



## FAQ / Application Note

<b>Subject :</b> How to setting and testing RS-422 function on EBM-945GSE COM2	
FAQ Document No:H13002	Date: 2013/03/25
Model Name. EBM-945GSE	Rev. A1
Category: <input type="checkbox"/> General <input checked="" type="checkbox"/> H/W <input type="checkbox"/> S/W <input type="checkbox"/> Others, <u>    I/O interface    </u>	
Purpose: You can easy to test RS-422 Send and Received signal. There are use Avalue's internal COM test program to verify it.	

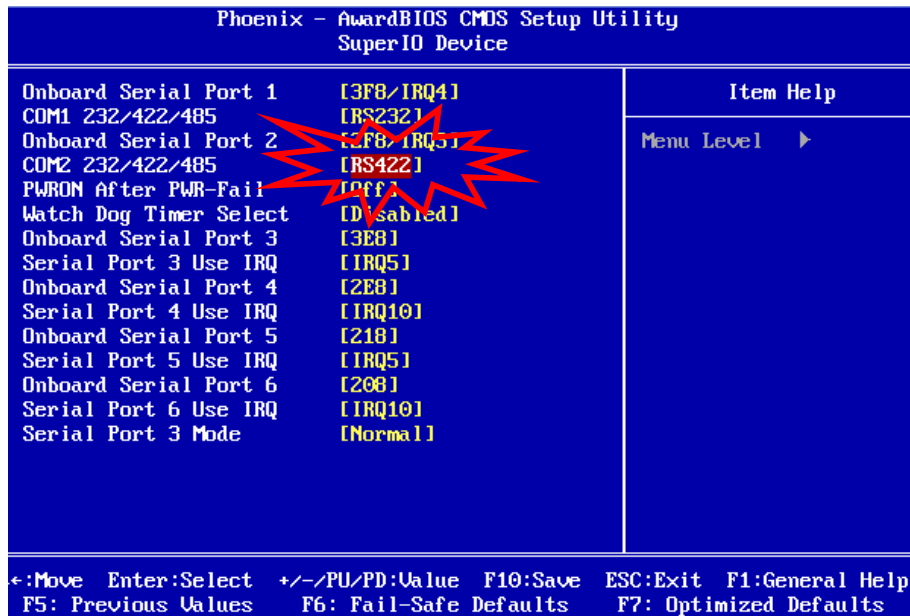
Please first prepare test device:

1. EBM-945GSE-B1 Single board
2. EBM-PNV-B1 Single board
3. COM DB9 cable x2pcs (5x2 header pitch 2.0mm to DB9)
4. Software: Avalue's COM Port send-receive test Ver 1.03 tool(DOS tool)

Please following test procedure step by step below:

1. EBM-945GSE-B1 board into BIOS setting COM2 is RS-422.

Integrated Peripherals→Super IO Device→COM2 232/422/485 → Select "RS422"



**Save & Exit Setup BIOS**

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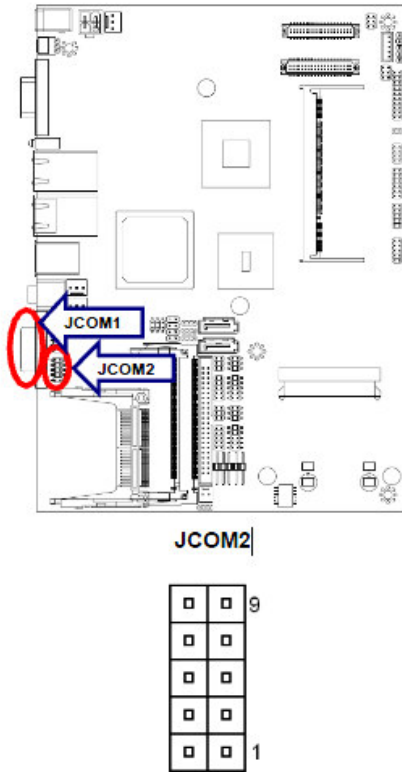
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2. EBM-945GSE Insert DB9 cable to JCOM2 and pin define:

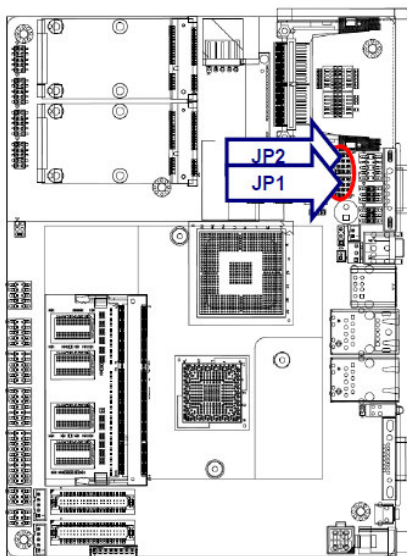


RS-422 Mode

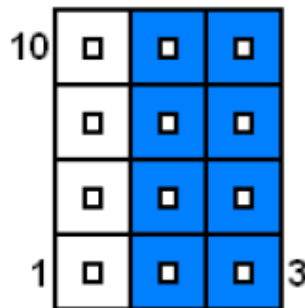
Signal	PIN	PIN	Signal
GND	10	9	GND
RxD-	8	7	NC
TxD+	6	5	GND
NC	4	3	NC
RxD+	2	1	TxD-

3. EBM-PNV setting jumper for RS-422.

JP2 → RS-422/485 mode



RS-422/ 485



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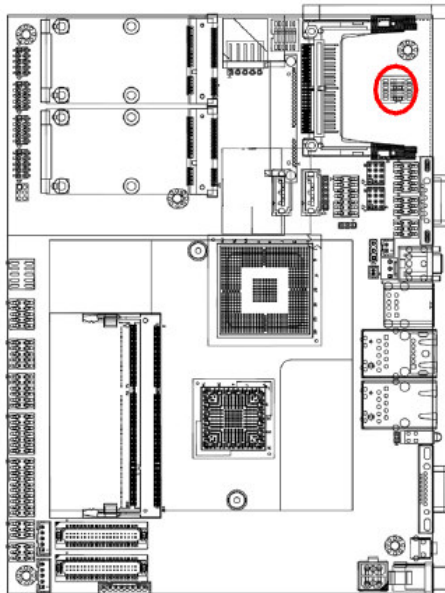
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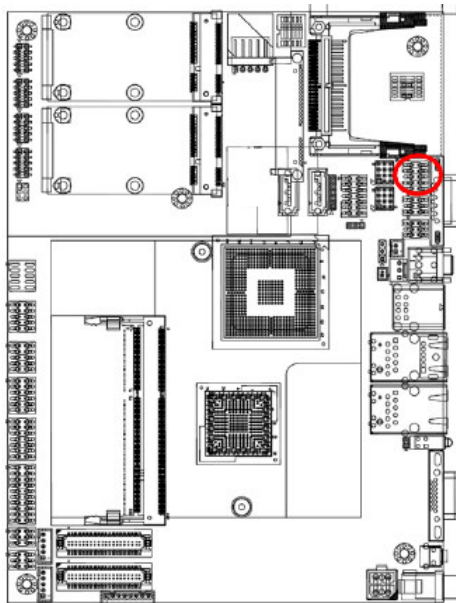
### SW2: COM2 RS-422 “OFF-ON-OFF”



In Serial Port 2 mode

	RS-232	RS-422	RS-485
4	ON	OFF	OFF
5	OFF	ON	OFF
6	OFF	OFF	ON

### 4. EBM-PNV Insert DB9 cable to JCOM2 and Pin define:



In RS-422 Mode

Signal	PIN	PIN	Signal
TxD2-	1	2	RxD2+
TxD2+	3	4	RxD2-
GND	5	6	NC
NC	7	8	NC
NC	9	10	NC

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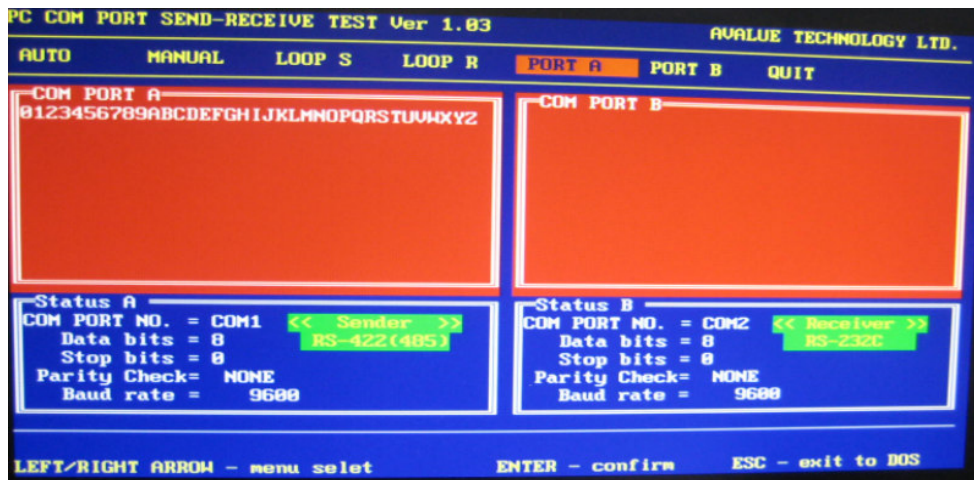
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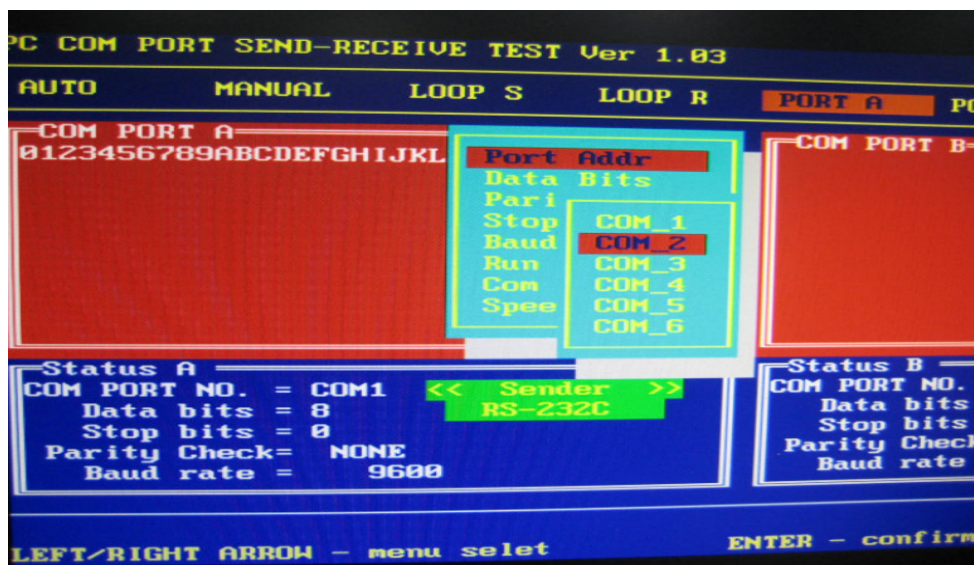
5. Please connected RS-422 signal between EBM-945GSE and EBM-PNV

EBM-945GSE (COM2)		EBM-PNV (COM2)	
Signal	Pin	Signal	Pin
RX+	2	TX+	3
RX-	8	TX-	1
TX+	6	RX+	2
TX-	1	RX-	4

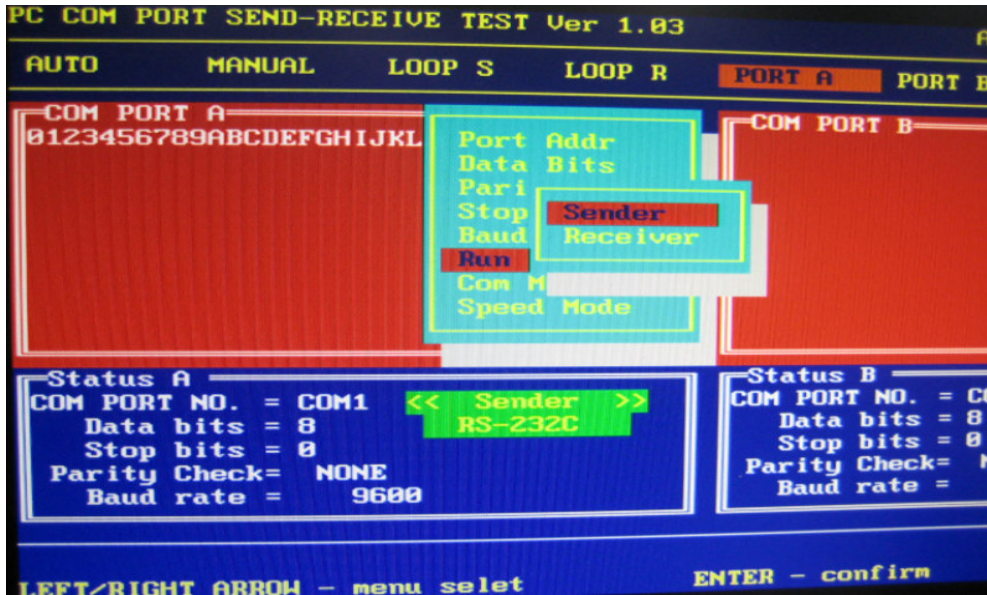
6. Please boot up the two boards and Run to COM\_TEST.exe (V1.03)



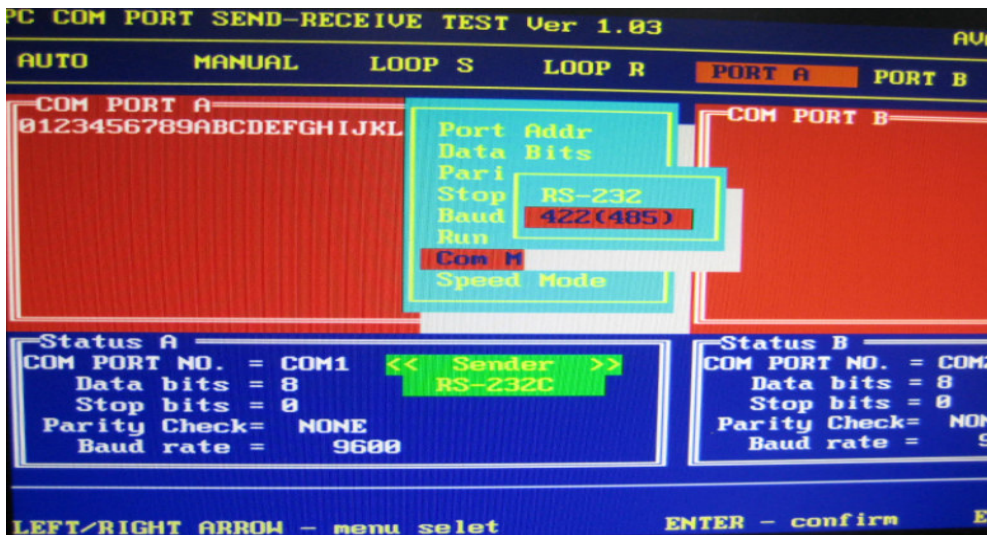
7. Setting "PORT A" → "Port Addr" → "COM\_2" on EBM-945GSE board.



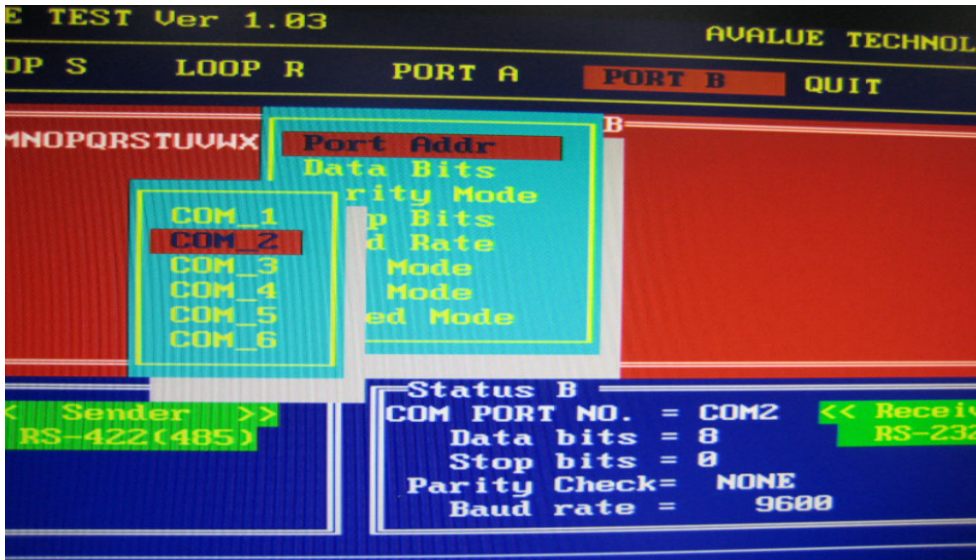
8. Setting "PORT A" → "Run Mode" → "Sender" on EBM-945GSE board.



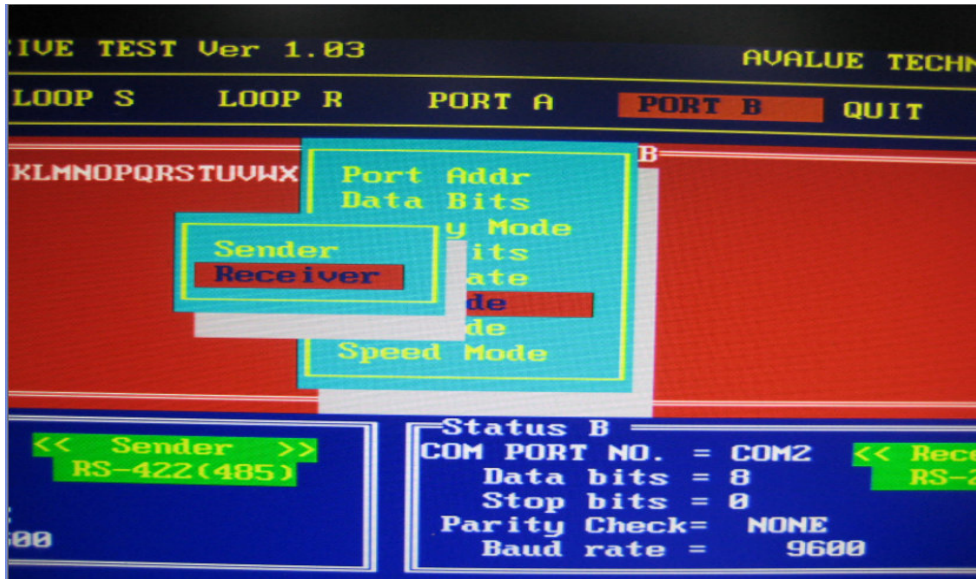
9. Setting "PORT A" → "COM Mode" → "422(RS485)" on EBM-945GSE board.



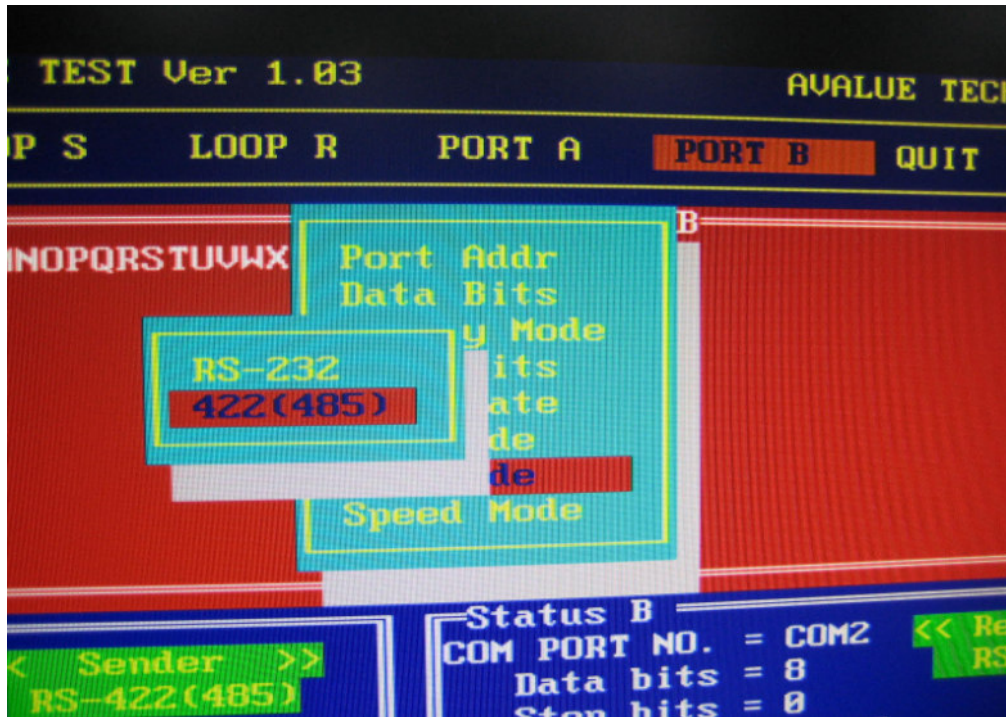
10. Setting "PORT B" → "Port Addr" → "COM\_2" on EBM-PNV board.



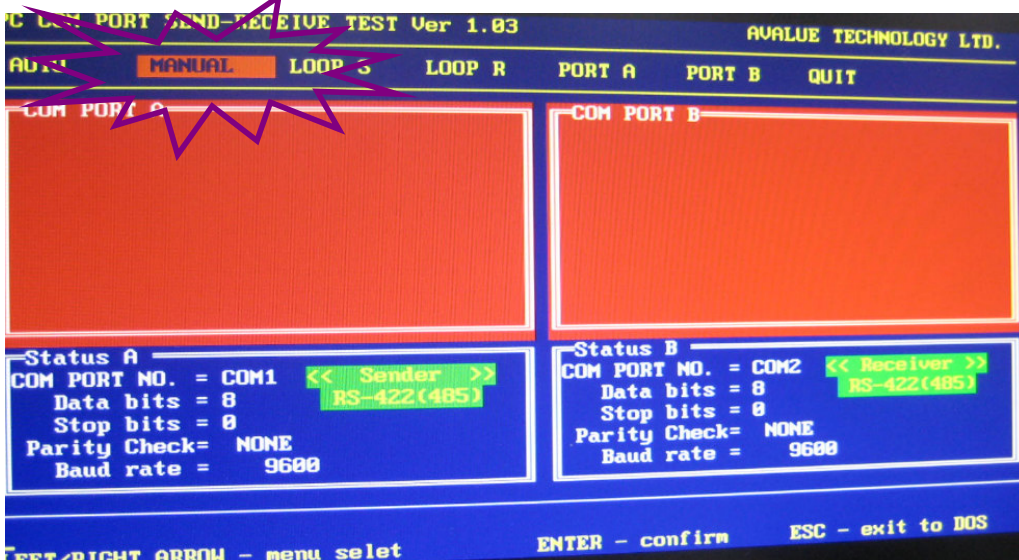
11. Setting "PORT B" → "Run Mode" → "Receiver" on EBM-PNV board.



12. Setting "PORT B" → "COM Mode" → "422(RS485) on EBM-PNV board.



13. Select "Manual" and key in something to EBM-945GSE board, EBM-PNV board would be received it.



End.

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