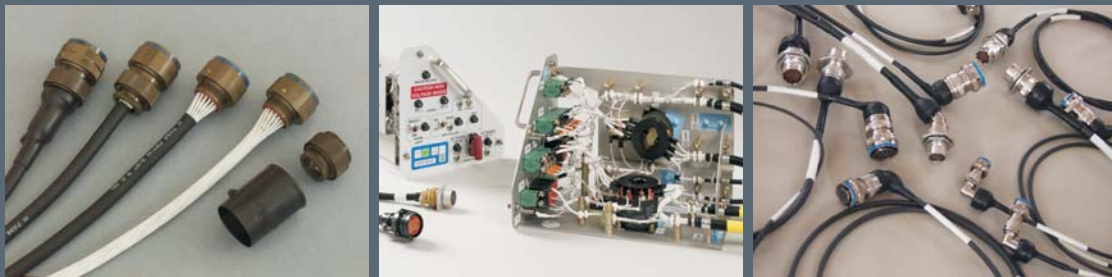


**DEFENCE & AEROSPACE**



*Quittner & Schimek*

# INTERCONNECTIONS



**WIRE HARNESSES**

ELECTROMECHANICAL

ASSEMBLIES

FIBER OPTICS

**CONNECTOR ASSEMBLY**

**COMPONENTS & TOOLS**



# COMPANY



## Quittner & Schimek

established and recognized

- Supplier of Electromechanical Assemblies, Wire Harnesses, Cable Systems, Panels and Boxes, including Fiber Optics Applications
- QPL and VG Certified Assembler of Circular Connectors
- Distributor of Electromechanical Components for electrical Installations in Defence and Aerospace Applications



## Milestones

- 1991** - First Activity with Distribution of Electrical Components
  - Focused on Customers in Aerospace, Defence and Mass Transport Industry
  - Official Distributor of Amphenol, Glenair and Daniels Manufacturing Corporation
- 1994** - Establishment of sister Company – SQS Fibre Optics
- 1996** - Official Distributor of Hellermann, Leach, Brady, Nexans, Raychem (Tyco), etc.
- 1999** - Value Added Distributor of Amphenol Ltd (UK) MIL Connectors
- 2000** - Start of Added Value Production - Wire Harnesses, Boxes, Panels etc.
- 2001** - Important contracts with Huber+Suhner (CH) and EADS / Eurofighter (DE)
- 2003** - Value Added Distributor of Amphenol Aerospace (US)
- 2013** - Strategic Contract with Rheinmetall Defence, preferred Supplier of wiring Harnesses
- 2016** - Relocation to new Premises

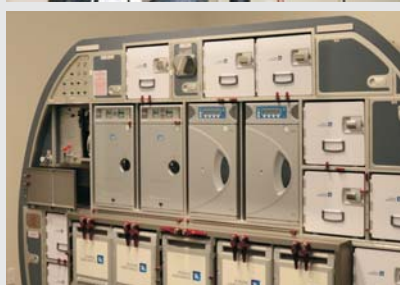


## Quality Assurance

- 2000 - ISO9001 - TÜV CERT
- 2007 - **AS9100 / ISO9001** - Lloyd's Register Quality Assurance
- Certified Assembly Workshop for Connectors - Amphenol's Value Added Assembler:**
  - QPL for MIL-DTL-38999 Series 1/2/3 -incl. RoHS compliant Black Zinc Nickel Plating
  - QPL for MIL-DTL-38999 Series 3, Composite Classes J, M
  - QPL for MIL-DTL-38999 Series 3 Firewall and Stainless Steel Classes K, S
  - QPL for MIL-DTL-5015 (MS3450) and MIL-DTL-26482 S2
  - LJT/JT/SJT/TV and 62/162GB Series from Amphenol Ltd.
  - VG95328 - MIL-DTL-26482/S2 / PT
- Certified Production of Wiring Harnesses:**
  - 2003 - QSF-A of EADS (Production for Aerospace Industry)
  - 2007 - IPCA/J-STD-001 for Soldering
  - 2003 - 2009 Raychem Training for Components and Procedures, including NBC materials
  - 2008 - DMC's Certificated Tool Repair and Calibration Centre
  - 2011 - IPC/WHMA-A-620 C - Certified Trainer and workers
  - 2014 - VG96927 - Approved Assembly of Wiring Harnesses by BAAINBw (formerly BWB)
  - 2015 - EASA Part 21.G - Production Organization Approval for Civil Aerospace



# CUSTOMERS AND PROJECTS



The Company has participated in many various Projects and supported extensive number of Customers during its more than 25-year history. Below there are noted just some of interesting or important References:

## Supply of Interconnection Components, Kits

**Aero Vodochody  
Aerospace**

L-159 A/B ALCA, AE-270 Ibis  
Sikorsky S-76, UH-60M, S-70i Black Hawk  
Alenia C-27J Spartan, Saab JAS-39 Gripen  
L-410, L-410 NG

**Aircraft Industries  
CSA, Smart Wings**

Complete Electrical Tool Kits

**Mesit Defence, Tesla, TTC  
LOT Trenčín** Interconnection Components for MIL/Comm Applications  
Component for Upgrades of MiG-29, L-39, AN-26, L-410 etc.

**VOP CZ**

Components for Defence Interconnections

**EVPU**

Switching Devices for upgrade of Armed vehicles

## Aerospace Wiring harnesses

**Zodiac Aerospace**

Panels and Wiring Harnesses for Galleys and other Equipment in Airbus and Boeing Civil Aircrafts

**EADS**

Eurofighter Typhoon - Boxes & Wiring Harnesses

**Aero Vodochody**

AE-270 Complete Wiring Harnesses

**Evektor**

EFB (Electronic Flight Bag), Wiring Harnesses L39NG

**LOM Praha**

EV-55 Outback Twin-turboprop

**PBS Velká Bíteš**

Mi-17/171 - Harnesses for Avionics and Communication

**Pilatus Aircraft**

APU Safir 5K/G, TJ100 jet, TP100 Turboprop

**Speel Praha**

PC-6, PC-7, PC-12, PC-21

**Honeywell**

Wiring Harnesses for Flight Data Recorder Systems

**Technify Motors**

Avionics Test Racks and Harnesses, Hi-Temp Cable Assy

**Kopter**

GA Engines Harnesses

Complete Harnesses, Panels and Boxes for Helicopter

## Military Wiring Harnesses

**Rheinmetall Defence**

Cable Sets for Tracked & Wheeled Vehicles

**Rheinmetall Air Defence** Various Cable Systems for Air Defence Applications

**Krauss-Maffei Wegmann** Cable Systems for Armoured Vehicles

**Thales**

Cable Sets for Military Communication Systems

**Sagem**

Special Cables Assembled for Armoured Vehicles

**Mesit**

Complete Sets of Cables for MIL Intercom Systems

**Czechoslovak Group**

Cable Sets for TATRA Military Vehicles

**EVPU**

Sets of various Cables used for Turret Control Systems

**ERA, Retia, Ramet**

Radar Wiring Harnesses

**Honeywell**

Cable Sets for Navigation and other Equipment

**Rafael**

NBC Cables for Remote Controlled Weapon Stations

# COMPONENTS DISTRIBUTION



## Quittner & Schimek - Authorized distributor

- Distribution of Interconnection Components for more than 25 years
- Technical Service
- Over 30 000 Stock Items
- Incoming Inspection, Traceability
- BIN Management (small electrical Components and yard Goods)
- Reserved Material in Stock for long-term Projects, Kitting
- Complete Range of electrical Components for long-term Contracts (e.g. 1000 Items for Sikorsky S-76 Production in Aero Vodochody)
- Certified Repair Centre for DMC Tools

### Authorized Distributor of following Manufacturers:

Amphenol (including Socapex, Air LB, Amphenol Ltd, AAO, PCD, FSI, TMS, Nexus,...)  
 Glenair  
 DMC - Daniels Manufacturing Tools  
 TE Connectivity - Aerospace & Defence (Raychem, AMP, CII, Hartman, Deutsch)  
 Leach International  
 Nexans (Berk-Tek)  
 HellermannTyton  
 Brady

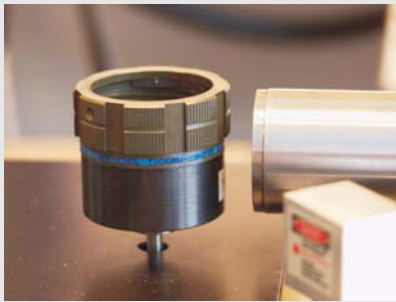
## The Main Components Range with Stock availability

Connectors MIL & Industrial:	Amphenol, Glenair, Positronic, TE/AMP/Deutsch, Aero Electric
Connectors for RF and Data:	Amphenol, TE/Raychem, Pasternack, TMS, Trompeter, Emteq
Connectors for Fibre Optic:	Amphenol, Glenair, TE Connetivity
Backshells and Accessories:	Glenair, Amphenol
Tools:	DMC, Ideal, TE/AMP, Band-It, Pressmaster
Heat-shrinkable parts:	TE/Raychem, HellermannTyton, Glenair, Sumitomo
Conduits and Braids:	Glenair, Bentley Harris, Zodiac Aerospace (Icore)
Wires & Cables:	Nexans, TE/Raychem, TMS, Emteq, PIC, ECS, Carlisle
Labelling & Marking:	Brady, TE/Raychem, HellermannTyton
Relays & Contactors:	Leach, TE/CII/Hartman/Kilovac
Relay sockets, Junction modules:	Amphenol/PCD/Air LB, TE/Deutsch
Switches, circuit Breakers:	Honeywell, Eaton, Vivisun, Sensata/Klixon

### Accessories:

Solder Sleeves and Splices:	TE/Raychem, Sumitomo
Wire Terminals and Splices:	TE/AMP
Self-adhering Silicon Tapes:	Arlon, Flexfab, Kirkhill-TA
Lacing Tapes and Cords:	Breyden, Gudebrod
Clamps, mounting Flanges:	Kirkhill-TA, Amphenol/PCD/Air LB, Fastener Specialty

# CONNECTOR ASSEMBLY



**QPL** Certified Assembly Shop for the Circular **MIL-Specs** Connectors was established in 1999 with Purpose of Standard lead Time reduction that usually counts in Weeks. Connectors of the listed Series are available in 2-5 Days (for urgent cases **24 hours**):

**MIL-DTL-38999 Series 1 / Amphenol LJT**  
(MS27466, MS27467, MS27468 etc.)

**MIL-DTL-38999 Series 2 / Amphenol JT**  
(MS27472, MS27473, MS27484 etc.)

**MIL-DTL-38999 Series 3 / Amphenol TV**  
(D38999/20, D38999/24, D38999/26 etc.)

- RoHS Ni, or Black Zinc Nickel plating, Classes F & Z / Amphenol TV-RF/RZ
- Composite, Classes J & M / Amphenol CTV-RW/RF
- Stainless Steel and Firewall, Classes S & K / Amphenol TVS-RS/RK
- Marine Aluminum Bronze, Amphenol TVS-RB

## **Amphenol SJT**

(fully compliant with VG96912, JN1003 and PAN6433-2)

**MIL-DTL-5015 Series 3 / Amphenol 944**  
(MS3450 to MS3459)

**MIL-DTL-26482 Series 2 / Amphenol MB10**  
(MS3470 to MS3476)

## **Amphenol 62GB**

(fully compliant with MS3110 to MS3116, acc. **MIL-DTL-26482 Series 1 - solder**)

## **Amphenol 162GB**

(in full compliance with MS3120 to MS3126, acc. **MIL-DTL-26482 Series 1 - crimp**)

## **Amphenol - VG95328 (MIL-DTL-26482/S2 / PT )**

Contacts, Tools, Accessories, Backshells and Moulded Shapes are available in Stock as separate Items or complete Assembly **Kits** based on Customer Requirements.

## **Contacts - M39029 & Special**

- Power, Coax, Triax, Quadrax, Hi-Speed Data, Thermocouple, PCB and Fibre Optics

**Accessories** - metallic, rubber and composite Caps, dummy Receptacles, etc.

## **Special Modifications e.g.:**

- Heavy Duty coupling Nuts
- Plugs with **Integrated backshells**
- Receptacles with reduced Flanges, clinched Nuts
- Reduced Receptacles for Instrumentation
- Large Scale of Receptacles and Contacts for PCB mounting

**Installation Kits** - include Connectors, Contacts, Caps, Backshells, Heat-shrinkable Parts, shielding Braid, marked Wires etc. Large Stock of spare Parts for **long-term Projects** with guaranteed Stock and lead Time.

**Design-in Support** - the Company assists with Selection of suitable Parts and Solutions for specific Requirements during a Product Design Phase.

# CABLE ASSEMBLY



Company Quittner & Schimek has become preferred Producer of various Electrical Assemblies. The Company produces not only for local Customers but also for widely known European Customers as it can be found in the extensive list of Customer References in this Brochure.

**Quality, Customer Support, Flexibility and competitive hour Rates** are the main Advantages what Customers can benefit from co-operation with the company. All quality standards are met at reasonable costs. The company provides the complete range of services regardless components are procured by the company or provided by customers.

The company offers assembly of:

## Wire harness, Custom Cables Electromechanical Assemblies

e.g. Panels, Racks, Boxes and other electrical Installations

The company supports Projects from design phase, prototype building, through electrical and mechanical testing until serial Production with the maximal effort to meet customer's needs.

All what is needed is an **Idea**, how a wiring harness or a cable should look like. Complete production specification can be created with use of Wiring Harnesses Design Software **HarnWare®**

With **no MOQ**, Production Series ranges from single Cable, single engine Harness and single testing Equipment up to complete series Production of thousands cable Assemblies. E.g. 65 000 pieces just of one Cable Type have been produced.

Everything from single contact, one cable side terminated with a Connector up to a complete and **complicated wire harness** tree for a large transport aircraft such as C-130 Hercules.

## Production Equipment

Installed Equipment for a Work with Wires in wide Range of Cross Sections from - **0.1 mm<sup>2</sup> up to 240 mm<sup>2</sup>** (AWG 30 - 500 MCM)

All Tools and Equipment are subjected to Regular Calibrations and Inspections.

**UV Laser marking** - 2 x Spectrum Technologies (Nova 820, Capris 50)

**Ink-jet marking** - Komax, Schleuniger + Alphajet (black and white inks)

**Thermal Transfer marking** - Brady and TE/Raychem

**Crimp** - Pneumatic and hydraulic Tools DMC, Schleuniger, Pico, TE

**Cut & Strip** - manual Tools and Automatic Machines

**Hot Knives and hot Tweezers** - Precise stripping Tools for all Insulation Types

**Soldering stations, Hot Air Guns and IR Tools**

Adhesive and Sealing **dispensing** Equipment

**Overmoulding** - Injection moulding - BOY A22 VH

# WIRE HARNESS ASSEMBLY



## Production process

Electrical Assemblies require precise Definition of all assembly Operations unique for every Project. The in-house Technology Team puts together all specific Requirements combined with Exact assembly instructions of chosen components. That's **know-how** the Company has. Typical Assembly comprises of:

- Wire & Tube Marking and Cutting – UV Laser, Ink Jet
- Thermotransfer Printing – Heat-shrink Sleeves and Labels
- Jacket and Core Stripping – automated or manual, including hot-Knives
- Soldering & Crimping – manual, pneumatic, hydraulic, micro Assemblies
- Manual Stranding and Branching of Wires and Cables into a desired Form
- Fixation using lacing Tapes or Ties
- Individual and overall Screening – Installation and Termination
- Installation of outer Protection – Braids, Heat-shrinkable Tubing, Conduits
- Moulded Parts installation – including NBC Systems
- Moulding, Potting and Sealing

The Company arranges the complete subcontracted Production and Assembly of mechanical Parts utilizing special Operations such as metal Sheet cutting, Bending, Welding, Milling, Turning and Plating to fulfill various Needs of Customer's Projects.

**Fiber Optic** Assemblies with Butt-joint Termini or Expanded Beam Technology. The Company works with FO Connectors such as D38999, Arinc801, M28876, TFOCA, M83526 (Probeam, HMA, EB4) etc., eventually ribbon Cable with MT Ferrules.

**Only 100% tested and inspected products are approved and delivered to customers.**

## Production and Prototype Testing

### 5 x Electroemulation and Interconnection automatic Testers

WEE Electrotest Engineering with 4000 test points (up to 8000 points) rating 3A, max 2500VDC or 1500VAC, Relays, Fuses, Switches  
Adapter/test Cables for more then 1300 connector types available

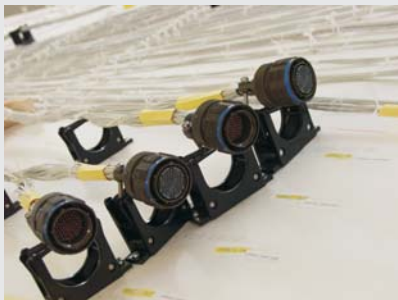
### Tensile Test System

- MPT 200A for Crimp Terminations up to 200 lbf
- MTM 1000 for Pull Tests up-to 10.000 N
- PT 40XP for precise miniature Contacts

Inspection Gauges, Contact retention test Tools

Proprietary Equipment for **Cable Pull & Bending tests**

**Watertightness**, Vibration and Climate tests Capability





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