



Quittner & Schimek

COMPANY PROFILE



ASSEMBLIES
WIRE HARNESSES
ELECTRICAL BOXES
PANELS AND CABLES

UV LASER MARKING

CONNECTOR ASSEMBLY
LJT, JT, TV, SJT
62GB, 162GB
BACKSHELLS AND CAPS
FIBRE OPTICS

COMPONENTS
AND TOOLS



INTRODUCTION

The company **Quittner & Schimek s.r.o.** was founded in 1991 as a distributor of electronic components for demanding applications in area of

- Aerospace
- Military
- Transport
- Telecommunications

Components distribution

The product assortment developed into four groups of components :

- Connectors, backshells, wires, cables, tools and accessories for wire harness assembly and installation
- Relays, contactors and switches
- Power supplies and DC/DC converters
- Displays, display modules, controllers and single board computers

Over the years, the company established credible reputation and become a reliable partner for most Czech and Slovak aerospace and military projects. The company offers not only parts delivery, but also large customer support and training.

Added value

Added value services were added when UV Laser marking machine was bought in 1999 and the wire processing and kiting were introduced.

The program enlarged and company now assembles complete wire harnesses, custom cables, electrical boxes and panels for customers mainly from the Czech Republic, Germany, Switzerland and the U.K. The workshop has 1200sqm with 55 employees, modern production and testing equipment.

Connectors assembly

Based on long term co-operation with Amphenol, company Quittner & Schimek become certified assembler of circular connectors Amphenol under specification MIL-DTL-38999 and MIL-C-26482. Company is listed on QPL from the year 2001.

Fibre optics

Quittner & Schimek invested in the development of a new fibre optic program. In 1994 a sister company **SQS Vláknová optika** was separated from Quittner & Schimek. It specialises in fibre optic connectors and assemblies, mainly for telecommunication applications, but its capability and potential is very large. MIL/AERO fibre optics contacts and connectors are also assembled. This company employs 140 people, uses state-of-the-art production technology and know-how. The company is ISO9001:2000 certified.

Quittner & Schimek - basic data

Founded	:	1991
Type of company	:	Private, Ltd. Company
Ownership	:	Wilhelm Quittner 50%
		Ing. Jiří Šimek 50%
Managing director	:	Ing. Jiří Šimek
Location	:	Nová Paka, Czech Republic
Employees	:	85
Turnover	:	130 million CZK / year
Quality - Certificates	:	ISO9001:2000, QSF-A, "Part21" in progress



COMPONENTS

The core of the company knowledge and business are components and tools for interconnections, mainly for aerospace and military technology. Quittner & Schimek offers not only delivery of the parts, but customer technical support from project design stage, part list optimisations, check on outdated products, tools inventory minimisation, logistic support. Specialised seminars and product trainings are organized for the customers. Company experience is also used to arrange special customised tool sets for production or service of wire harnesses, for example L159ALCA aircraft.

Many items are ready in stock. The company co-operate with following well known suppliers :

Amphenol - connectors, backshells, contacts

Amphenol - Air LB - termination modules, connectors

Glenair - backshells, accessories, connectors

Aero Electric Connectors - connectors

Positronic - connectors

Amphenol, Gleanir, Diamond - fibre optic connectors and cables

DMC - crimping tool under MIL standards

Ideal, Band-It, Pressmaster, Tyco/AMP - other tools

HellermannTyton - heatshrinkable parts

Brady, Tyco/Raychem - labeling and marking

Tyco/Raychem - wires and cables, heatshrinkable parts, splices, sleeves

Nexans (Alcatel) - wires and cables

Tyco/AMP - cable termination

TA Mfg., Moxness - clamps, self-fusing silicon tapes

Gudebrod - lacing tapes and cords

Leach, Tyco/MSD/CII/Hartman/Kilovac, Celduc - relays, contactors, switches

Honeywell, Eaton, Texas Instruments/Klixon, Amphenol-PCD,

Amphenol - Air LB - switches, push buttons, relays sockets,...

Power supplies and DC/DC converters :

Cosel, Astec - switched power supplies and DC/DC converters

MTM Power, Vicor - compact power supplies and DC/DC converters

The displays and computers line covers all different display technologies with the possibility of creating a complete service for the customer including integration. :

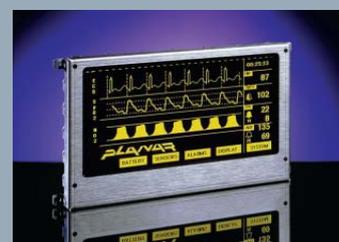
Noritake Itron - VFD

Batron, Electronic Assembly - LCD

EDT, Kyocera, Siemens, Digital View - LCD displays and panels

Elo Touch System - touch panels,

Computer Dynamics - industrial monitors and PC



CONNECTOR ASSEMBLY LINE

The assortment of connectors, the number of variants and styles is very large. For that reason it is not possible to have all of them ready in stock. To serve customers with the shortest delivery time, Quittner & Schimek established on its own site a connector assembly line. This is very important regards quick deliveries for prototyping, small series, as well as for series production with short time production cycles or with just-in-time delivery requests.

Based on the long term co-operation with Amphenol, in 2001 Quittner & Schimek obtained the approval to assemble the following circular connectors :

Amphenol 62GB

under MIL-C-26482 Series 1 - solder

(from MS3110 to MS3116)

Amphenol 162GB

under MIL-C-26482 Series 1 - crimp

(from MS3120 to MS3126)

These series are best suited for testing and diagnostic instruments, telecommunication and similar applications.

Basic description of assembled assortment :

- 2 to 61 contacts, sizes AWG20 through AWG8 (7-45A).
- contacts types - solder, crimp, PCB
- large choice of box mounting receptacles, also with reduced flanges
- olive drab shell finish (only ecological ZnCo plating, without cadmium)
- keys and keyways according BS9522 FOO 17, BS9522-N001
- operating temperature range -55°C to +125°C

Amphenol LJT / MIL-DTL-38999 Series 1

(MS27467, MS27468, MS27656 etc.)

Amphenol JT / MIL-DTL-38999 Series 2

(MS27472, MS27473, MS27484 etc.)

Amphenol TV / MIL-DTL-38999 Series 3

(D38999/20, D38999/24, D38999/26 etc.)

Amphenol SJT under Amphenol specification

All "38999" connectors are designed and approved to meet the most stringent requirements of aerospace, military and transport applications

Basic description of assembled assortment :

- 2 to 128 contacts, sizes AWG22 through AWG8 (5-60A)
- contact types - PCB and crimp contacts for wires and coax, triax, thermocouple, fibre optic cables
- aluminium shells in different styles
- ruggedised, 100% "scoop proof" series
- operating temperature range -65°C to +200°C

Backshells and caps for the above mentioned series are also assembled. Backshells - for heat shrinkable boots and shielding termination (EMI) in different sizes

Protection caps - aluminium or rubber body, chain or rope

Many special or non standard parts are also in stock. These are designed to meet individual project requirements.

- heavy duty coupling rings
- receptacles with reduced flanges
- special inserts - insert arrangements different PCB and other special contacts



PRODUCTION AND ASSEMBLY

The company provides and offers assemblies of

COMPLETE WIRE HARNESSES

ELECTRICAL BOXES

PANELS

CUSTOM CABLES AND CABLES CONFECTION

ADDITIONAL SERVICES :

UV laser marking and wire processing, contacts and connectors assembly, labeling, wire harness and cables prototyping, electrical testing, crimp tools testing

The company production is directed to the most demanding applications such as aerospace, military, telecommunications and transport, which are the same areas where the company has been active in since its founding.

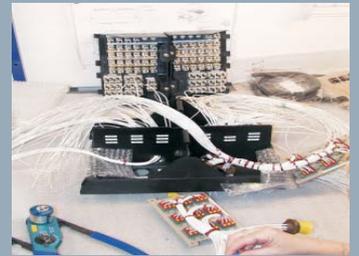
Start of added value services is dated to 1999 with the purchase of the Capris 50 - UV laser wire marking system. In that time, the company provided marking of the wire sets for both prototypes of Ae270, civil aircraft of Aero Vodochody and complete assembly and delivery of wire harnesses for prototype of Wolfsberg aircraft RAVEN 257. This brings good experience with online co-operation on the production for prototypes with many changes provided during the production and relevant documentation of such process.

Workforce and production site

45 employees works in production, which has 1200sqm. It is possible to expand the number of employees and production space in a short time. In the local region are enough available qualified personnel. Directly in the town Nova Paka is a tradition of production of fine mechanical and electronic instruments for industrial automatization and also a specialised school for technicians and engineers.

Quality

The production staff is trained for relevant tools and operations. The quality is supervised under ISO9001:2000 and regards additional customer requests and audits. Permanent inspection of process and other control instruments is used to check and assure high level of quality.



PRODUCTION EQUIPMENT

The company pays special attention to the equipment for production and testing. Beside state-of-the-art equipment, we use many standard and necessary hand tools. The listing of the tools and equipment consists of only well known and qualified producers. All the tools are properly maintained and calibrated.

Spectrum Technologies CAPRIS 50

UV Laser marking and processing system

- non contact, high speed marking for wires AWG 26-6
- clearly and permanently marks single core wires as well as multicore jacketed cables or twisted pairs
- only acceptable methods for modern composite taped wires and cables
- for white and coloured insulation including PTFE (Teflon), ETFE (Tefzel), XLETFE and FEP
- control by PC allows virtually any text and spacing

WEE Electrotest Engineering W 627-3 and W427

Electroemulation and interconnection automatic testers

- 2048 test points expandable up to 8192 points
- insulation testing up to 1500VDC, Hi-Pot up to 1050VAC
- testing of twisted pair and shielded cables,
- component test and measurement
- emulation test to check switching sequences and states, timing intervals, voltage/current values etc.
- emulation test software, co-operation with external instruments

KOMAX KAPPA 230

Automatic cutting and stripping machine
for wires and cables AWG24 - 5

AMP ELT

Strip & Crimp Machine - for higher volume termination up to AWG 14
with some special crimping tools - interchangeable heads

DMC

WA22 - Pneumatic crimp tools

WA23 - Large gage crimp tool crimp contacts from AWG8 up to AWG 4/0

Crimp hand tools, open frame crimp tools, installing and removal tools

Backshell accessory tools (M22520, M81969)

Inspection gages, Contact retention test tools

Wire crimp pull tester MPT-200A

AMP, Pressmaster

Hydraulic and hand crimp tools

IDEAL

Hand and pneumatic stripping tools

Meisei

Hot knives and hot tweezers - precise stripping tools for all type of insulation

Schleuniger UniStrip 2500

Pneumatic stripping machines

Band-It, HellermannTyton

Tie-Dex metal ties for screened assemblies

Cable tie tools

Brady

BP-2461 - Thermal transfer printer, high quality desktop printer

TLS2200 - Hand held thermal transfer label printer system

ID PAL - Service hand thermal transfer printers



FIBRE OPTICS

SQS VláknoVá optika s.r.o. was separated from Quittner & Schimek s.r.o. in 1994. The equal founders are Mr. Quittner, Mr. Simek and Mr. Svitorka (top expert in fibre optics). The company specialised in the field of fibre optics, particularly in assembling of optical connectors with multi-layer ferrules produced by Diamond SA company. In 2000 the company assortment was extended by the assembling of optical connectors with monobloc ferrules. The name of the company changed from Diamond CS s.r.o. to SQS VláknoVá optika s.r.o.

The company is located in the centre of Nová Paka. Company area consist from new and upgraded buildings with an area of 10.000 sqm, of which 4.000 metres are fully air-conditioned with an electrostatic floor and entirely designed for producing the optical and electro-optical assemblies. Special cleand rooms are dedicated to fibre/chip bonding. The company has 100 employees and is certified by ISO9001:2000.

The production covers the needs of the Czech telecom market, Slovak telecommunications and there are also activities in Russia and Ukraine. The most important of the foreign customers are JDS Uniphase and Siemens-Infinion.

Assembled connectors and ferrules :

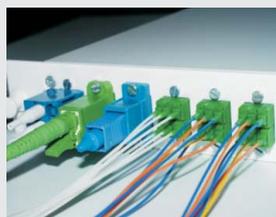
- 2.5 mm ferrule by the DIAMOND technology for E-2000, SC, FC, DIN, ST
- 1.25 mm ferrule by the DIAMOND technology for F 3000
- Multi-ferrule by the DIAMOND technology MFS MT-RJ
- 2.5 mm monobloc ferrule / tuned connectors SC, FC, DIN, ST
- 1.25 mm monobloc ferrule / tuned connectors LC, MU
- Multi-ferrule MT-RJ MPO
- PM connectors SC, FC, DIN, LC, MU
- MIL-DTL-38999 (Ferrule AWG16, MIL-T-29504)

Most of ferrules are available in SM and MM standards, PC, UPC or APC.

All mentioned connectors can be also assembled directly on the equipment or on the elements supplied by the customer.

Own development is very important part of the company efforts. Designers are active in the development of the production or testing equipment and also new variants and applications of fibre optic components.

New concept of ultra-light miniaturised fibre optic connector for universal applications, such as telecommunications, automotive, aerospace or industry is in the preliminary phase.



Quittner & Schimek and its sister company SQS-VláknoVá optika have considerable experience necessary to make any type of optic connector or contact for any purpose in any application. Hi-tech production equipment, testers, visualisation and complete control over the whole process provides a unique opportunity to implement fibre optic trends from telecom to aerospace industries.

Amphenol
Certificate of Approval

Awarded to
Quittner & Schimek
Komenského 304
Nová Paka
Czech Republic

In accordance with the letter of approval dated 11th September, 2001, the above Company has been approved by Amphenol Ltd with the status of

Assembling Distributor

for the following products and services

Assembly and Release under the companies own approvals of the Amphenol Ltd
MIL-DTL-38999 Series I (LJT)
MIL-DTL-38999 Series II (JT)
MIL-DTL-38999 Series III (TV)
with the exception of Style D38999/31 range of connectors
in the shell sizes and styles as listed on the Amphenol Limited STANAG 4093
Qualification Approval Certificate DERA/QA/003/002 Issue 3
using identification code QSC

For and on behalf of Amphenol Ltd:



Malcolm J. Scott
Quality Director - UK Group



Peter Sullivan
Distribution Manager

Subject to continued satisfactory operation of the Assembling Distributors Quality Management Systems, the acceptance of maintenance samples and annual review via a letter of approval by Amphenol Ltd


European Aeronautic Defence and Space Company

Certificate

Quittner & Schimek
CZ-50901 Nová Paka

has been inspected in compliance with the
Quality Assurance Requirements

QSF-A

of the Association of the German Aerospace Industry
[Bundesverband der Deutschen Luftfahrt- und
Raumfahrtindustrie e.V. (BDLI)]
and meets the quality assurance requirements.

The basis for this certificate is the valid Letter of Approval.
This certificate is valid until
December 2005

Military Aircraft
Augsburg Plant
Augsburg, 21.03.2003



Brannath
Sen. Manager Qualitymanagement



Schachenmayr
Lead Auditor

Amphenol
Certificate of Approval

Awarded to
Quittner & Schimek
Komenského 304
Nová Paka
Czech Republic

In accordance with the letter of approval dated 20th August, 2001, the above Company has been approved by Amphenol Ltd with the status of

Assembling Distributor

for the following products and services

Assembly and Release under the companies own approvals of the Amphenol Ltd
62GB, SJT, LJT and TV range of connectors
using identification code QSC

For and on behalf of Amphenol Ltd:



Malcolm J. Scott
Quality Director - UK Group



Peter Sullivan
Distribution Manager

Subject to continued satisfactory operation of the Assembling Distributors Quality Management Systems, the acceptance of maintenance samples and annual review via a letter of approval by Amphenol Ltd


CERTIFICATE

The TÜV CERT Certification Body
of TÜV Management Service GmbH

certifies in accordance
with TÜV CERT procedures that

Quittner & Schimek s.r.o.
Komenského 304
CZ-509 01 Nová Paka

has established and applies
a Quality Management System for

Supplies of electronic components for demanding projects.
Assembly of components, consultancy, complete solutions.
Production of wire harnesses and electrical assemblies
for aerospace and military.

An audit was performed, Report No. **70004941**
Proof has been furnished that the requirements
according to
ISO 9001: 2000
are fulfilled. The certificate is valid until **2006-06-30**
Certificate Registration No. **12 100 12599**

Munich, 2003-10-10



TGA-ZM-18-96





TÜV CERT Certification Body
of TÜV Management Service GmbH
Unternehmensgruppe TÜV Süddeutschland

ASSEMBLIES
FOR
AEROSPACE
MILITARY
COMMUNICATION
TRANSPORT



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