

ULIRVISION

THERMAL NIGHT VISION SYSTEMS

Turn Night To Day | Excellent Images

2021 V1.0





ABOUT ULIRVISION



Zhejiang ULIRVISION Technology Co., Ltd.(ULIRVISION) is dedicated to researching, designing, manufacturing, integrating the IR and UV systems. Since the establishment in 2005, ULIRVISION has served its clients worldwide

with cutting-edge technology in handheld thermal imaging cameras, thermal imaging cores, thermal night vision systems, thermal surveillance cameras and corona cameras. Innovative solutions are brought into power industry, electrical industry, automation application, firefighting, surveillance monitoring, and night vision areas through ULIRVISION.

ULIRVISION maintains its advantages in the industry with strong R&D team and advanced facilities. It invests about 8% of the total revenue into R&D annually, and it is committed to striving for meeting the new challenges. ULIRVISION is recognized by ISO9001:2008 certificate, SGS CE, RoHs, MIL standard certificate, and it has been granted more than 100 patents& 30 computer software copyrights.

It has seen dramatic growth in both domestic and international markets each year with average increase rate around 130% annually, which makes ULIRVISION pioneer in measurement and security solution providers. We have devoted and enthusiastic sales& technical staff to serve clients all over the world with their expertise around the clock.

ULIRVISION Brand



● **UltravioLet**



● **InfraRed**



● **Foresight and Foreknow**

ULIRVISION Culture

● **ULIRVISION Positioning**

Infrared-centric IntelliSense products and big data service providers

● **ULIRVISION Vision**

To be a top-ranking solution provider for IR & UV system with leading technology worldwide, to make the world more secure.

● **ULIRVISION Mission**

Help visionaries gain insight into the future.

● **ULIRVISION Values**

Create value for customers;
Provide a platform for those who struggle;
Contribute to social progress.

ULIRVISION Qualification Honor



ULIRVISION Advantages

Excellent R&D Team

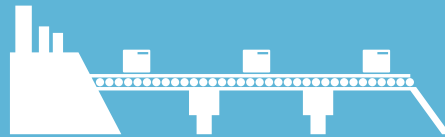
30+
Copyright



100+
Patent



Stand-alone Manufacture
from DQA to MQA



Manufacture
Assembly
Testing

Complete Solution Provider



Internationalized
Quality Control System



A Global Brand
with a Local Presence



A Reliable Partner

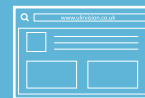


360° Technical Support &
Thorough Warranty Service

24 hrs / 365 days



Completed Training System



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TC490|TC790G

Thermal Imaging Cores



TC490|TC790G are the latest generation of shutterless thermal imaging camera cores, featuring the smallest size, lightest weight, ultimate IR resolution and lowest power consumption on the market. They can be used in any integrations that have most demanding requirements.

Features

Compact design and tiny size,
28mmx28mm (w / o lens) , ultra-light weight 35g

Energy-saving design, lowest power
consumption (less than 0.75W / 1W)

Shutterless NUC technologies to ensure fine image

IVE (Intelligent View Enhancement)
technologies and intelligent dimming algorithm

Isolated metal frame for radiating

Application Case

- Thermal imaging integration (helmet, telescope, weapon sight, etc)
- Electro-optical system for UAV & aircraft



Standard Package

standard package	
Thermal Imaging Core × 1	Interface Cable × 1
Warranty Card × 1	Lens
Software CD × 1	



Technical Specifications

Item	TC490	TC790G
Detector Data		
Material	aSi	
IR resolution	384 x 288	640 x 480
Pixel pitch	17µm	
Spectral range	7.5~14µm	
NETD / Sensitivity	≤60mK	≤50mK
Lens Data		
Lens (Optional)	9mm / 13mm / 19mm / 25mm / 35mm athermal lens	
Image Performance		
NUC	Shutterless technology	
Image enhancement	IVE image enhancement algorithm	
Frequency	50Hz	
Amplification	2X、 4X	
Polarity / LUT mode	Black hot / White hot	
Startup time	3s	
Image gain	Auto / Manual	
Cross cursor	ON / OFF	
Interface		
Primary electrical connector	40pin	
Control	RS232	
Analog video output	PAL	
Digital video output	LVCMOS / 8-bit BT656 optional / Cameralink optional	
Keypad	5 button keyboard	
Power System		
Working voltage	DC: +3V~+5.5V (standard: 3.7V)	
Power consumption	0.75W	1W
Reverse polarity protection	Yes	
Over & Under voltage	Yes	
Environmental Parameters		
Operating temperature range	-40 ℃~+60 ℃	
Storage temperature range	-50 ℃~+70 ℃	
Humidity	5%~95% (non-condense)	
Shock	GJB150-16 2.3.1, 100g: 6msec	
Vibration	GJB150-16 2.3.1, 4.3g 3 axes, 8h	
Physical Data		
Size	28mm×28mm×21mm (From FPA to back)	
Weight	≤35g (without lens)	
Mounting	M2×0.4	
Packing		
Standard	Thermal imaging core, integrated cable, user manual of CD, warranty card, calibration certificate, button keyboard	

TC390|TC690G

Thermal Imaging Cores



TC390|TC690G high level shutterless thermal imaging camera cores which can be used for various applications such as UAV&Robot integration, defense&surveillance system integration, thermal night vision and so on.

Features

Compact design, 38mmx38mm size, weight 55g

Energy-saving design, lowest power consumption (less than 0.75W / 1W)

Shutterless and IVE (Intelligent View Enhancement) technologies

Isolated metal frame for radiating

Digital zoom up to 4X

Application Case

- Thermal imaging integration (telescope, thermal weapon sight, etc)
- Electro-optical system for UAV & aircraft
- Driver's Vision Enhancement system



Standard Package

standard package	
Thermal Imaging Core × 1	Interface Cable × 1
Warranty Card × 1	Lens
Software CD × 1	



Technical Specifications

Item	TC390	TC690G
Detector Data		
Material	aSi	
IR resolution	384 x 288	640 x 480
Pixel pitch	17μm	
Spectral range	7.5~14μm	
NETD / Sensitivity	≤60mK	≤50mK
Lens Data		
Lens (Optional)	35mm、50mm、75mm athermal lenses, 100mm、150mm motorized lens, 25~100mm、30~150mm、25~225mm continuous zoom lens、60/150mm dual FOV lens (optional)	
Image Performance		
NUC	Shutterless technology	
Image enhancement	IVE image enhancement algorithm	
Frequency	50Hz	
Amplification	2X、4X	
Polarity / LUT mode	Black hot / White hot	
Startup time	3s	
Image gain	Auto / Manual	
Cross cursor	ON / OFF	
Interface		
Primary electrical connector	40pin	
Control	RS232	
Analog video output	PAL	
Digital video output	LVCMOS / 8-bit BT656 optional / Cameralink optional	
Keypad	5 button keyboard	
Power System		
Working voltage	DC: +3V~+5.5V (standard: 3.7V)	
Power consumption	0.75W	1W
Reverse polarity protection	Yes	
Over & Under voltage	Yes	
Environmental Parameters		
Operating temperature range	-40 C ~+60 C	
Storage temperature range	-50 C ~+70 C	
Humidity	5%~95% (non-condense)	
Shock	GJB150-16 2.3.1, 100g: 6msec	
Vibration	GJB150-16 2.3.1, 4.3g 3 axes, 8h	
Physical Data		
Size	38mm×38mm×21mm (From FPA to back)	
Weight	≤55g (without lens)	
Mounting	M2×0.4	
Packing		
Standard	Thermal imaging core, integrated cable, user manual of CD, warranty card, calibration certificate	

TC388N|TC688N

Thermal Imaging Cores



TC388N | TC688N series cores are developed with French ULIS high quality detector. Clear image, stable performance, rich interface and compact structure can satisfy the use in harsh environments. It is suitable for night vision handheld, security monitoring, border defense, optical platform, other equipment manufacturers and secondary development of system integrators.

Features

High sensitivity, clear image, NETD \leq 50mK

DDE digital detail enhancement

1-8 times continuous electronic amplification

Expandable power zoom, electric focus, auto focus

Rich interface

Application Case

- Security thermal imaging camera
- Thermal image Pan & Tilt
- Shipborne, car photoelectric turntable
- Hand-held night vision for gun sights, telescopes, etc.



Standard Package

standard package	
Thermal Imaging Core×1	Interface Cable×1
Warranty Card×1	Lens
Software CD×1	



Technical Specifications

Item	TC388N	TC688N
Detector Data		
Material	aSi	
IR resolution	384 x 288	640 x 480
Pixel pitch	17μm	
Spectral range	7.5~14μm	
NETD / Sensitivity	≤60mK	≤50mK
Lens Data		
Lens (Optional)	35mm、 50mm、 75mm athermal lens, 100mm、 150mm motorized lens, 25~100mm、 30~150mm、 25~225mm continuous zoom lens、 60 / 150mm dual FOV lens (other lens are optional)	
Image Performance		
Image enhancement	DDE image enhancement algorithm	
Frequency	50Hz	
Amplification	1-4X continuous	1-8X continuous
Polarity / LUT mode	Black hot / White hot	
Startup time	10s	
Contrast / Brightness	Auto / Manual	
Focusing	Motor	
Cross cursor	Switchable	
Image frozen	Yes	
Interface		
Primary electrical connector	40pin	
Control	RS232	
Analog video output	PAL	
Digital video output	Cameralink、 LVDS、 LVCMOS optional	
Keypad	4button	
Power System		
Working voltage	DC: +3.8V ~ +5.3V (5V standard)	
Power consumption	≤1.5W	
Reverse polarity protection	Yes	
Over & Under voltage protection	Yes	
Environment Parameters		
Operating temperature range	-40 °C ~ +60 °C	
Storage temperature range	-50 °C ~ +70 °C	
Humidity	5% ~ 95% (non-condensing)	
Shock	GJB150-16 2.3.1, 100g; 6msec	
Vibration	GJB150-16 2.3.1, 4.3g 3 axes, 8h	
Physical Data		
Size	40mm×40mm×28.5mm	
Weight	≤65g (without lens)	
Mounting	2 M2×0.5	
Packing		
Standard	Thermal imaging core, interface cable, operating software, user manual of CD, warranty card, calibration certificate	

TC388G|TC688G

Thermal Imaging Cores



TC388G|TC688G are the thermal imaging camera cores with advanced reliable shutter, it can provide stable and high quality thermal images and videos. It can be easily integrated into defense, security and surveillance systems.

Features

17 μ m pixel pitch, NETD \leq 60mK

50Hz imaging frequency, 3s for start-up

Ultra-low power consumption (less than 1.5W)

IVE technology

Customizable interfaces

Application Case

- Surveillance systems
- Thermal image pan&tilt
- Weapon targeting systems
- Vehicle and shipborne monitoring systems



Standard Package

standard package	
Thermal Imaging Core \times 1	Interface Cable \times 1
Warranty Card \times 1	Lens
Software CD \times 1	

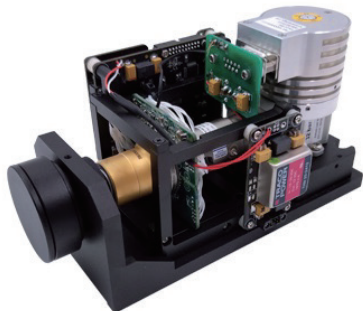


Technical Specifications

Item	TC388G	TC688G
Detector Data		
Material	aSi	
IR resolution	384 x 288	640 x 480
Pixel pitch	17μm	
Spectral range	7.5~14μm	
NETD / Sensitivity	≤70mK	≤60mK
Lens Data		
Lens (Optional)	35mm、50mm、75mm athermal lens, 100mm、150mm motorized lens, 25mm~100mm、30mm~150mm、25mm~250mm continuous zoom lens、60mm\150mm dual FOV lens (other lens are optional)	
Image Performance		
Image enhancement	IVE image enhancement algorithm	
Frequency	50Hz	
Amplification	2X、4X	
Polarity / LUT mode	Black hot / White hot	
Startup time	3s	
Image gain	Auto / Manual	
Focus	Motor	
Cross	ON / OFF	
Image frozen	Yes	
Interface		
Primary electrical connector	40pin	
Control port	RS232	
Analog video output	PAL	
Digital video output	Cameralink、LVCMOS optional	
Keypad	4button keyboard	
Power System		
Working voltage	DC: +4.7V~+5.5V (standard: 5V)	
Power consumption	1.5W	1.25W
Reverse polarity protection	Yes	
Over&Under voltage	Yes	
Environmental Parameters		
Operating temperature range	-40 ℃~+60 ℃	
Storage temperature range	-50 ℃~+70 ℃	
Humidity	5%~95% (non-condense)	
Shock	GJB150-16 2.3.1, 100g; 6msec	
Vibration	GJB150-16 2.3.1, 4.3g 3 axes, 8h	
Physical Data		
Size	44.5mm×44.5mm×39.5mm	
Weight	≤103g (without lens)	≤100g (without lens)
Mounting	4 x M2×0.4, 1/4"-20	
Packing		
Standard	Thermal imaging core, integrated cable, user manual of CD, warranty card, calibration certificate	

TC320MW|TC640MW

Mid-wave Cooled Thermal Imaging Cores



TC320MW|TC640MW are mid-wave cooled thermal imaging cores with high-quality detectors which can be easily integrated into infrared systems that require extremely long distance detection and adaption to any harsh environment.

Features

Cooled HgCdTe detector

Continuous zoom, triple view, dual view lenses and no lens are optional

Formidable image processing ability

Multiple interfaces, easy integration

Compact design, high level of integration

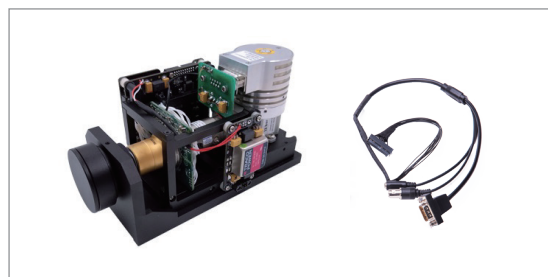
Application Case

- Border and coastal surveillance
- Fire control system of armed vehicles
- Airborne infrared warning system
- Airborne electro-optical pod
- Shipborne electro-optical pod



Standard Package

standard package	
Thermal Imaging Core × 1	Interface Cable × 1
Warranty Card × 1	Lens

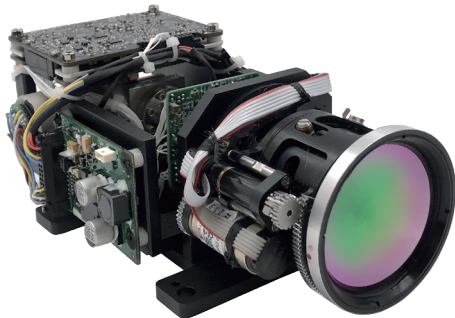


Technical Specifications

Item	TC320MW	TC640MW
Cooler	Stirling	
Detector Data		
Type	MCT	
IR resolution	320×256	640×512
Pixel pitch	30μm	15μm
Spectral range	3~5μm	
F.no	4	
NETD / Sensitivity	≤20mK	
Lens Data		
FOV	35°×28°~1.7°×1.4°	
Focal distance	15mm~330mm continuous zoom lens (typical)	
F / #	4	
Lens (Optional)	60/240mm dual FOV lens、 21mm~420mm continuous zoom lens、 30mm~500mm continuous zoom lens、 30mm~660mm continuous zoom lens and various other lenses are optional	
Image Performance		
Correcting	Manual correction, background correction	
Image enhancement	Auto image Filtering, DDE	
Image mirroring	Vertical, horizontal	
Frequency	Max 200Hz	Max 100Hz
Amplification	2X	2X、 4X
Polarity / LUT mode	Black hot / White hot	
Cross cursor	Yes	
Interface		
Control port	RS232 / RS422	
Analog video output	PAL	
Digital video output	LVDS / CameraLink	
Power System		
Working voltage	DC: +24V~+32V (power protection)	
Power consumption	<12W@25 C (standard)	
	<24W@25 C (max)	
Cooling time	≤6min (Normal temperature)	
Environmental Parameters		
Operating temperature range	-40 C ~ +60 C	
Storage temperature range	-40 C ~ +70 C	
Humidity	5% ~ 95% (non-condense)	
Shock	1/2 Sine, 30g, 11ms, 3 shocks per axis	
Vibration	3 axes, 30min / axis, 2.1g rms, 10-500Hz	
Physical Data		
Size	143.5mm×94mm×87.5mm (without lens)	
Weight	≤880g	

TC640SMW

Small Mid-wave Cooled Thermal Imaging Core



TC640SMW is a small-sized mid-wave cooled thermal imaging core with high-resolution detector which can be easily integrated into infrared systems that require extremely long distance detection and adaption to any harsh environment.

Features

HgCdTe detector

Continuous zoom, triple views, dualviews lenses and no lens are optional

Formidable image processing ability

Multiple interfaces, easy integration

Compact design, Low power consumption

Application Case

- Border and coastal surveillance
- Fire control system of armed vehicles
- Airborne infrared warning system
- Airborne electro-optical pod
- Shipborne electro-optical pod



Standard Package

standard package	
Thermal Imaging Core×1	Interface Cable×1
Warranty Card×1	Lens



Technical Specifications

Item	TC640SMW
Cooler	Stirling
Detector Data	
Type	MCT
IR resolution	640×512
Pixel pitch	15μm
Spectral range	3~5μm
F.no	f4 / f5.5
NETD / Sensitivity	≤25mK
Lens Data	
FOV	28°×21°~2.05°×1.5°
Focal distance	19mm~275mm continuous zoom lens (typical)
F / #	5.5
Lens (Optional)	15mm~330mm f4 continuous zoom、18mm~430mm f5.5 continuous zoom、30mm~600mm f5.5 continuous zoom and other continuous zoom or triple views, dual views lenses are optional
Image Performance	
Correcting	Manual correction, background correction
Image enhancement	Auto image Filtering, DDE
Image mirroring	Vertical, Horizontal
Frequency	50Hz
Zoom	2X、4X
Polarity / LUT mode	Black hot / White hot
Cross cursor	Yes
Interface	
Control port	RS232/RS422
Analog video output	PAL
Digital video output	CameraLink / HD-SDI
Power System	
Working voltage	DC: +24V~+32V (power protection)
Power consumption	<12W@25℃ (standard)
	<24W@25℃ (max)
Cooling time	≤6min (normal temperature)
Environmental Parameters	
Operating temperature range	-40℃~+60℃
Storage temperature range	-40℃~+70℃
Humidity	5%~95% (non-condense)
Shock	1/2 Sine, 30g, 11ms, 3 shocks per axis
Vibration	3 axes, 30min / axis, 2.1g rms, 10-500Hz
Physical Data	
Size	124mm×108.6mm×74.5mm (without lens)
Weight	680g (without lens)

TC320LW

Long-wave Cooled Thermal Imaging Core



TC320LW is long-wave thermal imaging core with SOFRADIR detectors which can be applied to land equipments particularly, border&coastal surveillance, fire control system and monitoring for command vehicle etc.

Features

Cooled HgCdTe Detector

Continuous zooming, triple view, dual views lenses and no lens are optional

Formidable image processing ability

Multiple interfaces, easy integration

Compact design, high level of integration

Application Case

- Particularly applicable to land equipments
- Border and costal surveillance
- Fire control system
- Monitoring for command vehicle



Standard Package

standard package	
Thermal Imaging Core×1	Interface Cable×1
Warranty Card × 1	Lens



Technical Specifications

Item	TC320LW
Detector Data	
Type	Long-wave cooled FPA , MCT
IR resolution	320×256
Pixel pitch	30μm
Spectral range	7.7~9.5μm
NETD / Sensitivity	≤20mK
Lens Data	
FOV	21.8°×17.5°~1.72°×1.38°
Focal distance	25mm~320mm continuous zoom lens
F / #	4
Lens (Optional)	Customizable
Image Performance	
Image enhancement	Auto image Filtering, DDE
Amplification	2x
Polarity / LUT mode	Black hot / White hot
Image gain	Auto / Manual
Auto focus	Support
Interface	
Control port	RS422/RS232
Analog video output	PAL
Digital video output	LVDS / CameraLink
Power System	
Working voltage	DC: +24V~+32V (power protection)
Power consumption	<12W@25 C (standard)
	<24W@25 C (max)
Cooling time	≤6min (normal temperature)
Environmental Parameters	
Operating temperature range	-40 C~+60 C
Storage temperature range	-40 C~+65 C
Humidity	5%~95% (non-condense)
Shock	1/2 Sine, 30g, 11ms, 3 shocks per axis
Vibration	3 axes, 30min / axis, 2.1g rms, 10-500Hz
Physical Data	
Size	215.5mm×168.6mm×94mm (with lens)
Weight	3.55kg (with lens)

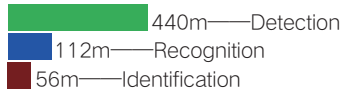
Lens specification and distance table

Standing man 1.8m by 0.5m

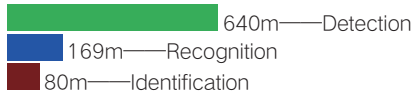
9mm Lens



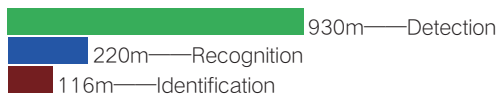
13mm Lens



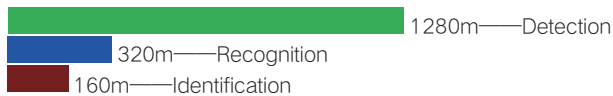
19mm Lens



25mm Lens



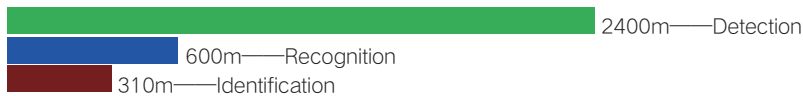
35mm Lens



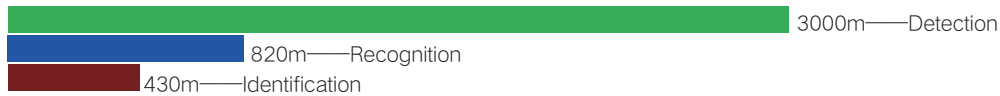
50mm Lens



75mm Lens



100mm Lens



150mm Lens



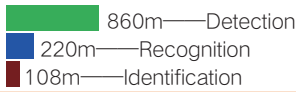
225mm Lens



Lens specification and distance table

Vehicle 2.3m by 2.3m

9mm Lens



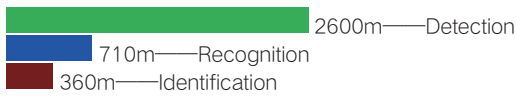
13mm Lens



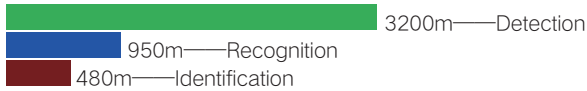
19mm Lens



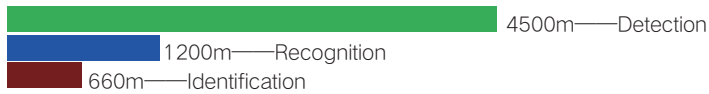
25mm Lens



35mm Lens



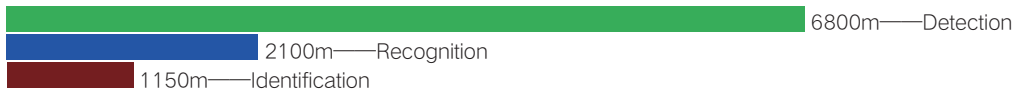
50mm Lens



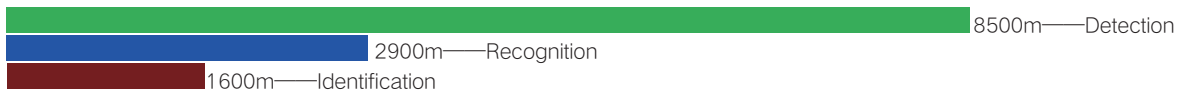
75mm Lens



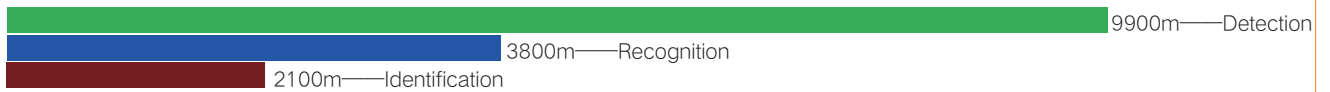
100mm Lens



150mm Lens



225mm Lens





Follow ULIRVISION, Application is All Around Make the World More Secure

Zhejiang ULIRVISION Technology Co.,LTD.

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