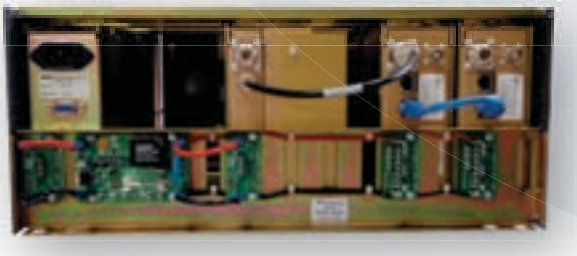
Eclipse2 P25
Digital & Analog



Software-defined Flexibility
You design every channel via software...
Build your radio on a screen, or we can do it for you!

P25 Digital + Analog Base Station/Repeater
Powerful & Proven Off the Shelf Performance

Broadband coverage, 256 channels
Get full VHF (150 - 174MHz) and UHF (400 - 520MHz) and 800 Mhz coverage along with plenty of channels, each identifiable by name, TX/RX, frequency, and profile.

No in-field tuning or aligning: IP Remote upgrade path
The TX and RX module is pre-tuned for the whole frequency range, and level adjustment of the signal path is done via software. Local or remote, optimize without having to physically go to the site

Network Management
Manage control, monitor and alarm reporting remotely using RFT-g and interface into the IT world using SNMP functionality.

P25/Analog Voting over IP
An industry first! No additional controllers required makes for easy configuration and no continual polling makes for low bandwidth.

Analog/digital auto sense
Migrate into digital as your agency's capabilities and budget allows

Create your own signal maps
Get full VHF coverage (136 - 174MHz) without tuning or aligning

P25/Analog Networking over IP
Fully compliant with P25 Analogue and Digital fixed station interface (AFSI and DFSI)

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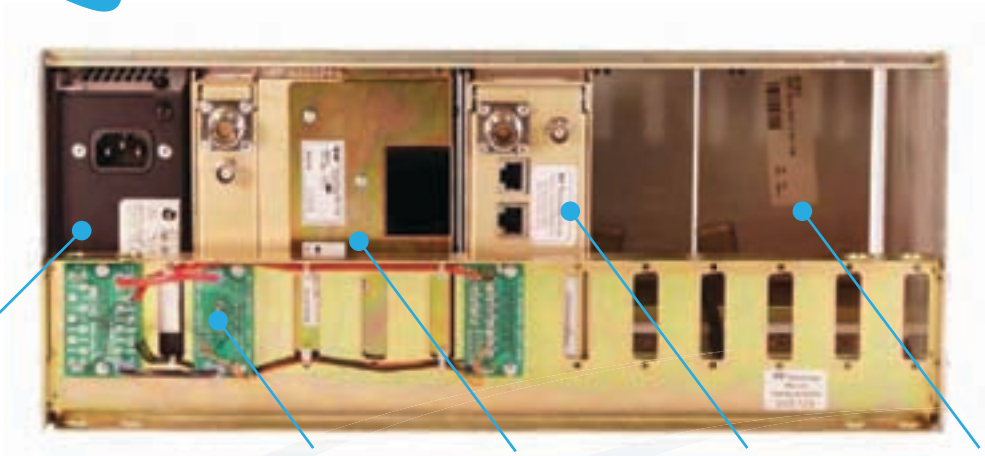

Dual voltage power supply

A space-conscious 4RU tall unit for a 19" rack or desktop cabinet

Conveniently located circuit boards for easy interfacing

60W or 100W power amplifier

Transceiver module back panel is easily accessible and clearly laid out 4 wire E & M or Cat 5 connectivity for ease of linking

Expansion slots, ready for additional modules

Eclipse2:

Software Defined Radio (SDR) for P25 and Analog, with an IP Remote Upgrade Path

RF Technology launch of the Eclipse2 - leverages its long and broad experience as a radio provider, with a reliable history in public safety and well-versed in everything P25. The Eclipse2 offers the latest P25 has to offer, impressive analog performance, and does it all with a broad coverage range. Eclipse2 offers an affordable, real-world solution to today's radio interoperability needs.

IP Commander functionality

We ship it, you build it. (RF Technology can build it for you.)

IP Commander offers drag and drop editing, allowing for an intuitive end user experience. By clicking the apply button the features are enabled. Configurations can be saved to a file so that standard configurations can be easily programmed or sent to remote offices to ensure standardization. Flexible channel program enables multiple profiles to be stored and recalled by scrolling down the list. The trace menu allows capture of base station activity in text form which can be forwarded to RFT for advance diagnostics.

Modes of operation

• Migrate from analog to digital at your own pace with this agile base station + repeater:
• Analog Base
• Analog Repeater
• Analog Voting over IP
• Analog Multi-site
• P25 Base Station
• P25 Voting over IP
• P25 Multi-site over IP
• Analogue IP Console
• SIP Gateway

and, coming soon

• P25 IP Console & Voccoder
• DMR
• P25 Data
• SNMP over the Air
• IP Control of Power Amplifer

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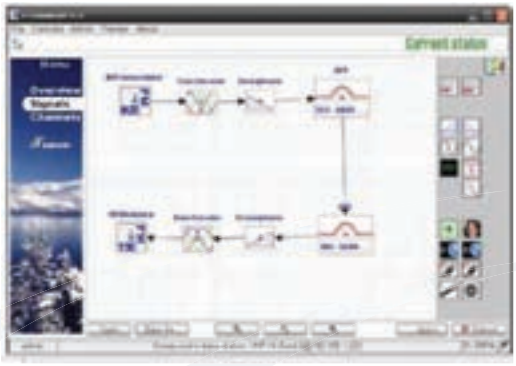
Design every channel right on screen. With up to 256 channels, it's a very powerful and intuitive experience



Highly configurable, this program is a technician's dream. Create your own signal maps, block diagrams per channel, audio routings, and more

More features

- Remote diagnostics over Ethernet
- Radio over IP (VoIP)
- InBase voting over IP
- (No Central Comparator required)
- TIA APCO P25 AFSI/DFSI compliant
- Snmp and syslog functionality
- P25 advanced conventional
- Software configurable
- Analog and P25 auto detect
- Field proven robust hardware
- Full duplex base station or repeater
- Software upgradeable to P25
- dPMR/DMR ready
- Local voice reporting
- Individual channel profiles
- Alarm reporting over the air
- Multisite networking over IP
- Smart signal & noise detection
- Self calibration in real time
- External reference input for simulcast/paging
- Remotely configurable via IP
- Front panel mounted USB programming socket
- Flash firmware upgrade capable
- Remote IP firmware rollback safeguard facility
- Upgradeable to 6.25 Mhz spacing
- Broadband high efficiency LDMOS PA module
- Programmable IO for added equipment.
- RX & TX switching BW covers full sub band
- Cross band capabilities
- Low RFI and EMI emission design
- Low current consumption with full operating system ideal for solar sites
- Advance security features
- Network reporting & alarms using RFT-g
- Latest technology, full SMD
- Advanced and optimized RF design
- Fast & simple disassembly for service
- Minimal technician adjustments for future maintenance
- Built on proven technology
- Virtual elimination of internal wiring
- 100% Duty cycle

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General	Receiver & Exciter	Pwr Amp	PA 500-H	SMPS-12	PS-12
Weight	1.45 Kg	3.55 Kg	4.65 Kg	2.6 Kg	8.0 Kg
Dimension (Width) 2UW = 62 mm (2 7/16 inch)	2UW	3UW	5UW	2UW	4UW
Mounting Rack	4U high 19 inch 4.55 Kg				
Blank Front Panel	Available in 1UW, 2UW, 3UW, 4UW width				
Power	+13.8 Vdc or 120/240 volt, 50/60 Hz ac with SMPS12 power supply or PS12 power supply				
Channel Capacity	256 channels BCD coded 0 - 255				
Tone Squelch	Fully programmable, one EIA Tone per channel				
Programming	Windows or Linux, through serial port, USB or Ethernet				
Software	IP Commander				
Test and Diagnostics	Front panel test connector USB, via Ethernet and ALM, SQ, TX and PWR LEDs				
Audi o Response	Selectable flat or 750uSec pre/de - emphasis				
Audio Interface	Standard 600 Ohm 0dBm balanced and Hi - Z unbalanced				

Receivers	Series 150	Series 500
Frequency stability	1 ppm standard (TCXO) Temp -30 to +60C	
Frequency spread for 1dB degradation	38 MHZ	10 MHZ
Sensitivity	0.25 uV (119 dBm) for 12 dB Sinad,	0.35 uV (-119 dBm) for 20 dB Quieting
Spurious & Image	Rejection 9 0 dB	
Selectivity	80 dB at 25 KHz spacing per RS -204 -C, 7 5 dB at 12.5 KHz spacing	
Intermodulation	80 dB p er RS -204 -C	
Modulation acceptance	7.5 and 3.75 KHz	
Squelch	software adjustable from 6 to 26 dB Sinad Carrier squelch, adjustable from 1 to 200 uV	
Audio response	+1 to 3 dB 300 to 3000 Hz	
Audio level	600 Ohm line adjustable from - 10 to +10 dBm Monitor output, 3 watts @ 4 Ohms Discriminator & subtone output 1 V peak at 100% system deviation	
Audio distortion	Less than 3% at 1KHz, 60% system deviation with 750 uSec de-emphasis	
COS output	Opto-coupled +12V, GND and free switch connections	
Diagnostics	VCO Unlock, tuning voltage, signal strength, external mute, alarms and supply voltage via password protected via IP Commander software	

Power Amplifier	PA70	PA150	PA500	PA501
Output Power (adjustable)	2 to 50 watts	2 to 50 or 2 to 100 watts	2 to 50 or 2 to 100 watts	2 to 50 or 2 to 100 watts
Input power (typical)	o/p	2 watts 50 or at 100W o/p	2 watts 50 or at 100W o/p	2 watts 50 or at 100W o/p
Duty cycle	100%	50W - 100% 100W - 100% with optional fan	50W 100% 100W 100% with optional fan	50W 100% 100W 100% with optional fan
Protection	Automatic power reduction with high VSWR and temperature			
Spurious and harmonics	Less than 0.25 uW			

Exciters / Transmitters	Series 150	Series 500
Frequency spread	Full band	10 MHz
Frequency stability	+/- 1 ppm	
Power output adjustable	0.5 to 5 Watt	
Power regulation	+/- 10% from 12 -16 Vdc, 0 to 50 deg C, all channels	
Duty cycle	100% to 40 deg C. Temp -30 to +60C	
Carrier & Modulation Attack Time	20 mSec	
Spurious and harmonics	Less than -36dBm (0.25 uW)	
Audio Response	+1 to -3 dB 300 to 3000 Hz	
Audio Distortion	Less than 3% at 60% system deviation at 1KHz	
Residual Hum & Noise relative to 60% system deviation	Less than -50dB	
Audio Input Level	600 Ohm line, - 30 to +10 dBm Hi -Z input, 25 mV to 1 Vrms Subtone input compatible with receivers Test microphone, 6 mV rms at 200 Ohms	
Remote Keying	DC Opto-coupled Input	
External Ref. option	Allows the transmitter to be phase locked to an external 1 MHz reference	
Diagnostics	VCO Unlock, tuning voltage, signal strength, external mute, alarms and supply voltage via password protected via IP Commander software	

DC Power Consumption (DC Amps)			
TRX MODEL	Standby (RX active)	Full power RX/TX active	100% vol.
TRX150	0.5	2	0.66
R500	0.5 3	2	0.6 8

		50 WATT PA		100 WATT PA		
Tx MODEL	Idle	35W	50W	50W	75W	100W
T150	0.3	5.0	6.2	10.0	12.0	14.4
T500	0.2	4.4	4.8	12.0	15.0	17.6
	Note: For a repeater or base station Add TRX and PA currents for a total figure					

SMPS12 - 2 (13.8 V 35 Amps)	Idle		Tx ON	PA ON		
Switch Mode	Rx	Rx / Tx	Rx / Tx / PA	15W	25W	50W	100W
0.15	0.18	0.21	0.21	0.67	0.58	1.22	2.14
PS12 (13.8 V 20 Amps)	**Idle**		**Tx ON**	**PA ON**		
Linear	Rx	Rx / Tx	Rx / Tx / PA	15W	25W	50W	100W
0.021	0.08	0.11	0.11	0.67	0.75	1.37	2.35

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