



www.GESecurity.com

Phoenix

Flexible Modular Fiber System

Overview

Phoenix is a modular fiber transport system that allows users to configure a system consisting of multiple video and audio, data signals, and contacts in a variety of topologies including point to point, linear and split linear, self healing ring, and mixed configurations in a drop/repeat/insert environment.

Outstanding Features

A Phoenix system can support 255 nodes, 16 duplex videos, 16 duplex audios, 16 duplex data streams, and 32 duplex contacts. Up to 16 full-frame, real-time video feeds can be distributed simultaneously across a network. Because the video is not compressed, each signal comes through the fiber as broadcast-quality images.

Audio and data can be transmitted across the same network in conjunction with video or separately. Phoenix accepts a wide range of audio levels and most data protocols and incorporates all GE Security fiber standards such as MSDV, MPD, HQA, OSD, BIT, and SMARTS.

Each card in the system is color-coded according to function, so it is simple to determine at a glance what each module does. The chassis is also color-coded for easy installation. In addition, the card connectors built in to the chassis are slightly different for each type of card, so a card cannot be inserted into the wrong position.

The Phoenix system supports virtually any type of fiber connection topology, from linear and split linear to self-healing ring, as well as combinations of all. Competing systems don't allow this kind of flexibility in network configuration.

Diagnostics are built in to the front panel of the Phoenix chassis to create a powerful monitoring system. An LCD screen and LEDs combine to give the user up-to-the-minute feedback on any card in the system, as well as information such as temperature and power supply voltages.

Routed via two single-mode fibers between nodes, Phoenix delivers a fast and economical security solution that is user-configurable and expandable.



Standard Features

- **Up to 16 duplex full frame/real time multistandard baseband video inputs**
- **Up to 16 duplex audio and 16 duplex multiprotocol data paths**
- **Up to 32 duplex contact closures**
- **Supports most fiber connection topologies**
- **Incorporates all GE Security fiber standards**
- **NTSC or PAL format**
- **Uses no compression for video**
- **Wide audio input and output ranges**
- **Routed via two single-mode fibers between nodes**
- **Small form factor – takes up just 2 rack units**
- **Easy to use, configure, and expand**
- **Cost-effective**

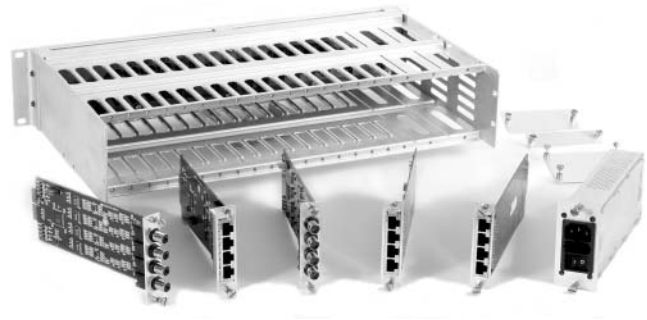
Phoenix

Flexible Modular Fiber System

Components in the Phoenix System

A Phoenix system may contain the following components:

- A8950CC card cage
- A8900VI video input module
- A8905VO video output module
- A8910MPD duplex data module
- A8920A duplex audio module
- A8930C duplex contacts
- A8957RP1 one-slot rear filler panel
- A8957RP4 four-slot rear filler panel
- A8972FLC fiber module with one transceiver
- A8974FLC fiber module with two transceivers
- A8960AC universal input AC power supply



General Specifications

Environmental

- Operating temperature: -40 to 167°F (-40 to 75°C)
- Storage temperature: -40 to 185°F (-40 to 85°C)
- Maximum humidity: 95% relative, noncondensing

Regulatory

- FCC Part 15 Class A
- CE ICES-003, AS/NZS 3548, EN55022, ENV50204, EN61000-4-2,3,4,5, 6,11
- UL 1950
- CAN/CSA 22.2 No. 950-95



A8950CC Card Cage

The aluminum Phoenix chassis consists of a 2U, 19-inch rack-mountable card cage that holds up to 19 plug-in cards – 16 individual modules, one fiber module, and two power supplies. A front panel provides menu navigation through an LCD display as well as status LEDs for network monitoring.

The chassis is color-coded – as is each module – so correct installation of the modules can be determined at a glance.

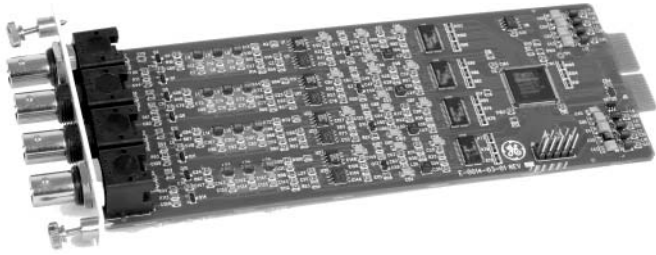
Removable mounting ears give the user four different options for installation. Besides typical installation into a regular rack space, the Phoenix chassis can be wall-mounted, top-mounted, or rear-mounted depending on how the ears are positioned.

A8950CC Specifications

Mechanical

- Number of individual module slots: 16
- Number of fiber slots: 1
- Number of power supply slots: 2
- Card orientation: Vertical or horizontal depending on how chassis is mounted
- Height, rack units: 2U
- Dimensions: 19.0 in. W x 3.5 in. H x 10.2 in. D (483 mm x 89 mm x 259 mm)
- Weight: 4.5 lb. (2.0 kg)
- Construction: Aluminum
- Finish: Clear alodine

A8900VI Video Input Module



The video input module occupies one video input slot and supports up to four NTSC/PAL input signals. Each chassis is capable of supporting up to four video input modules, for a total of 16 inputs per node.

The video input module utilizes 8-bit processing as well as a signal-to-noise ratio of > 55 dB that assures clean, noise-free video signals.

The card detects the presence of video for each channel and converts it from baseband to a digital signal. It can also transmit board status and details serially to the controller in the chassis's front panel, where a menu system gives the user options for increased functionality.

A8900VI Specifications

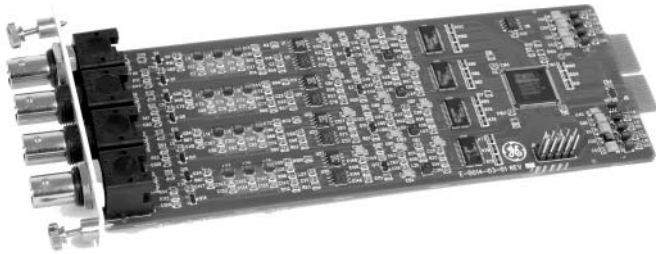
Video

- Channels: 4
- Formats: NTSC/PAL
- Input signal: 1.0 V p-p composite
- Signal-to-noise ratio: > 55 dB
- Resolution: > 520 TVL
- Input impedance: 75 ohms
- Differential phase: 0.7°
- Differential gain: 2%
- 8 bit AD
- Test signal: Video pattern

Mechanical

- Dimensions: 0.75 in. W x 3.30 in. H x 8.25 in. L (19 mm x 84 mm x 210 mm)
- Weight: 4.8 oz. (136 g)

A8905VO Video Output Module



The video output module occupies one video output slot can output up to four NTSC/PAL signals. Each node is capable of supporting up to four video output modules, for a total of 16 outputs per node.

The video input module utilizes 8-bit processing as well as a signal-to-noise ratio of > 55 dB that assures clean, noise-free video signals.

It can also transmit board status and details serially to the controller in the chassis's front panel, where a menu system gives the user options for increased functionality.

A8905VO Specifications

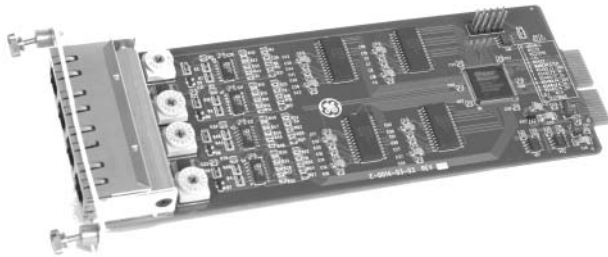
Video

- Channels: 4
- Formats: NTSC/PAL
- Output signal: 1.0 V p-p composite
- Signal-to-noise ratio: > 60 dB
- Resolution: > 520 TVL
- Output impedance: 75 ohms
- Differential phase: 0.7°
- Differential gain: 2%
- 8 bit AD
- Test signal: Video pattern

Mechanical

- Dimensions: 0.75 in. W x 3.30 in. H x 8.25 in. L (19 mm x 84 mm x 210 mm)
- Weight: 4.8 oz. (136 g)

A8910MPD Duplex Data Module

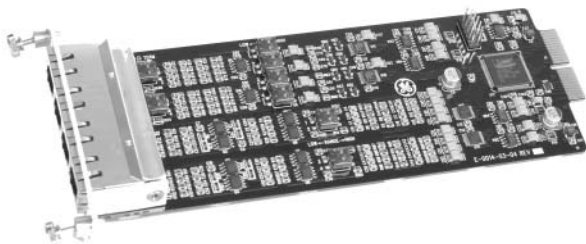


The data module occupies one data slot and can input and output up to four MPD data channels. Each node can support up to four data modules, for a total of 16 data channels.

Each data module has a rotary switch to select data format. Multiple connections and configurations will fit most data needs.

The data modules support built-in test pattern generation, and board status is transmitted serially to the controller in the chassis's front panel. The interface connector is four ganged RJ-45 connectors, but a breakout box with screw terminals is also included to give the user maximum flexibility in determining field wiring.

A8920A Duplex Audio Module



The audio module, which occupies one audio slot, can input and output four audio channels. Each node can support up to four audio modules for a total of 16 duplex audio channels.

The audio module will support audio test pattern generation and board status is transmitted serially to the controller in the chassis's front panel.

Each audio channel will have a selectable 600-ohm termination, as well as a high and low input range to accommodate input signals as great as +18dBu and maximizing signal-to-noise ratios for low volume inputs.

The interface connector is four ganged RJ-45 connectors. A breakout box with screw terminals is also included to give the user maximum flexibility in determining field wiring.

A8910MPD Specifications

Data

- Channels: 4 duplex
- Formats: RS-232 (3-wire/5-wire), TTL, RS-422 (2-wire/4-wire), RS-485, Manchester, Biphase, SensorNet
- Baud rate: DC to 512 kbps (depending on data format)
- Bit error rate: < 1.0E-9
- Test signal: Internally generated RS-485 signal

Mechanical

- Dimensions: 0.75 in. W x 3.30 in. H x 8.88 in. L (19 mm x 84 mm x 226 mm)
- Weight: 4.0 oz. (113 g)
- Connections: RJ-45 or factory-supplied breakout box

A8920A Specifications

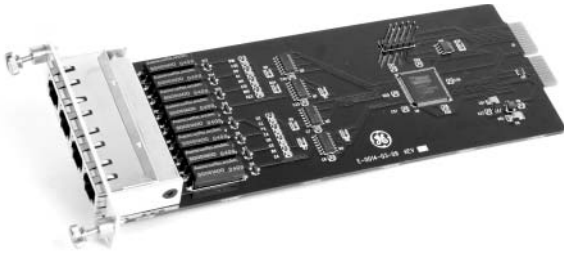
Audio

- Channels: 4 duplex
- Input signal: +8 dBm or +18 dBm maximum, switch-selectable
- Input impedance: > 30 KOhms or 600 ohms, switch-selectable
- Frequency response: 20-20 kHz
- Output signal level: +8 dBm or +18 dBm maximum, switch-selectable
- Output impedance: < 30 ohms unbalanced; < 60 ohms balanced
- Audio sampling rate: > 46.8 kHz
- Signal-to-noise ratio: > 90 dB
- Total harmonic distortion: < 0.003%
- 24 bit AD
- Test signal: 1 kHz @ 0 dBu

Mechanical

- Dimensions: 0.75 in. W x 3.30 in. H x 8.88 in. L (19 mm x 84 mm x 226 mm)
- Weight: 4.0 oz. (113 g)
- Connections: RJ-45 or factory-supplied breakout box

A8930C Duplex Contacts



The contact closure module occupies one audio slot and can input and output eight dry contacts.

Because the contact closure module occupies an audio slot, the audio capacity for each node is reduced when a contact closure card is added. Any combination of audio and contact closures cards can be combined, up to a maximum of four cards total.

Input/output connectivity is through four ganged RJ-45 connectors. A breakout box with screw terminals is also included to give the user maximum flexibility in determining field wiring.

Contacts can also be programmed for use as alarm outputs for fiber, video, or power loss.

A8930C Specifications

Contacts

- Contact inputs: 8
- Relay outputs: 8
- Relay contact rating: 0.5 A @ 20 VDC resistive
- Frequency: 500 Hz

Mechanical

- Dimensions: 0.75 in. W x 3.30 in. H x 8.88 in. L (19 mm x 84 mm x 226 mm)
- Weight: 4.0 oz. (113 g)
- Connections: RJ-45 or factory-supplied breakout box

A8972FLC/A8974FLC Fiber Modules

The required fiber module is available with one SFP optical transceiver for use in end nodes, or two SFP optical transceivers for use in repeater nodes.

The fiber module is the backbone of the Phoenix system, accepting and supplying data from the other modules and providing status information.

Each fiber module has an optical emitter/detector installed at the factory that transmits and converts signals sent via copper wire. Using optical automatic gain control, it compensates for optical drift due to temperature or age and requires no adjustments.

The module distributes data to other modules in the chassis and to nodes across the network. In addition, the fiber module is responsible for handling different topologies and dictates how information is transmitted through the system.

Each transceiver can send and receive information at speeds up to 2.5Gbps.

A8972FLC/A8974FLC Specifications

Optical

- Mode: Single mode
- Optical budget: 20 dB
- Emitter: Laser
- Wavelength: 1310 nm
- Operating distance: 20 km
- Transmitter launch power: -2.2 dBm (typical)
- Receiver sensitivity: -22 dBm (typical)
- Gain control: OAGC
- Connector style: Duplex LC

Mechanical

- Dimensions: 1.50 in. W x 3.30 in. H x 8.20 in. L (38 mm x 84 mm x 208 mm)
- Weight: 8.0 oz. (227 g)

A8960AC Universal Input AC Power Supply



The power supply module will accept universal AC input and supply DC voltages required for the chassis and plug-in modules to operate. One supply is mandatory, while a second supply for power redundancy is optional.

A8960AC Specifications

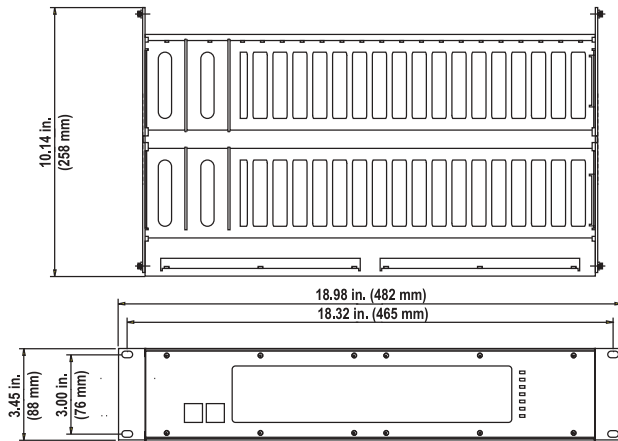
Electrical

- Input power: 100 V to 240 V, 60 to 50 Hz
- Current requirement: 2 A
- Power consumption: 40 W
- Protection: 250 V, 2 A fuse

Mechanical

- Dimensions: 1.65 in. W x 3.30 in. H x 8.00 in. D (42 mm x 84 mm x 203 mm)
- Weight: 1.25 lb. (567 g)

Dimensions



Ordering Information

A89

- 50CC** Card cage
- 00VI** Video input module
- 05VO** Video output module
- 10MPD** Duplex data module
- 20A** Duplex audio module
- 30C** Duplex contacts
- 57RP1** One-slot rear filler panel
- 57RP4** Four-slot rear filler panel
- 72FLC** Fiber module with one transceiver
- 74FLC** Fiber module with two transceivers
- 60AC** Universal input AC power supply



www.GESecurity.com

Mailing Address
4575 Research Way, STE 250
Corvallis, OR 97333 USA

Americas
800-469-1676 (US only)
tel 541-754-9133
fax 541-754-7162

Asia
tel 852-2907-8108
fax 852-2142-5063

Europe
tel 44-113-238-1668
fax 44-113-253-8121

Australia
tel 61-3-9676-0270
fax 61-3-9646-7005

Latin America
tel 305-267-4301
fax 305-267-4300