

# *Vision 21* Supervisory System



## Description

Wherever fast, accurate signaling from remote locations is critical; a Signal Communications Radio System is the right decision. The *Vision 21* Supervisory System is the central piece of a versatile monitoring and control setup. A modular design, along with easily programmable features, allows the *Vision 21* Supervisory System to be uniquely tailored for any installation.

While powerful features and options enable the range of operation to cover any sized region, the straightforward operation makes the *Vision 21* ideal for an application as small as a single building. From municipal fire alarms to military aircraft hangers and barracks, industrial complexes and highway emergency systems, Signal Communications provides reliable solutions, backed by round-the-clock expert technical support.

## Operation

The *Vision 21* is easy to operate and requires minimal training. The layout of the System Processor keypad is logically grouped and makes use of colored keys to highlight frequently used functions. The displays are highly visible with a viewing angle of 150°, unlike the limited viewing of LCDs.

Operating procedures are structured in an organized hierarchy. This, along with activity summaries appearing on the display, eliminates the need for memorizing arcane codes and procedures.

Up to twenty operator login names and passwords are stored in the System Processor. Various operator activities may be password protected by the four password levels.

The System Processor may operate in one of two modes; Dispatch or Logging Mode. Dispatch Mode sets the *Vision 21* as the primary call processing center. Logging Mode sets the *Vision 21* as a decoding center with call information passing to another device through an RS-232 cable. This allows the primary processing to be done on a computer with greater database capabilities.

Built-in diagnostics target hardware problems in both the *Vision 21* and remote Master Boxes. Common hardware problems, such as a low battery or disconnected cable between modules, are continuously monitored. Master Box troubles and missing self tests are tracked by the System Processor, reducing maintenance time.

## Features

- Approved for NFPA 72  
- Chapters 8 & 9
- Modular Design for Flexible Configurations
- Built-in Diagnostics
- Processes Radio & Hardwired Signals
- Calls Automatically Prioritized
- Monitors 1,000 Devices  
- option for thousands more
- Interfaces with:
  - Rapid Response
  - WinPatrol CAD Software
- Multi-Level Password Protection
- Programmable Relays for External Control
- Selectable Operating Modes
- Includes Off-Line Database Management Software
- Mass Notification System  
- IR/NS



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## Components

The *Vision 21* is designed to be highly modular. From the use of PC (personal computer) styled plug-in cards to the placement of mounted components within easy reach, the integrated mechanical, electrical, and software design simplifies any system changes, upgrades, and service needs.

The basic *Vision 21* Supervisory System consists of three interconnected modules:

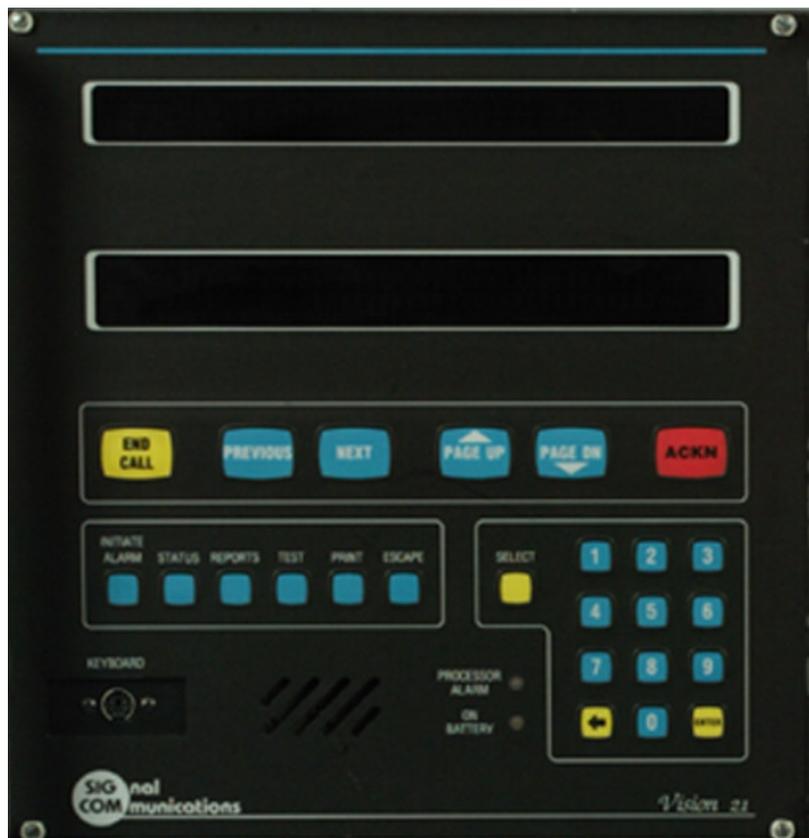
- System Processor
- Radio Module
- Charger Module

The System Processor continuously monitors any change to the hardware setup, including the status of key operating elements, such as backup power and module connections. Any changes are automatically reported.

Modules are mountable in standard 19" rack. Interconnections are accessible on the back of each unit, allowing units to be mounted in separate housings. A desktop housing is also available when space is limited. Mounting slides enable servicing with the module remaining in operation.

### Applications:

- *Fire Protection*
- *Security*
- *Industrial*
- *Environmental Control*
- *Motorist Aid*
- *Mass Notification*



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### **System Processor**

The *Vision 21* System Processor is the central piece of the Supervisory System. A microprocessor based module, the System Processor provides an operator interface and is responsible for decoding all incoming information, including monitoring system troubles.

The front panel of the System Processor includes two vacuum-fluorescent displays and a touchpad. All system functions are controlled through the front panel. For database editing, a keyboard may be connected.

To notify the operator of an alarm or trouble condition, the System Processor uses audible annunciators. Several tone combinations are available, allowing each priority to be assigned a different annunciator.

An on-board logging printer records all events and operator actions. Paper replacement of the on-board printer is quick and requires no tools. A Printer Buffer automatically stores logging information while the printer is off-line. An external printer may be connected to one of the available ports.

### **Radio Module**

The *Vision 21* Radio Module includes two units; the Receiver Unit and Interrogation Unit.

The **Receiver Unit** receives and demodulates the incoming FM radio signals. A high-sensitivity receiver is incorporated in the unit, specially designed for reception of distant alarm signals. Two receivers can be placed in a single unit to ensure system integrity.

Features of the Receiver Unit include:

- Remote radio channel test and self test transmitter
- Front panel LEDs for power and transmitter status
- Signal strength meter
- RF activity alarm and LED
- RF carrier presence LED
- Speaker with volume control

The **Interrogation Unit** is an option used in systems which employ Command & Control Master Boxes. Signals are sent from the Interrogation Unit to the Master Box. These signals initiate Master Box self tests and control relays.

### **Charger Module**

The Charger Module provides 24 Volt backup power to the *Vision 21* Supervisory System. Depending on the selected option, the Charger Module supplies up to 72 hours of backup power.

Once a minute, the battery voltage is tested under load providing a more accurate reading than a simple voltage measurement.

A current sensing circuit controls the rate of charge. When the battery is fully charged the over-voltage protection is activated.



## Specifications

### System Processor

Power Supply:	0.5 Amps (max.) @ 110 VAC, 60 Hz
Operating Voltage:	24 Volts
Standby Current:	0.75 Amps @ 24 VDC
Battery Back-Up Time:	24 Hours nominal; 12, 48 & 72 Hours Available
Back-Up Battery Size:	24 V, 26 AH (24 Hour Back-Up)
Individual Points Supported:	1,000 min.; up to 10,000 w/Memory Option
Maximum Number of Boxes:	500 per Channel per NFPA
Communications Ports:	4 Serial RS-232, 2 Parallel (min.)
Radio Decoding Channels:	2 Standard, 4 Optional
Operating Temperature:	32 <sup>o</sup> to 125 <sup>o</sup> F
Dimensions:	
Rack Mount:	10.47" h (6U) x 14" d, 19" EIA Rack
Desktop:	11.75" h x 19.75" w x 18" d
Weight:	
Rack Mount:	25 lbs
Desktop:	52 lbs

### Radio Module - Receiver Unit

Operating Voltage:	24 VDC nominal (from System Processor or External Source)
Power Consumption:	0.25 Amps (max.) @ 24 VDC
Number of Channels:	1 Standard, 2 max.
Operating Temperature:	32 <sup>o</sup> to 125 <sup>o</sup> F
Dimensions:	
Rack Mount:	5.22" h (3U) x 12" d, 19" EIA Rack
Desktop:	Can fit in with System Processor in a case with dimensions 17" h x 19.75" w x 18" d
Weight:	15 lbs (max.)

### Radio Module - Interrogation Unit

Operating Voltage:	24 VDC Nominal (from System Processor or External Source)
Power Consumption:	
Idle Mode:	20 mA @ 24 VDC
1 W Tx:	270 mA @ 24 VDC
2 W Tx:	450 mA @ 24 VDC
3 W Tx:	670 mA @ 24 VDC
Number of Channels:	1 Transmitter
Operating Temperature:	32 <sup>o</sup> to 125 <sup>o</sup> F
Dimensions:	5.22" h (3U) x 12" d, 19" EIA Rack
Weight:	7.5 lbs

### Charger Module

Power Supply:	110 VAC, 60 Hz
Power Consumption:	
Option 1:	1.3 Amps (max.) @ 110 VAC
Option 2:	2.3 Amps (max.) @ 110 VAC
Option 3:	4.1 Amps (max.) @ 110 VAC
Operating Voltage:	28 VDC nominal
Operating Temperature:	32 <sup>o</sup> to 125 <sup>o</sup> F
Dimensions:	
Rack Mount:	10.47" h (6U) x 5.62" d, 19" EIA Rack
Wall Mount:	10.47" h (6U) x 5.62" d x 19" w
Weight:	7.5 lbs

*Note:* The design team of Signal Communications is continuously enhancing the *Vision 21* Supervisory System. Customer requests for changes are typically incorporated into future versions of the *Vision 21*. As a result, the specifications and available options are always being updated. The values listed on this sheet may be outdated. Check with your Signal Communications representative to verify any critical specifications.



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