Moderro IEC 4650

Interactive Digital Signage Controller

Product Overview and Datasheet

Version 2.6

Moderro Technologies

www.moderro.com

Contents

Moderro® Intelligent Digital Signage Solutions transform customer experiences and help organizations reduce costs, improve viewer engagement, and increase transaction volume.

The Moderro IEC 4650 is an interactive computing and collaboration device that powers engaging customer experiences on interactive displays and kiosks to end users in retail stores, bank branches, conference centers, corporate offices, transit stations, and many other locations. It delivers interactive web applications and rich media content through a scalable architecture.

IEC 4650 Overview

The Interactive Experience Client 4650 (IEC 4650) is a configurable, manageable, enterprise-grade device designed to deliver interactive multimedia services for public venues, on high-definition (HD) digital displays and kiosks.

Figure 2. Moderro Interactive Experience Client 4650

The 4650 is both developer and IT friendly. It features a COBRA web browser, which is a comprehensive interactive display application development platform with integrated JavaScript API access to multimedia, peripheral, and system resources. The browser was developed for highly reliable, embedded kiosk, digital-signage, and collaboration applications.

Content developers are encouraged to use familiar design tools, such as HTML and JavaScript, to develop fully functioning interactive applications. To optimize client performance, an application should use the available native components. Native components are available in the form of a browser API and essentially move resource-intensive or asynchronously used components outside the browser processing space.

In addition to support for plug-ins such as Adobe Flash Player, the browser provides several proprietary devices, which can be configured and controlled from JavaScript, to simplify the development effort. Examples of these devices include a video player, which supports most video and audio formats, and codecs, and a ticker device. The COBRA web browser supports touchscreens and features kinetic scrolling, a virtual navigational panel, and a virtual keyboard. External keyboards and mice are supported for accessibility compliance and administration.

Content is integrated with the current service selection to provide highly effective targeted advertising. Applications are displayed in templates that also contain zones for RSS feeds, web-based services, and advertising content. With built-in support for voice and video communications, many collaboration applications can be rapidly developed and delivered. For example, with the Session Initiation Protocol (SIP)

client, users can make video calls from kiosks to a virtual concierge or customer service agent who can then provide assistance to the user. Skills- and language-based routing can also be supported by a third-party application.

The IEC 4650 supports a comprehensive set of peripherals, including cameras for video collaboration, touchscreens, printers, speakers, microphones, magnetic card readers, barcode scanners, and headsets for the hearing impaired. It also includes an HDMI port. The 4650 is configured and managed remotely by Moderro Interactive Experience Manager, an advanced, web-based management portal with a menu-based GUI. With the Interactive Experience Manager, administrators can register the IEC 4650.

Devices can be batched and controlled with policies and groups. The Moderro Interactive Experience Manager manages users and devices, as well as featuring real-time monitoring, policy scheduling, live viewing of remote screen content, notification of events, and session management.

The IEC 4650 is greener than a PC, consuming five times less power. It is also a very robust device with high mean time between failure (MTBF) rate of 8.5 years.

Example Configuration

Figure 1 shows an example configuration of a kiosk powered by the IEC 4650) and managed by IEM management software in a Cisco networking environment.

Figure 1. Kiosk Configuration Example

Product Features

The IEC 4650 is manageable, convenient, and secure, as well as easy to deploy and upgrade. It supports multiple zones of content, web clipping, web client automation, touchscreen capability and support for customer applications. Content can be displayed in either portrait or landscape orientation. Other features include:

- Integration with peripherals including webcams, magnetic card readers, barcode scanners, optical scanners, and printers
- Integration with the Remote Control IEP-IR-K9
- SIP client support for two-way video calls
- Embedded video encoder card for HD video conferencing between two IEC devices
- Encoder driver that enables video snapshots and 1080p streaming
- Aggressive (off-line) caching
- Debugging console for troubleshooting
- Secure, managed, reliable computing
- Custom web-based application platform for touchscreen interactive applications
- Management by a powerful remote management platform
- Dual-core processor
- Fanless design, providing for reliable and quiet operation
- Solid-state, space-saving design
- Interactive multimedia support with multiple video outputs
- Wi-Fi 802.11ac module, Ethernet, and Bluetooth enabled
- Native 4K resolution
- Video and 3-D graphics hardware accelerator

Table 1.   Content Formats and Peripherals Guidelines

Content Format or Peripheral	Description
Audio, voice	AAC-LC/LD/HE, AC3, MP3, MP4A, WMA1, WMA2, G.711, G.729ab, AMR, FLAC, MPGA
Video	H.264, H.263++, MPEG4, MPEG2, WMV1/2, MJPEG
Video containers	AVI, MOV, WMV, MP4, MPG, MPEG-2/TS, (extensions: avi, mov, wmv, mp4, mp3, mp2, mpg, ts)
Web formats	HTML5 (early support), HTML4/CSS3, Flash 11, JRE 1.6.0_24 (Version 6 update 24)
Widgets	Media player, camera, ticker, web clipping, virtual on-screen keyboard
Viewers	PDF, text, JPEG, PNG, GIF, SVG, BMP
Touchscreens	HID-compliant with dual monitor support
Webcams	HID-compliant
Printers	CUPS-compliant; content: text, PDF, PNG, JPG

Intelligent Digital Signage Benefits

In today's fast-paced world, companies and organizations are challenged to communicate and interact effectively with customers, students, or employees. Using the latest multimedia and digital technologies, Moderro Intelligent Digital Signage solutions can attract and engage audiences and provide numerous benefits to organizations:

- **Reduce costs** by providing self-service solutions that customers can use to interact and access information anytime, anywhere
- **Enable new interactive services** to improve the customer experience
- **Educate the customer** with relevant information in real time
- **Increase visibility** into products and services offered
- **Improve customer service** with easy self-service operation and virtual assistance
- **Increase revenues** by providing third-party advertising and cross-selling
- **Increase efficiency and consistency** by allowing reuse of existing web content
- **Simplify deployment** with an integrated solution architecture (network, collaboration, video, interactive media, and noninteractive media)
- **Reduce use of management resources** with remote manageability
- **Reduce deployment and management timelines** using policies and groups

Figure 3 - Example of Interactive Display

When looking for digital signage solutions, organizations find that most signage solutions are simple standalone solutions that are difficult to integrate into an enterprise-wide system. Furthermore, many solutions are PC-based and thus expensive and difficult to manage, especially in large organizations.

Organizations also need to address challenges with interactive signage deployments such as costly content creation, inconsistent experience across different devices and siloed, non-scalable solutions for different types of digital media, interaction, and collaboration.

Moderro's Intelligent Digital Signage architecture address these challenges by bringing together touchscreen displays, web technologies, multimedia, and collaboration in one integrated solution.

Moderro's integration of video collaboration with interactive displays and kiosks using a network-based architecture is much more efficient to deploy, maintain, scale, and upgrade than other signage solutions.

Moderro's architecture uses open-standards web technologies, so organizations can use much of their existing web content and application development.

Through its partnership with Cisco, Moderro's digital signage solutions have been successfully deployed in hundreds of organizations around the world. Moderro continues to work closely with Cisco to bring the many benefits of these advanced digital signage solutions to your organization.

Product Specifications

Table 2. IEC 4650 Dimensions and Weight

Units of Measurement	Width	Depth	Height	Weight
US customary units	7.3 inches	7.4 inches	1.9 inches	3 pounds
Modern metric units	18.5 cm	18.8 cm	4.8 cm	1.36 kilograms

Table 3. IEC 4560 Specifications

Features	4650
PCBA form factor	
Board size	6.0 in. x 6.0 in. (150 mm x 150 mm)
Processor	
CPU	Intel Broadwell Processor
Memory	
Type	DDR3-1333/1600 memory (SO-DIMM Slot X2)
System memory size	4 GB
Storage	
Type	M.2 Key M
Storage memory size	32 GB
BIOS Flash Memory	
Memory size	16 MB

Figure 4. Rear Ports of Moderro Interactive Experience Client 4650

More IEC specifications on the next page…

Features	4650
Ethernet	
Count	1
Speeds	10/100/1000 Mbps
Connectors	1 port RJ45 with transformer
Video	
Onboard	Intel HD5500 HDMI/Mini DisplayPort
Connectors	1 HDMI port
	1 Mini DisplayPort
USB	
Type	USB 3.0 controller
Connectors	2 right USB A type 2 back USB A type
WiFi+Bluetooth	
Count	1
Speed	802.11ac, Bluetooth 4.0
Front I/O	
LED	1 green LED
	1 red LED
IR receiver	1 built-in IR receiver
Back I/O	
DC jack	1 12V DC in connector
Video	1 Mini DisplayPort
	1 HDMI port
Ethernet	1 RJ45 connector with dual LEDs
USB	1 USB two-stack connector
Left I/O	
COM	1 x 3.5 mm phone jack type
IR extension	1 1-IR 3.5 mm phone jack
Audio	1 audio port (MIC-in) 1 audio port (line-out)
USB	1 USB two-stack connector
Right I/O	
Buttons	1 power on/off button (with soft/hard power option) 1 reset button
Power	
Adapter	Delta DPS-65VB
	Input 100V - 240V ~2A 50-60HZ
	Output 12V~5.417A
Power consumption	12V@60W maximum
CPU VR	Intel VR12.5/12.6

Table 4. Moderro Interactive Experience Client 4650 Environmental Tolerance Ranges

Temperature (ambient)	Minimum	Maximum
Operating	0°C (32°F)	40°C (104°F)
Nonoperating	-20°C (-4°F)	70°C (158°F)
Relative humidity (noncondensing; ambient)		
Operating	10% indoor use	85% indoor use
Nonoperating	0% indoor and outdoor	95% indoor and outdoor
Altitude (above sea level)		
Operating and nonoperating	0m (0 feet)	2000m (6561 feet)

Product Numbers

Table 5. Moderro IEC 4650 Hardware, Software, and Licenses

Product Number	Description
IEC-4650-HW-K9	DC, 4 GB, 32 GB DOM, WIFI, BT
IEP-4600-SW-20-K9	IEC4600 SW
L-IEP-MGR-FL-1	1 IE Manager License
L-IEP-MGR-FL-10	10 IE Manager License
L-IEP-MGR-FL-50	50 IE Manager License
L-IEP-MGR-FL-100	100 IE Manager License
L-IEP-MGR-FL-500	500 IE Manager License
L-IEP-MGR-FL-1000	1000 IE Manager License
IEP-IR-K9=	IR Remote

An Interactive Experience Manager license is required for each 4650 device that is managed by the Interactive Experience Manager. A single license can be purchased or license bundles that support up to 10, 50, 100, 500, or 1,000 devices can be purchased.

For More Information

For more information about the Moderro Interactive Experience Client, visit www.moderro.com or contact your Moderro account representative.

For technical documentation for the Moderro Interactive Experience Client 4650, visit: www.moderro.com/support

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