



*welcome to our world*



## **Elco Racking and Backpanel Capability**

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## Corporate History



Elco has over 40 years history as a world class supplier of high quality electronic connectors and interconnection systems, serving in particular the mobile communications, computers, telecommunications, consumer and automotive markets.

As part of AVX Limited, ELCO is committed to providing customers with one of the broadest and most technologically advanced product lines. Together we can offer the widest range of passive and electromechanical components available in today's market from a single source. Manufacturing is on a global basis: ELCO has factories in the United Kingdom, Germany, Japan, Singapore, China and Korea.

Massive investment in Research and Development and experienced personnel at all locations provides the customer with a vast range of standard connectors, state of the art design capability for custom products, extensive product support and superior levels of customer service.

## Our Business Today

The manufacture of a wide range of interconnect products and especially design and manufacturing of Backplanes, Sub Racking and Enclosures

We have two facilities:-

### NEWMARKET England

- 47,000 sq. foot
- Over 200 staff
- Tool Room
- CNC / Sheet Metal work
- Assembly Shop
- Mould Shop
- Production Engineering
- R&D
- QA and Test
- Administration

### BETZDORF Germany

- 101,674 sq.foot
- 350 Staff
- Tool Room
- Stamping Shop
- Assembly Shop
- Plating Shop
- Production Engineering
- R&D
- QA and Test

### Quality

Both manufacturing facilities are qualified to ISO 9001 standard. In addition the UK factory has been awarded the QS9000 approval, with the Betzdorf plant currently on final assesment.

# Applications

## EDP

Computers  
Laptop Computers  
Printers  
Personal Digital Assistants  
Mainframe

## Networking

LANS  
WANS  
Distribution Boards  
Patch Panels  
Ethernet  
Modems  
Hubbs  
Routers  
ATM's

## Telecoms

Pay phones  
Basestation  
Exchanges  
Mobile Handsets  
Itemised Billing  
Transmission Equipment

## Audio

Mixing Desks  
Digital Effects Unit  
Patch Panels  
Active Crossover

## Medical

X-Ray Machines  
Electro Surgery Units  
Radio Therapy  
Mobile Equipment

## Industrial

Flight Simulators  
Safety Shut Down Equipment  
Industrial Gauging  
Automotive Test System  
Audio  
PSU Systems  
Mobile Equipment



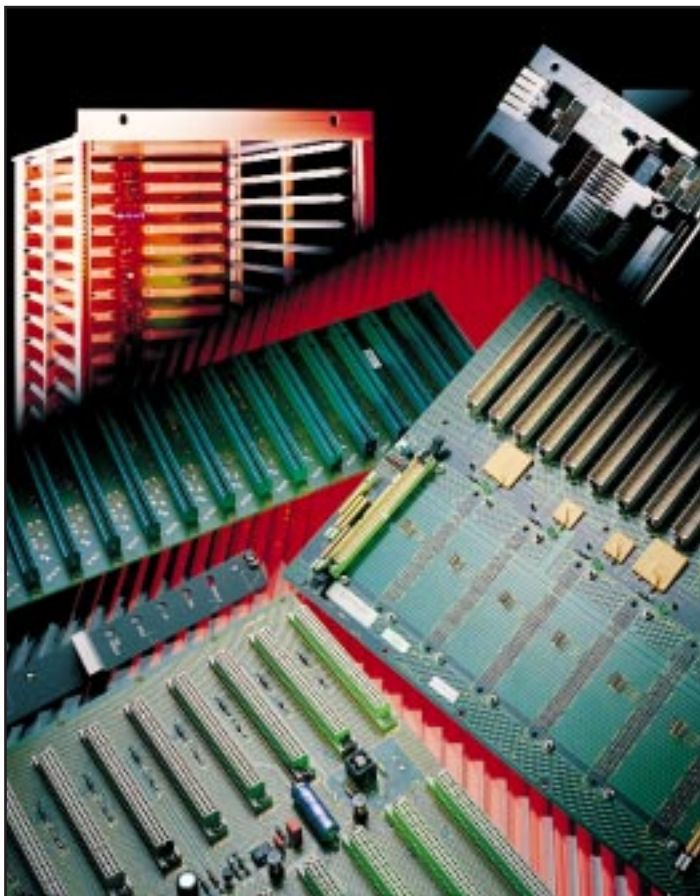
# Backpanels

## Backpanels

- Backplane design and manufacture
- Pressfit Design
- Largest range of Press Fit Connectors
- Assembly techniques
- Procurement
- Test Procedures
- Quality Procedures

Double sided and multi-layered assemblies can be designed and manufactured from customer supplied or Elco designed data.

Impedance controlled designs are computer verified, and all backplanes fully tested down to component level. Standard Bus systems are offered and can be customised with additional dedicated Bus systems to satisfy specific requirements.



### Elco Strengths

- Over 30 years experience of backplane production and design
- Fully integrated in-house CAD/CNC for backplanes, sub-racks and manufacture
- Prototype service for 1-10 units
- Largest range of press-fit connectors
- Special connector designs undertaken to meet any requirement
- Standard VME, PCI and Multibus I available and can be customised to meet any requirement in terms of size or hybrid configurations
- Dedicated Backplane facility
- Full BT and MIL approvals for press-fit
- Full ISO9001, QS9000 etc approvals

### CAD Capability

- 10 Workstations, each running Medusa NG
- Live direct plotting on Calcomp Laser
- CAD STAR 7.0 Backplane PCB design software
- GERBSTAR Gerber viewing software
- Back annotation of design from Gerber files
- ALS View to check custom designs
- ELCO Edge software to calculate impedance and crosstalk values for new designs.

### Build and Assembly

- Testing of impedance controlled and EMC compatible assemblies
- Extensive range of Press-fit tools and support equipment
- 13 dedicated presses ranging from 2-10 ton for multiple operations
- Hand Presses
- Hand and flow soldering
- SMT capability for thru-hole
- Repair Stations
- Wire wrap facility for 0.6 x 0.6 and 1 x 1mm tails
- Prototype, repair and upgrade facilities
- Test Computer with 12,000 test points on both sites

## Sub-Racks

- Full on site design and build service
- Designs cover thermal management, RFI/EMC directives, horizontal/vertical PCB mounting and front/rear panels
- 30 Aluminium extrusion sections
- Moulded card guides
- Punched card guides
- Card Extractors/Retainers
- Sheet Metal

Integrated design and programming systems allow direct down load on the metal stamping and forming machines facilitating delivery lead times. ELCO can produce standard and custom solutions utilising various dedicated extrusion sections covering many applications with all available commercial finishes.

### Standard Range

The three standard card frame types produced by ELCO are IEC, Euro and Metric. Each is based around a standard covering a range of PCB Sizes, known as IEC, Euro Cards and metric modules.

### Custom Range

Any width (multiple HP)  
Any height (multiple U)  
RFI Screening  
Thermal Management  
a) Force Ventilation  
b) Convection  
Any standard commercial finish  
a) Plated  
b) Painted  
c) Silk screened  
d) Fully wired



### ELCO Strengths

- All racks are manufactured to order
- We are able to supply custom racks as easily as standard racks at minimum additional cost
- Using the standard component building blocks, a new design can be completed on the CAD System and information down loaded to the CNC punching equipment for manufacture on a very short time scale
- In-house design - quick response
- Assembly capability in-house
- Metalwork capability

### CAD Capability

- 10 Workstations, each running Medusa NG
- CNC Punching
- CAE programming
- Live direct plotting on Calcomp laser

### Build and Assembly

- 1000r stripping machine: Production rate of 200 H.P.M, 23 ton
- Kaltanbach aluminium extrusion saw, with depth and angle facility
- CNC 1.5m bending press
- Prototype Services

# Sub-Racks

**ELCO**

## Systems

Elco's extensive manufacturing capability and unrivalled application experience can be customer-utilised to design and manufacture complete, turn-key, sub-systems.

Combining sub racks and backplanes with additional custom-designed metalwork, these sub-systems can be supplied fully wired and tested. Additional functional elements from outside our product portfolio can be integrated - power supplies; cooling devices etc. Customer provided boards and devices can also be incorporated at the assembly stage.

Working closely with the customer right through the design stage, Elco's engineers will ensure that all systems are optimised for electro-magnetic compatibility and thermal management. Assembly, wiring and testing is carried out in-house to accredited quality practices.

### Added Value Services

In addition to its range of standard and custom connectors, Elco offers a range of related value added services -

#### ■ Component Procurement

Components and sub-assemblies for customer specified "system" designs can be procured directly by Elco. Utilising our reputation and purchasing power, customers can be assured of competitive pricing and programmed "in time" delivery allowing unhindered assembly to agreed time scales.

#### ■ Cable Harnessing

Elco's fully automated flat ribbon cable assemblies, can be integrated along with discrete looms using Elco interconnect products or connectors procured from third-party vendors.



### Product Portfolio

The connectors and other components incorporated in Elco Backpanels, Sub Racks and Systems can be selected either from our own comprehensive line-up, or from third-party vendors.

#### DIN 41612

Extensive range for press-fit, solder reflow, solder wave, rear plug up applications, switching DIN and metric.

#### IDC

ELCO is approved by B.S.I to B.S.E.N, ISO 9001, QS9000 to manufacture a broad line of popular IDC connector configurations for a wide variety of applications and harness assembly.

#### FPC/FPC

Range of fine pitch connectors down to 0.3mm pitch.

#### MOBO

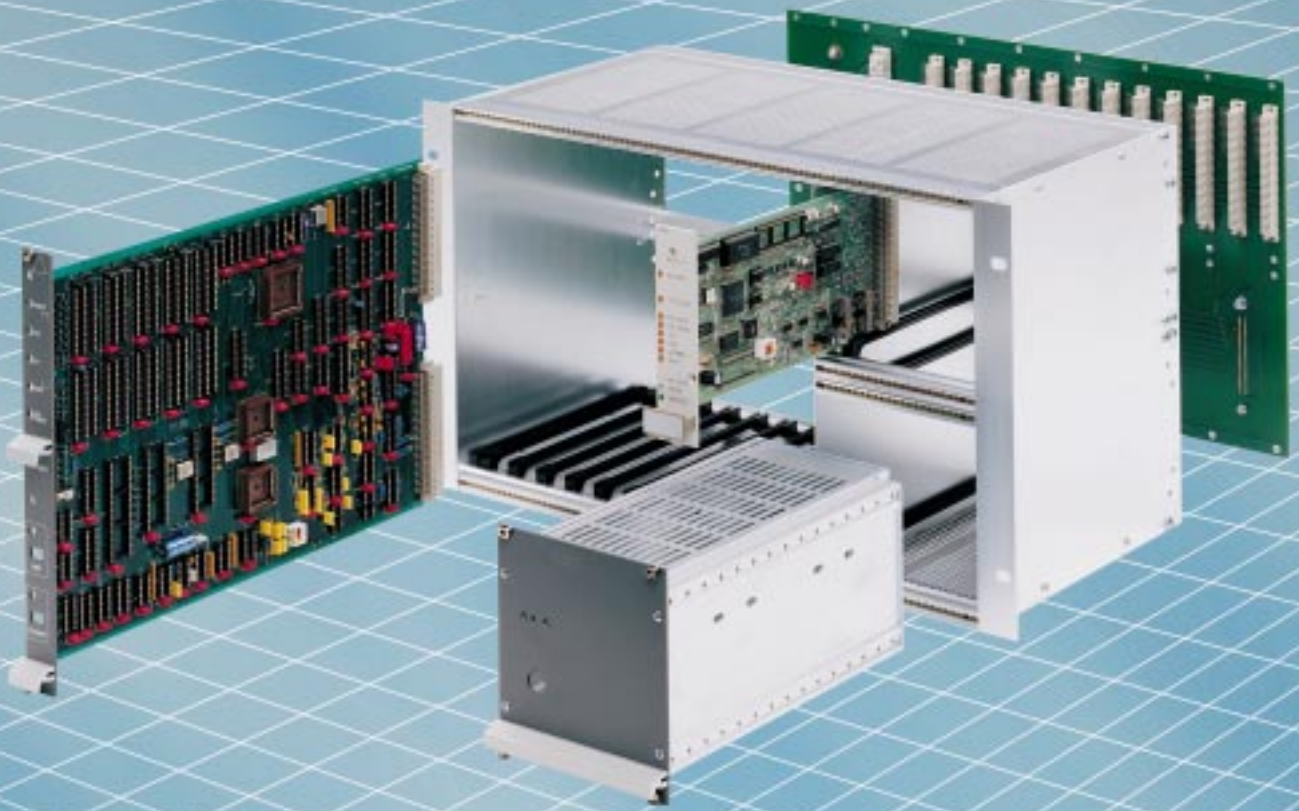
Range of fine pitch connectors for mobile, portable applications, battery connectors and chargers etc.

#### PCMCIA

Range of Type II, III kits including the new Frameless Kit type II using MOBO I/O connector.

#### Passive Products

AVX has probably the widest range of passive components in the world. The most commonly-used are Tantalum and MLC capacitors, filters, transient voltage suppressors, resistors, SMT fuses, clocks and inductors and resistor arrays.



# ELCO - World Class Connections

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