I-7530 Series FAQ

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Q1、How do I configure the I-7530, such as baud, Acceptance Code, Acceptance Mask and so forth? (2011/1/5,Bear)

A：First, connect the I-7530 COM port with the PC available COM port. Then, switch the switch behind I-7530 from Normal to Init. Execute I-7530 Utility on PC, and press Connect button to connect PC with I-7530. After successful connection, users can change the parameters of baud, Acceptance Code, Acceptance Mask, and so forth.
(2011/1/5,Bear)

Q2、How does these two parameter, Acceptance Code and Acceptance Mask, work in I-7530 ? (2011/1/5,Bear)

A：Acceptance Code is the CAN ID that you want to get, and Acceptance Mask is the CAN ID that you want to filter. For example, if the CAN ID follows the CAN 2.0A specification：

1. If users want to get all the message on the CAN bus, the setting must be as follow:
   Acceptance Code: xxx (x is don't care)
   Acceptance Mask: 000
2. If users want to get the message of CAN ID 0x123 and filter all the other CAN message, the setting must be as follow:
   Acceptance Code: 123 (001 0010 0011 bit)
   Acceptance Mask: 7FF (111 1111 1111 bit)
3. If users want to get the message of CAN ID from 0x100 to 0x12F and filter all the other CAN message, the setting must be as follow:
   Acceptance Code: 10x (001 00xx xxxx bit (x is don't care))
   Acceptance Mask: 7C0 (111 1100 0000 bit)

The setting for CAN 2.0A and CAN 2.0B are the same. The different between 2.0A and 2.0B is the CAN ID bits. In CAN 2.0A, CAN ID is 11 bits. In CAN 2.0B, CAN ID is 29 bits.
(2011/1/5,Bear)

Q3、Can I use the connection architecture as follows: DCON module <--> I-7520 <--> I-7530 <--> CAN device ? (2011/1/5,Bear)

A：No. Because the I-7530 RS-232 commands which are sent/received by DCON modules must obey the I-7530 command ruled. The DCON commands are not suited to I-7530

command rules. Therefore, the architecture above can't work. Users can refer the chapter 4 of I-7530 user manual for more information. Furthermore, if users want to connect DCON module with CANopen device or DeviceNet device, users can refer I-7231D (DCON/CANopen Gateway) or I-7241D (DCON/DeviceNet Gateway) to do this.
(2011/1/5,Bear)

Q4、In I-7530, the available pins of I-7530 CAN port are CAN_H and CAN_L. But the CAN port of my CAN device need five pins. How do I connect I-7530 with my CAN device? (2011/1/5,Bear)

A：The standard pins of CAN port are V+, CAN_H, Shield GND, CAN_L, and V-. The CAN_H and CAN_L of users' CAN device are necessary to connect with the CAN_H(pin 7) and CAN_L(pin 2) of I-7530. Connect the V+ and V- of users' CAN device with power supply(this part must refer to the user manual of users' CAN device. Generally, it needs 24VDC). And finally, the Shield GND of the users' CAN device can connect with the GND of power supply or frame ground.
(2011/1/5,Bear)

Q5、How to transmit CAN messages from I-7530 to CAN bus ? (2011/1/5,Bear)

A：Connect the I-7530 COM port with the PC available COM port., and connect I-7530 CAN port with CAN port of the others CAN device (The CAN bus topology is basically line-type). Then, input COM port command to I-7530, and the I-7530 will convert the COM port command to CAN message, and transmit it to the CAN bus.
(2011/1/5,Bear)

Q6、How can I know if a I-7530 works correctly ? (2011/1/5,Bear)

A：If the wire connection is correct, users can watch the LED on the I-7530. I-7530 is working correctly when the ON LED is always turned on and the ERR LED is always turned off. Or users can use I-7530 Utility to transmit CAN messages from I-7530 to CAN devices on the same CAN bus. If the CAN devices respond CAN messages or have the correct reactions, it means that the I-7530 is working correctly.
(2011/1/5,Bear)

Q7: My I-7530 firmware version is v1.07. Why can't I use the "pair connection" function of the module? (2011/02/08, Andy)

A:

The pair connection function is supported by firmware v2.0 or later.

The 7530 firmware you used is v1.07.

If you want to update it, you need to send the module back to us.

(2011/02/08,Andy)

Q8: I need an .eds file of the I-7530. So I can integrate the device to my PLC. Can you help me? (2011/02/08, Andy)

A:

The module is a CAN to RS-232 converter, not a slave of CAN device.

When receiving a CAN message, it acts as a converter and transfer CAN message to ASCII string and send this string to RS-232 side. On RS-232 side, when receiving an ASCII string, it transfers the specific ASCII message to CAN message and bypass this message to CAN bus.

The EDS file is using on the device that contain certain protocol, like DeviceNet or CANopen ...etc.

But the module is act as a converter. So there is no EDS file for this device.

(2011/02/08,Andy)

Q9: How to calculate the I-7530 checksum [CHK] , which is added on the end of RS232 frame before <CR> ? (2011/02/08, Andy)

A:

The checksum [CHK] is two ASCII characters of the sum of the message.

Here we use "RA[CHK]<CR>" for example.

The checksum of this command is 'R' +'A'.

'R' (0x52) + 'A' (0x41) = 0x93

So the checksum [CHK] is"93"

(2011/02/08,Andy)

Q10: Can I use I-7530 to communicate with the CANopen, DeviceNet or J1939 devices? (2011/02/08, Andy)

A:

These protocols are base on CAN 2.0A/2.0B specification.

There is no problem to use the module to communicate with these devices.

But user needs to know the meaning of these CAN messages that these devices used. Then they can send and receive the specific ASCII messages that the module supported.

(2011/02/08,Andy)

Q11: Does I-7530 series support CAN baud rate 75K bps? (2013/12/10, Alan)

A:

Yes, the firmware version v300 or later supports user-defined CAN baud rate. Using this function, users can calculate Bit Timing parameters of I-7530 series by themselves. Please refer to user's manual section 3.5 for details.

ftp://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530/manual/

(2013/12/10, Alan)

Q12: Does theI-7530A support NMEA0183 protocol? (2011/02/08, Andy)

A:

The I-7530A does not support NMEA0183 protocol.

It supports some special ASCII command strings on RS-232/485/422 interface. About the command strings, please refer to section 4 of user manual.

http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530a/manual/i7530a_usermanual.pdf

(2011/02/08,Andy)

Q13: Does the I-7530A be usable to receive arbitrary data stream from a RS485 or RS232 device without any modifications on the device side?? (2011/02/08, Andy)

A:
The module support some specific command strings, it can not receive arbitrary data stream from a RS485 or RS232 device.
We have another product that can receive data stream that user defined.
If user knows what kind of the data stream that the RS485 or RS232 device supported, we may design and create the product for user.
About the product, please refer to following web site.
http://www.icpdas.com/products/Remote_IO/can_bus/i-7188can.htm
(2011/02/08,Andy)

Q14: What do I get on the RS-485 when I send a CAN message through the device? Do I get the exact same thing as on the CAN-line, or do I only get the ID and data bytes somehow? (2011/02/08, Andy)

A:
When receiving a CAN message from CAN site, the I-7530A will convert this CAN message to ASCII command string and send this string to RS-232/485/422 site. The ASCII command strings that I-7530A supported are listed in section 4 of user's manual.
About the user manual, user can download it from following web site.
ftp://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530a/manual/ or
http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530a/manual/
(2011/02/08,Andy)

Q15: What's maximum FPS of this I-7530A?? (2011/02/08, Andy)

A:
The performance of the module is listed in following table.

The test is the performance which transfer 8 bytes data frame from CAN to RS232.

CAN setting	Transfer frames	Transfer time(ms)	RS-232 setting	Receive frames	Receive time (ms)	The max frames/sec	Data<8 byes/frame	RS232 command length
2.0A 1Mbps	1,000	200	115200,n,8,1	1,000	2954	338	>=338	22 B
2.0A 1Mbps	1,000	200	115200,n,7,1	1,000	2775	360	>=360	22 B
2.0B 1Mbps	1,000	200	115200,n,8,1	1,000	3580	279	>=279	27 B
2.0B 1Mbps	1,000	200	115200,n,7,1	1,000	3337	299	>=299	27 B

The test is the performance which transfer 8 bytes data frame from RS232 to CAN.								
CAN setting	Transfer frames	Transfer time (ms)	RS-232 setting	Receive frames	Receive time (ms)	The max frames/sec	Data<8 byes/frame	RS232 command length
2.0A 1Mbps	1,000,000	2,612,243	115200,n,8,1	1,000,000	2,612,243	382	>=382	22 B
2.0A 1Mbps	1,000,000	2,441,130	115200,n,7,1	1,000,000	2,441,130	409	>=409	22 B
2.0B 1Mbps	1,000,000	3,142,043	115200,n,8,1	1,000,000	3,142,043	318	>=318	27 B
2.0B 1Mbps	1,000,000	3,142,043	115200,n,7,1	1,000,000	2,966,646	337	>=337	27 B

(2011/02/08,Andy)

Q16: How can I get the license agreement for I-7530 utility? (2011/07/12, Andy)

A:

The I-7530 Utility is a free software. Users can to get it from ICP DAS's web site and to use. About the I-7530 Utility, user can download it from following web site.

http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530/utility/

(2011/07/12, Andy)

Q17: Why do I send packets through the I-7530 one by one (without

timeout between packets), i.e, t00121122<CR>t00223344<CR>, the second packet is dropped? (2011/07/12, Andy)

A:

There need some time to check the command format and save the command into buffer. So there need a little delay between each command.
(2011/07/12, Andy)

Q18:What does the item “mode” mean in the I-7530 Utility? (2011/07/12, Andy)

A:

In the Utility, the mode item indicate that a CAN message is compliant the specification CAN 2.0A or CAN 2.0B and it only can key-in the number 0 or 1 . If the mode item set to 0, that mean the CAN message will be send compliant the specification CAN 2.0A. If the item set to 1, that mean the CAN message is compliant the specification CAN 2.0B.
(2011/07/12, Andy)

Q19: Does the I-7530 support auto detect the speed? (2011/07/12, Andy)

A:

The I-7530 module is not supported the capability of auto detect speed. User can to change the parameter of baud rate by I-7530 Utility. The I-7530 Utility can be downloaded from
http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530/utility/
And about the instructions for the Utility, please refer to section 3 of user’s menual.
http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530/manual/i7530_usermanual.pdf
(2011/07/12, Andy)

Q20: How does the I-7530 respond if the serial string contains 6 data

bytes when the message header specifies that 8 data bytes are present? (2011/07/12, Andy)

A:

If user send a invalid serial string to I-7530. There will no data be passed to CAN network. There is a “Error Response” function for I-7530 to response Syntax and/or communication error information to the RS-232. For example:

“Error Response” function: Enable

1. Send: t12381122334455667788<CR>
   Response: No response (Valid command)
2. Send: t1238112233445566<CR>
   Response: ?2 (Invalid command)

“Error Response” function: Disable

1. Send: t12381122334455667788<CR>
   Response: No response (Valid command)
2. Send: t1238112233445566<CR>
   Response: No response (Invalid command)

The default values of the “Error Response” function is disabled.

More detailed information about the error message that I-7530 supported, please refer to section 5 of user’s manual.

http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530/manual/i7530_usermanual.pdf

(2011/07/12, Andy)

Q21: Can I change the setting of CAN Filter by myself when the I-7530 module work on communication mode? (2011/07/12, Andy)

A:

The I-7530 doesn’t support this function. User must let the module work on configuration mode, in other words, set the Init/Normal switches on the back of the I-7530 to the “Normal” position. Then use the I-7530 Utility to configure.

(2011/07/12, Andy)

Q22: Why the ASCII command string will cause incorrect data when the number of second character of ASCII command string greater than 7 for 2.0A CAN message? (2011/07/12, Andy)

A:

The format of command as show below:

For 2.0A CAN message syntax: tIIILDD…[CHK]<CR>

For 2.0B CAN message syntax: TllllllllDD…[CHK]<CR>

For the ASCII command string of 2.0A CAN message, the second to fourth characters are the property of character ID, that range is 000~7FF. So the second character is from 0 to 7.

For the ASCII command string of 2.0B CAN message, the second to ninth characters are the property ID, that range is 00000000~1FFFFFFF. So the second character is 0 or 1.

More detailed information about the commands that I-7530 supported, please refer to section 4.1 of user's manual.

http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/i-7530/manual/i7530_usermanual.pdf

(2011/07/12, Andy)

Q23: Can I connect the I-7530A with one RS-232 device and one RS-485 device at the same time? (2012/04/02, Andy)

A:

No, the I-7530A does not support user to connect RS-232, RS-485 and RS-422 devices at the same time. CAN messages sent from the CAN bus side of the I-7530A will pass to the RS-232, RS-485 and RS-422 side. But there will be data collision on the RS-232, RS-485 and RS-422 bus, if these Uart bus sent data at the same time. So we do not suggest user to use the RS-232, RS-485 and RS-422 bus at the same time. (2012/04/02, Andy)

Q24: How do I setting the I-7530A-MR into configuration mode? (2012/04/02, Andy)

A:

1. Set the Init/Normal switch to the "Normal" position, which is found on the back of

the I-7530A-MR module.

2. Supply the proper electric power (the 10~30 DC volts) to the I-7530A-MR module.
3. Set the Init/Normal switch to the “Init” (Initial) position at least three seconds.
4. The PWR LED of the I-7530A-MR module will turned on and the other LEDs will flash approximately once per second. That means the I-7530A-MR module is working in the configuration mode.

(2012/04/02, Andy)

Q25: Can I connect the I-7530A-MR with one RS-232 device and one RS-485 device at the same time? (2012/04/02, Andy)

A:

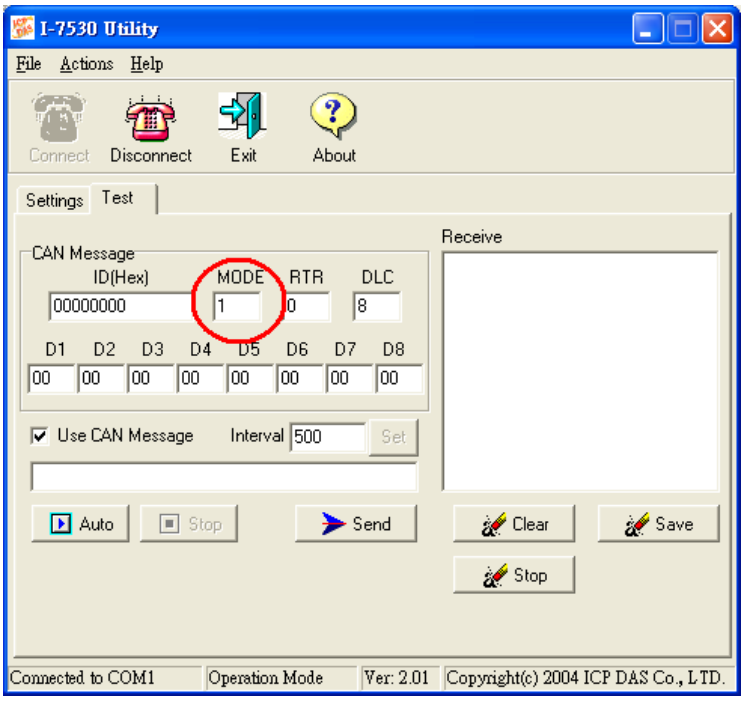
No, the I-7530A-MR does not support user to connect RS-232, RS-485 and RS-422 devices at the same time. CAN messages sent from the CAN bus side of the I-7530A-MR will pass to the RS-232, RS-485 and RS-422 side. But there will be data collision on the RS-232, RS-485 and RS-422 bus, if these Uart bus sent data at the same time. So we do not suggest user to use the RS-232, RS-485 and RS-422 bus at the same time.

(2012/04/02, Andy)

Q26: How to send CAN 29bit ID via using I-7530 Series Utility? (2012/04/02, Alan)

A:

If users want to send CAN 2.0B frame via the I-7530 Series Utility, users can set the “Mode”parameter to ‘1’. Please the following picture.



(2012/04/02 Alan)

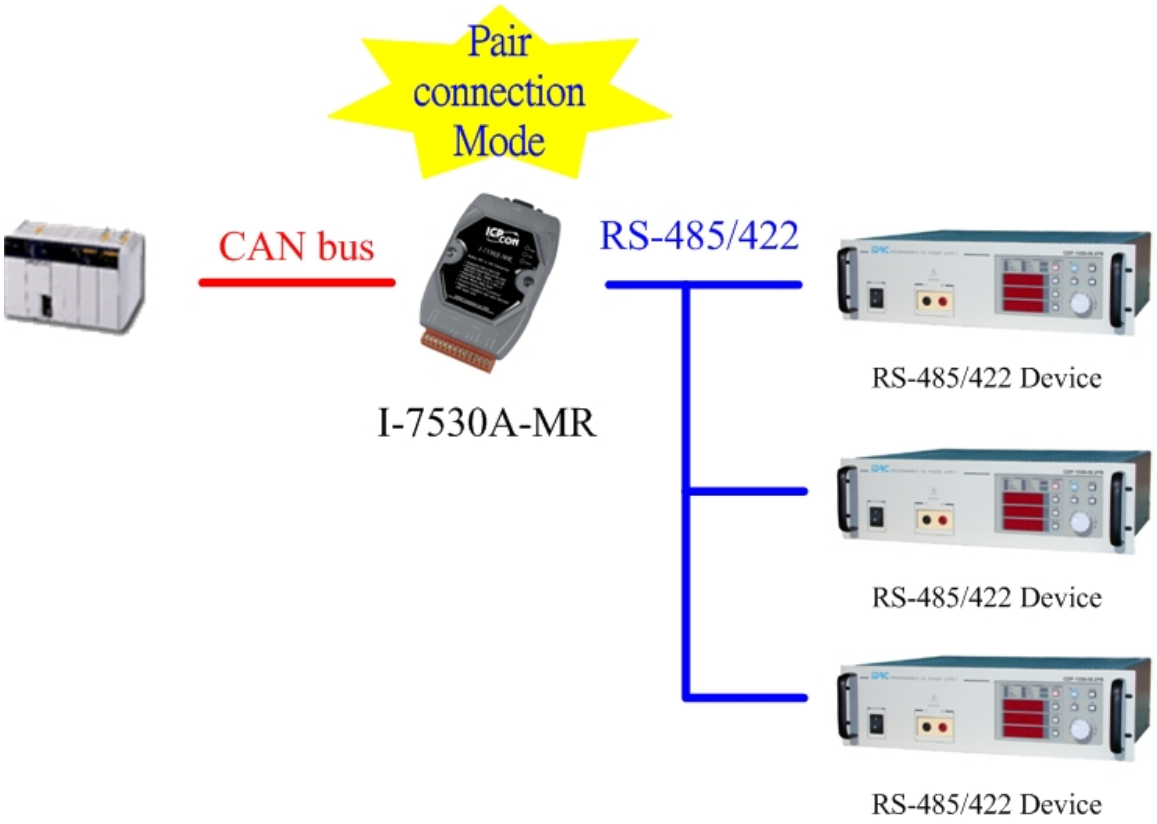
Q27: Can I use a CAN 2.0B controller to control the RS-485 devices, which support SCPI protocol, by using I-7530A-MR? (2012/06/17, Andy)

A:

The SCPI commands are ASCII data frame.

Via pair connection mode of I-7530A-MR, it can convert the CAN messages (with SCPI ASCII data frame) to one SCPI command and send it to RS-485 side. And the respondent SCPI command will be fragmented into two more CAN messages and sent to CAN side if the respondent SCPI command length is more than 8 bytes.

If user can put the SCPI command into CAN data frame and defragment the response commands on his controller, the I-7530A-MR can be used in this application.

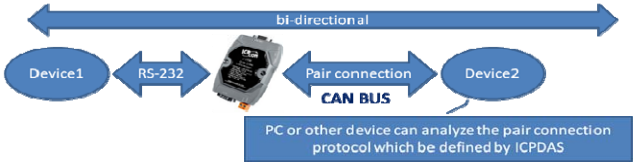


(2012/06/17, Andy)

Q28: Can the I-7530 process all the ASCII characters from the RS232 interface and convert these characters to CAN message and send it via specific CAN ID? (2012/12/25, Alan)

A:

Yes, Users can select I-7530 module and use pair connection function.



If user wants to sent message as follow:
Message = ABCDEFGHIJKL
Definded CAN BUS ID = "0A"
EX1:
Device1 send message to Device2:
Message = ABCDEFGHIJKL
Device2 Receive message from CAN BUS:

Mode	ID	RTR	Len	D0	D1	D2	D3	D4	D5	D6	D7	Time Stamps(s)
11-bit ID	A	N	8	41	42	43	44	45	46	47	48	118738.662109
11-bit ID	A	N	4	49	4A	4B	4C					118738.665039

EX2:
Device2 send message to Device1:

No.	Mode	ID	R TR	Len	D0	D1	D2	D3	D4	D5	D6	D7	Time	Status
0	11-bit ID	A	N	8	41	42	43	44	45	46	47	48	0	

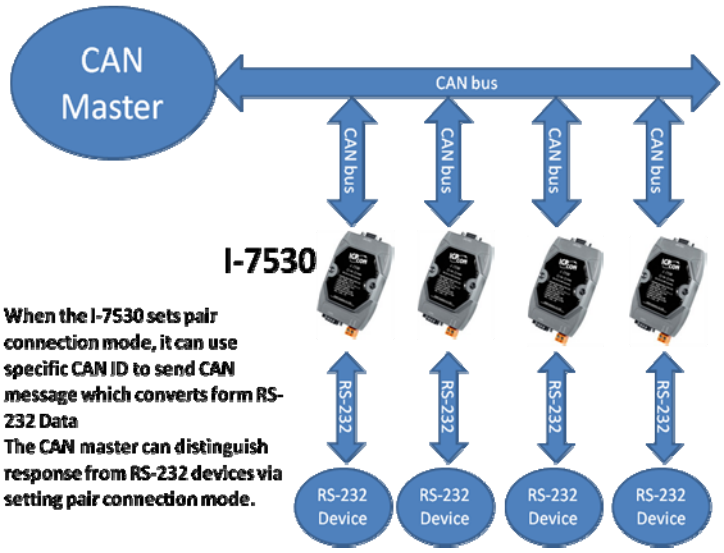
Message =
Device2 Receive message from RS-232:
Message = ABCDEFG
Note : ASCII char is A=41,B=42,C=43,D=44,E=45,F=46,G=47,H=48,I=49,J=4A,K=4B,L=4C

(2012/12/25, Alan)

Q29: Can the I-7530 be used to address the RS-232 devices and bypass the RS-232 command to the master device which is located on CAN bus? (2012/12/25, Alan)

A:

Yes. Via using I-7530 pair connection mode, the CAN master can distinguish the command sent from the RS-232 devices by the specific CAN ID.



(2012/12/25, Alan)

Q30: Do the I-7530 series modules will send CAN messages to CAN bus automatically? (2012/12/25, Andy)

A:

No. I-7530 series modules will not send CAN messages to CAN bus automatically. After receiving a correct command from the UART side, it will convert this command to CAN message and send it the CAN side, otherwise there no data will be sent to the CAN bus.

(2012/12/25, Andy)

Q31:

Why the parameters of I-7530 be changed after a long time test?? (2013/12/10, Alan)

A:

When there is a large of interferences on I-7530 series power side, it will make

parameters of the EEPROM to be changed. After module reboots, it will read wrong configuration parameters from EEPROM. Please add a core on power side. Coiling power-wire with the most laps will be easier to solve this problem
(2013/12/10, Alan)

Q32: How to reduce the interferences on the CAN bus of I-7530? (2013/12/10, Alan)

A:
Here we recommend user to use I-7530T. There is an anti-interference CAN transceiver (TJA1042) built-in it.
(2013/12/10, Alan)

Q33: How does the I-7530 series module handle 9600 bps RS-232 baud rate and 500 Kbps CAN baud rate??

A:
Both of CAN and RS-232 side have software buffers. When module receives CAN/RS-232 messages, it will put them into software buffer. When receiving a CAN message, it will convert this CAN messages into ASCII format from software buffers and send them out to RS-232, vice versa.
(2013/12/10, Alan)