



## ECLIPSE IRU 600

### MISSION CRITICAL MICROWAVE

Where failure is not an option, the Eclipse™ IRU 600 represents the ultimate in high performance, high reliability Mission Critical Microwave. The IRU 600 is a compact and efficient radio frequency unit (RFU) for all-indoor deployments, for simplified installation and maintenance



The Aviat Eclipse IRU 600 is an all-indoor microwave radio that delivers mission critical communications for mobile operators, public safety agencies, governments, and utilities.

The IRU 600 delivers superior RF performance and flexible configuration options, and when deployed in conjunction with the Eclipse Intelligent Node Unit or IDU GE3 indoor unit, supports hybrid TDM and native Ethernet/IP transport (no emulation) and strong security features.

#### MARKET LEADING RF PERFORMANCE

The IRU 600 is the latest in a long line of all-indoor microwave solutions from Aviat Networks that delivers market-leading transmitter power performance, with a low loss antenna coupling unit featuring a transmit switch for protected applications, all in an compact form factor and ultra-low power consumption. IRU 600 has been specifically designed with high system gain to lower microwave total cost of ownership by minimizing antenna sizes to lower installation and tower leasing costs.

#### INDUSTRY'S MOST SECURE AND RELIABLE MICROWAVE RADIO

The Eclipse platform is validated to FIPS 140-2 Level 2 and FIPS 197, making it the most secure microwave radio on the market for transporting sensitive data and safeguarding against unwanted and unlawful access. FIPS 140-2 Level 2 validation is the cornerstone for a complete security solution, including Secure management, Payload encryption and RADIUS authentication – especially important for mobile, public safety and government networks that need a comprehensive security solution.

The IRU 600 is built for the toughest conditions, engineered for high reliability and bulletproof redundancy. Field-proven with extremely high MTBF numbers and low MTTR, the IRU600 is also NEBS Level 3 compliant for the toughest carrier provider deployments.

#### DESIGNED, BUILT, SUPPORTED IN USA

The Eclipse IRU 600 is uniquely designed, built and supported all within the USA. Aviat's nationwide presence includes Corporate Headquarters and R&D center, manufacturing, and comprehensive in-country deployment services and after-sales support network. Combined with our 50 year presence and expertise, you can be assured of superior products and support for all your mission critical microwave needs.

#### KEY FEATURES

- FCC Part 101, NTIA and Industry Canada frequencies L6/U6, 7/8, 10 and 11 GHz
- Transmit switch for improved system gain for 1+1 configurations
- Transparent to all types of traffic, including all-IP, all-TDM, or hybrid
- High capacity transport up to 260 Mbit/s, 127xDS1 or 4xDS3 or 1xOC-3
- Indoor, ultra-compact chassis design –2 RMS for 1+1 Protected RFU + ACU
- Standard and High Tx power options
- Front panel Tx Monitoring port for easy maintenance without traffic interruption
- Built-in expansion port for simplified expansion, connection to existing radio antenna systems and network cutover
- Support for unpaired frequencies in all frequency bands
- Expandable with link aggregation for ultra-high capacities and advanced configurations
- Adaptive Coding & Modulation support up to 256QAM
- Optional frequency re-use with XPIC for high throughput link capacities
- 24/48 VDC operation
- Extremely low loss ACU for N+N
- FIPS 140-2 Level 2 validated; FIPS 197 validated



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## ANSI DATASHEET

## ECLIPSE IRU 600

## SYSTEM PARAMETERS

GENERAL							
Frequency Band options						L6, U6, 7, 8, 10, 11 GHz	
Capacity support						11 - 260 Mbit/s Ethernet	
						7 to 127x DS1; 1,3,4xDS3; 1xOC-3	
Modulation support	Fixed or Adaptive Coding and Modulation					QPSK, 16, 32, 64, 128, 256 QAM	
Configuration Options						Non Protected (1+0), Protected Hot Standby (1+1), Protected Space Diversity (1+1)	
SYSTEM		L6/U6 GHZ	7/8 GHZ	10 GHZ	11 GHZ		
Frequency Range, GHz	5.925 - 6.425 6.425 - 7.125		7.125 - 7.900 7.700 - 8.500	10.500 - 10.680	10.700 - 11.700		
Standard T-R Spacings supported, MHz (Non-standard T-R options supported with spot tuned filters)	160, 170, 252.04, 340		150, 175, 300, 360	65	490, 500		
Standard Frequency Assignments Supported per Regulatory Plans	FCC Part 101, SRSP 306.4		SRSP 307.1, SRSP 307.7 NTIA Red Book	FCC Part 101, SRSP 310.5	FCC Part 101, SRSP 310.7		
ANTENNA INTERFACE							
ACU Main Port Interface			CPR-137G	CPR-112G	CPR-90G	CPR-90G	
ACU Expansion Port			CPR-137	CPR-112	UG-39	UG-39	
Top of extension kit			CPR-137G	CPR-112G	CPR-90G	CPR-90G	
RFU INTERFACE							
DC Power Connector	High Power only		2 pin D-SUB Power Type				
IF Cable connector			SMA				
Test Point	RSSI Monitoring Point		Test Points female (test probe receptacles: signal, ground)				
	Tx Monitoring Port		SMA Female				
TRANSMITTER SPECIFICATIONS							
Transmit Power						Standard and high power available	
Manual Transmitter Power Control range						10.5 to 20 dB	
Automatic Transmitter Power Control						Configurable over full available manual attenuation range	
Transmitter Mute						> 50 dB	
Channel Selection						By software control within tuning range of RFU	
RECEIVER SPECIFICATIONS							
Frequency Stability						± 10 ppm	
Receiver Overload	BER= 1x10 <sup>-6</sup>		-22 dBm				
Residual (Background) Bit Error Rate						Better than 10 <sup>-13</sup>	
STANDARDS COMPLIANCE							
Operation						EN 300 019, Class 3.1E	
Safety						UL 60950-1	
Radio Frequency	L6 to 11 GHz		FCC CFR 47, Part 101				
NEBS						Part 15, ICES-003	
EMC						Level 3 compliant to GR-63-CORE and GR-1089-CORE	
SECURITY COMPLIANCE							
Security and Encryption	Optional FIPS 197 compliant 128/256-bit AES encryption					Optional FIPS 140-2 Level 2	
ENVIRONMENTAL							
Operating Temperature	Guaranteed		-10° to +55° C (14° to +131° F)				
Humidity	Guaranteed		0 to 93%, non-condensing				
Altitude	Guaranteed		4,500 meters (15,000 ft)				
ELECTRICAL							
Power Consumption, nominal	1+0, SP / HP		52 W / 90 W				
	1+1, SP / HP		82 W / 124 W				
MECHANICAL		SIZE (HXWXD)			WEIGHT		
IRU 600 1+1	132mm (3RU) x 482mm (19in) x 412mm (16.25 in)			12 kg (26.4 lb) (2x RFU and chassis)			
IRU 600 (1+1)	132mm (3RU) x 482mm (19in) x 412mm (19 in) x 304mm (12 in)			15 kg (33 lb) (2x RFU, ACU and chassis)			
EMISSION DESIGNATORS		3.75 MHZ	5 MHZ	10 MHZ	20 MHZ	30 MHZ	40 MHZ
QPSK	3M75G7W		5M00G7W	10M0G7W	20M0G7W	30M0G7W	40M0G7W
QAM	3M75D7W		5M00D7W	10M0D7W	20M0D7W	30M0D7W	40M0D7W

All specifications are typical values unless otherwise stated, and are subject to change without notice.

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