



# Simoco P25 Digital

Your partner in public safety communications



# Embrace the future with P25 Phase 2



## Multi-mode digital platform

Based on our flagship digital mobile radio product, the SDx600 mobile and portable radio platform has a proven track record and is recognised as the workhorse of the land mobile-radio world with its ability to support analogue conventional radio LMR, MPT1327 and the DMR digital standard. The SDx600 is fully compliant with both P25 Phase 1 and P25 Phase 2 standards.



## Extend to Government Radio Networks (GRNs)

Simoco provides large government radio networks (GRNs) throughout Australia with more choices for sourcing mobile terminals, ensuring technical sovereignty and promoting a robust domestic technology industry. The Australian engineered SDx600 mobile and portable terminals stand at the forefront of this initiative.



## Designed and developed in Australia

Designed and developed entirely in Australia, the SDx600 mobile and portable terminals stand as a groundbreaking achievement in communications technology. It is the first P25 Phase 2 terminal to originate from Australian innovation, showcasing the country's engineering prowess and commitment to advancing public safety communication systems. This state-of-the-art terminal not only highlights Australia's capability in high-tech development but also sets a new benchmark for reliability and performance in the global market. Simoco can provide support and radio terminal customisation locally in Australia.



## Enhanced interoperability, security, and scalability

Simoco's P25 Phase 2 solution is a comprehensive communication system that ensures seamless interoperability across agencies and jurisdictions, fostering cooperation during critical incidents. Leveraging the latest technologies, it maximises spectral efficiency, allowing for more effective use of the available radio spectrum. With advanced encryption and authentication features, it guarantees the highest level of security for sensitive communications. Additionally, its scalability makes it an ideal choice for organisations of all sizes, capable of accommodating growing communication needs effortlessly.



## Advanced data capabilities with Velocity

Velocity offers organisations a high-performance intelligent communications platform built on edge computing with high-speed broadband connectivity for reliable and always on mission critical voice and data communications. When integrated with P25 Phase 2, Velocity enables the seamless transmission of data alongside voice communication, offers a push-to-talk over cellular (PTToC) fallback, and facilitates advanced vehicle telematics functionality. Integrating Velocity with P25 Phase 2 supports the transmission of data alongside voice communications, enabling real-time data sharing and decision-making.



## Investment protection

In addition to providing a broader choice for existing users of P25 standard networks, the SDM terminals offer a cost-effective migration path for those organisations that currently have invested in DMR or analogue technologies, allowing users to equip their vehicles with SDM radios that can operate on DMR or analogue networks immediately. This approach ensures that when they are ready to transition to P25, they can retain their initial investment without needing to replace their entire radio fleet.

# P25 Phase 2 Digital Mobile and Portable

Connectivity redefined, possibilities expanded.

## Mobile features

- P25 TIA-102 standards compliant
- P25 Phase 1 and 2 compatibility
- The screen layout and menu are based on the proven SRM9000 P25 series mobile radio for an easy user migration
- 3200 radio channels
- Flexible GPS Location Service options
- Secure AES Encryption
- Multi-mode radio platform capable of Analogue, P25, DMR and MPT1327
- Compatibility with Simoco Velocity ® for custom IoT and applications
- Integration with PTToc Velocity ® applications
- Single Control Head multiple transceiver option
- Dual Control Head single transceiver option
- Large SDM630 console LCD display
- Hand Held Controller option
- 136-174MHz, 400-480MHz and 440-520MHz



## Portable features

- Ergonomic user interface
- P25 TIA-102 standards compliant
- P25 Phase 1 and 2 compatibility
- SRP9180 migration friendly
- 3200 radio channels
- Flexible GPS Location Service options
- Secure AES Encryption
- Compact form factor
- Multimode platform
- Large bright colour screen
- Rugged design
- 136-174MHz, 400-480MHz and 440-520MHz



# P25 terminal technical specifications\*

## SDP600 Portable

### General Specification

Frequency bands	AC (136-174 MHz) TU (400-480 MHz) UW (440-520 MHz)
Zones/Channels	40 Zones/3,200 Channels
Channel spacing	12.5 / 25 kHz
Talkgroups	6000
Voting/Scan groups	4080
Frequency stability	< +/-2ppm
Dimensions (HxWxD)	137 x 64 x 36 mm
Weight including battery	375g
Battery capacity	2400mAh
Battery voltage	7.2V
Battery endurance P25 Phase 2	>13 Hours 90/5/5
Environmental sealing	IP67
Colour options for front bezel	Yellow Orange Black
Operating temperature	-30° C to +60° C operating

### Environmental

Operational temperature	-30 °C to +60 °C
Storage temperature	-40 °C to +80 °C
IP Rating/Humidity	IP67 (IEC60529)

### MIL810

### Procedure

Low pressure	500.5 Procedure I & II
High temperature storage	501.5 Procedure I
High temperature operation	501.5 Procedure II
Low temperature storage	502.5 Procedure I
Low temperature operation	502.5 Procedure II
Temperature shock	503.5 Procedure I-C
Solar radiation	505.5 Procedure I
Rain and Blowing rain	506.5 Procedure
Rain – Drip	506.5 Procedure III
Humidity	507.5 Figure 507.5-1
Salt fog	509.5
Basic transportation vibration Cat 4	514.6 Proc I Cat 4
Basic transportation vibration Cat 24	514.6 Proc I Cat 24
Transit drop	516.5 Table 516.5-V1
Functional basic shock	516.6 Procedure I

### Transmitter Specification

Transmitter power	0.5W, 2.5W, 5.0W (programmable)
Modulation limiting	±2.5 kHz @ 12.5 kHz ±5.0 kHz @ 25 kHz
FM hum and noise	40 dB (TIA-603-B)
Conducted/radiated emission	-36 dBm
Audio response	+1/-3 dB (FM)
Audio distortion	3% (TIA-603-B)
Vocoder	AMBE+2 half and full rate

### Receiver Specification

FM sensitivity AS4295	≤0.3 µV PD (-117.5 dBm) for 12 dB SINAD
P25 BER 5%	-120dBm
FM adjacent ch. selectivity	60 dB @ 12.5 kHz (ETS086-1)
Intermodulation	65 dB (ETS086-1)
Spurious resp rejection	70 dB (ETS086-1)
Hum and noise	40 dB (TIA603-B)
Audio frequency response	+1/-2 dB (0.3 kHz – 2.55 kHz analogue)
Conducted spurious emission	-57 dBm (ETS086-1)

### Approvals

AS/NZS 4295 (Australia)	136-174MHz 400-480MHz 440-520MHz
FCC Part 22 and 90	136-174MHz 400-480MHz 440-520MHz

(\*) In light of continuing product improvement, specifications may change.

# P25 terminal technical specifications\*

## SDM600 P25 Mobile

### General Specification

Frequency bands	AC (136-174 MHz) TU (400-480 MHz) UW (440-520 MHz)	
Zones/Channels	40 Zones/3,200 Channels	
Channel spacing	12.5 / 25 kHz	
Talkgroups	6000	
Voting/Scan groups	4080	
Frequency stability	Less than +/-2ppm	
Dimensions (HxWxD) mm		
Transceiver body	50 x 212 x 127	
Console Control Head 630	65 x 188 x 46	
Standard Microphone 632	91 x 62 x 38	
Hand Held Controller 622	145 x 68 x 25 excl. hang up	
Weight	1.2kg	
Antenna connector	BNC	
Supply voltage	10.8-16.3 VDC	Negative earth
Power consumption	Standby	3W
	Receive 4w audio	16W
	Transmit 25W	82W
Environmental sealing	IP54	
Operating temperature	-30 to +60 °C	

### Environmental

Operational temperature	-30 °C to +60 °C
Storage temperature	-40 °C to +80 °C

### MIL810 Procedure

Low pressure	500.5 Procedure I & II
High temperature storage	501.5 Procedure I
High temperature operation	501.5 Procedure II
Low temperature storage	502.5 Procedure I
Low temperature operation	502.5 Procedure II
Temperature shock	503.5 Procedure I-C
Solar radiation	505.5 Procedure I
Rain and Blowing rain	506.5 Procedure
Rain – Drip	506.5 Procedure III
Humidity	507.5 Figure 507.5-1
Sand and dust	510.5 Procedure I – Blowing Dust
Basic transportation vibration Cat 4	514.6 Figure 514.6C-1
Basic transportation vibration Cat 24	514.6 Figure 514.6E-1
Transit drop	516.5 Table 516.5-V1
Functional basic shock	516.6 Procedure

### Transmitter Specification

Transmitter power	Any three levels programmed from:	
	High Power: 25 W Adjustable down to 1 W	
	Medium Power: 25 W Adjustable down to 1 W	
Duty cycle (P25 Phase 1)	Low Power: 1 W Adjustable up to 25 W	
	1 minutes TX	4 minutes RX
	2 minutes TX	4 minutes RX
Duty cycle (P25 Phase 2)		
FM frequency response	300 Hz to 3000 Hz;* +1 dB to -3 dB. Figures apply for a flat audio response or a 6 dB/octave preemphasis curve. Audio Frequency Response (*2550 Hz for 12.5 kHz channel spacing)	
FM audio distortion	≤3% (at 60% deviation)	
Spurious emissions	<0.25uW	9kHz to 1GHz
	<1.0 uW	1GHz to 4GHz
Vocoder	AMBE+2 half and full rate	

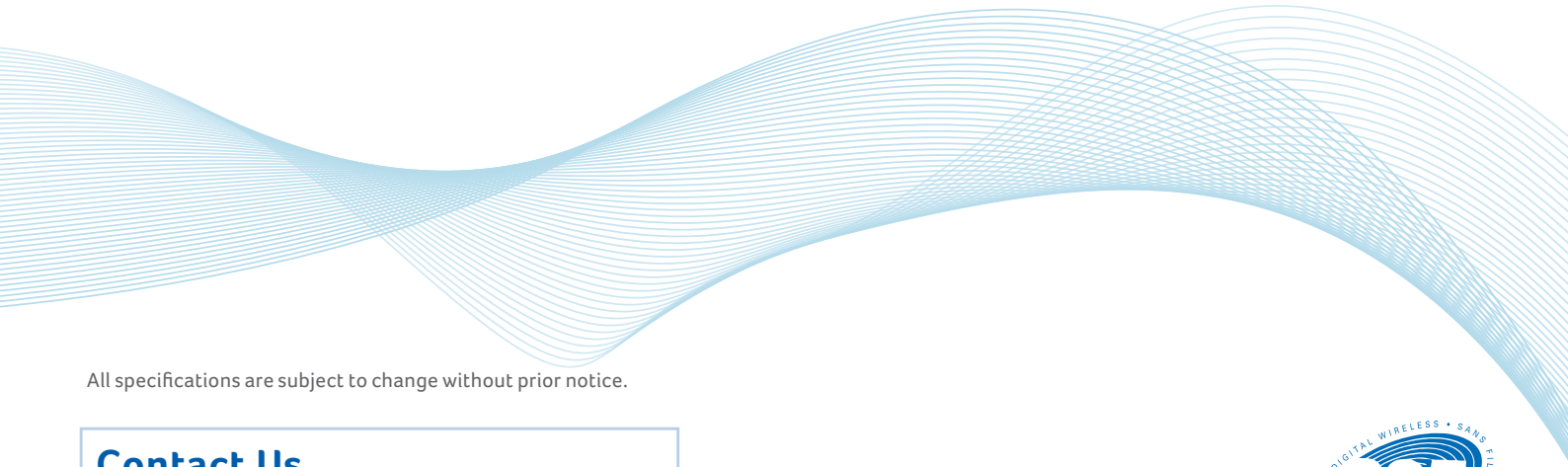
### Receiver Specification

FM sensitivity AS4295	≤0.3 μV PD (-117.5 dBm) for 12 dB SINAD
P25 BER 5%	-120dBm
FM adjacent ch. selectivity	25 kHz Channel Spacing >73 dB 12.5 kHz Channel Spacing >65 dB
Intermodulation rejection	>70dB
Spurious resp rejection	>73dB
Blocking	>95dB
Speaker audio power std.	4 Watts
Speaker audio power opt.	16 Watts
Audio distortion	4 W into 4 Ω at <5% distortion
Audio frequency response	300 Hz to 3000 Hz*, +1 dB to -3 dB (*2550 Hz for 12.5 kHz channel spacing)

### Approvals

AS/NZS 4295 (Australia)	136-174MHz 400-480MHz 440-520MHz
FCC Part 22 and 90	136-174MHz 400-480MHz 440-520MHz

(\*) In light of continuing product improvement, specifications may change.



All specifications are subject to change without prior notice.

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