System
· CPU: Mozart 120 SoC
· Flash: 16MB
· RAM: 128MB + 128MB
· Embedded OS: Linux 2.6

Lens
· Board lens, f = 2.8 mm, F2.0, Fixed

Angle of View
· 98° (horizontal)
· 73° (vertical)
· 122° (diagonal)

Shutter Time
· 1/5 sec. to 1/40,000 sec.

Image Sensor
· 1/3.2" CMOS sensor in 1600x1200 resolution

Minimum Illumination
· 0.6 Lux / F2.0

Video
· Compression: MJPEG & MPEG-4
· Streaming:
  Simultaneous multiple streams
  MPEG-4 streaming over UDP, TCP, HTTP, or HTPPS
  MPEG-4 multicast streaming
  MJPEG streaming over HTTP or HTTPS
· Supports activity adaptive streaming for dynamic frame rate control
· Supports video cropping for bandwidth saving
· Supports ePTZ for data efficiency
· Supports 3GPP mobile surveillance
· Frame rates:
  MPEG-4: Up to 30 fps at 800x600
          Up to 10 fps at 1600x1200
  MJPEG: Up to 30 fps at 800x600
         UP to 15 fps at 1600x1200

Image Settings
· Adjustable image size, quality, and bit rate
· Time stamp and text caption overlay
· Flip & mirror
· Configurable brightness, contrast, saturation, sharpness, white balance, and exposure
· AGC, AWB, AES
· BLC (Backlight Compensation)
· Supports privacy masks

Networking
· 10/100 Mbps Ethernet
· Protocols: IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPoE, CoS, QoS, SNMP, and 802.1X

Alarm and Event Management
· Triple-window video motion detection
· Tamper detection
· Temperature alarm trigger
· Event notification using HTTP, SMTP, or FTP
· Local recording of MP4 file

On-board Storage
· MicroSD/SDHC card slot
· Stores snapshots and video clips

Security
· Multi-level user access with password protection
· IP address filtering
· HTTPS encrypted data transmission
· 802.1X port-based authentication for network protection

Users
· Live viewing for up to 10 clients

Dimension
· Ø 115 mm x 46 mm

Weight
· 360 g

LED Indicator
· System restore status indicator

Power
· Power consumption: Max. 4.3 W
                     Max. 7.5 W (with heater)
· 802.3af compliant Power-over-Ethernet

Housing
· Metal housing for vandal protection
· Weather-proof IP66-rated housing

Approvals
· CE, LVD, FCC, VCCI, C-Tick
· EN50155

Operating Environments
· Operating temperature: -25 ~ 50 °C (-13 ~ 122 °F)
· Extended temperature in according of EN50155 T1: -25 ~ 70 °C
· Humidity: 90% RH

Viewing System Requirements
· OS: Microsoft Windows 2000/XP/Vista
· Browser: Mozilla Firefox, Internet Explorer 6.x or above
· Cell phone: 3GPP player
· Real Player: 10.5 or above
· Quick Time: 6.5 or above

Installation, Management, and Maintenance
· Camera angle adjustment: pan ±10° and tilt 90° (0° ~ 90°)
· Rugged M12 or RJ45 connector
· Installation Wizard 2
· 32-CH ST7501 central management software
· Supports firmware upgrade

Applications
· SDK available for application development and system integration

Warranty
· 24 months

Fixed Dome Network Camera
FD7160
2MP • Tamper Detection • PoE

VIVOTEK's FD7160 is a compact, 2-megapixel network camera designed for tough vehicular conditions, especially public transportation applications such as buses, trains, etc. With full EN50155 compliance, the camera can withstand shock, vibration, humidity, and dust, maintaining stable and reliable video when a vehicle is in movement. Its IP66-rated metal housing effectively provides robust protection from demanding rain/dust-tight conditions. As such, the combination of high resolution imaging and protective housing endows the FD7160 with first-rate identification capabilities and the rugged reliability to maximize passenger safety and optimize mobile surveillance.

By utilizing high definition 1600x1200 resolution, the FD7160 can deliver extremely clear and detailed images, achieving accurate identification of people or objects with ease. Video footage of in-vehicle passenger activities or vehicle accidents captured with this camera can thus be used for post-event forensic evidence.

With the tamper detection feature, the FD7160 becomes a truly robust and intelligent camera that keeps security staff notified once it suffers video loss from being blocked or spray-painted. PoE (Power-over-Ethernet) also allows the camera to be operated and powered with a single Ethernet cable, giving greater ease of installation. In order to facilitate on-board storage and data portability, the camera is also complete with a MicroSD/SDHC card slot for local recording.

The FD7160 also offers a broad spectrum of advanced features, including QoS for optimized bandwidth efficiency, IPv6 for next generation networks, temperature alarm trigger, HTTPS encrypted data transmission, 802.1X authentication for secure network protection, and 32-CH ST7501 central management software.

VIVOTEK
BUILT WITH RELIABILITY

Flawless Image Quality & Data Efficiency

The FD7160 is equipped with a 2-megapixel sensor, making it capable of providing highly detailed images by which users can easily and accurately identify minute objects such as vehicle license plates or facial features. Together with a wide angle fixed lens, the FD7160 can deliver a broad, clear field of view, making it possible to monitor an entire indoor area and record all in-vehicle activities using a single 2-megapixel camera.

To take full advantage of the high resolution capabilities, the FD7160 is incorporated with innovative bandwidth-saving technologies. Cropping allows for the removal of unnecessary information and transmits only the image of a selected region. ePTZ can zoom in on a target area without changing the camera direction physically, then deliver only the image of that region via the Multiple Streams feature for optimal bandwidth allocation. Activity Adaptive Streaming allocates bandwidth usage dynamically with a configurable frame rate to optimize bandwidth consumption for different situations.

Reliability in Demanding Environments

Due to the demanding requirements for protection against extreme vibration, humidity, and temperature, network cameras for mass transit require a high level of reliability. In conformance to international standards, the FD7160 guarantees the highest level of performance and stability for mass transit surveillance.

EN50155 Compliance

With resistance to an extended temperature range of -25 to 70 ° C, the FD7160 is compliant with the EN50155 standard for electronic equipment operating in railway vehicles. It also meets the EN50155's shock and vibration requirements to provide high reliability and rugged performance during movement.

IP66-rated Housing

The FD7160's weather-proof IP66-rated housing provides protection from extreme weather conditions, dust, and moisture. It offers total protection against contamination and withstands water jet ingress, allowing for operation in demanding environments.

Enhanced Security

Tamper Detection

This function can detect changes caused by camera tampering, such as blockage and spray-painting, and send out alerts so that the operator can address security issues immediately, making the FD7160 an invaluable solution for vandalism-prone areas.

Vandal Protection

Equipped with a protective housing, the FD7160 is secure from vandalism, making it suitable for high-risk environments. The metal base and polycarbonate cover enable the FD7161 to withstand high impacts, thereby ensuring functional operation at all times.

Value-added Features

Easy Installation

The structure of a vehicle can pose challenges for camera mounting. The FD7160's form factor and PoE (Power-over-Ethernet) technology make installation quick and easy.

With its compact size and discreet design, the FD7160 can be easily installed on sloping surfaces of vehicles and seamlessly blend with the internal environment, reducing customers' unease towards being under surveillance. PoE avoids cabling issues during installation and future maintenance, which is especially suitable for mass transit applications where power supply to the camera can be inconvenient.
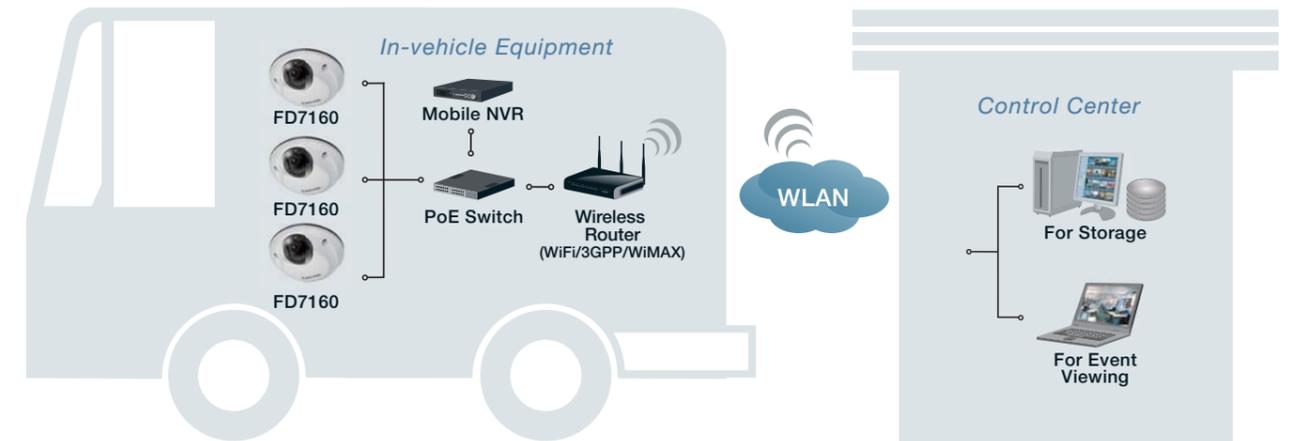

47 mm

Uninterrupted Recording

The FD7160 features a MicroSD/SDHC card slot to provide short-term and portable video storage on removable memory cards, thereby providing a higher level of convenience and data protection. With this feature, because camera images are continuously recorded on the MicroSD/SDHC card, the chance of data loss due to network disconnection is greatly reduced.

MicroSD/SDHC Card Slot

System Overview

In-vehicle Equipment

FD7160

Mobile NVR

FD7160

PoE Switch · Wireless Router (WiFi/3GPP/WiMAX)

FD7160

WLAN

Control Center

For Storage

For Event Viewing

Product Features

- 2-megapixel CMOS Sensor
- Wide Angle Fixed Lens
- Real-time MPEG-4 and MJPEG Compression (Dual Codec)
- Multiple Streams Simultaneously
- Tamper Detection for Unauthorized Changes
- Temperature Alarm Trigger
- Weather-proof IP66-rated Housing
- Built-in 802.3af Compliant PoE
- HTTPS Encrypted Data Transmission
- 802.1X Port-based Authentication for Network Protection
- MicroSD/SDHC Card Slot for On-board Storage
- Includes Free Standard 32-CH ST7501 Central Management Software