



Helpful Commands to improve reading performance  
for the MDI3x00 based products

**BOLD items = Default**

COMMAND	FUNCTION
Y0 - Y9	Sets the Read-cycle timeout period in Seconds: Y0 = infinite; Y2 = 2 Sec.
X0	Redundancy = None (output on first decode)
X1, X2, or X3	Redundancy: X1 = Decode twice before output; X2 = 3times; X3 = 4times)
[BC0	Decode Datamatrix ECC200 symbols ONLY (turns off all other symbologies)
J1	Decode UPC Only
S2[D00	Continuous scan (fast) & decode in center - S2 puts it in a very fast decode mode
[BCD	Add QR Code: (adds [enables] QR symbol decoding)
[D01 - [D09	Configures the number of symbols that must be read: D01 = 1; D06 = 6, etc. This will count bad reads as a symbol if it is enabled
[D3P	Multi Label Read: (Buffered Mode, Unique & once, output as decoded): Enable
[D8H	BadReads Output = Enabled
[D8I	<b>BadReads Output = Disabled</b>
[DE9	Search Mode: "Fast Search" (See section 7.3.2 in the Serial Guide)
[DEA	Search Mode: "Alt2 Search"
[DEB	<b>Search Mode: "Center out Search" [default] (See 7.3.2 in the Serial Guide)</b>
[DF8yxxxx	Define a Region of Interest - See App Note: AN00014 (Use this to define the region of decodable interest).
[E8J	<b>Mirror Image = Disabled (Normal View) [default]</b>
[E8I	Mirror Image = Enabled (Mirror View) <i>{if using SR version with mirror}</i>
E9SQxQxQxQx	Set Window of interest Masking (Left) - Use these WOI settings to
E9TQxQxQxQx	Set Window of interest Masking (Top) - Mask unwanted pixel image
E9UQxQxQxQx	Set Window of interest Masking (Right) -
E9VQxQxQxQx	Set Window of interest Masking (Bottom)
MZ	Set Prefix characters: [none = default]
MZ[DDX	Coordinate output as prefix: Rectangular Mode (outputs 4 corner coordinates) - See Application note: AN00014
MZ[DDY	Coordinate output as prefix: Center Mode (outputs 1 center coordinate)
[DM0	1D Decode Algorithm Strength = Quick Mode
[DM1	1D Decode Algorithm Strength = Semi-Quick Mode
[DM2	1D Decode Algorithm Strength = Standard Mode
[DM3	1D Decode Algorithm Strength = Difficult Label Mode
W0	Good Read Beeper = Disabled
W8	<b>Good Read Beeper = Enabled [default]</b>
GD	<b>Power-On Beeper = Disabled</b>
GC	Power-On Beeper = Enabled (sends a multi tone beep when the unit powers on)
[DF9Q1	Total Decode Read Time Output = Enabled (helps to determine time savings)
[DF9Q0	<b>Total Decode Read Time Output = Disabled</b>



**Helpful Diagnostics**

Here are some other functions that may be helpful:

Command	Function
B	Sound the Good beep
E	Sound the ERROR beep tone
L	Pulse the Good Read LED output
Y	Trigger Cancel – cancels a current triggered read cycle
Z	Serial trigger – triggers the module into a read cycle
RV	Module Reset (software reboot) – Use this to cancel out of un-saved commands.
WC	Command Response ACK/NAK – Will output an <ACK> if command accepted; a <NAK> if a bad command was received.
<b>WD</b>	<b>Disables the Command Response ACK/NAK ; [default] - the command &lt;WC&gt;will enable it</b>
THxxxx	NO READ: Outputs up to 4 characters if a timeout occurs and nothing has been decoded
TH0N0L0B0L	TH=Set "No Label" Error Message to NLBL. Command TH only will clear this. Message NLBL will output if no label is found at the end of a read cycle.
YV	Outputs the (non-printable) ASCII Control codes (for test only)
Z1	Outputs Firmware # only
Z2	Saves ALL current settings for power-up. (Non-volatile save)
Z3	Same as 'Z1' + XSW registers + Symbology status, prefixes & suffixes
ZA	Outputs all printable ASCII characters (no real purpose other than a test)
[BAP	Reload Custom Defaults and Saves for power-up
[BAQ	SET & Store Custom Defaults (Creates the new defaults from the current active memory. ( Command: [EAR will then report "SAME DATA". Custom defaults can be recalled by the [BAP command)
<b>[DF9Q0</b>	<b>Disable Read Cycle Time Output</b>
[DF9Q1	Enable Read Cycle Time (mS) – Sends data of total read cycle time, {CR}, then output data if any.
RY[EDG6A5A	Adds the decode read cycle time as a prefix to the decoded data. (you do not have to enable the [DF9 command for this). Output looks like: <b>68ms: 614141999996</b>
<b>[EAP</b>	<b>Disable the Read Cycle Timeout Beeper [default]</b>
[EAQ	Enable the Read Cycle Timeout Beeper (low tone di-dit) (Beeper will sound at the end of a read-cycle)
[EAR	Output the register differences from custom stored defaults (BAQ will make new defaults & set results to "Same Data")
[XU8	(Toggles) a continuous Read-Rate test. Potential 10 out of 10 good decodes. Send [XU8 again or 'RV' (reset) will turn it off.

Also: DataEdit functions (See Application Note: AN0022) can also be used to qualify decoded data:

- is it a certain symbology
- specific # of characters
- equals a specific number, etc...

and then it outputs the data as a modified form of the data:

- output only a portion of the data
- output non-printable as printable
- cut and replace certain data
- Output different text altogether, such as "Matched"