



Photo Courtesy of Cpl Erik Villagran

READY FOR ACTION. BUILT TO LAST.

# SRX 2200 COMBAT RADIO

Choppers roaring. Cargo trucks rumbling. Wind howling. In the heat of action, soldiers depend upon every word being heard and every transmission being understood. They need a rugged, reliable radio with crystal-clear and secure communication that stands up to the harshest environments, loudest noises and longest hours.

They require a military-specific radio as advanced as their mission. Compact, yet power-packed with easy-to-locate controls and a large, top display. The SRX 2200 delivers battle-ready features such as embedded Individual Location Information (ILI), night vision goggle compatibility, tactical inhibit, FIPS validated encryption for secure voice and data communications and radio-to-radio text messaging for superior discretion.

The SRX 2200 Combat Radio delivers it all – in a rugged “grab and go” unit that’s ready for action and built to last, from base to battlefield.

## SPECIAL FEATURES PREVENT ATTACKS

The SRX 2200 Combat Radio is designed specifically for tactical and base personnel, with an array of special features that are battle-tested and military-trusted.

For example, to protect radio communications from the most aggressive adversaries, the SRX 2200 is tamperproof and features FIPS 140-2 Level 3 validation. The 256 bit AES encryption, along with Tactical and P25 Over-The-Air-Rekeying” (OTAR), ensure that personnel have access to updated encryption keys for secure voice and data communications. Even text messaging on the SRX 2200 is AES encrypted for extra security. And you can protect the integrity of your system if any radio is lost or stolen by remotely disabling it with the tactical inhibit feature.

For added discretion and low detection, every SRX 2200 radio includes ultra-low power operation, the ability to disable lights and tones, and dimmable top and front displays that can be used with night vision goggles.

## HEAR LOUD AND CLEAR

Leading a patrol or launching a military response, soldiers need to communicate clearly and the SRX 2200 responds. It’s equipped with the latest Advanced Multi-Band Excitation (AMBE) digital vocoder and dual microphones to locate the talker while it cancels out background noise.

The SRX 2200 is P25 Phase 2 TDMA-capable for twice the voice capacity so you can add more personnel without adding frequencies or infrastructure. Backward- and forward-compatible with all deployed Motorola radio systems and with RF specifications that handle the harshest environments, this radio is outfitted for immediate use.

## TOUGH AS THE TERRAIN

Rugged as the mission, the SRX 2200 uses a COTS-based, proven digital platform, so soldiers can “grab-and-go” with no additional training required. A large control top with well-spaced knobs and easy-read top display are comfortable to use, even with gloves on.

Blowing sand, dust, and water submersion, this durable, coyote-colored radio meets the most rigorous military specs. Plus, a multi-unit charger allows you to charge your SRX 2200 radios at higher temperatures, critical in desert climates.

- Channel Capacity:
  - Model 1.5 - 800
  - Model 3.5 - 3,000
- Enlarged Push-to-Talk
- T-Grip for reliable handling
- Dual Battery Latch
- Emergency button
- 16 position rotary switch
- 2 position concentric switch
- 3 position toggle switch
- 3 programmable side buttons
- Transmit LED indicator
- Backlit Keypad:
  - Home and Data buttons
  - 3 soft keys
  - 4 direction navigation key
  - 4” x 3” keypad
- Full Bitmap Display:
  - 2 lines of icons
  - 4 lines x 14 characters of text
  - Status icons

## PRODUCT SPEC SHEET

### SRX 2200 COMBAT RADIO



#### FEATURES AND BENEFITS:

Available in 800MHz, VHF, and UHF1 frequency bands

Trunking standards supported:

- Clear or digital encrypted ASTRO®25 Trunked Operation
- Capable of SmartZone®, SmartZone Omnilink, SmartNet®

Analog MDC-1200 and Digital APCO P25 Conventional System Configurations

Narrow and wide bandwidth digital receiver (6.25 kHz equivalent / 12.5 kHz / 20 kHz / 25 kHz)

Embedded digital signaling (ASTRO & ASTRO 25)

Available in 2 models

Integrated Individual Location Information (ILI) capable

Intelligent Lighting

Radio Profiles

Unified Call List (Model 3.5 only)

User programmable voice announcement

Meets Applicable MIL-STD-810C, D, E, F and G

Rugged submersible housing - standard (2 meters, 2 hours)\*

Tactical Coyote Brown housing

Custom recess label areas

Superior Audio Features:

- 0.5 W high audio speaker
- Dual microphones
- 2-mic noise canceling technology

Utilizes Windows XP, Vista and Windows 7 Customer Programming

Software (CPS)

- Supports USB communications
- Built in FLASHport™ support

Full portfolio of accessories including IMPRES batteries, chargers and audio devices

Military Data Package includes:

- Programming Over Project P25
- Radio Packet Data (IV&D)
- Individual Location Information (ILI) Activation and Functionality
- Text Messaging
- Tactical Inhibit

#### OPTIONAL FEATURES:

Enhanced Encryption capability

Over the Air Rekeying (OTAR)

Mission Critical Wireless\*\*\*

Night Vision Goggle Profile

Text Messaging

\* Radios meet industry standards (IPx7) for immersion.

\*\*0.25W transmit in UHF1 is for tactical use only.

\*\*\* Compatible with BT 2.0 and HSP and PAN BT Profiles

#### TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

|                                                                  |                    | 700/800                                      | VHF                        | UHF Range 1                |
|------------------------------------------------------------------|--------------------|----------------------------------------------|----------------------------|----------------------------|
| Frequency Range/<br>Bandplits                                    | 700 MHz<br>800 MHz | 763-776, 793-806 MHz<br>806-824, 851-870 MHz | 136-174 MHz                | 380-470 MHz                |
| Channel Spacing                                                  |                    | 25/12.5 kHz                                  | 25/20/12.5 kHz             | 25/20/12.5 kHz             |
| Maximum Frequency Separation                                     |                    | Full Bandsplit                               | Full Bandsplit             | Full Bandsplit             |
| Rated RF Output<br>Power Adj <sup>1</sup>                        | 700 MHz<br>800 MHz | 0.25 to 2.5W<br>0.25 to 3W                   | 1-6 Watts Max              | 0.25W**, 1-5 Watts Max     |
| Frequency Stability <sup>1</sup><br>(-30°C to +60°C; +25°C Ref.) |                    | ±0.00010 %                                   | ±0.00010 %                 | ±0.00010 %                 |
| Modulation Limiting <sup>1</sup>                                 |                    | ±5 kHz / ±4 kHz / ±2.5 kHz                   | ±5 kHz / ±4 kHz / ±2.5 kHz | ±5 kHz / ±4 kHz / ±2.5 kHz |
| Emissions (Conducted and Radiated) <sup>1</sup>                  |                    | -75 dB                                       | -75 dBc                    | -75 dBc                    |
| Audio Response <sup>1</sup>                                      |                    | +1, -3 dB                                    | +1, -3 dB                  | +1, -3 dB                  |
| FM Hum & Noise                                                   | 25 kHz<br>12.5 kHz | -48 dB/-47 dB<br>-46 dB/-45 dB               | -47 dB<br>-45 dB           | -48 dB<br>-45 dB           |
| Audio Distortion <sup>1</sup>                                    | 700 MHz<br>800 MHz | 0.60 %<br>1 %                                | 0.50 %                     | 0.60 %                     |

#### SRX 2200 ACCESSORIES

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| NNTN8182A | Lilon 2900 MAh battery (coyote brown), Rugged                        |
| NNTN8269A | SRX 2200 carrying pouch (coyote brown)                               |
| NNTN8235  | Remote Speaker Microphone (coyote brown), IP57                       |
| NNTN8236  | Remote Speaker Microphone with 3.5mm audio jack (coyote brown), IP54 |

This list represents accessories specifically designed for the SRX 2200.

The SRX 2200 is compatible with additional APX accessories. Please see your Motorola sales representative for a complete list of those accessories.

#### BATTERIES FOR SRX 2200

| Battery Capacity / Type                       | Dimensions (HxWxD)    | Weight   | Battery Part Number | Battery Capacity |
|-----------------------------------------------|-----------------------|----------|---------------------|------------------|
| Li-Ion 2900 mAh Rugged***                     | 3.07" x 2.34" x 1.65" | 6.53 oz  | NNTN8182            | 2900 mAh         |
| Li-Ion IMPRES 2900 mAh IP67                   | 3.07" x 2.34" x 1.65" | 6.53 oz  | NNTN7038            | 2900 mAh         |
| Li-Ion IMPRES 4200 mAh IP67                   | 5.07" x 2.34" x 1.65" | 11.29 oz | NNTN7034            | 4200 mAh         |
| Li-Ion IMPRES 4100 mAh FM <sup>2</sup> IP67   | 5.07" x 2.34" x 1.65" | 11.29 oz | NNTN7033            | 4100 mAh         |
| NiMH IMPRES 2100 mAh IP67                     | 5.12" x 2.34" x 1.57" | 11.82 oz | NNTN7037            | 2100 mAh         |
| NiMH IMPRES 2000 mAh FM <sup>2</sup> Rugged   | 5.12" x 2.34" x 1.57" | 11.82 oz | NNTN7035            | 2000 mAh         |
| Li-Ion IMPRES 2300 mAh FM <sup>2</sup> Rugged | 3.39" x 2.34" x 1.65" | 6.53 oz  | NNTN8092            | 2300 mAh         |

\*\*\*Standard shipping battery



| RADIO MODELS                     |                                                                                                                                                                                                                               |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | MODEL 1.5                                                                                                                                                                                                                     |
| Display                          | Full bitmap monochromatic LCD top display<br>1 line text x 8 characters<br>1 line of icons<br>No menu support<br>Multi-color backlight                                                                                        |
| Keypad                           | none                                                                                                                                                                                                                          |
| Channel Capacity                 | 3000                                                                                                                                                                                                                          |
| FLASHport Memory                 | 64 MB                                                                                                                                                                                                                         |
| 700/800 MHz (763-870 MHz)        | H99UCD9PW5AN Q360LE                                                                                                                                                                                                           |
| VHF (136-174 MHz)                | H99KGD9PW5AN Q360NK                                                                                                                                                                                                           |
| UHF Range 1 (380-470 MHz)        | H99QDD9PW5AN Q360NL                                                                                                                                                                                                           |
| Buttons & Switches               | Large PTT button • Angled On/Off volume control • Emergency button • 16 position top-mounted rotary switch<br>• 2-position concentric switch • Multi-color backlight • 3-position toggle switch • 3 programmable side buttons |
| <b>Transmitter Certification</b> |                                                                                                                                                                                                                               |
| 700/800 (764-869 MHz)            | AZ489FT5863*                                                                                                                                                                                                                  |
| VHF (136-174 MHz)                | AZ489FT3829*                                                                                                                                                                                                                  |
| UHF Range 1 (380-470 MHz)        | AZ489FT4892*                                                                                                                                                                                                                  |
| <b>FCC Emissions Designators</b> |                                                                                                                                                                                                                               |
| FCC Emissions Designators        | 11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E                                                                                                                                                                          |
| <b>Power Supply</b>              |                                                                                                                                                                                                                               |
| Power Supply                     | One rechargeable 2900 mAh Li-Ion Battery Standard (NNTN8182), with alternate battery options available.                                                                                                                       |

\* Full featured model with Bluetooth® capability

| RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS                    |                                    |                                 |                      |                      |
|------------------------------------------------------------------|------------------------------------|---------------------------------|----------------------|----------------------|
|                                                                  |                                    | 700/800                         | VHF                  | UHF Range 1          |
| Frequency Range/<br>Bandplits                                    | 700 MHz<br>800 MHz                 | 763-776 MHz<br>851-870 MHz      | 136-174 MHz          | 380-470 MHz          |
| Channel Spacing                                                  |                                    | 25/20/12.5 kHz                  | 25/20/12.5 kHz       | 25/20/12.5 kHz       |
| Maximum Frequency Separation                                     |                                    | Full Bandsplit                  | Full Bandsplit       | Full Bandsplit       |
| Audio Output Power at Rated <sup>1</sup>                         |                                    | 500mW                           | 500mW                | 500mW                |
| Frequency Stability <sup>1</sup><br>(-30°C to +60°C; +25°C Ref.) |                                    | ±0.00010 %                      | ±0.00010 %           | ±0.00010 %           |
| Analog Sensitivity <sup>3</sup>                                  | 12 dB SINAD                        | 0.250 µV                        | 0.216 µV             | 0.216 µV             |
| Digital Sensitivity <sup>4</sup>                                 | 1% BER (800 MHz)<br>5% BER         | 0.347 µV (0.333 µV)<br>0.251 µV | 0.277 µV<br>0.188 µV | 0.305 µV<br>0.18 µV  |
| Selectivity <sup>1</sup>                                         | 25 kHz channel<br>12.5 kHz channel | 75.7 dB<br>67.5 dB              | 79.3 dB<br>70 dB     | 78.1 dB*<br>67.0 dB  |
| Intermodulation                                                  |                                    | 80 dB                           | 80.5 dB              | 81.2 dB              |
| Spurious Rejection                                               |                                    | 76.6 dB                         | 93.2 dB              | 80.6 dB              |
| FM Hum and Noise                                                 | 25 kHz<br>12.5 kHz                 | -54 dB<br>-48 dB                | -53.8 dB<br>-48 dB   | -55.2 dB<br>-47.4 dB |
| Audio Distortion <sup>1</sup>                                    |                                    | 0.9 %                           | 1.20 %               | 0.87 %               |

\*Measured per single-tone procedure

| DIMENSIONS OF<br>THE RADIOS WITHOUT BATTERY |                               |             |
|---------------------------------------------|-------------------------------|-------------|
|                                             | Inches                        | Millimeters |
| Length                                      | 5.47                          | 139         |
| Width Push-To-Talk<br>button                | 2.39                          | 60.7        |
| Depth Push-To-Talk<br>button                | 1.40                          | 35.6        |
| Width Top                                   | 2.98                          | 75.7        |
| Depth Top                                   | 1.58                          | 40.1        |
| Depth Bottom of<br>Battery                  | 1.24                          | 31.5        |
| Weight of the radios<br>without battery     | 10.9 oz                       | 309 g       |
| GPS SPECIFICATIONS                          |                               |             |
| Channels                                    | 12                            |             |
| Tracking Sensitivity                        | -159 dBm                      |             |
| Accuracy <sup>5</sup>                       | <10 meters (95%)              |             |
| Cold Start                                  | <60 seconds (95%)             |             |
| Hot Start                                   | <10 seconds (95%)             |             |
| Mode of Operation                           | Autonomous (Non-Assisted) GPS |             |

**PRODUCT SPEC SHEET**  
SRX 2200 COMBAT RADIO

| PORTABLE MILITARY STANDARDS 810 C, D, E, F & G |              |                 |              |             |              |             |              |                     |              |               |
|------------------------------------------------|--------------|-----------------|--------------|-------------|--------------|-------------|--------------|---------------------|--------------|---------------|
|                                                | MIL-STD 810C |                 | MIL-STD 810D |             | MIL-STD 810E |             | MIL-STD 810F |                     | MIL-STD 810G |               |
| Low Pressure                                   | 500.1        | I               | 500.2        | II          | 500.3        | II          | 500.4        | II                  | 500.5        | II            |
| High Temperature                               | 501.1        | I, II           | 501.2        | I/A1, II/A1 | 501.3        | I/A1, II/A1 | 501.4        | I/Hot, II/Basic Hot | 501.5        | I/A1, II/A2   |
| Low Temperature                                | 502.1        | I               | 502.2        | I/C3, II/C1 | 502.3        | I/C3, II/C1 | 502.4        | I/C3, II/C1         | 502.5        | I/C3, II/C1   |
| Temperature Shock                              | 503.1        | I               | 503.2        | I/A1C3      | 503.3        | I/A1C3      | 503.4        | I                   | 503.5        | I/C           |
| Solar Radiation                                | 505.1        | II              | 505.2        | I           | 505.3        | I           | 505.4        | I                   | 505.5        | I/A1          |
| Rain                                           | 506.1        | I, II           | 506.2        | I, II       | 506.3        | I, II       | 506.4        | I, III              | 506.5        | I, III        |
| Humidity                                       | 507.1        | II              | 507.2        | II          | 507.3        | II          | 507.4        | 1 Proc              | 507.5        | II/Aggravated |
| Salt Fog                                       | 509.1        | I               | 509.2        | I           | 509.3        | I           | 509.4        | 1 Proc              | 509.5        | 1 Proc        |
| Blowing Dust                                   | 510.1        | I               | 510.2        | I           | 510.3        | I           | 510.4        | I                   | 510.5        | I             |
| Blowing Sand                                   | 1 Proc       | 1 Proc          | 510.2        | II          | 510.3        | II          | 510.4        | II                  | 510.5        | II            |
| Immersion                                      | 512.1        | I               | 512.2        | I           | 512.3        | I           | 512.4        | I                   | 512.5        | I             |
| Vibration                                      | 514.2        | VIII/F, Curve-W | 514.3        | I/10, II/3  | 514.4        | I/10, II/3  | 514.5        | I/24                | 514.6        | I/24          |
| Shock                                          | 516.2        | I, III, V       | 516.3        | I, V, VI    | 516.4        | I, V, VI    | 516.5        | I, V, VI            | 516.6        | I, V, VI      |
| Shock (Drop)                                   | 516.2        | II              | 516.2        | IV          | 516.4        | IV          | 516.5        | IV                  | 516.6        | IV            |

| MULTI-UNIT CHARGER SPECIFICATIONS |                                                                                                      |
|-----------------------------------|------------------------------------------------------------------------------------------------------|
| Model Number                      | NNTN8185                                                                                             |
| Input Voltage                     | 90-265 VAC                                                                                           |
| Charging Current (maximum)        | 1.5 A (Max charge rate for NNTN8182 battery is 1.0A)                                                 |
| Warranty                          | 1 Year                                                                                               |
| Operating Temperature             | 5 to 40 C (41° to 104°F) – NNTN8182 battery can initiate a charge at a 5C higher ambient temperature |
| Charging Method                   | CCDT / Negative Pulse (NiCd / NiMH) and CCCV (Li-ion)                                                |

| ENCRYPTION                        |                                                                                                                        |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Supported Encryption Algorithms   | ADP, AES, DES, DES-XL, DES-OFB, DVP-XL                                                                                 |
| Encryption Algorithm Capacity     | 8                                                                                                                      |
| Encryption Keys per Radio         | Module capable of storing 1024 keys.<br>Programmable for 64 Common Key Reference (CKR) or 16 Physical Identifier (PID) |
| Encryption Frame Re-sync Interval | P25 CAI 300 mSec                                                                                                       |
| Encryption Keying                 | Key Loader                                                                                                             |
| Synchronization                   | XL – Counter Addressing<br>OFB – Output Feedback                                                                       |
| Vector Generator                  | National Institute of Standards and Technology (NIST) approved random number generator                                 |
| Encryption Type                   | Digital                                                                                                                |
| Key Storage                       | Tamper protected volatile or non-volatile memory                                                                       |
| Key Erasure                       | Keyboard command and tamper detection                                                                                  |
| Standards                         | FIPS 140-2 Level 3<br>FIPS 197                                                                                         |

| RUGGED OPTION SPECIFICATIONS |                                                       |
|------------------------------|-------------------------------------------------------|
| Leakage (immersion)          | MIL-STD-810 C,D,E,F and G<br>Method 512.X Procedure I |
| Housing Availability         | Tactical Coyote (Standard)                            |

| ENVIRONMENTAL SPECIFICATIONS       |                 |
|------------------------------------|-----------------|
| Operating Temperature <sup>6</sup> | -30°C / +60°C   |
| Storage Temperature <sup>6</sup>   | -40°C / +85°C   |
| Humidity                           | Per MIL-STD     |
| ESD                                | IEC 801-2 KV    |
| Water and Dust Intrusion           | IP67, MIL-STD   |
| Immersion                          | MIL-STD 512.X/I |

<sup>1</sup> Measured in the analog mode per TIA / EIA 603 single-tone method under nominal conditions

<sup>2</sup> When used with an FM approved intrinsically safe radio

<sup>3</sup> Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.

<sup>4</sup> Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.

<sup>5</sup> Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal -130 dBm signal strength).

<sup>6</sup> Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance.

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

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