

RCA



NEWS

News Media Inquiries: (317) 587-4450

Contact: Dave Arland, ArlandD@tce.com James Harper, HarperJ@tce.com

www.rca.com

RCA UNVEILS LIQUID CRYSTAL ON SILICON HIGH-DEFINITION TELEVISION TO MAXIMIZE ENTERTAINMENT AND MINIMIZE SPACE

*Breakthrough Technology is Lighter and Thinner,
and Designed to Deliver Powerful HDTV Punch*

LAS VEGAS, January 5, 2001 – Digital television will reach new heights of consumer convenience and image performance later this year when RCA introduces a new breed of super-light, flat-screen television receivers that utilize revolutionary Liquid Crystal On Silicon (LCOS) technology to deliver progressive-scan digital High-Definition television (HDTV) to consumers throughout the country.

Optimized for easy reception of both over-the-air and satellite HDTV signals, the RCA L50000 – a stunning 50-inch widescreen Liquid Crystal On Silicon HDTV display – will be available for retail purchase during the summer of 2001.

The new High-Definition display technology is being showcased to electronics dealers this week at the annual Consumer Electronics Show in Las Vegas, where digital television products are taking center stage.

"Liquid Crystal On Silicon represents a strategic investment on the part of Thomson to develop a new line of display products that are unique in the industry. Our line of LCOS receivers, beginning with the L50000, will be lighter and less expensive than other advanced reflected light displays. This technology has the potential to revolutionize the television industry, because of its new approach to image creation and display. With its widescreen, High-Definition display and unique design, the new RCA Liquid Crystal On Silicon HDTV receiver will interest a new segment of the buying public – those with an eye for both design and the best possible picture performance," said Michael D. O'Hara, Senior Vice President of Thomson Multimedia, manufacturer and marketer of RCA home entertainment products.

Thomson Multimedia

10330 North Meridian Street, Indianapolis, IN 46290 • Fax: (317) 587-6708

Thin, Elegant Lines Define Design Aesthetic

Designed to easily fit into virtually any home environment, the L50000 sheds pounds and inches from the typical big-screen HDTV experience. Even with its panoramic 50-inch wide screen, the new RCA Liquid Crystal On Silicon HDTV weighs only about 100 pounds, or 60% less than a comparably-sized projection TV. And with a cabinet depth of only 18-inches, the new RCA Liquid Crystal HDTV has the same depth as a typical small, tabletop 19-inch television.

The 50-inch display functions either as a sleek tabletop unit or as an entertainment center with its matching stand.

The goal of Thomson's Indianapolis-based design team on the LCOS product is to visually express the excitement and innovation of the LCOS technology in a dynamic new form factor that would redefine the television experience. Because this new Liquid Crystal On Silicon technology is far lighter in weight and smaller in size than today's projection lenses or CRTs, the finished product is not nearly as heavy or as deep as current direct-view or projection TV sets.

"Without the bulky demands of these components, we had a clean sheet of paper to redefine and reinvent the television aesthetic for the first time in a generation. Our design team first identified the key elements of the design language that the product needed to convey. The designers call this language 'neutral edge' and used terms such as light, flat, refined, crisp, technical, and surprising to define it," O'Hara said.

The direction that Thomson ultimately developed adheres very closely to elements of "neutral edge" design. The extremely thin and flat front panel is visually suspended above a recessed foot that conceals the front A/V inputs. This, plus a highly tapered rear cover helps eliminate much of the "visual mass" of the product. A unique circular button array serves as a focal point to the design. The buttons themselves are a soft elastomer material arranged as pie-like wedges around a central translucent blue "power" button. The soft-touch feel of the buttons and their simplified arrangement help reinforce the usability of the product.

"The elegant design of the LCOS television blurs the line between today's conventional large screen product categories. It's all-plastic cabinet, small footprint, and extremely light weight separates it from the large, heavy products of today. Our striking design immediately catches your attention, and it draws you in for further investigation. We believe the RCA LCOS high-definition television is the perfect synthesis of art, technology, and innovation," O'Hara said.

The LCOS Technology Difference

Liquid Crystal on Silicon (LCOS) is a new micro-display imaging technology that utilizes reflective light valves called imagers, assembled with other innovative components to form the heart of the HDTV display – the Light Engine.

Replacing traditional cathode ray tube (CRT) technology, brilliant HDTV images on the L50000 are created in the Light Engine. White light is first generated by an ultra-high pressure (UHP) lamp, processed into a laser-like beam through a series of integration optics, and separated into red, green, and blue (RGB) components by a sophisticated optical prism.

The three light streams are directed to three color-specific LCOS imagers, each modulated with high-definition video signals. The reflected video components are then recombined within the same prism into a single video stream to provide a cohesive, perfectly-aligned digital picture.

Finally, this output is magnified by an 11-element precision optical lens system and the high-definition image is presented on a flat, high-definition screen. The ultra precision 150 micron pitch, high-contrast screen displays images with three times finer resolution than conventional projection TV screens.

Thomson is working with three key partners to bring the new LCOS product line to market – ColorLink, 3-5 Systems, and Corning Precision Lens.

The ColorQuad™ optical prism designed and manufactured by ColorLink represents the most advanced technology in color management systems for LCOS displays.

"We are pleased that our ColorQuad has been chosen by Thomson Multimedia for use in the L50000. The ColorQuad is the culmination of five years of research and development to deliver the highest possible contrast and purest colors for LCOS-based systems," said Leo Bannon, President of ColorLink, developer and manufacturer of color management solutions for high-definition television products.

Three advanced microdisplay silicon imagers from 3-5 Systems separately modulate red, green and blue light. The colors are recombined, then optics and mirrors serve to enlarge and project the image onto the backside of the screen. The microdisplay imager construction includes a silicon backplane that contains active matrix drivers, and a top glass which are combined into a cell (thus Liquid Crystal On Silicon) that is then packaged for circuit interface and use in a Light Engine.

"We are thrilled that Thomson has selected our MD 1280 LCOS microdisplay for this exciting consumer application. Our MD 1280 microdisplays used in the Thomson 50-inch HDTV are based on proprietary LCOS technology. These displays are truly revolutionary, in that they provide extremely high contrast and brightness in a small 0.78-inch diagonal display," said Joe Riccio, Director of Strategic Program for 3-5 Systems.

Illumination and projection optics, and the Light Engine assembly, is coordinated by the advanced optics team of Corning Precision Lens.

"Corning Precision Lens is excited to be applying our technology to enable Thomson to produce a revolutionary product that will enhance the consumer television experience," said John Rudolph, Vice President of Business Development for Corning Precision Lens.

Stunning Panoramic Resolution

Thomson's flat matrix reflective light LCOS products ensure sharp, uniform focus across the entire image area. Because of this revolutionary technology, no consumer adjustments to improve focus or "converge" an image are necessary. Brightness is also uniform across the entire 50-inch widescreen, with the center of the screen and the far corners illuminated with precisely the same amount of light.

The L50000 will display up to 2.76 million actively lit pixels, through its 3-imager matrix display. High-definition LCOS images are presented without any scanning lines, and the product can deliver HDTV at full, progressive, 1280 x 720 resolution. Like each of Thomson's widescreen High-Definition television products, the new LCOS-powered HDTV will include integrated tuning and decoding capability for over-the-air ATSC 8VSB digital TV broadcasts, analog NTSC tuning, standard DIRECTV satellite service, and High-Definition service from DIRECTV.

The L50000 will ship with a convenient "learning" remote control unit that features a two-line liquid crystal display for confirmation of programming and selectable, all-button backlighting.

The RCA line already includes both traditional widescreen rear-projection and widescreen direct-view HDTV models that will be the centerpiece of many celebrations this month as RCA presents the HDTV network telecasts of the AFC playoff games and the Super Bowl.

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This press release contains forward-looking statements regarding prospects for the future that involve a number of risks and uncertainties. Among the factors that could cause actual income to differ materially from those expected are the following: business conditions and general economic conditions; competitive factors such as pricing and marketing efforts of rival companies; timing of product introductions; ability of contract manufacturers to meet product price objectives and delivery schedules; legislative, regulatory, and industry initiatives that may affect planned or actual product features and marketing methods; and the pace and success of product research and development. For more information on the potential factors that could affect the company's financial income, please review the relevant SEC filings.

About Thomson Multimedia

With sales of 6.7 billion Euros (U.S. \$ 6.5 billion) in 1999 and 55,000 employees in more than 30 countries, Thomson Multimedia (Paris Sicovam: 18453) (NYSE: TMS), provides a wide range of technologies, systems, finished products and services to consumers and professionals of the entertainment and media industries. To advance and enable the digital media transition, Thomson Multimedia has five principal activities: Displays and Components, Digital Media Solutions, Consumer Products, New Media Services, and Patents and Licensing. The company distributes its products under the popular THOMSON and RCA brand names. For more information: www.thomson-multimedia.com.

RCA Liquid Crystal on Silicon (LCOS) High-Definition Television Model L50000

Specifications and Features

Sharp, High-Definition Video Performance

- Digital High-Definition Television (HDTV) with 1280 x 720P resolution on a 50" screen.
- Widescreen Cinema format (16:9)
- Progressive Matrix display frame doubles and upconverts incoming signals to 720P resolution.
- 2.76 Million actively lit pixels

Consumer Convenience

- Thin cabinet: only 18" deep (same as typical 19" tabletop CRT television)
- Lightweight (less than 100 lb.) unit weighs 60% less than comparably-sized projection TV
- No focus or convergence adjustments necessary by customer
- Dimensions: 47 1/8" W x 38" H x 18" D

Liquid Crystal On Silicon(LCOS)

Optical System: "lamp to lens"

- 100W ultra high pressure lamp
- Integration optics transforms light into rectangular, laser-like beam

Prism System

- Separates white light into 3 primary colors (Red, Green, Blue)
- Directs separated light to corresponding light valve (imager) for video signal acquisition
- Recombines video imprinted light components into single synchronized video stream

Imagers

- 3-panel light valve system provides precise color reproduction (vs. 1 panel system)
- Reflective system provides up to 25% more light output than a transmissive (LCD) system
- Each 1280 x 720P imager receives and transmits over 900,000 pixels of information totaling 2.76 million pixels of resolution

11-element Precision Lens System

- Color corrected
- Anti-reflectivity (AR) coated lenses, optimizes light output

Display Screen

- Flat, ultra precision pitch screen for a high contrast, crisper picture
- 150 micron pitch eliminates moire problems that exist in larger pitch screens
- 3X better resolution than typical projection TV screens
- Horizontal viewing angle of virtually 180 degrees

Other Highlights

- 1st Surface Glass Mirrors
- 3D Y/C Frame Comb Filter
- Built-in digital decoder receives and displays all 18 ATSC 8VSB formats (digital off-air signals), Standard DIRECTV signals, High-Definition DIRECTV signals (DIRECTV programming is sold separately. Satellite antenna/dish required.)
- Advanced NTSC twin-tuner PIP
- SYNCROSCAN component video (Y Pr Pb) inputs accept analog, progressive, and HD signals
- Display outputs at 720P resolution
- Optical Dolby Digital™ output
- SRS™ Focus audio technology
- 4 speaker audio system with total of 20 Watts
- V-chip parental control
- Optional matching base