

GES PRODUCT PORTFOLIO FOR ELECTRONICS AND INDUSTRIAL AUTOMATION SOLUTIONS



Acute
PC-based T&M Instruments

acontis
Technologies

Artila  **DIAMOND
SYSTEMS**


DedProg


Elektro-Automatik

JBC

 **Monsoon
Solutions
Inc.**

PER | REWORK
SEALEVEL

 **PE
micro**

 **PEAK
System**

Phyton

 **Quarch
Technology**

 **RELYUM**
RFcreations
...a different perspective

 **SEGGER**

 **SECO**
Endless ways to the future

 **TQ**

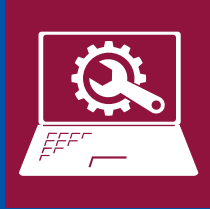
 **Vision
ENGINEERING**

 **XJ
TAG**

Embedded development tools by SEGGER



Debug & Trace probes



Software Tools



Embedded Software



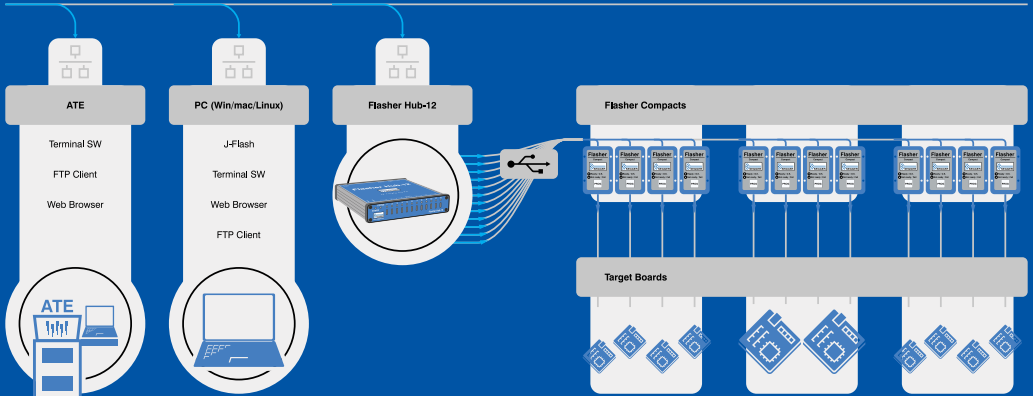
Production Tools



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



Telnet/FTP/HTTP



Gang programming with Flasher Hub-12 and Flasher Compacts

PRODUCTION PROGRAMMERS

PEMicro Programming Solutions

In-System Flash Programmers



- Available in 2 models: ARM and Universal
- Universal supports: 8/16/32 bit devices from NPX, Infineon and STM
- FX: Anti tamper technology & ProCryption Security
- FX: 200+ programming images, Extremely Fast: upto 75 Mbps
- Select and Launch programming via a barcode scanner

Multilink Debug Probes



- PC USB interface to Multilink allows for fast, easy programming and debugging
- Supports JTAG daisy chaining of multiple ARM MCUs

Python 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

Dediprogramming 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 Throughput: 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

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 Oscilloscope

- 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.



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-m^oreph.



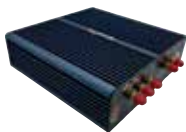
- World's smallest USB powered Protocol Analyser
- BR/EDR, BLE, Qualcomm QBHSL, MediaTek mHDTV2.0, IEEE 802.15.4, LE Audio and CS (Single/Dual/+++ options)
- Simultaneous RX & TX over the entire 2.4 GHz ISM band
- Live or post-capture decryption with blueSPY GUI
- 16 channel Logic Analysis & WiFi Packet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

m^orephE.



- 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

m^orephcs.
channel sounding



- 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

p^od^o
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

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

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



CYCLONE PROGRAMMERS

**In-system, stand-alone programmers
for internal & external flash.**

Versatile programming tools built for reliability on the production line. Rich feature sets offer terrific value. Support for ARM Cortex, AURIX TriCore, Renesas, PowerPC and 8-/16-/32-bit architectures.



Cyclone LC Programmer Features

Program with one touch, with or without a PC, after configuring a programming image. Programming can also be fully automated with the included Cyclone Control Suite.

- Simple To Configure & Operate
- Extensive Device Support
- Reliable & Feature Rich
- Easily Automated

Cyclone FX Advanced Features

The Cyclone FX programmer adds a tremendous boost in speed and storage size, allows expandable memory via the SD card slot, ProCryption Security, advanced automation & useful control port features.

- ProCryption Security (AES/RSA Encryption)
- WiFi Control, High-Speed Programming
- Massive Internal & Expandable Storage
- Advanced Automation & Gang Programming

EASY SETUP & POWERFUL FEATURES SAVE VALUABLE TIME



**SIMPLE SETUP/
PC-BASED**



**STAND-ALONE
MODE**



**CONTROL MULTIPLE UNITS
w/ CYCLONE FX or Advanced License**

Device Support

NXP: kinetis/S32, LPC, i.MX, HC08, HCS08, HC(S)12(X), S12Z, ColdFire V2/V3/V4, RSO8, Power MPC5xx/8xx, DSC, CPU3xx, QORIVVA MPC5xxx, 68HC16

STM: SPC5, STM8, STM32

Renesas: H8 and H8s/Tiny, MC16C and M16C80, M32C, R8C, RH850, RL78, RX600

Infineon TriCore: AUDD TC1xx, AURIX TC2xx/TC3xx

Legacy Devices: HC05, HC11, MAC7xxx, MCORE

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

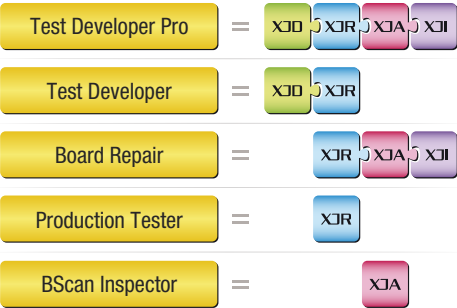


FAST BOARD DEBUG
Access the full capabilities of Boundary Scan

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 programming of JTAG and non-JTAG devices in-circuit from the same environment.

Select your XJTAG software package



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



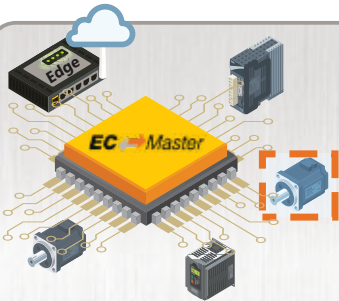
XJRunner - Production Test

Run-time Manufacturing Test & Programming Environment

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** Monitoring and troubleshoot EtherCAT networks
- EC → Lyser**



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

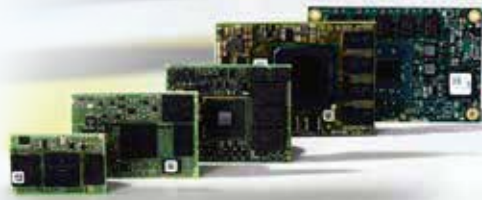
Category

- 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.



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.





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



www.seco-cn.com



sales@embeddedsingapore.com
www.embeddedsingapore.com



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.



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 Seal/I/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.

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



RELY-PCle 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-PCle 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-PCle 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.



Elektro-Automatik

MOST COMPREHENSIVE PROGRAMMABLE POWER SOLUTIONS

The EA-10000 series includes more than 180 devices: **programmable DC power supplies EA-PS & EA-PSI, bidirectional DC power supplies EA-PSB & regenerative electronic DC loads EA-ELR.**

All series come in power form factors of 2U, 3U and 4U

ATE TESTING SOLUTIONS

 <p>EA-PSB 10000 2U</p> <ul style="list-style-type: none"> ■ 1.5 kW and 3 kW ■ Up to 750Vdc & up to 120 Adc ■ Parallel up to 192 kW 	 <p>ELR 10000 4U</p> <ul style="list-style-type: none"> ■ Power 30 kW ■ 0 - 80 V up to 0 - 2000 V ■ 0 - 40 A up to 0 - 1000 A 	 <p>EA-PSB 10000 4U</p> <ul style="list-style-type: none"> ■ 15 kW to 30 kW ■ Up to 2,000Vdc ■ Parallel up to 1.92 MW
---	--	--



EA Advantages

- High power Density
- Output voltage up to 2000V
- Power output up to 30 kW
- Paralleling up to 2MW
- High efficiency up to 96%
- Autoranging
- Arbitrary waveform and function generator
- Digital control, Anybus
- Low EMC



Programmable DC Power Supplies



Programmable DC Electronic Loads (Conventional and regenerative)

INTERFACES, PORTS / SOFTWARE

- **Extensive portfolio of interfaces:** Analog, USB, CAN, CANopen, DeviceNet, RS232, EtherCAT, Ethernet 1 and 2 port, Profinet 1 and 2 port, Modbus 1 and 2 port, Profibus, USB-Host
- **Operating software EA-Power Control:** Monitor and control up to 20 devices simultaneously. Set and actual values in one graphic
- **Software EA-Battery Simulator:** Simulates Li-Ion and lead batteries

Reliable, Precise & Efficient Power Supplies for ATE Systems

EA- 10000 SERIES

Wide range of improved DC power supplies and electronic loads

EA POWER RACKS

- 19" cabinet system with up to 1.92 MW
- Systems with programmable laboratory power supplies, electronic loads with energy recovering and bidirectional laboratory power supplies
- Optionally available: Emergency stop (machine standards EN60204-1) Grid monitor (ENS) and insulation monitor Stainless steel water cooling Copper busbar for DC output
- Special construction for various applications

Laboratory Power Supply & Electronic Load
EA-PSB 10000, EA-PSI 10000, EA-ELR 10000



Air-cooled



Water-cooled



Up to 1.92MW in a rack system

AC MAINS POWER ANALYSIS MODULE



HOW TO ANALYZE AC-POWERED DEVICES

AC power analysis is critical for understanding and optimizing the power consumption of a huge range of devices. As more green energy standards come in and power prices rise, the requirements for testing will only increase.

We can analyse virtually any common mains or AC-powered device - Single or 3 phase.

FEATURES

- Measure 1-phase or 3-phase supplies
- Monitor voltage, current and power
- Capture data in Power Studio or direct to your own files
- Powerful automation option for capture and analysis

This device can capture high resolution AC traces for long periods of time:

- 8,000 Samples per second
- 16, 32 and 63 Amp versions
- Plug-and-play setup
- Manual and fully automated capture options
- PoE powered
- USB and LAN connectivity
- Supports upto 400v AC

QUARCH POWER STUDIO

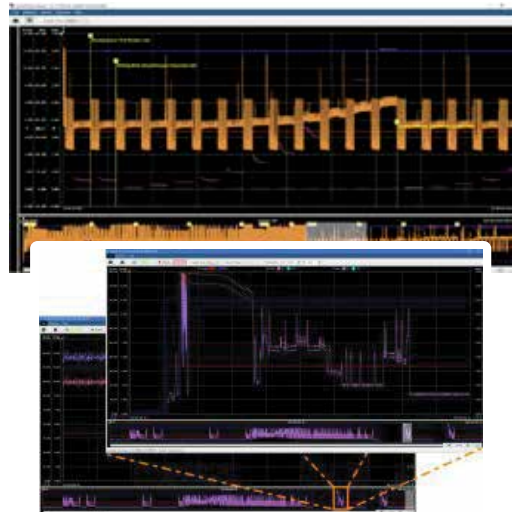
QPS (Quarch Power Studio) allows you to view and capture power data over extended periods of time, and easily analyze the power performance

FEATURES

- Record any length of power trace
- High resolution capture for detailed analysis
- Annotate traces
- Export screenshots and trace sections
- Measure detailed features and view area statistics

TECHNICAL

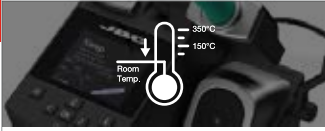
- Server (QIS)
- Handles multi-gigabyte files Java based application
- Built on Quarch Instrument
- No additional drivers needed





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.

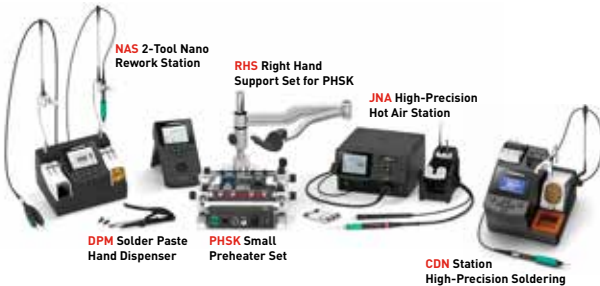


INCREASE PRODUCTIVITY

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

—High Precision—

NANO REWORK SOLUTIONS



NAS 2-Tool Nano Rework Station

RHS Right Hand Support Set for PHSK

JNA High-Precision Hot Air Station

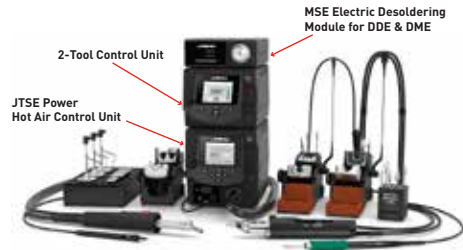
DPM Solder Paste Hand Dispenser

PHSK Small Preheater Set

CDN Station High-Precision Soldering

—High Power—

RMSE COMPLETE REWORK STATION



MSE Electric Desoldering Module for DDE & DME

2-Tool Control Unit

JTSE Power Hot Air Control Unit

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.



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.



**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.

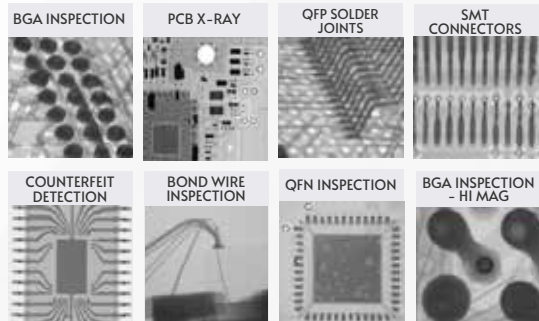
Noted for high image quality and affordability, PDR XRAY Systems is the product of Engineering Teams formerly associated with GenRad, Teradyne, and Nicolet Xray Imaging Systems. This overarching expertise in the field of X-ray technologies has led to the development of superior performance PXI technology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

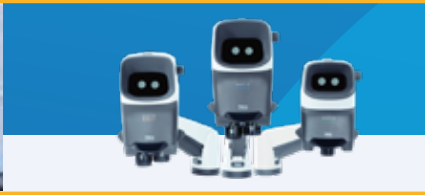
- BGA Inspection/Analysis
- Counterfeit Inspection
- Porosity/Voiding Detection
- Medical Device Inspection
- Wire Bond Inspection
- LED Inspection
- Less Than 1 uSv/hr (0.1 mR/hr)
USFDA 21 CFR-I, J-1000, 1020.40



OPTICAL INSPECTION SYSTEMS

Eyepiece-less Stereo 3D Microscopes

MANTIS



LYNX EVO



3 - 15x
Magnification

Ergonomic
Working

Digital
Image Capture

2.7 - 240x
Magnification

Easy
Viewing

HD
Image Capture



5MP image quality



Long working distance



Ergonomic position



3D view



Overlay & Image comparison



Import, export settings



Glasses free



Outstanding image quality



3D illumination



360 viewer



WiFi



focus stacking



high precision stage

DIGITAL INSPECTION SYSTEMS

2D Digital Inspection Systems

MAKROLITE 4K



EVO CAM II



VE CAM



3x - 330x
Magnification

Wide Dynamic Range
Improved contrast

Ultra HD
Exceptional resolution

0.8 - 750x
Magnification

Large
Field of View

PC
control option

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

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

PCAN-Diag FD

PCAN-Router Pro FD



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

Support for Automotive APIs

PCAN-USB X6

6-Channel CAN & CAN FD Interface

PCAN-MicroMod FD ECU



PCAN-GPS FD



PCAN-USB FD



PCAN-USB



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



GOPALAM EMBEDDED SYSTEMS
www.embeddedsingapore.com

Gopalam Embedded Systems Pte Ltd

2 Kallang Ave., # 09-21, CT Hub, Singapore – 339407

Tel: (+65) 6295 1646 | H/P: (+65) 9184 7992/9649 7444

Email: sales@embeddedsingapore.com

Web: www.embeddedsingapore.com