



**COMMUNICATIONS FOR INDUSTRY
AND PUBLIC SAFETY**

Who we are...
What we do...
How we work with you...

SPECIAL ELECTRONICS & DESIGNS INC.

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Who we are...

SED Inc is a vertically integrated company providing:

- Electronic/Electrical Design & Development
- Mechanical Design & Development
- Reliability Predictions & Testing
- Molding and Prototyping
- Assembly Services
- Documentation and Drafting Services
- Systems Integration
- Quality Programs

Quality is an integral part of every product manufactured or integrated into larger systems. Many of SED's products are used in nuclear environments, by rescue professionals and by tactical teams whose lives depend on them.

Special Electronics & Designs Inc. is well positioned to take your project from idea to finished product quickly and efficiently. Our design and development specialists have experience with a wide range of products including analog and digital circuits to circuitry for the integration of off the shelf assemblies. Your product will be developed with a clear understanding of other disciplines in or out of house and their needs.

SED implements the ISO 9001:2008 Quality Management System to meet stringent standards required by our customers.

What we do...

Consider SED's varied experience:

- Suit communications systems for use in nuclear facilities for conferencing up to 200 headsets.
- Maintenance communications systems for use in maintenance of industrial facilities for conferencing up to 20 headsets.
- Intrinsically safe rescue systems employing both audio and video links.
- Vehicular intercoms
- Plant wide, large scale, high power paging and alarm systems.
- PABX telephone systems for use in plants
- Telephone booths with high noise attenuation
- Strobe light assemblies for alarm status and telephone extension ringers.
- Combined Air/Communications products (hoses, headers, interface components)
- Cooling harnesses for plastic suits, filters
- Magnetic liners for fast cleaning of heat exchangers, vessels and piping.

Suit Communication Systems - Pro Commander™

This Suit Communication System is used in areas where potentially harmful atmospheres may be encountered and is one example of how we can customize your communication needs.

The worker puts on an SED headset and the plastic suit, plugs into a Combined Air/Communication Hose™ then plugs into a wall mounted Breathing Air Station.

Pro Commander™ III is tied directly into the PA and telephone systems to ensure workers in plastic suits have clear communications and don't miss critical announcements or evacuation alarms.

- System allows conferencing of up to 192 headsets
- External telephone system tie-in and alarms available when connected to SED Call Director
- Communications may be controlled at the main cabinet or at remote Call Director consoles
- No computer interfacing makes for ease of operation and guaranteed performance during electrical or radio interference or power outages.
- Intuitive operation

Pro Commander™ IV (not shown) features:

- Primarily used in general industrial maintenance applications
- Rack mounted switching panel to conference three groups of up to eight users each
- Wired, full duplex communication system
- Provides continuous voice communication for up to 30 people
- Receptacles are wall, floor or ceiling mounted
- Standard headsets used in the system offering protection & clear communication
- System may be expanded
- Redundant power supplies
- Accessories for portable use let the user expand the application of the headsets to include smaller, private groups away from the main system

*Pro Commander™ III
and Call Director*

Communication Accessories

Acoustic Phone Booths

Available in two different styles based on your working environment. Doors are also available for larger unit, to increase noise attenuation.

- Clear communication in high noise areas such as compressor stations, engine rooms & materials handling areas.
- Convenient back panel for quick telephone installation.
- Access provided for wiring conduits.
- Constructed of durable sheet aluminum or steel
- The booth's capabilities can be augmented by installing a volume adjustable handset with the telephone.

Telephone Extension Ringer

Located high on the wall above the phone booth, the strobe and tone sounding pulse will make personnel aware of incoming telephone calls.

- Combines strobe with 30 Watt audible ringer.
- Upon detection, strobe flashes continuously
- Audible tone sounds only during ring pulsing.

Strobe Light & Interface

- Alarm signal to speakers can be used simultaneously to control signal lamps. The interface device responds to the incoming signal and turns on the corresponding light.
- Strobes may be activated with remote switch control or a combination of remote switch and local PA audio presence to provide zone specific light control.



Air Supply/Communications Products

- Breathe, Cool and Communicate in your suit - All in one!
- Simplified cable and hose management.
- Single assembly improves worker safety!
- Customized for use with Nuclear Hoods, disposable & dry cleanable suits.
- Booted connectors ease decontamination.

Hoses and Air/Communication Assemblies form part of a suit system that provides protection to personnel working in radioactively contaminated environments typical of nuclear generating stations. Standard Air Supply products may be produced with different performance criteria, based on your needs.



Cooling Air Harness

Air Harness provides critical cooling air for personnel in hot environments as well as breathing and/or purging air while wearing disposable suits.

Combined Air/Communication Assembly

SED Assemblies connect the Combined Air/Communications Hose to the suit interface fitting, typically used on MKIII or MKIV reusable plastic suits in use at CANDU Nuclear Stations. The assembly splits the 3-wire electrical connection away from the combined fitting.

Combined Air/Communication Hoses

Hoses in lengths up to 50' connect field workers wearing plastic suits such as those used in the CANDU Nuclear Reactor plants to wall mounted air headers.

Ram's Horn Air Supply

Air supply used with nuclear hoods and disposable suits. Neck straps support the Ram's Horn at the correct height to provide cooling and breathing air. Airline is supported by attached belt.



Communicate With Confidence™

Communication Systems & Accessories

Rescom[®] Modular[™]

- Provides intrinsically safe, full duplex, hard-line communication in confined space and rescue.
- Meets all OSHA Permit Required confined space entry safety standards. CSA per C22.2 No. 157-92 and U.L. per #913.
 - Only system on the market with the option of using DuraCORE[™] communication cable or Rescom[®] Communication Rope.
 - The cable or Communication Rope connects headsets and components to form an intercom between workers.
 - Operates on 3 AA batteries providing power for two to ten personnel, for up to 210 hours.
 - A variety of SED headsets are compatible with the system.
 - Full duplex communication lets everyone talk and listen at once.
 - Hands-free operation because PTT or VOX controls are not required.

Case contains:

Junction Box
Master Interface
Master Headset
Slave Interfaces
Slave Headsets

Available in 3,
5 and 7 man
configurations



Portable Communication Cable Reels

SED Inc.'s newest accessory is the portable Cable Reel with electrical connections.

- **Continuous Communication**
- **Connects 2 to 10 Team Members**
- **Pneumatic Tires**
- **Integrated Junction Box**
- **Belt Anchor**
- **Cam Lock Cable Brake**
- **Heavy Duty Construction**
- **Safety reflectors**
- **Two Models Available**

STORAGE and DEPLOYMENT

RCC-01/305 - up to 1500' of DuraCore[™] Cable
or 500' of Communication Rope
RCC-02/520 - up to 3000' of DuraCore[™] Cable
or 1100' of Communication Rope



Communication Systems

HALO™

Hands-Free Radio Communication
For Hazardous Environments

- Intrinsically safe
- Water resistant
- Connects to all popular brands of radios
- Easy to locate and use PTT
- Switch to VOX mode for hands free radio operation
- Spring steel clothing clip rotates 360°
- Side tone lets you know when you're transmitting
- 120 hour battery life

Vcom™

Professional Vehicle Communications System

with multi-use applications

- Intrinsically safe
- Clear and effective communications
- DEVO™ - Digitally Enhanced Voice and noise reduction
- Connect up to 8 people
- Three year limited warranty
- Installation kit included
- Plug & Play
- Noise Reduction, DEVO™ or ACM
- Reliable and affordable



Accessories for Productivity

Star Simulator

- Designed to reduce human performance errors by enhancing a workers skills in the areas of self-checking, communications, procedure compliance, and the independent/simultaneous verification process.
- Four “hands on” training environments can be used to safely identify and correct human performance problems.
- Provides visual and audio feedback for both correct and incorrect operator action.
- Multiple user selected programs vary in complexity. The system administrator can vary the degree of difficulty given to a trainee or group.
- No computer experience is needed to administer training sessions on the simulators. All administrator functions are performed from the front panel using simple switch manipulations.
- The administrator can vary the local environment, (I.e. lighting, noise levels, distance between operators, etc.) to add to the realism & difficulty of training.

Magnetic Liners (Internal Boiler Containment)

SED liners are custom designed to catch magnetic debris during the cleaning of the grate at the bottom of the heat exchanger on the hot and cold leg sides.

Installation of Magnetic Liner is most effective when boiler inspection is followed by tube pulling or plugging. Our new design has two pieces. The bigger piece covers the boiler bowl around the manway day and a smaller piece covers the manway door.

- Saves approximately one hour's work and radiation uptake by the worker.