WHITE PAPER

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Compaq MP1600 Microportable Projector

Compaq's advanced monitor display technology has set the standard around the world for superior visual quality and compatibility. The next logical step was to leverage this display excellence to projection systems. This move not only meets mobile professionals need for a sophisticated portable presentation tool, but also provides a complete and simple presentation solution that works seamlessly with their portable PCs, Handhelds, and other business tools.

EXECUTIVE SUMMARY

At only 4.2 lbs. (1.9 kg), the Compaq MP1600 Microportable Projector is the world's first Microportable Projector. At under five pounds and at 175 cubic inches (2861 cubic cm), the innovative tower formation projector delivers the smallest footprint of any projector today. These weight and size specifications set the Compaq MP1600 Microportable Projector far apart from the industry's current projectors, which include the "portable" and "ultraportable" categories that weight in at from seven to twenty pounds and measure 300 to 1300 or more cubic inches. What's more, it's a powerhouse in the image quality department: its 600 lumens, XGA resolution, and advanced Digital Light Processing technology combine to make it as powerful as portable projectors over twice its size. In fact, Compaq's MP1600 Microportable Projector is so small, light, and powerful it has actually created its own projector category — the "microportable projector."

THE STATE OF THE INDUSTRY — TODAY'S PORTABLE PROJECTORS

With an estimated 1.4 million presentations given every day in corporate America, showing and telling has become a primary avenue for landing a big sale, educating employees and clients, and sharing business-critical information with strategic partners. Clearly, visual presentations are an important part of today's business landscape. As a result, there has been an increasing demand to deliver projectors that are smaller, more convenient, easier-to-use, greater compatibility, and project a higher quality image.

While other business tools, including portable PCs, handheld devices, and cellular telephones, have achieved breakthroughs in quality and portability, the portable projector has been lagging behind. To meet the business world's growing demand, in the past few years the ultraportable (sub-10 pound) projector was created. However, it was still not truly lightweight, small, or convenient. As a result, business people still had one more bulky bag to carry and stow. What's more, these small projectors tended to complicate presentation delivery, reduce flexibility and traveling comfort, and — worse — hamper their professional images.

Compounding the development constraints were the projection technologies themselves. While 90% of today's projectors are digital, they all require an analogue to digital (A/D) conversion chipset in their systems in order to remain compatible with the majority of existing PCs on the market. In fact, 99% of computers on the market today still have graphics cards that put out an analogue signal. The reason is that while digital was rapidly being adopted as the pervasive technology in personal computers, the computer monitor remained committed to 100-year-old analog technology (for various reasons, mainly concerning costs and a industry wide agreement on standards). Graphics cards in computers were therefore forced to take the digital signals from the CPU and convert it to an analogue signal, so that the analogue based cathode ray tube (CRT) monitor that sits on the desktop could interpret it and display a correct picture. Projectors adopted digital technology to improve quality, but were and still are forced to make the A/D conversion so as to remain compatible to the majority of computers (This is changing, as digital graphics cards are on the horizon).

The main issue for projectors is image quality, and the process of converting an exact digital signal to a modulating analogue signal and then back again to digital compounds the "noise" inherent in all signals as well as adding the opportunity to misinterpret information. Analogue is a less than optimum method for transmitting data because

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misinterpretations are much more likely - which means what is displayed is not true to the source. Moreover, while some of today's A/D conversions have become quite sophisticated, the market offers projectors with chipsets that offer varying degrees of quality in terms of signal interpretation. The result of these two factors is that business travelers are at risk for inferior projected images on the road.

In 1996, the world's first 100% digital display technologies were introduced by Texas Instruments: Digital Light Processing (DLP) and Digital Micromirror Device (DMD). Working in concert, these two developments provide an exceptional system for both projecting pure digital signals and for converting analog input signals to digital output signals. This advanced digital projection system produces less signal conversion noise, because it transmits and interprets data more efficiently and with greater clarity. Compaq adapted this technological projection system for the Compaq MP1600 Microportable Projector, and in doing so, has finally pushed back the image quality limitations of producing a smaller, lighter, and brighter portable projector to introduce a truly portable powerhouse into today's business world. Its unique analog and digital input options, the Compaq MP1600 Microportable Projector is conquering today's analog-to-digital video signal conversion challenge, and its already ready for tomorrow's 100% digital laptops computers.

THE ART OF PORTABLE PROJECTORS

Your presentation includes more than just the show that's projected on the screen. Your audience will notice every detail of your entire performance — from how easy or difficult your equipment is to carrying, setup, and use, to how aesthetically attractive it is, to how effortlessly you pack it up. In fact, the overall image you "project" throughout this process is a direct reflection on your professionalism, your technological savvy, and your appreciation for your audience. What's more, each of these steps in delivering a presentation directly impacts your audiences' perception of your products, services, and company. Thanks to the advances in projection technology, the "art" of a presentation has become more sophisticated than ever before – giving a considerable boost to your presentation success. The Compaq MP1600 Microportable Projector gives you everything you need to deliver a high-quality presentation and make a positive lasting impression – including elegant portability, graceful ease-of-use, wide-ranging compatibility, an artful form, and a stylish carrying case.

ELEGANT PORTABILITY

There is nothing graceful about traveling with heavy equipment, whether it's across town or across the country. In fact, quite the opposite: it is bulky, clumsy, and tiring. This means you'll look as burdened as you feel. With the elegantly portable Compaq MP1600 Microportable Projector at your side, you can walk into any situation feeling confident, composed, and energized. An objective way to determine true portability is to multiply the weight of the projector times the volume, and the Compaq MP1600 Microportable Projector is the most portable projector in the industry. At 8.25"H x 3"W x 9"L (20.9cm x 7.6cm x 22.84cm) it gives you a slender footprint for quick setups, even in the most space-constrained spaces. As a result, when you have truly portable technology at your side, your presentation will begin with a organized and professional first impression that will help you persuade your audience to listen, learn, or buy.
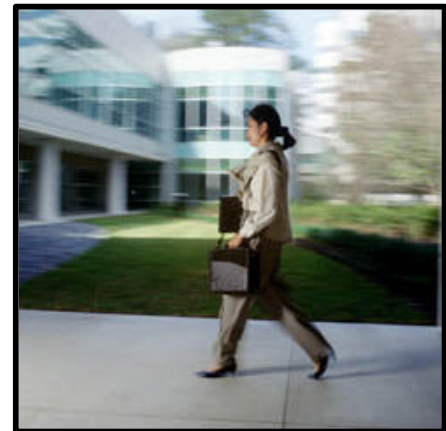
WIDE-RANGING COMPATIBILITY

You can't afford to let compatibility cancel your presentation. To ensure traveling business people can take their show on any road, the Compaq MP1600 Microportable Projector was specifically designed to function just like Compaq's Plug n' Play monitors. Just unzip the bag, plug in the power cord, connect your computer, hit the "on" button, and you're up and running. In fact, the Compaq MP1600 Microportable Projector provides unequaled compatibility to virtually all computer products, including Compaq and third-party desktops, notebooks, and handheld computers, as well as analog and digital products.

DAZZLING DISPLAY QUALITY

DLP is the most advanced display technology — with over 16 million digitally correct colors and advanced resolution capabilities. Unlike LCD technology, that pushes light through liquid crystals, the DMD reflects light off of its mirrors. Each pixel on the screen is produced by one of the individual microscopic mirrors. A crystal clear, life-like displayed image is the sum total of five image characteristics, including brightness, uniformity, resolution, seamlessness, and contrast. When they are all at optimal levels, they work in concert to give you a high-quality picture you'll be proud and confident to project.

1. BRIGHTNESS. In the world of projecting images, the primary measurement of a high-quality image is brightness. In other words, how much light hits the screen. The more light, the brighter the images. The brighter the images, the sharper the graphics and text. The sharper the images, the easier they are to read. The industry measures brightness in lumens: the more lumens, the brighter the images will be. As a general rule of thumb, 500 ANSI lumens will produce readable digital images and saturated colors in semi-lit rooms. With 600 lumens, the Compaq MP1600 Microportable Projector is easily readable in the semi-light environments of most offices and conference rooms. What's more, it has as much brightness, or more, as projectors that are two times its size. This ensures that your images will always be as bright as possible, and easy to read in any almost any situation.

Brightness Comparison:
Normal above, low brightness below

2. Uɴɪғᴏʀᴍɪᴛʏ. Uniformity gauges the difference between the brightest (the middle) and dimmest (the edges) points on a screen. When uniformity is high, the image brightness is equalized from the center to the corners. When it's low, you get too much light in the middle and not enough on the edges. The majority of portable projectors today offer a uniformity of between only 30% and 50%, which results in a visibly distracting imbalance of brightness across the screen. The Compaq MP1600 Microportable Projector's uniformity is greater than 90%. You'll consistently project uniformly bright images with no hot spots or faded edges.
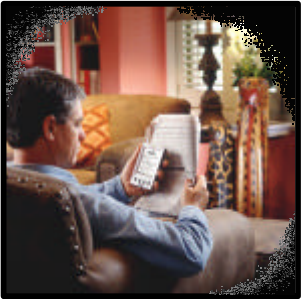
Uniformity Comparison: Dark corners result in presentations with lower uniformity

3. Rᴇsᴏʟᴜᴛɪᴏɴ. Resolution is the measurement of the number of pixels or picture elements used to project an image. Higher resolution settings display more information, while lower resolutions cut off various proportions of the image's edges. The result is that either more or less of your actual image is displayed. There are four widely used resolution measurements starting at VGA (640x480 pixels) and going up to SXGA (1,280x1,024). However, the optimal resolution for presentations is XGA (1,024x768), because it delivers the optimum projected image. Only a few portable projectors on the market offer XGA resolution. The Compaq MP1600 Microportable Projector is one of them. What's more, unlike most other portable projectors, the Compaq MP1600 Microportable Projector has state of the art chip set from Pixelworks that employs a scaling algorithm to automatically scales your presentation's resolution to XGA from VGA through SXGA resolutions. This means that virtually no matter what video resolution your computer is outputting, the Compaq MP1600 Microportable Projector will automatically scale it to an optimum XGA resolution. Projectors without this capability project only partial images, or place black borders around the images to fill the space, resulting in a visible image loss.

VGA (640 x 480)   SVGA (800 x600)   XGA (1024 x 768)   SXGA (1024 x 768)

Resolution:
Lower resolutions display less information. The Compaq MP1600 Microportable Projector automatically scales to XGA without information loss.

4. **SEAMLESSNESS.** When you've worked for hours to create digital images that look sharp and crystal clear on your monitor, you want the image to look as sharp and clear projected on the screen. Unfortunately, with traditional LCD technologies instead of a sharp image what you often get is "the screen door effect." This grainy, pixilated effect occurs because the horizontal and vertical spaces between the pixels block the light. The result is that only about 70% of the light shines through.
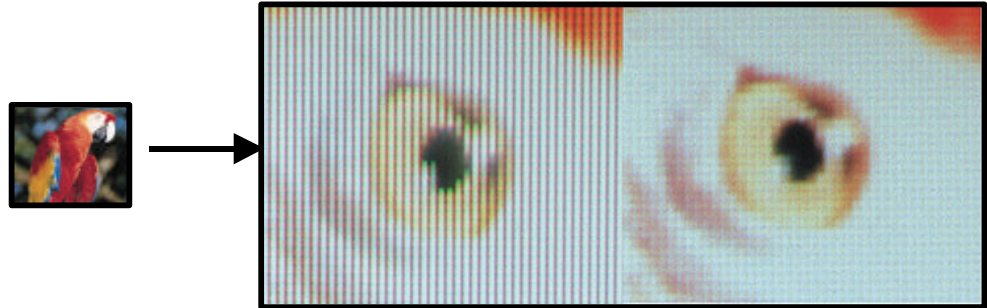
Seamless Picture: Close up of Parrots eye –
Typical LCD projector on left Compaq MP1600 Microportable Projector on right

The new DLP and micromirror technologies combine to create significantly smaller spaces between its 786,432 microscopic mirrors 16 microns wide. The spaces measure only one micron (human hair is about 17 microns). So projectors with DLP technology, like the Compaq MP1600 Microportable Projector, project over 90% of the light, virtually eliminating the screen door and projecting seamless, sharp images. What's more, DLP technology handles motion images superbly, because the mirrors move at 1,000 times per second. That is fast enough for the 30ms video frame rate standard in televisions.

5. **CONTRAST.** Contrast is the difference between the projected white and black images. When your projector has an optimum contrast ratio, your images will be sharper and more readable. Similarly, a low contrast ratio results in dull, washed out images. Most LCD projectors have a contrast ratio of no more than 150:1. Thanks to an impressive contrast ratio of 400:1, the Compaq MP1600 Microportable Projector offers richer, truer blacks, brighter and more vibrant whites, and by far an overall improved image.
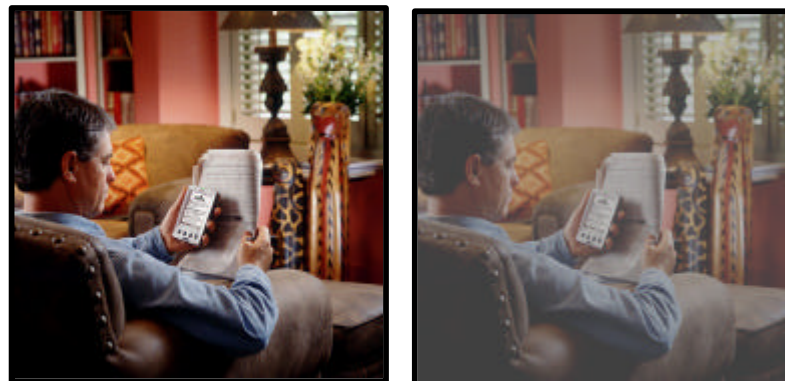
Contrast Comparison:
Enhanced contrast from the Compaq MP1600 Microportable Projector on left
and the typical contrast from a LCD projector on right.

GRACEFUL EASE-OF-USE

Convenience. It's the driving force of all of today's business tools. Easier, lighter, more useful is the battle cry — all without sacrificing superior quality. And that's exactly the job the new Compaq MP1600 Microportable Projector fills. In fact, working with the Compaq Compaq MP1600 Microportable Projector is an intuitive experience, which lets you focus on delivering your presentation, not dealing with your equipment. Easy-to-use equipment directly increases the impression you make— you'll look more technology savvy, professional, and impressive.

• **FIVE-BUTTON ONSCREEN DISPLAY**. Provides five easy-access buttons including, one standby button, one re-synch button, and three simple buttons for navigating image control.

• **ONSCREEN MESSAGES.** Displays several messages including check video cable, input signal out of range, two inputs active - remove one, going to standby, and lamp may fail soon - replacement suggested.

• **SPRING-LOADED HEIGHT ADJUSTMENT FOOT.** Just press the button to easily raise or lower their projector up to one inch.

• **STAND-BY SPLASH SCREEN.** During times of low usage, the projector will automatically go into stand-by mode and throw up an elegant splash logo screen.

• **UTILITY PROGRAM.** Includes a convenient multi-language utility program on CD that allows you to easily turn off your computer's screensaver or power management functions for the duration of your presentation, as well as providing an convenient shortcut to adjust the resolution of the display.

ARTFUL TOWER FORM

Even before your presentation begins your audience will be impressed by your Compaq MP1600 Microportable Projector's exciting design. It's light years beyond boxy, drab-looking projectors. Its sophisticated form includes a curved black and silver magnesium casing that is so stylish, your only worry will be that the projector itself will steal the show. But the Compaq MP1600 Microportable Projector isn't just an attractive lightweight, its good-looking form follows a highly useful function.

• **Magnesium casing**. The magnesium casing is not only stronger than plastic used in most projectors, it's also lighter in fact it is 20% stiffer than plastics 30% lighter than Aluminum.

• **Focus Ring**.The outer focusing ring makes adjustments effortless.

• **Stability foot**. The concealed foot swings out from the bottom front of the unit, then tucks back underneath when you're ready to go.

• **Security lock slot**. Mobile professionals can use a standard portable PCs security lock to safeguard the Compaq MP1600 Microportable Projector.

STYLISH CARRYING CASE

The Compaq MP1600 Microportable Projector comes with a black synthetic leather carry case for added elegance, as well as convenience.

This functional case includes wide-spine sides that open easily and convenient side pockets. One side holds the power cable, two signal cables (VGA and DFP), the video adapter (optional), an extra lamp, a Phillips head screwdriver, and lens cleaning cloth. The other side holds the *User's Guide* and Quick Set-up card, as well as your presentation notes.
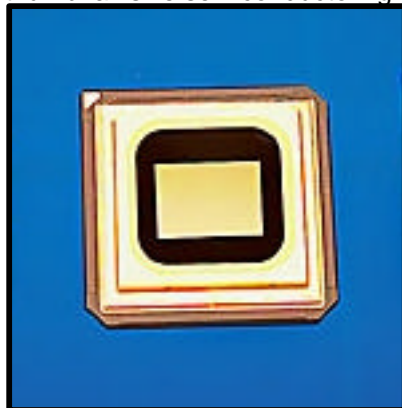
THE SCIENCE OF PORTABLE PROJECTORS

The components of a MP1600 Microportable Projector include an imaging engine, a microprocessing chip, a power supply, a lens, a lamp, and the casing. When each of these elements is at their optimum development level, they converge to give business people the most technologically advanced projector available. This is exactly the high-impact role the Compaq MP1600 Microportable Projector will play in your arsenal of critical business tools.

## THE CREATION OF THE WORLD'S SMALLEST PROJECTOR

To create the world's first microportable computer required several innovative challenges — which, when combined, resulted in a superior MP1600 Microportable Projector. First, Compaq targeted the most advanced projection technologies. Second, we challenged the engineers and designers to make them even more compact and lightweight than they were already. Finally, we raised the stakes to produce each component to meet Compaq's high standards. These challenges were achieved through a combination of reductions in several areas including state-of-the-art semiconductor technology, a smaller and more powerful power supply, improving the circuit design, and encasing it all in a strong, yet lightweight magnesium casing. The end result: a small, convenient, and powerful projector.

ADVANCED DIGITAL LIGHT PROCESSING (DLP) AND DIGITAL MIRROR DISPLAY (DMD) TECHNOLOGY FROM TEXAS INSTRUMENTS

DLP is a revolutionary new way to project and display images. Simply stated, it is an optical system driven by digital electronics. Using a video or graphics input signal from a source such as a computer, DLP display technology digitally processes light to produce a film-like, all-digital image. The heart of the digital process is the DMD, a thumbnail-size semiconductor light switch. The DMD consists of 784,432 microscopic mirrors, each mounted on a hinge structure that can be individually tilted on and off at speeds greater than 1,000 times per second. Using light from a lamp, an image is formed on the reflective surface of the DMD, then projected through a lens and onto a screen. Color is added through an advanced color wheel filter system. DLP can generate 256 grade levels for each of the primary colors, producing millions of digitally correct color combinations. The result is a bright, seamless, crystal clear with digital image perfect contrasts, resolution, and uniformity.
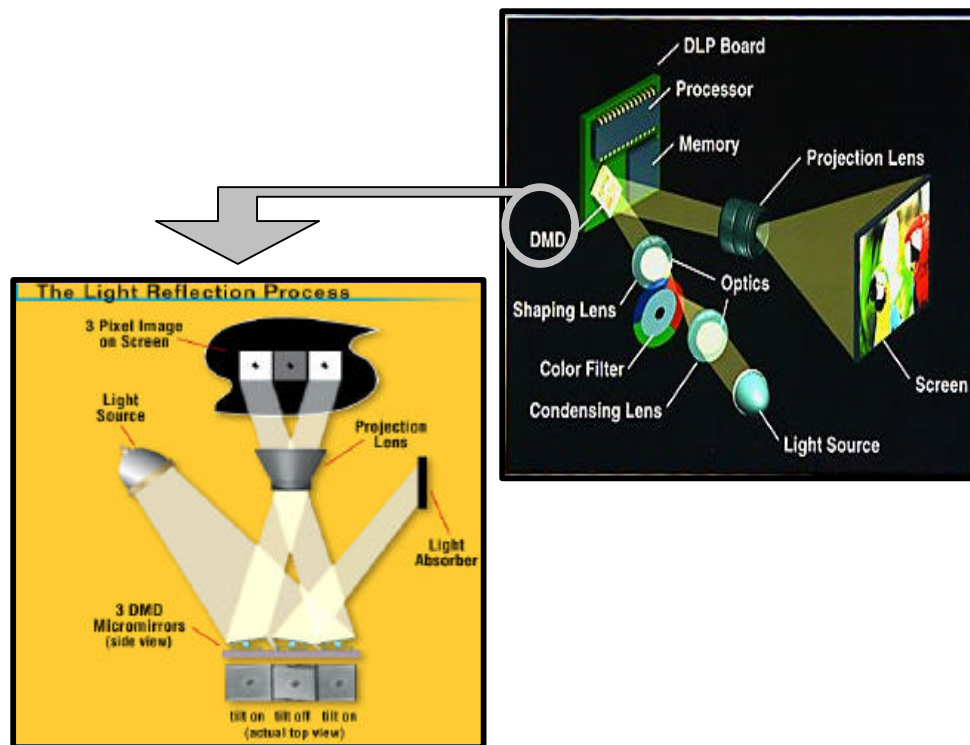
Unlike traditional LCD technologies that contain large, complicated optics, DLP uses reflected light for a more streamlined optical system. And because it is a reflective technology it has many advantages over analog LCD and CRT systems: principally among them are greater light efficiency. This means that more light gets from the lamp to the screen, producing a brighter, more life-like image with sharper details and more vivid colors. In fact, it has a light efficiency rate of 90% versus an average of 70% in traditional LCD projection displays. What's more, the DLP imaging engine provides a high-quality XGA native resolution, which provides a more accurate and detailed of gray scale and color levels than traditional projectors. The Compaq MP1600 Microportable Projector's advanced color processing system allows the digital creation of more than 16 million colors, which results in richer, brighter colors. Further, this higher-efficiency optical system is much smaller than conventional LCD system, which enables the development of lighter weight projectors, like Compaq's MP1600 Microportable Projector, while maintaining the brightness levels of projectors twice their weight.

LEADING-EDGE IMAGEPROCESSOR BY PIXELWORKS: INDUSTRY STANDARD CONNECTIVITY B1 PANEL LINK

The Compaq MP1600 Microportable Projector employs the most superior image processing available. Produced by Pixelworks, the high-performance pixilated display controller chip controls several aspects of the image processing, which, combined, result is the most compatible and easy-to-setup plug-and-present projector technology available today.

• **Broad Compatibility**. The ImageProcessor by Pixelworks provides broad compatibility to all Compaq and third-party devices, including portable and desktop PCs, PC Companions

(may require VGA PC Card), or from DVDs, VCRs, or camcorder (with the optional video adapter).

• **Analog and digital.** What's more, Panel Link technology allows the projector to accept both analog and digital connections, which means it will always be compatible with all legacy and future technologies.
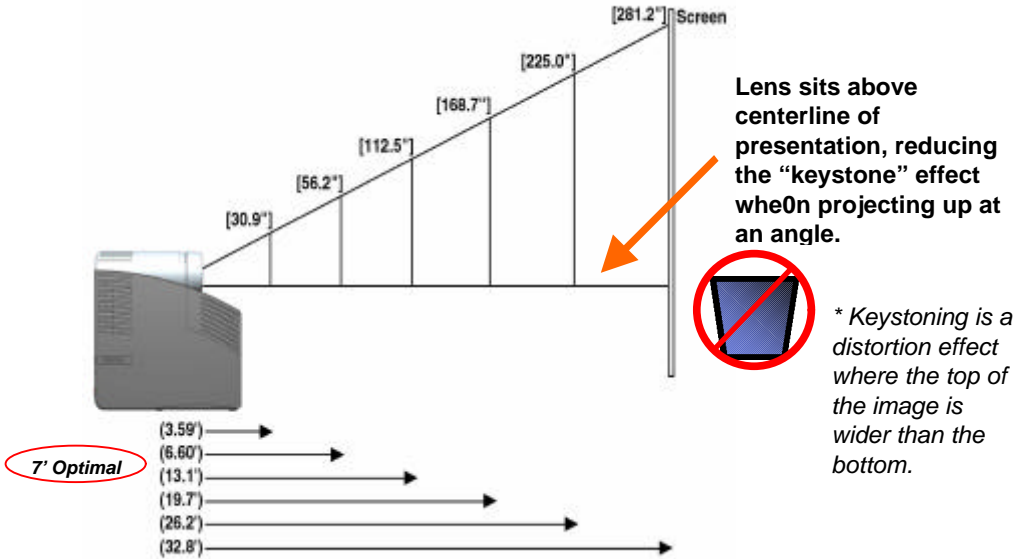
• **AutoSyncronization.** A key component of this superior chip architecture is its AutoSync capability. It automatically recognizes the incoming signal from the image host and makes all the necessary resolution

DFP connector above
VGA connector below

adjustments. For example, the Compaq MP1600 Microportable Projector will scale VGA and SVGA up to XGA and SXGA down to XGA without any loss of data. This means that presenters are assured of an optimum image every time, with very little, if any manual adjustments. If the synchronization needs adjusting, the presenter only has to press the resync button and the processor will go back, check the signal, and correct it.

LENS ASSEMBLY

The "throw distance" is a key metric in measuring a projector's capabilities. The Compaq MP1600 Microportable Projector's lens assembly offers an exceptional throw distance for a projector of its size and weight. The Compaq MP1600 Microportable Projector can project an image on a screen from 3.5' to 30' enables users to present to groups of 1or 2 in an office, or to a group of 30 or more in a large conference room.

[281.2"] Screen
[225.0"]
[168.7"]
[112.5"]
[56.2"]
[30.9"]

Lens sits above centerline of presentation, reducing the "keystone" effect whe0n projecting up at an angle.

* Keystoning is a distortion effect where the top of the image is wider than the bottom.

(3.59')
(6.60')
7' Optimal
(13.1')
(19.7')
(26.2')
(32.8')

STATE-OF-THE-ART UHP HIGH-EFFICIENCY LAMP

The Compaq MP1600 Microportable Projector's high-efficiency lamp is a high pressure mercury bulb that has a mean life of 1500 hours of life. To begin with, it is a 120-watt bulb that generates 600 big lumens: this allows optimum image quality even in low-light situations. What's more, it offers more features that help you maintain and monitor bulb life than much larger projectors including:

• the lamp was integrated into an improved optical design that filters out and essentially

eliminates lamp flicker, common in other projectors
- the projector automatically tracks the hours of use
- the projector gives you a warning message on the screen when the bulb is about to burn out
- the standby lamp delay feature automatically puts the projector on standby and throws up a logo screen when it has not been in use for a predetermined amount of time. The presenter simply presses the "standby" button to resume the presentation.

VIDEO ADAPTER (OPTIONAL)

For added display flexibility and capabilities, the Compaq MP1600 Microportable Projector's design includes an optional video adapter. This easy-to-use adapter gives presenters the ability to project a video presentation or include video clips in their slide presentations, thereby, allowing the seamless integration of multi-media on any business trip. The video adapter includes several significant features:
- it easily slides onto the back of the projector on smooth-fitting groves,
- it provides a one-touch release buttons allows you to slide the adapter off again,
- it offers a one-touch toggle button allows you to easily toggle from your PC or handheld to the VCR, DVD, or camcorder, and
- its indicator light lets you know when the video adapter is on.

Indicator lights

Toggle button switches the signal from the PC to Video

Video and S-Video compatible

Release buttons for easy connecting

THE COMPAQ ADVANTAGE

GLOBAL SERVICE CAPABILITY

The Compaq MP1600 Microportable Projector is distributed through standard PC channels, ensuring that service and support will be easy to acquire and service. Our FCC class B classification enables wider distribution making the Compaq MP1600 Microportable Projector easier to acquire. Class B products meet all consumer and European standards.

PLATFORM TESTING (CPQ AND THIRD-PARTY)

The Compaq MP1600 Microportable Projector has been put through rigorous compatibility testing on both Compaq and non-Compaq products to ensure interoperability with desktops, notebooks, and workstations currently in development, as well as those already announced. Shock and vibe testing ensures that the Compaq MP1600 Microportable Projector is durable enough to withstand the bumps and jolts of regular business travel. The Compaq MP1600 Microportable Projector uses the same durability testing used to qualify Compaq Portable PCs. What's more, Compaq's legendary quality and reliability ensures the Compaq MP1600 Microportable Projector has been completely tested in the following areas:

- Communications
- Compatibility
- Performance and battery life
- Packaging and safety

Part Numbers

386202-001- North America	386202-111 - Switzerland
386202-011 – Australia, New Zealand	386202-291 - Japan
386202-021 - Europe	386202-AA1 – China
386202-061 - Italy	386202-AR1 – South Africa
386202-081 - Denmark	386202-B24 - International

Options Part Numbers

116298-001 – Video Adapter	118052-001 - Lamp

WARRANTY

The Compaq MP1600 Microportable Projector's warranty is the best in the industry. The Compaq MP1600 Microportable Projector's robust Worldwide service and support ensures that any problems encountered on the road do not turn into roadblocks in a perfect presentation.

➢ For EMEA and NA the Compaq MP1600 Microportable Projector and optional video adapter both come with a 2-year Worldwide limited warranty.. The warranty provides 2 years for parts, and labor. Compaq's 24 hour/day x 7 days/week x 365 days/year 1-800 (toll-free) telephone hotline support provides support at any time (terms and conditions may vary from region to region). Along with our outstanding hotline support customers can go to the Compaq Website and online forum information that offers supplemental service information.

    ➢ Compaq's Advanced Unit Replacement program (EMEA and NA) offers next business day replacement [24 hours in NA and 48 hours in EMEA] of projector with a new or "like new" replacement of a defective unit during the warranty period. Compaq pays for the two-way shipping and handling.

    ➢ The bulb carries a standard 90 day or 1000 hour warranty

➢ For APD, LA, GCD, CKK the Compaq MP1600 Microportable Projector and optional video adapter both come with a 2-year Worldwide limited warranty. Lamp warranty is 90 days or 1000 hours. Carry to authorized dealer for service repair or replacement of defective projector.

SPECIFICATIONS

Brightness in Lumens (ANSI)	600
Display Resolution	Displays XGA (1024 x 768), but will automatically scale up to XGA from VGA, SVGA, or XGA and scale down from SXGA to fill screen. Will also scale from Macintosh 832 x 624 compatible.
Image Quality	
Contrast	400:1 contrast full-on; 150:1 checkerboard
Color	SMPTE-C – 24 bit 16.7 million colors
White Point	7100 degrees, x = .30, y = .34
Uniformity	90% or better
Plug and Play	Yes
Lens	
Type	Fixed Focal Length (adjustable focus)
Throw Ration (D/W)	1.75:1
Lens Height	6″ (15.18 cm)
Throw distance	3' to 30'
Offset	100% of image above centerline
Focus	Manual focus via focus ring around lens
Keystoning	< 3% distortion with full image above centerline of projection lens, Digital keystone correction
Portability	
Size/Volume (HxWxD)	8.25 x 2.5 x 9 in and 175 cubic in/ 20.9 x 7.6 x 22.84 cm and 2861 cubic cm
Weight	4.2 lbs/1.9 kg
Interface	
Signal Interface	Standard analog VGA cable and DFP standard cable
User Interface	Standard Compaq 3 button OSD (includes zoom and keystone correction), Power and Resynch
Standards Supported	VGA, DFP, DVI, and P&D
Graphics	Supports VGA, SVGA, XGA and SXGA resolutions
	Brightness, Contrast, Positioning, Keystone Correction, Digital Zoom, Clock, Clock Phase, Color Temperature, Menu Location Control, Power Saver, Lamp Hours, Lamp Hours Reset, Standby Lamp Delay, Serial Number, Master Reset, Image Control (upside down, reverse, upside down and reversed)
Languages	English, German, French, Spanish, Italian, Dutch
Approvals/Certifications	CE, CSA, C.I.S.P.R. 22, TUV, UL Approval, FCC Class B Approval
Horizontal Frequency	15 to 80 kHz for analog signals and 15 to 16 kHz for digital signals
Vertical Frequency	48 to 85 kHz for analog signals and 48 to 75 kHz for digital signals
Operating Temperature	50° to 104°F/10° to 40°C
Operating Humidity (non-condensing)	20% to 80%
Warranty	Two-year worldwide limited warranty. Advanced Unit Replacement program (North America and Europe) offers a new or "like new" replacement of a defective unit during the two year warranty period. 90-day or 1000 hour (whichever comes first) standard bulb warranty. Within the bulb warranty period, defective bulbs will be replaced via overnight shipment. Optional video adapter carries same warranty as projector. Compaq's toll-free, 24 hour, seven day a week telephone hotline support (terms and conditions vary from region to region)

*Due to the unique shape the width reaches 3" at its widest point

ADDENDUM

PROBLEM & SOLUTIONS

COMPAQ'S MP1600 MICROPORTABLE PROJECTOR CONQUERS COMMON PORTABLE PROJECTOR CHALLENGES

You face enough uncertainties in a sales pitch, design review, or training seminar: why let your projector be one of them? With conventional portable projectors there are many time-consuming and frustrating challenges to overcome on the road to a great presentation. However, with Compaq MP1600 Microportable Projector all of the presentation functions are designed to contribute to, not distract from, your presentation — from setup, to presenting, to cleanup. Plug and project — what could be an easier way to give your next presentation? We'll take a quick look at several of the common problems encountered with today's projectors, and describe how the Compaq MP1600 Microportable Projector solves each one — easily, effortlessly, beautifully.

Problem: Ultraportable projectors are not truly lightweight.
Until recently the standard portable projectors weighted in at eight to 15 lbs. (6.8kg). While that may be significantly lighter than room-based projectors at 30 lbs.(13.6kg) and up, it is not truly lightweight, especially when you consider everything else a business traveler has to carry. Recent developments in "ultraportables" have brought the weight down a few pounds, but at seven to ten pounds they can still weight down a business traveler. Especially when you consider that on the road every pound counts.
Solution: The truly lightweight MP1600 Microportable Projector.
At less than half the weight of the average ultraportable, Compaq MP1600 Microportable Projector is truly lightweight. And at 36% less volume than today's "ultras" it is truly small. Which means, this 4.2 lbs. (1.9 kg), 175 cubic inch (2861.3 cubic cm) lightweight, is a nearly effortless travel companion — easy to tow and easy to stow on airplanes. An objective way to determine true portability is to multiply the weight of the projector times the volume, and the MP1600 is the most portable projector in the industry. This advanced portability allows you to carry more sales materials or the freedom to simply lighten the burden of travel, as well as the ability to give your presentation in the most space-constrained conditions.

Problem: As the lights go up, brightness goes down.
Today's presentation rooms are true workrooms, where participants want the ability to access their portable PCs and handheld devices while viewing the presentation. When presenters have to make the room darker to accommodate their projectors' poor brightness capabilities, it limits the attendees' productivity and attitude toward the subject.
Solution: Portable projectors made with DLP's "brilliant" technology.
Because it's a reflective technology, DLP offers maximum brightness, even in low-light rooms. And at 600 lumens the Compaq MP1600 Microportable Projector delivers images so bright you can make presentations in well-lit rooms.

Problem: The projector requires complicated connections.
Nothing makes a presenter feel more awkward and foolish than having problems setting up their equipment. And yet the complicated connection hoops most projectors make you jump through exacerbate this problem.

Solution: The Compaq MP1600 Microportable Projector provides "plug-and-present" setup ease.
You're not always going to get a half-hour or more to set up. In fact, a few minutes is the norm. You need a projector that gives you easy setup, every time. Because the Compaq MP1600 Microportable Projector is a plug 'n play projector, setup is a simple four-step process: connect your projector into your portable or handheld PC, plug in the power cords, turn on power to both, then press the "standby" button on the projector. Now present – it's that easy and fast.

Problem: Height adjustment is difficult or awkward.
Today's projectors give you two ways to adjust height: by using an often difficult-to-use height adjustment mechanism or by placing a stack of books underneath it.
Solution: Simple spring-loaded height adjustment foot.
To begin with, the Compaq MP1600 Microportable Projector's tower form factor puts the lens six inches off the resting surface. This means it is well above the image's" centerline," which is a key variable in producing an undistorted image. Plus, if necessary, adjusting the image height up to one more inch is quickly and easily accomplished by pressing the spring-loaded height adjustment button on the front of the projector to raise or lower the front of the projector.

Problem: Complicated image adjustments.
Too many buttons, awkward button access, complicated operation — they're all part of what presenters have been forced to learn to deal with on their portable projectors.
Solution: Easy, intuitive three-button OSD controls.
The Compaq MP1600 Microportable Projector has three simple buttons for making quick and easy adjustments to image performance, when necessary. Its onscreen display (OSD) employs the same standard, intuitive OSD used by all Compaq monitors. Plus it includes several additional image controls to make simple adjustments to, for example, the color, keystone distortion, or to zoom in on an image detail.

Problem: Unsynchronized images.
Due to signal miscommunications and different resolutions between the projectors and the source of the images, often the incoming images are not insync. The result is either a partial image or a very small image with a black border around displayed area. This creates image distortions that can be difficult, time-consuming, or impossible to correct.
Solution: One-button resync.
To being with, the Compaq MP1600 Microportable Projector's advanced image processing chipset automatically recognizes the host PC and adjusts the necessary resolution settings. However, in the rare occasion that the image is not insync automatically, there is a one-touch resync button that tells the projector to go back and check all of the synchronization signals of the incoming image.

Problem: Incompatibility with other devices.
Too often business people must deal with incompatibility on the road, which limits their presenting freedom.
Solution: Wide-ranging compatibility.
The Compaq MP1600 Microportable Projector offers robust compatibility with Compaq and most third-party device, including portable and desktop PCs, PC Companions (may require VGA PC Card), or from DVDs, VCRs, or camcorder (with the optional video adapter). It also offers complete compatibility to present, past, and

future technologies including analog and digital devices.

Problem: VGA and SVGA resolution cut off large portions of the images.
One of the cost-cutting measures of most portable projectors is VGA or SBGA resolution.
Solution: Advance XGA resolution and scaling.
A powerful presentation can be rendered null and void if you lose significant portions of your images due to a low-resolution capacity. At XGA resolution, the Compaq MP1600 Microportable Projector gives you a 1,024x768 pixels, which is similar to most computer monitors and is the most readable projected resolution on the market. In comparison, VGA delivers only 40% of the image area of XGA, while SVGA only delivers 62.5%. What more, unlike other projectors, the Compaq MP1600 Microportable Projector will scale VGA and SVGA up to XGA and SXGA down to XGA using its advanced imaging processing capabilities.

Problem: Pixilated, grainy "screen-door" image.
You've spent hours preparing your presentation, but now it looks like your projecting it through a screen door.
Solution: Advanced Digital Micromirror Device (DMD) technology.
The infamous "screen door" effect is common to LCDs, because their pixel structures and inefficient light projection system only deliver, at best, a 70% fill factor (which means that 30% of the projected image is blocked). The horizontal and vertical lines are actually spaces between the pixels. This common image problem is corrected with DMD technology because the 17 micrometer square mirrors are separated by only 1 micrometer gaps, giving a fill factor (or active area) of approximately 90%. So rather than looking through a screen door, viewers see a seamless, digitally projected image.

Problem: The keystone effect.
You've seen it a hundred times: a projected image that is wider at the top and narrower at the bottom. It's called the "keystone" effect, and this trapezoid-shaped image is the result of the lens sitting too low on the surface and below the projected image's "centerline."
Solution: An innovative vertical tower projector design.
DLP technology combined with an innovative inner design has allowed Compaq to produce a portable projector with a vertical tower form factor, unlike traditional horizontal projector "boxes." Among the benefits of this design, is that it has raised the lens is six inches from the surface. The lens can also easily be raised one more inch with the height adjustment feature, giving a total lens height of 7". So, whether you're projecting at three-and-a-half feet or 30 feet, the lens is sitting above the centerline, thus completely reducing the image-distorting keystone effect. What's more, due to a superior lens design, the image is projected with 100% offset, which means that light is evenly dispersed from the center to the edges of the lens, thereby reducing
Keystoning. Further, the Compaq MP1600 Microportable Projector's simple On Screen Display (OSD) allows easy adjustments to whatever keystone distortion may appear on the screen.