Personal Viewers: Poised for Growth

Key Success Factors for Consumer Adoption

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BACKGROUND

Personal Viewers Are Poised for Explosive Growth

Personal viewers (head-mounted displays) have now become cost-competitive with embedded displays:

- Consumer acceptance of lower definitions
- Decline in cost of microdisplays
- Increased volume for all headsets and headset components

The “Anywhere Anytime Video” revolution is under way and will spur use of Personal Viewers:

- Popularity of “pocket video platforms” like iPod, cell phones, and personal video players
- Dramatic increase in content availability and portability
- Video viewing and exchange is popular with consumers
    - Increasing use of camera phones to take video
    - Internet video-sharing websites
    - Increasing availability of video for purchase on the Internet

Personal Viewers offer the only comfortable way to view and acceptable-sized image on a pocket video platform while maintaining pocket portability.

Personal Viewers are a competitive weapon to gain market share for makers of all pocket video platforms:

A key issue for the marketplace is how to cost-effectively market and promote Personal Viewers to consumers, who are unfamiliar with the product and its potential benefits. The barrier to consumer adoption is now not cost and performance for the Personal Viewers, but rather effective marketing and promotion.

The report focuses on key success factors for consumer adoption, and provides marketing strategies to cost-effectively deliver an acceptable consumer adoption rate.
The key for the emerging market is whether market players effectively market and promote Personal Viewers to consumers. If the do, the consumer market will reach nearly $1B in 2010. If they don’t, the consumer market will be limited to less than $150M in sales.

WHO SHOULD BUY AND WHY

The report is a comprehensive tool for consumer and vertical market electronics industry professionals to understand the timing and scope of emerging opportunities and develop their company's response to those opportunities:

- Cell phone headset and handset makers – Understand how and when displays will be incorporated into cell phone headsets, pricing and cost impact.
- Portable DVD makers – Understand opportunities for upscale portable DVDs incorporating Personal (big-screen) TVs, pricing and cost impact.
- Cell phone service providers – Higher-definition displays in headsets allows delivery of more sophisticated value-added wireless services.
- PDA makers – Viewer Headset boosts attractiveness and usefulness of PDAs, design implications.
- Personal Viewer (PV) makers – Understand how and when high-volume Personal Viewer sales will emerge, learn success factors for the emerging PV solutions
- Microdisplay makers – Understand price and performance requirements and timing for the microdisplays to be incorporated in the new PV products

SCOPE AND QUESTIONS ADDRESSED

The study incorporates a number of improvements in scope and coverage compared to the 2005 report, including:

- Forecast by military, corporate, prosumer and consumer markets
- Detailed forecast of consumer sales by application/product
- Analysis of the consumer use model for Personal Viewers
- Forecast of the adoption sequence for Personal Viewers by application
- Two scenarios
  - Base Case (organic growth case)
  - Upside scenario (cost-effective marketing and promotion of Personal Viewers by companies other than Apple Computer)
- Discussion of scenario where Apple enters the market with their own Personal Viewer
- Strategies for cost-effective marketing of Personal Viewers
- In-depth review of the five key personal viewer success factors
- Forecast by type of personal viewer
- Reviews of four of the latest consumer personal viewers
  - Icuiti iWear
  - MicroOptical myvu
  - i-O Displays iTheater
  - Oriscape Cyberman GVD310A
- Competitive positioning of companies by market
- Forecast of microdisplay demand by technology, breaking out single-crystal silicon (SCS) technology for the first time
- Detailed analysis of comfort parameters and specific comfort vulnerabilities and requirements for personal displays

- Analysis of potential hurdles or obstacles to success
- Streamlined graphical company profiles

The study continues to incorporate the following features:

- Market trends on video content and Anywhere Anytime Video
- Pricing trends on microdisplays
- Consumer preference for microdisplay definition
- New technology advances such as biocular designs
- Forecast of microdisplay demand by definition
- Forecast of microdisplay demand by color
- Forecast of microdisplay demand by technology
- Appendix on comparative pricing and value for personal displays versus other types of displays (updated for 2006)
- Appendix on basics of near-eye systems
- In-depth review of the five key personal display success factors
- Forecast by type of personal display
- Reviews of four of the latest personal displays, incorporating a rating on the five key success factors
- Competitive positioning of companies by market
- Detailed analysis of comfort parameters and specific comfort vulnerabilities and requirements for personal displays
- Streamlined graphical company profiles

Technology Scope. The following display technologies are included:

- SCS: Single crystal silicon
- LCOS: Liquid crystal on silicon (including F-LCOS)
- HTPS: High temperature polysilicon (AMLCD), which category includes other transmissive LCD microdisplays
- LTPS: Low temperature polysilicon (AMLCD)
- Beam-scan: Laser or optical beam-scan
- OLED: Organic light-emitting diode
- CRT: micro-cathode ray tubes

Market Scope. Personal viewers designed for the following market segments are included:

- Military
- Corporate
- Prosumer
- Consumer

Product Scope. The following types of personal displays are included:

- Binocular immersive
- Binocular sleek (including two-display and one-display biocular versions)

- Military helmets
- Monocular see-around
- Monocular see-through

CONTENTS

The study is 252 pages and includes:

- Forecasts through 2010 with detail by market and product type including units and sales value for personal displays and for the derived market for microdisplays
- Forecasts for two scenarios – Base Case (organic growth) and Upside (effective consumer marketing)
- Pricing for personal displays and microdisplays through 2010
- Detailed analysis of the five key success factors for personal displays – the Five C's – Cost/Performance, Control Interface/Cabling, Comfort, Content and Channels.
- Detailed quantitative evaluation of key comfort parameters with review and summary of personal display comfort studies done over the past several years
- Analysis of each consumer application including Personal Video Viewers, Toy Viewers, Gaming Viewers, Data+ Viewers, Sports Helmet Navigators and Navigation/Phone text display sunglasses
- Company profiles for 31 personal display companies
- Three appendices provide detailed analysis of personal display system basics, Personal Video Viewer price point, and study methodology

METHODOLOGY

The MCG study is based on an industry phone survey. Marketing and technology leaders of major players throughout the value chain were surveyed by telephone during late fall of 2006. The report also draws heavily on MCG's extensive research of applications for microdisplays accumulated over the past decade.

FORMAT

Printed hard copy and .pdf file both provided with site license when purchased.

SUPPORT FOR PURCHASERS OF REPORT

Free phone consultation available from the study's principal researcher, Steve Marsland (contact info shown below) for 30 days after report purchase.

ABOUT THE AUTHORS

Steve Marsland was the principal researcher and analyst. Charles McLaughlin acted as senior author and final editor.

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TABLE OF CONTENTS