Tiqit Computers, Inc.

September, 2002
Tiqit Computers Inc.

- Computer design company located in Redwood City, California.
- Founded March 2000
- Chairman: Vaughan Pratt
- Management team: Henry Berg, Ian Blasch
- 9 employees
- Product Development
  - MPC - Research product (121 shipped since March 2000)
  - Zorro – eightythree proof of concept (completed Aug 2001)
  - eightythree – Production Product (prototypes available)
Tiqit Capabilities

• Design Experience
  • Innovation driven by vision and technology
  • Hardware Engineering
    • Electrical (schematic / board layout / debug)
    • Mechanical (case / thermal / assembly)
  • Software Engineering
    • Microcontroller
    • Driver, BIOS, OS and Docking support
• Customer Development
  • Case study development (interviews and beta tests)
• Engineering Team
  • 6 Full-Time (3 electrical, 2 mechanical, 1 software)
  • 2 Part-Time (1 electrical, 1 software)
Tiqit eightythree: A fully-functional general purpose x86 handheld computer.
Product advantages:

• The eightythree enables people to solve problems where they currently struggle with a PDA, have to use a laptop or get by with no computer at all.

• The eightythree brings desktop and laptop operating systems to a handheld for the first time.

• The eightythree is the only handheld solution that allows customers to leverage their existing x86 software code base.
Tiqit eightythree: fills the void between PDAs and Webpads & Tablet PCs.
Tiqit’s Design Methodology

Ideal Combination: User-centered iterative balance between these competing forces.
Design requirements for Tiqit’s eightythree handheld PC:

• Support operating systems currently in use on desktops and laptops
• Compatible with today’s existing applications
• Comfortable and usable despite small size
• Able to use existing laptop peripherals and expansion hardware
• Battery life at least equivalent to that of modern laptops
Engineering Challenges I

• Space and mechanical integration
  • Form factor 5.9 x 4.0 x 1.1” (150 x 102 x 28mm)

• Heat
  • Patent-pending method of dissipating heat through magnesium alloy case - passive cooling only

• Assembly
  • Design for manufacturing - optimized for assembly

• Force sensitive joystick
  • Integrated cursor control on handheld
  • Patent-pending method of integration
Engineering Challenges II

• Motherboard density
  • Standard CPU + chipset architecture infeasible
  • Use BGA/CSP IC packages where possible, but avoid pre-production or otherwise expensive parts.
  • Patent-pending method of reducing hardware part count.

• Power Supply
  • 5 switching power supplies in spaces far smaller than usual designs. Production-ready EMI filtering and fusing also caused space problems.
  • Small size makes routing and shielding difficult.
eightythree specifications

• 300 MHz processor (WinXP 233-300)
• 256 MB RAM (WinXP 64-128)
• 10 GB hard drive
• 3.5mm Headphone, 2.5mm “earbud” jacks
• Cardbus (Type II), USB, Power, SD/MMC, IRDA
• High density docking: VGA, Line In/Out, another USB, RS232, another Power, Dock Sense
eightythree user interface

- Touchscreen (4-wire resistive)
- Force-sensitive mouse stick
- 56-key SMS-type keyboard
- 640x480 color TFT w/CCFL backlight
- Mouse buttons and cursor keys
eightythree IO

Headphone and Earbud Jacks

Secure Digital Slot

Docking: VGA, USB, Line In/Out, RS232, Power.

Power

USB

IRDA

Cardbus / PC Card (Type II)

300 MHz CPU

256 MB RAM

10GB Disk

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Benefits of the eightythree solution

- Enterprises are able to deploy handhelds running their existing software packages.
- Full line of PC Card wireless solutions allow device to be customized as needed.
- CPU and disk space on handheld allow for local processing and elimination of middleware.
- Security, PKI and VPN software works without the need for custom handheld solutions.
- Total cost of ownership lower due to shared infrastructure (SW, training, support) with other PCs.
Competing mobile products fall into four categories:

• PDAs
• Hybrid PDA/Cellphones
• Special-purpose industrial computers
• Webpads & Tablet PCs
PDAs & Hybrid PDA/Cellphones

- Excellent for prescribed set of tasks
- Small, lightweight, low hardware costs
- Long battery life (PIM applications only), instant wake capability

BUT

- Limited hardware (DragonBall, StrongARM, XScale)
- Limited applications, incompatible with existing x86 software
- Specialized expansion and peripherals
- OS forces expensive software porting
Special-purpose Industrial Computers

- Designed to solve certain problems well
- Good ergonomic match for specific application

BUT
- Expensive
- Inflexible
- Cannot use existing desktop/laptop OS
- Cannot always use existing x86 software
Webpads & Tablet PCs

• OS and software compatibility
• More mobile than laptops
• Large screen

BUT

• Many applications require keyboard and mouse
• Still much larger than handhelds
• Users often hostile to pen-only interfaces
Competing Concepts
(not in production)

- IBM Metapad (Antelope Technologies MCC)
  - Small core module inserts into desktop and mobile shells
  - Results in a larger webpad-like handheld inferior to the eightythree
  - Transportable cores have historically failed (Acqis and others)
- OQO PC
  - User-interface reduced to touch screen and buttons only.
  - None of the connectivity and usability of the eightythree.
  - Use of TM5800 CPU might speed up unit, not clear if OQO can resolve ongoing thermal problems (even using present fan).
Tiqt Employees

- Management
  - Henry Berg, President
    - BS EE Yale, MS CS Stanford
  - Ian Blasch, CEO
    - BS ME MIT, MBA Stanford

- Engineering
  - Rajitha Aluru (Hardware/ME)
  - Edward Barker (Software/CS)
  - Mike Clarke (Hardware/EE)
  - Edward Tang (Hardware/EE)

- Support
  - Mark Goodnow (IT, Web, MPC)
  - Frank Muniz (Building, S&R, Inventory, MPC)
  - Erin O’Toole (Office Manager, HR)
Tiqit Corporate Operations

• Legal Counsel
  • Corporate: Fenwick & West
  • Labor: Littler Mendelson
  • Contract: Hanson Bridgett
• Financial Services
  • Accounting: Montgomery Financial Services
  • Banking: Silicon Valley Bank
  • Advisory: Alliant Partners
• Facility
  • Lease: through Feb 2003

Zorro, the eightythree proof of concept, August 2001
The Opportunity

- Tiqit is at least a year ahead of any possible direct competitor.
- Tiqit is the only company demonstrating multiple functioning and reliable prototypes of any PC product this small.
- The eightythree is positioned for a quick transition from prototype to high volume production.
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