

Product Sheet

20-90 Series

VHF/UHF Transceiver

The 20-90 is a simple to configure POCSAG paging transceiver with a high sensitivity receiver combined with a 100mW transmitter. It operates over the frequency range of 140 - 176MHz (VHF variant) or 420 - 480MHz (UHF variant) decoding and encoding 512, 1200 or 2400 baud, alphanumeric or numeric messages. The 20-90 supports multiple message queuing and will queue up to four 73-character messages or more smaller messages.



Product code
VHF: 20-90-0150

Product code
UHF: 20-90-0450

Key Features

- Supports Salcom relay control protocol to control two on-board relay, plus several "virtual outputs".
- Enables a user to call a pager (over 2,000,000 codes), append an appropriate priority level (1 of 4) and add an alpha or numeric message.
- Supports batching of serially queued input messages.
- TCP/IP connectivity.
- Virtual outputs can be used to remotely trigger input or periodic messages and provide a mechanism to acknowledge reception of messages.
- 5 user definable I/O configurable as input or outputs (two high current and three low current)
- 2 clean-contact relay outputs.
- Can transmit the received signal strength of the last received message allowing the receiver positioning and system health to be monitored.
- FSK with NRZ Data.
- VHF: 140 -176MHz and UHF: 420 - 480MHz option available

Applications

- Paging Transceiver: allowing both the encoding and decoding of paging messages.
- Paging Receiver only—(by configuration): allowing the decoding only of paging messages where desired.
- Transmitter: With channel busy check function before transmissions.
- Autonomous Store & Forward Paging Repeater with duplicate message reject.
- Allows TCP/IP output for closed loop system monitoring of messages received.

Operation

- Can be controlled via an RS232 serial interface or TCP/IP to provide numeric, alphanumeric and tone only POCSAG encoding.
- Can be configured to automatically respond with checksum information of the last received message.
- Uses an intelligent self-adjusting channel busy check to prevent message collision or corruption.
- The receiver has two clean contacts rated at 1A 24V DC operation. LEDs indicate receiver operation and status.

Technical Specification

20-90-0150, 20-90-0450 VHF / UHF Transceiver

Options	VHF: 20-90-0150 UHF: 20-90-0450
Frequency Range	VHF: 140 - 176MHz UHF: 420 - 480MHz
Frequency Selection	User configurable
Transmit Power	10mW, 20mW, 50mW or 100mW
Transmit Duty Cycle	100%
Channel Width	6.25 kHz, 12.5 kHz, or 25 kHz
Deviation	±1.0kHz, ±2.3kHz or ±4.5kHz
Modulation	GFSK with NRZ data (POCSAG)
Over-air Baud Rates	512, 1200, 2400
Receive sensitivity	-123 dBm at 512 baud -118 dBm at 2400 baud
Relays	Two Relays on RJ45 connector; one SPDT, one SPST
Definable I/O	Five I/O pins user configurable as input or output
Open drain outputs	Up to two 500mA open drain outputs with resettable fuses on RJ45 Up to three 5mA current limited open drain outputs on RJ12
Inputs	Up to five active low inputs on open drain output pins.
Serial Port	RS-232 on RJ12 connector. 9600 baud, no parity, 8-bits, 1-stopbit
Data interfaces	RS-232 (with adaptor) and Ethernet
Serial Protocols	Salcom, Scope, TNPP v3.8
Configuration Software	Salcom Configuration Tool (Sacoto)
RF Connector	50Ω SMA
Power Connector	DC power pluggable terminal block (provided)
Power Supply	+13.8V typical (10 to 15 VDC range)
Power Consumption	Standby: 45mA Transmit: 90mA Ethernet: +35mA when connected to Ethernet Relays: +20mA per energized relay
Environmental Protection	Not suitable for unprotected outdoor use. Must be protected from adverse environmental conditions.
Operating Temperature	-10°C to +55°C (+14°F to +131°F)
Indicators	Power LED (Green) <ul style="list-style-type: none"> • Slow Flashing = Normal Operation • Fast Flashing = low battery TX/Busy LED (Red) <ul style="list-style-type: none"> • Flashing fast = Transmitting • Solid on = Chanel busy
Weight	190g
Enclosure Dimensions	130mm x 68mm x 31mm (W x D x H)
Enclosure Material	Extruded aluminium
Colour	Bright silver anodised aluminium
Approvals	AS/NZS 4769.1:2000 + Amendment 1:2002 (RF) EN 300-224 V2.1.0 (RF), EN 301-489-2 V2.1.0 (EMC) EN 60950-1:2006 (Safety) FCC CFR47 Part 90 (RF), Part 2 (RF), Part 15 (EMC), Part 1 (Safety)

NB: All specifications and applications are indicative only and subject to change without prior notification.