**MC SERIES**
**Deskset Controllers**

**MOTOROLA**
*intelligence everywhere*™

*Pictured from left to right are the MC2000™
Advanced Model, the MC2500™ Multi-channel
Model, and the MC1000™ Basic Model.*

## PRODUCT OVERVIEW

The MC Series Desktop Controllers allow remote access to the functions of a compatible station (base station, repeater, or control station). All MC Series Desktop Controllers provide tone, DC and E&M signalling for keying and control of stations

## STANDARD FEATURES

▶ Multiple models for various applications
  • Extended Local Control for controlling an on-site radio up to 1000 feet away
  • Tone or DC Remote Control for controlling a station with 600 ohm telephone lines

▶ Multiple control points allow up to 10 units to operate in parallel

▶ Internal microphone, intercom, and speaker for convenient operation

▶ Push-to-talk (PTT) handset for private communications

▶ Monitor switch for monitoring channel activity before transmitting

## MC1000 BASIC MODEL (NON-SIGNALING) FEATURES

### FOR LOCAL CONTROL MODELS

- ► Single Frequency and Single Station Control
- ► Push-to-Talk Handset
- ► Speaker
- ► Speaker on/off (receive audio is heard through handset and speaker simultaneously)
- ► Volume Control
- ► Full Duplex Capability
- ► Internal Mic (for use without handset)
- ► Transmit Button with LED
- ► Monitor Button with LED

- ► Front panel programming (easy setup – no RSS required)
- ► Intercom between MC1000 units and stations
- ► Operator cross mute
- ► 10 units can operate in parallel
- ► Parallel Operator Busy Indication
- ► 120 Vac - 60 Hz Power Supply
- ► Can be wall mounted

### FOR TONE AND DC CONTROL MODELS ONLY IN ADDITION TO LOCAL FEATURES

- ► 4 Frequency Single Station Control
- ► 2 or 4-Wire Audio
- ► Takeover/Line Select allows a supervisory unit to override other parallel units or allows connection of two base stations for back-up control (Main/Alt operation)

## MC2000 ADVANCED MODEL (SIGNALING) FEATURES

- ► **All MC1000 Basic Model features plus:**
- ► 110/220 Vac 50/60 Hz Power Supply
- ► Parallel Status (Tone model only)..................................Each deskset operator knows the selected frequency and status of the station
- ► Programmable Voice Delay...........................................User can speak immediately after pressing PTT or Transmit bar without message truncation
- ► Desk Mic Compatible.....................................................Allows another choice of audio accessory
- ► MDC1200 Signaling and Paging....................................Operator can selectively signal pagers, portables, or mobile radios
Supports the following:  (E/D; E = Encode, D = Decode)

- • PTT Unit ID (E/D) ........................................................Displays unit ID of caller (250 aliases)
- • Voice Alert.................................................................Allows dispatcher to alert specific user prior to critical voice transmission
- • Call Alert/Short Call Alert (E/D) ...............................Informs the user to call-in by sending a "page" to their portable or mobile
- • Status/Message (D) ...................................................Displays received status and message codes
- • Radio Enable/Disable (E)...........................................Allows operator to remotely enable and disable a lost or stolen portable
- • Radio Check (E)..........................................................Console operator can determine if a radio is on the air and within range without disturbing the radio user
- • Emergency Alarm (D)..................................................Flashing display, audible tone, and an output for external alarms can alert the console operator of emergency situations
- • Recent User Stack......................................................Allows last nine records to be stored for review at a later time
- • RS232 Printer Port......................................................Allows RSS programming via computer or the logging of MDC1200 inbound/outbound message activity for permanent record keeping on a serial printer
- • Alert Tone ..................................................................3 alert tones are supported

## MC2000 ADVANCED MODEL (SIGNALING) FEATURES (cont'd)

- ► Paging Encoder ............................................................Integrated paging encoder supporting 2 Tone, Quik-Call I & II, DTMF, 5 Tone, 6 Tone, GE99, NEC5, NEC6, Reach 1+1, Pulse and custom 2-tone with aliasing
- ► 18 Programmable Buttons .............................................Allows for deskset flexibility.  Button usage may include single button paging, fast access to paging or MDC1200 signalling, alert tones, frequency selection, speaker mute, relay control and wildcards
- ► Frequency Control .......................................................16 Frequency Control (Tone) and 4 Frequency Control (DC) with alias names
- ► DTMF Decode...............................................................Allow ANI (Automatic Number Identification) or selective call mode of operation
- ► Securenet Compatible...................................................Allows control of coded/clear modes of operation on Motorola secure equipped stations
- ► RSS Programming Available .........................................Allows the console to be customized to fit customer requirements
- ► External connectors.....................................................For power, RSS/printing, base station connections, and desk mic
- ► 2 line x 20 character backlit display..............................Displays important, easy to read information to the operator such as channel status, alias names, emergency ID's, status/message information and VU meter

## MC2500 MULTI-CHANNEL MODEL FEATURES

- ► **All MC2000 Advanced Model features plus:**
- ► 4 channel control .........................................................Controls up to 4 radios or base stations. Includes ability for DC control on 1 channel
- ► Individual channel select and instant transmit ..............Individual status indicators and control
- ► Unselect speaker connector .........................................Allows connection of unselect speaker to separate audio for ease of operation
- ► Individual volume control..............................................Each channel has individual volume control
- ► All mute.......................................................................Mutes audio on the unselected channels
- ► Dedicated logging recorder output...............................Fixed 600 Ohm output (no keying tones) with all audio summed for recording
- ► Radio Patch .................................................................Patch any two channels
- ► Multi-Select .................................................................All four channels can be selected for simultaneous transmit

## ACCESSORIES

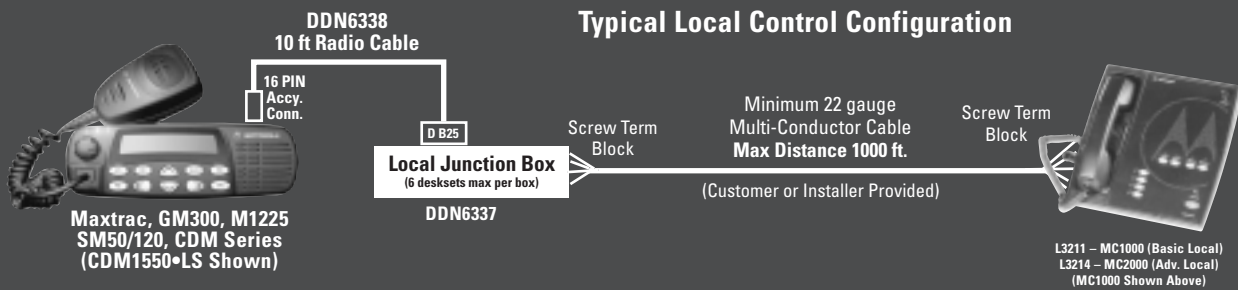### FOR EXTENDED LOCAL CONTROL

- ► Junction Box connects up to six local desksets to the station. When 7-10 desksets are operating in parallel, two junction boxes are required.

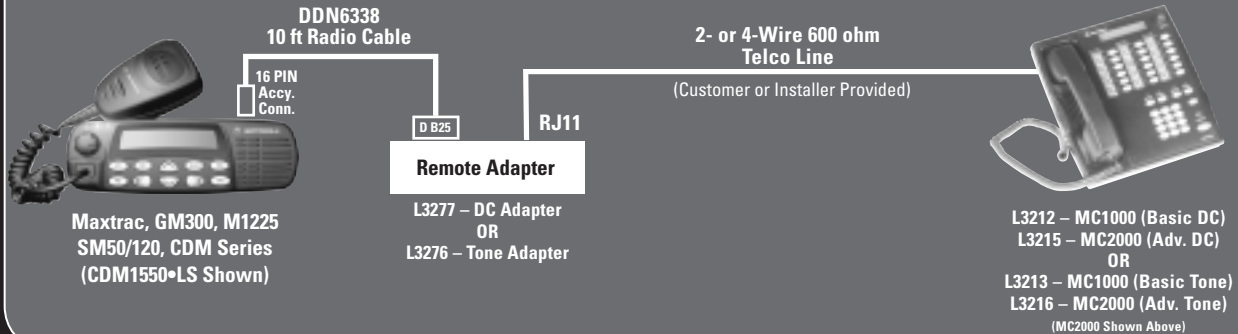## TONE AND DC REMOTE CONTROL ADAPTERS

Tone and DC Remote Adapters allow local control base stations to be controlled remotely via a Tone or DC Remote Deskset. Each adapter will accept up to 10 desksets.

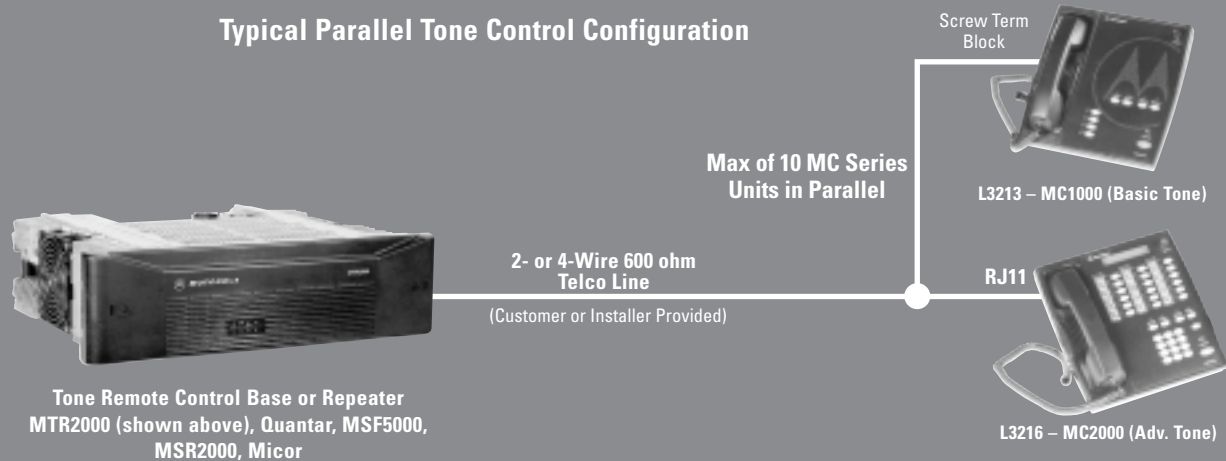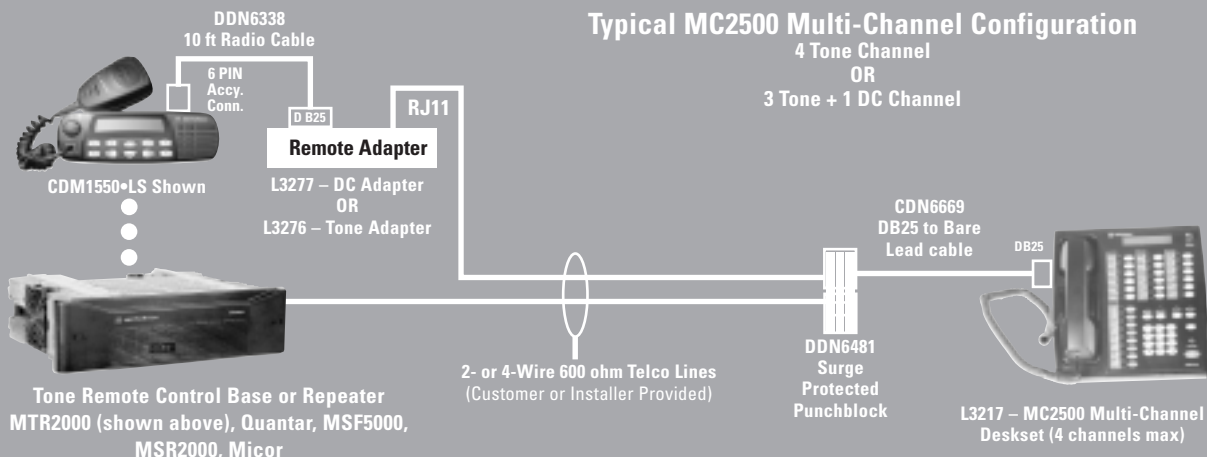| STANDARD FEATURES | |
| --- | --- |
| Tone (L3276) | DC (L3277) |
| LED Indicators for Power, Line PTT, Monitor, Squelch Detect, Accessory Port and Desk Mic | LED Indicators for Power, Line PTT, Monitor, Squelch Detect, Accessory Port F1, F2, F3 and F4 |
| Local Desk Mic Port | N/A |
| 16 Function Tone Decode | 5 DC Current Detects |
| 2 or 4-wire Audio | |
| Accessory Port used for local deskset or data applications | |
| Accessible audio level adjustments | |
| Rackmountable | |

## Typical Local Control Configuration

**DDN6338**
**10 ft Radio Cable**

**16 PIN Accy. Conn.**

**D B25**

**Local Junction Box**
(6 desksets max per box)

**DDN6337**

Screw Term Block

Minimum 22 gauge
Multi-Conductor Cable
**Max Distance 1000 ft.**

(Customer or Installer Provided)

Screw Term Block

**Maxtrac, GM300, M1225
SM50/120, CDM Series
(CDM1550•LS Shown)**

L3211 – MC1000 (Basic Local)
L3214 – MC2000 (Adv. Local)
(MC1000 Shown Above)

## Typical Mobile in a Tray
## Tone or DC Remote Control Configuration

**DDN6338**
**10 ft Radio Cable**

**16 PIN Accy. Conn.**

**D B25**

**RJ11**

**2- or 4-Wire 600 ohm
Telco Line**

(Customer or Installer Provided)

**Remote Adapter**

**L3277 – DC Adapter
OR
L3276 – Tone Adapter**

**Maxtrac, GM300, M1225
SM50/120, CDM Series
(CDM1550•LS Shown)**

**L3212 – MC1000 (Basic DC)
L3215 – MC2000 (Adv. DC)
OR
L3213 – MC1000 (Basic Tone)
L3216 – MC2000 (Adv. Tone)**
(MC2000 Shown Above)

## Typical Parallel Tone Control Configuration

Screw Term Block

**Max of 10 MC Series
Units in Parallel**

L3213 – MC1000 (Basic Tone)

**2- or 4-Wire 600 ohm
Telco Line**

(Customer or Installer Provided)

**RJ11**

L3216 – MC2000 (Adv. Tone)

**Tone Remote Control Base or Repeater
MTR2000 (shown above), Quantar, MSF5000,
MSR2000, Micor**

## Typical MC2500 Multi-Channel Configuration
**4 Tone Channel
OR
3 Tone + 1 DC Channel**

**DDN6338**
**10 ft Radio Cable**

**6 PIN Accy. Conn.**

**D B25**

**RJ11**

**Remote Adapter**

**L3277 – DC Adapter
OR
L3276 – Tone Adapter**

**CDM1550•LS Shown**

**CDN6669
DB25 to Bare
Lead cable**

**DB25**

**DDN6481
Surge
Protected
Punchblock**

**2- or 4-Wire 600 ohm Telco Lines**
(Customer or Installer Provided)

**L3217 – MC2500 Multi-Channel
Deskset (4 channels max)**

**Tone Remote Control Base or Repeater
MTR2000 (shown above), Quantar, MSF5000,
MSR2000, Micor**

## DESKSET SPECIFICATIONS

| | Local Deskset MC1000 - L3211 MC2000 - L3214 | DC Remote Deskset MC1000 - L3212 MC2000 - L3215 MC2500 - L3217 | Tone Remote Deskset MC1000 - L3213 MC2000 - L3216 MC2500 - L3217 |
|---|---|---|---|
| **Dimension** | 3.75" H x 8.5" W x 9.9" D (9.53 cm H x 21.59 cm W x 25.14 cm D) | | |
| **Weight** | Maximum 3.75 lb. (1.7 kg) | | |
| **Temperature Range** | 32°F to 122°F (0°C to 50°C) | | |
| **Humidity** | 95% at 122°F (50°C) (non-condensing) | | |
| **Power Input:** MC1000 Models MC2000 Models MC2500 Models | +12 Vdc/1 A max +12 Vdc/2.5 A Max +12 Vdc/1 A, –12 Vdc/0.2 A, +5 Vdc/2 A | | |
| **Frequency Response** | 300 to 3300 Hz +3, –3 dB @ less than 3% distortion | | |
| **Hum and Noise** | 45 dB below rated output at any port | | |
| **Audio Distortion** | Less than 3% THD | | |
| **Audio Output to Speaker** | .8 W (1 W peak) | | |
| **Line Impedance** | 600 or 10 K Ohm, or differential | | |
| **Receive Audio Input** | 300 mv AC | Adjustable from –30 to +11 dBm | |
| **Transmit Audio Output** | 80 mv AC | Adjustable from –30 to +11 dBm | |
| **Maximum Number of Desksets** | 10 in Parallel | | |
| **Control Functions (Maximum):** MC1000 Models MC2000 Models MC2500 Models | PTT + Monitor PTT + Monitor | 4 Freq Select + Monitor 4 Freq Select + Monitor 4 Freq Select + Monitor | 4 Freq Select + Monitor 15 Freq Select + Monitor 15 Freq Select + Monitor |
| **Number of Radios:** MC1000 and MC2000 Models MC2500 Models | 1 | 1 1 Max | 1 4 Max |
| **Outputs and Inputs:** PTT Relay Monitor/Aux Outputs Aux Inputs | Form C dry closure. 150 mA, 60 Vdc non-inductive load. Form C dry closure. 150 mA, 60 Vdc non-inductive load. Opto-coupled inputs, 5 K Ohms impedance, 5 to 20 MA input current, unbalanced. | | |
| **Recorder Port (MC2500 only)** | Nominal output –10 dBm @ 600 Ohm | | |
| **Auxiliary/Paging Input (MC2500 only)** | Nominal output –10 dBm, balanced 600 Ohm input | | |
| **All Mute (MC2500 only)** | –24 dB or full muting of unselected channels, timer programmable 1 to 255 seconds or infinite durations. | | |

## REMOTE ADAPTER SPECIFICATIONS

| | DC (L3277) | Tone (L3276) |
|---|---|---|
| **Dimensions** | Approximately 8.2" W (20.8 cm) x 7.3" L (18.5 cm) x 1.3" H (3.3 cm) | |
| **Weight** | Approximately 1.55 lbs (.7 kg) | |
| **Operating Temperature Range** | –22°F to 140°F (–30°C to +60°C) | |
| **Humidity** | 95% at 122°F (50°C) (non-condensing) | |
| **Power Input** | 10.5 to 16 Vdc max.; 250 mA typical 650 mA max. | 10.5 to 16 Vdc max.; 350 mA typical 650 mA max. |
| **Frequency Range** | ±3 dB from 300 to 3000 Hz @ 1 KHz ref. | ±3 dB from 300 to 3000 Hz @ 1 KHz ref. except at 2175 Hz notch filter |
| **Hum and Noise** | Less than –45 dB below rated output | |
| **Audio Distortion** | Less than 3% THD @ 1 KHz | |
| **Radio Rx Input (from Radio)** | 32 mVac to 4.5 Vac (nominal 300 mVac). Jumper selectable to between range: 32 mVac to 500 mVac (default) or 500 mVac to 4.5 Vac | |
| **Radio Tx Output (to Radio)** | 32 mVac to 800 Vac (nominal 80 mVac). Jumper selectable to between range: 32 mVac to 500 mVac (default) or 500 mVac to 800 mVac | |
| **Line Rx Input (from consoles/desksets)** | –24 dBm to 0 dBm (nominal –10 dBm into 600Ω) | |
| **Line Tx Output (to consoles/desksets)** | –15 dBm to +10 dBm (nominal –10 dBm into 600Ω) | |
| **Max. Number of Desksets Supported** | 10 | |
| **Control Functions (Max.)** | 4 Freq. + Monitor | 15 Freq. + Monitor |
| **Input Tolerance** | ±20% | ±2% |

## DIGITAL JUNCTION BOX SPECIFICATIONS

| | |
|---|---|
| **Dimension** | 8-2/16" W (20.5 cm) x 8-1/4" L (21 cm) x 1-3/8" (3.5 cm) |
| **Weight** | 1.5 pounds (680 grams) |
| **Audio Distortion** | Less that 3% THD (total harmonic distortion) |
| **Audio Transmit** | 0.78 Vac nominal |
| **Audio Receive** | 0.78 Vac nominal |
| **Data Interface** | RS-485 standard |
| **Frequency Response** | ±3 dB from 300-3000 Hz @ 1 kHz ref. |
| **Hum and Noise** | Less than –45 dB below rated outputs |
| **Humidity** | 95% at 122°F (50°C) |
| **Maximum distance between Master Digital Junction Box and console/deskset** | 5000 feet (1524 meters) (50 feet [15 meters] for RCH 3000) |
| **Maximum distance to digital radio** | 50 feet (15 meters) |
| **Power Input** | 10.5 to 16 Vdc maximum |
| **Temperature Range** | 32°F to 122°F (0°C to 50°C) |



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Specifications subject to change without notice