

# RING BUFFER MODULE

Often there is a need to mark several positions to later revisit. The RING BUFFER module enables a buffer with up to 50 locations that the user can load with position information and then visit sequentially. Many firmware builds can allow 250 positions; contact ASI if you require this.

## Using controller buttons to manipulate the RING BUFFER

A common use of the ring buffer is to save positions and revisit them using the buttons on the controller. The default button functions are listed below. In some cases, additional firmware modules may preempt these button functions. Contact ASI if you have questions.



Button functions are assigned with the [Command:BCUSTOM](#) command.

### Save locations using the Joystick Button

The current stage position can be saved to the buffer by depressing the button on top of the joystick and holding it for one to three seconds. (A short tap of the button toggles the joystick speed) You can move to the next position of interest and again save the position in the buffer by holding down the joystick button. Continue this procedure to save all positions of interest.

### Revisit locations using the @ Button

Save locations can be revisited by pressing the @ button briefly. Each press of the @ button causes the stage to advance to the next position. When you reach the last position, the next press of the @ button will take you back to the first position.

### Clear the buffer with the HOME Button

Holding the HOME button down for longer than one second will clear all the stored positions in the ring buffer.

You can also use the serial command “RBMODE X=0” to clear the ring buffer.

## Using TTL pulses to control automated moves

You can advance to the next position in the ring buffer when the controller receives a TTL pulse.

The TTL command can change the type of move made:

TTL X=1 for absolute move commands.

TTL X=12 for relative move commands. (TG-1000 only)

See [LOAD](#), [RBMODE](#), and [TTL commands](#) for details.

## Using serial commands to load the buffer and control automated moves

The ring buffer may be preloaded with values via the serial command [LOAD](#). Serial commands can also be used to advance to the next position as well as to control which axes will be affected by the move commands. See [LOAD](#), [RBMODE](#), and [TTL commands](#) for details. Contact ASI for details.

### Serial Command Cheatsheet

On Tiger, these commands are card addressed except for the LOAD command.

Ring Buffer Serial Commands			
Property	Set	Get	Notes
Clear Positions	RM X=0	-	Clears the ring buffer
Start Array Scan	RM X=1	-	Requires ARRAY_MODULE
Single TTL Pulse	RM	-	Based on TTL input mode
Number of Positions	-	RM X?	Number of positions
Axis Byte	RM Y=#	RM Y?	Enable or disable axes
Mode Byte	RM F=#	RM F?	Ring buffer mode
Read Index	RM Z=#	RM Z?	Current read index
TTL In Mode 1	TTL X=1	-	Move to next position (absolute)
TTL In Mode 12	TTL X=12	-	Move to next position (relative)
Load Position*	LD X+ Y+	-	Load current position
Next Position*	-	LD X? Y?	Read next position
Consume Mode Differences			
Open Positions	-	RM X?	Remaining open positions
Read Index	-	RM Z?	Read-only

\* See the [LOAD](#) command for more details.

[advanced feature](#), [ringbuffer](#), [ms2000](#), [tiger](#)

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