



Simple Wireless and Dialup Internet

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iReady

Embedded Internet Conference 2001

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Agenda

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- ⌘ IMM Modem Module
- ⌘ IR Command Processor
- ⌘ Programming Examples
- ⌘ Real World Implementations
- ⌘ How to Evaluate.

IMM - Overview

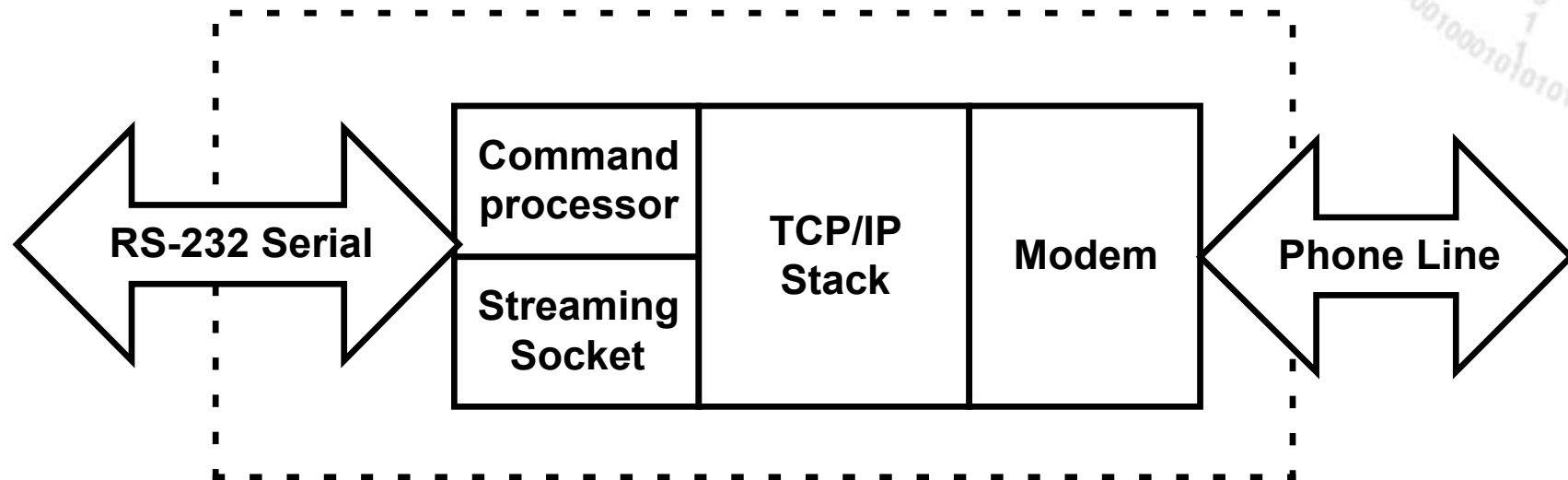
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- ⌘ Collaboration between iReady, TDK and Seiko.
- ⌘ 2400bps Modem + IR command Processor.
- ⌘ Conexant Socket Modem Format.
- ⌘ Non-volatile memory for parameter and script storage. Field Upgradable firmware.
- ⌘ Reference Design and Software Available with “no cost” license from Seiko.

IMM - Block Diagram

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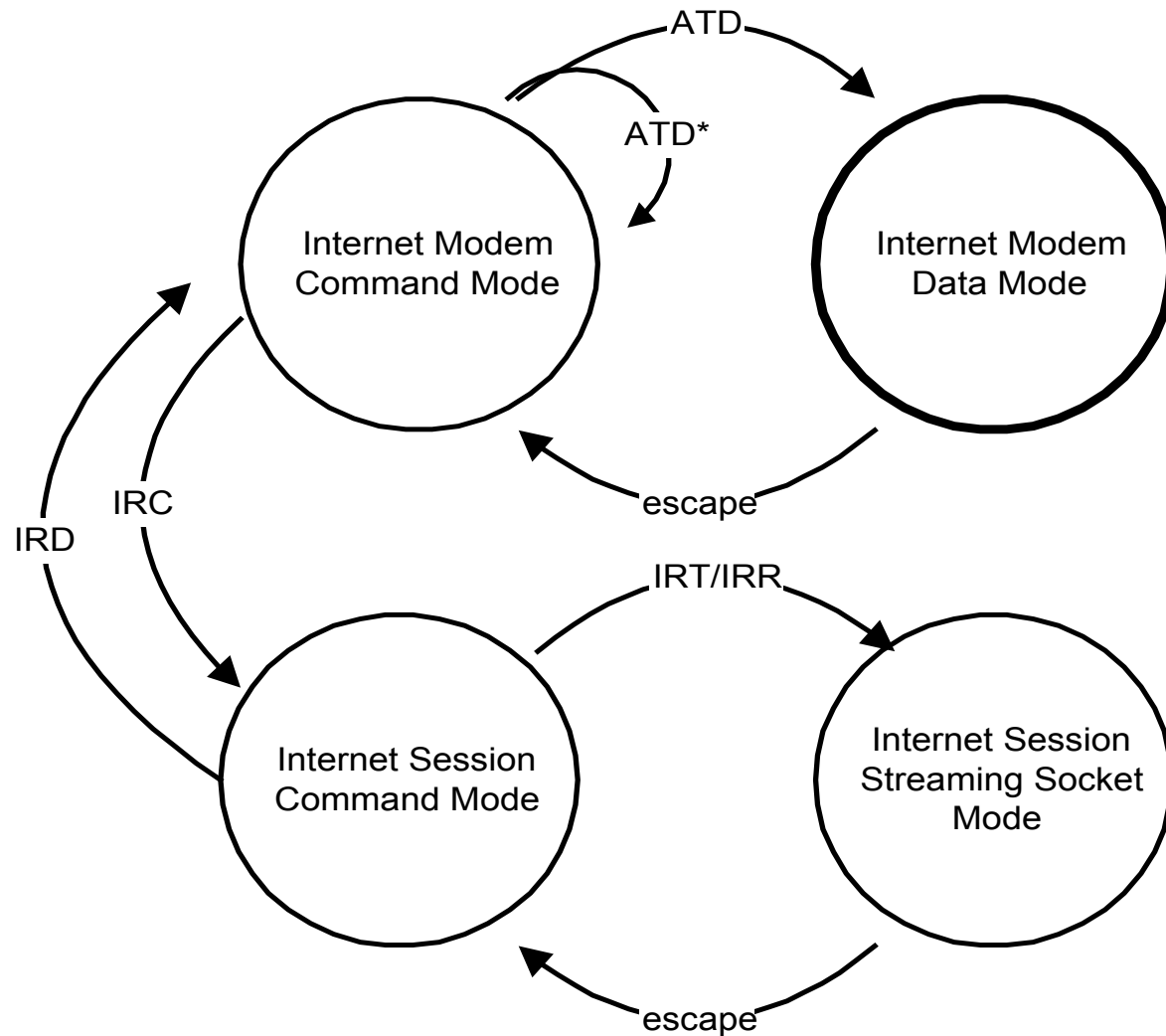
IR Command Processor

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- ⌘ IR commands extend the AT command set.
- ⌘ Provide PPP, DNS, UDP and TCP functionality with 'Simple Strings'
- ⌘ Streaming Socket technology, flexible and efficient, does not limit usage.
- ⌘ EEPROM string processor allows storage and playback of commands.

IR command flow integration with AT commands.

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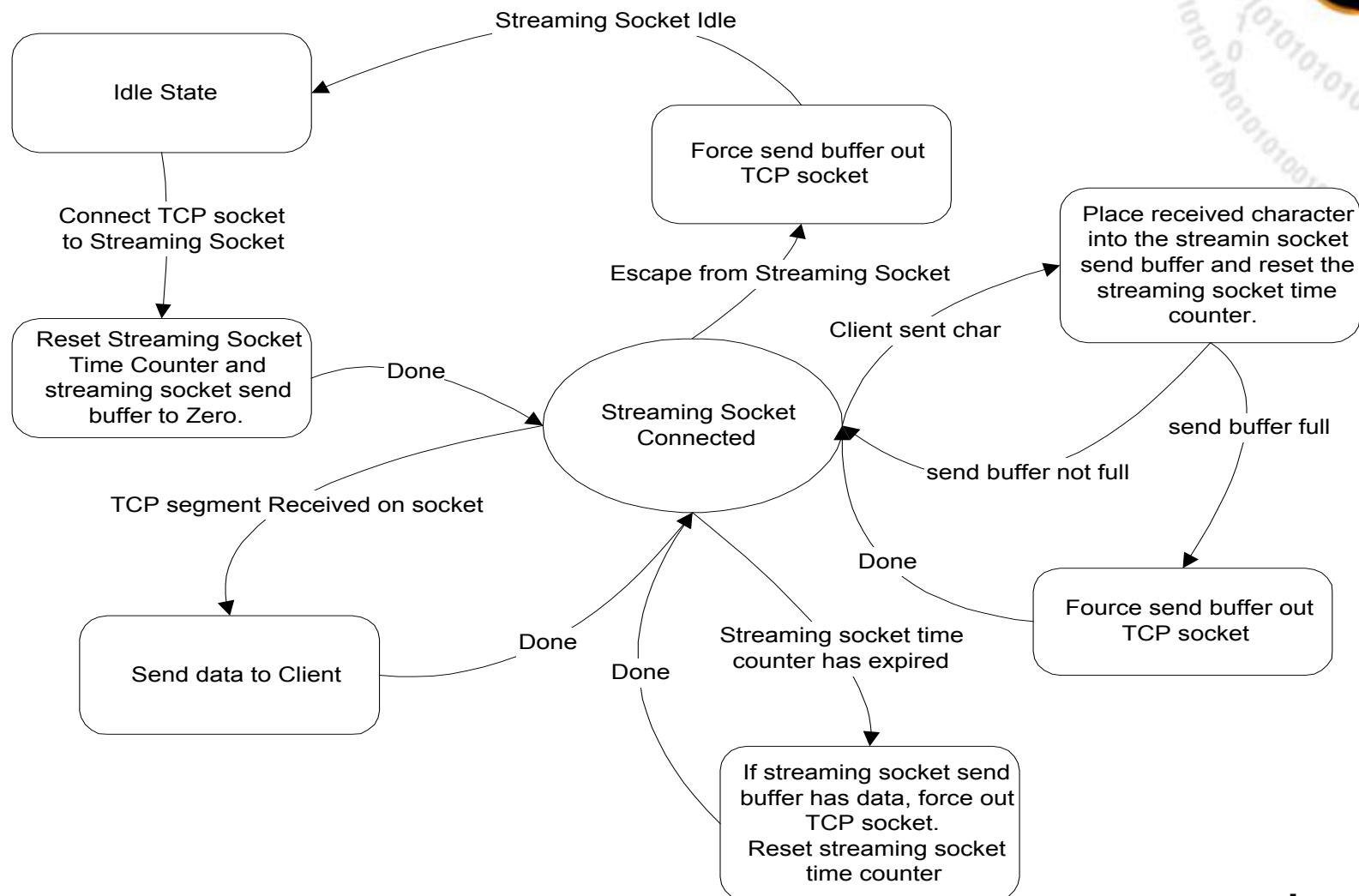


Streaming Sockets

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- ⌘ **Manage Multiple Sockets with Serial Interface.**
- ⌘ **Implement virtually any protocol.**
- ⌘ **Tunable for performance for a wide variety of designs.**
- ⌘ **In-band or out-band escape mechanism.**
- ⌘ **Naturally fits with the modem paradigm.**

Streaming Sockets - State Machine



IR Commands - Example

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SMTP Mail Client Example

- ◆ ATDT14085554565
- CONNECT
- ◆ IRC1 username,password
- CONNECT
- ◆ IRT0 mycal.net:25
- CONNECT
- 220 mycal.com ESMTP Sendmail 8.9.3/8.9.3; Tue, 6 Aug 2001 15:27:02 -0800
- ◆ HELO remotedevice.iready.org
- 250 OK
- ◆ MAIL FROM:<remotedevice@iready.org>
- 250 OK - mail from <remotedevice@iready.iready.org>
- ◆ RCPT TO:<devicelogger@mycal.net>

IR Commands - Example

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SMTP Mail Client Example - Continued

- ➔ 250 OK - Recipient <deviceserver@iready.com>
- ◆ DATA
- ➔ 354 Send data. End with CRLF.CRLF
- ◆ Subject: Hello EIC 2001 Attendees
- ◆ This is the body of the email, there could be lots of data here or even a
- ◆ base 64 encoded binary file or other mime encoded data.
- ◆ .
- ➔ 250 OK
- ◆ QUIT
- ➔ 221 closing connection
- ➔ NO CARRIER
- ◆ IRD
- ➔ OK

IR Commands - Example

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Web Client Example

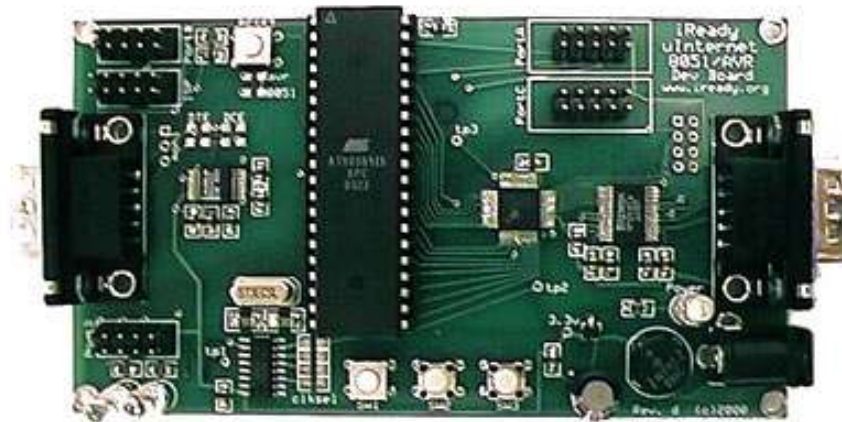
- ◆ IRC1 username,password
- ➔ CONNECT
- ◆ IRT0 www.iready.org:80
- ➔ CONNECT
- ◆ GET /vending-demo/?id=09&slota=1&slotb=2
- ➔ 01 10 10;
- ➔ NO CARRIER
- ◆ ...

How to Evaluate

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⌘ www.iready.org

- uInternet development platform binary.
- uInternet PCB and Schematics.
- IR command protocol specification.
- Test webserver and Script source code.
- Interactive Developers Forum.



How to Evaluate

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✂ www.seiko-instruments-usa.com

- IMM module.
- IMM HW Reference Design.
- Software License (no cost**).

Questions and Answers

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Questions and Answers