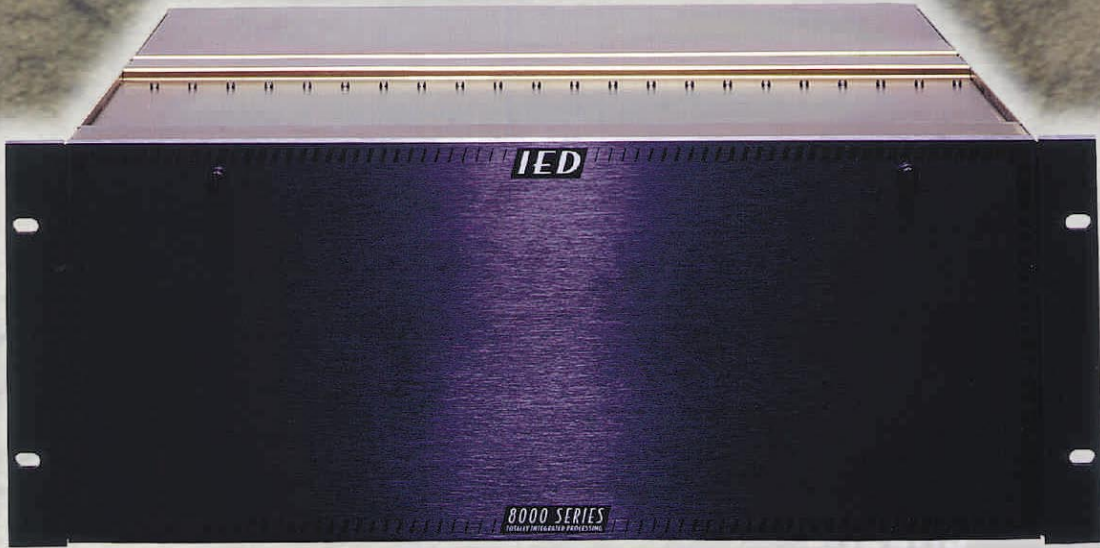
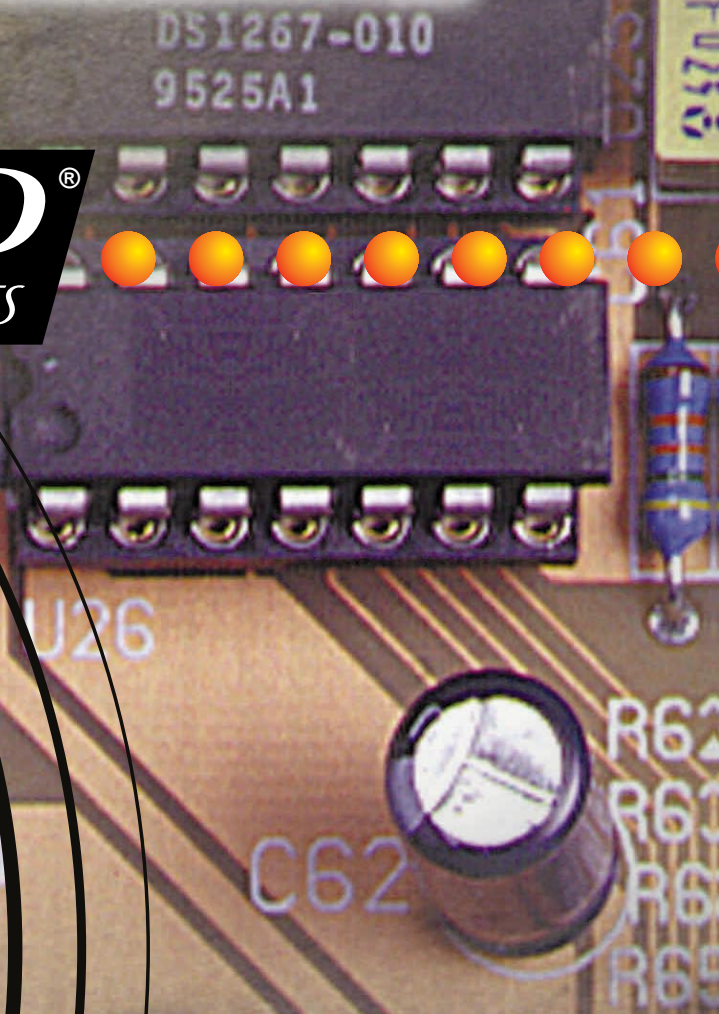
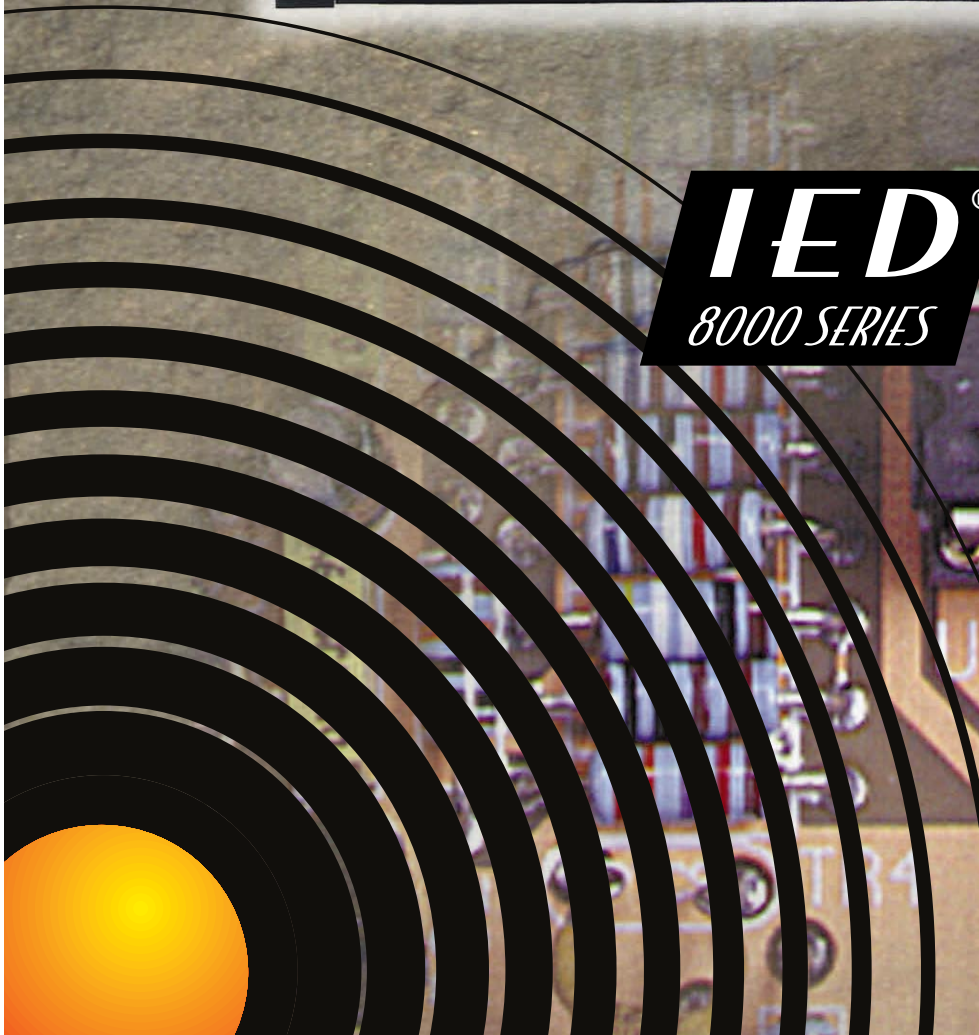


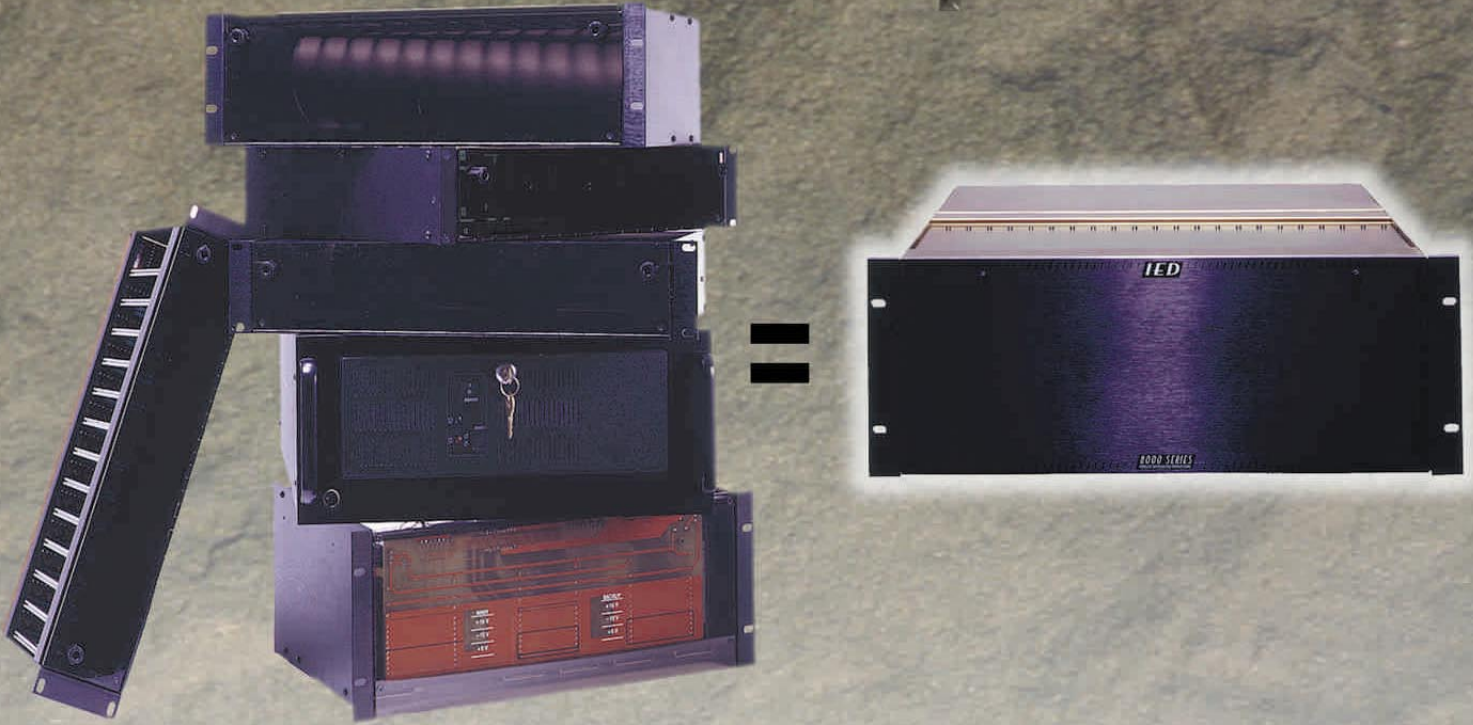
More Than Audio Processing...



IED[®]
8000 SERIES



Maximum Performance... Minimum Space



Isintecads

The secret of IED's 8000 Series Totally Integrated Processing System lies in IED's Intelligent Distributed Processing (IDP) concept, based on cards that slide into the 8001MF Mainframe. Under IDP design guidelines, each card is optimized for a specific range of functions through a combination of both analog and digital circuits. This design approach allows IED engineers to fully exploit the specific performance advantages of both circuit types, while avoiding the inherent limitations of either.

TeleatdIP

Each 8000 Series card contains a dedicated digital microcontroller unit (MCU) that controls all on-card functions and also communicates with the 8001CPU Central Processing Unit. The MCU on each card means that the system is not constrained by the limitations of one CPU, as is the case with many other modular systems. In fact, any 8000 system is easily expandable and networkable, allowing extremely large and complex systems to be assembled in stages subsequent to the original installation without obsoleting or discarding existing components. With IED, you get the ability to grow.

More capabilities in less space

An IED 8000 system typically takes up as little as 10% of the space that would be occupied by equivalent separate components. For example, one 8000 mainframe can hold 44 channels of 1/3 octave EQ, two redundant power supplies, and an internal PC, all in only 7 vertical inches of standard EIA rack space.

Metarado

As shown on the following pages, the 8000 Series can provide a multitude of control functions in addition to audio processing. The system even automatically checks itself and reports faults to a remote location. In short, the versatility of 8000 Series is limited only by the imagination and experience of the designer.

Metapodcts

IED backs the 8000 Series with a comprehensive program of training classes and technical support. Over 2000 people have attended seminars at our multimedia facility in Louisville, Kentucky. In addition to an array of support documentation, IED can also provide custom software to make operating the largest system logical and intuitive. With IED, your audio system investment is safe.



Foxwoods Resort Casino, Ledyard, CT

Audio routing & paging

Casino

Casinos utilize more music and page zones than any other entertainment application. With 24/7 operation, maintenance personnel can change system parameters for any area with just a few mouse clicks from any network port in the facility. The IEDnet backbone links multiple 8000 frames and provides unlimited future expansion capability.

Transit Facility

Transit terminals present special problems when high noise levels interfere with the voice announcement system. This particular system networks over 145 mainframes via IEDnet, providing full system diagnostics and fault reporting to several centralized locations. Additionally, pre-recorded voice messages synchronize with color visual information signs to provide complete Americans with Disabilities Act (ADA) compliance.



New York City Transit, New York, NY

ADA signage

Sports Arena

Sports facilities have many specialty areas in addition to the main seating. Ticket areas, interior and exterior concourses, press boxes, and private suites all require zoned messaging, BGM selection, and ADA signage. Supervision and ambient noise analysis are included as well.

Pre-recorded messages

Health Care Facility

Maintaining precise volume level for paging is a requirement for health care facilities. The 8000 maintains the level of paging and background music while providing "code blue" and other voice alert messages. Network based hardware, ADA visual signage, and wireless paging stations are also key features of the 8000 systems used in these facilities.



Marine Midland Arena, Home of the NHL Buffalo Sabres, Buffalo, NY

Ambient noise analysis



Chataqua Health Care Facility, Buffalo, NY

Factory

Machine noise varies widely in manufacturing facilities. The 8000 provides intelligent voice announcements even in the worst noise conditions by automatically adjusting volume levels to compensate for changes in ambient noise levels. Integrated supervisory functions also provide emergency evacuation capabilities.



Kellogg's Cereal Manufacturing, Memphis, TN

Logic control

Military

Sound is critical on a military ship. Noise levels are high, and corrosion can cause system breakdowns. The 8000 Series system uses advanced ambient noise analysis circuitry to adjust output for varying noise levels. The system continuously monitors itself and reports all diagnostic tests and faults to a central location via the IEDnet network.



USS Constellation

Racetrack

In a racetrack facility, audio routing is diverse. Multiple audio feeds route to many different areas. The 8000 system routes the race call, intertrack wagering, and paramutual feeds to various levels and grandstand areas. Ambient noise analysis, supervision, and ADA signage are also key features in a racetrack 8000 series system.

Networking

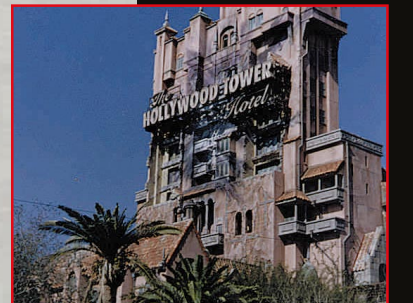
Theme Park

Theme parks often combine live entertainment with a variety of special effects and scheduled productions. Queue line announcements and show control are common requirements handled by the IED 8000. With the ethernet compatible IEDnet network, entertainment providers may easily link all sections of the park providing ultimate system control and interface ability.



Keeneland Racetrack, Lexington, KY

Supervision



Themed Entertainment Attraction, Lake Buena Vista, FL



IED Mic Station

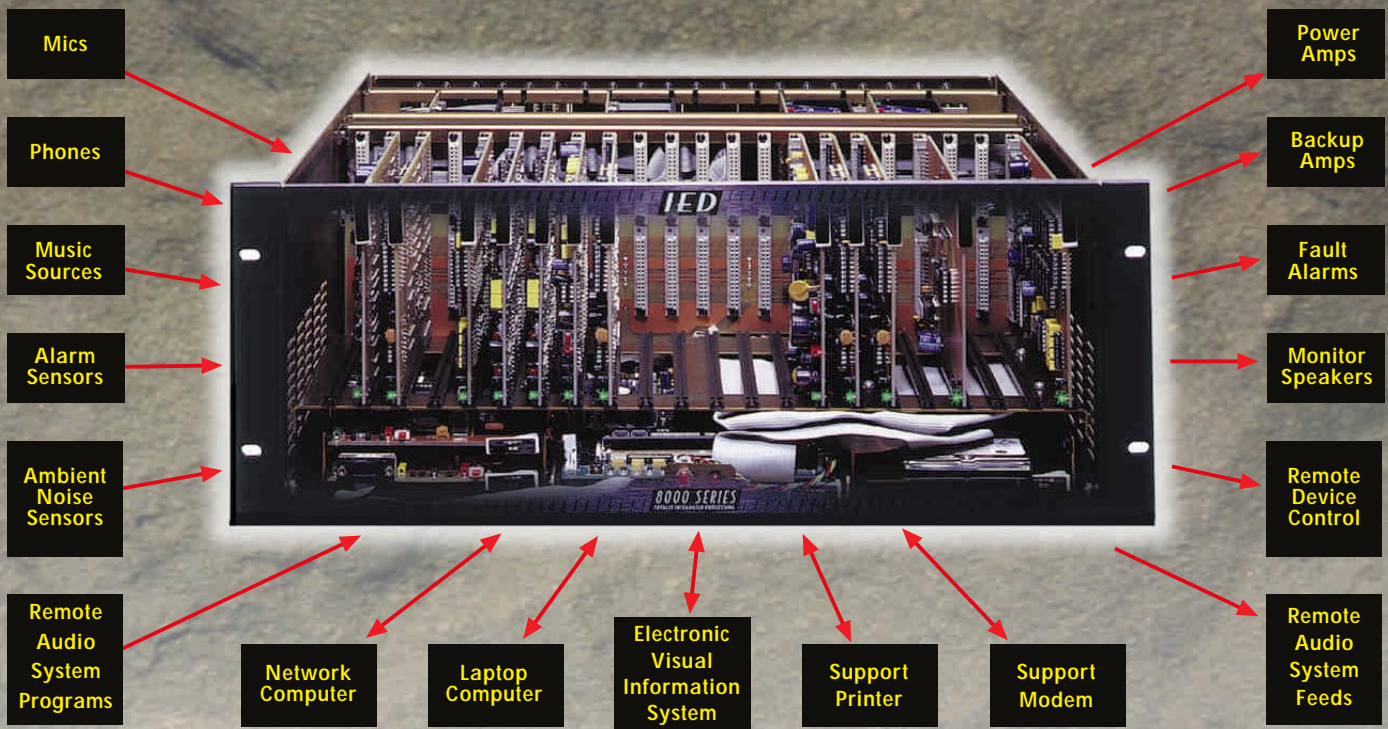


Networking Via



ADA Signage

Totally Integrated Control



Totally Integrated Processing

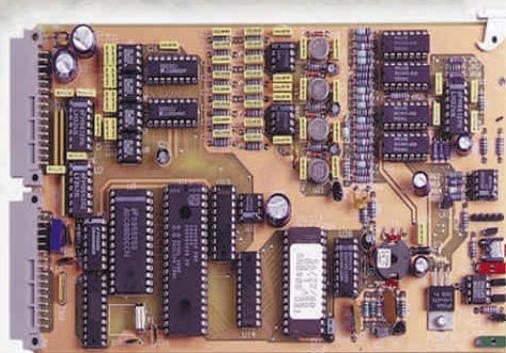
Conventional audio systems collect, equalize, route, distribute and amplify audio signals. IED's 8000 Series goes beyond ordinary audio signal processing by providing total system control. The 8000 Series monitors and tests the sound system, stores and replays messages, controls remote devices, networks with other systems, and warns the operator of malfunctions.

Totally Integrated Computing

The intelligence in the 8000 Series resides in two very smart slide-in cards, the real-time controller card (8001CPU) and the communications processor (8101CPU). Each card handles specific



functions. The real-time controller stores, assigns and controls all card operations and microphone station activity in the system, while the communications processor handles setup, networking, message assembly / storage / playback, electronic sign control and user i/o. Working together, the two CPUs schedule and manage self-testing, event execution, system analysis, and fault reporting.



setup, calibration, and automatic operation of the system. This standard software package allows you to create your own graphic screens of your facility for easier operation. With IED, you get simple control of complex performance.

Totally Integrated Software

IED's TIPS software family includes programs for

8000 SERIES

INTELLIGENT DISTRIBUTED PROCESSING CARDS

Audio Distribution / Gain / Routing

8044AIO Audio Input/Output Card

- 4 balanced audio inputs and outputs
- Digitally controlled routing and gain control for each output

8044APM Audio Music/Bus Paging Card

- 4 balanced audio inputs and outputs
- 4 audio bus inputs typically used for background/foreground music
- Music ducking during page

8088SM Audio Switch Matrix Card

- 8 balanced audio inputs and outputs
- Switch/combine any inputs/outputs

8022DR Line Driver/Receiver Card

- Drives extremely long lines with full audio bandwidth

Signal Processing

8044DSP Digital Signal Processing Card

- 4 balanced audio inputs and outputs
- DSP capabilities on each output including parametric EQ, compression, and limiting

8022AEQ Analog Variable Q Equalizer Card

- 2 channels 26 band 1/3 octave EQ
- 2 frequency shelving

8022CEQ Analog Constant Q Equalizer Card

- 2 channels 26 band 1/3 octave EQ
- 2 selectable high pass filters

Ambient Noise Analysis

8040NS Noise Sensor Card

- Interfaces to 4 IED0540S Ambient Noise Sensors
- Discriminates between noise level and program audio in sensor area
- Changes audio output level in response to an area's ambient noise level

Power Supplies - Main and Backup

8102PS/8202PS Power Supplies

- + 15 VDC, -15 VDC for 8000 Series cards
- 120 VAC and 240 VAC operation
- Redundant operation

Internal System Control

8001CPU Central Processing Unit Card

- Controls/monitors all 8000 cards
- Controls/monitors power supplies
- Non-volatile configuration storage
- Triggers external fault annunciator
- RS-232 interfaces to external computer

Networking, Digital Record/Playback, Signage

- Fault reports via email
- Ethernet network interface
- System support and fault reporting via modem, printer, or network
- Visual message display interface for ADA requirements
- Digital audio message record and playback

Paging and Zone Control

8004C Microphone Station Control Card

- Controls and monitors 4 microphone stations
- Phantom power for 4 microphone stations
- Software Configurable for IED 500 or 508 Series microphone stations
- Telephone interface via IED508T station

Supervision and Diagnostics

8001SA System Signal Analysis Card

- DSP provides system test tones
- DSP measures returned test tones

8081MT Monitor/Test Card

- 8 balanced audio or DC test point inputs
- Tests voltages from microphone level to 70 V speaker level

External Systems Control

8088LIO 8 Input/8 Output Logic Card

- 8 logic inputs and 8 logic outputs

8088VIO 8 Input/8 Output Variable Voltage Card

- Measures and controls 8 voltage channels

8008RY (C, NO, NC) Relay Card

- 8 form C relays triggered by 8001CPU card



Innovative Electronic Designs

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