FLIR MPX SERIES

FLIR MPX makes upgrading to HD easier than ever without the expense of re-cabling.

Supports single cable full PTZ control and audio transmission, too.

FLIR MPX™

MEGAPIXEL OVER COAX

FLIR®

The World's Sixth Sense™

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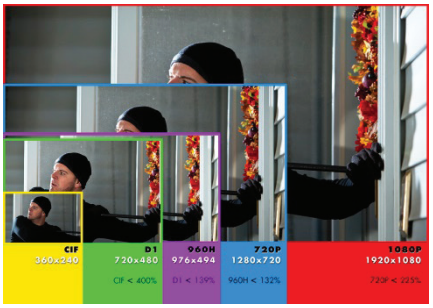
MEGAPIXEL OVER COAX

FLIR MPX™ is a next generation, low cost megapixel-over-coax technology that provides HD video & audio transmission, as well as advanced UTC control of PTZ cameras and OSD menu options – all without the expense of re-cabling. MPX seamlessly bridges the gap between analog and HD, offering long range, zero-latency video transmission that is truly second to none.

What is MPX?

FLIR MPX™ is a revolutionary video surveillance format powered by HD-CVI technology. MPX delivers megapixel picture quality over coax, meaning you can upgrade your existing analog systems to HD resolution (1MP & 2.1MP) over a single coax cable (existing RG59 & RG6 compatible).

Ideal for retrofit, MPX makes upgrading to HD easier than ever without the expense of re-cabling. MPX facilitates powerful functionality previously unattainable over coax with duplex communication, enabling full UTC PTZ control and audio transmission without running additional cabling.



720p & 1080p resolutions present a vast upgrade from D1 & 960H

How does MPX work?

MPX is an over-coaxial-cable analog HD video transmission standard utilizing bidirectional full duplex communication. A single run of coaxial cable is used to reliably transmit HD images, audio, and data, which enables high-performance functionality such as intercom, UTC PTZ and OSD menu control with a single cable run.

Benefits of MPX technology:

- Upgrade to analog HD seamlessly with simple, low-cost installation
- Megapixel & uncompressed image quality —1080p (1920×1080) & 720p (1280×720)
- Long range, zero-latency, reliable video transmission (without the addition of relay devices)
- Strong anti-interference capability
- Support for 960H and other analog surveillance standards
- Constant and reliable signal transmission for smooth display without loss
- Open analog HD transmission standard rapidly gaining acceptance and popularity

MPX vs. HD-TVI

FLIR MPX outperforms the major competing HD-over-coax technology, HD-TVI. In comparison to HD-TVI based solutions, FLIR MPX offers the following advantages:

- Enhanced color reproduction
- Crisper images with sharp edges
- Improved exposure control for greater detail and uniform luminance
- Superior IR performance in various environments
- Exceptional long-distance video performance that is virtually free of degradation
- Duplex transmission: HD video, PTZ and OSD menu control & two-way audio over coax
- Auto detection on both DVR and camera

How does MPX fit in with existing analog systems?

FLIR's 4x4 and 8x8 MPX bundles are designed to be installed as a complete new system or as an upgrade / replacement to an older analog system. These bundles are compatible with MPX equipment only.

MPX bundles offer the complete HD solution

FLIR's M3200, M4200 & M4400 Series DVR models will support both MPX cameras and standard analog cameras, giving users the flexibility to either keep their existing analog cameras or seamlessly upgrade to an end-to-end HD solution. Most stand-alone MPX cameras will feature dual outputs for compatibility with both MPX and 960H analog recorders. Therefore, customers who are not yet prepared to upgrade to an HD system can use MPX cameras to achieve premium analog surveillance for virtually the same price as a 960H analog system.

Dual video outputs provide HD & 960H streams

What resolution do MPX systems support?

MPX cameras feature 720p resolution at real-time frame rates on entry level models, providing double the resolution of 960H cameras for virtually the same price. FLIR's M3100 & M3200 Series DVRs can be used with 1.0-1.3MP cameras to provide crisp, vibrant 720p images that are rich with details. Furthermore, compatibility with 2.1MP cameras allows these DVR models to support full 1080p HD at 15 fps.

The M4200 & M4400 Series DVRs provide 1080p resolution in real-time (30fps) on all channels, as well as interchangeable settings to enable compatibility with standard 960H analog cameras.

Which type of applications is MPX best suited for?

MPX offers a hassle-free upgrade for standard definition systems as well as a cost-effective HD surveillance solution for first-time customers. For customers with existing coax cabling (such as RG59 / RG6) from a previous installation, they can be upgraded to an HD system without running new cabling.

Due to its relatively low cost and high-quality performance, MPX is an ideal solution for businesses or residences – from single system installations to large-scale surveillance projects. Extended cable run distances make MPX suitable for large buildings such as factories or warehouses. MPX DVRs are available in 4, 8, and 16-channel configurations to facilitate projects of any magnitude. Use the free FLIR Cloud™ CMS to view multiple MPX systems from a centralized location.

How is MPX different from 960H analog & IP?

MPX provides HD picture quality that is a vast improvement over 960H analog systems. MPX also features streamlined, single cable per camera installation. Traditional analog systems required special cabling to facilitate audio and PTZ control, which added substantial cost and time to installation. MPX simplifies this process by transmitting 3 signal types over the same single coax cable run – HD video, 2-way audio and UTC control for PTZ cameras and OSD menus.

12x and 30x PTZ MPX cameras

Current IP camera systems feature comparable video performance and image clarity to MPX systems, but with a degree of added complexity. MPX is truly a plug-and-play solution in any environment. No network troubleshooting is required during initial installation. MPX cameras can also be installed up to 2300ft from the recorder with virtually no signal degradation, whereas an equivalent IP solution requires connection to a network switch for every 300ft of cable run. MPX video has zero latency, making it superior to IP systems that sometimes produce delayed, choppy video due to latency.

What types of cabling and run lengths does MPX work with?

MPX allows a maximum cable run of up to 2300ft (700m) @ 720p or up to 2000ft (610m) @ 1080p, depending on the type of cable used (see below). It is required that the cable runs be made in a single run between camera and DVR, as daisy-chaining multiple cable runs together can prevent the DVR from getting a picture from the camera or may impact image quality.

MPX supports standard UTP baluns for use with CAT5E or CAT6 cabling in your installation. The baluns should have a 12V and BNC connection at both ends. You can run up to 300ft (91m) per segment of CAT5E or CAT6.

Cable Type	Maximum Run Length
RG59 20AWG Conductor 95% Braid CSA/UL or C(UL) approved	720p: Up to 1500ft (455m)* 1080p: Up to 1000ft (300m)
RG6 20AWG Conductor 95% Braid CSA/UL or C(UL) approved	720p: Up to 2300ft (700m)* 1080p: Up to 2000ft (600m)*
Analog CCTV Balun	720p: Up to 300ft (91m) 1080p: Up to 300ft (91m)

What kind of power supplies do MPX systems require?

A 12V power adapter is provided for the DVR. 12V / 24V power supplies for the cameras and extension cables are not provided with MPX cameras and must be purchased separately.

How does MPX perform at night?

MPX provides clear, detailed nighttime images for a premium HD surveillance solution at all times. In testing, MPX night vision outperforms HD-TVI both indoors and outdoors, producing brighter images with more detail. SmartIR technology allows FLIR MPX cameras to produce sharper, better focused nighttime images than HD-TVI.

Clear IR night vision capturing fireworks display

MPX offers extended cable runs up to 700m

How does MPX compare to previous HD CCTV technologies?

MPX overcomes many of the obstacles and limitations faced by first-generation HD CCTV technologies, such as HD-SDI. Like MPX, HD-SDI systems transmit uncompressed HD video along high-grade coax cabling, but with some complications in comparison to FLIR's MPX technology.

HD-SDI technology is an older HD standard with more limitations and less flexibility than MPX. First, HD-SDI cameras and recorders use digital signals exclusively, which means they are not compatible with analog surveillance products. HD-SDI cameras are limited to a maximum cable run of 300ft, whereas an MPX camera can be extended up to 2300ft from the recorder with a single cable run. The majority of MPX cameras and recorders support dual video standards for hassle-free integration into either MPX or analog security systems.

What are my options for remote viewing on MPX?

Remote access on MPX DVRs is revolutionary in its simplicity – it involves no complex networking steps, making it easy for end-users to manage and connect remotely. The simple three-step remote access setup on mobile devices is ready to use in less than two minutes. Simply download the free FLIR Cloud mobile app, scan the QR code on the MPX DVR, and create a secure password to connect and view live video. The FLIR Cloud mobile app eliminates the requirement for a computer – MPX makes port forwarding, router configuration, networking complications, and ISP hassles a thing of the past. This means less complication during installations as well as more reliable service to end-users.

Remote Viewing in 3 easy steps

For end-users who wish to view their cameras from a computer, the full-featured FLIR Cloud CMS enables convenient management of MPX cameras & DVRs from a PC or Mac with no recurring fees. Whether you prefer to monitor cameras from a desktop computer, a mobile device, or both, FLIR Cloud makes it simple.

Soon, the FLIR Cloud software platform will include new, advanced features, keeping your customers informed with smart analytics. Choose specific events to receive notifications for, and instantly receive alerts on your mobile device. The upcoming Region of Interest feature monitors specific areas of the camera's field of view, detects and differentiates humans and vehicles, and sends smart alerts when an event is detected. Customers will also have the option to upgrade to a premium seven or 30-day FLIR Cloud subscription package to get cloud-based video recording with analytics.

FLIR MPX Line-up

See the links below for more information on featured 4x4 and 8x8 MPX bundles, as well as the full product matrices for MPX cameras and DVRs:

- MPX 4x4 Bundle – 4ch, 1TB, 4x 1.0MP IR Dome Cameras
- MPX 8x8 Bundle – 8ch, 2TB, 8x 1.0MP IR Dome Cameras
- FLIR MPX Camera Matrix 2014
- FLIR MPX DVR Matrix 2014

What does the future hold for MPX?

In 2015, FLIR MPX is set to support 4K viewing and recording. With 4x the resolution of 1080p, future MPX products will represent the most cutting-edge HD surveillance product on the market, offering greater detail and picture clarity than any of its predecessors.

Furthermore, FLIR will introduce a hybrid IP/Analog/MPX Series of low-cost thermal cameras for integration of thermal technology into a future visible analog system.

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