Serial Ports

- A precursor to hot sync
- Standards: RS232, USB, FireWire

Some comparisons of speed:
RS232 ~ 115KBps
USB ~ 12Mbps (Ver. 2.0 ~ 50Mbps)
FireWire ~ 50Mbps

Ultra IDE ~ 33Mbps

We will be focusing on RS232 & USB

Some Differences between USB and RS232

1. Mainly USB has more requirements on the hardware on the both ends of the bus. Allows for Plug-and-play
2. USB has support upto 127 devices on the same bus.
3. USB devices can be detected by a voltage drop on one of the lines to support hot plugging of devices.
4. When a device is added to the bus it gets a unique ID.
5. RS232 has much simpler requirements on the hardware
6. Not all devices need to be 'clever'
7. No method for detecting new devices or plug and play
8. No unique IDs
9. Many different kinds of connectors
   Ex: 9Pin -> Joystick
   24 pin -> Modems
   RJ-45 -> Telephone connector

RS232 Serial buses are usually controlled by a UART chip

Palm Serial Manager is software that controls such a chip, at lowest level supports the following signals:

(SG) SIGNAL GROUND
(TD) TRANSMIT DATA
(RD) RECEIVE DATA
(CTS) CLEAR TO SEND
(RTS) REQUEST TO SEND

Several protocols and subsystems are built on top of the Serial Manager.

- Modem Manger
- Serial Link Protocol
- Packet assembly, disassembly
- Connection management protocol
- Desktop Link Protocol (hot sync is done using this)

To use the serial manager need to check whether you have a good version

Ex:

error = FtrGet(sysFileCSerialMgr, sysFtrNewSerial….., & value);

error = FtrGet(SysFtrCreator, SysFtrRomVersion, &romVersion);

To use all features:
OS > 4.0
Value > 2

To open serial port use:
Err SrmOpen(UInt32 port, UInt32 baud, UInt16 * newPortIDP);

newPortIDP -> receive port
port -> possible values: serIRport, serPortCradleRS232Port, serPortCradlePort, serialPortLocalHotSync

This is the old function for opening serial port connections. Newer palm's also have SrmExtOpen which supports serCradleUSBPort, serPortBlueToothPort