



# MOTOROLA CLS SERIES TWO-WAY RADIOS

In today's competitive business environment, easy, quick and affordable communication is very important. The CLS Series is designed to enable quick, one-touch communications leading to increased productivity and great customer service.

## **SIMPLIFY DAILY TASKS**

CLS Series radios are remarkably intuitive to use. At the touch of a button, you can communicate with individual employees or a group of employees. With little to no training required, it is ideal for high employee turnover industries. It will help you eliminate wasted time and inefficient processes.

## **REDUCE COSTS**

Utilize resources more efficiently and productively, and get the most out of your employees. Plus, there are no monthly fees or service contracts to worry about. Employees can communicate as often as necessary without worries about airtime.

## **OFFER BEST IN CLASS CUSTOMER SERVICE**

Customer needs will be better and more quickly served by enabling instant communication between employees. Increase customer as well as employee satisfaction.

## **PERFECT FOR YOUR BUSINESS, WHETHER IT BE A RETAIL, GROCERY, RESTAURANT OR HOTEL**

Raise the level of customer service by enabling communications instantly. All activities, from welcoming customers to addressing their requests, are enhanced with CLS Series radios.

In retail or grocery stores, cashiers can perform price checks at a moment's notice. Employees can instantly check stock when customers ask. In restaurants, CLS radios allow hosts, managers, kitchen and wait staff to instantly connect, minimizing wait times, getting food out quicker and controlling the pace of large parties. In hotels, coordinate restaurant and hotel staff, event planners, security, cleaning and maintenance personnel through efficient communication with minimal guest interference. The CLS Series radios make everything from arrival to departure seamless.

**PRODUCT SPEC SHEET**  
CLS SERIES

|                                             |                              | CLS1110                                  | CLS1410                                  | CLS1413 <sup>1</sup>                     |
|---------------------------------------------|------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| <b>GENERAL SPECIFICATIONS</b>               |                              |                                          |                                          |                                          |
| Frequency Range                             |                              | UHF 459.5 - 469.5                        | UHF 459.5 - 469.5                        | UHF 459.5 - 469.5                        |
| Channel Capacity                            |                              | 1                                        | 4                                        | 4                                        |
| Channel Bandwidth                           |                              | 12.5 kHz                                 | 12.5 kHz                                 | 12.5 kHz                                 |
| PL Codes                                    |                              | 38                                       | 38                                       | 38                                       |
| DPL Codes                                   |                              | 83                                       | 83                                       | 83                                       |
| Range Coverage                              |                              | 200,000 sq ft <sup>2</sup> / 18,580 sq m | 200,000 sq ft <sup>2</sup> / 18,580 sq m | 200,000 sq ft <sup>2</sup> / 18,580 sq m |
| Average Battery Life @ 5/5/90               |                              | 14 hours                                 | 14 hours                                 | 14 hours                                 |
| Radio Dimensions (H x W x D):               |                              | 4.1"x2.0"x1.1" inches                    | 4.1"x2.0"x1.1" inches                    | 4.1"x2.0"x1.1" inches                    |
| Weight                                      |                              | Less than 5 oz.                          | Less than 5 oz.                          | Less than 5 oz.                          |
| <b>TRANSMITTER</b>                          |                              |                                          |                                          |                                          |
| RF Output                                   | Conducted into 50 Ohms       | 1.0 Watts                                | 1.0 Watts                                | 1.0 Watts                                |
| Frequency Stability                         |                              | < 2.0 ppm                                | < 2.0 ppm                                | < 2.0 ppm                                |
| Spurs & Harmonics                           |                              | < -45 dBc                                | < -45 dBc                                | < -45 dBc                                |
| FM Hum & Noise                              | @ 12.5kHz without Companding | -40 dB                                   | -40 dB                                   | -40 dB                                   |
|                                             | @ 25.0kHz                    | N/A                                      | N/A                                      | N/A                                      |
| Modulation Limiting                         | @ 12.5kHz                    | ± 2.5kHz                                 | ± 2.5kHz                                 | ± 2.5kHz                                 |
|                                             | @ 25.0kHz                    | N/A                                      | N/A                                      | N/A                                      |
| Adjacent Channel Power                      |                              | 60dBc                                    | 60dBc                                    | 60dBc                                    |
| Radiated Spurious Emissions                 | @ 12.5kHz                    | < -20dbm                                 | < -20dbm                                 | < -20dbm                                 |
|                                             | @ 25.0kHz                    | N/A                                      | N/A                                      | N/A                                      |
| Audio Frequency Response (0.3 - 3.0 kHz)    |                              | +1 to -3 dB                              | +1 to -3 dB                              | +1 to -3 dB                              |
| Audio Distortion                            |                              | < 2%                                     | < 2%                                     | < 2%                                     |
| <b>RECEIVER</b>                             |                              |                                          |                                          |                                          |
| Sensitivity (12 dB SINAD)                   |                              | -122 dBm (0.18 uV)                       | -122 dBm (0.18 uV)                       | -122 dBm (0.18 uV)                       |
| Adjacent Channel Selectivity                | @ 12.5kHz                    | 65 dB                                    | 65 dB                                    | 65 dB                                    |
|                                             | @ 25.0kHz                    | N/A                                      | N/A                                      | N/A                                      |
| Intermodulation rejection                   |                              | 60dB                                     | 60dB                                     | 60dB                                     |
| Spurious response Rejection (blocking 1Mhz) |                              | 85 db                                    | 85 db                                    | 85 db                                    |
| Audio Distortion                            |                              | < 5%                                     | < 5%                                     | < 5%                                     |
| CSQ Hum & Noise @ 12.5kHz                   |                              | -50dB                                    | -50dB                                    | -50dB                                    |
| PL Hum & Noise @ 12.5kHz                    |                              | N/A                                      | N/A                                      | N/A                                      |
| DPL Hum & Noise @ 12.5kHz                   |                              | - 45dB                                   | - 45dB                                   | - 45dB                                   |
| Radiated Spurious Emissions (< 1GHz)        |                              | < -54 dBm                                | < -54 dBm                                | < -54 dBm                                |
| Radiated Spurious Emissions (> 1GHz)        |                              | < -52 dBm                                | < -52 dBm                                | < -52 dBm                                |
| Audio Output @ <5% Distortion               |                              | 0.5W @ 8 ohms                            | 0.5W @ 8 ohms                            | 0.5W @ 8 ohms                            |

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| MILITARY STANDARDS      |        |            |        |            |        |            |        |            |        |            |
|-------------------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|------------|
|                         | 810-C  |            | 810-D  |            | 810-E  |            | 810-F  |            | 810-G  |            |
|                         | METHOD | PROCEDURES | METHOD | PROCEDURES | METHOD | PROCEDURES | METHOD | PROCEDURES | METHOD | PROCEDURES |
| Low Pressure            | 500.1  | I          | 500.2  | I, II      | 500.3  | I, II      | 500.4  | I, II      | 500.5  | I, II      |
| High Temperature        | 501.1  | I, II      | 501.2  | I, II      | 501.3  | I, II      | 501.4  | I, II      | 501.5  | I, II      |
| Low Temperature         | 502.1  | I          | 502.2  | I, II      | 502.3  | I, II      | 502.4  | I, II      | 502.5  | I, II      |
| Temperature Shock       | 503.1  | I          | 503.2  | I          | 503.3  | I          | 503.4  | I, II      | 503.5  | I          |
| Contamination by Fluids |        |            |        |            |        |            |        |            | 504.1  | II         |
| Solar Radiation         | 505.1  | I          | 505.2  | I          | 505.3  | I          | 505.4  | I          | 505.5  | I          |
| Rain                    | 506.1  | I, II      | 506.2  | I, II      | 506.3  | I, II      | 506.4  | III        | 506.5  | III        |
| Humidity                | 507.1  | I, II      | 507.2  | II, III    | 507.3  | II, III    | 507.4  |            | 507.5  | II         |
| Dust                    | 510.1  | I          | 510.2  | I          | 510.3  | I          | 510.4  | I, III     | 510.5  | I          |
| Vibration               | 514.2  | VIII, X    | 514.3  | I          | 514.4  | I          | 514.5  | I          | 514.6  | I          |
| Shock                   | 516.2  | I, II, V   | 516.3  | I, IV      | 516.4  | I, IV      | 516.5  | I, IV      | 516.6  | I, IV      |

CLS radios meet test methods from Military Standards 810 C, D, E, F, and G for 11 items including shock, vibration, extreme temperatures and dust. CLS radios also satisfy environmental and energy efficiency certifications (CE/CEC, ROHs and WEEE).

| ENVIRONMENTAL SPECIFICATIONS                                                                                     |                                      |
|------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Operating Temperature                                                                                            | -30°C to +60°C (Radio)               |
| Storage Temperature                                                                                              | -40°C to +85°C (Radio)               |
| Shock & Vibration                                                                                                | Per MIL STDs 5 foot drop to concrete |
| Dust & Humidity                                                                                                  | Per MIL STDs IP5X IPX2               |
| Enclosure Rating                                                                                                 | Designed to meet NEMA3 types 1, 2, 5 |
| FCC (Federal Communications Committee) Designation: AZ489FT4860. IC (Industry Canada) Designation: 109U-89FT4860 |                                      |

<sup>1</sup> Available in Canada Only

<sup>2</sup> Range will vary based on terrain and conditions.

<sup>3</sup> National Electrical Manufacturers Association

CLS radios' tough polycarbonate housings contain built-in anti-microbial properties that inhibit the growth of bacteria and mold on the radio surfaces (does not include accessories).

CLS chargers and power supplies are ROHS and CEC (California Energy Comission) Power Level V energy efficient compliant.

Specifications subject to change without notice. All specifications shown are typical.



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