



**XCore FTII Series**  
**Alarm Infrared Thermal Imaging Camera**  
**User Manual**  
**V1.5.5**

**IRay Technology Co., Ltd.**

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This manual is used as a guide. The photos, graphics, diagrams and illustrations provided in the manual are only used to explain, which may be different from the specific product. Please refer to the real object. We try our best to make sure the contents in this manual are accurate. We do not provide any representations or warranties in this manual.

This manual may be updated by IRay due to version update or other purposes. If you need the latest version of this manual, please contact us. IRay recommends that you use this manual under the guidance of professionals.

## Version History

Version	Time	Description	Revised by	Checked by
V1.0.0	2019-12	·Initial version		
V1.0.1	2020-04	·Modify the description of PN code ·Add 007 expansion board		
V1.1.0	2020-10	·Add information of FTII1280		
V1.2.0	2021-04	·Add introduction of 008 expansion board ·Delete introduction of 007 expansion board ·Revise lens models		
V1.3.0	2021-05	·Revise pics of 008 expansion board		
V1.3.1	2021-6	·Revise lens type and FOV parameters in Table 3.2		
V1.3.2	2021-7	·Add data processing block diagram		
V1.4.0	2021-10	·Add description of FTII1024		
V1.4.1	2021-12	·Revise the lens models and FOV in Table 3.1 and Table 3.2		
V1.4.2	2022-03	·Revise the lens models and FOV in Table 3.1 and Table 3.2		
V1.4.3	2022-03	Revise info. of 20~100mm lens in		

Table 2.1				
V1.5.0	2022-04	Add descriptions of 009 expansion board		
V1.5.1	2022-06	Revise figure of 009 expansion board		
V1.5.2	2022-07	1. Update power consumption 2. Add descriptions of 108 expansion board		
V1.5.3	2023-05	Add descriptions on maintaining focus through zoom		
V1.5.4	2023-06	Add athermalized lens model		
V1.5.5	2023-08	Add continuous zoom lens model		

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## 1. Overview

Xcore FTII series alarm thermal imaging camera is an alarm type product specially developed for the application requirements of local installation, urban security, railway security, border security and other industries. Four kinds of resolutions (384 × 288, 640 × 512, 1024 × 768, 1280 × 1024) are optional, it can operate stably and reliably under various complex environmental conditions, and output outstanding infrared images.

LVCMOS, BT.656, BT.1120, LVDS, analog video and other image output interface options can be provided for users. It can be directly connected to the domestic mainstream security monitoring back-end hardware platform and easy for customers to quickly master the using method.

It can support high temperature alarm and fire points alarm.

It can support driving single-field, double-field and continuous zoom infrared lens, covering 9.1mm, 13mm, 19mm, 25mm, 35mm, 50mm, 75mm, 100mm athermal infrared lens, 13mm, 19mm, 25mm, 35mm, 50mm, 75mm, 100mm, 150mm electric fixed focus infrared lens, 25 ~ 75mm, 20 ~ 100mm, 30 ~ 150mm, 30 ~ 180mm, 25 ~ 225mm continuous zoom infrared lens. It can realize the function of electric focus, continuous zoom, auto focus and virtual focus compensation.

Xcore FTII series alarm thermal imaging cameras are easy to operate. The cameras can make clear images, which meet the needs of safety surveillance industries. They can realize continuous monitoring day and night.



## 2. Product Model

### 2.1 FTII384/FTII640

<b>FTII384</b>	<b>001</b>	<b>00000X</b>	<b>C</b>	<b>P</b>	<b>X</b>
<b>FTII384</b>	<b>001</b>	<b>00000X</b>	<b>C</b>	<b>P</b>	<b>X</b>
Model	User Expansion Component	Lens <sup>(1)</sup>	Language <sup>(2)</sup>	Analog Video	Application Type <sup>(3)</sup>
FTII384 : 384*288	001: FT00- V100F014A2C	00000X: without lens 9D110A: 9.1mm	C: Chinese E: English	P: PAL N: NTSC	X: radiometric type N: observation type Q: observation type(support maintaining focus through zoom for continuous zoom lens)
FTII640 : 640*512	008: FTII00- V100F019A2C 108: FTII00- V100F020A2C	01310A: 13mm 01310E: 13mm 01910A: 19mm 01910E: 19mm 02510A: 25mm 02510E: 25mm 03510A: 35mm 03510E: 35mm 05010E: 50mm 05510A: 55mm 07510A: 75mm 10010A: 100mm 07510E: 75mm 10010E: 100mm 15012E: 150mm 075123: 25-75mm 100115: 20-100mm 105164: 26-105mm 150125: 30-150mm 180126: 30-180mm 225159: 25-225mm 30015F: 20-300mm			

Figure 2.1: FTII384/FTII640 Product Model

2.2 FTII1024/FTII1280

<b>FTII1280</b>	<b>001</b>	<b>00000X</b>	<b>C</b>	<b>Q</b>	<b>X</b>
FTII1280	001	00000X	C	Q	X
Model	User Expansion Component	Lens <sup>(1)</sup>	Language <sup>(2)</sup>		Application Type <sup>(3)</sup>
FTII1024: 1024*768	FTII1024: 001:	00000X: Without Lens 01010A: 10mm	C: Chinese E: English	No Analog Video	X: radiometric type
FTII1280 : 1280*1024	FTII03- V120F000A2C 008: FT03- V100F019A2 108: FT03- V100F020A2C 009: FTII03- V110F018M2C FTII1280: 001: FTII04- V100F11A2C 008: FT04- V110F019A2C 108: FT04- V100F020A2C 009: FTII04- V100F018M2C	01910A: 19mm 02510A: 25mm 03510A: 35mm 05510A: 55mm 07510A: 75mm 07510E: 75mm 10010E: 100mm 15010E: 150mm 075123: 25-75mm 150125: 30-150mm 225159: 25-225mm 35015X: 35-350mm			N: observation type Q: observation type (support maintaining focus through zoom for continuous zoom lens)

Figure2.2: FTII1024/FTII1280 Product Model

Note:

- (1) "Lens" option in the naming rules, xxxyyA is an athermalized lens, xxx is a focal length value, yy is an F-number, A represents an athermalized lens; xxxyyE represents an electrically adjustable fixed-focus lens, xxx is a focal length value, yy is F Number, E stands for ESC lens; xxxyyz stands for continuous zoom lens, xxx is the maximum focal length value, yy is the F number, and z is the optical magnification;
- (2) Do not support real-time switching between Chinese and English languages, provide Chinese and English language download package, users can update remotely through the serial port at any time. For other languages support, users can make download package according to the format provided by IRay;
- (3) The thermal imaging camera supports fire alarm. The fire alarm function by default is disabled. Only the continuous zoom lens supports maintaining focus through zoom.



### 3. Lens Specification

Array Format	Lens Type	FOV (H*V)	IFOV	Front Element Sealing
640*512	9.1mm F1.0 Athermal	48.6°×38.6°	1.319mrad	IP67
384*288		29.1°×21.7 °		
1280*1024	10mm F1.0 Athermal	75.0°×63.1 °	1.200mrad	IP67
1024*768		63.1°×49.5 °		
640*512	13mm F1.0 Athermal	32.9°×26.6°	0.923mrad	IP67
384*288		19.7°×14.9°		
1280*1024	19mm F1.0 Athermal	44°×35.8°	0.632mrad	IP67
1024*768		35.8°×27.3°		
640*512		22.9°×18.4°		
384*288		13.7°×10.3°		
1280*1024	25mm F1.0 Athermal	34.1°×27.6°	0.480mrad	IP67
1024*768		27.6°×21°		
640*512		17.4°×14.0°		
384*288		10.4°×7.8°		
1280*1024	35mm F1.0 Athermal	25.1°×20.1°	0.343mrad	IP67
1024*768		20.1°×15.1°		
640*512		12.5°×10.0°		
384*288		7.5°×5.8°		
1280*1024	55mm F1.0 Athermal	16°×12.8°	0.218mrad	IP67
1024*768		12.8°×9.6°		

640*512		8.0°×6.4°		
384*288		4.8°×3.6°		
1280*1024	75mm F1.0 Athermal	11.7°×9.4°	0.160mrad	IP67
1024*768		9.4°×7.0°		
640*512		5.9°×4.7°		
384*288		3.5°×2.6°		
640*512	100mm F1.0 Athermal	4.4°×3.5°	0.120mrad	IP67
384*288		2.6°×2.0°		

Table3.1 Athermal Lens Model

Array Format	Lens Type	FOV (H*V)	IFOV	Front Element Sealing
640*512	13mm F1.0	33.7°×27.0°	0.923mrad	IP67
384*288	Motorized Focusing Installed from the rear	20.2°×15.2°		
640*512	19mm F1.0	23.1°×18.5°	0.632mrad	IP67
384*288	Motorized Focusing Installed from the rear	13.8°×10.4°		
640*512	25mm F1.0	17.6°×14.1°	0.480mrad	IP67
384*288	Motorized Focusing Installed from the rear	10.6°×7.9°		
640*512	35mm F1.0	12.5°×10.0°	0.343mrad	IP67
384*288	Motorized Focusing Installed from the rear	7.5°×5.8°		
640*512	50mm F1.0	8.8°×7.0°	0.240mrad	IP67
384*288	Motorized Focusing	5.3°×3.9°		

	Installed from the rear			
1280*1024	75mm F1.0 Motorized Focusing Installed from the rear	11.7°×9.4°	0.160mrad	IP67
1024*768		9.4°×7.0°		
640*512		5.9°×4.7°		
384*288		3.5°×2.6°		
1280*1024	25mm-75mm F0.95~F1.2 Continuous Zooming Installed from the rear	11.5°×9.3°~35.9°×28.5°	0.160~0.480 mrad	IP67
1024*768		9.3°×7.0°~28.5°×21.3°		
640*512		5.9°×4.7°~17.7°×14.1°		
384*288		3.5°×2.6°~10.6°×7.9°		
1280*1024	100mm F1.0 Motorized Focusing Installed from the rear	8.8°×7.0°	0.120mrad	IP67
1024*768		7.0°×5.3°		
640*512		4.4°×3.5°		
384*288		2.6°×2.0°		
640*512	20mm -100mm F0.8~F1.1 Continuous Zooming Installed from the rear	4.4°×3.5°~22.5°×17.8°	0.120~0.600 mrad	IP67
384*288		2.6°×2.0°~13.5°×10.0°		
640*512	26mm -105mm F1.6~F1.6 Continuous Zooming Installed from the rear	4.1°×3.3°~17.2°×13.7°	0.114~0.462 mrad	IP67
384*288		2.5°×1.9°~10.3°×7.7°		
1280*1024	150mm F1.0	5.9°×4.7°	0.080mrad	IP67

1024*768	Motorized Focusing Installed from the rear	4.7°×3.5°		
640*512	150mm F1.2	2.9°×2.3°		
384*288	Motorized Focusing Installed from the rear	1.7°×1.3°		
1280*1024	30mm -150mm F1.0~F1.2 Continuous Zooming	5.9°×4.7°~28.7°×23.1°	0.080~0.400 mrad	IP67
1024*768	Installed from the rear	4.7°×3.5°~23.1°×17.5°		
640*512	30mm -150mm F0.85~F1.2 Continuous Zooming	2.9°×2.3°~14.7°×11.7°		
384*288	Installed from the rear	1.7°×1.3°~8.8°×6.6°		
640*512	30mm -180mm F0.8~F1.2 Continuous Zooming	2.4°×2.0°~14.6°×11.7°	0.067~0.400 mrad	IP67
384*288	Installed from the rear	1.4°×1.1°~8.8°×6.6°		
1280*1024	25mm -225mm F1.09~F1.5 Continuous Zooming	3.9°×3.1°~34.2°×27.6°	0.053~0.480 mrad	IP67
1024*768	Installed from the rear	3.1°×2.4°~27.6°×21.0°		
640*512	25mm -225mm F0.95~F1.5 Continuous Zooming	2.0°×1.6°~17.7°×14.1°		
384*288	Installed from the rear	1.2°×0.9°~10.6°×7.9°		

640*512	20mm -300mm F0.89~F1.5 Continuous Zooming Installed from the rear	1.5°×1.2°~22.1°×17.7°	0.040~0.600 mrad	IP67
384*288		0.9°×0.7°~13.3°×10.0°		
1280*1024	35mm-350mm F1.09~F1.5 Continuous Zooming Installed from the rear	2.5°×2.0°~25.1°×20.1°	0.034~0.343 mrad	IP67

**Table3.2 Motorized Lens Model**

## 4. Product Performance Parameters

The performance parameters of FTII384 / FTII640/ FTII1024/FTII1280 **001 series** thermal imaging cameras are shown in Table 4.1:

Model	FTII384	FTII640	FTII1024	FTII1280
<b>Performance Index</b>				
Detector Type	VOx uncooled IRFPA			
Pixel Resolution	384*288	640*512	1024*768	1280*1024
Pixel Pitch	12μm			
Detector Frame Rate	50Hz		30Hz	
Spectral Range	8~14μm			
NETD	≤50mK@25°C, F#1.0			
<b>Image Adjustment</b>				
Brightness & Contrast Adjustment	Manual/Auto0/Auto1			
Polarity	Black hot/White hot			
Color Palettes	Support (18 types)			
Reticle	Display/Hide/Move			
Digital Zoom	1.0~8.0× Continuous Zoom (in 0.1× increment) ,magnify in any area		1.0~4.0× Continuous Zoom (in 0.1× increment) ,magnify in any area	
Image Processing	NUC			
	Digital Filter and Imaging Denoising			
	Digital Detail Enhancement			
Image Mirror	Left-right/Up-down/Diagonal			
<b>Temperature Measurement and Alarm Function</b>				
Full Frame Temperature Measurement	Support display of Max. temp, Min. temp and center spot temp			
Area Temperature Measurement	Support (at most 5)			
High Temperature Warning	Support			
The Fire Alarm	Support			

Model	FTII384	FTII640	FTII1024	FTII1280
Alarm Box Mark	Support			
Alarm Response Time	≤0.2s			
Alarm I/O Output	1channel (LVCMOS level)			
Alarm Command Output	Support			
<b>Lens Control</b>				
Lens Type	Fixed focus/Continuous zoom			
Auto Focus	Support (Auto focusing time near clear spot≤3s)			
Motorized Focus	yes			
Motorized Zoom	yes			
<b>Power Supply</b>				
Supply Voltage	5-24V DC			
Typical Supply Voltage	12V DC			
Power Protection	Over-voltage/Under-voltage/Reverse Connection			
Typical Consumption @25°C	<1.8W	<2.2W	<2.4W	<2.6W
<b>Interface</b>				
Video Output	Analog Video	1 Channel PAL <sup>(1)</sup> /NTSC <sup>(1)</sup>		unsupported
	Digital Video	LVCMOS/BT.656/BT.1120/LVDS		LVCMOS/BT.1120/LVDS
Video Sync Input	Support <sup>(2)</sup>			
Video Sync Output	Support <sup>(2)</sup>			
Serial Communication Interface	RS-232			
	RS-485			
PELCO Protocol	Support Standard PELCO-D Protocol			
Key	4 Keys			
<b>Physical Properties</b>				
Weight	80±10g(Lens Excluded)		102.7g(with out flange, shutter)	168±10g(Lens Excluded)

Model	FTII384	FTII640	FTII1024	FTII1280
			exposed)	
Size	44.5mm × 43mm		45mm × 45mm	55mm × 55mm
<b>Environmental Adaptation</b>				
Operating Temperature Range	-40℃ ~ +60℃			
Storage Temperature Range	-45℃ ~ +85℃			
Humidity	5-95%, no condensation			
<b>Environment Certification</b>				
RoHS 2.0	Compliant			

**Table 4.1 Performance Parameters**

Note:

- (1). Switch between PAL and NTSC at any time;
- (2). Only one kind can be chosen between Sync Input and Sync Output.

The performance parameters of FTII384 / FTII640/ FTII1024/FTII1280 **008/108 series** thermal imaging cameras are shown in Table 4.2:

Model	FTII384	FTII640	FTII1024	FTII1280
<b>Performance Index</b>				
Detector Type	VOx uncooled IRFPA			
Resolution	384*288	640*512	1024*768	1280*1024
Pixel Pitch	12μm			
Frame Rate	50Hz		30Hz	
Spectral Range	8~14μm			
NETD	≤50mK@25℃,F#1.0			
<b>Image Adjustment</b>				
Palette	Black hot, white hot, and 18 kinds of color Palettes			
Digital Zoom	1.0~8.0× Continuing Zooming (step 0.1) ,zoom in any area		1.0~4.0× Continuing Zooming (step 0.1) ,zoom in any area	
Image Processing	NUC			



Model	FTII384	FTII640	FTII1024	FTII1280
	Digital Filter and Imaging Denoising			
	Digital Detail Enhancement			
Image Mirror	Right- left/Up- down/Diagonal			
<b>Network</b>				
Network Protocol	TCP/IP,UDP,ICMP,HTTP,HTTPS,FTP,DHCP,DNS,RTP,RTSP,RTCP,IGMP,SMTP, NTP, QoS			
Interoperability	ONVIF, GB28181, SDK			
Simultaneous live view	Up to 20 channels			
User Management	Up to 20users, 3 levels: Administrator, Operator and User			
Browser	IE8+, multiple languages			
<b>Smart Function</b>				
Fire Detection	yes			
Smart Recording	yes			
Smart Alarm	Support alarm trigger of network disconnection, IP address conflict, full memory, memory error, illegal access and abnormal detection			
Smart Detecting	Support smart video analysis such as line intrusion, cross-border, and region intrusion			
Alarm Linkage	Recording/Capture/Sending mail/PTZ linkage/Alarm output			
<b>Lens Control</b>				
Lens Type	fixed focus/continuous zoom			
Auto Focus	Yes (Auto focus time near the clear spot≤3s)			
Motorized Focus	yes			
Motorized Zoom	yes			
<b>Power</b>				
Typical Voltage	12V DC±10%			
Power Protection	Over-voltage, undervoltage and reverse protection			
Typical Power Consumption@25℃	<2.4W	<2.9W	<3.0W	<3.8W
<b>Interface</b>				
Serial Communication Interface	RS-485(PT control)			

Model	FTII384	FTII640	FTII1024	FTII1280
PELCO Protocol	Support standard PELCO-D, PELCO-P			
Network Interface	Support ONVIF, GB28281			
Audio	Support 1-ch audio input, 1-ch audio output			
Alarm (only 108)	Support 1-ch DV 5V alarm level input, 1-ch on-off alarm output			
<b>Physical Properties</b>				
Weight	161±10g(w/o lens)		180.9g(w/o flange, shutter exposed)	220±10g(w/o lens)
Size	49.5mm × 50mm		55mm × 55mm	55mm × 55mm
<b>Environmental Adaptation</b>				
Operating Temperature	-40℃ ~ +60℃			
Storage Temperature	-45℃ ~ +85℃			
Humidity	5-95%, no condensation			
<b>Environmental Certification</b>				
RoHS2.0	Compliant			

**Table 4.2 Performance Parameters**

The performance parameters of FTII1024 / FTII1280 **009 series** thermal imaging cameras are shown in Table 4.3:

Model	FTII1024	FTII1280
<b>Performance Index</b>		
Detector Type	VOx Uncooled Infrared FPA	
Resolution	1024*768	1280*1024
Pixel Pitch	12μm	
Frame Rate	30Hz	
Spectral Range	8~14μm	
NETD	≤50mK@25°C,F#1.0	
<b>Image Adjustment</b>		
Brightness & Contrast Adjustment	Manual/Auto0/Auto1	
Polarity	Black hot, white hot	
Color Palettes	18 kinds of color palettes	
Crosshair Reticle	Display/Hide/Move	
Digital Zoom	1.0~4.0× Continuous Zoom (step 0.1) ,zoom in any area	
Image Processing	NUC	
	Digital Noise Reduction(DNR)	
	Digital Detail Enhancement	
Image Mirror	Right- left/Up- down/Diagonal	
<b>Lens Control</b>		
Lens Type	fixed focus/continuous zoom	
Auto Focus	Yes (Auto focus time near the clear spot≤3s)	
Motorized Focus	yes	
Motorized Zoom	yes	
<b>Power</b>		
Power Supply	5-24V DC	
Typical Voltage	12V DC	
Power Protection	Over-voltage, undervoltage and reverse protection	
Typical Power Consumption@25°C	<2.8W	<3.4W
<b>Interface</b>		

Model	FTII1024	FTII1280
Video Output	SDI	
Video Sync Input	Support <sup>(1)</sup>	
Video Sync Output	Support <sup>(1)</sup>	
Serial Communication Interface	RS-232 RS-485 (Support PELCO-D Protocol only)	
<b>Physical Properties</b>		
Weight	102.7g (w/o flange, shutter exposed)	168±10g (w/o lens)
Size	45mm × 45mm	55mm × 55mm
<b>Environmental Adaptability</b>		
Operating Temperature Range	-40℃ ~ +60℃	
Non-operating Temperature Range	-45℃ ~ +85℃	
Humidity	5-95%, no condensation	
<b>Environmental Certification</b>		
RoHS2.0	Conform to	

**Table 4.3 Performance Parameters**

Notes:

(1) You can choose either Sync Input or Sync Output.

## 5. User Expansion Board

Model	Picture (Illustration)	Main Interface	Well-matched Models
001: FT00- V100F014A2C		<ul style="list-style-type: none"> <li>● Power supply 5-24V</li> <li>● RS-232, RS-485 (PELCO protocols)</li> <li>● Analog Video</li> <li>● LVDS, LVCMOS, BT.656, BT.1120 digital video</li> <li>● Lens Motor Interface</li> <li>● Button Interface</li> <li>● Alarm in &amp; Alarm out</li> </ul>	FTII384/FTII640
001: FTII03- V120F000A2C		<ul style="list-style-type: none"> <li>● Power supply 5-24V</li> <li>● RS-232, RS-485 (PELCO protocols)</li> <li>● LVDS, LVCMOS, BT.1120 digital video</li> <li>● Lens Motor Interface</li> <li>● Button Interface</li> <li>● Alarm in &amp; Alarm out</li> </ul>	FTII1024
001: FTII04- V100F11A2C		<ul style="list-style-type: none"> <li>● Power supply 5-24V</li> <li>● RS-232, RS-485(PELCO protocols)</li> <li>● LVDS, LVCMOS, BT.1120 digital Video</li> <li>● Lens Motor Interface</li> <li>● Button Interface</li> <li>● Alarm in &amp; Alarm out</li> </ul>	FTII1280
008: FTII00- V100F019A2C		<ul style="list-style-type: none"> <li>● Power supply 12V</li> <li>● RS-485 (PELCO protocols)</li> <li>● Analog Video</li> <li>● Audio interface</li> <li>● Ethernet Interface</li> </ul>	FTII384/FTII640

Model	Picture (Illustration)	Main Interface	Well-matched Models
		<ul style="list-style-type: none"> <li>● Lens Motor Interface</li> </ul>	
<p>008: FT03- V100F019A2C</p>		<ul style="list-style-type: none"> <li>● Power supply 12V</li> <li>● RS-485 (PELCO protocols)</li> <li>● Audio interface</li> <li>● Ethernet Interface</li> <li>● Lens Motor Interface</li> </ul>	<p>FTII1024</p>
<p>008: FT04- V110F019A2C</p>		<ul style="list-style-type: none"> <li>● Power supply 12V</li> <li>● RS-485 (PELCO protocols)</li> <li>● Audio interface</li> <li>● Ethernet Interface</li> <li>● Lens Motor Interface</li> </ul>	<p>FTII1280</p>
<p>108:FT00- V100F020A2C</p>		<ul style="list-style-type: none"> <li>● Power supply 12V</li> <li>● RS-485 (PELCO protocols)</li> <li>● TTL serial port (Visca)</li> <li>● Audio interface</li> <li>● Alarm interface</li> <li>● Ethernet Interface</li> <li>● SD card</li> <li>● Lens Motor Interface</li> </ul>	<p>FTII384/ FTII640</p>
<p>108:FT03- V100F020A2C</p>		<ul style="list-style-type: none"> <li>● Power supply 12V</li> <li>● RS-485 (PELCO protocols)</li> <li>● TTL serial port (Visca)</li> <li>● Audio interface</li> <li>● Alarm interface</li> </ul>	<p>FTII1024</p>

Model	Picture (Illustration)	Main Interface	Well-matched Models
		<ul style="list-style-type: none"> <li>● Ethernet Interface</li> <li>● SD card</li> <li>● Lens Motor Interface</li> </ul>	
<p>108:FT04-V100F020A2C</p>		<ul style="list-style-type: none"> <li>● Power supply 12V</li> <li>● RS-485 (PELCO protocols)</li> <li>● TTL serial port (Visca)</li> <li>● Audio interface</li> <li>● Alarm interface</li> <li>● Ethernet Interface</li> <li>● SD card</li> <li>● Lens Motor Interface</li> </ul>	<p>FTII1280</p>
<p>009: FTII03-V110F018M2C</p>		<ul style="list-style-type: none"> <li>● Power supply 5-24V</li> <li>● RS-232, RS-485 (Pelco protocol)</li> <li>● SDI digital video</li> <li>● Lens Motor Interface</li> <li>● Alarm In &amp; Alarm Out</li> </ul>	<p>FTII1024</p>
<p>009:FTII04-V100F018M2C</p>		<ul style="list-style-type: none"> <li>● Power supply 5-24V</li> <li>● RS-232, RS-485 (Pelco protocol)</li> <li>● SDI digital video</li> <li>● Lens Motor Interface</li> <li>● Alarm In &amp; Alarm Out</li> </ul>	<p>FTII1280</p>

**Table 5.1 User Expansion Board List**

## 6. Data Processing

There are two digital video interfaces for FTII384, FTII640, FTII1024 and FTII1280: LVDS and parallel port digital video interface. The LVDS can output LVDS-F and LVDS-H, the parallel port digital video interface can output BT656, BT1120, LVCMOS and CDS\_2.

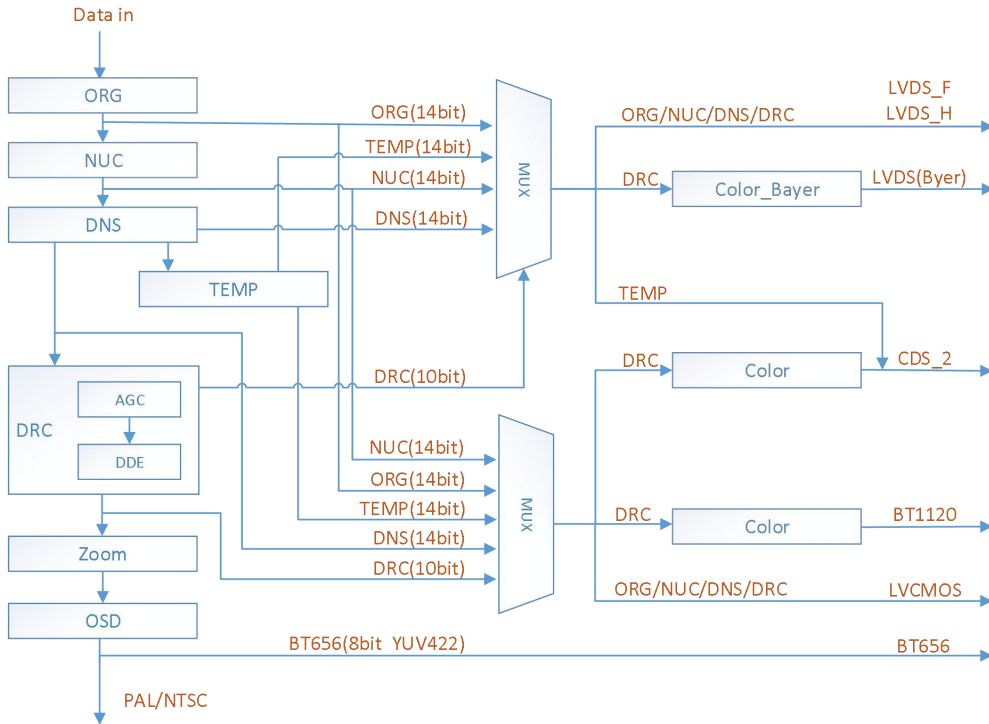


Figure 6.1 FTII384, FTII640 Digital Video

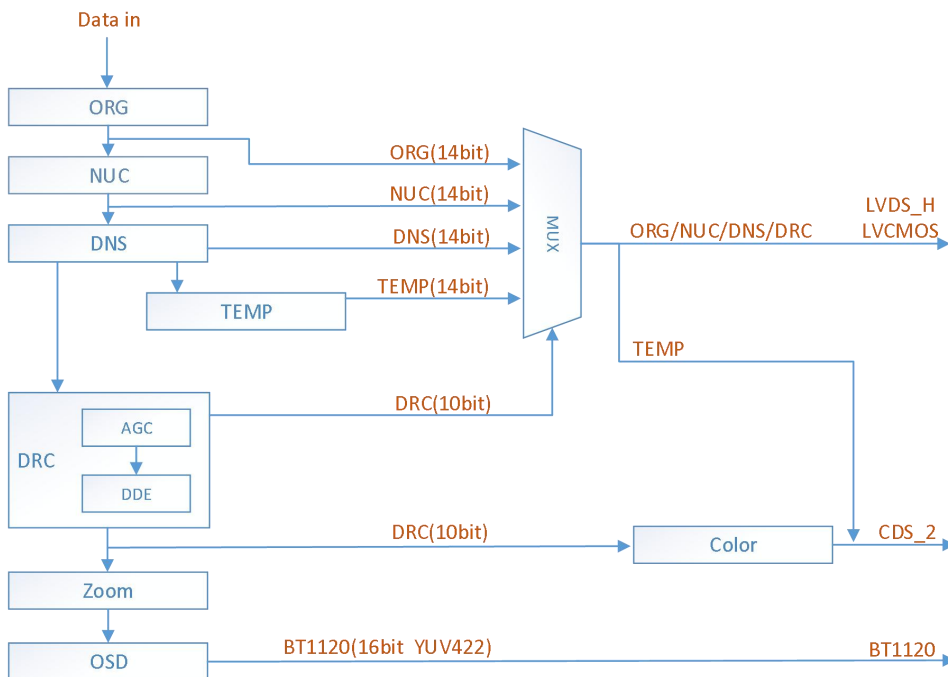


Figure 6.2 FTII1024, FTII1280 Digital Video



Function	ORG (14bit)	NUC (14bit)	DNS (14bit)	DRC (10bit)	OSD (YUV422)
Up Down Flip	√	√	√	√	√
Left-right Flip	×	√	√	√	√
Filter	×	×	√	√	√
AGC	×	×	×	√	√
DDE	×	×	×	√	√
Polarity	×	×	×	√	√
Color Palettes	×	×	×	×	√
Reticle	×	×	×	×	√
Digital Zoom	×	×	×	×	√
Temperature Display	×	×	×	×	√

**Table 6.1 Product Functions for FTII384, FTII640, FTII1024 and FTII1280**

## 7. Announcements

To protect you and others from injury or to protect your equipment from damage, please read all of the following information before using your equipment.

1. Do not make the thermal imager directly towards the sun and other high-intensity radiation sources;
2. The optimal environment temperature for operating is - 20 °C to 50 °C;
3. Do not touch or hit the detector window with hands or other objects;
4. Do not touch the equipment and cables with wet hands;
5. Do not bend or damage all cables;
6. Do not scrub your equipment with diluents;
7. Do not unplug and plug other cables without disconnecting the power supply;
8. Do not connect the wrong cable to avoid damage to the equipment;
9. Please pay attention to prevent static electricity;
10. Please do not disassemble the equipment. If there is any fault, please contact our company, and professional personnel will carry out maintenance.

## 8. Supports and Services

### 8.1 Technical Supports

1. Customerized design according to users' application requirements;
2. Providing professional and systematic technical training for users and operators;

### 8.2 After-sales Services

XCore FTII series alarm infrared thermal imager is developed by our company. It has good after-sales service guarantee such as equipment maintenance. If you have any questions, please contact us.

## 9. Company Information

IRay Technology Co., Ltd.

Website: [www.infray.com](http://www.infray.com)

Tel: 86-0535-3410623

Fax: 86-0535-3410610

E-mail: [sales@iraytek.com](mailto:sales@iraytek.com)

Address: 11th Guiyang Street, YEDA Yantai 264006, P. R. China.