Ku-Band Transceiver
5900 series

Codan's 5900 series Ku-Band transceivers offer a wide range of distinctive advantages and enhanced features for satellite communications systems based in remote or challenging geographic regions.

Available in all common Ku-Band operating frequencies and 70 or 140 MHz IF configurations—and a range of power outputs—the 5900 provides industry leading technical performance.

KEY FEATURES

Durability

The 5900 series is designed and tested to meet its performance specifications in an ambient temperature range from –40°C to +55°C and up to 100% relative humidity, ensuring long-term survival in extreme conditions.

The thermal protection provided allows operation up to +60°C ambient. Field experience shows that MTBFs of greater than 100,000 hours can be expected.

Ku-Band transceiver 5900 series with optional power supply unit

RF performance

RF performance is superb, particularly: intermodulation performance, gain stability over temperature and flatness across the IF band.

The 5900 also boasts industry leading spurious and harmonics specifications while guaranteed RF performance ensures expensive system link margins do not have to be used to cope with RF transceiver variations. The 5900's high linearity and low spurious characteristics contribute to superior multi-carrier performance.

Output power options

Output ratings of 4, 8, and 16 watts are standard, while a higher power option is also available.

The 8 and 16 watt SSPAs include an output power monitoring capability via the monitor and control serial interface.

Power consumption

Codan's Ku-Band transceivers all feature low power consumption and low temperature rise, ensuring internal components do not suffer undue stress.

Power supply

The 5900 features a 48 V DC floating input (37 V to 72 V range) with reverse polarity protection. This is ideal for battery backup and solar-powered systems. In addition, the 5900 may be supplied with an optional AC power supply unit with field selectable 115/230 V operation.

The AC power supply unit is extremely robust and particularly suited for operation from poor quality AC supplies.

Internal protection

Internal protection against high temperature and short or open circuit RF output is standard. As well, input voltage detection ensures reliable shutdown and restart under brownout or blackout conditions.

External protection

All user access is via a transparent cover, which can be removed without exposing major internal electronics to the elements. Special sealant is used to ensure the sealing integrity of all connectors.

RF modules are fully sealed and pressure tested to 34 kPa (5 psi). Particle and moisture penetration is rated to IP68 and the units are submersible to 3 metres.

ADVANCED FEATURES

Enhanced monitor and control

All operating functions can be controlled and monitored via the serial interface. The operating configuration is stored in EEPROM to ensure the setup parameters are restored in the event of a power failure.

Universal interface compatibility

The 5900 has universal interface compatibility capable of operating with dumb terminals, laptop/PC emulating terminals, hand-held terminals and personal organisers without requiring proprietary software. The versatile configuration options support: contact closure, RS232, RS422 and RS485 (2 or 4 wire).

Two dedicated controllers are available from Codan:

- 5560 Hand-Held Controller, suitable for in the field installation setup
- 5570 Remote Controller, suitable for indoor rack mounting to provide permanent monitoring and control capabilities

Redundancy switching system

A redundancy switching system is available to provide an automatic changeover to a second transceiver to maximise link availability and minimise any disruption to service.

This system is fully outdoor mounted, but can be supplied with the 5587 Redundant System Monitor to provide indoor monitor and control.

MAJOR CONFIGURATION OPTIONS

Transmit frequency band (GHz)	
1	14.0–14.5
Receive frequency bands (GHz)	
1	10.95–11.7
2	11.7–12.2
3	12.25–12.75

All systems use the common 5900 series converter module, which has an RF input of 950–1700 MHz. Receive bands are selected by the use of an appropriate LNB. Standard frequency bands are listed above whilst other bands are available on request.

A selection of LNBs (phase locked to the internal 10 MHz reference in the 5900 converter module) is available to best meet noise temperature and configuration needs.

Bandwidth	
N	Narrow band (40 MHz); field selectable 70 or 140 MHz IF
W	Wide band (80 MHz); 140 MHz IF
SSPA	
WR75	Waveguide output
Options and accessories	
Hand-held Controller	
Remote Controller	
Redundancy Switching System	

5570 Remote Controller

Redundancy Switching System

CODAN QUALITY AND SERVICE

All Ku-Band transceivers are built and tested in Codan's ISO9001 quality certified manufacturing facility, and undergo 100% burn in and performance monitoring over the temperature range specified.

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Equipment descriptions and specifications are subject to change without notice or obligation

5560 Hand-held Controller

CODAN

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