

Synthesised transceiver

SX100

125-180MHz

SX500

400-500MHz

SX800

868-870MHz

Synthesised multi-channel capability

Small package

PCB Mounting

Low current consumption

Analogue or digital modulation

Wide supply voltage

Serial or parallel channel select

Cost effective



The Commercial Range transceivers 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 SX100 gives 50mW RF output, the SX500 100mW and the SX800 is reduced to 25mW. This matches the recommended bandplan at 868 MHz.

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.

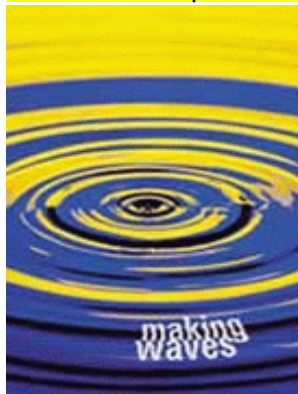
The receiver sections benefit from excellent sensitivity figures, low current consumption and have both squelch and RSSI facilities.

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.



RADIOtelemetry



COMMERCIAL RANGE SYNTHESISED TRANSCEIVERS

GENERAL				
	SX100		SX500	SX800
Frequency range	125 - 180 MHz		400 - 500 MHz	868 - 870 MHz
Switching bandwidth	2MHz		5MHz	2 MHz
Frequency stability	±5.0ppm		±2.5ppm	±2.5ppm
Number of RF channels			up to 112 sequential - serially selected & programmed	
			up to 24 random - serially selected and programmed	
			up to 8 - parallel selected and serially programmed	
Channel spacing			12.5kHz / 20kHz / 25kHz available (25kHz only SX800)	
Modulation type			F1D / F2D / F3D/F3E	
Frequency response			10Hz to 3kHz at -3dB (GMSK option available)	
Spurious emission (conducted & radiated)			in accordance with ETS/CEPT specifications	
Supply voltage			7.2 V DC nominal, (6.0 -15V DC range) -ve earth	
Supply current at 7.2V	receive		<40mA	
	transmit		<100mA	
Interface connections			2 pin power plus 3 and 13 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 17 mm	
Weight			<40g	
Type approval			Complies with EN 300 220 & EN 300 489 (EMC)	
General facilities			+5V output (refer to Operator Note for restrictions)	
TRANSMITTER				
RF output power into 50Ω			50mW for SX100; 100 mW for SX500 (both +0/-1.5dB)	
			25mW ((+0/-1.5dB) for SX800. O/p is adjustable to 1mW	
Tx/Rx 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 (±2.0 max)	
Adjacent channel power			<200nW	
RECEIVER				
Sensitivity	25kHz	< -117 dBm	< -117 dBm	-115 dBm
	12.5kHz	< -115 dBm	< -115 dBm	-113dBm
Note that all values measured with flat audio response (300Hz .. 3.4kHz) for 12dB SINAD				
Image rejection			>60dB	
Intermodulation rejection			>57dB	
Blocking			>75dB	
Intermediate frequencies			45MHz and 455kHz	
Adjacent channel selectivity			>60dB for 12.5kHz channel spacing	
			>70dB for 25kHz channel spacing	
Recovered audio level			250mV (±20%) p-p into 10k Ω (muted by squelch)	
Squelch type			Noise operated with hysteresis	
General facilities			RSSI output	
			Squelch output flag (open collector driver)	
			Independent data output	

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



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