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)

Diversity

Power	± 20 dB
Resolution	1 dB
Accuracy	± 1 dB
Timing	± 1 uS
Resolution	25 nS
Accuracy	± 10 nS

Modulation

Pulse On/Off Ratio	>80 dB

Pulse Position (high speed rise/fall time mode)

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

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Pulse Width (high speed rise/fall time mode)

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

DME Simulation

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

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

Receiver

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

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

GPIB

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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