SERIAL PORT TIPS

As we're running systemd,
http://0pointer.de/blog/projects/serial-console.html describes the use of serial ports:

To facilitate this it is sufficient to instantiate serial-getty@.service once for each serial port you want it to run on[7]:

systemctl enable serial-getty@ttyS2.service
systemctl start serial-getty@ttyS2.service

…And that's it. This will make sure you get the login prompt on the chosen port on all subsequent boots, and starts it right-away too.

The service is (supposedly) configured to autobaud 115200, 38400 or 9600. The page goes on to describe how to make a more customized service if you want to.

Let's see what we can use in place of ttyS2:

ls -l /sys/class/ttyS*
lrwxrwxrwx 1 root root 0 Jan 19 10:29 /sys/class/tty/ttyS0 ->
../../devices/pnp0/00:01/tty/ttyS0
lrwxrwxrwx 1 root root 0 Jan 19 10:29 /sys/class/tty/ttyS1 ->
../../devices/platform/serial8250/tty/ttyS1
...
lrwxrwxrwx 1 root root 0 Jan 19 10:29 /sys/class/tty/ttyS31 ->
../../devices/platform/serial8250/tty/ttyS31
lrwxrwxrwx 1 root root 0 Jan 19 10:29 /sys/class/tty/ttyS4 ->
../../devices/pci0000:00/8086228A:00/tty/ttyS4
lrwxrwxrwx 1 root root 0 Jan 19 10:29 /sys/class/tty/ttyS5 ->
../../devices/pci0000:00/8086228A:01/tty/ttyS5
lrwxrwxrwx 1 root root 0 Jan 19 10:29 /sys/class/tty/ttyS6 ->
../../devices/platform/serial8250/tty/ttyS6
...
lrwxrwxrwx 1 root root 0 Jan 19 10:29 /sys/class/tty/ttyS9 ->
../../devices/platform/serial8250/tty/ttyS9

This leaves you wondering which of them are those that you want, or even which are real. The Atom has a lot of hardware and not all of it is brought outside the chip…

dmesg | grep ttyS
[20.271648] 00:01: ttyS0 at I/O 0x3f8 (irq = 4, base_baud = 115200)
is a 16550A
[36.760445] 8086228A:00: ttyS4 at MMIO 0xa171d000 (irq = 39,

base_baud = 2764800) is a 16550A
[36.777843] 8086228A:01: ttyS5 at MMIO 0xa171b000 (irq = 40,
base_baud = 2764800) is a 16550A

So on Atomic Pi, it looks like ttyS0 is the console and ttyS4, ttyS5 are those that we want.

Oh, and if you want to make an *outgoing* connection via those ports, *instead* of systemctl enable / systemctl start, just type e.g.

screen /dev/ttyS4 115200

and it will open a terminal to that port. This is 8N1 only. Press Ctrl+A, then K to kill the window.