ELECTRO SYSTEMS ASSOCIATES

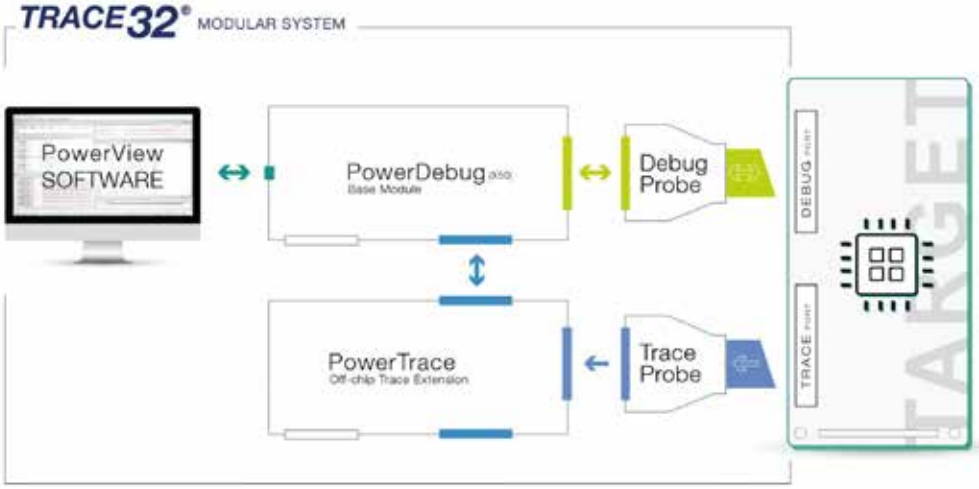
LEADING ONE STOP PROVIDER FOR EMBEDDED SYSTEMS

ESA PRODUCT PORTFOLIO FOR INDUSTRIAL AUTOMATION SOLUTIONS

Acute PC-based T&M Instruments
acontis technologies
AMETEK PROGRAMMABLE POWER
DediProg
DIAMOND SYSTEMS
Gantner instruments
GW INSTEK
JBC
LAUTERBACH DEVELOPMENT TOOLS
Monsoon Solutions Inc.
PSR | REWORK
PEAK System
RelyUm
RFcreations ...a different perspective
SEALEVEL
SEGGER
SECO Endless ways to the future
Sonel
TQ
Vision ENGINEERING
XJ TAG

LAUTERBACH
DEVELOPMENT TOOLS

Universal Debugger



Product Portfolio

Debugger
PowerDebug System
µTrace® All-In-One Solution

Debug Features
Multi-Core Debugging
OS Awareness
Hypervisor Awareness
Flash Programming (Memory-Mapped)
FLASH Programming (Protocol-Based)
AUTOSAR Debugging

Trace Extensions
PowerTrace System
CombiProbe Compact Trace

Trace Features
Code Coverage
AUTOSAR Profiling
Energy Profiling

Software Solutions
PowerView Software
Instruction Set Simulator
Debugging over USB
Debugging via XCP
Debugger for Simulators,
Emulators and Virtual Targets

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SEGGER

It simply works!

Embedded development tools by SEGGER

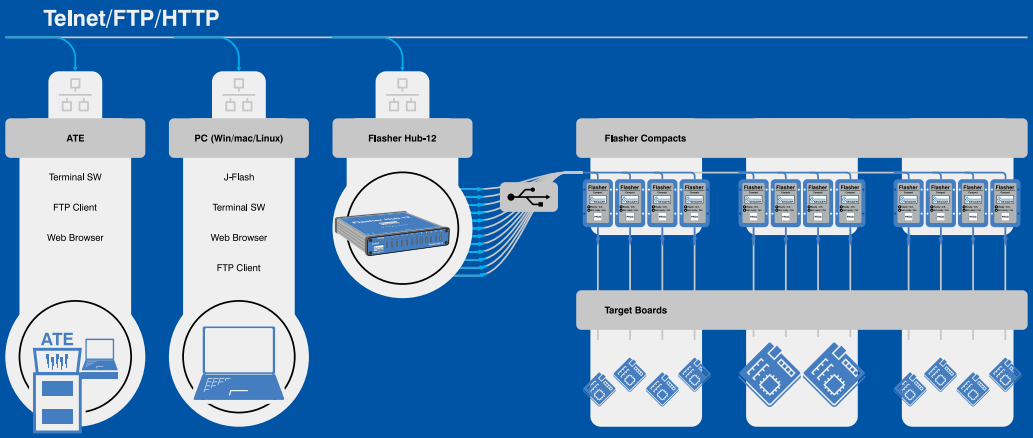
Debug & Trace probes

Software Tools

Embedded Software

Production Tools

RTOS Compiler IDE Encryption IP
Graphical Debugger Cryptography
Authentication Connectivity
Compression User Interface



Gang programming with Flasher Hub-12 and Flasher Compacts

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ELECTRO SYSTEMS ASSOCIATES

Acute®

PC-based T&M Instruments

Acute Technology Inc., product lineup includes the TravelScope digital storage oscilloscope, TravelLogic logic analyzer, BusFinder eMMC, SD, MIPI D-PHY Protocol Analyzer, LA4000 Logic Analyzer, DG4000/TraveData Digital Pattern Generator, ADP series high-voltage differential probes, TravelBus 2 in 1 analyzer, and MSO2000/3000 Mixed Signal Oscilloscope.

Compact and light weight, they are designed for convenient portability, aiming to provide customers with convenient and efficient solutions.

MSO3124V MIXED SIGNAL OSCILLOSCOPE

MSO3000 Mixed Signal Oscillosc

- DSO: 4 Channels, 1 GS/s S/R, 200 MHz bandwidth
- Logic / Protocol Analyzer: 16 Channels, 2 GS/s Timing Analysis, 250 MHz State Analysis
- Data Logger (HDD / SSD Storage)
- Total Memory: 4 Gb
- Digital Voltmeter: 3 digits
- Frequency Counter: 5 digits

6-in-1 Instruments: DAQ, DSO, DVM, Frequency Counter, Logic Analyzer, Protocol Analyzer

LA4136B LOGIC ANALYZER

LA4000 Logic Analyzer

- 136 channels
- 4GHz Timing Analysis / 400MHz State Analysis
- 32Gb Memory
- Logic, State and Protocol triggers
- Stackable with a DSO to form an MSO

•TravelBus, TravelLogic

Ideal for applications requiring high-speed timing analysis or dealing with complex state analysis

BF7264 PRO PROTOCOL ANALYZER

BusFinder Protocol Analyzer

- Real-time data display, post-capture waveform
- Trigger for commands or data
- 64 channels Logic Analyzer
- 32Gb total memory Protocol Analyzer
- Protocol Option: eDP1.4a, eMMC 5.1, MIPI D-PHY 1.2, NAND Flash, SD 3.0(SDIO 3.0), SD 4.1 (UHS-II), SGMII, UFS2.1

TS3124V DSO

TravelScope DSO

- Record length: 128Mpts/ch
- Channel: 4
- Sample rate: 1 GS/s
- Bandwidth: 200 MHz
- Data Logger (HDD / SSD Storage)
- Digital Voltmeter: 3 digits
- Frequency Counter: 5 digits

PROTOCOL ANALYZER

BiSS-C	I2S	PMBus	SMBus
CAN2.0B/CAN FD	LIN2.2	Profibus	SPI
DALI	MDIO	PWM	SVID
DP_Aux	MII	RGMII	UART (RS232)
eSPI	MIPI I3C 1.1	RMII	USB PD 3
HID over I2C	MIPI RFFE 3	RS-232	USB1.1
I2C	Modbus	RS-482	

ETHERNET

10BASE-T1S, MII/RMII/RGMII/GMII/SGMII

ADP5100-B HI-VOLTAGE DIFF. PROBE ; BATTERY

Hi-voltage Diff. Probe

- Powered by Battery
- Bandwidth : 100MHz
- Bandwidth limit : 5MHz / Full
- Over-range indicator
- Over-range alarm
- Double-layer probe cable for power insulation
- EC conformity : EN 61010-031:2002 +A1:2008
- Works for any grounded DSO with an BNC port

Protocol Analyzer

- Show real-time protocol data.
- Application timing: massive protocol data with some idles in between.

Protocol Logger

- Like data logger, save massive data into SSD hard drive.
- Application timing: massive protocol data.

Protocol Monitor

- Like dash cameras, record protocol data by the device's memory only.
- Application timing: trigger event only happens in very long time.

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RFcreations
...a different perspective

Innovation that solves your Bluetooth® Test Challenges

- CS RF PHY & Part H CS Layer Tests
- HDT & higher bands ready
- BLE/Classic/802.15.4 RF PHY Tests
- Smallest, lowest power sniffer
- Bespoke protocols on request
- Production & Development Options

- Android sniffer/coverage app
- LE Audio latency measurements
- Runs in Windows, MacOS & Linux
- Configurable GUI & API
- Bespoke protocols on request
- Perpetual SW Licenses - no OPEX

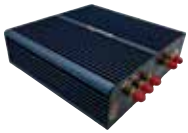
mini-mreph

- World's smallest USB powered Protocol Analyser
- BR/EDR, BLE, Qualcomm QBHSL, MediaTek mHDTV2.0, IEEE 802.15.4, LE Audio and CS (Sin le/Dual/+++ options)
- Simultaneous RX & TX over the entire 2.4 GHz ISM band
- Live or post-capture decryption with blueSPY GUI
- 16 channel Lo ic Analysis & WiFi Packet Timin
- Custom 2.4 GHz PHYs available upon request

mrephE

- Specifically designed for PHY Layer Testing
- Options for BR/EDR, BLE, QBHSL, IEEE 802.15.4
- RF Spectrum Record and Playback option - 3 hrs 40 mins
- C/I, blocking & intermodulation signals generated internally
- Accurate power control to -115dBm for coded PHY tests
- Full support for in-band emissions
- Production Line or Development options available

mrephcs



- Support for all CS RF-PHY test cases, including BT=2.0 modulation index & CS Layer tests via HCI
- Simple control via comprehensive GUI or Python/C dll.
- Log of all HCI traffic and key events
- Export of raw IQ data, spectrogram or the entire capture
- Capture of GPIO time aligned with IQ data
- Production Line or Development options available

pod audio

- Audio latency measured end-to-end, between-channels or relative to on-air packets in real-time
- Audio capture and generation accurately timestamped relative to Bluetooth packets
- Measures LE Audio Presentation Delay
- Measures SYNC between Left and Right channels

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PRODUCTION PROGRAMMERS

AEC LabTool Programming Solutions

Universal In-Socket Device Programmers

ESA IUP - 48 UXP

- < 2 seconds per Mbit Programming speed for high density flash chip
- Supports most of MCUs, up to 100 pins, in various packages including PLCC, SOIC, TSSOP, SOT23, TQFP, QFN & QFP...etc.

In System (Serial) Device Programmers

LabTool - S100

- PC based USB interface serial flash programmer
- High programming speed, it can program at 30Mbps

In-Socket Gang Device Programmers

Turbo Gang Programmer (LabTool-848XP)

- Program 8 pieces 8 MB Flash chips within 45 seconds
- Universal Adapter for Flash chips

Phyton Programming Solutions

Universal In-Socket Device Programmers

ChipProg - 481

- Device programmer with 48 pin socket
- Extremely fast! Programs and verifies programming of 1Gb NAND flash memory device for 23s
- Targeted at working with large density NAND & NOR flash memory devices

In-System Device Programmer (JTAG, SWD, SPI, SCI, I²C, UART)

ChipProg-ISP2 - CPI2-B1

- Single Chanel - Multiple CPI2-B1 programmers combined into a programming cluster controlled from a single computer
- Supports 40,000+ in system programmable microcontrollers, flash memory & programmable logical devices

Gang In-System Device Programmers (JTAG, SWD, SPI, SCI, I²C, UART)

ChipProg-ISP2 - CPI2-Gx

- Works in the standalone mode
- Multi-channel, Daisy chain up to 72 programming channels
- 51,786+ supported MCUs, PLDs and memory devices

Dediprog Programming Solutions

Universal In-Socket Device Programmers

NuProgPlus-U16

- EEPROM, Flash, MCU, eMMC, and UFS devices programming
- PC can link to multiple NuProgPlus-U16 and program IC at the same time

In-System (Serial) Device Programmer

SF600Plus-G2U

- High-speed USB and high SPI performance
- Support IC Kinds: SPI NAND/SPI NOR
- Works in the standalone mode

Automated Programming Systems

DP2T

- High Throught: Up to 1,000UPH (Unit per Hour) with only one nozzle
- Support Various IC Packaging: Sop, SSOP, TSSOP, PLCC, QFN, LQFP, BGA...etc.
- Support Different Input/Output Peripherals: Tape In/Out, Tray In/Out & Tube In

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ELECTRO SYSTEMS ASSOCIATES

Make IC Programming PERFECT

Automated IC Programming System

- High Throughput
- Support ALL IC Device Families
- Fast and Accurate Positioning
- Foolproof Mechanism
- Modular Design to Meet Different Requirement
- DediProg Auto Teach Feature
- MES (Manufacturing Execution System)

DediProg

High Efficiency Production Solutions for IC Programming

DediProg offers high-efficiency equipment for production solutions for IC programming of EEPROM, SPI Flash, NOR Flash, NAND FLASH, Microcontroller, eMMC, CPLD, UFS (Universal Flash Storage) and other programmable devices.

Automated IC Programming System

Entry Level	High Efficiency	Compact Universal	Premium Universal
DP3T Plus	**DP2000**	**DP1000-G3**	**DP3000-G3**

Gang Programmer and Duplicator

Able to Use Independently or Integrate with Automated Systems

ProgMaster-U8	NuProgPlus-U8	NuProgPlus-U16
All IC Types (Except for UFS)	All IC Types (Include UFS, PCI-E and CAN bus IC)	All IC Types (Include UFS, PCI-E and CAN bus IC)

Handheld Size Engineering Programming Solutions

SF100	SF600Plus-G2	SF600Plus-G2U ISP	StarProg-A	NuProg-E2	NuProg-E
SPI NOR Flash Programmer		G2U ISP Programmer	MCU, CPLD, SPI NOR Flash, SPI NAND Flash & EEPROM	All IC Types (Except for UFS)	All IC Types

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DIAGNOSTIC TESTING MADE EASY

With XJTAG's powerful tools, using JTAG boundary scan - built into many ICs in today's electronic products

QUICKLY DETECT MANUFACTURING DEFECTS

Including open circuits, shorts circuits, missing and incorrectly fitted components, using XJTAG's easy to use software

XJTAG offers a complete solution for testing populated printed circuit boards (PCBs) using JTAG boundary scan, providing products and services for fault detection and fast in-system programming.

Fast Prototype Board Bring-Up & Debug

Benefit from manufacturing-level debugging and testing capabilities on your development bench. Deliver proven, high-quality circuit boards faster and more cost-effectively with XJTAG's integrated test development environment.

FAST TEST DEVELOPMENT
Test more of your prototype, sooner

TEST WITHOUT FIRMWARE
Start testing your hardware long before the software is ready

SUPERIOR TEST COVERAGE
Access more of your board with XJTAG Boundary Scan

FAST BOARD DEBUG
Access the full capabilities of Boundary Scan

XJTAG works with the JTAG / IEEE 1149.X boundary scan test standard built into FPGAs, CPLDs and most CPUs.

Helps diagnose and quickly repair faults, even under BGAs and enables testing and programing of JTAG and non-JTAG devices in-circuit from the same environment.

Select your XJTAG software package

Test Developer Pro	=	XJD + XJR + XJA + XJI
Test Developer	=	XJD + XJR
Board Repair	=	XJR + XJA + XJI
Production Tester	=	XJR
BScan Inspector	=	XJA

Standalone versions of XJRunner and/or XJAnalyser are also included with your integrated environment's license

Development Systems

Test Development & Graphical Board Debug

XJDeveloper - IDE
Test and Programming Development and Debug Environment

XJInvestigator - Repair Station
Manufacturing Repair/Rework Station

XJAnalyser - Real-time Debug
Prototype Board Bring-up & Real-time Graphical Board Debug

XJRunner - Production Test
Run-time Manufacturing Test & Programming Environment

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Electric Vehicle Testing DAQ Solution

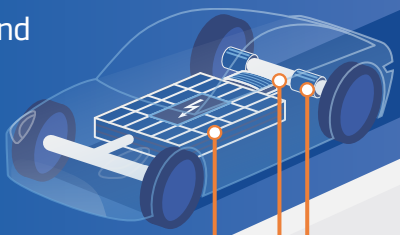
neXt generation in data acquisition and signal conditioning

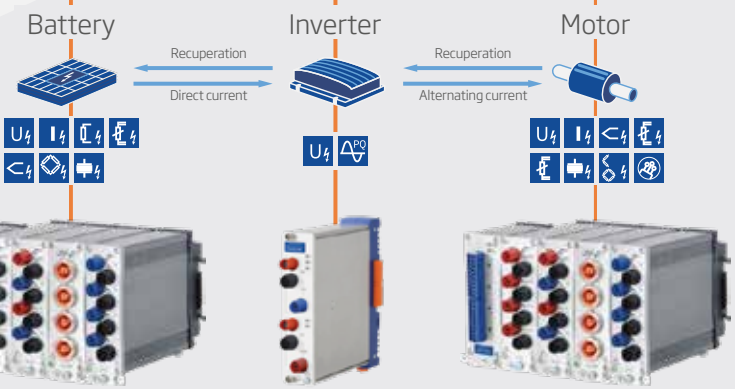
For analog, digital, optical and MHz signals **MHz**

High isolation I/O modules for electric vehicle testing

1200 VDC continuous isolation

5000 VDC peak





Q.series X
Continuous 1200 VDC isolation

Q.boost
Up to 4 MHz per channel, triggered or continuously

Q.series X
Up to 100 kHz per channel

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Processor architectures
Arm® | Power Architecture® | x86

Embedded modules & systems from TQ-Embedded

TQ is one of very few suppliers worldwide, offering solutions on all common processor architectures – from Arm®, QorIQ® Layerscape, Power Architecture® up to x86. TQ support does not only cover the module itself but also offers assistance for your individual application board.

Highlights

- Application kit (starterkit)
- BSP Support
- Schematic mainboard review
- Mainboard layout and production
- Customer specific mainboard design
- Complete system design, well-founded application design knowledge
- Own production ISO 13485, EN 9100 & ISO 16949 certified

Category

BoxPC
Carrierboard
Single Board Computer
Starterkit
Embedded Module

Form factor

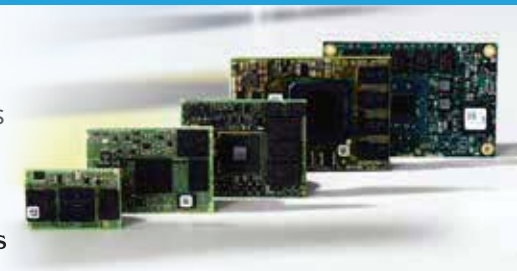
COM-Express® Basic
COM Express® Compact
COM Express® Mini
SMARC
TQ Socket
TQ LGA

TQ-Systems as a hardware specialist for embedded systems is working in close partnership with all leading semiconductors and operating system vendors.

intel Technology Provider Platinum 2019

Proven Partner NXP

Texas Instruments



Energy | Smart Grid

Based on our know-how of power electronics and control technology, we are creating regulations for transformers to secure the network against sudden power surges, for example.

Industry | Automation

Our solutions are used for various industrial applications, e.g. as mechanical engineering, automation, measurement, control and regulation-, process-, and monitoring technology.

IoT

Intelligent objects, secure data communication, worldwide management as well as centralized and, to some extent, decentralized storage and data processing require reliable and secure systems on all levels.

Building automation

Our smart products in distributed building control point the way to added efficiency in building automation. This renders complex building automation tasks easy to handle.

Telecommunication

In telecommunications fast and efficient networking is crucial. Large quantities of data must be processed in a short time. Our solutions additionally imply long-term availability, industrial capability and use in an expanded temperature range.

ELECTRO SYSTEMS ASSOCIATES

SECO

Endless ways to the future

READY TO DEPLOY SBCs

System integration-ready solutions | Reduced time-to-market | Low design investment

PRISMA

MERIDA

ASTRID

SAYLOR

FANLESS EMBEDDED COMPUTERS

Arm® or x86 | Scalable and customizable | Connectivity | Integration services

PHOENIX

PYXIS

PICTOR

EASY EDGE

COMPUTER -on-MODULE

Long Term Availability | Highly configurable | Multi-vendor solutions | Reduced time-to-market | ARM & x86 compatibility | Consolidated standards

SOM-SMARC-ASL SMARC® Rel 2.1 compliant

SOM-SMARC -MX95

SOM-uQ7-MX6

SOM-Trizeps -VIII-MX8M

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SEALEVEL®

Industrial I/O and Embedded Computing
for Critical Communications

Intentionally Designed for Reliable Performance in Demanding Environments

Sealevel is the leading designer and manufacturer of industrial computers, Ethernet serial servers, USB serial, PCI Express and PCI bus cards, and software for critical communications. We offer over 350 core products, available in nearly every configuration imaginable. Or, if you need something completely customized to meet your specifications, our award-winning team of engineers is at your service.

MADE IN THE USA

NEW Flexio Fanless Industrial Embedded Computers

- Industrial Processing & Performance with Long-Term Availability
- Solid-State Design Guarantees Extended Operation
- Unmatched I/O Configurability for Automation & Control

Industry Applications

Aerospace & Defense
Automation & Control
Manufacturing & OEMs
Rail & Public Transit
Test & Measurement

COM-Based Carrier Solutions

Sealevel's engineering and manufacturing teams have valuable experience designing and producing high-performance carrier boards for both standard and custom applications.

Data Acquisition Devices

Sealevel's SeaI/O data acquisition devices provide powerful digital, analog, and serial expansion to any monitoring and control system. Connect to the host via wireless, Ethernet, USB, RS-232, or RS-485.

Embedded Computing Systems

Designed for applications where reliable computing and SWaP-C² optimization is a must, Sealevel embedded I/O computing systems combine the reliability of a PLC with the configurability of an industrial computer.

Serial Cards & Interfaces

Sealevel offers the widest selection of serial choices for data-intensive applications. These interfaces support RS-232, RS-422, RS-485, and RS-530 electrical interface standards, as well as USB and Ethernet solutions.

Touch Panel Controllers

Achieve computing, I/O, and HMI requirements with Sealevel rugged touch panel controllers. HazPAC touchscreen control systems are certified by ATEX and IECEx and for Class I, Division 2 and also maintain NEMA 4/IP64 protection from sprayed liquids.

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GW INSTEK

Integrated Services and Consultancy (ISC), an ESA Group Company, is a leading provider of electronic test and measuring instruments since 1993. ISC, a premier distributor partner of Good Will Instrument, GW INSTEK, has been providing high precision electrical Test & Measuring Instruments with optimal TCO - Total Cost of Ownership. Our testing solutions help engineers expertly keep pace with disruption and succeed with innovation in fast growing sectors as in Automotive, IIoT, Semiconductor, Power and many others.

DC POWER SUPPLIES

GSM-20H10
Precision source measure unit
4 quadrant operation of
210V/±1.05A/22W

PSW-Multi Series
Dual-channel/Triple-channel
programmable switching
DC power supply

GPP-3060/6030/3650
Triple-Channel Programmable
DC Power Supply

PSU-Series
Programmable Switching
DC Power Supply

Sample Rate: 5GSa/s; Memory Depth: 200Mpts/CH

GDS - 3000A Series

650/350MHz DSO, 16 Channel Logic Analyzer

One Oscilloscope with Time Domain, Frequency Domain and Power Measurement

MADE TO MEASURE: GWINSTEK high performance test solutions includes over 300 products across five keylines–Oscilloscopes, Spectrum Analyzers, Signal Sources, AC / DC Power Supplies, DC Electronic Loads, Digital Multimeters, LCR Meters, Safety Testers, Other Meters, and Accessories.

GPT-12000 Series
AC/DC/IR/GB Intelligent
Safety Analyzer
Analyze Your Safety Tests

LCR-8200 Series
High-Frequency LCR Meter
The Smarter Way to
Characterize Component

PEL-5000G Series
Programmable DC Electronic Load
High Current Capacity with High
Resolution can be Perfectly Fulfilled

ASR-3000 Series
Programmable AC/DC
Power Source
Uninterrupted AC+DC Transition

MFG-2000 Series
Multi-Channel Function
Generator

GLC 10000
Leakage Current Tester

GDM-906X Series
Dual Measurement Multimeter
Measurement Explores–Insight
and Efficiency

GPM-8330/8320
Digital Power Meter
Industrial Three-Phase AC Power
Measurement

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GW INSTEK

Total Test & Measurement Solutions

LATEST PRODUCTS

GBM-3000 Series
Battery Meter

Voltage (1000/300/80V) & Internal resistance (0mΩ~ 3.2kΩ),
Resolution: 10μV and 0.1μΩ, Speed 60 time/s

ASR-6000 Series
High Performance AC/DC Power Source

ASR-6450 AC / DC 4.5kVA & ASR-6600 AC / DC 6kVA
10 Perfect Output Modes, Dual Current Convergence

PSW-Multi Series
two-channel/three-channel
programmable switchung DC power supply

720W Dual channel and 1080W Triple channel,
Multiple Voltage Combination (30V/40V/80V/160V)

PEL-5000G Series
4~6kW, up to 1200V DC Load (4U High)

150V/600V/1200V 8 units in parallel for 48kW max. power, Built-in
tests for Battery Discharge, BMS, Short circuit, OCP, OPP test modes

DAQ-9600
Data Acquisition System

450 channel/s Scan Rate - Temperature, DC/AC volts/current;
Resistance, Capacitance; Frequency, Direct/Bridge Strain

MPO-2000 Series
Multi-function Programmable Oscilloscope

DSO, Spectrum analyzer, Arbitrary waveform generator
Digital multimeter, DC power supply

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AMETEK®
PROGRAMMABLE POWER

Mi-BEAM
MODULAR INTELLIGENT-BIDIRECTIONAL ENERGY AMPLIFIED

Sorensen™

Power (kW)	12kW	25kW	37kW
Voltage (V)	Maximum Current (A)		
600	50	100	150
1500	–	50	50
2000	–	50	50

*Global pricing for base units without options, Incoterms Ex Works (EXW) San Diego, California, USA.

High Performance, Modular Bidirectional, Regenerative Programmable DC Power System

- Full DC source and sink capabilities with power levels from 12 kW up to 37 kW
- Fully scalable up to 1.2 MW with parallel systems
- Available voltage ranges of 600V, 1,500V and 2,000VDC in a 4U rack chassis providing full power up to +/-150A within a single system.

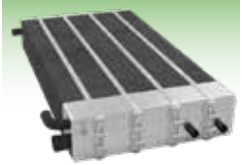
The Mi-BEAM Series is designed for testing today's complex, high power electronics for the automotive, energy storage, industrial, and aerospace markets in a variety of applications. This platform covers all test needs through the product life cycle from advance research and development (R&D), to design validation, and production test requirements.

Battery Simulation & Testing

DC Motor Testing

Solar Panel Testing

Fuel Cell Load Testing



Asterion

California Instruments™

High Performance Programmable AC / DC Power Source

Asterion AC Series Advanced Features

- High power density in 1U / 2U / 4U / 14U chassis up to 18kVA
- Auto paralleling for higher power
- Voltage: 0-400VAC/0- 500VDC, Current: 0-60Arms/phase, Power: 500VA - 36000VA
- Complete avionic test suites (optional)
- Standard LXI LAN, USB and RS232, optional GPIB

Asterion AC Series Advanced Features

- Commercial and military avionics test
- AC power simulation
- Frequency & voltage conversion
- IEC standards testing

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AMETEK®
PROGRAMMABLE POWER

ASPS ADVANCED SOLAR POWER SIMULATOR

High Performance Solar Array Simulation Power Supply

- 2 independent, isolated 600W channels or 1 1200W channel in 1U
- Voltage: 40 V to 220 V
- Current: 2.72A to 20A
- 2µ second shunt switching recovery
- Peak Power Tracking
- Primary and secondary over voltage and over current
- Output electronic circuit breaker
- Built in fault data recorder
- Power On Self-Test
- Active power factor correction (PFC)
- Color touch panel monitoring
- Standard LAN interface
- Full remote control via AMETEK SAS software or SCPI commands

Example of a fully integrated Solar Array Simulator

30 channel
600W/ch
18KW total

SEQUOIA SERIES

California Instruments™

PRECISION PROGRAMMABLE REGENERATIVE GRID SIMULATORS
FEATURES AND CAPABILITIES

- 0 - 333VAC, 0 - 3.000A / PHASE 15KVA - 1.08MVA
- Single Solution for: AC/DC Programmable Power Source, AC/DC Grid Simulator, AC/DC Resistive or Complex Electronic Load
- Dual Voltage ranges that support over voltage testing on 480V based systems
- 500uS time resolution for Transients
- Virtual Panels control software included
- Non-Linear current waveform programming during Load mode
- Phase coordination among multiple units (LKM/LKS)
- Powerful set of analog controls for PHIL and Modulation tests
- Trigger In & Out to permit extensive coordination with external systems
- Extensive Onboard diagnostics
- Digital I/O, including RS232, USB, Ethernet (GPIB optional)
- Auto-paralleling for maximum flexibility with multi-chassis configurations

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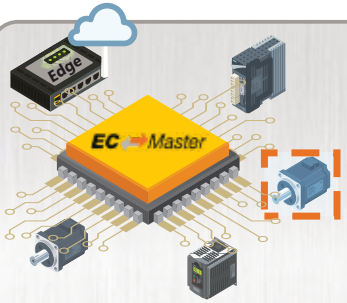
ELECTRO SYSTEMS ASSOCIATES

EtherCAT Software

acontis offers **real-time software** for more than 20 years. We are the experts for our customers that need reliable real-time capabilities for machine controllers, medical devices, transportation systems and more. Our company is known for high quality products "Made in Germany".

We take real-time machine communication to the next level with our extensive portfolio of **EtherCAT software** - enabling our customers to realize the best-in-class EtherCAT controllers, as well as enabling thousands of companies to commission and operate EtherCAT networks with maximum performance and highest availability. With our unique EtherCAT simulation technology, we facilitate the realization of digital twins of devices and networks and also empower our customers for hardware-independent implementation of EtherCAT SubDevices.

EtherCAT® Software



The acontis EtherCAT MainDevice software is the core in countless EtherCAT networks - including machinery, aerospace, medical, automotive, measurement and many more industries.

Complementing to the EC-Master, acontis offers a full portfolio for all users of EtherCAT: From development and verification, commissioning and supervision to maintenance and trouble-shooting.

Key Benefits of acontis EtherCAT software

- High performance and low CPU load for fast update rates.
- Ready-to-run for many operating systems.
- Supporting all major CPU architectures: x86, ARM, RISC.
- Available for many processors from AMD, Broadcom, Infineon, Intel, NXP, Nvidia, Renesas, ST, Texas Instruments or Xilinx.
- Fast project realization by easy-to-use software and APIs, extensive documentation, examples and professional support.
- Most reliable and robust implementation, field-proven since 20 years in many high-profile controllers from Bosch Rexroth, Lenze, KUKA, Omron, Panasonic, Yaskawa and many more!

acontis EtherCAT portfolio

EC Engineer — Most convenient configuration, commission and analysis of EtherCAT networks

EC Simulator — Use digital twins for controller or device development, verification and virtual commission

EC STA — EtherCAT MainDevice and Testing functions combined in one powerful tool

EC Monitor — Link EtherCAT data to IoT and supervision systems independent from EtherCAT controller!

EC Inspector / **EC Lyser** — Monitoring and troubleshoot EtherCAT networks

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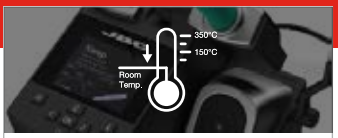
ELECTRO SYSTEMS ASSOCIATES

JBC

HEATING SYSTEM

JBC provides the **Most Efficient Soldering System** which leads to quality improvement & an efficiency increase.



HEAT MANAGEMENT

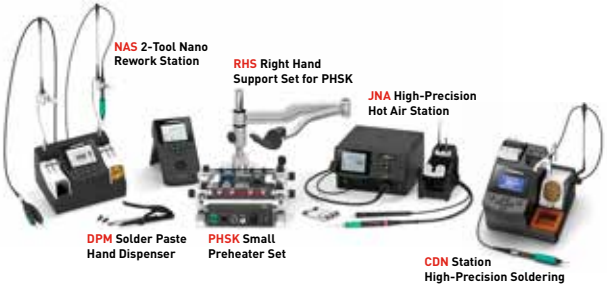
Thanks to both **Sleep & Hibernation Modes**, tip life increase exponentially.

INCREASE PRODUCTIVITY

Use **Quick Cartridge Extractor** to change quickly & safely without switching the station off.

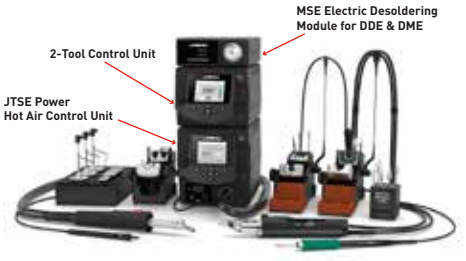
High Precision

NANO REWORK SOLUTIONS



High Power

RMSE COMPLETE REWORK STATION



SMD Rework System

The ideal solution for your entire rework tasks.

Includes Hot Air Station, Preheater with PCB Support, and Rework Arm.

JBC Preheater Range

For rework on multi-layered PCBAs and/or large ground planes in order to avoid thermal shock and facilitate soldering as well as desoldering processes.

ADJUSTABLE TWEEZERS RANGE

Provide the highest precision when soldering or reworking SMD components.

Preheaters

Fume Extractors

Tip Cleaners

Auto Feeder

Wire Stripper

Automation

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ELECTRO SYSTEMS ASSOCIATES

PDR | REWORK

ELEVATE YOUR EFFICIENCY, EMBRACE AND EXPERIENCE THE FUTURE OF REWORK, TODAY!

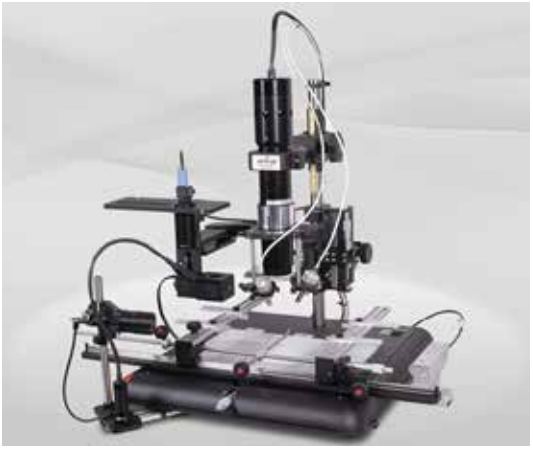
BGA/SMT REWORK STATIONS

PDR designs, manufactures, and distributes IR Rework Stations, Industrial X-Ray Inspections Systems, and IR Thermal Test equipment for the electronics component and PCB assembly industry.

PDR isn't just a brand, it's a revolution delivering unmatched control and effortless execution.

At the forefront of SMD rework technologies, PDR are working with many of the world's top names in:

- Electronic Manufacturing
- Defence
- Automotive
- Medical
- Research & Development



PDR IR-E3

- Advanced Focused IR component heating
- Quartz IR PCB preheating with up to 3 zones
- Split Beam prism system for simultaneous PCB/component viewing
- Precision Components Pick & Placement up to 10um
- Precision PCB handling
- Component Nest/Flux Application Facility
- Closed Loop Non-Contact Temperature Sensing
- Advanced Automatic Thermal Process Control
- Reflow Process Observation Camera
- PCB Forced Air Cooling

FOCUSED INFRARED

What you see you heat.
No collateral damage.
Instantaneous control.

PLACEMENT TECHNOLOGY

Our placement technology allows every operator to achieve the same standard of quality.

INTELLIGENT SOFTWARE

One profile to rework nearly all applications.

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ELECTRO SYSTEMS ASSOCIATES

PDR | X-RAY

X-RAY INSPECTION SYSTEMS

ULTRA HIGH-PERFORMANCE HIGH RESOLUTION IMAGE QUALITY COMPACT X-RAY SYSTEMS

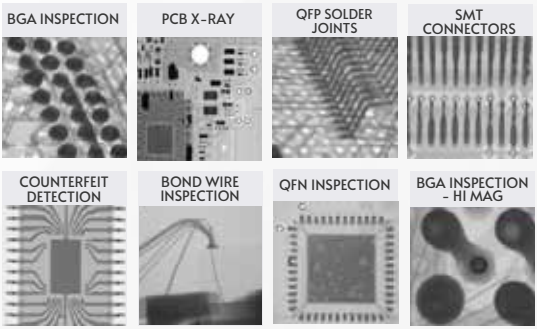
Founded in 1998, PDR Xray Systems has become a world leader in providing high quality industrial X-Ray solutions to specifically address the needs of the Semiconductor, PCBA, Medical Device, Government, and NDT communities.

Noted for high image quality and affordability, PDR XRAY Systems is the product of Engineering Teams formerly associated with GenRad, Teradyne, and Nicolet Xray Imaging Systems. This overarching expertise in the field of X-ray technologies has led to the development of superior performance PXI technology that forms the backbone of each PDR X-Ray system.

PDR's 90kV X-ray and 130kV X-ray systems are engineered with high-quality materials and craftsmanship and X-ray safety standards exceeding the most stringent requirements for industrial safety. All X-ray non-destructive inspection systems built by PDR are equipped with a suite of X-ray image processing tools and features that incorporate cutting-edge technologies to insure that your X-ray system delivers quality X-ray images and the power of analytic tools required for a successful X-ray program.

PDR GENX-130P

- BGA Inspection/Analysis
- Counterfeit Inspection
- Porosity/Voiding Detection
- Medical Device Inspection
- Wire Bond Inspection
- LED Inspection
- Less Than 1 uSv/hr (0.1 mR/hr) USFDA 21 CFR-1, J-1000, 1020.40



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ELECTRO SYSTEMS ASSOCIATES

DIAMOND SYSTEMS

Proven Rugged for the real world

Diamond's products are **designed and tested** to ensure ruggedness and reliability when used in harsh environment applications.

- Component selection including latching connectors and wide temperature components, the use of thicker PCBs on larger size boards, and extensive use of heat spreaders instead of heat sinks go a long way toward improving ruggedness.
- All products undergo temperature testing, including power cycling at temperature extremes, to ensure reliable operation.
- Select products have been put through shock and vibration testing to assure their reliability in demanding applications such as military ground vehicles. Products are typically tested with most features active (i.e. all I/O ports active and all expansion sockets occupied) and at full processor load, to provide greater confidence in the test results.

SINGLE-BOARD COMPUTERS

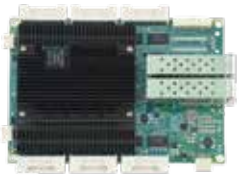
Saturn
Rugged Apollo Lake X7-E3950 SBC with Data Acquisition and PCIe/104 Expansion
Test Standard: MIL-STD-202H

Gemini
Rugged COM Express Compact type 6 SBC with PCI/104-Express and miniCard I/O expansion
Test Standard: MIL-STD-202H

Jasper
Rugged COM Express with PCI/104-Express and miniCard I/O expansion
Test Standard: MIL-STD-202H, MIL-STD-810H

ETHERNET SWITCHES

EPS-8130-XT
Managed 8-Port Gigabit Ethernet switch with embedded layer 2 software
Test Standard: MIL-STD-202H



EPS-24G4X-HSP
EPS-24G4X Managed 28-Port Gigabit Ethernet Switch with 4 10G SFP+ Ports
Test Standard: MIL-STD-202H

EPSM-10GX4
Compact Managed 28-Port Rugged Gigabit Ethernet Switch Module
Test Standard: MIL-STD-202H

I/O AND POWER

DS-MPE-GE210
PCIe MiniCard Gigabit Ethernet Module
Test Standard: MIL-STD-202H

DS-MPE-SER4M
4-Port High Speed Serial Port PCIe MiniCard Module
Test Standard: MIL-STD-202H, MIL-STD-810H

DS-MPE-GPIO
36 Channel Digital I/O PCIe MiniCard
Test Standard: MIL-STD-810H

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ELECTRO SYSTEMS ASSOCIATES

DIAMOND SYSTEMS

Proven Rugged for the real world

Mil-Grade Rugged Systems

Diamond Systems delivers military-grade rugged embedded computing systems and Ethernet switches with breakthrough pricing and delivery times. Common features and benefits of these systems include:

- Solid-body aluminum CNC construction
- MIL-DTL-38999 connectors
- -40 to +85 deg. C or similar wide operating temperature
- MIL-STD-461, -704, and -1275 compliant power supply with isolation option
- IP67 environmental protection
- Impressive I/O features
- High degree of configurability and customizability
- Short leadtimes and competitive prices

MIL-GRADE RUGGED SYSTEMS

GEODE-OSB
Rugged system with Nvidia Jetson AGX Orin supporting up to 8 GMSL cameras
Test Standard: MIL-STD-810H

GEODE-JSP
Rugged System with Intel® 11th Gen Core i7 processor
Test Standard: MIL-STD-810H

SabreNet-12000-001
Rugged 12-Port Managed Layer 2 or 3 Ethernet Switch
Test Standard: MIL-STD-810G

MIL-STD-202H TEST DETAILS

All tests conducted with products operational.

Test	Description
Sine sweep vibration	Method 204, tested at x, y, z axes 10-57 Hz @ 0.06 inch pk-pk 57-2000Hz @ 10G Sweep rate: 7.5 Min/Sweep, 2 Sweeps
Random vibration	Method 214, Table-1 Test Condition A, B, C & D Tested at x, y, z axes Condition D- 11.95 Grms for 15min
Shock	Method 213, Condition J, tested at x, y, z axes Half sine waveform test, 30G, 11mSec 3 shocks/direction

MIL-STD-810H TEST DETAILS

All tests conducted with products operational.

Test	Description
Random vibration	Method 514.8, Table 514.8 C-VII, Category 4 Tested at x, y, z axes and envelope 40 Minutes per axis @ 2.24 Grms
Shock	Method 516.8, tested at x, y, z axes and envelope; Terminal peak saw tooth, 40G, 11mSec 3 shocks/direction, operational; 40G, 6mSec, 2 shocks/direction, non-operational

MIL-STD-810G TEST DETAILS

All tests conducted with products operational.

Test	Description
Random vibration	Method 514.7C, Table 514.7C-V, Category 4, Tested at x, y, z axes, 40 min/axis 2.24 Grms
Shock	1. Functional Shock Test: Method 516.7, Procedure I, 40G 11ms, 3 shocks/direction 2. Crash Hazard Shock Test: Method 516.7, Procedure V, 75G 6ms, 2 shocks/direction

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Vision ENGINEERING

OPTICAL INSPECTION SYSTEMS

Eyepiece-less Stereo 3D Microscopes

MANTIS

3 - 15x
Magnification

Ergonomic
Working

Digital
Image Capture

5MP image quality · Long working distance · Ergonomic position · 3D optical · 3D view · Overlay & Image comparison · Import, export settings · Glasses free · HD · Outstanding image quality · 3D illumonation

LYNX EVO

2.7 – 240x
Magnification

Easy
Viewing

HD
Image Capture

360° · 360 viewer · Wi-Fi · WiFi · focus stacking · high precision stage

DIGITAL INSPECTION SYSTEMS

2D Digital Inspection Systems

MAKROLITE 4K

3x - 330x
Magnification

Wide Dynamic Range
Improved contrast

Ultra HD
Exceptional resolution

EVO CAM II

0.8 – 750x
Magnification

Large
Field of View

PC
control option

VE CAM

Wi-Fi
Screen sharing

Wide
Field of View

Touch screen
Compatible

DIGITAL INSPECTION SYSTEMS

3D Digital Inspection Systems

DRV-Z1

6.1 – 93x
Magnification

Easy 3D
Digital View

Share
Live 3D View

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Sonel®

WE MEASURE GLOBALLY

MULTI-FUNCTION METER

INSULATION RESISTANCE METER

EARTH RESISTANCE & RESISTIVITY METERS

POWER QUALITY ANALYZER

FAULT LOOP IMPEDANCE METER

RCD METER

PAT - TESTER

MICRO OHM METER

THERMAL IMAGER CAMARA

CORONA CAMERA

CABLE LOCATORS

PHOTOVOLTAIC METERS

VOLTAGE & PHASE ROTATION TESTER

MULTIMETER & CLAMP METER

LUX-METER

HIPOT / VLF

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ELECTRO SYSTEMS ASSOCIATES

Monsoon Solutions Inc.

THE NEXT GENERATION OF 2-IN-1 HIGH PRECISION POWER MONITORING HARDWARE AND BENCHTOP POWER SUPPLY IS HERE

Eliminate the need to buy a separate power supply and power monitoring device. Save space and test setup cost using the highly scalable solution of Monsoon High Voltage Power Monitor (HVPM).

POWERFUL SOFTWARE
Full featured Windows GUI-PowerTool. Multiple APIs support for Linux, Mac and Windows platforms which allow for fully-automated testing

WIDE VOLTAGE AND CURRENT RANGE
Main Channel- Output Voltage Range 0.8-13.5 V
USB- Up to 5.5 V
Aux Channel -Up to 13 V supplied externally
0.01 V Increments
Continuous Current 6 A

PORTABLE MODULAR DESIGN
Very flexible; Can be deployed individually at a single workstation or scaled up to rack mount style configurations for large scale testing

HIGH ACCURACY
Main Channel- Fine Current Range
50µA-60 mA; Resolution 0.9 µA
(+/- 50µA) in low current measurements
Coarse Current Range 60mA-6A;
Resolution 125 µA

WIDE APPLICATIONS
Development and testing of Smartphones, Tablets, Software App, Automotive, IOT devices with respect to Battery drain

APPLICATION HIGHLIGHTS

INDUSTRY LEADING CERTIFICATIONS
UL, FCC and CE certified

AFFORDABLE

BRIEF SPECIFICATIONS

- Size: 8 in x 6 in x 2 in (20 cm x 15 cm x 5 cm)
- Weight: 1.1 lb (0.5kg)
- Input power 115V to 240V, 47-63Hz
- Main channel 0.8V to 13.5V range
- USB channel 2.1V to 5.4V
- Aux channel input 0.5V to 13V
- UL, CE, FCC certified

TYPICAL USE CASES

- Smartphones, Tablets or Laptops
- Smartphone Apps
- Internet of Things (IoT) Devices, Medical Devices
- USB Devices
- Automotive Sub-circuits
- Prototype Designs
- Power measurement of Arduinos, Raspberry Pi and Microcontrollers
- Burn in testing

WHAT'S INCLUDED?

- High Voltage Power Monitor (HVPM)
- Power supply
- 2 alligator clips
- 2 USB cables
- Information card with links to PowerTool software and support documentation

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ELECTRO SYSTEMS ASSOCIATES

RelyUm

Relyum Time-aware High-Availability Reliable Ethernet H/W Solutions (HSR, PRP, TSN)

Relyum offers an innovative solution to face the new security challenges emerging in the context of IEC 61850 Smart Grids and substations.

IEC 61850 is the backbone for the Smart Power Automation and Control Systems (PACs), developed to provide a zero-delay and no frame lost Ethernet based networking solution for critical control messages communicated within these systems (like GOOSE or SMV messages).

Relyum by Soce products are key enablers for the time-aware high-availability reliable Ethernet network implementations in the next generation Digital Substations and Smart Grids:

RELY-RB Time-aware Redbox Switch

RELY-RB Time-aware Redbox Switch combines HSR/PRP redundant Ethernet links with regular Ethernet ones in a single equipment. This approach solves the need of switching PTP traffic and providing access to high-availability topologies to the regular Ethernet nodes or LANs.

RELY-REC Time-aware Network Recorder

RELY-REC Time-aware Network Recorder includes means for continuous network monitoring and further debugging. This equipment integrates advanced technologies to support combined PTP and HSR/PRP GbE topologies.

RELY-PCIe Time-aware Redbox-DAN -Switch PCIe NIC

RELY-PCIe Time-aware Redbox-DAN-Switch PCIe NIC allows direct access to time-aware high-availability networks to legacy PC systems (PCIe or PCI). Moreover, this board removes the need for additional Redbox equipment to connect other non-redundant nodes (Single Attached Nodes - SANs) thanks to the third port which implements low-latency switching to the redundant ones.

RELY-SV-PCIe Sampled Value Subscriber DAN PCIe NIC

Relyum has launched an innovative **edge computing product for the Smart Grids**, aligned with the current virtualization trends. This device incorporates to the RELY-PCIe model a powerful processing capability for protecting and measuring the quality of the Electric grid based on the SV provided by the merging units.

RELY-RB-SEC Secure Time-aware Redbox Switch

Relyum's offer is completed with this device, a redbox switch equipment with **IEC 62351-6 and IEC 62351-9 support**, that allows to retrofit the existing infrastructure by ciphering, deciphering and authenticating real-time traffic at wire-speed.

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ELECTRO SYSTEMS ASSOCIATES

PEAK System

Leading provider of hardware, software, and services for automotive and industrial communication with emphasis on the fieldbuses CAN & LIN.

Support for Automotive APIs

CAN/CAN FD/LIN Interfaces

- Single, dual and six Channels Interfaces for classic CAN/CAN FD/LIN/J1939 etc protocols
- Complies with CAN specifications 2.0 A/B and FD
- CAN/CAN FD bit rates for the data field (64 bytes max.) up to 12 Mbit/s
- LIN interfaces are compliant with all LIN specifications (up to version 2.2) and can be used as a LIN master or slave

CAN Analyser: PCAN Explorer6

- Cost effective, life time tool - no AMC
- Recording and playback of CAN/CAN FD / J1939 traffic
- Create your own database
- Import/Export existing DBC & ARXML files
- Automation with macros or VBScript
- Plotter, Instruments Panel analysis support for CAN/CAN FD and J1939 protocols

Diagnostic Tools: PCAN-Diag FD

- Measurement of CAN bit rate, bus load, termination, voltage level and CAN/CAN FD /J1939 data without PC
- Built in oscilloscope and supports sample rate of 100 MHz
- Load .DBC/ARXML file formats
- Built in memory card upto 3GB
- Connectors : USB, HDMI, DB9
- Operated via battery or external power supply

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