



EFJohnson's Viking™ Solution portfolio offers products catering to mission critical communication systems. Viking P25 subscribers offer a broad set of capabilities to fully meet the communication needs of our customer networks with interoperability, reliability, and maximum flexibility.

# 53SL ES

7/800 MHz | VHF | UHF

Interoperable P25 public safety mobile radio featuring the AMBE+2 vocoder, which provides loud and clear digital audio.



## ROBUST & FLEXIBLE

- All supported protocols available simultaneously
- DES and DES-OFB encryption with 64 keys
- Compatible with Motorola® System v 7.x and Motorola Astro®
- SMARTNET® II/SmartZone® interoperability
- Conventional vote scan is standard
- Supports MDC-1200 and GE-Star signaling
- Up to 512 talkgroups
- Over-the-Air programming (OTAP) option enables you to program radios in the field
- Easy radio programming & feature updating with EFJohnson's PC Configure™ software
- Simplified cabling with single multi-function accessory connection in the rear

## DATA & CONTROL INTERFACES

- Supports P25 conventional IP packet data
- Supports GPS AVL data

## MULTIPLE CONFIGURATION OPTIONS

- Dash mount
- Remote mount
- Dash mount with remote control head
- Dual remote control heads
- Handheld controller
- Internal or external speaker
- Fixed control stations
- Complete line of accessories including microphones, speakers, and encryption keyloading devices

## OPTIONAL LIGHTNING™ CONTROL HEAD

- Electroluminescent display
- Four display modes
- Viewing angle > 160°



MADE IN U.S.A.

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TECHNOLOGIES

## TYPICAL PERFORMANCE SPECIFICATIONS

# 53SL ES 7/800 MHz | UHF | VHF

GENERAL	700/800, 30/35 W	UHF R1, 40 W	VHF
Frequency Range (band splits)	762-806 MHz 806-870 MHz	380-470 MHz	136-174 MHz
Channel Spacing	Analog: 25 kHz, 12.5 kHz P25 Digital: 12.5 kHz		
Max Frequency Separation	Full Band Split		
Display	Backlit LCD, 10 alpha-numeric characters plus Zone, Channel, and Status. Electronically adjustable viewing angle.		
Power Supply			
<i>Nominal Voltage (negative ground)</i>	13.6 VDC	13.6 VDC	13.6 VDC
<i>Operating Supply Voltage Range</i>	10.9 - 16.3 VDC	10.9 - 16.3 VDC	10.9 - 16.3 VDC
<i>Standby Current (back-light off)</i>	700 mA	400 mA	400 mA
<i>Standby Current (Lighting™ Control Head)</i>	900 mA	700 mA	700 mA
<i>Receive Current at Rated Audio Power</i>	2.65 A	2.65 A	2.65 A
<i>Receive Current at Rated Audio Power (Lightning)</i>	2.85 A	2.85 A	2.85 A
<i>Current at Max Rated Transmit Power</i>	12.5 A	10 A	12.5 A
Temperature Range	Operating: -30°C to +60°C Storage: -40°C to +85°C		
Nominal Dimensions (H x W x D) exclusive of mounting, cables, and knobs	2.1" x 7.2" x 8.3" (5.3 cm x 18.2 cm x 21.1cm)		
Nominal Weight	6.5 lbs (2.3 kg)		
FCC ID	ATH2425372	ATH2425333	ATH2425313
Industry Canada	IC: 933B-2425372	IC: 933B-2425333	IC: 933B-2425313
Vocoder	AMBE+2		

Transmitter	700/800, 30/35 W	UHF R1, 40 W	VHF
RF Output Power (variable)	15-30 W (762-806 MHz)	10 W - 40 W 15-35 W (806-870 MHz)	15 W - 50 W
Transmitter Frequency Range(s)	762-776, 792-806, 806-825, 851-870 MHz	380 MHz - 470 MHz	136 MHz - 174 MHz
Maximum Frequency Separation	Full Band Split		
Frequency Accuracy (-30°C to +80°C, +25°C ref.)	±1.5 ppm		
Modulation Limiting	25 kHz Channels: ±5 kHz 12.5 kHz Channels: ±2.5 kHz		
Modulation Fidelity (C4FM, 12.5 kHz Digital)	<5%		
Spurious Emissions	-75 dBc		
Audio			
<i>Analog Freq. Response (TIA 6 dB/octave pre-emphasis)</i>	+1 dB, -3 dB	+1 dB, -3 dB	+1 dB, -3 dB
<i>FM Hum and Noise Ratio (25 kHz Analog)</i>	40 dB	45 dB	45 dB
<i>FM Hum and Noise Ratio (12.5 kHz Analog)</i>	34 dB	39 dB	39 dB
<i>Distortion</i>	2%	2%	2%
FCC Emission Designators	8K10FID, 8K10F1E, 11K0F3E, 16K0F3E		

Receiver	700/800, 30/35 W	UHF R1, 40 W	VHF
Receiver Frequency Ranges	762-776, 851-870 MHz	380 MHz - 470 MHz	136 MHz - 174 MHz
Maximum Frequency Separation	Full Band Split		
Sensitivity			
<i>Analog Mode: 12 dB SINAD (25 &amp; 12.5 kHz)</i>	.25µV (-119 dBm)		
<i>Digital Mode: (5% BER)</i>	.25µV (-119 dBm)		
Selectivity (Adjacent Channel Rejection)			
<i>25 kHz Channels, Analog</i>	>80 dB	>75 dB	>75 dB
<i>12.5 kHz Channels</i>	>63 dB	>63 dB	>63 dB
<i>Offset, Digital</i>	<9 dB/kHz	<9 dB/kHz	<9 dB/kHz
Intermodulation	-80 dB	-75 dB	-75 dB
Spurious Response Rejection	-83 dB	-75 dB	-75 dB
Audio			
<i>Analog Freq. Response (TIA 6dB/octave pre-emphasis)</i>	+1 dB, -3 dB		
<i>Output Power (3Ω load) 12W rms</i>	12 W rms		
<i>Distortion (1kHz, 60% Deviation)</i>	<3%		

### Environmental Specifications

Environment	Mil Spec	810F
	M	P
Low Pressure	500.5	II
High Temp.	501.5	I, II
Low Temp.	502.5	I, II
Temp. Shock	503.5	I (D)
Solar Radiation	505.5	I (A1)
Rain/Blown Rain	506.5	I, III
Humidity	507.5	NA
Salt Fog	509.5	NA
Dust and Sand	510.5	I, II
Vibration	514.6	I (4), II
Shock	516.6	I, II, V, VI

M=Method, P=Procedure  
Also meets equivalent superseded C, D and E standards.



### Encryption Options

Supported Encryption	AES, DES, DES-OFB
Encryption Key/ Radio	64 Common Key Reference (CKR), 64 Physical Identifier (PID), Compatible w/ Motorola Key Variable Loader
Encryption Frame Re-sync Interval	P25 CAI 360 MSEC
Encryption Keying	External Key Loader, OTAR
Synchronization	CFB-Cipher Feedback OFB-Output Feedback
Vector Generator	National Institute of Standards and Technology (NIST) Approved random number generator
Encryption Type	Digital
Key Erasure	Keyboard Command
Code Key Initialization	Internal Pseudorandom Generator
Standards	FIPS 46-3, FIPS 81, FIPS 140-2, FIPS 197

### Accessories

- Antennas
- Keypad microphones
- Desk microphones
- Hand-held controller
- Remote control heads
- External speakers
- Power supplies
- Control station components
- Tone remotes
- Encryption key management tools
- Radio programming tools
- Mounting hardware
- Siren control kit

All EFJohnson radios are made in the U.S.A.

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