



## Model MRC-1 Microprocessor Remote Control Reference Data; Remote Terminal

The following is a condensed description of MRC-1 Remote Terminal key sequences and functions for quick reference purposes.

SELECT NEW CHANNEL:	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> CH
ADVANCE ONE CHANNEL:	<input type="checkbox"/> CH
SELECT NEW SITE:	<input checked="" type="checkbox"/> SITE
INVERT/DEINVERT STATUS CHANNEL:	<input type="checkbox"/> INV
LATCH/UNLATCH STATUS CHANNEL:	<input type="checkbox"/> SHFT <input type="checkbox"/> LATCH
ADD/REMOVE FALLING EDGE ALARM	
ADD/REMOVE RISING EDGE ALARM	<input type="checkbox"/> SHFT 
RELEASE ALL LATCHED CHANNELS	<input type="checkbox"/> SHFT <input type="checkbox"/> STAT CLR
CALIBRATE, LINEAR MODE	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> LIN
CALIBRATE, POWER MODE	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> SHFT <input type="checkbox"/> POWER
(Sign of <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> must be positive)	
CALIBRATE, INDIRECT MODE:	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> SHFT <input type="checkbox"/> POWER
(Sign of <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> must be negative)	
Display will be proportional to product of two preceding channels. Channels 1 and 2 may not be calibrated in this mode.	
ESTABLISH LOWER LIMITS:	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> LOW <input type="checkbox"/> LIM
(Point position of limit need not match point position of calibration)	
DISPLAY LOWER LIMIT:	<input type="checkbox"/> LOW <input type="checkbox"/> LIM
REMOVE LOWER LIMIT:	<input type="checkbox"/> 0 <input type="checkbox"/> LOW <input type="checkbox"/> LIM
ESTABLISH UPPER LIMIT:	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> SHFT <input type="checkbox"/> UPPER <input type="checkbox"/> LIM
(Point position of limit need not match point position of calibration)	
DISPLAY UPPER LIMIT:	<input type="checkbox"/> SHFT <input type="checkbox"/> UPPER <input type="checkbox"/> LIM
REMOVE UPPER LIMIT:	<input type="checkbox"/> 0 <input type="checkbox"/> SHFT <input type="checkbox"/> UPPER <input type="checkbox"/> LIM
ENABLE/DISABLE LIMIT CHECKING:	<input type="checkbox"/> LIMS
ESTABLISH RAISE CHANNEL:	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> SHFT <input type="checkbox"/> MAP <input type="checkbox"/> RAISE
DISPLAY RAISE CHANNEL:	<input type="checkbox"/> SHFT <input type="checkbox"/> MAP <input type="checkbox"/> RAISE
REMOVE RAISE CHANNEL:	<input type="checkbox"/> 0 <input type="checkbox"/> SHFT <input type="checkbox"/> MAP <input type="checkbox"/> RAISE
ESTABLISH LOWER CHANNEL:	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> SHFT <input type="checkbox"/> MAP <input type="checkbox"/> LOWER
DISPLAY LOWER CHANNEL:	<input type="checkbox"/> SHFT <input type="checkbox"/> MAP <input type="checkbox"/> LOWER
REMOVE LOWER CHANNEL:	<input type="checkbox"/> 0 <input type="checkbox"/> SHFT <input type="checkbox"/> MAP <input type="checkbox"/> LOWER

☐ Denotes front panel key

☐ Denotes front panel  
"Shift Key", chassis labeled

☒ Denotes your entry

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## MRC-1 Reference Data; Remote Terminal

ESTABLISH LATCHING

☒ ☒ SHFT ☒ MAP ☒ RAISE

COMMAND CHANNEL:

☒ ☒ SHFT ☒ MAP ☒ LOWER

(Where X X in both lines is the channel to be made latching)

RAISE:

☒ RAISE

LOWER:

☒ LOWER

TURN ON LATCHING COMMAND CHANNEL:

☒ RAISE

TURN OFF LATCHING COMMAND CHANNEL:

☒ LOWER

ESTABLISH MUTE CHANNEL:

☒ ☒ SHFT ☒ MUTE

- Mute condition occurs when mute channel is "OFF" (after latch and invert, if applicable.)
- No limit checking during mute condition or for 4 seconds thereafter.

DISPLAY MUTE CHANNEL:

☒ SHFT ☒ MUTE

REMOVE MUTE CHANNEL:

☒ ☒ SHFT ☒ MUTE

ACKNOWLEDGE ALARM:

☒ ACK ☒ ACK

- First push displays channel number and condition, silences audible alarm.
- Second push ends flashing alarm indication.
- In the case of limit violations, steadily-on alarm indication will persist until: analog value is back in bounds; or, mute status begins; or, limit checking is disabled.

BEGIN LAMP TEST:

☒ LAMP TEST

END LAMP TEST:

☒ LAMP TEST

BEGIN MAINTENANCE OVERRIDE:

☒ MAINT O'RIDE

- Ends any failsafe condition.
- Inhibits any RAISE/LOWER commands from control end.

END MAINTENANCE OVERRIDE

☒ MAINT O'RIDE

- Resets failsafe timers.
- Inhibits commands from remote end.

ESTABLISH TM FAILSAFE CHANNEL N:

☒ ☒ SHFT ☒ N

(N=1 to 4)

Telemetry failsafe takes place if the analog value on any established telemetry failsafe channel remains below about 0.3 volts for 1 hour, or the Control Terminal fails to receive transmissions from the Remote Terminal for 1 hour. Telemetry failsafe ends if all four telemetry failsafe channels fall to zero.

DISPLAY TM FAILSAFE CHANNEL N:

☒ SHFT ☒ N

REMOVE TM FAILSAFE CHANNEL N:

☒ ☒ SHFT ☒ N

### MISCELLANEOUS:

Control failsafe takes place if a Remote Terminal receives no successful communications directed to it for 45 seconds.

Alarms are disabled for 10 seconds after reset.

CALIBRATION OVERFLOW DISPLAY:

EEEE

A/D SATURATION DISPLAY (6144 COUNTS)

----



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# Model MRC-1

## Microprocessor Remote Control Reference Data; Control Terminal

The following is a condensed description of MRC-1 Control Terminal key sequences and functions for quick reference purposes.

### Unrestricted Functions

CHANGE SELECTED SITE: ☒ SITE

CHANGE SELECTED CHANNEL: ☒ ☒ CH

ADVANCE 1 CHANNEL: ☐ CH

RAISE: ☐ RAISE

Raise and Lower commands will be ignored if the remote site is in Maintenance Override mode.

LOWER: ☐ LOWER

ACKNOWLEDGE ALARM: ☐ ACK ☐ ACK

- A. First push displays site number, channel number and condition, silences audible alarm.
- B. Second push ends flashing alarm indication.
- C. Steadily-ON alarm indication will persist until:

Limit Violation Alarms:

Telemetry value is back in bounds;  
or Mute status begins; or  
Limit checking is disabled.

Data Link Alarms:

Errors return to an acceptable level over an 18 minute cycle.

Telemetry Failsafe Alarms:

Successful return communication.

System Error Alarms:

System error condition ends.

BEGIN LAMP TEST: ☐ LAMP TEST

END LAMP TEST: ☐ LAMP TEST

RESET LATCHED  
STATUS CHANNELS: ☐ STAT CLR

DISPLAY FIRST/NEXT  
ALARM CONDITION: ☐ ALRM SRCH

Alarm Search proceeds in numerical order by site and within each site in numerical order by channel. Acknowledged status alarms will continue to be selected during alarm searches until the status channel experiences another transition after the alarm.

☐ Denotes front panel key

☒ Denotes your entry

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## MRC-1 Reference Data; Control Terminal

### Restricted Functions

After a memory-bad reset, or upon powering up for the first time, the SET-UP key works on a push-on/push-off basis. (This is termed "UNCONTROLLED" mode.)

Below, **M M M M** represents the factory-set master password, and **S S S S** represents (according to context) the existing or desired secondary password.

Enable Restricted Keys if in  
"UNCONTROLLED" Mode:

**SET UP**

Disable Restricted Keys:

**SET UP**

Enable Secondary Password  
if it is Disabled.

(Enter "CONTROLLED" Mode)

**M M M M SET UP S S S S SET UP**

Enable Restricted Keys  
in "CONTROLLED"

Mode:

**SET UP S S S S SET UP**

Change Secondary

Password:

**SET UP SET UP M M M M  
SET UP S S S S SET UP**

Disable Secondary Password:

(Return to "UNCONTROLLED" Mode)

**SET UP SET UP M M M M SET UP 0 SET UP**

These require use of the SET UP key for access  
(see above).

ESTABLISH UPPER LIMIT: **X X X X HI LIM**

DISPLAY UPPER LIMIT: **HI LIM**

REMOVE UPPER LIMIT: **0 HI LIM**

ESTABLISH LOWER LIMIT: **X X X X LO LIM**

DISPLAY LOWER LIMIT: **LO LIM**

REMOVE LOWER LIMIT: **0 LO LIM**

ENABLE/DISABLE LIMIT CHECKING: **LIMS**

ENABLE/DISABLE SITE: **SITE ENAB**

### Miscellaneous

CALIBRATION OVERFLOW DISPLAY: **EEEE**

A/D SATURATION DISPLAY: **----**

DISPLAY REMAINING TM FAILSAFE

COUNTDOWN TIME: **0 CH**



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