Command:VB

This command has a slightly different usage on Tiger then in MS2000 and RM2000.

MS2000 or RM2000 syntax and function

Shortcut	VB
Format	VB [X=binary_code] [Y=TTL IN1 state (read only)] [Z=read_decimal_places] [T=CMD_code]
Units	Integer
Remembered	Using SS Z
Firmware Required	v8.5+

Adds serial communication verbose modes for special functions. The `binary_code` is the sum of the bit values for the desired functions from the list below. The Y argument allows the TTL `IN1` input state to be directly queried via serial command. The number of decimal places for the `WHERE` command is set by `read_decimal_places`.

Bit 0	1	Send character 'N' upon completion of a commanded move.
Bit 1	2	Send 'p' for joystick quick-press and release, 'P' for long-press.
Bit 2	4	Send 'H' for TTL IN1 low-to-high transition; 'L' for high-to-low.
Bit 3	8	Changes the reply termination for <CR>+<LF> to just <CR>
Bit 4	16	Move and Move Rel will print the new Target Position.
Bit 5	32	Axes positions reported upon completion of a commanded move.

Example VB X=7 turns on the first three of the above functions.

No Change Settings

`CMD_code` can be specified on firmware with the `NO_CHANGE_SETTINGS` module included in the firmware. If you need this function and do not have the module in the firmware, contact ASI. This feature allows some commands to be "turned off" for modification of settings by host software, preventing changes to those settings until the protection is explicitly removed.

Serial commands are enumerated according to the following table with a command number CMD:

No Changes Settings - Command Table

AA, AALIGN	0	PC, PCROS	20	MC, MOTCTRL	40	MA, MAINTAIN	60	LCD	80
AC, ACCEL	1	RM, RBMODE	21	PD, PEDAL	41	Z2B	61	WD, WRDAC	81
B, BACKLASH	2	RB, RDSBYTE	22	AF, AFOCUS	42	AM, AFMOVE	62	AR, ARRAY	82
BE, BENABLE	3	RS, RDSTAT	23	WT, WAIT	43	BU, BUILD	63	AH, AHOME	83
CD, CDATE	4	~, RESET	24	AZ, AZERO	44	LL, LLADR	64	AIJ	84
C, CNTS	5	SL, SETLOW	25	SS, SAVESET	45	AL, AFLIM	65	AFINFO	85
CR, CREST,	6	SU, SETUP	26	SN, SCAN	46	RU, RUNAWAY	66	EXTRA	86
D, DACK	7	S, SPEED	27	LK, LOCK	47	UM	67	PZ	87
E, ERROR	8	@, SPIN	28	UN, UNITS	48	ZS	68	PZC	88

\, HALT	9	/, STATUS	29	MT, MTIME	49	HM, SETHOME	69	PZINFO	89
TTL	10	V, VERSION	30	VE, VECTOR	50	OS	70	ARM	90
H, HERE	11	W, WHERE	31	KA	51	CCA, CUSTOMA	71	BCA,BCUSTOM	95
!, HOME	12	N, WHO	32	RDADC	52	CCB, CUSTOMB	72	LED	96
J, JOYSTICK	13	Z, ZERO	33	NR, SCANR	53	TEST	73	SECURE	97
KD, KDP	14	JS, JSSPD	34	NV, SCANV	54	EP, EPOL	74	MM, MULTIMV	98
KI, KIP	15	ES, ENSYNC	35	UL, UNLOCK	55	RT, RTIME	75	TSLOCK	99
KP, KPP	16	I, INFO	36	RL, RELOCK	56	AFADJ	76	SAA	100
KV, KVP	17	SP, SAVEPOS	37	LR, LOCKRG	57	AFC, AFCALIB	77	SAM	101
M, MOVE	18	LD, LOAD	38	SB, STOPBITS	58	AFHOLD	78	SAP	102
R, MOVREL	19	DU, DUMP	39	VB, VBMODE	59	SI	79	SAF	103
								SAO	104

To disable the write function of a command, use VB T=(1000+CMD).

Example VB T=1027 will disable changing the SPEED command.

The command is explicitly enabled by using VB T=CMD.

Example VB T=27 will allow the SPEED command to work again.

Tiger syntax and function

Shortcut	VB
Format	[addr#]VB [X=binary_code] [Z=read_decimal_places] [F=###]
Units	Integer
Type	Card-Addressed
Remembered	Using [addr#]SS Z

The **Z** argument sets the number of decimal places for the WHERE command. This is card-addressed so that different cards can be set differently. It is saved to non-volatile memory using the SS Z command.

The **F** argument sets the reply syntax; this command is only applicable to the comm card. The default setting of 0 is the MS-2000 syntax, and setting to 1 gives the Tiger syntax (see Reply Syntax section of Quick Start on Serial Commands. The syntax state does not persist when power is turned off because the comm card has no saved settings (it could potentially in the future, but not as of mid-2022).
Reply Note that this command does NOT return :A or other acknowledgement.

The **X** argument implemented in firmware version 3.17 and above. When set with the Binary bit shown in the table below, performs the corresponding action

Bit 4	16	Move and Move Rel will print the new Target Position.Vector command will print the current position

```
1vb x=16

<LF>
ve x=1 y=-1
```

```
:A -0 -0
<LF>
ve x=2 y=-2
:A 66562 -66567
<LF>
ve x=0 y=0
:A 156651 -156663
<LF>
```

In the above example, XY stage is on Card Addr#1. Because VB X=16, BIT4 was set. This makes the Vector command reply with the axis's current position.

commands, tiger, ms2000