

20-90

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 142-175MHz (VHF variant) or 440-479MHz (UHF variant) decoding and encoding 512 or 1200 baud, alphanumeric or numeric messages. The 20-90 supports multiple message queueing and will queue up to four 73-character messages or more smaller messages.

- Can be controlled via an RS232 serial interface or TCP/IP to provide numeric, alphanumeric and tone only POCSAG encoding.
- 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 full batching of serially queued input messages.
- 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 is supplied with clean contacts rated at 1A 24V DC operation. LEDs indicate receiver operation and status.



Key Features

- Supports Salcom relay control protocol to control one on-board relay plus several “virtual outputs”.
- 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 dedicated 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.
- 142-175MHz (VHF) & 440-479 MHz (UHF) variants available.
- Up to 100mW output
- Expandable I/O using 20-03-0000
- User definable serial acknowledge messages.

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.

Technical Specification

20-90-0000 - VHF / UHF Transceiver and Store & Forward Repeater



Frequency Range	142-175MHz (VHF) 440-479MHz (UHF)
Frequency Selection	User configurable
Power Supply	+13.8V typical (11 to 15 VDC range)
Power Consumption	Standby: 43mA Transmit: 73mA at 100mW (VHF) Relays: 22mA per energised relay Ethernet + 33mA
Transmit Power	10, 20, 50 or 100mW
Channel Spacing	10kHz, 12.5kHz, 6.25kHz
Modulation	FSK with NRZ data
Deviation	+4.5kHz & +2.3kHz
Receiver	Sensitivity Approx -120 dBm
Baud Rates	512, 1200, 2400
Message Format	POCSAG
Configuration Application	Salcom Configuration Tool
Programming Cable	12-45-0000 (RJ12 to DB9) Can be used with a USB to RS232 DB9 Serial Adapter Cable
Serial Port	9600, N, 8, 1; RS232
Serial Protocols	Salcom, Scope, TNPP v3.8
Discrete Inputs	Up to five, dependent on number of outputs configured
Ethernet	TCP/IP
Discrete Outputs	Up to five open drain outputs, dependent on number of inputs configured Two rated to 500mA max. and three current limited to 5mA max.
Connectors	Serial Port (RS232) = RJ12 (6P6C) Inputs / Relay Output / Open Drain = RJ45 (8P8C) Ethernet = RJ45
Power Connector	2-way plug & socket, screw connector (supplied)
RF Connector	50Ω SMA
Environmental Protection	Not suitable for outdoor use and should be protected from adverse environmental conditions
Operating Temperature	-10.C to +50.C (+14.F to +122.F)
Indicators	Power LED (Green) - Flashing (1s Freq) = Normal Operation - Solid (up to 5s) = Receiving Data Status LED (Red) - On = Transmitting - Flashing = Error Condition
Weight	188g
Enclosure Dimensions	130mm x 68mm x 31mm (W x D x H)
Enclosure Material	Extruded aluminium
Colour	Silver
Type Approvals	AS/NZS 4769.1:2000 + Amendment 1:2002 (RF) EN 300-224-2 (RF) (to follow) FCC CFR47 Part 90 (RF) FCC CFR47 Part 15 (EMC) EN 301 489-2 V2.1.0 (EMC) (to follow) EN 60950-1:2006 (Safety) (to follow)

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