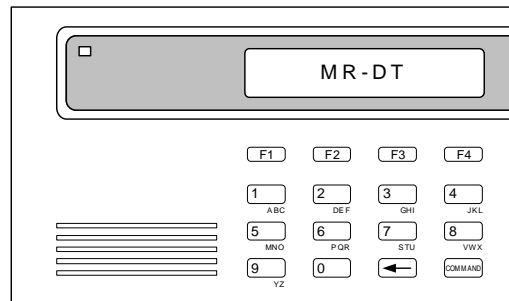**R2S Technologies**

Access It! Universal **CERTIFIED**

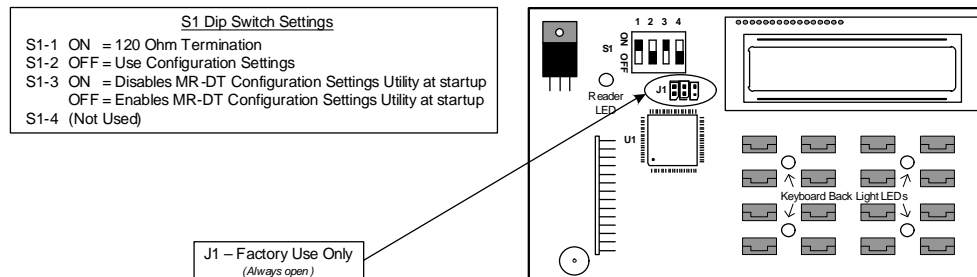# MR-DT Quick Reference and EP Series Guide

Overview

The MR-DT or OSDP LCD keypad may be used in several different configurations. This document outlines how to set up these commonly used configurations. Throughout this document, the MR-DT is referenced. These references also apply to the OSDP LCD keypads as well.
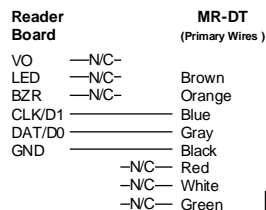

Quick Reference

Internal Hardware Settings

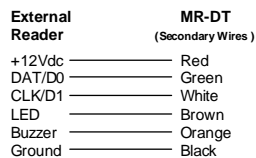Back cover must be opened before the internal board may be removed.

S1 Dip Switch Settings

S1-1 ON = 120 Ohm Termination
S1-2 OFF = Use Configuration Settings
S1-3 ON = Disables MR-DT Configuration Settings Utility at startup
OFF = Enables MR-DT Configuration Settings Utility at startup
S1-4 (Not Used)

Reader LED

J1 – Factory Use Only
(Always open)

Keyboard Back Light LEDs

Reader Board Wiring

Use on all second generation MR-50 and MR-52 boards.
Use on all 2g & 2r boards.
Uses 1 reader port

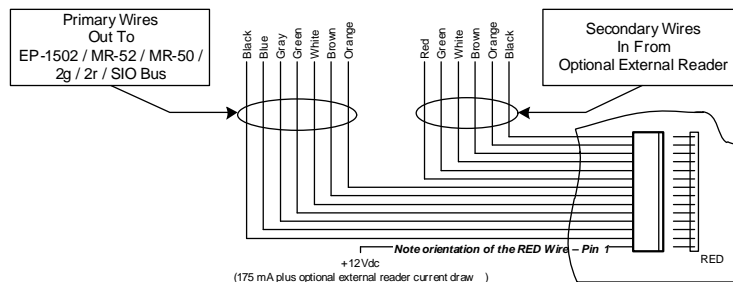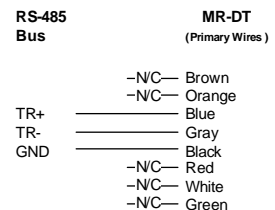| Reader Board	MR-DT (Primary Wires)
VO	—N/C–
LED	—N/C– Brown
BZR	—N/C– Orange
CLK/D1	Blue
DAT/D0	Gray
GND	Black
	—N/C— Red
	—N/C— White
	—N/C— Green

Optional External Reader Wiring

May be used with Wiegand or magnetic stripe readers.

| External Reader	MR-DT (Secondary Wires)
+12Vdc	Red
DAT/D0	Green
CLK/D1	White
LED	Brown
Buzzer	Orange
Ground	Black

SIO Device Wiring

Use with EP series SCP, firmware rev 1.48 or higher.
Uses 1 address of downstream RS-485 bus.

RS-485 Bus	MR-DT (Primary Wires)
	—N/C— Brown
	—N/C— Orange
TR+	Blue
TR-	Gray
GND	Black
	—N/C— Red
	—N/C— White
	—N/C— Green

Primary Wires Out To EP-1502 / MR-52 / MR-50 / 2g / 2r / SIO Bus

Black Blue Gray Green White Brown Orange

Red Green White Brown Orange Black

Secondary Wires In From Optional External Reader

Note orientation of the RED Wire – Pin 1

+12Vdc
(175 mA plus optional external reader current draw)

RED

MR-DT Configuration Settings Utility

1) To enter the MR-DT configuration utility, press the two keys as shown in gray under the arrows at power up and select *Configure*. (S1-3 must be turned OFF, see S1 Dip Switch Setting table on reverse side)
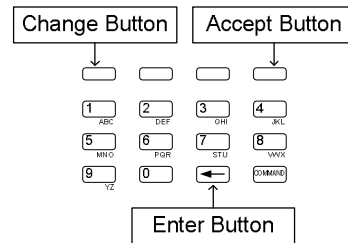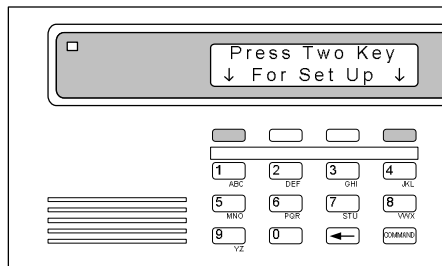
Reader Board Programming

2) At the COMM: prompt, press the *Change* button to modify the configuration.
3) Press the number *1* button for RS485 and then press the *Command* button.
4) Press the *Accept* button.
5) At the Protocol: prompt, press the *Change* button to modify the configuration.
6) Press the number *1* button for MSP1 and then press the *Command* button.
7) Press the *Accept* button.
8) At the Baudrate: prompt, press the *Change* button to modify the configuration.
9) Press the number *1* button for 9600 and then press the *Command* button.
10) Press the *Accept* button.
11) At the Comm Address: prompt, press the *Change* button to modify the configuration.
12) Enter a value of *00* and then press the *Command* button.
13) Press the *Accept* button.
14) At the Back Light: prompt, press the *Change* button to modify the duration for which the back light stays on during keypad entry.
15) Enter a value from *00 – 99* seconds and then press the *Command* button.
16) Press the *Accept* button.
17) At the LED: prompt, press the *Change* button to modify the configuration.
18) Select the appropriate LED wiring configuration and then press the *Command* button. (Typically 1 for single wire support)
19) Press the *Accept* button.
20) At the Save Configuration prompt, press the *Yes* button to save changes or the *No* button to cancel changes.

SIO Device Programming

2) At the COMM: prompt, press the *Change* button to modify the configuration.
3) Press the number *1* button for RS485 and then press the *Command* button.
4) Press the *Accept* button.
5) At the Protocol: prompt, press the *Change* button to modify the configuration.
6) Press the number *1* button for MSP1 and then press the *Command* button.
7) Press the *Accept* button.
8) At the Baudrate: prompt, press the *Change* button to modify the configuration.
9) Press the number *3* button for 38.4 and then press the *Command* button.
10) Press the *Accept* button.
11) At the Comm Address: prompt, press the *Change* button to modify the configuration.
12) Enter the address the SIO device will use and then press the *Command* button.
13) Press the *Accept* button.
14) At the Back Light: prompt, press the *Change* button to modify the duration for which the back light stays on during keypad entry.
15) Enter a value from *00 – 99* seconds and then press the *Command* button.
16) Press the *Accept* button.
17) At the LED: prompt, press the *Change* button to modify the configuration.
18) Select the appropriate LED wiring configuration and then press the *Command* button. (Typically 1 for single wire support)
19) Press the *Accept* button.
20) At the Save Configuration prompt, press the *Yes* button to save changes or the *No* button to cancel changes.

General MR-DT Functionality

The MR-DT supports three different types of commands:
- *Extended Door Time* – This command type will set up the MR-DT LCD display keypad to extend the door held open time to a value entered by the card holder.
- *Extended User Commands* – This command type will set up the MR-DT LCD display keypad or a standard keypad reader to execute specified tasks when extended keypad commands are entered.
- *Intrusion Processing* – This command type will This option will set up the MR-DT or OSDP LCD display keypad for intrusion processing when command codes are entere

For more information on MR-DT functionality, refer to the software help files or users manual.

Intrusion Processing Mode

Intrusion Processing is the ability to arm/disarm Alarm Zones from a MR-DT. Alarm Zones are groups of input and reader alarm events (conditions). By disarming a zone, the points within a zone will not register as an alarm when they become unsecure.

System Setup
SCP

1. From the File Menu, select Go|Main|Hardware
2. Select SCPs
3. Edit the SCP the MR-DT is attached to
4. Select the Intrusion Processing tab
5. Select the type of Intrusion Processing Mode that will be used

    Enhanced Intrusion Processing

    This option will set up the MR-DT to arm and disarm alarm zones with enhanced processing. This option is used when a single MR-DT controls more than one Alarm Zone.

    Enhanced Intrusion Processing by Reader

    This option will set up the MR-DT to arm and disarm alarm zones associated with a specific reader or group of readers with enhanced processing. This option is used when a single MR-DT controls only one Alarm Zone.

6. Within the Command Code field, enter a user defined code that must be entered at the MR-DT in order to execute intrusion processing commands
7. Enter a valid Access Delay (1-99 seconds). The Access Delay is the amount of time that will be allowed between the presentation of a valid credential and the entering of the command code at a MR-DT
8. If only a specific card group should have access to intrusion processing commands, select the appropriate group, from the Allowed Card Group list
NOTE: the default value is All Cards
9. If multiple MR-DT units are being used, and only select ones can be used for Intrusion Processing, uncheck the option 'Command is Valid at All Readers' and move the appropriate readers from the available list to the selected list
10. Click Save
NOTE: the SCP will reset and cards will momentarily cease to work

Alarm Zone
1. From the File Menu, select Go|Main|Hardware
2. Within the Hardware tree, expand SCPs
3. Expand the SCP the MR-DT is attached to
4. Select Alarm Zones
5. Edit the first available Unused Alarm Zone
6. Enter a name for the Alarm Zone
7. Make Note of the 2 digit Alarm Zone Number
8. Within the Default State field, select the state the Alarm Zone will default to when the alarm zone is first set up or when the SCP panel is reset or downloaded
9. Enter a valid Entry Delay. The Entry Delay is the amount of time that a card holder will be allowed when a perimeter point has changed to an alarm state to present a valid credential, enter a command code and disarm the system prior to an alarm being generated.
10. Enter a valid Exit Delay. The Exit Delay is the amount of time the system will wait to arm once a valid credential has been presented, a command code has been entered and an arm command has been issued to allow a card holder to exit
11. Select the 'Points' Tab
12. Click the 'Add Point(s)' button, the Add Points window opens
13. Select an Input or Reader/Door that will belong to the Alarm Zone
14. Select a Point Mode for the Input/Door/Reader
    24 Hour
        24 Hour points would be ideal for points that would cause the Alarm Zone to report an alarm state regardless of whether or not it is Armed or Disarmed. A common example would be a fire alarm or display case glass break.
    Perimeter
        Perimeter points are points which are exterior to the building. These points do not report an alarm state when the Alarm Zone is disarmed. A common example would be a rear entry door.
    Interior
        Interior points are points which are interior to the building. These points do not report an alarm state when the Alarm Zone is disarmed. A common example would be an office entry door.
15. Check Chime to produce a chime at the MR-DT keypad whenever the point state changes

16. Select the Default Monitoring Mode. This is the mode the point will default to upon first setup or when the SCP panel is reset or downloaded

   Normal Monitoring

   Select Normal Monitoring to process change of states and produce alarms.

   Bypassed

   Select Bypassed to bypass the point for alarm processing but still produce change of state events

   Disabled

   Select Disabled to ignore the point by default.

17. Select the Entry Delay

   Instant

   Select Instant for no delay, the Alarm Zone will alarm instantly if the point changes state and the Alarm Zone is in an armed mode. This would be assigned to points that require the Alarm Zone to immediately report an alarm state. A common example would be a window sensor.

   Start Entry Delay

   Select Start Entry Delay to begin counting down the Alarm Zone's Entry delay after the point changes state and the Alarm Zone is in an armed mode. This value is typically assigned to the entry point of the Alarm Zone. A common example would be a front door.

   Follow Entry Delay

   Select Follow Entry Delay if this point is to be part of an entry delay group of points. This value is typically assigned to the points between the entry point and the MR-DT keypad. A common example would be a motion detector between the front door and the MR-DT keypad.

18. Click OK
19. Repeat Steps 11-17 for any additional points in the Alarm Zone
20. Click Save

Reader

NOTE: Refer to step 5 of the SCP System Setup within the Intrusion Processing Mode section to determine the mode being used.

Using the Intrusion Processing Mode: Enhanced Intrusion Processing

1. From the File Menu, select Go|Main|Hardware
2. Within the Hardware tree, select Installed Reader
3. Edit the MR-DT Reader
4. Select the Alarm Zone tab
5. For Authorization Group 1 (Any card with valid access), check the permissions that are allowed

   View Zone Status

   Permission to view the current status of the Alarm Zone.

   Disarm Zone

   Permission to disarm the Alarm Zone.

   Arm Zone (Away)

   Permission to Arm the Alarm Zone in Away mode, this begins the exit delay then arms the Alarm Zone.

   Arm Zone (Stay)

Permission to Arm the Alarm Zone in Stay mode, this arms only
perimeter points.
Arm Zone (Instant)
Permission to Arm the Alarm Zone in Instant mode, this
immediately arms the Alarm Zone.
Toggle Chime
Permission to Enable/Disable the Chime of the MR-DT keypad.
Manage Points
Permission to cycle through and bypass points.
6. If needed check the permissions allowed for Authorization group 2 and
assign an Allowed Card Group
7. If needed check the permissions allowed for Authorization group 3 and
assign an Allowed Card Group
8. Should the time need to be displayed on the MR-DT Keypad, select the
desired format from the Clock Display drop list
9. Check Slow Update Cycle to have the MR-DT scroll at the rate of once
every 3 seconds. With the option not enabled, the MR-DT scrolls at the
rate of once every 2 seconds
10. Check Additional Text if custom text is needed to appear on the MR-DT
reader. To insert multiple lines of text, use the Shift+Enter keys
11. Click Save

**Using the Intrusion Processing Mode: Enhanced Intrusion Processing by
Reader**
1. From the File Menu, select Go|Main|Hardware
2. Within the Hardware tree, select Installed Reader
3. Edit the MR-DT Reader
4. Select the Alarm Zone tab
5. For Authorization Group 1 (Any card with valid access), check the
permissions that are allowed
View Zone Status
Permission to view the current status of the Alarm Zone.
Disarm Zone
Permission to disarm the Alarm Zone.
Arm Zone (Away)
Permission to Arm the Alarm Zone in Away mode, this begins
the exit delay then arms the Alarm Zone.
Arm Zone (Stay)
Permission to Arm the Alarm Zone in Stay mode, this arms only
perimeter points.
Arm Zone (Instant)
Permission to Arm the Alarm Zone in Instant mode, this
immediately arms the Alarm Zone.
Toggle Chime
Permission to Enable/Disable the Chime of the MR-DT keypad.
Manage Points
Permission to cycle through and bypass points.
6. If needed check the permissions allowed for Authorization group 2 and
assign an Allowed Card Group
7. If needed check the permissions allowed for Authorization group 3 and
assign an Allowed Card Group

8. Should the time need to be displayed on the MR-DT Keypad, select the desired format from the Clock Display drop list
9. Check any additional parameters to be displayed by the MR-DT reader
    Display Alarm Zone Status
        Displays the current stat.
    Display Active Points
        Displays any points in an unsecure state.
    Display "Entry Delay Active"
        Displays a countdown of the Entry Delay time.
    Display "Exit Delay Active"
        Displays a countdown of the Exit Delay time.
    Display Chime Condition
        Displays the current status of the Chime feature.
    Display Chime Toggled Off
        Displays whether the toggle of Chime Enabled and Chime Disabled is displayed.
10. Check Slow Update Cycle to have the MR-DT scroll at the rate of once every 3 seconds. With the option not enabled, the MR-DT scrolls at the rate of once every 2 seconds
11. Check Additional Text if custom text is needed to appear on the MR-DT reader. To insert multiple lines of text, use the SHIFT+ENTER keys
12. Click Save

System Execution
NOTE: Refer to step 5 of the SCP System Setup within the Intrusion Processing Mode section to determine the mode being used.

Using the Intrusion Processing Mode: Enhanced Intrusion Processing
1. A valid credential must be presented at the MR-DT reader
2. Enter the following information
    ← *Arrow Key* + *Command Code*[1] + *Alarm Zone Number*[2] + *Command Number*[3] + COMMAND *Command Key*

    1: Refer to Step 6 of the SCP System Setup within the Intrusion Processing Mode section
    2: Refer to Step 7 of the Alarm Zone System Setup within the Intrusion Processing Mode section
    3: Command Number
        0 = View Zone Status
        1 = Disarm Zone
   *2 = Arm Zone in Away Mode*
        3 = Arm Zone in Stay Mode
        4 = Arm Zone in Instant Mode
        5 = Toggle Keypad Chime
        6 = Bypass Points

Using the Intrusion Processing Mode: Enhanced Intrusion Processing by Reader
1. A valid credential must be presented at the MR-DT reader
2. Enter the following information
    ← *Arrow Key* + *Command Code*[1] + *Command Number*[2] + COMMAND *Command Key*

    1: Refer to Step 6 of the SCP System Setup within the Intrusion Processing Mode section
    2: Command Number

Extended User Command Mode

Extended User Commands are used to execute tasks from a MR-DT or OSDP LCD display keypad after a valid credential is presented to the MR-DT reader.

System Setup
SCP
1. From the File Menu, select Go|Main|Hardware
2. Select SCPs
3. Edit the SCP the MR-DT is attached to
4. Select the Extended User Commands tab
5. Within the Command Code field, enter a user defined code that must be entered at the MR-DT or OSDP LCD display keypad in order to execute a task
6. Enter a valid Access Delay (1-99 seconds). The Access Delay is the amount of time that will be allowed between the presentation of a valid credential and the entering of the command code at a MR-DT display
7. If only a specific card group should have access to executing tasks, select the appropriate group, from the Allowed Card Group list
   NOTE: the default value is All Cards
11. If multiple MR-DT units are being used, and only select ones can be used for executing tasks, uncheck the option 'Command is Valid at All Readers' and move the appropriate readers from the available list to the selected list
12. Click Save
   NOTE: the SCP will reset and cards will momentarily cease to work

Reader
1. From the File Menu, select Go|Main|Hardware
2. Within the Hardware tree, select Installed Reader
3. Edit the MR-DT Reader
4. Select the Keypad Commands tab
5. Under the Commands field, make note of the keypad command sequence for the first Unused User Command
   NOTE: The keypad command sequences are the numbers between the asterisk (*) and the pound symbol (#) found under the Command column.
6. Click the Edit button
7. Enter a name for the extended user command
8. Click the 'Steps Tab'
9. Click 'Add Step'
10. Add the steps this user command will be executing
11. Click Save
12. Repeat steps 5-11 for additional Unused User Commands

System Execution
1. A valid credential must be presented at the MR-DT reader
2. Enter the following information

$\underleftarrow{}$ *Arrow Key* $+$ *Command Code[1]* $+$ *Keypad Command Sequence[2]* $+$ COMMAND *Command Key*

1: Refer to Step 5 of the SCP System Setup within the Extended User Command Mode section

1: Refer to Step 5 of the Reader System Setup within the Extended User Command Mode section

Extended Door Time Mode

Extended Door Time Mode is used to change the amount of time the MR-DT door can be left open before entering into an alarm state.

System Setup
SCP
1. From the File Menu, select Go|Main|Hardware
2. Select SCPs
3. Edit the SCP the MR-DT is attached to
4. Select the Extended Door Time tab
5. Within the Command Code field, enter a user defined code that must be entered at the MR-DT or OSDP LCD display keypad in order to extended the door opened time
6. Enter a valid Access Delay (1-99 seconds). The Access Delay is the amount of time that will be allowed between the presentation of a valid credential and the entering of the command code at a MR-DT display
7. If only a specific card group should have access to extending the door time, select the appropriate group, from the Allowed Card Group list.
   NOTE: the default value is All Cards
8. If multiple MR-DT units are being used, and only select ones can be used for extending door times, uncheck the option 'Command is Valid at All Readers' and move the appropriate readers from the available list to the selected list
9. Click Save
   NOTE: the SCP will reset and cards will momentarily cease to work

System Execution
1. A valid credential must be presented at the MR-DT reader
2. Enter the following information
   $\underleftarrow{}$ *Arrow Key* $+$ *Command Code[1]* $+$ *Three Digit Time In Minutes[2]* $+$ COMMAND *Command Key*

   1: Refer to Step 5 of the SCP System Setup within the Extended Door Time Mode section

   2: One hour would be represented as '060'

Using Shortcut Keys

Shortcut keys are used to map a single or combination of function key(s) of the MR-DT to a long command string. This is used, so that command number sequences do not need to be memorized.

System Setup
Reader
1. From the File Menu, select Go|Main|Hardware
2. Within the Hardware tree, select Installed Reader
3. Edit the MR-DT Reader
4. Select the Keypad Commands tab
5. Under the Function Keys section, find the function key(s) that will be mapped to a command sequence
6. Select the Keystrokes field for the function key

7. Enter the full command that will be mapped to this key
   NOTE: The arrow button ⬅ is represented by an asterisk (*)
   NOTE: The command button [COMMAND] is represented by a pound symbol (#)

Examples

The following are some examples of how to use the MR-DT keypad in a typical environment assuming the following command codes are set within the SCP properties.

- Intrusion Processing Mode – 5555
- Extended User Command Mode – 7777
- Extended Door Time Mode - 9999

Intrusion Processing Mode

Enhanced Intrusion Processing

Full Keypad Command Sequence

The following are entered directly from the MR-DT after a valid credential is presented.

Disarming Alarm Zone 01

⬅ *Arrow Key* + *5555 + 01 + 1 +* [COMMAND] *Command Key*

Arming Alarm Zone 01 in Away Mode

⬅ *Arrow Key* + *5555 + 01 + 2 +* [COMMAND] *Command Key*

Shortcut Keypad Command Sequence

Using shortcut keys, *5555011# is mapped to F1 while *5555012# is mapped to F4. The following is entered directly from the MR-DT after a valid credential is presented.

Disarming Alarm Zone 01

F1

Arming Alarm Zone 01 in Away Mode

F4

Enhanced Intrusion Processing by Reader

Full Keypad Command Sequence

The following are entered directly from the MR-DT after a valid credential is presented.

Disarming Alarm Zone 01

⬅ *Arrow Key* + *5555 + 1 +* [COMMAND] *Command Key*

Arming Alarm Zone 01 in Away Mode

⬅ *Arrow Key* + *5555 + 2 +* [COMMAND] *Command Key*

Shortcut Keypad Command Sequence

Using shortcut keys, *55551# is mapped to F1 while *55552# is mapped to F4. The following is entered directly from the MR-DT after a valid credential is presented.

Disarming Alarm Zone 01

F1

Arming Alarm Zone 01 in Away Mode

F4

Extended User Command Mode

Full Keypad Command Sequence

The following are entered directly from the MR-DT after a valid credential is presented.

Executing Unused User Command 01

⬅ *Arrow Key* + *7777 + 1 +* [COMMAND] *Command Key*

Shortcut Keypad Command Sequence

Using shortcut keys, *77771# is mapped to F2. The following is entered directly from the MR-DT after a valid credential is presented.

Executing Unused User Command 01

F2

Extended Door Time Mode

Full Keypad Command Sequence

The following are entered directly from the MR-DT after a valid credential is presented.

Extending Door Held Open Time to Three Hours (180 minutes)

⬅ *Arrow Key* + 9999 + 180 + [COMMAND] *Command Key*

Shortcut Keypad Command Sequence

Using shortcut keys, *9999180# is mapped to F1 + F4. The following is entered directly from the MR-DT after a valid credential is presented.

Extending Door Held Open Time to Three Hours (180 minutes)

F1 + F4