

Tracking Receiver-Model 253/250

High-performance tracking and acquisition

Key Features

- Internally synthesized with 1.0 kHz tuning steps
- Automatic phase-lock loop (PLL) with Quick-Lock™ acquisition (<1 sec) and Sideband rejection
- Tracking voltage output: 0-10VDC and -5 to +5 VDC
- Three predetection bandwidths: 250, 4.0, or 2.5 kHz
- Dynamic range: 45 dB Std. and 90 dB Optional
- CW, PM, or BPSK (optional) modulation accommodated
- Monopulse capability (Model 253)
- Doppler compensation (extended range optional)



System

The Model 253 and 250 tracking receivers provide a high-quality, cost-effective solution for converting the satellite beacon from RF or IF to a DC voltage tracking signal.

The 253 is an integrated, rack-mounted (2RU) receiver chassis. The 250 is a receiver card set integral to the Model 133 ACU chassis, available with an optional block down converter.

Model 253

- Low-profile, rack-mount chassis
- L to Ka single and multi-band configurations available
- Front panel LCD display and keypad
- Remote controllable via RS-232/422

Model 250

- Economical two-piece receiver card set
- 950 -1750 MHz input from LNB or 250 BDC unit
- 75Ω type F or 50Ω type SMA input available



Specifications

Model 253						
Band	Input	Frequency - Ghz	VSWR	Image Rejection	Stability	
L	75Ω, type F	.95 - 1.75	2 : 1	40 dB	± 5kHz	
L	50Ω, type N	.95 - 1.75	2 : 1	40 dB	± 5kHz	
S	50Ω, type N	2.0 - 2.8	1.5 : 1	40 dB	± 25 kHz	
C	50Ω, type N	3.4 - 4.2	1.5 : 1	40 dB	± 15 kHz	
C Full	50Ω, type N	3.4 - 4.8	1.5 : 1	40 dB	± 15 kHz	
C High	50Ω, type N	4.0 - 4.8	1.5 : 1	40 dB	± 15 kHz	
X	50Ω, type N	7.25 - 7.75	1.5 : 1	40 dB	± 25 kHz	
Ku	50Ω, type N	10.7 - 11.5	1.5 : 1	40 dB	± 25 kHz	
Ku	50Ω, type N	10.7 - 12.25	1.5 : 1	40 dB	± 25 kHz	
Ku Full	50Ω, type N	10.7 - 13.0	1.5 : 1	40 dB	± 30 kHz	
Ku	50Ω, type N	10.9 - 11.7	1.5 : 1	40 dB	± 25 kHz	
Ku	50Ω, type N	11.45 - 12.25	1.5 : 1	40 dB	± 30 kHz	
Ku	50Ω, type N	11.7 - 12.5	1.5 : 1	40 dB	± 25 kHz	
Ku	50Ω, type N	12.2 - 13.0	1.5 : 1	40 dB	± 30 kHz	
Ka	50Ω, SMA	17.00 - 17.8	1.5 : 1	40 dB	± 50 kHz	
Ka	50Ω, SMA	18.10 - 18.9	1.5 : 1	40 dB	± 50 kHz	
Ka	50Ω, SMA	19.20 - 20.0	1.5 : 1	40 dB	± 50 kHz	
Ka	50Ω, SMA	20.20 - 21.0	1.5 : 1	40 dB	± 50 kHz	

Physical Data	253	250	250 BDC
Dimensions (in.)	3.5H 19W 22D	IBM AT bus (x2)	1.75H 19W 6D
Weight (shipping)	23.5 Lbs (28 Lbs.)	2.5 Lbs. (7 Lbs.)	4.0 Lbs. (10 Lbs.)
Power	90-264 VAC, 47-63Hz 200VA	N/A	90-264 VAC, 47-63Hz, 60VA
Temperature, operating	0° to 50° C	0° to 50° C	0° to 50° C
Temperature, storage	-40° to 50° C	-40° to 50° C	-40° to 50° C
Humidity	0 to 95%	0 to 95%	0 to 95%

RF Specifications	
Input Total Power Level	-10 dBm max
Input Beacon Level Range	-55 to -100 dBm
Beacon Tuning Step Size	1.0 kHz
Predetection Bandwidth	2.5 kHz, 4.0 kHz, 280 kHz
Signal Strength Linearity	20% min
C/No for Narrowband Acquisition	40 dB-Hz min
C/No for Wideband Operation	61 db-Hz min
Sweep Width	± 40 to ± 150 kHz
Acquisition Time	<1 sec for ± 100 kHz Sweepwidth

Other configurations may be available.



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