Commercial Range

Transmitter & Receiver Modules

ST & SR100
125-180MHz

ST & SR500
400-500MHz

ST & SR800
868-870MHz

Synthesised multi-channel capability

Small pcb mounting package

Low current consumption

Analogue or digital modulation

Wide supply voltage

Serial or Parallel channel select

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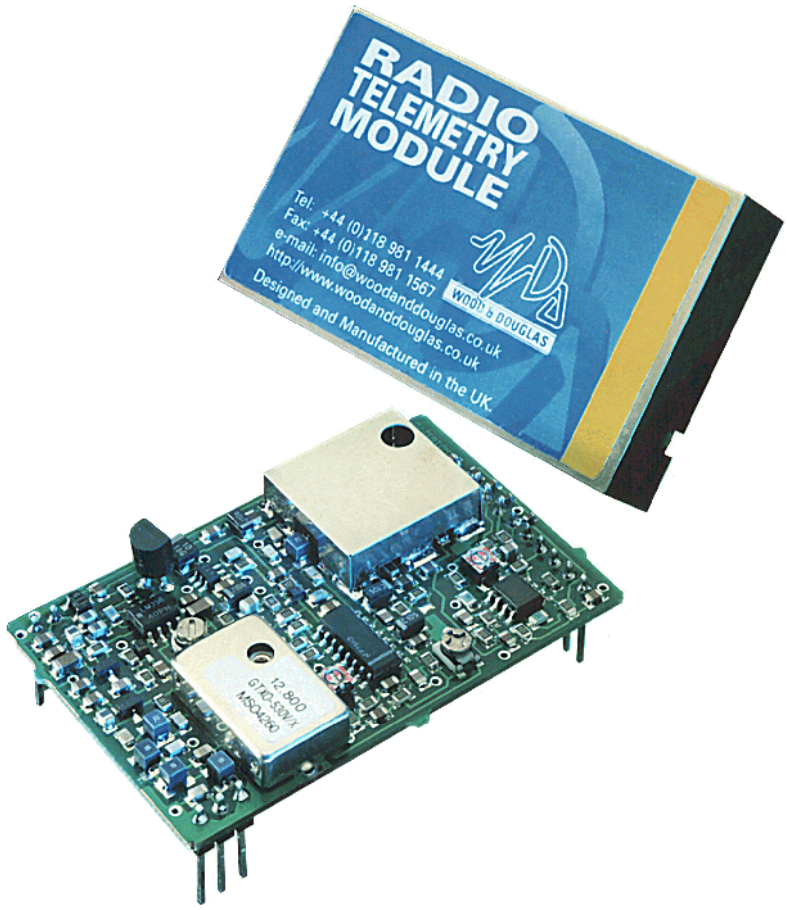

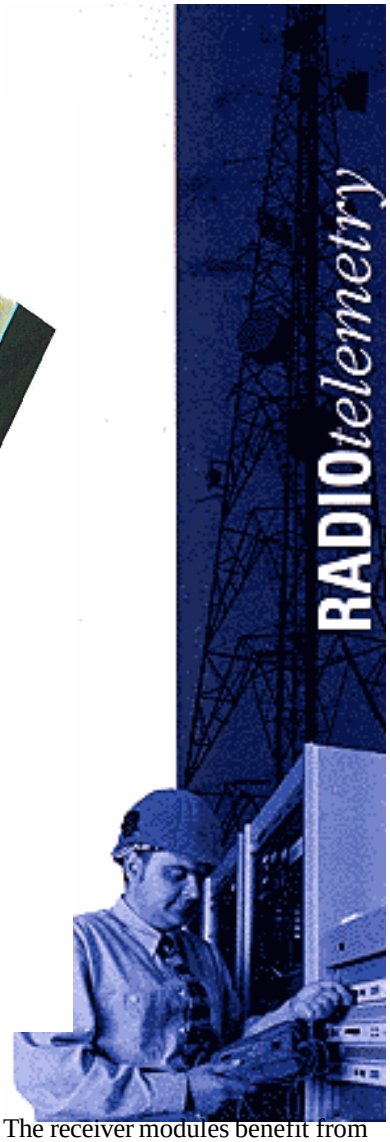

The Commercial Range transmitters and receivers are designed as cost effective building block modules for high volume OEM applications, including use in the 868-870MHz pan European band.

These resilient modules exceed the minimum requirements defined in EN 300 220. They are ideally suited for use in today's crowded radio telemetry bands.

The modules are housed in small lightweight screened enclosures with pcb mounting pins for direct insertion into customer's hardware. This electrical screening ensures a family of products complying with current EMC regulations.

Frequency control is achieved using modern low noise PLL synthesiser techniques with non-volatile storage of frequency data allowing serial and parallel frequency selection.

The VHF and UHF transmitter modules deliver up to 100mW RF output power. The 868MHz version is reduced to 25mW to match the recommended bandplan for this band.

Users will find that such power levels are more than adequate for short and medium range applications. With careful system engineering this range could extend 2km or more.

The receiver modules benefit from excellent sensitivity figures, low current consumption and have both squelch and RSSI facilities.

Designed, manufactured and supported from the UK and benefiting as standard from extensive type approvals, these units provide the OEM with a low risk, low cost of ownership route into giving their product a radio connection.

Engineers wishing to experiment with the Commercial Range of modules should consider using the Cirrus evaluation board, details of which are available from our sales office or from our web site.

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COMMERCIAL RANGE SYNTHESISED TRANSMITTERS & RECEIVERS

GENERAL			
	ST & SR100	**ST & SR 500**	**ST & SR800**
Frequency range	125 -180 MHz	400 - 500 MHz	868 - 870 MHz
Channel spacing	12.5/20/25kHz	12.5/20/25kHz	25kHz
Switching bandwidth	2MHz	5MHz	2MHz
Frequency stability	±5.0ppm	±2.5ppm	±2.5ppm
Number of RF channels		up to 112 sequential - serial selected & programmed	
		up to 16 random - serial selected & programmed	
		up to 8 - parallel selected and serial programmed	
Channel switching delay		<50ms across switching bandwidth	
Modulation type		F1D/F2D/F3D/F3E	
Frequency response		10Hz to 3KHz at -3dB (GMSK version available)	
Spurious emissions (conducted & radiated)		in accordance with ETS/CEPT specifications	
Supply voltage		7.2 V DC nom., (6.0 - 15V DC) -ve earth	
Interface connections		2 pin power plus 10 pin 0.1" headers	
RF connection		3 pin 0.1" header	
Operating temperature		-20°C to +55°C	
Storage temperature		-30°C to +70°C	
Size Overall		60 x 39 x 15mm	
Weight		35g	
Type approval		Complies with EN 300 220); EN 300 489 (EMC)	
ST100/ST500/ST800 TRANSMITTERS			
RF output power into 50Ω	ST100 / ST500	100mW (+0/-1.5 dB), adjustable down to 1mW	
	ST800	25mW (+0/-1.5 dB), adjustable down to 1mW	
Supply current at 7.2V		<100mA for 100mW output (25mW ST800)	
Switching time		<25 ms (supply present and with TXE line keyed)	
Modulation input	analogue	750mV peak-to-peak AC coupled	
	digital	TTL compatible DC coupled	
Deviation	25kHz	±3kHz nom (±4kHz max)	
	20kHz	±2.3kHz nom (±3.2kHz max)	
	12.5kHz	±1.5kHz nom (±2.0kHz max)	
Adjacent channel power		<200nW	
General facilities		±5V output	
SR100/SR500/SR800 RECEIVERS			
Sensitivity 25kHz	<-117dBm	<-117dBm	-115dBm
12.5kHz	<-115dBm	<-115dBm	
Note that all values measured with flat audio response (300Hz .. 3.4kHz) for 12dB SINAD			
Supply current at 7.2V		<40mA	
Intermediate frequencies		45MHz and 455kHz	
Image rejection		>60dB	
Intermodulation rejection		>57dB	
Blocking		>75dB	
Adjacent channel rejection		>70dB for 25kHz ; >60dB for 12.5kHz	
Recovered audio level		250mV (±20%) ptp into 10kΩ (muted by squelch)	
Squelch type		Noise operated with hysteresis	
Facilities		RSSI; Squelch flag (open collector); data slicer	

'ood & Douglas maintain a policy of continuous product improvement and enhancement. As a consequence, the above specification may change without notice.

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