs. (24.04 kg)

Functional Characteristics

Remote Interface

- Optional Command set emulation of the SDX-2000, ATC-1400A and S-1403DL
- Ethernet
- GPIO

Inputs/Outputs

- Suppression bus (front/back)
- 2 scope BNC outputs (front/back)
- LAN (front/back)
- USB Type B control (front)
- 2 USB Type A (front) for HID/flash drives

Compliance

- CE
- UL/EN 61010-1 (Pending)
- EN 61326-1 (Pending)

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