

Ashtech Micro-Z Interface Protocol Quick Reference

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Ashtech Micro-Z Interface Protocol Quick Reference

System Default Settings

Serial port baud rate: 9600, 8, N, 1

Clock steering: Enabled

Raw data output rate: 20.0 sec

Once new values are set they can be saved to memory by issuing a `$PASHS,SAV,Y` command to the serial port. Parameters are saved to memory until a memory reset or a receiver initialization is performed. This will reset all parameters back to their defaults.

The following command will force the receiver to default values: **`$PASHS,RST` (hit Enter)**

To clear the stored almanac, ephemeris data, reset the receiver memory, set the serial port baud rate to the specified rates, and/or send the modem initialization string through the specified port send the `$PASHS,INI` command. The format of the command is `$PASHS,INI,d1,d2,d3,d4,d5,c6` where d1-d4 are the default baud rate codes for ports A-D, d5 is the reset memory code and takes a value of 0-3 with the following codes:

- 0 = No memory reset
- 1 = Reset internal memory/battery back-up memory
- 2 = Reset/reformat memory card
- 3 = Reset internal memory and memory card

For example, sending `$PASHS,INI,5,5,5,5,3,0` will do a full receiver reset. Codes 0 and 2 behave like a power cycle. Codes 1 and 3 reset all parameters to default as well as the ephemeris and almanac. Code 2 and 3 reformat the memory card by clearing the FAT table and directory structure. The parameter c6 sets the modem initialization and takes values A-D or 0 = no initialization.

System Initialization - Baud Rate

The `$PASHQ,PRT` queries the baud rate of the current port. The return is `$PASHR,PRT,c1,d2*cc` where c1 is the port (A,B,C,D), d2 is the port code listed below and *cc is the checksum.

- 0 = 300

- 1 = 600
- 2 = 1200
- 3 = 2400
- 4 = 4800
- 5 = 9600
- 6 = 19200
- 7 = 38400
- 8 = 56800
- 9 = 115200

To set the baud rate of a port send the following command \$PASHS,SPD,A,9 (hit Enter) this sets port A to 115200.

\$PASHS,BEEP	Enable/Disable LED and warning beep
\$PASHS,OUT,A	turns all output off on port A
\$PASHS,NME,ALL,A,OFF	turns off all nmea outputs on port A
\$PASHS,SES,DEL	deletes all stored sessions
\$PASHS,MSV,3	sets min sv's to 3
\$PASHS,ELM,0	sets elevation mask to 0
\$PASHS,RCI,5	sets recording interval to 5 sec
\$PASHG,MULM,0	turns multipath mitigation off
\$PASHS,UTS,N	sets clock steering to no
\$PASHS,OUT,A,MBN,PBN,SNV,BIN	enables output of MBN,PBN,SNV,BIN on port A
\$PASHS,FRM,Y	enable Ring File memory mode
\$PASHS,REC,N	Disable recording data

System Information

\$PASHQ,STA,c	Show status of SVs currently locked, c is optional output serial port
\$PASHQ,TMP	Query receiver temperature
\$PASHQ,WKN	Query GPS week number
\$PASHQ,PPS	Display 1PPS parameters
\$PASHQ,PAR	Request current settings of receiver parameters
\$PASHQ,RID	Request receiver identification

Meteorological Unit Commands

\$PASHQ,MET

Query meteorological unit setup

\$PASHS,MET,CMD

Set meteorological unit trigger string (default is *0100P9)

\$PASHS,MET,INIT

Set meteorological unit initialization string (default is none)

\$PASHS,MET,INTVL

Set meteorological unit output interval in seconds (default is 5 seconds)

\$PASHS,OUT,c,MET

Start/Stop output of meteorological unit data

For example: \$PASHS,MET,INTVL,C,10

\$PASHS,OUT,C,MET,ON

Sets the MET interval to 10 seconds and enables output on port C

BINEX Commands

Turn on/off BINEX output:

\$PASHS,BNX,ON,A

\$PASHS,BNX,OFF,A

Set observables output interval:

\$PASHS,BNX,INT,1.0

Control output of individual record type:

\$PASHS,BNX,TYP,,A,[ON|OFF|0.1]

Query the output status

\$PASHQ,BNX

\$PASHR,BNX,A,ON,0,ON,1,OFF,126,0.2,B,OFF,C,OFF,D,OFF

Streaming Example

check to make sure you are connected, and to which port

SEND: \$PASHQ,RID

RESPONSE: \$PASHR,RID,UZ,30,CJ10,---XM--3--,0A16*7E

SEND: \$PASHQ,PRT

RESPONSE: \$PASHR,PRT,B,7*57

Set Port A, C, and D baud rates to 38400

SEND: \$PASHS,SPD,A,7

RESPONSE: \$PASHR,ACK*3D

SEND: \$PASHS,SPD,C,7

RESPONSE: \$PASHR,ACK*3D
SEND: \$PASHS,SPD,D,7
RESPONSE: \$PASHR,ACK*3D

Turn off data recording

SEND: \$PASHS,REC,N
RESPONSE: \$PASHR,ACK*3D

Set the elevation mask to zero

SEND: \$PASHS,ELM,0
RESPONSE: \$PASHR,ACK*3D

Set the binex output interval

SEND: \$PASHS,BNX,INT,10
RESPONSE: \$PASHR,ACK*3D

Turn binex on on port A

SEND: \$PASHS,BNX,ON,A
RESPONSE: \$PASHR,ACK*3D

Save the current set up as power down default

SEND: \$PASHS,SAV,Y
RESPONSE: \$PASHR,ACK*3D

Query the status of binex output. Note that binex records are set on for port A.

SEND: \$PASHQ,BNX
RESPONSE: \$PASHR,BNX,SMT,A,ON,0x0,ON,CHG,0x1,ON,CHG,0x7E,ON,CHG,0x7F,ON,
10.00,B,OFF,0x0,ON,CHG,0x1,ON,CHG,0x7E,ON,CHG,0x7F,ON,10.00,C,OFF,0x0,ON,CHG,
0x1,ON,CHG,0x7E,ON,CHG,0x7F,ON,10.00,D,OFF,0x0,ON,CHG,0x1,ON,CHG,0x7E,ON,CHG,
0x7F,ON,10.00*0C

MORE EXAMPLES:

Questions or problems with receiver firmware uploading may be directed to Ashtech Technical Support
magellangps.com

at: (408)615-3980, 1-800-229-2400, or support

Online URL: <https://kb.unavco.org/article/ashtech-micro-z-interface-protocol-quick-reference-369.html>