

# AlphaVision

## AlphaVision PC



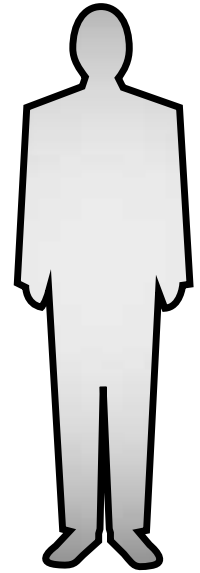
**Embedded PC**

**Graphical LED Displays**

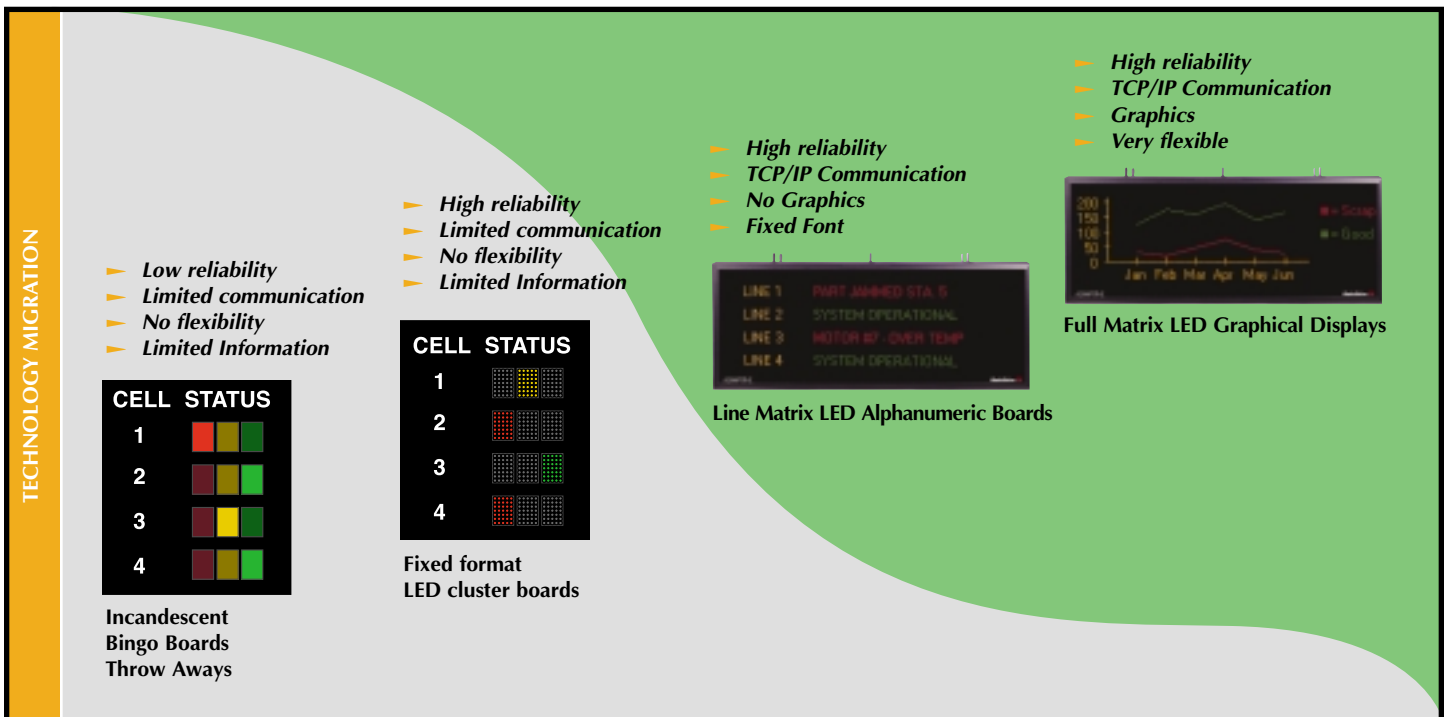
## PRODUCT OVERVIEW

Adaptive Micro Systems is proud to present the new AlphaVision™ PC family of LED alphanumeric and graphical displays. What makes this product line unique is its combination of screen configuration flexibility, system integration and ease of use. This standard product family does not require custom proprietary protocols to operate and comes ready to use from the factory.

The AlphaVision PC product family is controlled by a Pentium processor and utilizes the Windows CE operating system. Whether your application requires integration into an existing Human Machine Interface (HMI) software program or your own custom information system, the AlphaVision PC is quickly adaptable. This product family is available in single-sided or back-to-back configurations and is designed to meet NEMA 12.



## ANDON BOARD TECHNOLOGY MIGRATION



30 YEARS AGO

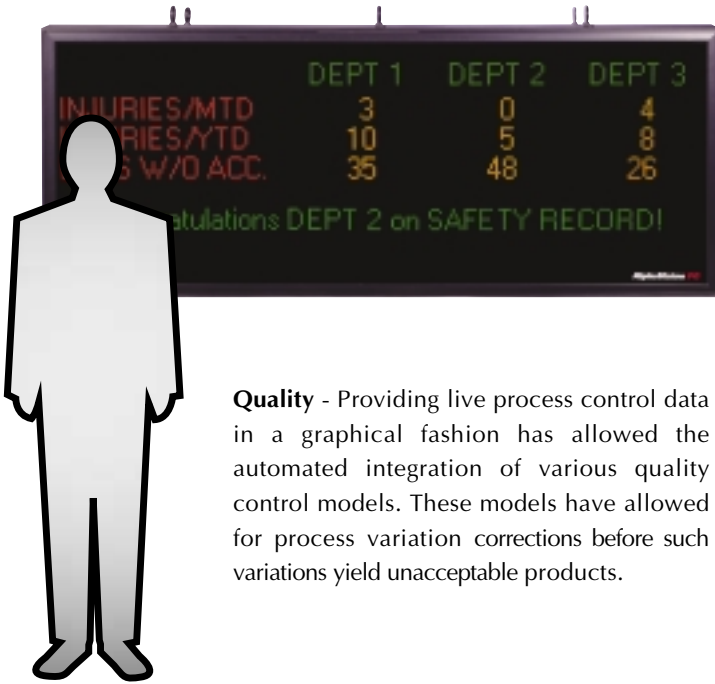
10 YEARS AGO

3 YEARS AGO

TODAY

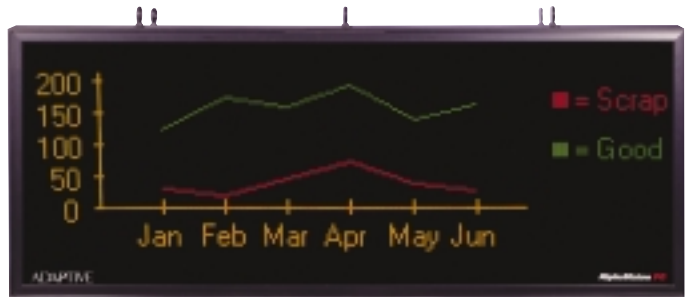
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**Quality** - Providing live process control data in a graphical fashion has allowed the automated integration of various quality control models. These models have allowed for process variation corrections before such variations yield unacceptable products.

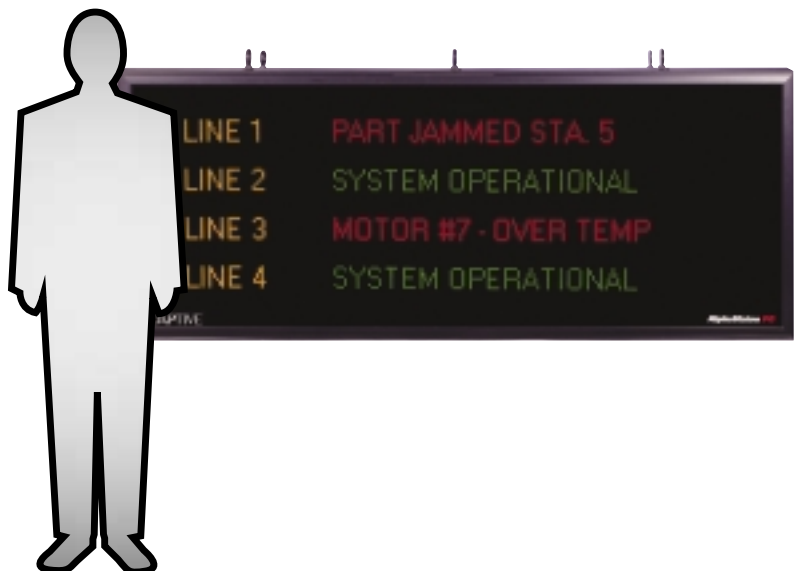
**Safety** - Many customers have elected to utilize the full matrix graphics capabilities in conjunction with building environmental systems to present emergency information to employees. This has lowered insurance rates at some companies and increased worker union's satisfaction levels.



**Productivity** - Making sure parts bins are properly filled and work cells are fully operational have traditionally been the key focus elements for ANDON displays. Today, more types of operations data are required. Maintenance information, forklift operator directions and material flow gains are all achievable with the integration and real-time presentation of critical processes and machine condition information.



**Efficiency** - Maintenance managers find graphical displays very useful in presenting machine fault and station alarm information. Pictorial or electrical schematic information can quickly be displayed for quick repair or placement, maximizing production line up time. Installation, set-up and configuration are easily accomplished because the AlphaVision PC integrates into your existing information architectures. Easy reconfiguration for process changes allows for enhanced operational efficiencies.



## SIMPLE SYSTEM INTEGRATION

The AlphaVision PC family of displays can be easily supported by both plant operations and information systems support personnel. In today's highly aggressive manufacturing environment, quick process line changes and long term product integration capabilities are proving to become very challenging.

Many manufacturing facilities are faced with the task of presenting critical safety, production and quality information from multiple sources onto large LED displays. Until now, this meant having to deal with custom protocols, complicated communication networks and non-user friendly software. Maintaining and supporting these multiple networks have proven to be very cumbersome and time consuming. The

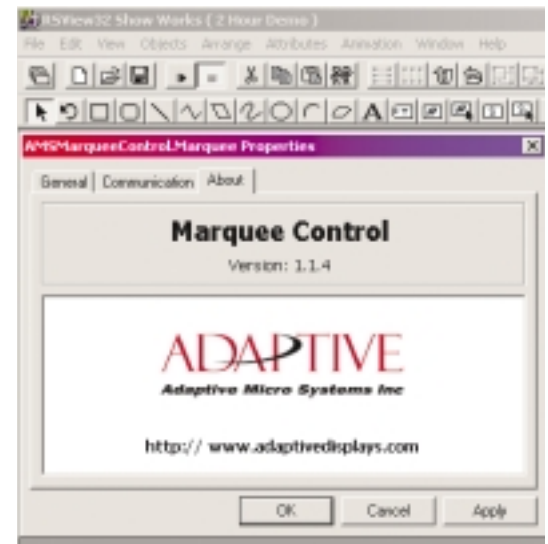
AlphaVision PC product line was designed with these concerns in mind. Based on Internet Technology, the TCP/IP physical connection with Ethernet integrates easily into your existing LAN infrastructure. Our ActiveX component easily integrates into your existing HMI's.



## SOFTWARE INTERFACE

The AlphaVision PC can be easily programmed using our standard AlphaVision PC ActiveX software package. With the available ActiveX components, the AlphaVision PC can connect to any existing operating system running an HMI program that acts as an ActiveX container. In addition to HMI's, MicroSoft's Visual Basic™, Visual C++™, Excel™, Word™, and more are also directly portable to the AlphaVision PC family. Our "Screen Capture" software interface acts as an ActiveX component, which runs with your existing ActiveX container. Using this architecture, programming screen changes can be configured as "event based" which means enhanced serial traffic throughput and no re-development of existing logic or control systems.

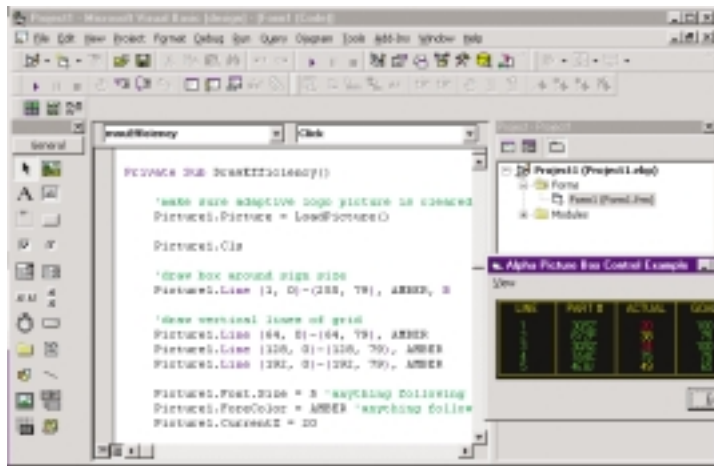
This simple but flexible software interface allows for easy IP addressing and can pass data from Microsoft Excel, data from ODBC sources, web browsers as well as audio files. Whatever data your existing HMI can produce can be directly ported to the AlphaVision PC regardless of the file type. Therefore through the use of screen capture technology, any HTML, JAVA, JPEG, GIF, DOC, XLS, or other file formats are all accepted through our ActiveX component.



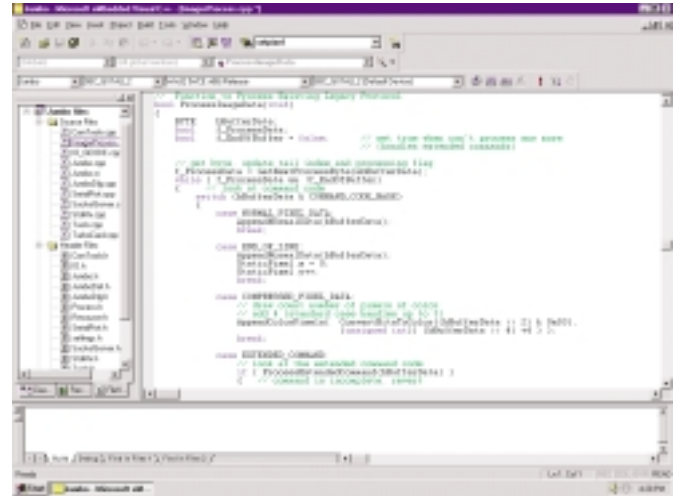
RSView Edit Screen and our ActiveX configuration screen.

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For those programmers that require more specific screen definitions and do not wish to capture an existing HMI screen, another ActiveX component using Microsoft's "Picture Box" technology is available. With this ActiveX component, you can develop custom screens using geometric shapes, grids, graphs and of course, alphanumeric text.

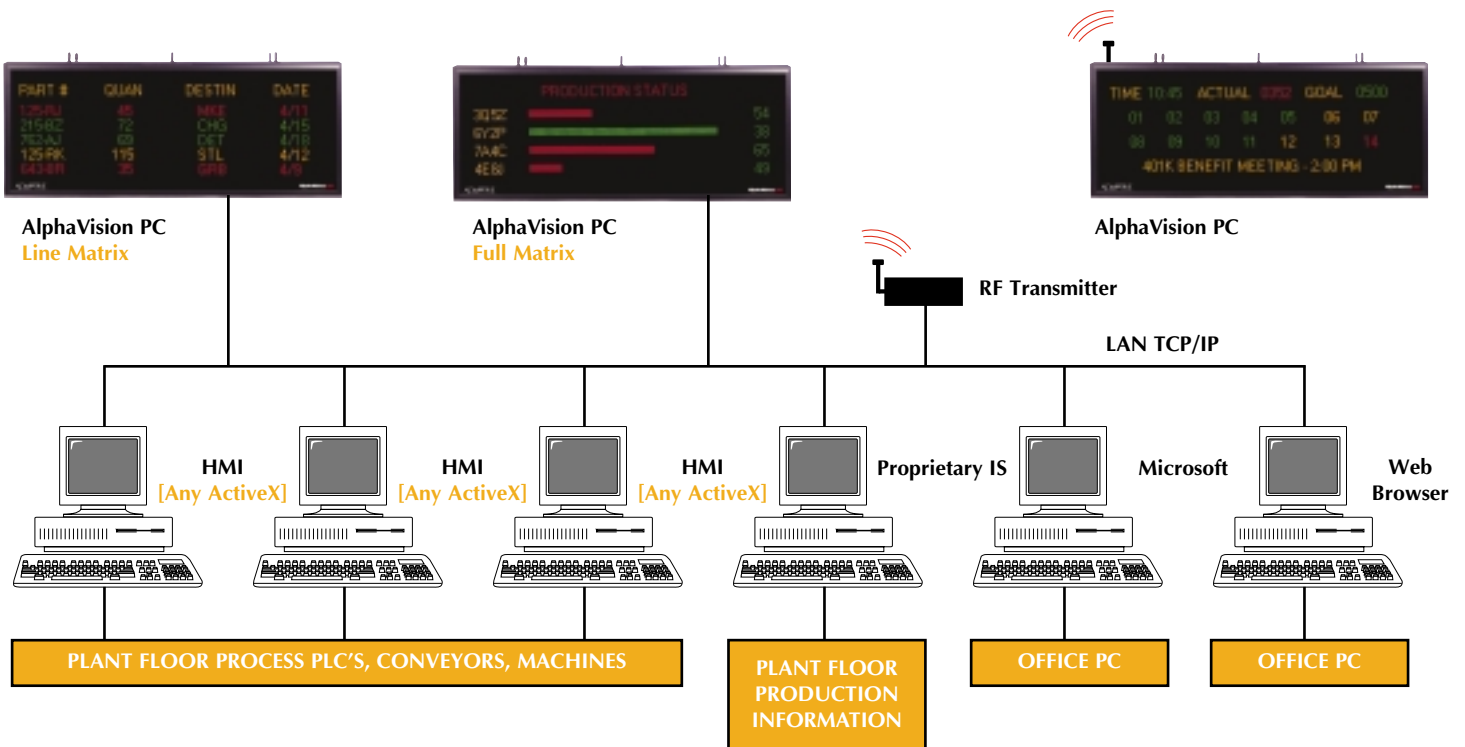


Example of a Microsoft Visual Basic application using the Picture Box Control.

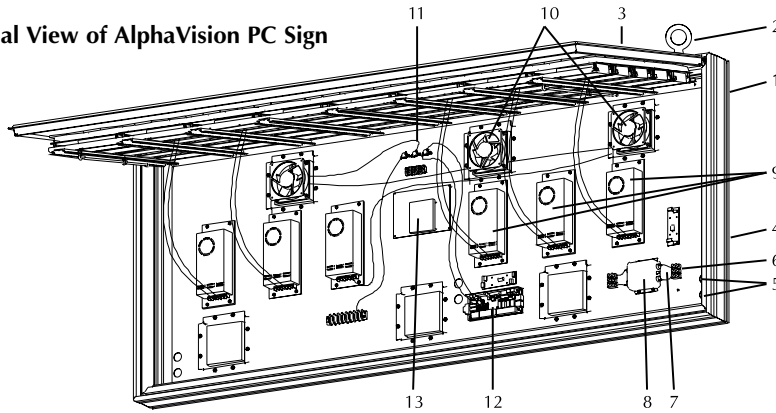


Microsoft Visual C++ workstation viewing AlphaVision PC source code. This particular window shows a custom protocol implementation.

Also available is a Software Developer's Kit for those who need complete control of the sign's operating system. This product provides complete details on how to use the included software libraries to talk to the sign hardware. Integrators are capable of writing custom applications, integrating to legacy protocols and much more.



### Internal View of AlphaVision PC Sign



Shown is an 8-line (256 x 80 matrix) sign  
Other sign sizes are similar.

ITEMS	FEATURES	BENEFITS
1	NEMA 12 aluminum enclosure	Rugged lightweight industrial design.
2	Mounting eyebolts	Does not require separate mounting frame.
3	Anti-glare plexiglass cover	Sharp/bright viewing under various lighting conditions.
4	Hinged rail system	Fully front accessible.
5	Power and communication entry	Easy entry close to internal terminations.
6	Power wiring block	Easy NEMA style wiring blocks for secure terminations.
7	Built in surge suppressors	Voltage transient protection.
8	EMI filter	Meets FCC requirements for emissions.
9	DC power supplies	Robust and supports both 110/220VAC inputs.
10	DC fans	Turns on when built in thermostats trigger them.
11	3 Qty. thermostats	Protects display from heat stress.
12	Interface board – 120VAC outputs	4 qty. programmable 5 AMP relay outputs.
	Interface board – TCP/IP RJ45	Built-in Ethernet using internet technology.
	Interface board – 25 Watt quad AMP	Drives up to 4 qty. 2 Watt speakers.
	Interface board – RS232/422/485	Multiple serial ports for direct serial connections.
13	PC Board – Windows CE	Non-propriety, open Microsoft software compliant.
	PC Board – 16MB Flash, 32MB RAM	Can store dozens of screens.
	PC Board – Battery backed clock	Real-time clock offers date and time capabilities.

	FEATURES	BENEFITS
✓	Line matrix product family	Cost effective configurable alphanumeric solution.
✓	Full matrix product family	Widest array of full graphics boards available.
✓	Single-sided product family	Uni-directional process data presentation.
✓	Back-to-back product family	Bi-directional process data presentation.
✓	Tri-color – red, green and amber	Differentiates message type by color.
✓	Screen capture ActiveX component	Allows for easy integration into existing HMI's.
✓	Picture Box ActiveX component	Allows for custom shape graph configuration.
✓	Software developers toolkit	Allows for custom protocol/system requirements.

## ALPHAVISION PC FULL MATRIX SPECIFICATIONS

<b>Enclosure:</b>	NEMA 12 designed extruded aluminum, front accessible
<b>LED Color:</b>	Tri-color (red, green, amber)
<b>Pixel Pitch:</b>	0.3" (0.8 cm)
<b>Character Size:</b>	User selectable (varies based on display size selected)
<b>Embedded PC:</b>	300 Mhz Pentium
<b>Operating System:</b>	Windows® CE 3.0
<b>Memory:</b>	32 MB RAM, 16 MB Flash
<b>Communication Ports:</b>	(3) 9-pin DB RS232, (1) 9-pin DB RS232/485/422 (1) RS45 10/100BaseT Ethernet
<b>Operating Temperature:</b>	32° to 120°F, (0° to 50°C)
<b>Humidity:</b>	0% to 95% Non-condensing
<b>Input Power:</b>	100-132 VAC, 60 Hz 200-252 VAC, 50 Hz Autoranging
<b>Agency Approvals:</b>	-ETL -CE Marked -FCC Part 15 Class A
<b>Output Relay:</b>	4 Quantity 5 AMP 120 VAC output relays
<b>Sound Card:</b>	16-bit Creative Sound Blaster®
<b>Display Configurations:</b>	Single-sided or back-to-back
<b>Mounting:</b>	Wall mount and suspended mounting standard

## ALPHAVISION LINE MATRIX SPECIFICATIONS

<b>Enclosure:</b>	NEMA 12 designed extruded aluminum, front accessible
<b>LED Color:</b>	Tri-color (red, green, amber)
<b>Pixel Pitch:</b>	0.57" (1.45 cm)
<b>Character Size:</b>	4" Characters
<b>Embedded PC:</b>	300 Mhz Pentium
<b>Operating System:</b>	Windows® CE 3.0
<b>Memory:</b>	32 MB RAM, 16 MB Flash
<b>Communication Ports:</b>	(3) 9-pin DB RS232, (1) 9-pin DB RS232/485/422 (1) RS45 10/100BaseT Ethernet
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### Full Matrix Sizes:

smallest unit = 160 x 48 pixels (equivalent to approximately 3 lines and (17) 4" characters)

largest unit = 384 x 176 pixels (equivalent to approximately 11 lines and (42) 4" characters)

### Line Matrix Sizes:

smallest unit = 3 lines x 120 columns (equivalent to approximately 3 lines of (20) 4" characters)

largest unit = 8 lines of 240 columns (equivalent to approximately 8 lines of (40) 4" characters)