

RBC Protocol Addendum- Draft 14th May 2009

Unofficial document – Information is not supplied by Robobuilder so unverified !

4.11. Read Firmware Version

Read the version number of the firmware loaded in the RBC

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (1)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x12	don't care	1	1	

RBC → Remote control device : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (2)		Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x12	platform	2	major	minor	

Major is hex value giving major version number

Minor is hex value giving minor version number

Major = 0x02, Minor = 0x0F = Version 2.15

4.12. Read Serial Number

Read the serial number of the RBC

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (1)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0C	don't care	1	1	

RBC → Remote control device : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (13)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0C	platform	0x0D	Serial	

Serial is ASCII coded serial number

4.13. Reset Memory Pointer

Reset the pointer for the download of motion and action files

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (1)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x1F	don't care	1	Memory	

RBC → Remote control device : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (1)	Checksum (1)
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0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x1F	platform	1	Memory	
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Memory is = 1 for Motion Memory and = 2 for Action Memory

4.14. Read Available Memory

Read the available memory for the download of motion and action files

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (1)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0F	don't care	1	Memory	

RBC → Remote control device : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (4)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0F	platform	4	Space	

Memory is = 1 for Motion Memory and = 2 for Action Memory

Space is available memory in hex msb first.

4.15. Write Motion

Write a motion file to the RBC

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x01	don't care	Length

RBC → Remote control device : single time

Acknowledge
0x40

Remote control device → RBC : multiple times

Up to 64 bytes
Motion Data + checksum

RBC → Remote control device : multiple times

Acknowledge
0x40

This command is not yet checked, also other response may be possible

4.16. Write Action

Write an Action file to the RBC

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x02	don't care	Length

RBC → Remote control device : single time

Acknowledge
0x40

Remote control device → RBC : multiple times

Up to 64 bytes
Motion Data + checksum

RBC → Remote control device : multiple times

Acknowledge
0x40

This command is not yet checked, also other response may be possible

4.17. Read Zero from RBC

Reads the Zero positions from RBC

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (1)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0B	don't care	1	1	

RBC → Remote control device : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (16)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0B	platform	0x10	Zeros	

Zero values are hex values.

Only seems to give 16 zeros even if more servos !

4.18. Write Zero to RBC

Writes the Zero positions to RBC

Remote control device → RBC : single time

Header (8)								Command Type (1)	Platform (1)	Command Size (4)	Command Contents (16)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0E	don't care	0x10	Zeros	

RBC → Remote control device : single time

Header (8)							Command Type (1)	Platform (1)	Command Size (4)	Command Contents (16)	Checksum (1)
0xFF	0xFF	0xAA	0x55	0xAA	0x55	0x37	0xBA	0x0E	platform	0x10	

Zero values are hex values.

Need to check if can be other than 16 zeros used by Motionbuilder !

Command Index

Command Type Hex	Command Type Decimal	Command Name	Section	Source
0x01	1	Write Motion	4.15	I-Bot
0x02	2	Write Action	4.16	I-Bot
0x0B	11	Read Zero Positions	4.17	I-Bot
0x0C	12	Read Serial Number	4.12	I-Bot
0x0E	14	Write Zero Positions	4.18	I-Bot
0x0F	15	Read Available Memory	4.14	I-Bot
0x10	16	Direct Control Mode	4.1	Robobuilder
0x11	17	??		Raymond
0x12	18	Read Firmware Version	4.11	I-Bot
0x13	19	??		Raymond
0x14	20	Run Motion	4.3	Robobuilder
0x15	21	Run Sound	4.4	Robobuilder
0x16	22	Distance Sensor	4.5	Robobuilder
0x17	23	Sound Input	4.6	Robobuilder
0x18	24	Button Press	4.7	Robobuilder
0x19	25	Remote Control	4.8	Robobuilder
0x1A	26	Accelerometer	4.9	Robobuilder
0x1E	30	Execution Status	4.1	Robobuilder
0x1F	31	Reset Memory Pointer	4.13	I-Bot