

**ANEXO 6. HILO SOBRE PROBLEMAS CON LA COMUNICACIÓN
POR PUERTO SERIE EN EL FORO www.openqnx.com.**



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Serial port on embedded

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[grillosolitario](#)**Post subject:** Serial port on embedded**Posted:** Jun 06, 2005 - 10:07 PM

Active Member

Hello,

Joined: Oct 18, 2004
Posts: 57
Location: Spain

I have an application which receives data from serial port. It works fine when I start the PC with the CD installation, or booting directly from the CD. But when I boot it with the image I created, it doesn't work fine. It goes right at 19200 baud, but not at 115200, or other speeds higher than 19200. It loses bytes. My image uses the same driver as the other installations (devc-ser8250), so I cannot understand what happens. Thanks.

Grillo Solitario

[profile](#) [pm](#)[quote](#) [edit](#) [star](#)[fmartens](#)**Post subject:****Posted:** Jun 06, 2005 - 10:46 PM

Active Member

Hi,

Joined: Sep 08, 2003
Posts: 94

Check your devc-ser8250 options. You need to supply -b19200. The default baudrate is set to 57600.

Freddy

[profile](#) [pm](#) [www](#)[quote](#) [star](#)[drodriguez](#)**Post subject:****Posted:** Jun 07, 2005 - 09:46 AM

Active Member

What I use to do is to change the serial port configuration in my embedded system using the stty command in the .profile file of the user.

Joined: Jul 24, 2002
Posts: 91
Location: Madrid, Spain

I have had some problems to change the baudrate directly in the image file (it must be possible), but doing in this way is easier and if you want to change the baudrate or to use a different baudrate or configuration for another user, you don't need to recompile the image again.

Also test the parameters of your serial port with stty (specially flow control options).

I hope it helps. Saludos.

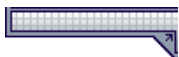
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[grillosolitario](#)

Active Member

Joined: Oct 18, 2004
Posts: 57
Location: Spain

Post subject:

Posted: Jun 07, 2005 - 02:42 PM

Hi again,

The problem is not the baud rate. My application changes it its own, and I know it does it right.

This morning I've been testing with the QNX installed from the CD, and I got surprised. The program worked fine when I striarted it from a photon terminal, but failed when I tried to run directly from the command line.

I mean, I boot the PC (nophoton start), I run the application, and it fails. I type 'ph', Photon starts, I open a shell, I run the program, and it works! Obviously if I logout from photon it fails again. I cannot understand why it happens this way...

Thank you. Gracias.

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[grillosolitario](#)

Active Member

Joined: Oct 18, 2004
Posts: 57
Location: Spain

Post subject:

Posted: Jun 10, 2005 - 11:43 AM

Hello,

I have new data about my problems with serial ports. I have measured the average loss of input characters: if run within the graphical interface it is very low, perhaps 1 out of 500. However, if run from the console, I loose about 3% of input characters. I have also tried to run my application using a hard disk instead of a CompactFlash, and I have obtained the same results. If the same disk is used with a desktop PC, I cannot reproduce the problem, so it seems somewhat related to the specific hardware I am using: A PCM-3350F PC-104 CPU board from Advantech. Oddly enough, the processor in the desktop seems to be of equal or lower performance.

It seems absurd that the application looses much more characters without the graphical interface. Does anyone know of a reason for this to happen?

Thank you.

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[drodrigueza](#)

Active Member

Joined: Jul 24, 2002
Posts: 91
Location: Madrid, Spain

Post subject:

Posted: Jun 10, 2005 - 12:14 PM

Are you using the serial port 2 of the PCM-3350?

I needed to change to serial port 1 because I have got many problems in the reception of data with serial port 2 in this card.

The electrical levels of serial port 2 (RS232, RS485) of PCM-3350 are selected in the BIOS. In my cards (the reception of serial port 2 is deconfigured) and I need to enter in the BIOS (without changing anything) to be able to receive data again (Really strange).

I havent investigated too much because after changing to serial port 1 I havent got any problem.

I dont know if someone have got also these kind of problems in this card.

It can also help me.

I hope it helps.

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[grillosolitario](#)

Active Member

Joined: Oct 18, 2004
Posts: 57
Location: Spain

Post subject:

Posted: Jun 10, 2005 - 08:39 PM

Hello,

I've used both ser1 and ser2, and they work the same. I've done the same as you with the bios, but the system doesn't care. I even have changed the threads priority, but it solves nothing...

Anyway it's good to know that the PCM-3350 doesn't have the best serial ports in the world...

I cannot understand why the serial port of an embedded system goes wrong with a specific OS. Serial is not a new port, and it's used in many applications.

Thank you again. Gracias :- >>

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[falcon_sg](#)

New Member

Joined: Jul 20, 2005
Posts: 7
Location: Singapore

Post subject:

Posted: Jul 20, 2005 - 07:03 AM

I tested the above-mentioned problem on receiving in COM2 and find no problems. Wrote a small software to receive serial ASCII data from a Windows based terminal (pc_comm: available from www.moxa.com). Sent 1000 sets of ASCII data (with pattern "\$TEST") at both 9600 and 115200. My QNX software is able to receive on COM2 and log all 1000 sets of data without any loss.

Having said this, the software architecture to check and receive serial data is very important, that's where all the header and checksums will come into play when doing protocol design. It would be dangerous and wishful thinking to want to design a critical real-time system on the assumption that all data sent from an external system will be 100% received by the system and acted upon. ERROR handling and recovery mechanism must be built into the architecture for robustness.

Serial data is based upon a fixed baud rate and henceforth, it is not difficult to calculate how much data you can send and receive through the RS232 channel before data integrity becomes questionable.

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[falcon_sg](#)

New Member

Joined: Jul 20, 2005
Posts: 7
Location: Singapore

Post subject:

Posted: Jul 21, 2005 - 09:53 AM

Adding on to the above. I realised that I did the following in my script file to ensure that the serial port is in RAW mode.

```
stty +raw < /dev/ser2
```

and I guess that is why it works seamlessly for me. I tested out the PCM-3350 by removing the above, i.e. to default of EDIT mode, and the receive problem is evident. FYI. Conclusion: Force the port to RAW mode before doing any receiving on /dev/ser2.

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[grillosolitario](#)

Active Member

Joined: Oct 18, 2004
Posts: 57
Location: Spain

Post subject:

Posted: Jul 21, 2005 - 09:09 PM

I set RAW mode as you said, when I read your comment I was afraid it's still the same.

I've made sure that my application doesn't fail when receiving data. And I'm quite sure that the 97% of messages it receives are enough for it to work properly. Anyway, nobody likes too much information :- >>

Thank you :- >>

[drodrigueza](#)

Active Member

Joined: Jul 24, 2002
Posts: 91
Location: Madrid,
Spain

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Post subject:

Posted: Jul 22, 2005 - 07:44 AM

falcon_sg, grillosolitario:

Could you please tell me the BIOS version you are using and the date??

It is provided in the sequence boot-up. I would like to be sure if your BIOS version is the same one that I have. It would be a help to me.

This problem with serial port 2 has happened to me after some time using the card and I think also not in all the cards. The manufacturer told me that it was possible that the BIOS version could have a bug or the cards could have a failure (There are two BIOS version that can be downloaded in the Advantech webpage).

Are you using RS232 or RS485 for serial port ??

Thank you very much.

[grillosolitario](#)

Active Member

Joined: Oct 18, 2004
Posts: 57
Location: Spain

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Post subject:

Posted: Jul 22, 2005 - 09:28 AM

Hello. There it goes.

BIOS VERSION: 1.13
RS232 serial port.

Please, let us know if you solve something (and how :- >>)

Bye. Cuidese.

[grillosolitario](#)

Active Member

Joined: Oct 18, 2004
Posts: 57
Location: Spain

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Post subject:

Posted: Jul 22, 2005 - 04:51 PM

forgot the date: 02/18/2004 :- >>

[falcon_sg](#)

New Member

Joined: Jul 20, 2005
Posts: 7
Location: Singapore

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Post subject:

Posted: Jul 25, 2005 - 08:07 AM

version 1.12

downloaded from this link:

http://www.advantech.com.tw/support/sr_detail.asp?SR_ID=

I tried using my own software and it's working. Similarly qtalk and it works fine too.. As a matter of fact, it is Qtalk me the inspiration to set to +raw using stty. cos' i notice default is +edit whilst when i use qtalk, the mode is "au switched to +raw by the Qtalk software. I can;t provide software as I wrote it for customer and includes some o



[falcon_sg](#)

Post subject:

Posted: Jul 25, 2005 - 08:13 AM

New Member

Just to add.. I use RS232 and use the pc-comm emulator software hosted in windows. U can download pccomm from this link:

Joined: Jul 20, 2005
Posts: 7
Location: Singapore

<http://www.moxa.com/drivers/pcomm-lite/win2k/PComm2k.zip>



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