# SVR

# Synthesized Vehicular Repeaters


PYRAMID
COMMUNICATIONS
Since 1990

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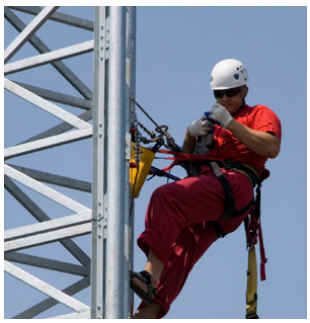


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# SVR **P250** P25 Compliant

MULTI CHANNEL

2 WATT COVERAGE

NEW ESP PRIORITY STRUCTURE

WIDE OR NARROW BAND

EMERGENCY SIGNALING

P25 PHASE 1 COMPLIANT

AES/DES ENCRYPTION


- P25 Phase 1 Compliant
- 20 Channels
- New ESP™ Multi Vehicle Format
- AES / DES Encryption
- Programmable P25 or Analog Per Channel
- AS/NZS Compliant, FCC and Industry Canada Approved
- Wide or Narrow Band Programmable Per Channel
- Emergency Signalling
- Interface cables available to suit most popular two-way radios

P25 compliant DIGITAL

## SVR P250 P25 Twenty-Channel Digital Vehicular Repeater

The SVR-P250 is the next generation vehicular repeater that is fully compliant with the APCO Project 25 Phase 1 Digital Common Air Interface (CAI) protocol. Advanced features include secure communications with P25 portable radios, AES and DES encryption, and emergency signalling from portable to dispatch. PC programmable for up to 20 channels, with P25, wideband/ narrowband, CTCSS/DCS, and emergency signalling on a per channel basis.

The SVR-P250 utilizes the new ESP™ priority structure that resolves priority conflicts during repeater idle time rather than at the critical start of a conversation. With ESP™, priority vehicles are assigned without user intervention to ensure uninterrupted communications when users exit their vehicles. ESP™ also ensures a quick recovery if two vehicles get in a priority mode at one scene. The SVR-P250 is both P25 and analog capable and can interface to analog or P25 mobiles providing flexible inter-operability between systems that wouldn't normally be able to communicate.

The SVR-P250 will interface to analog, digital, conventional or trunking mobiles and is capable of operating with SkyTerra (formally MSV) mobile satellite phones. In trunking mode, the SVR-P250 ensures proper acquisition of the trunking channel and uses the Smart Trunking Access™ mechanism of alerting the portable users of trunking status information.

In analog mode, the SVR-P250 is fully compatible with existing SVR-200 and SVR-250 vehicular repeaters to provide seamless integration while users upgrade their systems from analog to P25 digital.

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# Specifications SVR **P250**

## TRANSMITTER

| Frequency Range | VHF 136-174 MHz | UHF 400-450 MHz | UHF 450-530 MHz |
|---|---|---|---|
| RF power out | 0.5 - 2W | 0.5 - 2W | 0.5 - 2W |
| Spurious emissions | -70dBc | -70dBc | -70dBc |
| Frequency stability -30°~+60°C | ±1.5PPM | ±1.5PPM | ±1.5PPM |
| Modulation | 10K0F1D, 10K0F1E, | 10K0F1D, 10K0F1E, | 10K0F1D, 10K0F1E, |
| | 10K0F7D,10K0F7E, | 10K0F7D,10K0F7E, | 10K0F7D,10K0F7E, |
| | 11K0F3E, 12K3F1D, | 11K0F3E, 12K3F1D, | 11K0F3E, 12K3F1D, |
| | 16K0F3E, 4K80F2D, | 16K0F3E, 4K80F2D, | 16K0F3E, 4K80F2D, |
| | 7K60F1D,8K10F1D, | 7K60F1D,8K10F1D, | 7K60F1D,8K10F1D, |
| | 8K10F1E, 8K10F7D, | 8K10F1E, 8K10F7D, | 8K10F1E, 8K10F7D, |
| | 8K10F7E, 8K40F2D | 8K10F7E, 8K40F2D | 8K10F7E, 8K40F2D |
| Hum and noise | | | |
| 25/30kHz | -43dB | -43dB | -43dB |
| 12.5kHz | -38dB | -38dB | -38dB |
| Audio response (300-3kHz) | Flat or -6dB/octave | Flat or -6dB/octave | Flat or -6dB/octave |
| Audio distortion | <3% @ 1kHz 60% deviation | <3% @ 1kHz 60% deviation | <3% @ 1kHz 60% deviation |
| Local mic sensitivity | 300mV - 5VPP | 300mV - 5VPP | 300mV - 5VPP |
| AS/NZS Compliance | N368 | N368 | N368 |
| FCC Type Acceptance | LRUSVR-P250V | None | LRUSVR-P250U |
| Industry Canada Approval | 2390A-SVRP250V | None | 2390A-SVRP250U |

## RECEIVER

| Frequency Range | VHF 136-174 MHz | UHF 400-450 MHz | UHF 450-530 MHz |
|---|---|---|---|
| Analog sensitivity | 0.28uV | 0.28uV | 0.28uV |
| Digital sensitivity (5% BER) | 0.20uV | 0.20uV | 0.20uV |
| Squelch sensitivity | .2μV to 2μV adjustable | .2μV to 2μV adjustable | .2μV to 2μV adjustable |
| Selectivity | | | |
| 25/30kHz channel | -75dB | 75dB | 75dB |
| 12.5kHz channel | 65dB | 65dB | 65dB |
| Spurious/image rejection | 75dB | 75dB | 75dB |
| IMD response | 75dB | 75dB | 75dB |
| Frequency stability | ±1.5PPM | ±1.5PPM | ±1.5PPM |
| Audio response (300-3kHz) | Flat or +6dB/octave | Flat or +6dB/octave | Flat or +6dB/octave |
| Audio output | 0-5VPP AC coupled | 0-5VPP AC coupled | 0-5VPP AC coupled |
| | 600/2.2K | 600/2.2K | 600/2.2K |
| Local Rx audio | 400 mW 8 Ohms@ | 400 mW 8 Ohms@ | 400 mW 8 Ohms@ |
| | <5% distortion | <5% distortion | <5% distortion |

## Power Requirements

| | |
|---|---|
| DC Supply | 13.6VDC negative ground ± 25% |
| Standby | 170mA |
| Receive | 250mA @ 400mW Rx Audio |
| Transmit | <2A @ rated output |
| Physical | |
| Dimensions | 146mm x 254mm x 57mm (W x L xH)<br>5.75" x 10" x 2.25" |
| Weight | 1.06Kg<br>38oz |
| Case | One piece extruded aluminium |
| Mil-Std-810D/E Ratings | |
| 501.2 | Procedure II High Temp +60°C |
| 502.3 | Procedure II Low Temp -30°C |
| 507.2 | Procedure II Humidity |
| 510.2 | Procedure II Blowing Dust |
| 514.3 | Procedure I Category 8 |
| | Vibration, Ground Vehicle |
| 516.3 | Procedure I Shock |

For further information, contact your nearest RFI Sales Office

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