

Command:ARRAY (AR)

MS2000 or RM2000 syntax

Shortcut	AR
Format	ARRAY [X=N_fast] [Y=N_slow] [Z=Δ_fast] [F=Δ_slow] [T=θ]
Units	X and Y in integer, Z and F in mm, θ tilt degrees from X axis
Required Firmware Module	ARRAY
Remembered	Using SS Z

Tiger syntax

Shortcut	AR
Format	[addr#]ARRAY [X=N_fast] [Y=N_slow] [Z=Δ_fast] [F=Δ_slow] [T=θ]
Units	X and Y in integer, Z and F in mm, θ tilt degrees from X axis
Type	Card-Addressed
Required Firmware Module	ARRAY
Remembered	Using [addr#]SS Z

The ARRAY command specifies the grid size and interval for the [array module](#). Briefly, this sets up a grid of points that can be traversed automatically with simple TTL control or with the [RBMODE](#) or [AIJ](#) commands.

The size of the array is N_fast by N_slow points, with points spaced apart distance Δ_fast and Δ_slow (expressed in millimeters). By default X is the fast axis (where most movements occur) and Y is the slow axis (with periodic movements), but this can be interchanged using the [SCAN](#) command (e.g. SN Y=1 Z=0 will make the fast axis the 2nd axis on the card, the Y axis usually, and the slow axis being the 1st axis usually X).

The location of the first point in the array is set with the [AHOME](#) command.

The array pattern can be rotated using the T parameter where the value is specified angle in degrees. When the value is non-zero then both X and Y motors will move between each grid point; e.g. if set to 45 degrees then the X and Y motors will move by the same amount.

Without arguments, the AR command starts self-scanning of the array. When the stage arrives on target, it will delay for a period of time set by the command [RT Z=time_delay](#) before continuing on to the next position. It is possible to repeat the array using the [RM F](#) byte.

Whether a raster or serpentine pattern is used is set using the [SCAN F](#) setting (default is serpentine).



If you start the array scan with the AR command (no arguments), it will use an internal timer that moves to the next position independently of TTL-input triggered moves. If you are driving the array scan with [TTL X=7](#), then you should use the [RM](#) command (no arguments) to simulate a TTL input and start the array scan. This will avoid using the internal timer.

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

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