Process
The Team
Integrated Services

**DESIGN**
- Product Strategy and Positioning
- Creative Problem Solving
- Product Line Branding
- Concept Exploration & Visualization
- Trend Analysis
- Research
- Product Aesthetics
- Human Factors and Ergonomics
- Material & Detail Specifications
- Model Making
- User Interface
- Website Design and Development
- Packaging Design

**ENGINEERING**
- Enclosure Design
- Mechanism Design
- Plastic, Sheet Metal Design
- Die Cast Part Design
- ProE and Solidworks CAD
- Rapid Prototyping
- Structural Analysis
- Thermal Analysis
- Design for Manufacturability
- Regulatory Compliance Design
- Engineering Documentation
- Tooling Management
- Production Engineering Support
Creative Labs: Digital Cameras
Creative Labs: Digital Cameras

The nautilus form of this camera provides an ergonomically superior grip, and makes a fresh branding statement in a world of boxy cameras. Whipsaw also created a unique and efficient internal component configuration for this novel camera form.
Vital Heat restores and regulates core body temperature during and after surgery. General anesthesia lowers body temperature. Within fifteen minutes, Vital Heat elevates body temperature back to normal. The patient’s hand is gently sealed in a clear plastic disposable chamber. This chamber snaps onto a heat exchanger, which circulates hot water under the palm of the hand. A slight vacuum (1 psi) is pulled inside the chamber in order to vasodilate the patient’s hand. This increases blood flow, transferring heat directly to the patient’s core. The base unit hangs on an IV pole. It controls water temperature, flow rate, and vacuum. The user interface is simple and intuitive to eliminate user error, which is crucial in the O.R. or recovery room.

Dynatherm: Vital Heat

Dynatherm Vital Heat received FDA approval in October 2004 and is currently in clinical trials.

MDEA (Medical Design Excellence Award) 2005
IF Award 2006
Dynatherm: Vital Heat
Dynatherm: Vital Heat
Whipsaw created Gateway’s PC family of towers and the Profile 5 all-in-one computer. The bold but tasteful design language has generated consumer excitement and positioned Gateway for a strong economic comeback.

- Revenues climbed to $4.5 Billion in 2002
- Gateway stock climbed from $2 to $6 in 2002
Gateway: Profile 5
Gateway: Profile 5
**Intel: Mobile Clinical Assistant**

The Mobile Clinical Assistant is a portable computer platform for doctors and nurses. It is used to organize, store, and process patient data, to retrieve records, and to analyze test results.
A bluetooth wireless stethoscope and digital camera enhance patient charting and progress notes.

**Intel:** Mobile Clinical Assistant
Intel: Mobile Clinical Assistant
Leapfrog: LeapPad Series

5 Million Quantum Pads sold.
99.4% of parents recommend the Quantum Pad to a friend.
#1 selling toy in Electronic Learning Category

Chicago Athenaeum Good Design Award 2003
G-Mark Good Design Award 2003 (Japan)
Educational Toy of the Year Award 2002
Toy Wishes Hot Dozen 2002
Toy Wishes All Star, Education & Learning Category 2002
Leapfrog: LeapPad Series

- inner housings
- Near-Touch™ matrix
- outer housings
- main PCB
- speaker
- battery cover
- cam bushing
- springs
- hinge mounting plates
- 180 degree, break-away hinge
Niveus: Rainier Media Server

Niveus Rainier and n9 Media Servers are premium home media centers used to store, manage, and play TV, music, movies, radio, and photos.

CES Innovations Good Design Award 2007
Featured in Popular Science as “One of Top 3 Must-Have Devices”
ReplayTV: Digital Video Recorder
“Finally the iPod mini has some real competition” ~ Cnet
Rio: Carb

- Elastomer overmold
- Clear polycarbonate
- In mold film
- Chrome plate menu button
- PCB, display
- HDD battery controller
- Connectors
- Polished stainless steel
Roku: SoundBridge

The SoundBridge network music player lets one play digital music files anywhere in the house, acting as a bridge between your computer’s music library and your stereo.

- iF Design 2007
- Time Magazine Coolest Products of 2004
- Business Week Best of 2004
- CES Innovations Good Design Award 2004 and 2005
Roku: SoundBridge

- Vacuum fluorescent display
- End cap - polycarbonate ABS blend
- Front internal housing - ABS
- Infrared receiver
- Rear end cap - polycarbonate ABS blend
- Machined housing - extruded aluminum
- Internal electronics assembly
- Front lens - polycarbonate
Hiide is a biometric security camera, used to identify unknown people in military and commercial applications. It is used by security personnel for border control, detainee identification, law enforcement, and election control.
Securimetrics: Hiide Security Camera
Topcon: GR-3
GPS+ Satellite Receiver

GR-3 is a GPS receiver used by surveyors and civil engineers to establish an exact position on earth down to one millimeter, by tracking up to 36 satellites simultaneously.

“We’re proud to be the first commercial supplier of this unique technology packaged in such a unique design.”
- Ray O’Connor, Topcon CEO

iF Design Award 2007
Red Dot Design Award 2007 (Germany)
Vertical hot-swap batteries along range pole axis provides good balance.
Topcon: GR-3

GPS+ Satellite Receiver

GR3 is completely waterproof to withstand extreme weather conditions. The top bumper overlaps the base so rainwater runs off the unit, keeping the controls and handle dry.
Topcon: GR-3
Robust Construction

The main housing is an I-beam shaped magnesium part, designed to withstand a fall from the top of a 2-meter range pole. GR3 has a screwless “quick-snap” pole mount.
Topcon: GR-3
Robust Construction

Two battery packs nest into the I-beam shaped magnesium chassis. These batteries are oriented vertically to provide a handle, but also to keep the center of gravity as close to the range pole axis as possible to provide good balance.

"GR-3 is an amazing piece of equipment. I love the integrated handle, hot swap batteries, and quick disconnect. Our productivity has increased by 30 to 40% since using the GR-3"

-Ben Wiser, Owner, Compass Point Surveyors.
Phase Zero: Problem Definition and Analysis, Research, and Project Planning

- Define problem statement and boundaries
- Identify risks, unknown elements, and feasibilities
- Research user and customer needs
- Research market and competition
- Research client’s corporate strengths and opportunities
- Create or refine Product Requirements Document
- Create strategic project plan (goals, resources, schedule)

Topcon: GR-3

Problems
- Large and heavy
- Difficult to assemble
- Poor brand visibility
- Poor battery access
- Unbalance weight distribution
- Lack of protection from falling
- Controls and connectors exposed to elements
- Range pole is difficult to screw into receiver

Phase Zero
Phase One: Concept Creation

- Brainstorm concepts and inventions based on objectives, requirements, and research findings
- Create sketches of many concepts
- Create realistic renderings of promising directions
- Create functional diagrams and CAD layouts of promising directions
- Fabricate 3D foam models
- General engineering analysis of concepts

Topcon: GR-3

Phase One
Phase Two: Concept Development and Detailing

- Integrate client feedback and select one concept to develop
- Refine appearance (form & details)
- Maximize human factors interaction (ergonomics, U.I. & usability)
- Determine materials and processes
- Specify color, finishes, and texture
- Specify product graphics
- Engineering analysis (structural, thermal, FEA, EMI)
- Determine assembly method
- Create master 3D CAD file
- Make finished models (appearance and engineering feasibility)
- Market testing (focus groups, beta tests, etc)

Topcon: GR-3
Phase Two
Phase Three: Design Implementation

- Integrate and resolve multi-disciplinary issues (electrical, mechanical, design)
- Complete final detailed piece-part engineering
- Finalize CAD files
- Create Bill of Materials
- Source manufacturing vendors (OEM’s, toolmakers, molders, etc)
- Fabricate verification models/prototypes
- Create part and assembly documentation
- Release parts to tooling

**Topcon: GR-3**

*Phase Three*
Phase Four: Vendor Management and Production Support

- Manage vendor quotation and selection
- Ensure smooth transition to tooling
- Inspect first article part samples
- Support product testing (EMI, FCC, safety, performance)
- Support pilot production builds
- Manufacturing engineering support (if required)

Topcon: GR-3

*Phase Four*
These International Design Awards were granted to Whipsaw in recognition of innovation and design excellence.

Each Award is a seal of quality, representing the best in design and business.

Akimbo - Internet TV Player
CES Innovations Best of CES 2005
Popular Science Best of What’s New 2004

Cisco Systems - WebPad
Industrial Design Excellence Award, GOLD 2001

Creative Labs - Digital Camera PC600
Chicago Athenaeum Good Design Award 2002

Dionex - ICS 3000 Ion Chromatography System
Industrial Design Excellence Award, Bronze 2005
G-Mark Good Design Award 2005 (Japan)
Instrument Business Outlook Award, Gold 2005
Pittcon Editors Choice Award, 2005

Dynatherm - Vital Heat Body Warmer
Red Dot 2006 (Germany)
IF Design 2006 (Germany)
Northwest Design Invitational, Bronze 2006
Medical Design Excellence Award 2005

Gateway - PC Family
Industrial Design Excellence Award, Bronze 2003
Chicago Athenaeum Good Design Award 2003
PC Magazine Editors Choice Award 01/03

Gateway - Profile 5 All-in-One PC
Chicago Athenaeum Good Design Award 2004

Intel - Mobile Clinical Assistant
Medical Design Excellence Award 2007

Leapfrog - LeapPad Family
Chicago Athenaeum Good Design Award 2005
Industrial Design Excellence Award Bronze 2005

Leapfrog - Quantum Pad
Chicago Athenaeum Good Design Award 2003
G-Mark Good Design Award 2003
Educational Toy of the Year Award 2002
Toy Wishes Hot Dozen 2002
Toy Wishes All Star, Education Category 2002

M-Audio - MicroTrack
G-Mark Good Design Award 2006
Portable Media Expo 2006 “Best of Show”

Netgear - Powerline
CES Innovations 2007

Niveus - Rainier Media Server
CES Innovations 2007

Niveus - n9 Media Server
CES Innovations 2007

Optovue - RT Vue Retina Scanner
Medical Design Excellence Award 2007
G-Mark Good Design Award 2006
Red Dot 2006

Rave MP - MP3 Player
Northwest Design Invitational Award, Bronze 2006

ReplayTV - DVR
Chicago Athenaeum Good Design Award 2003
CES Innovations 2003

Rio - Carbon MP3 Player
Designpreis 2006 Nominee (Germany)
G-Mark Good Design Award 2005
Red Dot 2005
CES Innovations 2005

Rio - Karma, Nitrus, and Fuse MP3 Player Family
G-Mark Good Design Award 2004 (Japan)
IDSA Northwest Design Invitational Award, Bronze ‘04
CES Innovations Award 2003

Rio - MP3 Player Packaging
IF Design 2006
IDSA Northwest Design Invitational Award, Gold 2004
Chicago Athenaeum Good Design Award 2004

Roku - PhotoBridge HT1000
CES Innovations Award 2003

Roku - SoundBridge
IF Design 2007
IF Design China 2006
IDSA Northwest Design Invitational Award, Gold 2006
Chicago Athenaeum Good Design Award 2005
CES Innovations 2004
CES Innovations 2005
Time Magazine Coolest Products of 2004

Roku - SoundBridge Radio
IF Design 2007
IF Design China 2006
CES Innovations 2006
Tech Museum of Innovation “Inny” Award 2005

Stanford / Reuters - Digital Dirtbike
Industrial Design Excellence Award 2004
Chicago Athenaeum Good Design Award 2003

Timex - Skindiglo
2154 Competition Honorable Mention 2005

Topcon - GR3 GPS System
IF Design 2007
Red Dot 2007

Zyomyx - Protein Analyzer
G-Mark Good Design Award 2003