



2 instead

OF



4 for more

**PLEX**  
TECHNOLOGY

- It's more of what you need.

# Introducing the next generation of multiplex...

# V-PLEX Security Technology

The world's best polling loop just got better with the next generation of multiplex... V-Plex from AIT!

With exciting new improvements and enhancements, plus all the benefits of backwards compatibility with earlier technologies, V-Plex delivers a powerful, new security technology — redefining price and performance for systems protecting life and property.

By utilizing two wires instead of four to power and connect all points of protection back to the control, V-Plex offers more...

### Reduced Costs

Our V-Plex Technology uses a two-wire polling loop that has significant advantages over home run wire and conventional four-wire multiplex. Each V-Plex sensor requires only two wires for power and data. This reduces the cost of installation since it requires less wire and labor while also eliminating the need for auxiliary power supplies.

### Reliable Operation

Connecting devices with two wires instead of four means there can be more than 60% fewer terminations. Fewer terminations reduce the chance for error, improve reliability, and reduce false alarms.

### Fast and Accurate Identification and Response

V-Plex lets you benefit from Point ID so you can quickly pinpoint the source of an alarm or trouble in plain English from the keypad. This lets you communicate that exact information to the proper authorities. It also provides greater system flexibility since you can bypass protection at any specific point.

### Quicker Service and Maintenance

Our smoke detectors incorporate new V-Plex technology to help save time and money on service and maintenance. Now, functional smoke detector testing can be initiated from a VISTA-100 system keypad with results automatically logged locally and at a remote monitoring center. This drastically reduces your system maintenance costs, every time you perform an annual test or inspection.

## V-PLEX GLASSBREAK DETECTORS



### 7500

- Mounts on wall or ceiling
- Dip switch programmable to set address
- 25' range



### 9500

- Dual technology detector senses audio and shock signal caused by the glass break event; providing added false alarm protection
- 25' range

## V-PLEX DOOR CONTACTS



### 4194WH Surface reed Magnetic Contacts

- Rugged "950" style Tuffact features
- Larger size allows standard gap of 1.25" (32mm)
- DIP switch programmable



### 4939SN Addressable Surface Mount Contact

- Traditional "39" style with snap on cover to conceal mounting screws
- Standard gap: 1.25" (32mm)
- 5' CL II jacketed cable



### 4959SN Addressable Overhead Door Contact

- Rugged aluminum housing and adjustable L bracket type magnet
- Standard gap: 2" (50.8mm)
- Tamper



### 4944SN Addressable Recessed Contact

- Popular press fit design conceals reed, Point ID module and Magnet in just 3/8" diameter case
- Available in white only

## V-PLEX PASSIVE INFRARED DETECTORS



### 4278EX-SN

- 40' x 50' coverage
- Serial number addressing
- Alternate Polarity Quad processing for improved false alarm immunity
- Tamper



### 998MX

- 50' x 50' coverage
- DIP switch addressing
- SMD construction for excellent RFI immunity
- Spare long range mirror
- Extremely low current
- Tamper



### 4275EX

- 35' x 45' coverage
- DIP switch addressing
- SMD construction for excellent RFI immunity
- Tamper



### 4278-EX

- 40' x 50' coverage
- Serial number addressing
- Alternate Polarity Quad processing for improved false alarm immunity
- Tamper

## V-PLEX SMOKE DETECTORS



### 4192SD

- One piece photo-electric smoke detector
- DIP switch programmable



### 4192CP

- One piece ionization smoke detector
- DIP switch programmable



### 4192SDT

- One piece photo-electric smoke detector with 135°F (57°C) heat sensor
- DIP switch programmable

## V-PLEX INTERFACE DEVICES



### 4193SN

- Micro-miniature two zone V-Plex adapter
- Makes any hardwired device V-Plex ready
- Built-in serial number for addressing
- One supervised, one unsupervised zone



### 4208U

- Remote 8 zone interface module
- Supports both DIP switch and serial number applications



### 4190WH

- Dip switch programmable
- Left Zone-EOLR supervised, open or closed circuit sensors
- Right Zone-unsupervised, closed circuit sensors



### 4293SN

- Micro-miniature V-Plex adapter
- Makes any hardwired device V-Plex ready
- Built-in serial number addressing
- One unsupervised zone

## V-PLEX ACCESSORIES



### 4209U

- Supports up to 64 2-wire smoke detectors using only 2 or 4 V-Plex addresses
- 2 or 4 loop selectable
- Supports either dip switch or serial number applications



### 4297

- Isolates & protects different areas of protection from each other
- Extends loop distance
- Fully supervised
- Separate DC input, no loop current drain

## Exciting New Innovations

Our new V-Plex technology offers many new and exciting innovations, while fully supporting our previous generation of multiplex products. Just a few of these new capabilities include:

### NEW

- A patented V-Plex polling scheme provides the world's fastest response when any single device on the system goes into alarm or trouble, even when the system is loaded to its maximum capacity.

### NEW

- A new loop isolation capability can isolate different areas of the polling loop so that a failure of a device or wiring in one area can never compromise protection in another area of the system. This capability is very effective in isolating fire from burglary protection on combination systems. By isolating multiple fire detection areas from each other, this feature also provides greater reliability and protection in a large fire system.

### NEW

- A new family of micro-miniature V-Plex sensors adds to the world's largest family of two-wire sensors. This includes a new micro-miniature V-Plex adapter that can make any hardwired device V-Plex ready.

### NEW

- A new group-zoning module, using traditional two-wire smoke detectors, greatly increases the smoke detector capacity of our fire detection systems.

### NEW

- A new family of intelligent smoke detectors and an automatic smoke detector test capability greatly simplifies annual tests and inspections, while also cutting costs.

# V-PLEX SECURITY TECHNOLOGY

## Redefining Price and Performance on a simple twisted pair of wires.

Increased V-Plex loop power allows V-Plex loops to grow up to 8,800 feet in length to protect even the largest commercial facilities.

Intelligent 4192 series V-Plex smoke detectors and an automatic smoke detector test capability greatly simplify the process of performing annual tests and inspections, and reduce cost.

V-Plex provides the world's widest range of two-wire sensors, which includes devices like our 4959SN overhead door contact with armored cable.

Factory-configured serial numbers in many V-Plex sensors eliminate the need for dip switch addressing which simplifies and speeds system set-up.

V-Plex is a free topology technology which greatly simplifies installation. V-Plex can be installed as a single loop, in a star configuration, T-tapped or in any combination using a simple, twisted pair of wires.

The new 4297 V-Plex polling loop isolation protects different areas of protection from each other. For example, a failure of a burglary device or wiring in the system below can never compromise operation of the fire protection function. As many different areas as desired can be isolated... even multiple fire protection areas from each other.

V-Plex Interface Adapters, like the 4208U and 4190WH, allow simple connection of customer-furnished equipment and other non-V-Plex sensors to the system.

Ademco's Universal System Technology (UST) allows any combination of wireless and hardwired devices to be used in conjunction with V-Plex in a single system. On QED control panels, UST allows integration of powerful devices like our 5808 wireless smoke detectors - approved for use in UL864 commercial applications.

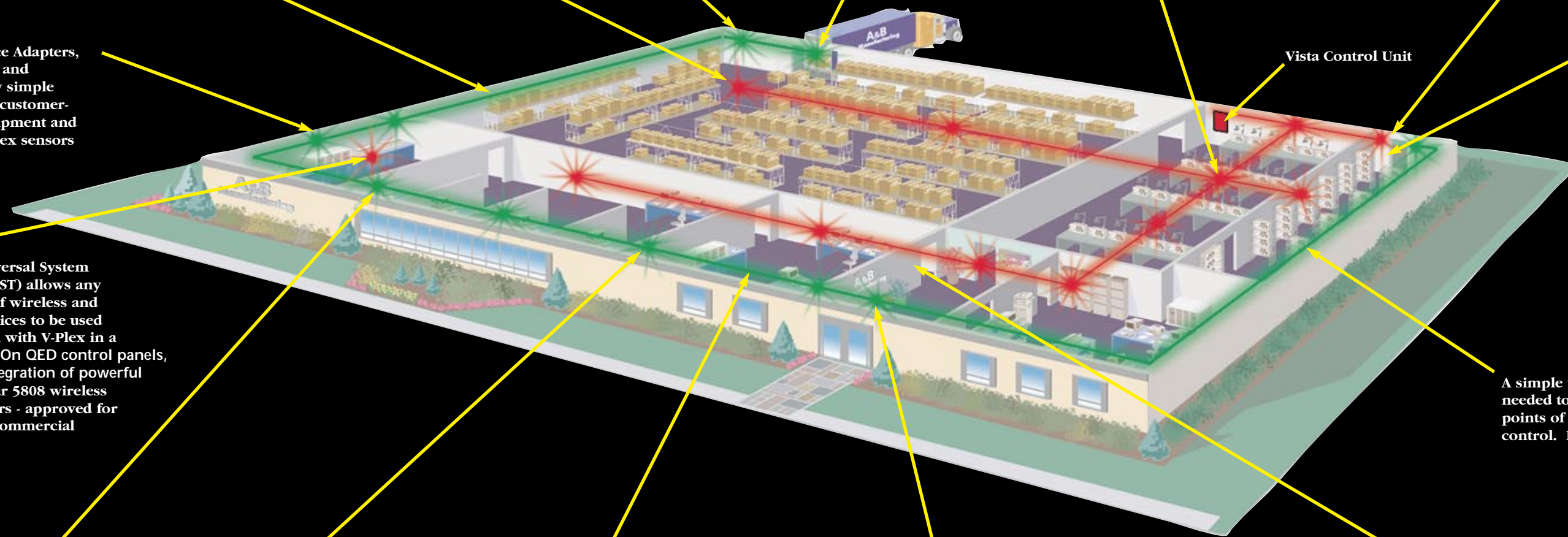
V-Plex supervised and intelligent sensors, like the 9500 dual technology glassbreak detector, provide the highest level of protection while reducing false alarms.

V-Plex ultra low current sensor design provide greater expansion out of the box greatly simplifying system design and eliminating the need for external power supplies.

The V-Plex patented global polling scheme provides the fastest response when any single device on the system goes into alarm — even on a fully-loaded system.

V-Plex sensors, like the 4944SN recessed mounted door contacts, are as small and compact as traditional sensors and provide simple solutions for even the most aesthetically-demanding application.

V-Plex technology provides quick and clear Point Identification of system alarms and troubles. V-Plex Point ID speeds emergency response, quickly identifies problems to service and eliminates any guesswork or confusion — making it easy to use for the operator.

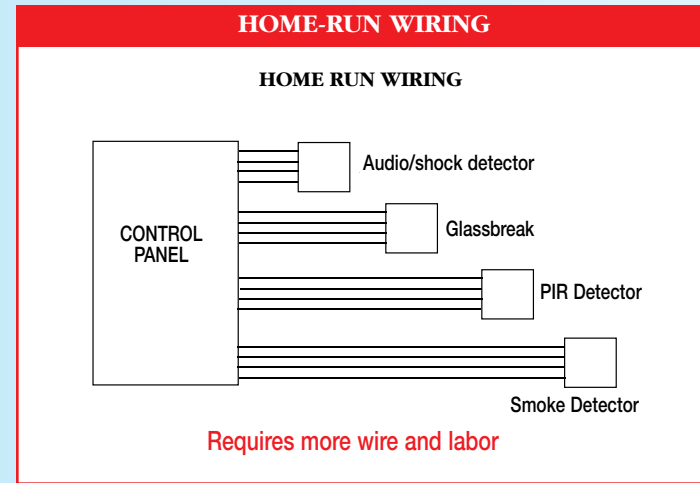


Micro-miniature V-Plex adapters, like the 4193SN, provide a simple way to connect traditional hard-wired devices to the V-Plex loop. These adapters are small enough to fit inside most devices and are approved for commercial fire rated applications.

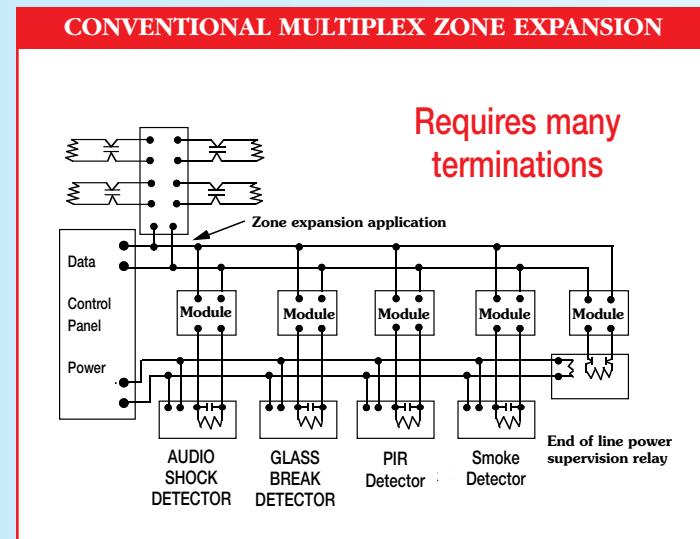
A simple twisted pair is all that's needed to power and connect all points of protection back to the control. No shielding is required.

## The Options...

**Home run wiring** is a choice for applications of under 7,500 square feet. This choice requires significant cost in wire, labor to run wire and make terminations in fire or burglary systems.



**4-wire multiplex.** Conventional multiplex can be expensive to install because 12 points of connection per detector are needed. In addition, the power itself must be supervised.



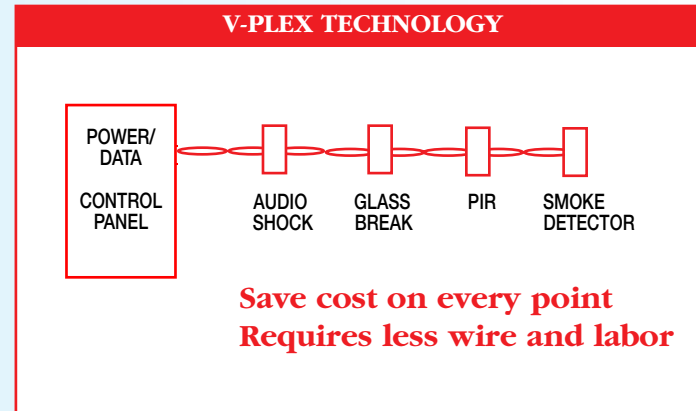
Additional wiring terminations (up to 12) tend to increase installation costs, compromise system wiring and reliability, and cause false alarm problems.

Definition: Multiplex...the ability to send simultaneous messages over a common or single channel.

...Webster

## Ademco V-PLEX Technology - the best solution.

The most cost effective method is to choose intelligent fire and burglary devices and install them on a 2-wire V-Plex loop. THIS SIMPLE 2-WIRE LOOP PROVIDES BOTH POWER AND DATA TO THE CONTROL. Utilizing intelligent V-PLEX devices on the loop, you get the benefits of POINT ID AND WIRING SIMPLICITY. Significant savings are achieved through lower wire cost, labor to run the wire, and labor connected with termination. The simplicity also greatly reduces the risk of installation errors.



## ADDED VALUE

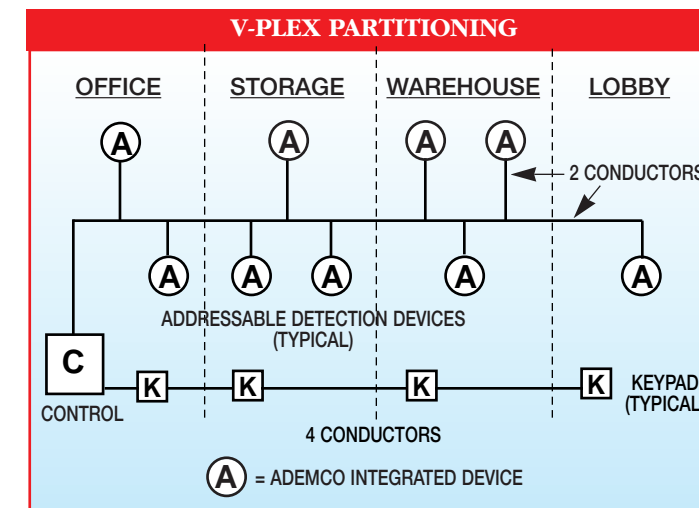
There are other value-added features that widen your winning-edge lead with V-PLEX Technology.

- PINPOINTS THE EXACT LOCATION of either intrusion or fire. This speeds the appropriate emergency response.
- REDUCES SERVICE COSTS. Any problem is identified through either the central station or your downloader. You know what the problem is, where it is and what tools are needed for servicing.
- CUSTOMERS CAN IDENTIFY ANY FAULTED POINT, eliminating guesswork and confusion, making it easy to use.

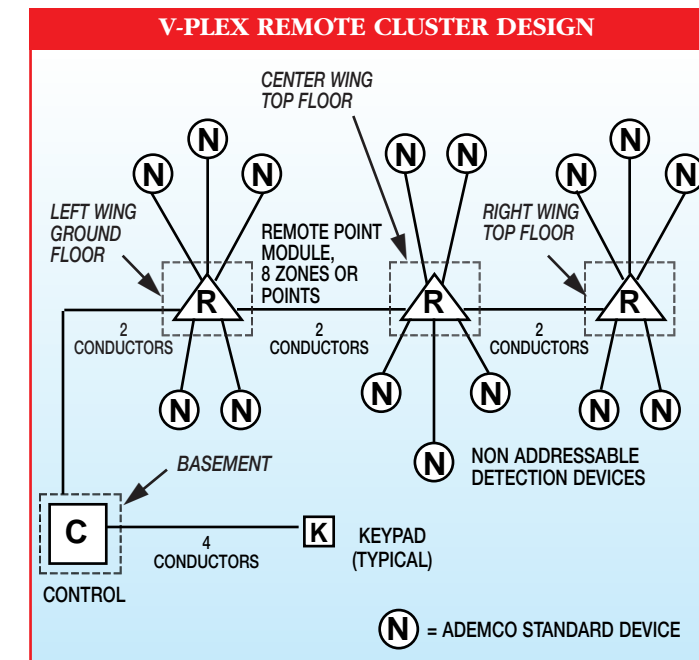
**This approach provides you the opportunity to install a point ID system at no price penalty and with the lowest labor cost.**

## Applications...

Flexible PARTITIONING requirements can be accommodated through the V-PLEX 2-wire loop run. The example shown applies to controls used for commercial fire and burglary applications.



Unique CLUSTERING STAR DESIGN can be used if desired to link multiple areas and sensors to each other.

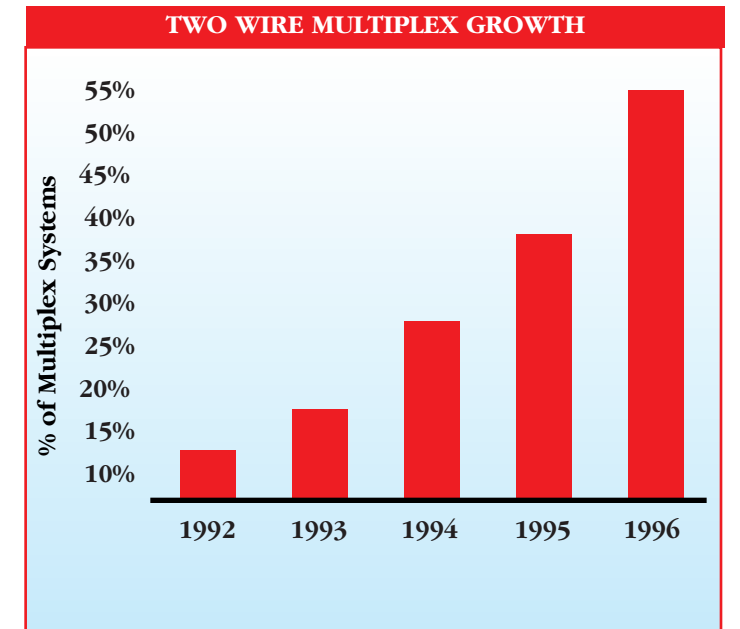


Powerful POINT ID is inherent in either approach and provides efficient use of equipment for single point requirements and total design efficiency.

V-PLEX Technology's Winning Edge provides a practical solution to escalating installation costs for a wide variety of applications.

## The Trends...

The growing acceptance of 2-wire multiplex has been significant. V-Plex technology — Ademco's new generation multiplex — continues to build on this success with exciting new capabilities for security and protection.



## Some V-Plex Wiring Facts

V-Plex is a free topology technology, allowing wiring to be installed as a single loop, in a star configuration, T-tapped or any combination, using a single pair of wires. Twisted pair wire is recommended. Shielded wire is not required, however if it is used, the maximum wiring length is reduced by 50%.

V-Plex Technology is supported on the following ADEMCO Systems:

ADEMCO VISTA Control/Communicator	Standard V-Plex Loop Distance	Expanded V-Plex Loop Distance
VISTA-100-24	4,000 ft.	8,800 ft.
VISTA-100	4,000 ft.	8,800 ft.
VISTA-50P	4,000 ft.	8,800 ft.
VISTA-50PUL	4,000 ft.	8,800 ft.
VISTA-40	4,000 ft.	8,800 ft.
5140XM	4,000 ft.	5,200 ft.
5140XM-24	4,000 ft.	5,200 ft.



— It's more of what you need.

### ***Functional Description***

V-Plex technology is a unique 2-wire multiplex system designed and patented by ADEMCO for use in the security industry. When implemented, V-Plex allows multiple sensors and other devices to be both powered and monitored via the same 2-wire (twisted pair) bus.

The V-Plex baseband communication signals are configured in such a way that the security control unit can effectively maintain DC power for the devices as well as communicate bi-directional data. Each V-Plex device is uniquely identified by the alarm panel and can serve a variety of functions.

The security control panel repeatedly and continuously polls every V-Plex device using both a conventional "point to point" poll in addition to a new method known as global polling. This patented method allows the security control unit to respond to a faulted V-Plex device in less than 0.1 second, regardless of the number of modules on the bus.

Multiple simultaneous responses to a global poll are handled using an innovative new

method of "contention-based address selection", which prevents the loss of data due to "clashing" of signals.

Individual V-Plex devices are identified by their address, which is a unique serial number assigned to it during manufacturing. Older ADEMCO multiplex devices which use dip switches to set their address are still supported by the system during the "point to point" poll. Some devices allow the use of either the dip switch addressing or factory serial number addressing, however, to take full advantage of the speed of global polling it is recommended that these devices be used in the "serial number" mode only.

Wire length limitations are based upon the internal resistance and capacitance of the wire itself. The gauge of the wire, shielding, and location of the run are all factors that determine maximum length. When implemented a bus with a total length of 8800 feet can be achieved.



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[www.ademco.com](http://www.ademco.com)