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What Is Bluetooth?



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What Is Bluetooth?

- Open specification
- International radio band
- Short-range wireless connections
- Low-Volume data transfers



History

- Named after Harald Blåtand
 - Known in English as “Harold Bluetooth Gromson”
 - Tenth Century Danish king
 - Reputed to be so fond of blueberries that his teeth were stained blue
- Current version is 1.1
- Future Versions:
 - 1.2 - Anonymity Mode
 - 2.0 - Non-Hopping Narrowband



Open Specification

- Originally conceived by Ericsson
- Bluetooth Special Interest Group (SIG)
 - Promoter Members
 - Associate Members (including Apple)
 - Adopter Members



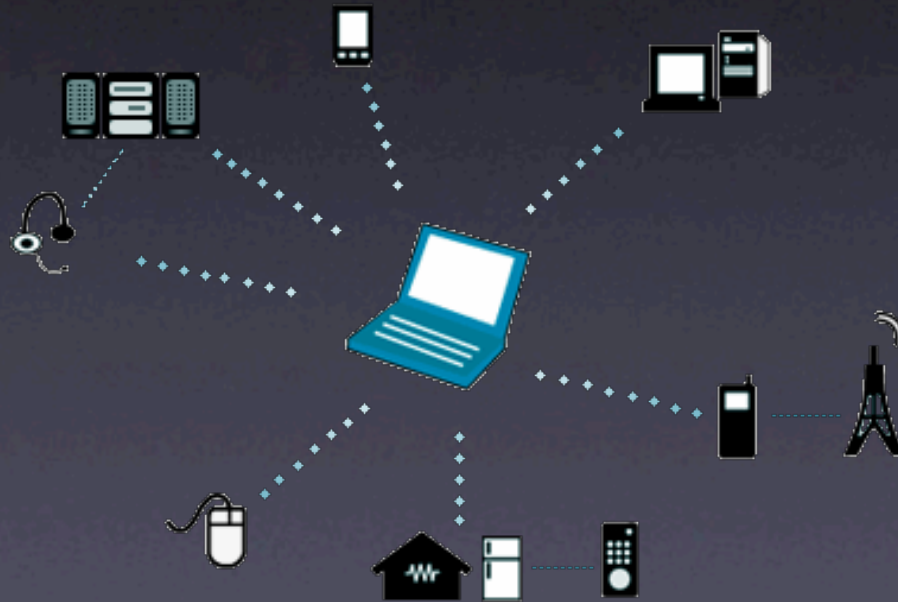
International Band

- Uses 2.45 GHz ISM band
 - Industrial, Scientific, and Medical (ISM)
 - 900 MHz and 2.45 GHz ISM bands
 - Globally unlicensed
- Frequency Hopping
 - Counters interference
 - Divides band into seventy-nine channels
 - Changes channels up to 1,600 times per second



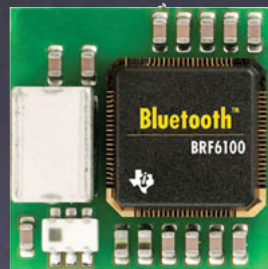
Connections

- Supports Connection to Seven Devices
 - Constantly announce presence to other devices
 - Password protect connections



PAN

- Standard range of 10 m (33 ft)
- 723.1 kbps bandwidth
- Personal Area Network (PAN)
- Low-cost transceiver microchips



Why Use Bluetooth?



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Low Volume, Cost & Clutter

- Low-Volume Data Transfers
- Reduced Wire Clutter
- Lower Cost Than Other Wireless



Low-Volume Transfers

- Transfer a small amount of data
- Computer ↔ Computer
- Computer ↔ PDA
- Computer ↔ Mobile Phone



Reduced Wire Clutter

- PDA
- Headset
- Keyboard or mouse
- Camera



Lower Cost

- Lower Cost Than Other Wireless
 - Bluetooth transceivers designed to be low-cost
 - Roughly half price of 802.11 solutions
 - Lower speed
 - PAN vs. LAN
 - Amusing note: faster than LocalTalk



Bluetooth Devices



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Bluetooth Devices

- Keyboards and Mice
- PDAs
- Mobile Phones
- Others



Keyboards and Mice

- Apple Wireless Keyboard
- Apple Wireless Mouse
- Logitech Cordless MX Duo
- Logitech MX 900 Mouse



PDA's

- palmOne Tungsten T2, T3
- Toshiba Pocket PC e750 Series
- CF Cards
 - CC&C Technologies
 - GigaWaveTech
 - IOGEAR



Mobile Phones

- Matsushita X70
- Motorola T280i, Timeport 270, V880
- Nokia 3660, 6600, 6650
- Samsung Bluetooth PCS Phone
- SHARP M11, PALDIO 633S
- Sony Ericsson (many)



Other Devices

- Headsets
- Cameras
- Printers
- Microwave Ovens
- Washer-dryers
- Refrigerator-freezers



- More at <http://www.bluetooth.com/products/>



Demo: Keyboard



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Configuring Bluetooth

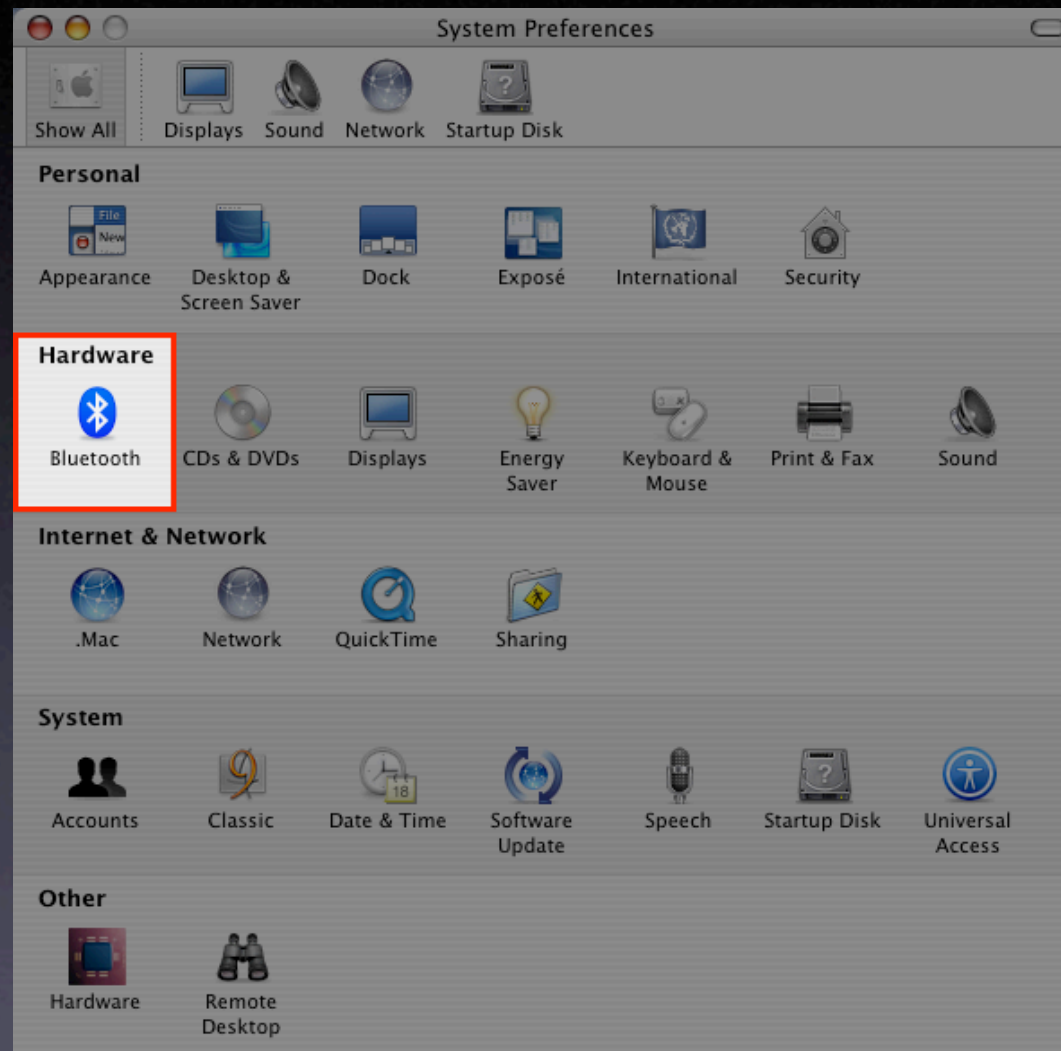


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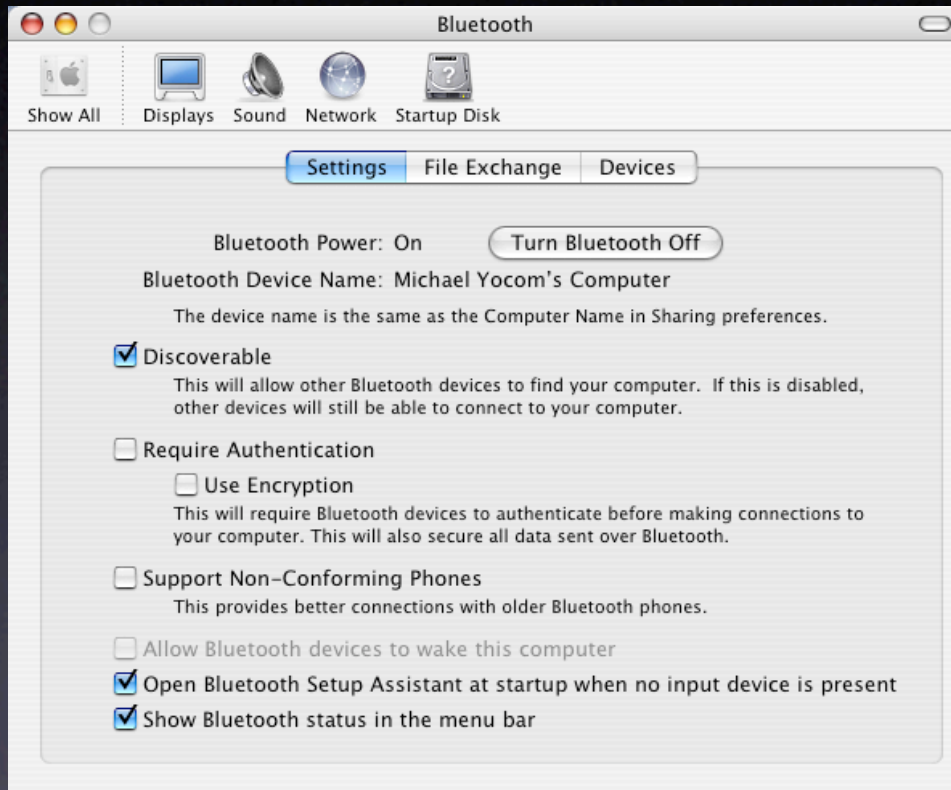
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Bluetooth Preferences



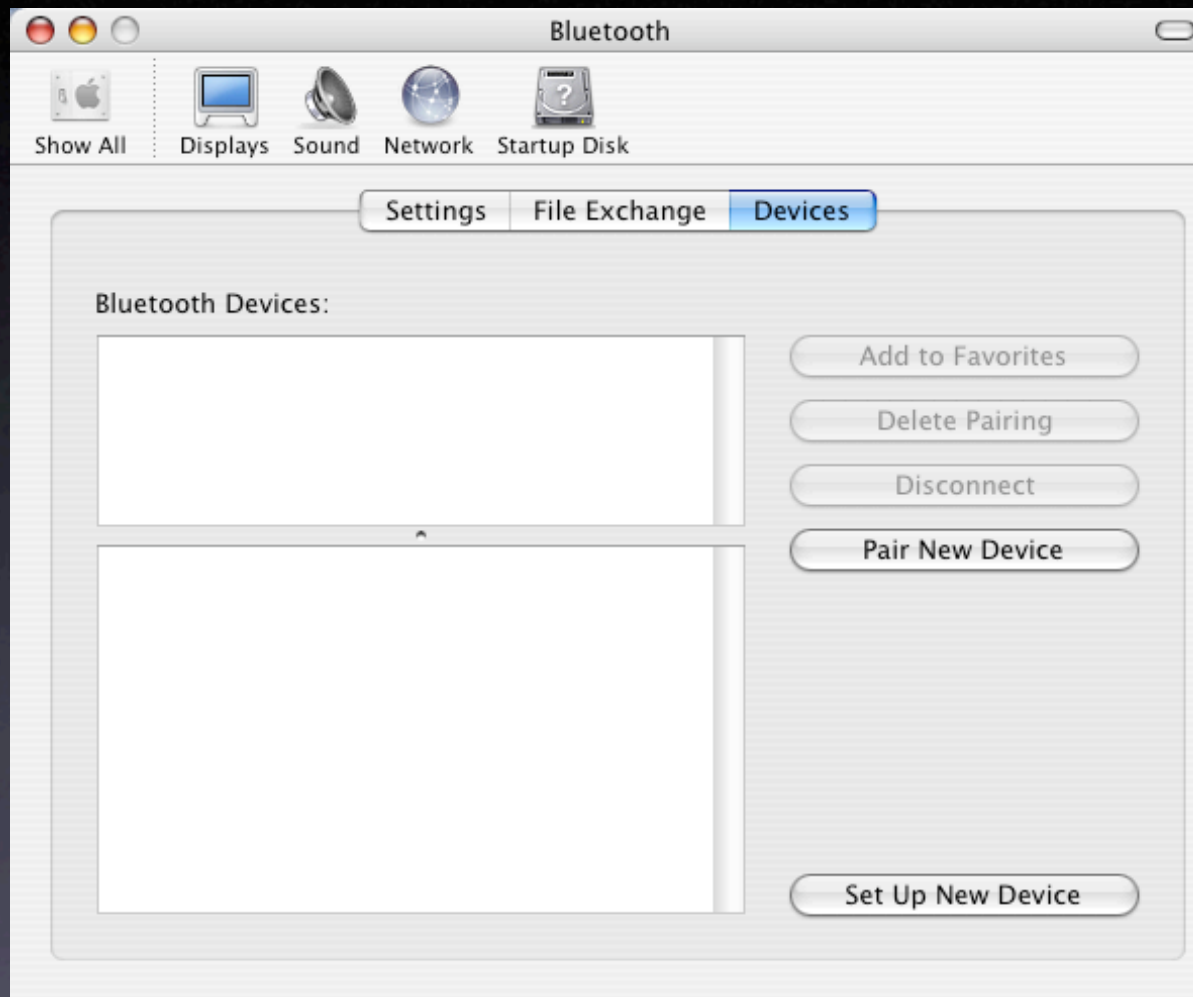
Settings



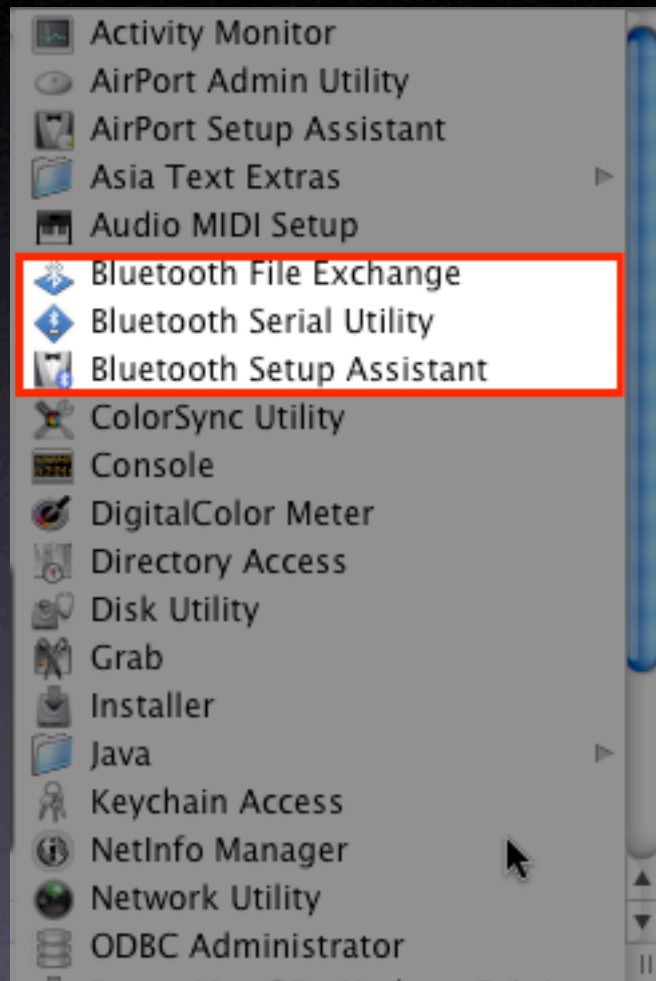
File Exchange



Devices



Bluetooth Utilities



Issues



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Firmware Issues

- Bluetooth Firmware Updater 1.0.2
 - Makes D-Link adapter incompatible with Windows
 - Updater not seeing USB adapters
 - Plug adapter into back of computer before updating
 - Says firmware is updated when it really isn't
 - Hold down option as updater launches



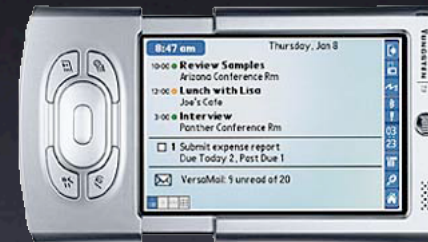
Bluetooth 1.5

- Adds support for a lot of devices
- Reports of:
 - Intermittent connection loss
 - Inability to sync with some PDAs
 - Total loss of Bluetooth functionality
 - Security Risk
- Turn off “Allow other devices to browse”



Palm Mac Updates

- Tungsten T3 problems with Panther
 - Turning off UltraThin Keyboard may fix this



- Palm's response mixed
 - Some have been told "Palm Inc, is working on this."
 - Others have been told no more Mac updates
 - Palm's website says update will be out in 2004



Headsets

- Requires Bluetooth 1.5
- iChat AV 2.1 highly recommended
- Tendency to drop connection if silent
 - Reconnection delay
- Poor iTunes quality
- Speech recognition not supported



Phone Security

- Anonymously obtain confidential info
 - Entire phonebook
 - Calendar
 - International Mobile Equipment Identity (IMEI)
- Retrieve memory contents
 - Previously paired devices not in the trusted list
 - Same data as above, plus:
 - Pictures
 - Text messages
- Bluejacking



Security Websites

- <http://www.bluestumbler.org/>
- <http://www.macfixit.com/>



Demo: File Exchange



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Questions?



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