

Command:SCAN (SN)

MS2000 or RM2000 syntax and Function

| | |
|---------------------------------|--|
| Shortcut | SN |
| Format | SCAN [X=scan_axis] [Y=scan_axis] [Z=scan_axis] [F=pattern] |
| Units | integer |
| Remembered | Using SS Z |
| Firmware Module Required | SCAN or ARRAY |

Sets which axes are to be used for 2-D raster scan. The same axis settings also apply to the ARRAY module. The fast-scanned raster axis (horizontal) is defined by `scan_axis = 1`; the slow-scanned axis (vertical) is defined by `scan_axis = 2`. Single axis scans (1-D) requires setting the unused axes `scan_axis = 0`, and the driven axis as `scan_axis = 1`.

The scan pattern may be set to 0 for RASTER scans or 1 for SERPENTINE scans.

Without arguments, the command SCAN initiates (or stops) a scan using parameters set with the SCANR and SCANV commands.

Tiger syntax and Function

| | |
|---------------------------------|--|
| Shortcut | SN |
| Format | [addr#]SCAN [X?] [Y=fast_axis_id] [Z=slow_axis_id] [F=pattern] |
| Units | integer |
| Type | Card-Addressed |
| Remembered | Using [addr#]SS Z |
| Firmware Module Required | SCAN or ARRAY |

Note multiple small changes in usage from MS-2000 command set.

Specifying an argument for the pseudoaxis X in decimal sets the state directly (see table below; the value is simply the decimal representation of the corresponding state character). Note that the firmware expects only certain states to be set by the user (marked as "OK to set" in the table); setting to a different state may yield unpredictable results. Querying the pseudoaxis X value returns the character associated with the current state.

Specify the cards axis ID as the `fast_axis_id` or `slow_axis_id` (axis IDs are obtainable using Z2B query; they are 0 and 1 for X and Y axes respectively on a two-axis motor card). If `slow_axis_id` is set to 9 then a true single-axis scan will be executed (not even anti-backlash moves on the slow axis); if `slow_axis_id` is specified but the slow axis start and stop positions (NV X and NV Y) are equal then a single-axis scan will execute but the slow axis position will be checked at the scan turnaround points.

The scan pattern may be set to 0 for RASTER scans or 1 for SERPENTINE scans.

Without arguments, the command SCAN initiates (or stops) a scan using parameters set with the SCANR and SCANV commands.

| Scan states (SCAN_MODULE firmware) | | | |
|---|------------|-------------------|---|
| Char | Dec | OK to set? | State |
| I | | No | Idle/disabled |
| S | 83 | Yes | Starts state machine |
| P | 80 | Yes | Stop (goes to idle state after cleanup) |
| a | | No | Waits until slow axis move complete |
| b | | No | Starts move along fast axis |
| c | | No | Waits for fast axis move to finish |
| d | | No | Starts serpentine slow axis move |
| e | | No | Waits until serepentine move complete |
| f | | No | Used in XF_SPIM only |
| g | | No | Waits until retrace is complete |
| h | | No | Scan complete, cleans up |

[commands](#), [tiger](#), [ms2000](#), [scan](#), [array](#)

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