

# PC Engines APU2 Install

Problems Encountered/Conquered  
By  
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# apu2 platform

- apu2 is an evolution of the apu board with a cooler running quad core CPU, more robust Intel NICs, and lower total solution cost.
- Used for: Routers, firewalls, VOIP, dedicated servers, special purpose network plumbing, education tools...
- Three Gigabit Ethernet channels and an AMD Embedded G series GX-412TC, 1 GHz quad Jaguar core.

# Why?

- I needed a playground segregated from my main to set up a virtual network cloud and this was under \$200, gigabyte, and draws under 10 watts. Maybe I'll go back to hosting my own nameserver (cannot believe I miss it!) and want to play around with IPv6.
- Lets me play on the “Bleeding Edge”

# Problem #1 – Serial Console

- Headless. No system. Debian or VyOS? Called for a Null Modem cable.
- StarTech.com 1 port USB to RS232 Null-Modem Adapter. Another \$20 and it worked. We Installed Debian.
- Didn't know anything about RS-232 or a "null-modem". Phil Bunch loaned me a book "RS-232 Made Easy", Martin D. Seyer 1982.

DTE ↔ DCE ↔ DCE ↔ DTE

- Data Terminal Equipment to Data Communications Equipment and back, asynchronously, (but without the DCE or modems).
- DTE ↔ DTE using a null-modem cable and RS-232-C interfaces.

# Null-modem works for RS-232 IBM-PC to Radio Shack 16

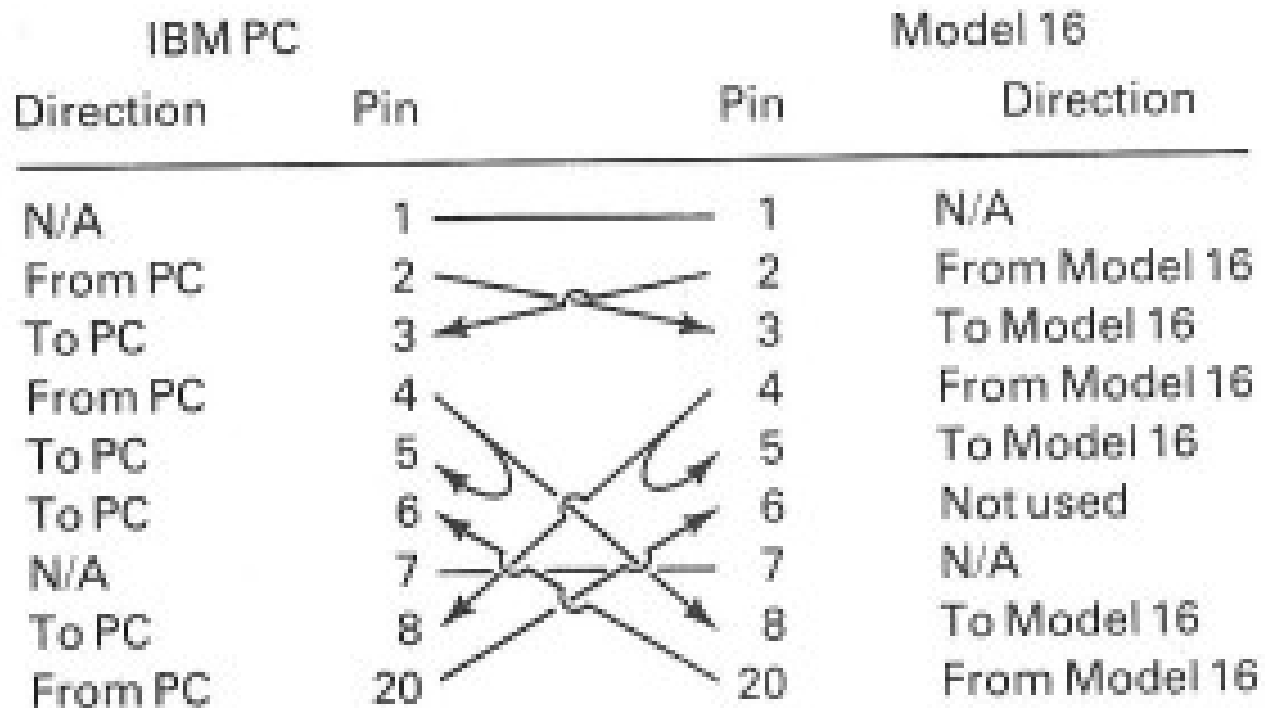


Figure 8-3

And it works!

Easie-peasie! Thanks Phil!

# Problem #2 grub.cfg

- I had decided on debian and need to understand the boot grub setup:

```
GRUB_SERIAL_COMMAND="serial --unit=0  
--speed=115200 --word=8 --parity=no --stop=1"
```

I do understand that but the parameters for bare metal containers are fuzzy and need more understanding than I now possess.



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Questions welcome on the hardware stuff