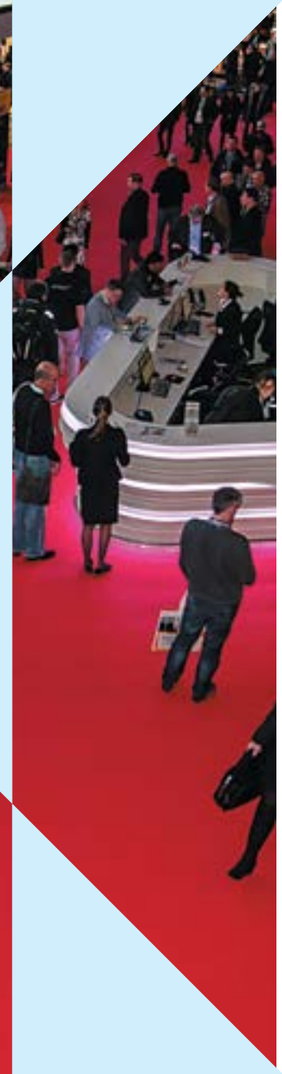
EKTA

CRYSTAL-CLEAR IMAGE

LED DISPLAY PRODUCTS CATALOGUE

2019

ABOUT EKTA



EKTA Company, founded in 1992, is a leading European developer and manufacturer of high-end LED products, delivering excellence to more than 30 countries around the world.

MORE THAN **25** *YEARS*
OF WORLD-KNOWN UNCHALLENGED REPUTATION

EXPERIENCE

For more than 25 years, EKTA has established an unchallenged reputation for carrying out hundreds of top quality projects, aimed at installing LED equipment in the fields of advertising, show business, sports, shopping, entertainment, transport, and television.

With an automated manufacturing plant, based in Europe, and a team of Ukrainian, highly-experienced, professional engineers, EKTA steadily improves its innovative solutions in production and application of LED technologies, ensuring brilliant customization strategies and rendering steadfast service and support.

> We create visual technology in the atmosphere of fostering partnerships firmly based on self-fulfillment, thus opening a new perspective on the world

EVOLUTION

1992 EKTA Company foundation

1995 EKTA plasma panel display was first installed in Europe

2000 EKTA designed and developed its first large LED display

2002 EKTA LED screens became the lightest and the thinnest LED displays in the world

2004 EKTA introduced the Total Quality Management system

2009 EKTA developed breakthrough ERMAC integrated LED display control system

2011 EKTA 3D LED TV won a Guinness World Record

2013 EKTA received the ProIntegration Award for “Best Solution using Digital Signage Technology”

2016 EKTA launched ERMAC Ultra – multifunction control system family

2017 EKTA launched Fine pixel pitch displays for TV studios

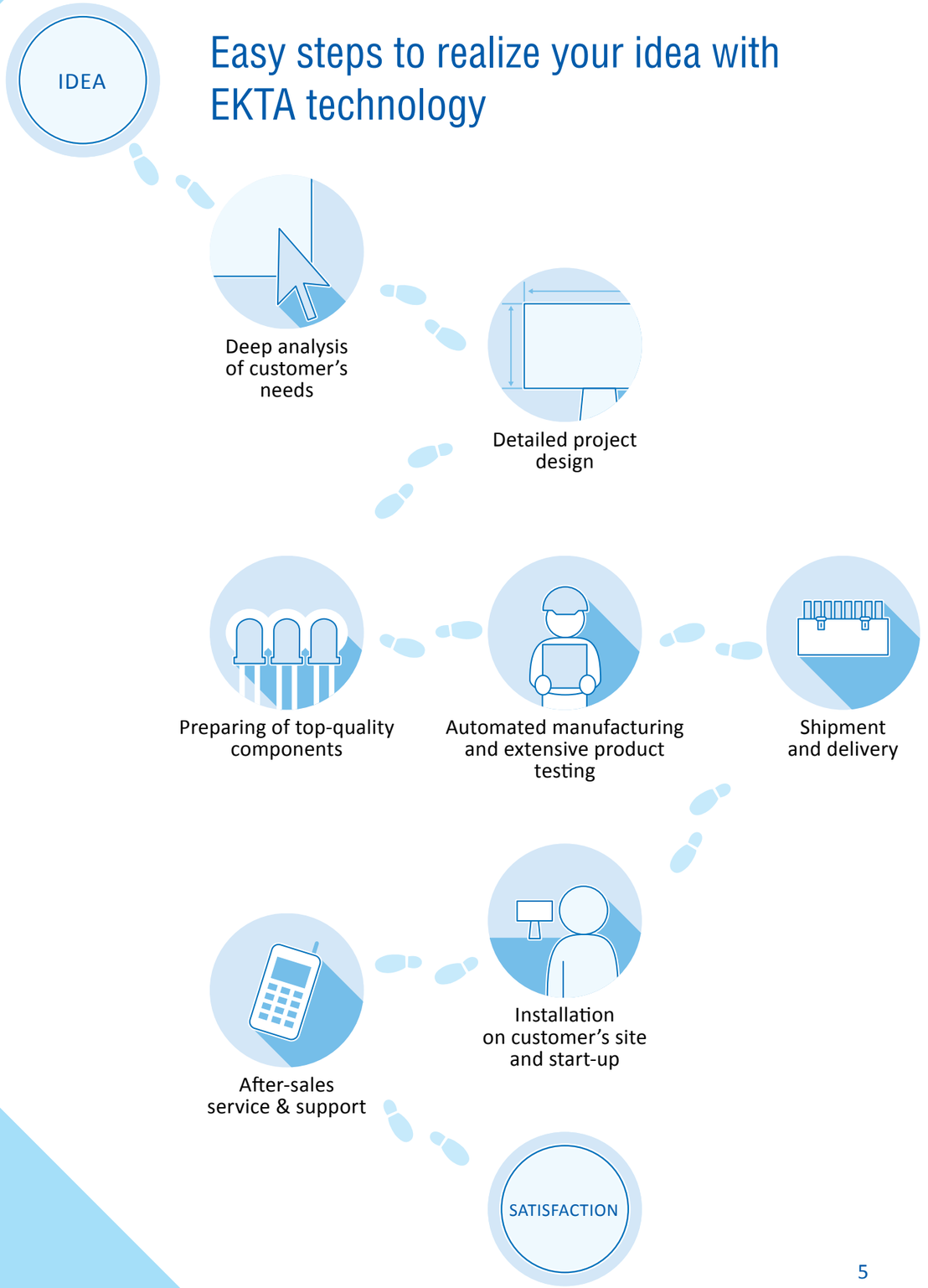
2018 EKTA installed the first TV studio Chip-On-Board LED screen powered by ERMAC Ultra control system

TOTAL SOLUTION *Provider*

Being a design engineer and manufacturer of the whole turn-key solution, including architecture, LED modules, control system, commutation and software, EKTA meets all customers' needs and takes full responsibility for solutions' performance.

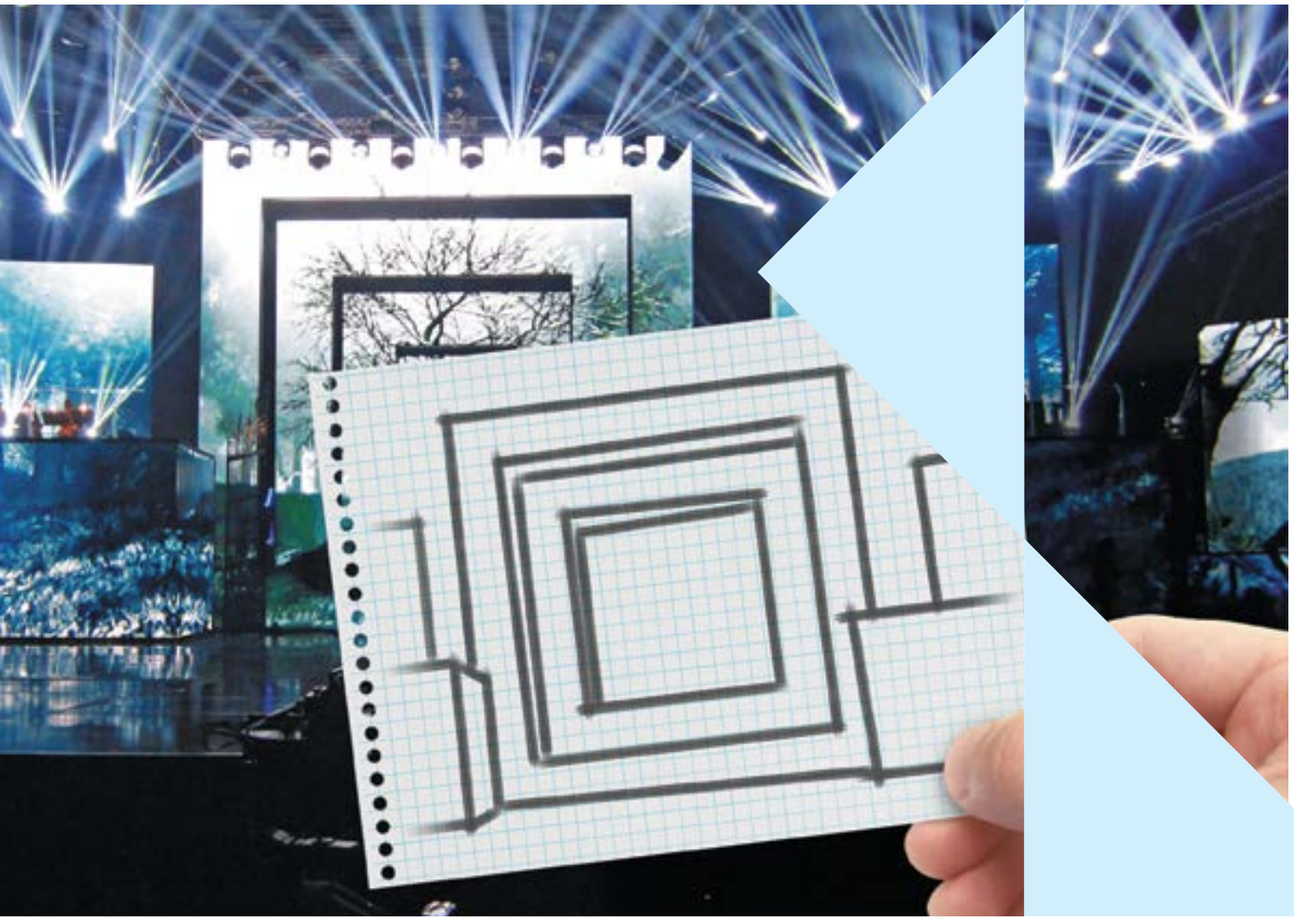
What does the customer receive from EKTA?

- Screen complex design
- Full integration with related systems
- Custom software development
- Deployment and assembly
- After-sales service



COMMITTED to Challenge

Carrying rental DNA, based on own long-time rental business experience, EKTA performs rental and fixed installation projects of top complexity for most demanding customers around Europe. Come and challenge us with your most creative ideas. Make your dreams real with EKTA!



UEFA Draws

20 sqm of iLVM 6C-Q and 106 sqm of LVM 9C-S, Monaco, 2014

Ultimate live visual performance at low brightness thanks to EKTA cutting-edge video processing and delicate color adjustment of EKTA LED screens on the backdrop to the projecting screens on the front.

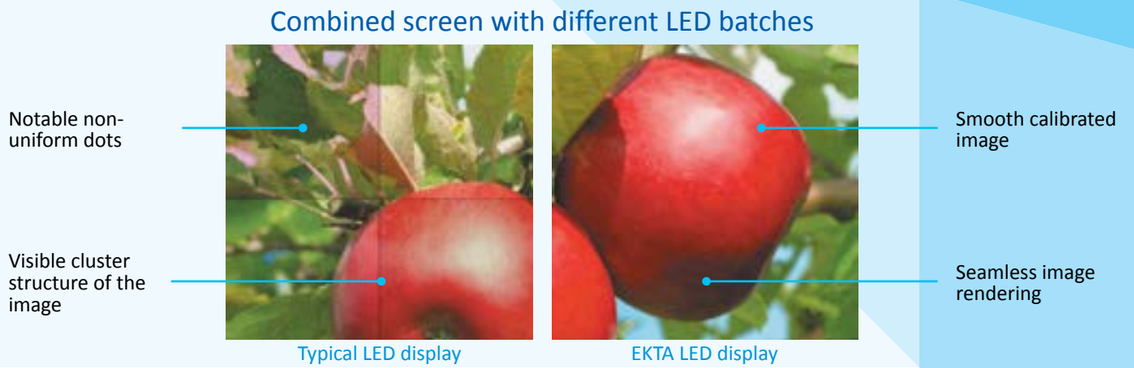
Adidas

200 sqm of WOWFloor in Paris, France, 2016

A luxurious and durable LED WOWFloor mounted on an uneven roof surface and turned it into a giant interactive sports ground proved its resilient and tough design, resisting dynamic vibration loads.

Uniformity² calibration and screen alignment

- Up to 99% color and brightness uniformity
- Pixel-by-pixel brightness and color high-precision calibration
- Real-time alignment after cluster replacement
- No external equipment needed for alignment
- Alignment of screens with different pixel pitch and LED batch

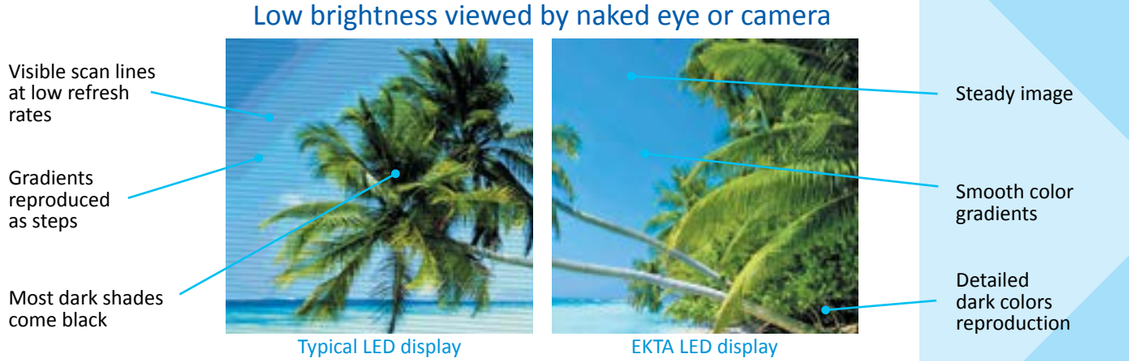


☑ HDR-ready

☑ Multipoint Gamma Correction

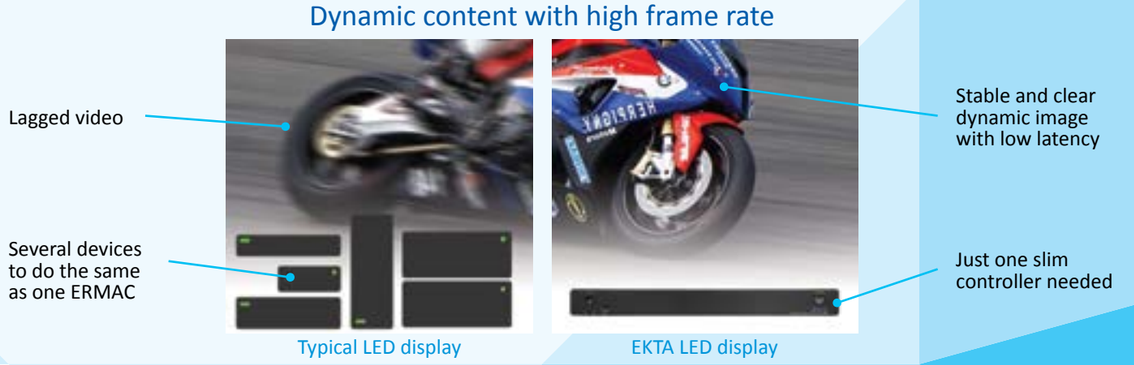
ERMAC video processing

- 4K resolution support
- Multilayer video mixing, scaling, cropping and lots of other integrated functions
- Real-time image properties control with easy-to-use software
- Smooth processing of high-definition video
- Low latency
- Full range of frame rates support, from 30 Hz to 120 Hz



Intelligent Cluster architecture

- Perfect image quality at low brightness
- High performance and no artifacts while shooting on camera thanks to superior refresh rate
- Hot-swap cluster replacement
- Remote cluster and module diagnostics with instant screen monitoring



FrameLED

Ultimate image quality for rental and fixed applications

FrameLED

FrameLED product family to take any top professional challenge

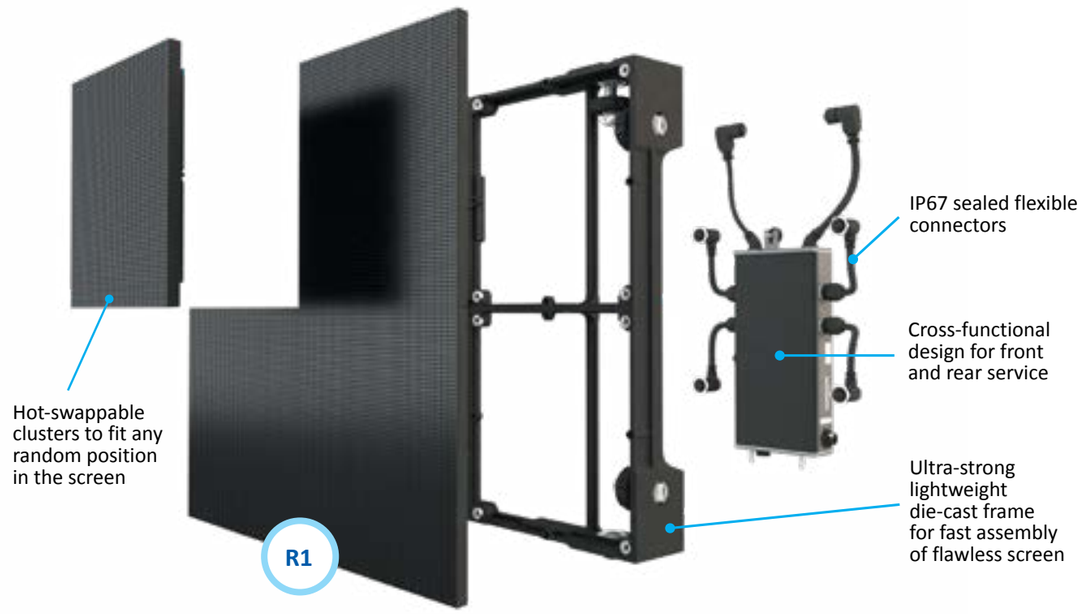
iLVM 1.7P Fine pixel pitch for TV studios

iLVM 2P Versatile mainstream solution for indoor rentals and fixed projects

LVM 3P Multi-function rental product for outdoor and indoor cases

ONE FRAME – ALL PIXEL PITCHES

- Camera-friendly
- High contrast
- Lightweight
- Precise frame
- Unique FrameLED form factor 386.4 x 386.4 x 86 mm



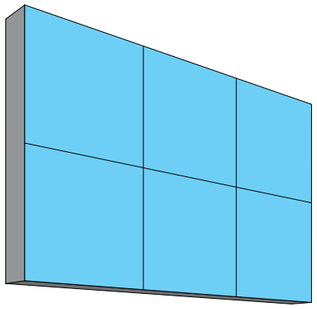
	INDOOR		OUTDOOR
Model	iLVM 1.7C-P	iLVM 2C-P	LVM 3C-P
Pixel pitch, mm	1.7	2.68	3.86
Brightness, nit	1000	1800	3800
Viewing angles, H/V	160°/160°	160°/160°	140°/140°
Grey scale, bit	15	15	15
Refresh Rate, Hz	1920	3840	3840
Maximum power consumption, W/m²	800	800	800
Module weight, kg	4.2	4.2	5
Screen weight, kg/m²	28	28	33

BLACK FACE – HIGH CONTRAST

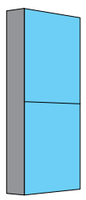
CONTROLLED BY ERMAC

FrameLED

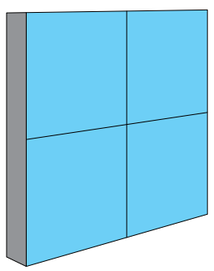
FrameLED product family



RT – the best solution for touring events, several modules (3xR2 and more) assembled and transported together



R2 – cost-effective solution for rental business taking over all the benefits from single module R1 FrameLED by EKTA



R4 – especial 2xR2 design for large-scale led screen rental projects

ONE FRAME – ALL PIXEL PITCHES

Ultimate component selection for the best performance and reliability

World-renowned Nichia LEDs

Designed for top-demand projects

Unbeatable brightness up to 15,000 nit

		INDOOR		OUTDOOR		
Model		iLVM 4C-Qs	iLVM 4C-Q	LVM 6C-Q	LVM 9C	LVM 8C-vpR
Pixel pitch, mm	virtual	-	-	-	-	8.05
	physical	4.03	4.83	6.90	9.66	16.10
Brightness, nit		3000	3500	9000	9000	15000
Viewing angles, H/V		160°/160°	160°/125°	150°/85°	150°/90°	110°/60°
Grey scale, bit		18	18	18	16	16
Refresh Rate, Hz		7200	7200	7200	600 – 32,000	600 – 32,000
Maximum power consumption, W/m^2		1000	900	950	1000	1000
Module weight, kg		4.2	4.2	5	5	5.2
Screen weight, kg/m^2		28	28	33	33	33

Well-known EKTA LED screens for high-end rental and fixed installations

High performance LEDs under EKTA Quality control

Widely used rental solutions

Camera-friendly

	INDOOR	OUTDOOR			
Model	iLVM 4C-Qsc	LVM 4C-Qc	LVM 4C-Qcb	LVM 6C-Qc	LVM 9C-c
Pixel pitch, mm	4.03	4.83	4.83	6.9	9.66
Brightness, nit	2500	8500	3300	8000	7000
Viewing angles, H/V	145°/130°	140°/120°	140°/120°	140°/120°	140°/90°
Grey scale, bit	18	18	18	16	16
Refresh Rate, Hz	4800	7200	7200	7200	600-32,000
Maximum power consumption, W/m^2	1000	1000	1000	1000	960
Module weight, kg	4.2	5	5	5	5
Screen weight, kg/m^2	28	33	33	33	33

BLACK FACE – HIGH CONTRAST

Especially designed cost-effective rental solution

High performance LEDs under EKTA Quality control

Camera-friendly

Unique FrameLED form factor 386.4 x 772.8 x 86 mm

	INDOOR	OUTDOOR		
Model	iLVM 4C-Qc R2	LVM 4C-Qc R2	LVM 6C-Qc R2	LVM 9C-Qc R2
Pixel pitch, mm	4.8	4.8	6.9	9.6
Brightness, nit	2300	6500	7000	8000
Viewing angles, H/V	145/125	140/120	140/120	140/90
Gray scale, bit	16	16	16	16
Refresh rate, Hz	3840	3840	7200	up to 32000
Maximum power consumption, W/m^2	1000	1000	1000	960
Module weight, kg	10	10	10	10
Screen weight, kg/m^2	30	30	30	30

COB LED screens

EKTA represents a unique technology
for the new generation of LED screens

COMPREHENSIVE SOLUTION FOR

- TV studios
- control rooms
- conference halls
- meeting and
  presentation rooms

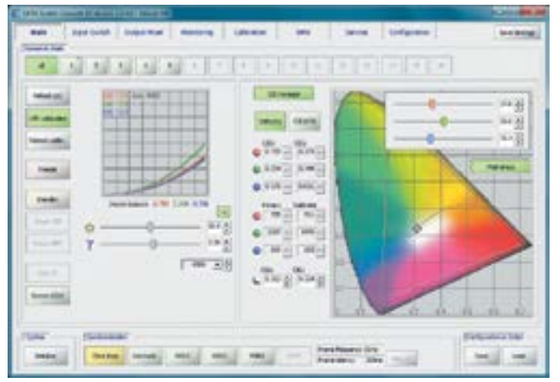
GENERAL FEATURES OF COB LED SCREENS

- Smooth and solid screen surface with robust design and high contrast
- Ultra-narrow pixel pith
- Water-proof, dust-proof, anti-static and anti-impact design
- Extra-wide viewing angle
- Anti-moire effect

UNIQUE PERFORMANCE CHARACTERISTICS OF COB LED SCREENS POWERED BY EKTA ERMAC CONTROL SYSTEM

- Flawless image uniformity due to EKTA ERMAC Ultra control system
- Perfect grayscale performance at low brightness
- Deep, full, pure, natural and vivid colors performance

EKTA ERMAC Ultra control system is the only control system on the LED market that offers the unique solutions and control tools for COB LED displays and provides the superior performance required in high-demand television projects.



- ☑ **HDR-ready**
- ☑ **Multipoint Gamma Correction**
- ✓ 4K resolution support
- ✓ Multilayer video mixing, scaling, cropping and lots of other integrated functions
- ✓ Real-time image properties control with easy-to-use software
- ✓ Smooth processing of high-definition video
- ✓ Low latency
- ✓ Full range of frame rates support, from 30 Hz to 120 Hz
- ✓ Jam-resistance data link from the controller to the screen over a long distance:
  Multimode – up to 300 m
  Singlemode – up to 10 000 m

CONTROLLED BY ERMAC

True Performance

The pride of TRUE Performance displays is building on its roots from the high-quality LED screen manufacturer EKTA.

TRUE Performance Series is a product that is based on long experience and development and combines innovations of the future.

A highly experienced team from the LED display industry, a team of researchers, developers, engineers and experts from technical sales and support, took the challenge to develop an LED display series that stands out from the standard LED screens of other manufacturers through the architecture, design and processing of the TRUE performance screens powered by EKTA ERMAC control system.

The LED Processing offered by TRUE Performance has been on the market for 25 years and has its research, development and production facilities in Europe.

The main advantage of True Performance products is their unrivalled reliability. The company's quality control system operates on the principle of Total Quality Management and ensures fault-free equipment operation throughout the entire lifetime due to the high IP protection level, the robust, reliable module frame and the unique pre-sales testing system.

Another essential feature of the TRUE Performance product range is its technological superiority. Due to the know-how of the company – Uniformity² calibration and screen alignment, as well as the intelligent cluster architecture, the TRUE Performance LED displays ensure brilliant picture at any brightness level and operating temperature.

The next advantage of True Performance is the convincing price. Even when you are on a budget, you can get technological superiority at a reasonable price.

The professional team provides well suited LED solutions, considering customer's current needs, overall requirements and performance priorities.

CREATIVE FREEDOM

XF series

- indoor
- fix installation
- front maintenance
- PP 1.2 – 2.5

XG series

- indoor
- fix/rental installation
- front maintenance
- PP 2.6 – 4.8

XL series

- outdoor
- fix installation
- front/rear maintenance
- PP 5 – 16.7

XS series

- outdoor
- fix/rental installation
- front/rear maintenance
- PP 6.25 – 16

XM series

- outdoor
- fix installation
- front/rear maintenance,
- PP 13 – 50

CONTROLLED BY ERMAC

WOWFloor

Tempered glass interactive LED Floor for brilliant real-time visual experience

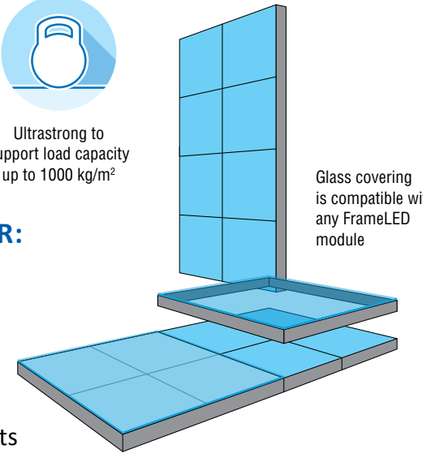
CONTROLLED BY ERMAC

WOWFloor

Luxury look

Hard heel-proof surface

Ultrastrong to support load capacity up to 1000 kg/m²



Glass covering is compatible with any FrameLED module

PERFECT SOLUTION FOR:

- Stages
- Night clubs
- TV studios
- Children's activity rooms
- Shopping centers
- Casinos, bars and restaurants
- Advertising projects for automotive, fashion etc

	INTERACTIVE	
Model	iLVF 24C	iLVF 32C
Pixel pitch, mm	24.15	32.20
Brightness, nit	650	500
Module dimensions, mm	773 x 773	773 x 773
Leveling	adjustable jack, up to 15 mm	
Gray scale, bit	16	16
Refresh rate, Hz	up to 32000	up to 32000
Maximum power consumption, W/m²	350	270
Screen weight, kg/m²	32	32
Protective coating	Impact resistant laminate safety glass	

	NON-INTERACTIVE		
Model	iLVF 4C	iLVF 6C	iLVF 9C
Pixel pitch, mm	4.8	6.9	9.6
Brightness, nit	1000	1200	1400
Module dimensions, mm	773x773	773x773	773x773
Leveling	adjustable jack, up to 15 mm		
Gray scale, bit	16	16	16
Refresh rate, Hz	3840	7200	up to 32000
Maximum power consumption, W/m²	1000	1000	960
Screen weight, kg/m²	33	33	33
Protective covering	Impact resistant laminated safety glass		

ERMAC *Control System Family*

- ☑ **HDR-ready**
- ☑ **Multipoint Gamma Correction**

Unique design of ERMAC three-level architecture has revolutionized LED video processing technology for LED displays, regardless of the model and configuration

ONE BOX

To replace a full stack of equipment

- LED control system
- Multilayer image processor and scaler
- Color uniformity system
- Embedded PC
- Automated control features
- Advanced screen technical monitoring

ONE TOUCH

Real-time adjustment

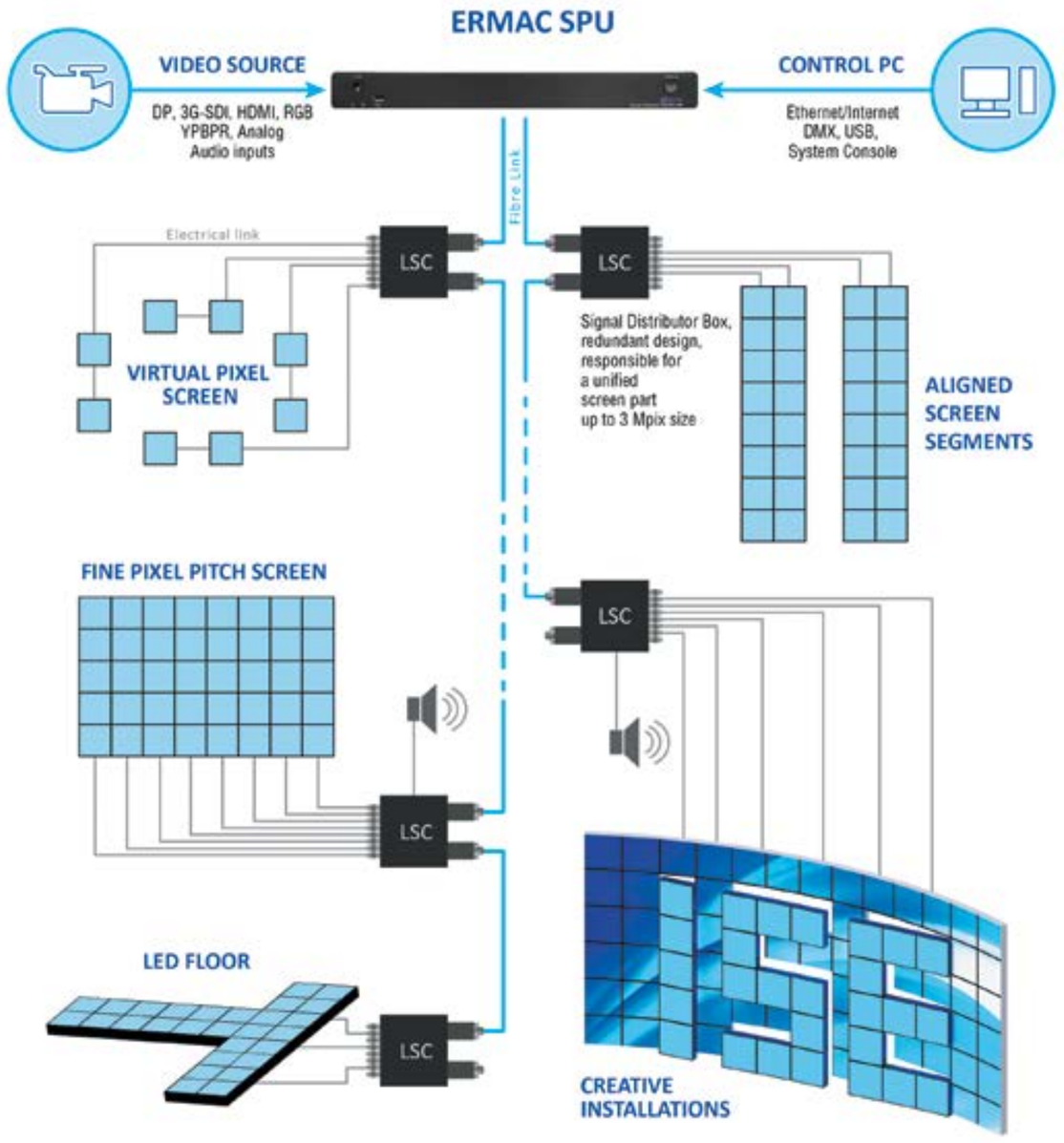
- Color temperature from 3000K to 10000K
- Brightness from 0.1% to 100%, 1024 gradations of each color
- Gamma curve
- Output mixer, picture in picture
- Image cropping and scaling
- Screen and stage designer

ONE POWER

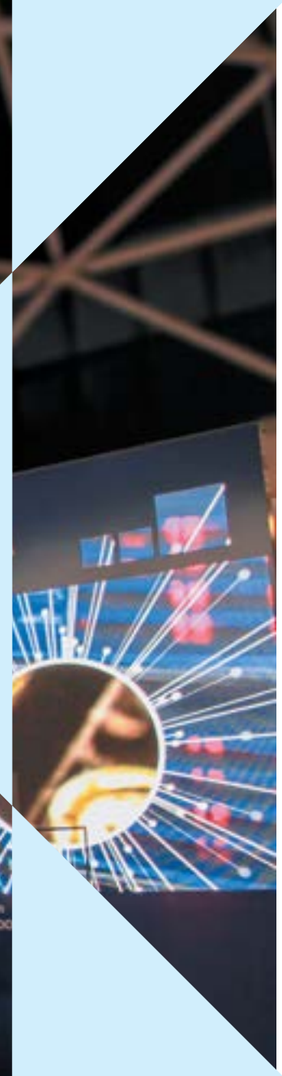
Outstanding performance for top-demand solutions

- 10/12-bit internal signal processing
- 18-bit LED control
- 30/50/60/100/120 Hz frame rates
- 4K resolution
- Up to 32 displays controlled by one SPU
- 3D ready

ONE TOUCH – FULL CONTROL



One SPU allows controlling
up to 32 LED screens of different size and shape

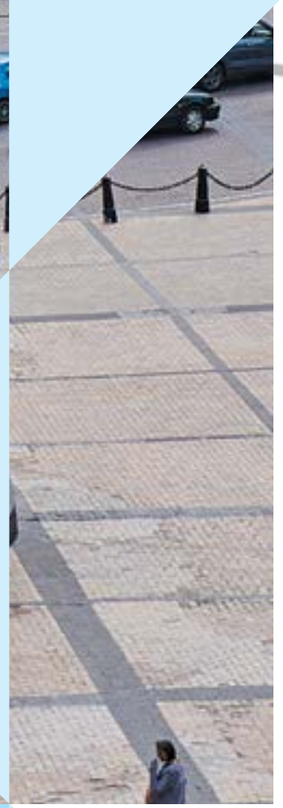


ERMAC Ultra with SPU-10 and SPU-16 series

World's leading LED screen control and video processing power in a thin blade

Model	SPU-10B	SPU-10M / M+	SPU-10F	SPU-16
SYSTEM				
Embedded PC	-	+	+	+
Embedded OS	-	+	+	+
Image Channel (simultaneous)	2	3	4	2-6
CONTROL				
Control Interface (simultaneous)	USB 2.0, DMX	System, USB 2.0, Ethernet, DMX		
Configurable and Control Software	ESConsole, Screen Builder (Desktop/laptop PC Location)	ESConsole, Screen Builder (Embedded PC Location)		
INPUT				
Display Port	1920 x 1200 x 60 Hz	2560 x 1600 x 60 Hz	3840 x 2160 x 60 Hz	3840 x 2160@120Hz
HDMI	1920 x 1200 x 60 Hz	2560 x 1600 x 60 Hz	3840 x 2160 x 30 Hz	3840 x 2160@120Hz
CVBS	+	+	+	+
3G SDI (Copper)	1	1 / 2	2	1x…4x (6G)
3G SDI (Fiber)	-	-	2	2x…4x (6G)
NDI	-	-	-	+
Audio Input	3G SDI, DP, HDMI	3G SDI, DP, HDMI	3G SDI, DP, HDMI	3G SDI, DP, HDMI
Genlock	+	+	+	+
OUTPUT				
Fiber optic display link	1 x 2.3 Mpx	2 x 2.3 Mpx	4 x 2.3 Mpx	8x 2,3 Mpx
Gigabit Ethernet	-	-	-	+
HDMI Loop	-	+	+	+
SDI LOOP	-	+	+	+ (6G)
Audio Output	AES/EBU Audio packet transfer over FO		AES/EBU HDMI Output Audio packet transfer over FO	
FEATURES				
Output Resolution, 60 Hz	2,3 Mpx	4,6 Mpx	8,3 Mpx	16,6 Mpx
HDR/10bit/3D	+	+	+	+
Signal delay, frames	1	1	1	1
Video Processing	Scaling, PIP, Cropping, Switching			

ALL-IN-ONE Controllers



EKTA introduces the family of all-in-one controllers to bring outstanding image quality and high performance to advertisement, digital signage, industrial TV and other special purpose screens.

ceLSC-102

	Ethernet	Q7-BT system, Intel® HD 4000 1.91 GHz CPU, RAM DDR3L 4GB, SSD 32GB
	Operating system	Windows Embedded
Input	**USB**	2 x USB 2.0 (1 channel configurable as client), 1 x USB 3.0
	Ethernet	100 Mbit LAN
	Memory card	micro SD slot
	Video	DisplayPort 1.1
Output	**Screen Interface**	6 Ethernet output ports
	Output resolution	Up to 1920 x 1080 pixel
	Audio Output	S/PDIF, Line
	Video Output	DisplayPort 1.1
Control	**Control Interface**	Ethernet, system console
Diagnostics	**Feedback values**	LED cluster temperature; module power supply values; LED module current; outside temperature; outside luminance
General design	**Dimensions**	170 x 190 x 40 mm
	Power	12 VDC, 10 Watt
	Operating temperature	-25° to 60° C

ceLSC-085

	Embeded PC	Q7-BT system, Intel® HD 4000 1.91 GHz CPU, RAM DDR3L 4GB, SSD 32GB
	Operating system	Windows Embedded
Input	**USB**	3 x USB 2.0 (1 channel configurable as client)
	Ethernet	1Gbit LAN
	Memory card	micro SD slot
Output	**Screen Interface**	8 LVDS output ports
	Output resolution	Up to 1024 x 768 pixel
	Audio Output	S/PDIF, Line
Control	**Control Interface**	Ethernet, system console
Diagnostics	**Feedback values**	LED cluster temperature; module power supply values; LED module current; outside temperature; outside luminance
General design	**Dimensions**	170 x 170 x 25 mm
	Power	12 VDC, 10 Watt
	Operating temperature	-25° to 60° C

ceLSC-099

	Embeded PC	Q7-BT system, Intel® HD 4000 1.91 GHz CPU, RAM DDR3L 4GB, SSD 32GB
	Operating system	Windows Embedded
Input	**USB**	2 x USB 2.0 (1 channel configurable as client), 1 x USB 3.0
	Ethernet	100 Mbit LAN
	Memory card	micro SD slot
	Video	DisplayPort 1.1
Output	**Screen Interface**	8 LVDS HSI output ports
	Output resolution	Up to 1920 x 1080 pixel
	Audio Output	S/PDIF, Line
	Video Output	DisplayPort 1.1
Control	**Control Interface**	Ethernet, system console
Diagnostics	**Feedback values**	LED cluster temperature; module power supply values; LED module current; outside temperature; outside luminance
General design	**Dimensions**	170 x 170 x 25 mm
	Power	12 VDC, 10 Watt
	Operating temperature	-25° to 60° C

aeLSC-101

	Embeded PC	ARM-based
	Operating system	Linux
Input	**Video**	DisplayPort, 1920 x 1080 pixel
	Ethernet	100 Mbit LAN
	Wireless	WiFi (optional)
Output	**Screen Interface**	12 LVDS HSI output ports
	Output resolution	Up to 1920 x 1080 pixel
	Audio Output	S/PDIF, Line
	Video Output	DisplayPort , 1920 x 1080 pixel (optional)
Control	**Control Interface**	Ethernet, system console
Diagnostics	**Feedback values**	LED cluster temperature; module power supply values; LED module current; outside temperature; outside luminance
General design	**Dimensions**	170 x 170 x 25 mm
	Power	12 VDC, 7 Watt
	Operating temperature	-25° to 60° C

5 KEY FACTS *about EKTA*

1. Reliable partner – 25 years of flawless reputation

2. Skilled R&D team
   Advanced production facilities located in Europe

3. Creator of LED display fully integrated solution

4. Expert in LED panel mechanical and electronic engineering

5. World leader in LED control and video processing

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TRUE PERFORMANCE
POWERED BY ERMAC

EKTA VISION

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EKTA GROUP

Advertising catalogue.
Technical specifications for each project are calculated individually.