“Log Reader” for A5N Servo Drive Instruction Manual

Panasonic Corporation

Revision History

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Revision	Date	Change Description
1	2010/11/19	Initial Release
2	2011/6/15	Minor Edits
3	2011/11/12	P5 Deleted “Normally 16byte” of Log Mode. P8 Added 32byte mode indication example and a note. P10 Added a note for Update Counter Echo. P11 Minor edits. P12 Added descriptions of data line in 32byte mode.
4	2012/4/4	P9 Added that default is RS232. P10 Added “Folder for Logged Files”.
5	2012/4/23	P8 Added description into the note.
6	2014/11/14	P5 Minor edits. P9 Changed that default is USB. P10 Changed the save folder.

System Configuration

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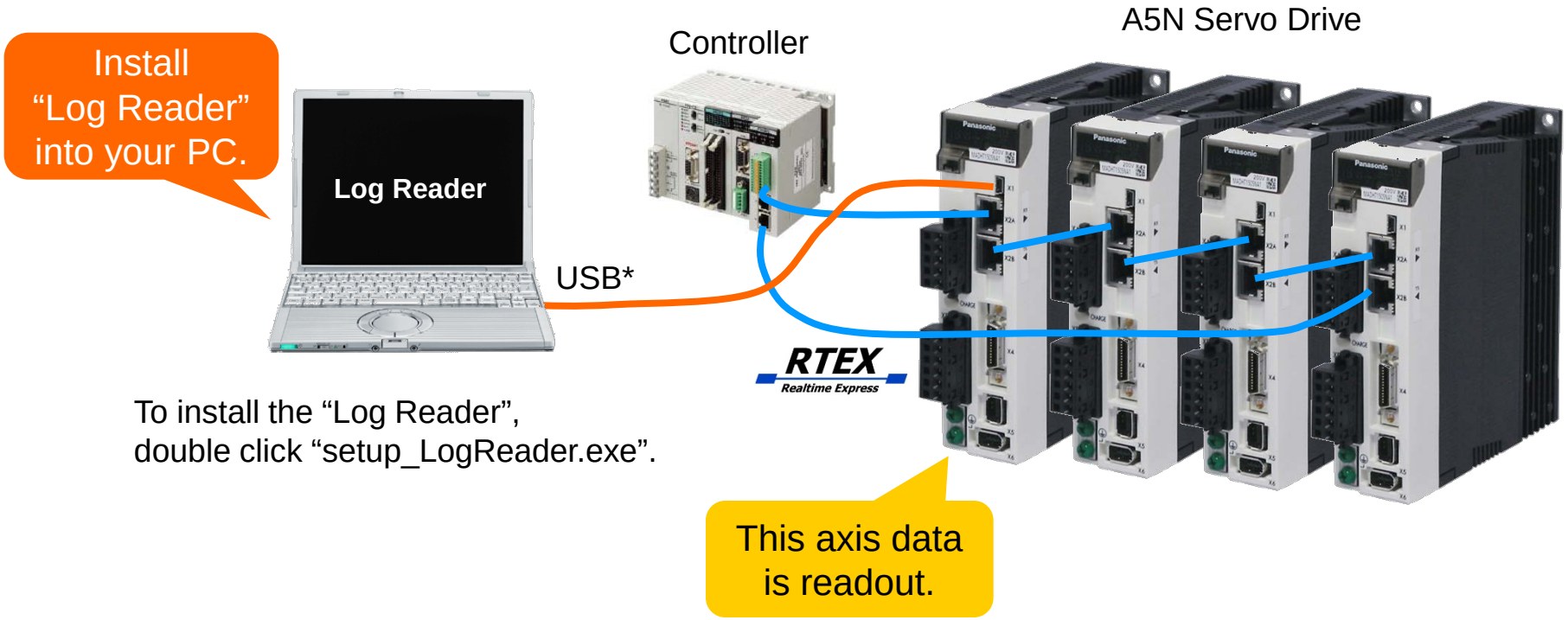
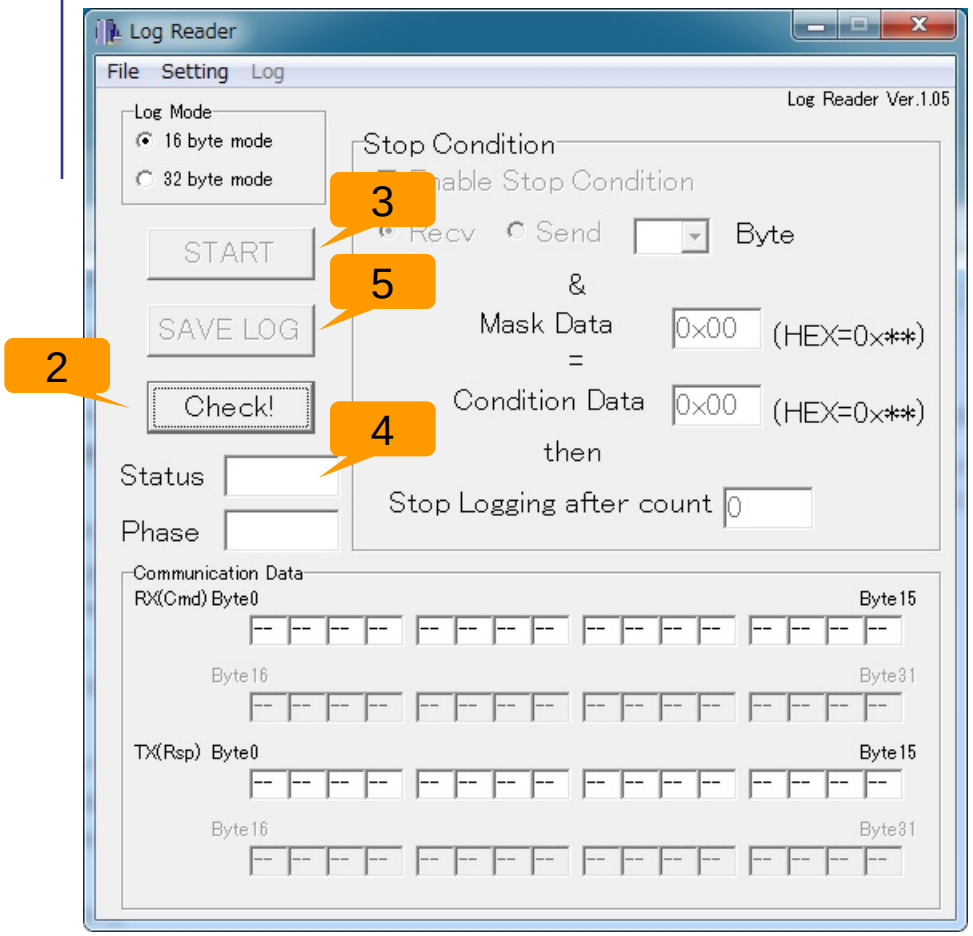
This tool is to readout the command and response data logged inside A5N. This is for only an axis connected with USB cable, and the other axes data cannot be readout. The power supply of the drive must be kept ON during the operation, otherwise the logged data is spoiled.



* MINI-B type 5pin (drive side) cable on the market

Usage



1. Connect the PC to the drive with USB cable, and start “Log Reader”.

2. Click <Check!>, and confirm “Status” of the drive is “IDLE”.

3. After setting “Stop Condition” if necessary, click <START>, and “Status” changes to “Logging”.

4. If clicking <Check!> and “Status” changes to “IDLE”, the logging has finished.
   If manual stop is needed, click <STOP>.

5. In the manual saving mode,
   click <SAVE LOG>, and the logging data is saved into a file.

Main Window

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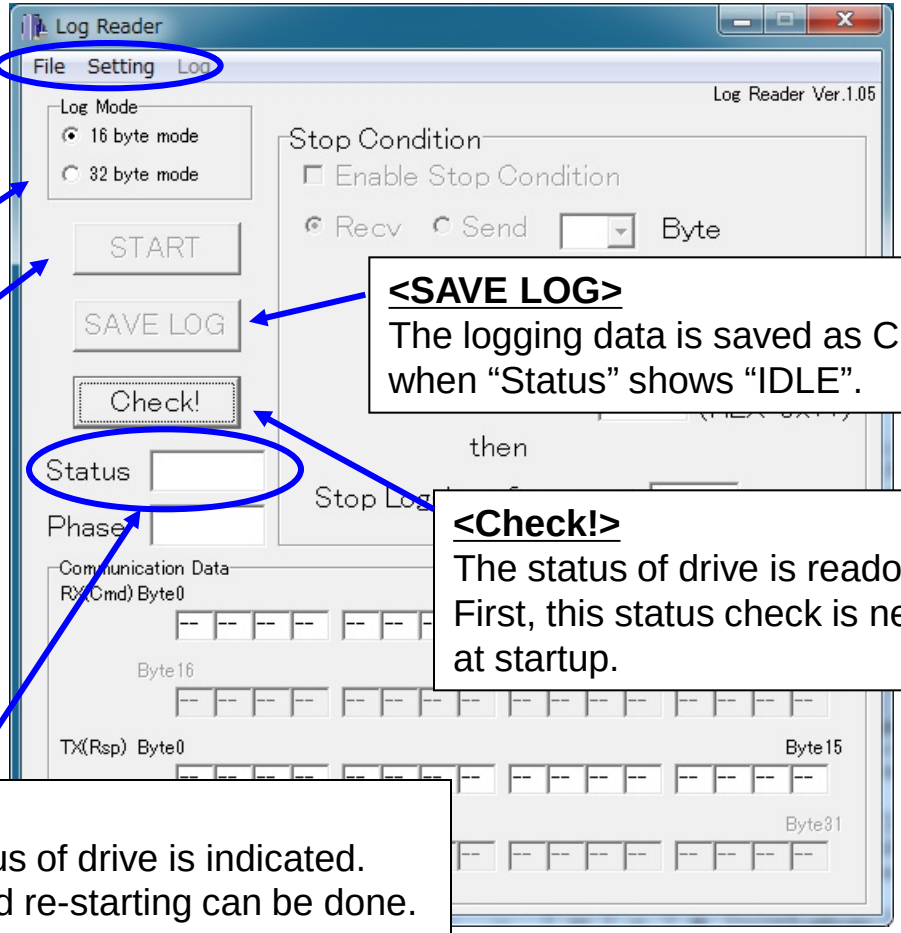
Menu bar
File -> Exit:
End the program
Setting -> Configuration:
Show configuration window.
Log -> View Log Data:
Show logging status window.

Log Mode
Choose transmitting mode.

<START/STOP>
To start or stop logging is controlled.
START: When status is IDLE or Cancel.
STOP: When status is Logging.



<SAVE LOG>
The logging data is saved as CSV file, when “Status” shows “IDLE”.

<Check!>
The status of drive is readout. First, this status check is needed at startup.

Status of Drive
After clicking <Check!> button, current status of drive is indicated.
IDLE: Logging finished. Data saving and re-starting can be done.
Logging: Logging is in progress.
Cancel: Logging data is spoiled with the unexpected. Re-starting can be done.

Trigger Setting

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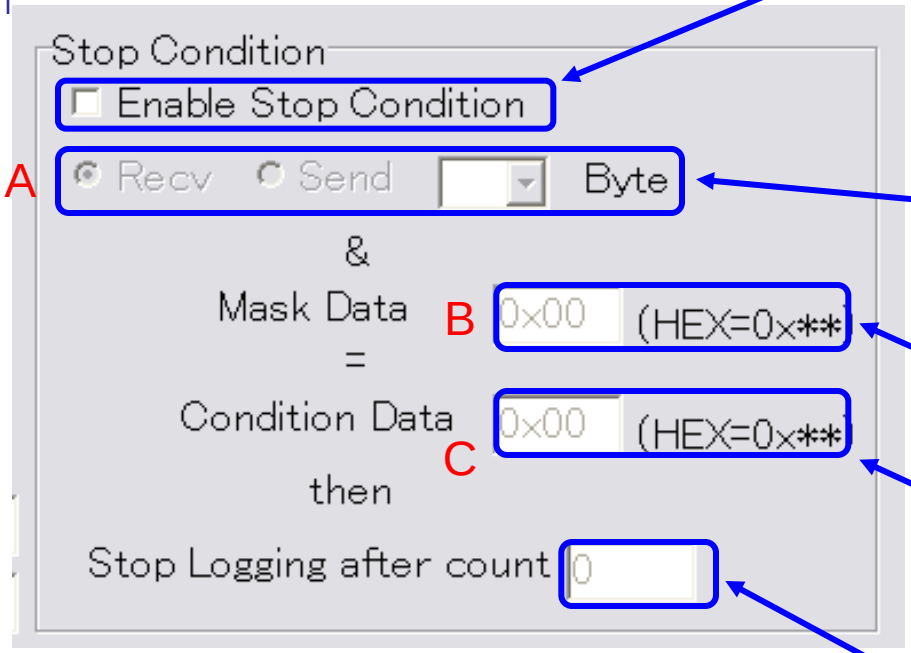


Image:

```
If ((A & B) == C) {
    trigger();
}
```

Enabling Stop Condition
If checked, the trigger settings to stop logging are effective. When the conditions are matched, the logging is stopped automatically.
If not checked, the logging is continued until clicking <STOP>.

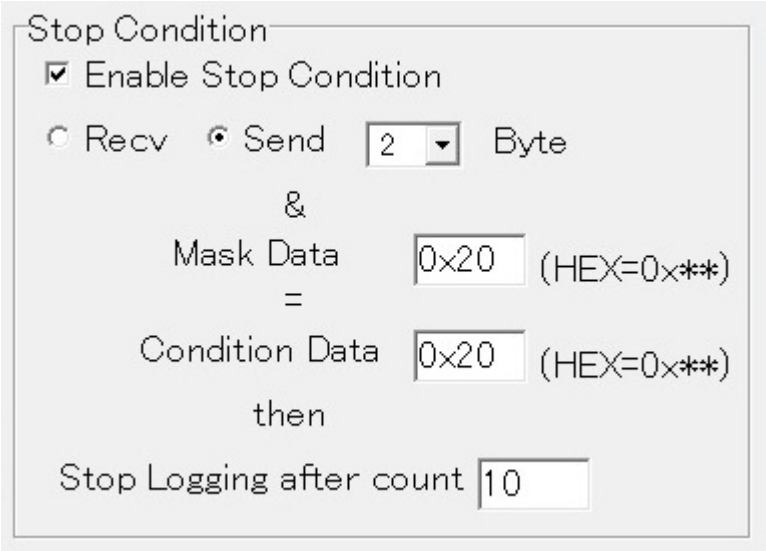
Trigger Data
Select trigger data with byte number and Recv (Command) / Send (Response).

Mask Data
Set the bit mask (hex) to filter the trigger data.

Matching Data for Trigger
When matching with this value (hex), the logging is stopped.

Count # after Trigger
Set the number of logging data after trigger timing,

Trigger Setting Example

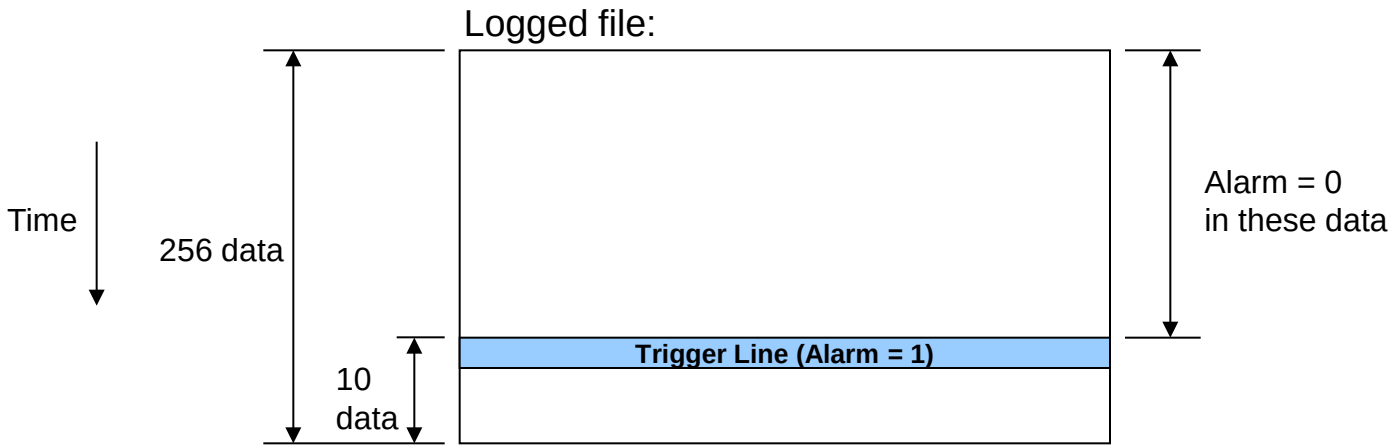


Triggered by Alarm = 1
(Response byte2, bit5)

Send (Response) data, byte2

Mask: 0010 0000

Condition: 0010 0000



Communication Data Monitor

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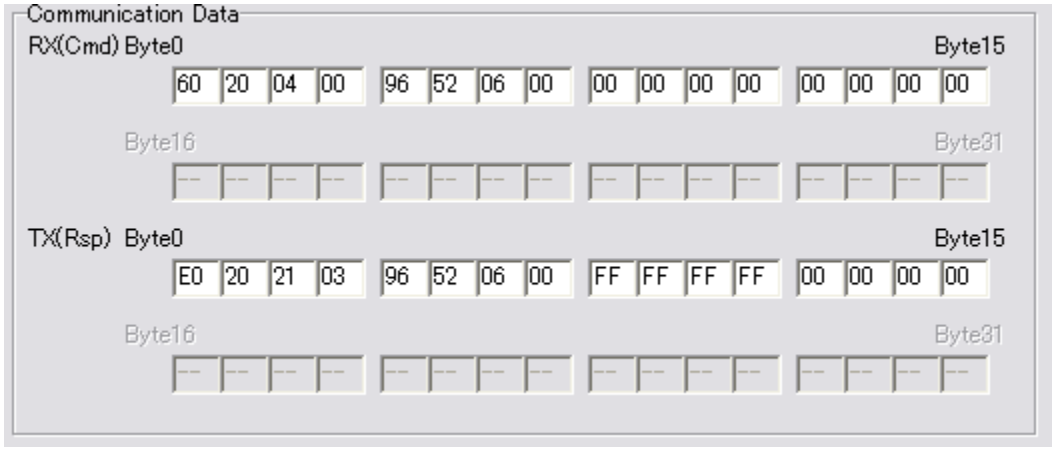
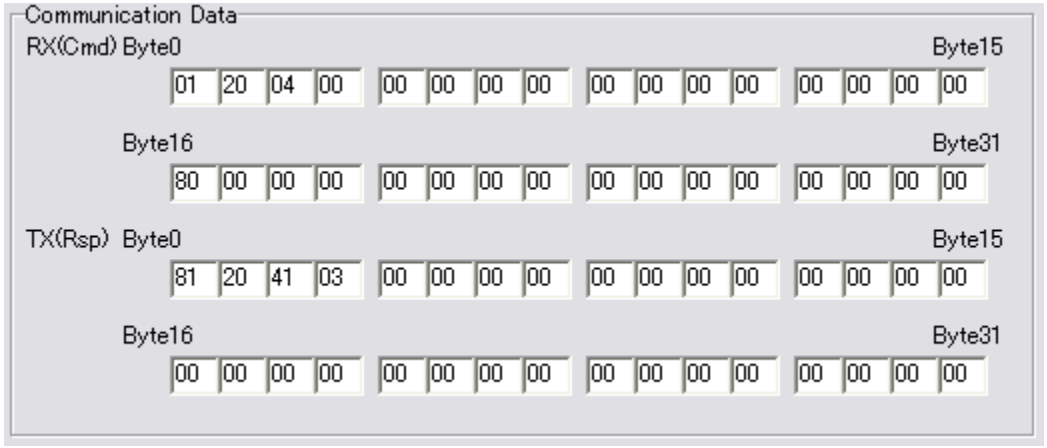
After clicking <Check!>,
the command and response data at the moment are shown on “Communication Data”.

16byte Mode:



32byte Mode:



Note:
RX (Command) data and TX (Response) data corresponding to the RX data are shown as a pair. Actually, the TX data is output with some delay. So it is different from actual timing between RX and TX data which can be monitored with a normal communication analyzer.
Also, depending on the timing, TX data may not correspond with RX data.
If checking the correspondence, a logged file should be used instead.

Configuration Window

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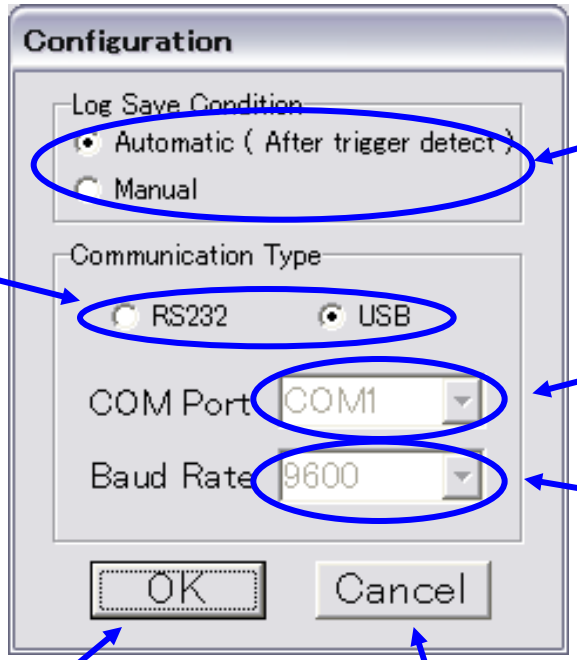
Menu bar
Setting -> Configuration



Communication Type
Choose USB.
Default is USB.

File Saving Mode
For saving logging file after trigger, choose Automatic or Manual.
Default is Automatic.

COM Port
For RS232 only.
Select COM Port for RS232.

Baud Rate
For RS232 only.
To match the drive specification, select RS232 baud rate from 115200, 57600, 38400, 19200, 9600, 4800, or 2400bps. (default 9600)

<OK>
Settings applied.

<Cancel>
Settings not applied.

Folder for Logged Files

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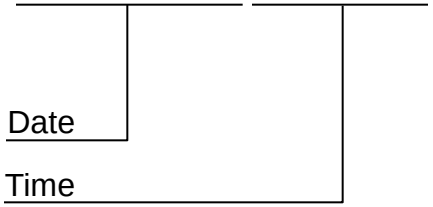
Folder for logged files in auto saving mode:

My Documents¥Panasonic Corporation¥LogReader

File name:

Autolog_yyyymmddhhmmss.txt



Logged File

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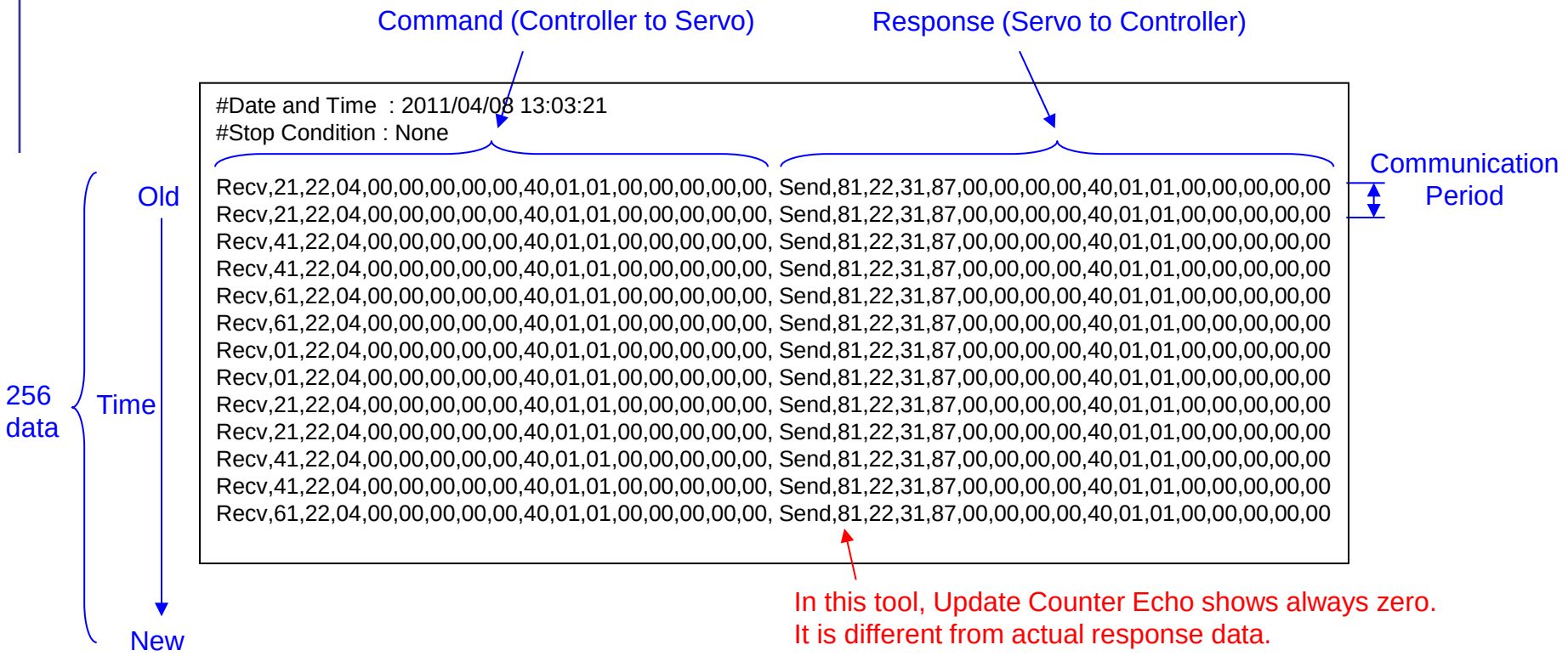

- The communication logging data is saved with a “CSV” style text file.
  If the drive detects CRC error of communication, the command data is filled with “FF”.
- As this tool’s limitations, Update Counter Echo shows always zero.
- Command and Response data corresponding to the Command are shown as a pair.
  Actually, the Response data is output with some delay. So it is different from actual timing between Command and Response which can be monitored with a normal communication analyzer.

Data Line in 16byte Mode

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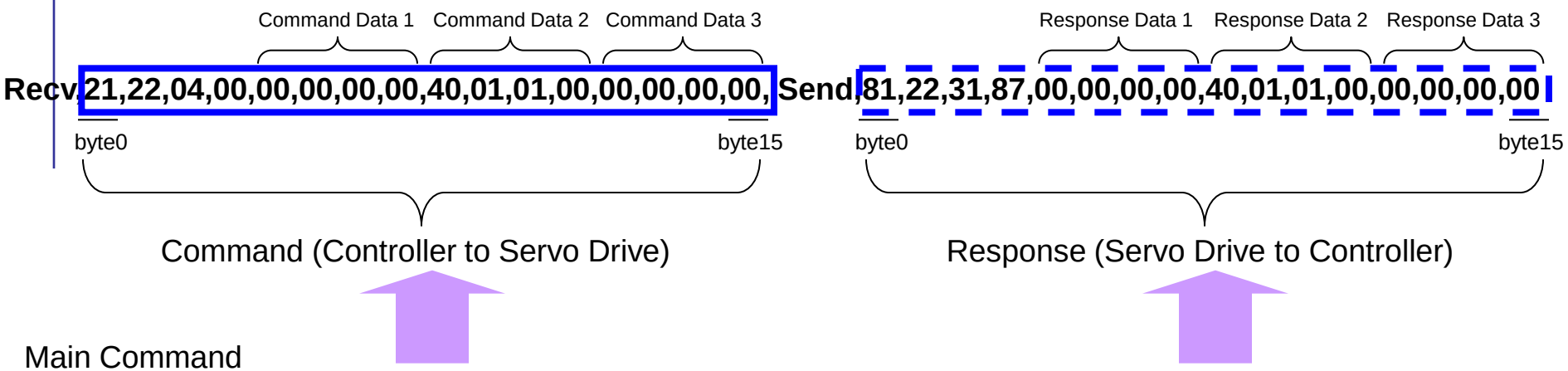


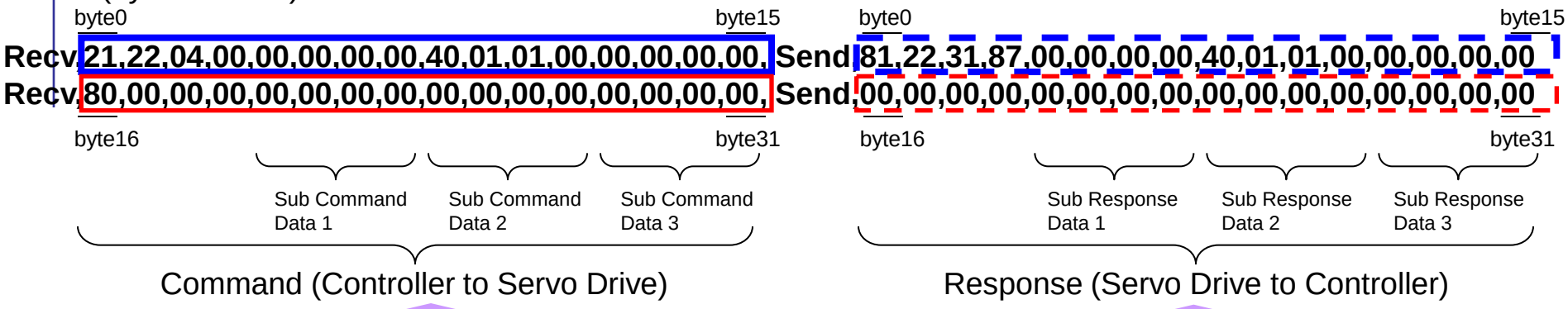
Main Command

Byte	Command bit7	6	5	4	3	2	1	0
0	C (0)	Update_Counter		MAC-ID				
1	TMG_ CNT	Command_Code						
2	Control_Bits							
3								
4	Command_Data1							
5								
6								
7								
8	Command_Data2							
9								
10								
11								
12	Command_Data3							
13								
14								
15								

Byte	Response bit7	6	5	4	3	2	1	0
0	R (1)	Update_Counter _Echo		Actual MAC-ID				
1	CMD_ Error	Command_Code_Echo						
2	Status_Flags							
3								
4	Response_Data1							
5								
6								
7								
8	Response_Data2							
9								
10								
11								
12	Response_Data3							
13								
14								
15								

Data Line in 32byte Mode

Alternately, main command (byte 0 to 15), which is the same as 16byte mode, and sub command (byte 16 to 31) are shown.



Sub Command

Byte	Command bit7	6	5	4	3	2	1	0	Byte	Response bit7	6	5	4	3	2	1	0
16	Sub_ Chk	0	0	0	Sub_Command_Code				16	Sub_ CMD_Err	Sub_ ERR	Sub_ WNG	Sub_ Busy	Sub_Command_Code_Echo			
17	Sub_Type_Code								17	Sub_Type_Code_Echo							
18	Sub_Index								18	Sub_Index_Echo							
19									19								
20	Sub_Command_Data1								20	Sub_Response_Data1							
21									21								
22									22								
23									23								
24	Sub_Command_Data2								24	Sub_Response_Data2							
25									25								
26									26								
27									27								
28	Sub_Command_Data3								28	Sub_Response_Data3							
29									29								
30									30								
31									31								