

# Why SUNIX ?

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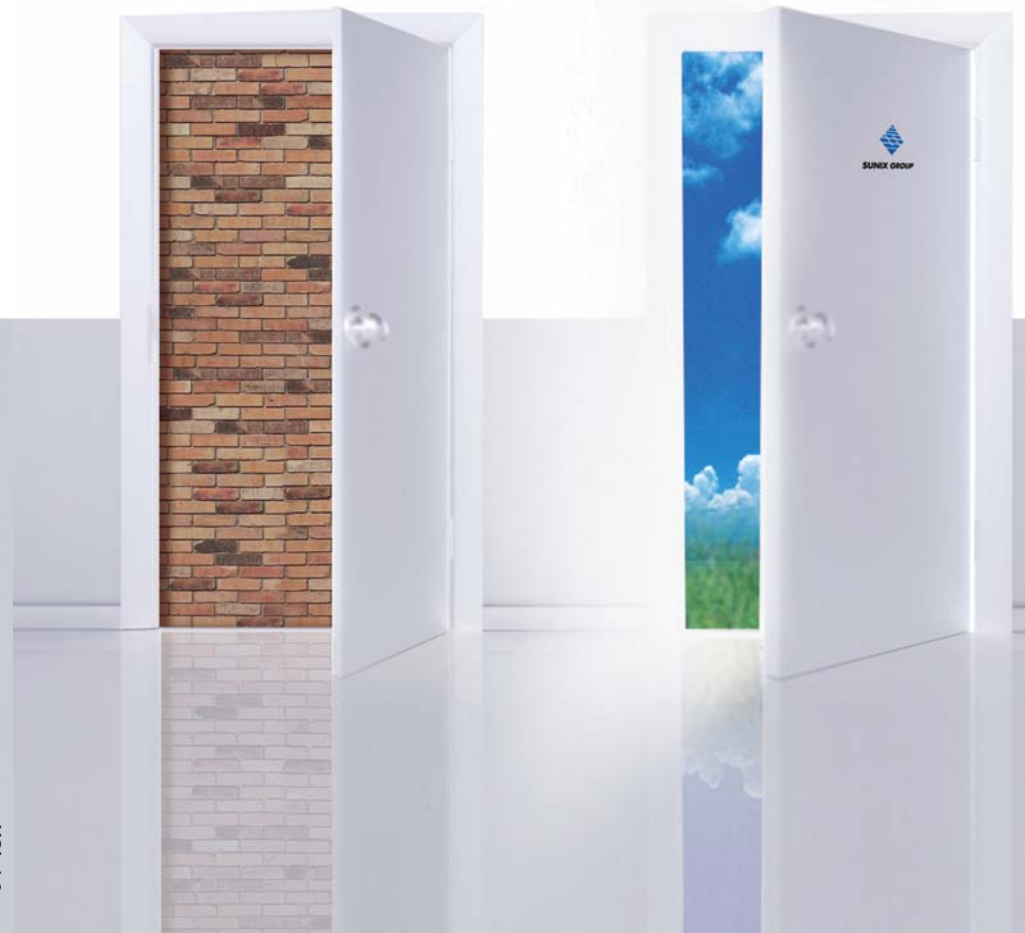
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## Why **SUNIX**

*SUNIX Co. Ltd., was founded in 1986. Over the past 20 years, we have specialized in the field of serial RS-232 communication. Our advanced technology as well as rich manufacturing and sales experience have an important place in the global market. “Why SUNIX” talks about our beliefs and values in R&D, manufacturing, and sales, and also shares success stories between SUNIX and its cooperating partners through application and real case examples.*

## **SUNIX CORE VALUES**

- R&D VALUES
- MANUFACTURE VALUES
- SALES SERVICE VALUES



## **R&D VALUES**

- IC Design
- Driver & Application Program Support
- Hardware Design

### **Insistence**

*Innovation and R&D of human technology that exceeds expectations is our passion and insistence.*



**From our IC designing, we have formed a complete R&D team that can provide customers with a full range of services**

### **A IC Designing Capability**

#### **1. Developed and introduced 11 self brand IC**

Since developing the first self brand IC in 1995, 11 IC chipsets have already been introduced as of 2009. This key IC designing technology gives SUNIX the ability to design IC and electronic circuitry that are tailor made for the customer and meet market demands.

#### **■ SUNIX IC R&D history:**

	<b>1995 SUN1689</b> Local Bus 16C750 UART		<b>2005 SUN8899</b> ARM Based Ethernet Controller SOC
	<b>1995 SUN1688</b> Local Bus IEEE1284 Controller		<b>2006 UL7512EQ</b> PCI Interface 16C750 Quad UART Controller
	<b>1996 SUN1699</b> PCI Interface 16C650 Dual UART Controller		<b>2006 UL7522EQ</b> PCI Interface 16C750 Octal UART Controller
	<b>1996 SUN1889</b> PCI 16C650 Dual UART Controller		<b>2007 UL7534EB</b> PCI Interface 16C750 16 UART Controller
	<b>1996 SUN1888</b> PCI Interface IEEE1284 Controller		<b>2009 SUN1999</b> PCI Interface 16C950 Quad UART and Parallel Controller
	<b>2004 SUN8989</b> Ethernet to 16C550 Quad UART Controller		



## 2. The latest energy saving IC “MATRIX”

The new generation SUNIX UART Controller, “Matrix,” applies the latest green energy saving technology. Made from the advanced 90nm process, IC power consumption is greatly reduced to less than 0.35W, and at the same time, resolves the problem of computer break down due to power consumption overheating.

## 3. RS-485 ADDC/CS™

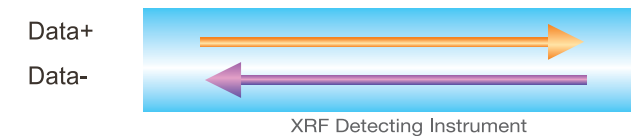
The new generation SUNIX Matrix comes with ADDC/CS™ (Auto Hardware Direction Control/Carrier Sense) technology, which can change the RS-485 communication mode settings from half duplex to full duplex, thereby effectively reducing the problems caused by data package collisions and enhancing the convenience of software designing for engineers.



Detect the carrier wave within nanoseconds



AHDC/CS™ RS-485 Hardware Direction Control/Carrier Sense



XRF Detecting Instrument

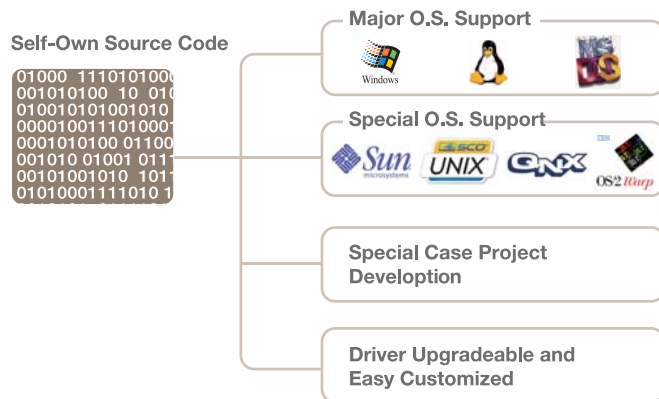




### **B** Driver & Application Program Support

#### 1. Driver support completely

SUNIX has formed its own software design team, which allows it to design IC products that are able to support the latest mainstream Microsoft Windows and Linux operation systems, and in addition, meet the customer's needs for specific operation systems, such as DOS, SCO Unixware, QNX, Sun Microsystems Soaris and IBM OS2.



#### 2. WHQL certification

SUNIX products have passed strict X86/X64 Microsoft WHQL certification, ensuring customers full compatibility with Microsoft Windows.





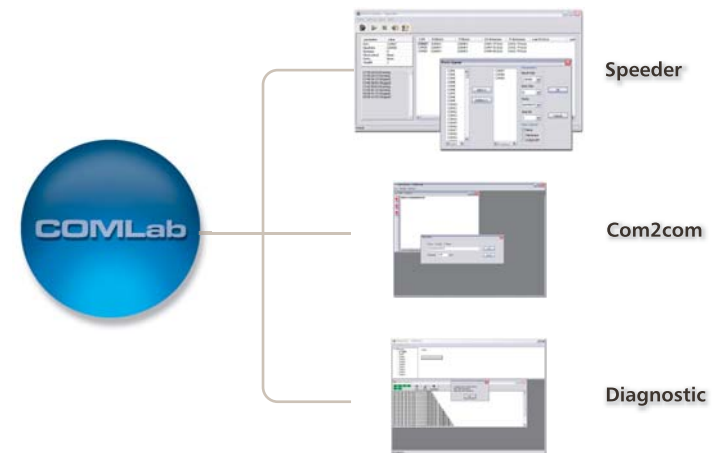


### 3. Humanized software packages and application programs

Humanized software packages or application programs are effective and easy-to-use tools that assist system engineers from project designing all the way to completion of inspection. SUNIX COM Lab software include Speeder, Com2Com, Diagnostic, and API formulas, which can be used for configuring product development design formulas, hardware electrical function testing, product efficiency testing, and debugging equipment problems.

### 4. Tailor made programs that meet customer demands

The Silent-Install Driver Package program provided by SUNIX can assist EMS manufacturers greatly reduce production testing steps, thereby assembling and testing in the shortest length of time.





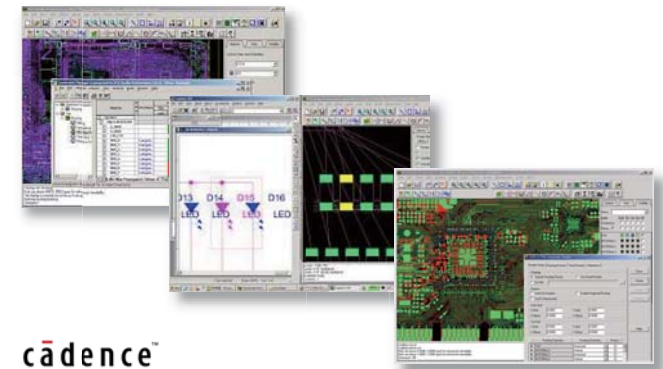
### C Hardware Design

The SUNIX electronic hardware team not only designs SUNIX self brand IC products, but also can meet customer's OEM/ODM requirements. Our accumulated product development experience range from the standard BUS interface with ISA, PCI, PCI Express, to wireless Bluetooth, 802.11x transmission, and industrial MODBUS interface, which are all mature technology. Moreover, our connectivity interface is the most widely used I/O connection device in the PC industry.



### 1. Layout design

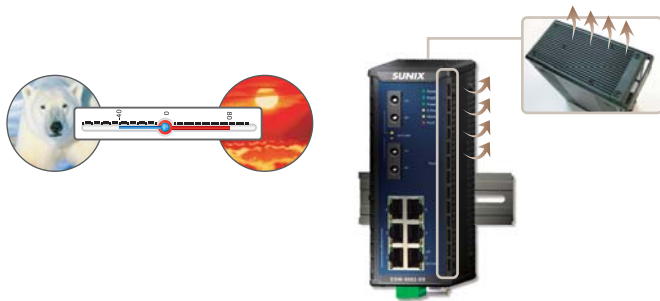
SUNIX Layout uses advanced Cadence Allegro software and complies with EMI requirements for industrial grade products.





## 2. Mechanical engineering and external design

SUNIX mechanical engineering ranges from temperature resistance (-40°C ~ +85°C) to IP67 water resistance rugged structure design. We have received many patents and awards for integrating the stringent environmental adaptation and heat dispersement requirements for industrial products with modern aesthetical external design. These designs not only preserve the spirit of its original creator, but also emphasize operation interfaces that have a human touch.



## 3. Laboratory quality control

SUNIX's quality control laboratory ensures product quality and certification during the R&D process, including Logic Analyzer & Oscilloscope for IC and product signal transmission quality measurement, programmable temperature & humidity chamber for operating and storage environment testing, EMC Transient Instrument for ESD, Surge and EFT signal testing, and EMI Test laboratory.





## MANUFACTURING VALUES

- Green Environment Manufacturing Site
- Meet Environmental Protection Standards
- Strict Quality Control System

### **Responsibility**

*Providing high quality products that help preserve a green Earth is our responsibility.*



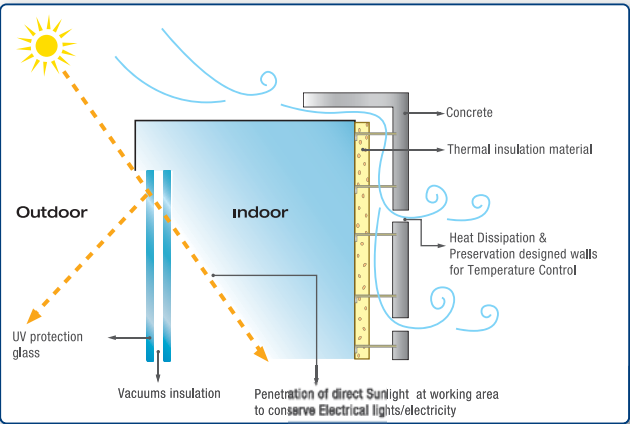
**We are committed toward providing products that meet Green environment standards, please join us in preserving our Earth**

## **A Green Environment Manufacturing Site**

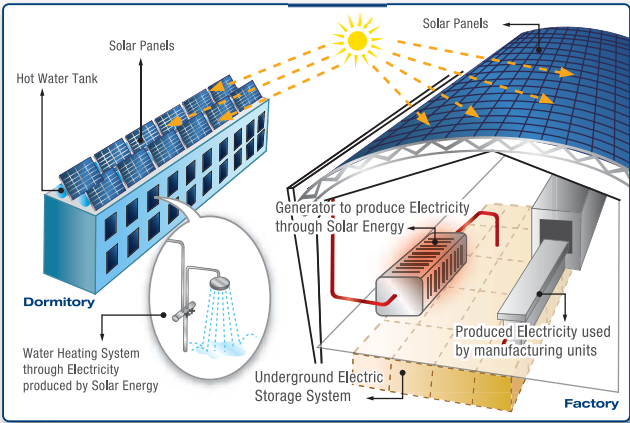
The new SUNIX factory is located in China's Kun-Shang City of Chiang Su Province, covering 30 hectares. Greenery and water resources are spread out over 37% of the site area. The factory and office space (19,000 sq. meters) uses the latest glass curtain design, bringing in natural light so that no lighting needs to be turned on during the day-time, thus saving 4560 Kilowatts of precious energy each day.

- $19000 \text{ (M}^2\text{)} * 30 \text{ Watt} = 570 \text{ KW/ Hr}$
- $570 \text{ KW} * 8 \text{ ( Hr/Day )} = 4560 \text{ KW / Day}$
- $4560 \text{ KW} * 25 \text{ Day ( Working day/Month )} = 114000 \text{ KW / Month}$

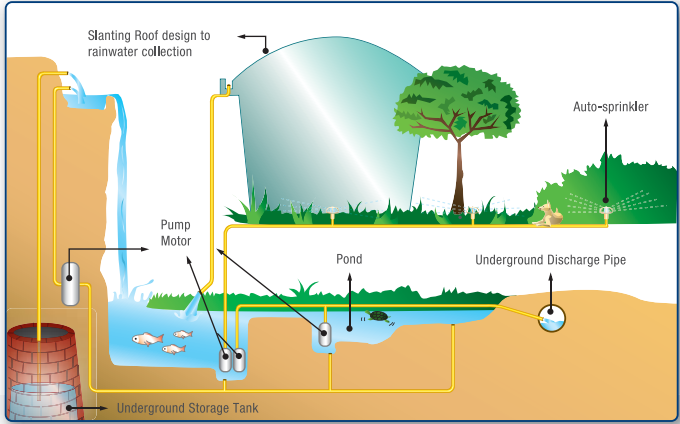




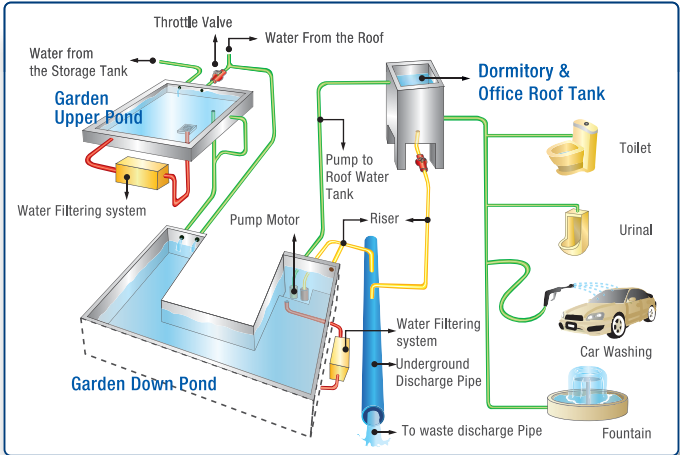
1  
Energy Conservation  
Architectural Design



2  
Solar Energy Electric  
Power Generation for  
Factory



3  
Water Irrigation  
System



4  
Harvested Rainwater  
System

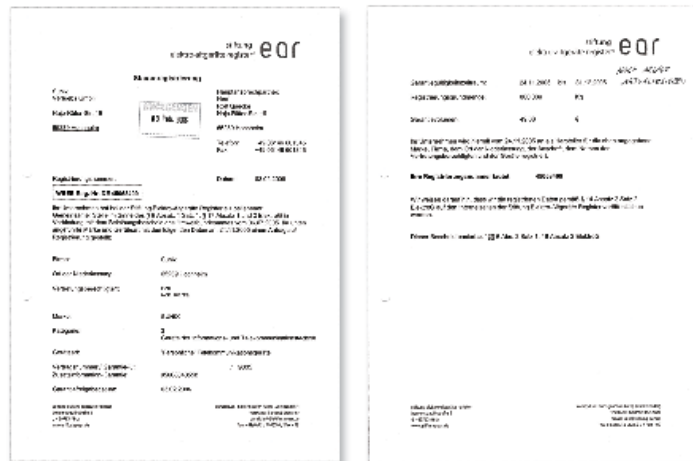




## **B** Meet Environmental Protection Standards

### 1. Comply with European Community WEEE

SUNIX products comply with WEEE (Waste Electrical and Electronic Equipment), which aims to reduce the damage to the environment brought about by the disposal and processing of waste electrical and electronic equipment. The Directive's main guidelines are prevention, recycling and safe disposal, and sets collection, recycling and recovery targets for all types of electrical goods.



### 2. Comply with RoHS

All SUNIX products meet the RoHS (Restriction of Hazardous Substances in Electrical and Electronic Equipment), which restricts the use of lead and other hazardous substances in electrical and electronic equipment, in order to protect human health and the environment.







## C Strict Quality Control System

### 1. Quality Certifications

SUNIX Kun-Shang factory accredited with international quality certifications

■ ISO9001:2000

■ ISO14000



■ QC080000







## 2. Electronic material engineers are responsible for setting up, analyzing components and conducting material reliability engineering

The SUNIX Kun-Shang Factory has electronic material engineers who are responsible for setting up each component as well as the specification and testing scope of the material.



### ■ Material reliability engineering

Once the electronic material engineers have set up the component and material specifications, it is tested and analyzed using the material and electrical laboratory testing facilities, then undergoes material reliability engineering to ensure the quality of the material.



• RoHS XRF Compliance Analyzers



• Salt Spray Test Instrument



• Programmable Temperature / Humidity Chamber



• EMC Partner Transient Instrument



### 3. Production process engineers are responsible for setting up and improving the production processes between SUNIX factories and suppliers

Production process engineers are responsible for the continuous improvement of production processes at the SUNIX Kun-Shang Factory. By implementing S.Q.C. and P.Q.C., improving production processes with suppliers and within the factory, production efficiency has greatly improved and the product defect rate is under tight control.



#### ■ Production process reliability engineering

As production process engineers continue to improve the production processes, ICT and AOI testing instruments are used to record and monitor the processes to ensure that the production process improvements have effectively enhanced product quality and usage life.



• Solder Paste thickness Test Instrument



• Automated Optical Inspection Instrument



• In-Circuit Test Instrument



#### 4. Establish product identification

All the products have been given an identification number. The ID number can be retrieved from a high temperature resistant sticker that is placed on every product. A product file and database is created for each component, which captures information on the supplier, product manufacturing date, testing results, maintenance records, etc., for quality tracking and control.



#### 5. Stringent production environment requirements

The factory has 1/100000 negative pressure air conditioning, and air shower tunnel. Workers must undergo static electricity testing and de-gaussing restrictions, while the material in the warehouses are temperature, humidity and dust volume controlled.



## 6. Education and training

Standard operation procedures (SOP) have been created for job descriptions and a knowledge management (KM) system has been set up. Employees undergo continuous education and training and new recruits can quickly learn about the company's culture and quality control policies through the KM system.





## **SALES SERVICE VALUES**

- Tailor Making Experience
- Establish Global Partners
- Professional Service

### **Commitment**

*Understanding customer needs and creating the greatest benefits for customers is our commitment.*



**We have rich experience in tailor making, feel assured by giving your project to us**

### **A Tailor Making Experience**

#### **1. Expert knowledge of serial products**

SUNIX has been specializing in serial communication products for over 20 years. The R&D and sales knowledge that we have accumulated can help provide customers with lots of industry information as well as the most appropriate product solution.

#### **2. Tailor making experience**

For the past 20 years, we have gained tremendous sales experience with customers worldwide through our outstanding products and services. Whether it is tailor making products, setting up transaction models, or managing customer's information databases, we make customers feel assured.





## **B** Establish Global Partners

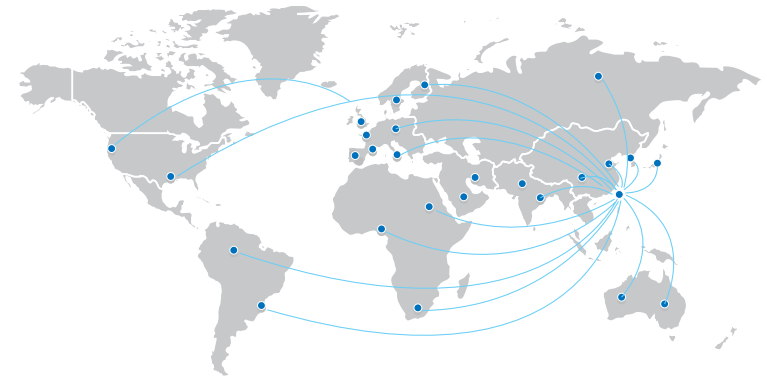
### 1. Full range product line

SUNIX's full range product line provides customers and partners with the most complete product sales support as well as the best product and services in the local market.



### 2. Global partners

The SUNIX sales team provides its customers with professional technical support, product information, along with the necessary sales assistance. It also works with the marketing team to provide customers with exquisite marketing material to help create the greatest value for the customer in the market.







## **C Professional Service**

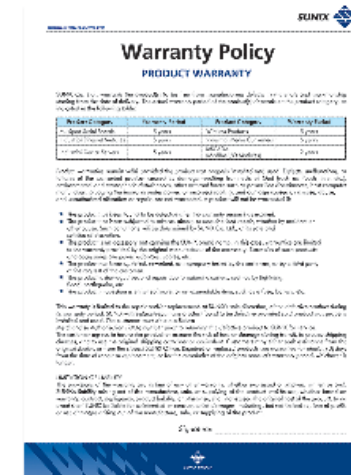
### **1. Technical Inquiry**

SUNIX sales agents can provide customers with professional explanation and technical support. A customer service center is also available to answer customer calls and e-mails. There is a FAQ section on the website to help answer frequently asked technical problems and an online index for customers to look up related application cases.



### **2. Product Warranty**

Based on the specific product line, all high quality SUNIX products are fully warranted from the day the product is shipped out.





## TRUE STORIES

*For more than 20 years, SUNIX has created many successful stories with its partners. We hope the following 12 examples will allow you to better realize the value of SUNIX's products and services.*

## 8 Ports & 16 Ports RS-232 Serial Card



## Professionalism and Passion That Move People to Tears

After intensive communication and cross testing, SUNIX's sales manager flew out once again to meet the customer. "We're sorry! This is the 46th day after the problem occurred before we are able to come up with a solution!" The customer was so moved that he started crying on the spot, then he tightly held the sales manager's hand and said, "Thank you, you have really given me great assistance."

This is an important project for a nationwide gas station that needed to change its gas pump control system. The customer put together a PC structure embedded controller by themselves. As the peripheral equipment around the gas pumps needed to expand RS-232 ports, they test the expansion cards of several other brands in the market. However, none of them could perform normally because the drivers were incompatible. With the delivery date of the system around the corner, no manufacturers were willing to step up and offer their help. When the local SUNIX sales manager learned about this situation, he immediately informed Taipei headquarters, and the head of R&D immediately flew to see the customer to conduct SUNIX 8 ports expansion card testing.

This special compatibility problem with the operating system also occurred on SUNIX products as well. Unfortunately, due to the project's tight time schedule and the large amount of money already invested, the system couldn't be changed. SUNIX sales, PM, and R&D teams formed a special project team to conduct simulation and testing. The whole system was rebuilt in Taipei. Through constant back and forth visits as well as lots of interaction, on the 46th day, the sales manager flew over to see the customer in person and explain to them that the mission was accomplished.

## WHY SUNIX

### ■ SUNIX R&D team accomplish the impossible mission

In this project, with the customer's system unchangeable, the SUNIX R&D team made adjustments to their IC, hardware, serial RS-232 linkage cable, and recompiled the driver to meet the customer's special requirements, thereby accomplishing a mission that was almost impossible.

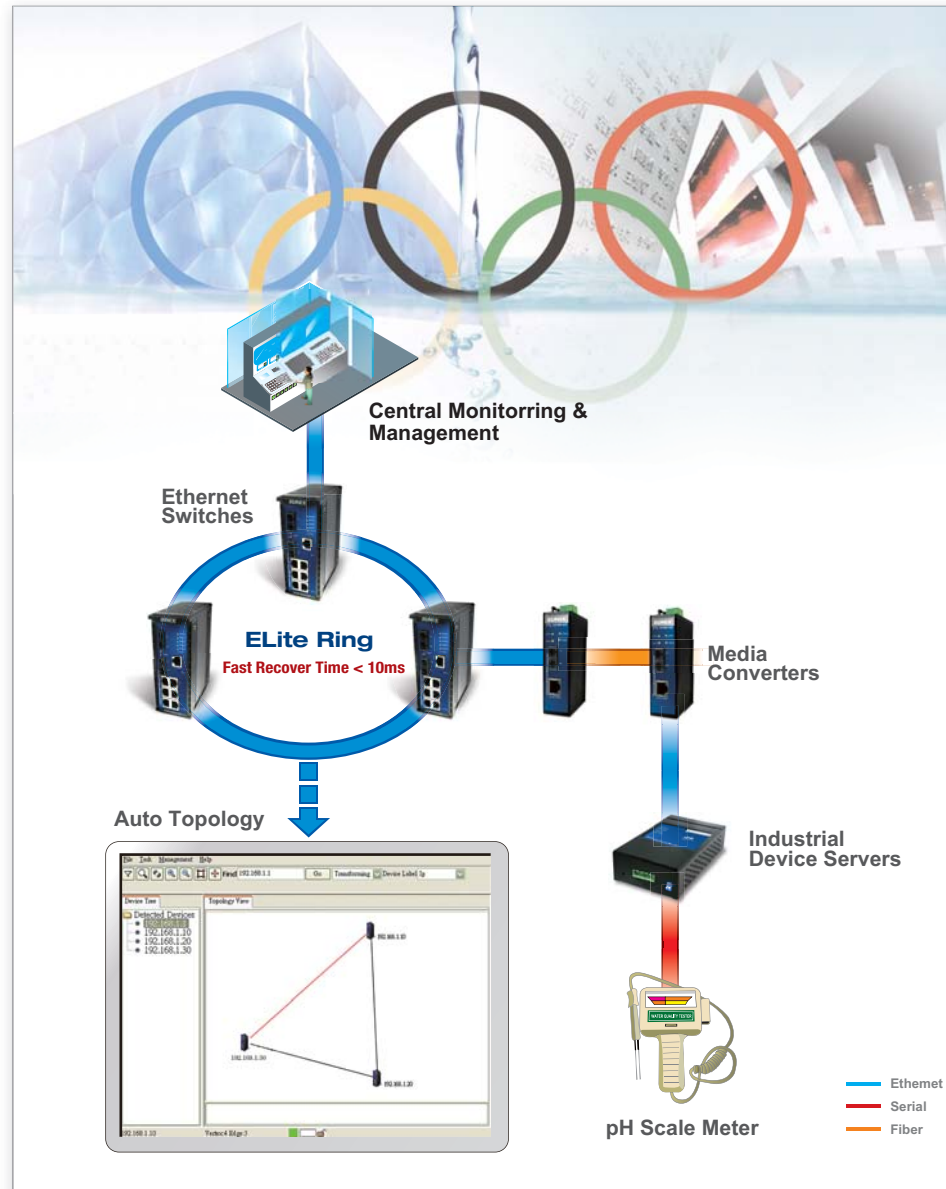
### ■ Treat the customer's problem as our own problem

"Outstanding technical skills + passionate and aggressive attitude" is the important spirit behind SUNIX's core values. Through relentless rebuilding, analysis, and cross department testing, we were able to resolve the customer's problem. Moreover, we often exceed customer's expectations by treating the customer's problem as our own problem.

# Water Quality Monitoring

2008 Beijing Olympics Project

## Industrial Device Servers



## Perfect Performance at the 2008 Beijing Olympics

During the 2008 Beijing Olympics, as crowds wildly screamed and applauded, the “Water Cube” became the swimming venue where the most Olympic and World swimming records were broke. Behind this amazing accomplishment was the enormous effort and pursuit of perfection by many, many people.

In 2005, the International Swimming Committee ruled that the turbidity in competition swimming pools must be 0.1 NTU. NTU, or Nephelometric Turbidity Unit, is the measurement unit representing the turbidity of the water, and is an important indicator of water quality. In a natural environment, the turbidity in most lakes and rivers are a few hundred NTU. The International Swimming Committee’s strict demand was too difficult to achieve and was opposed by many countries. However, the Water Cube did it. The turbidity of the water inside the Water Cube was only 0.1 NTU, matching the water quality for drinking water.

From the Water Cube to the Bird Nest to the perimeters of the Olympic Park, the set up of the water quality testing system network structure for the entire Olympic Village had to cover 680 hectares. Water quality monitoring and maintenance relied entirely on the computers in the Control Center and the communication with the network nodes. The quality of the drinking water for the Olympic athletes was also of the highest standards; therefore, a “precise” monitoring system in this case was of great importance. Through the SUNIX IDS serial device’s connection to the RS-232 interface and water quality monitoring equipment, the Control Center located 5 km away from the line layout could remotely monitor and test water quality via the network. In addition, through the exclusive SUNIX Topology software, the water testing results from all of the network nodes could be immediately and clearly shown, thereby completely fulfilling the extremely high water quality demands of the Beijing Olympic Preparation Committee and allowing the SUNIX IDS to put together a perfect performance in the 2008 Beijing Olympics.

## WHY SUNIX

### ■ Unique Auto Topology technology touches the heart

The Auto Topology technology is SUNIX’s exclusive innovative software developed for its industrial device server products. It can simultaneously monitor up to 255 pcs Industrial Ethernet Switch on the LAN and is very suited for long distance and multipoint node management and applications. Moreover, it can monitor the status of each Ethernet Switch on the network nodes and precisely show where a problem has occurred, so that the problem can be repaired in the shortest possible time.

### ■ Determination toward high quality wins the worldwide Olympic project

During the product development stage, SUNIX performs complete technical and quality management. The SUNIX IDS has Elite Ring auto recovery technology, which will recover data in less than 10 ms if there is a breakdown in the lines.

## 16 Ports RS-232 Serial Card



## A Meeting of Top Technology

In the unbearable heat of the barren northern desert, the SUNIX 16 ports serial card has already endured 270 days of nonstop outdoor burn-in testing. To ensure the absolute stability of the missile launch control system, the military spent endless hours conducting test after test under extreme conditions. Surprisingly, even in such a harsh environment, the highest temperature of the Matrix microchip inside the serial card still remained the same as the outdoor temperature, i.e. no extra heat was being produced that would affect its operation performance. The military was really amazed with this result!

The military conducted the missile launch system's self detection and test launch simulation with the RS-232. From missile launch, aiming, satellite positioning, ballistic analysis, etc. the RS-232 was used to transmit, send back, verify, and accurately control the drop site of the missiles. In the past, the military had always used a 16 ports serial card from a world famous manufacturer to control the missile launch control system. Currently in the market today, a single chipset can only support up to 8 ports. Therefore, to support 16 ports, 2 sets of chipsets are needed. Due to the space limitations and the high temperature caused by the 2 enclosed chipsets, the system became very unstable. Hence, the military decided to look for an even more advanced solution.

Matrix is the most intelligent chipset in the world today. Each chipset can support 16 ports. Its low power consumption < 0.35W, which almost generates no extra heat, is state-of-the-art technology. In addition, it only takes up one PCI expansion port, thereby resolving the military's original space limitation and overheating concerns. Not only was the hardware impressive, the SUNIX serial card also supports Sco Unix. The military's senior engineers can write their own program application using Sco Unix. This is a great benefit for the missile launch control system, which places high demands on self detection and test launch simulation accuracy. The Matrix chip gave the military's high technology a top notch match.

## WHY SUNIX

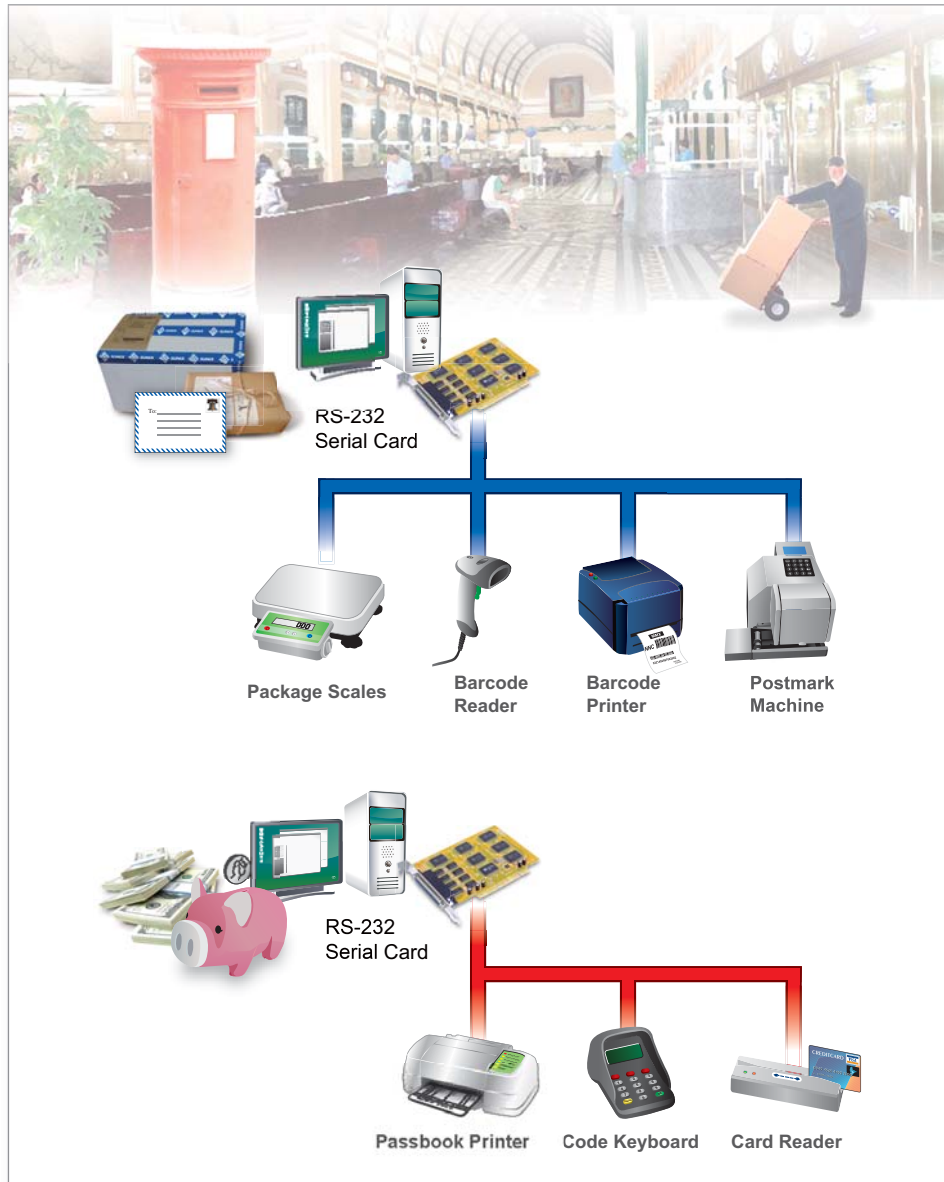
### ■ Fully supports Sco Unix, satisfies the need to write own program applications

The most important parts in the military's missile launch control system are the self detection and test launch simulation systems. The self detection system can conduct testing on the missile's aiming, satellite positioning, pressure signal, etc., while the test launch simulation is used to perform the ballistic analysis, which simulates the flight of the missile from when it is launched to when it hits the target. This can help save tremendous cost when the missiles are actually launched. These complex and detailed requirements can be completed by writing up special programs in Sco UNIX. The SUNIX driver team developed this special system support, thus becoming the customer's most solid back up.

### ■ 9 months of stringent burn-in testing wins customer's 100% trust

The Matrix intelligent chipset can withstand up to 80 °C temperature conditions. Even in full operation, the chipset's power consumption is less than 0.35W and generates almost no extra heat. The Matrix passed 9 months of burn-in testing by the military, proving that even under the most extreme environment, the Matrix's stability and quality is your best protection.

## 4 Ports RS-232 Card with Power Selectable



## A Priceless Lesson

In order to meet the SUNIX R&D team, the customer flew thousands of kilometers just to attend a training session on RS-232 principles and structure. From 9 p.m. to 3 o'clock in the morning, after 6 straight hours of introduction by the SUNIX R&D team, the members of the customer's project team got a new and deeper understanding of the RS-232 and its application in the development of the software for their national post office system. To them, this learning course was priceless.

When the SUNIX sales manager got hold of the serial card specification requirements for the national post office system project, he knew that it would be very challenging. The customer needed a serial card "that could support all standard and non-standard serial devices in the market," "can freely select 5V or 12V power supply," "can specify which PIN to supply power," "surefire over-current protection," and "signal transmission module can be freely matched." When the SUNIX R&D team handed over a tailor made serial card to the customer, they immediately requested to arrange a training session.

In the post office project, special software has to be developed to strengthen banking and postal services. How does the RS-232 signal run between the software and hardware to make the entire system operate smoothly? The customer clearly understood that SUNIX's expertise was well worth flying the distance, just for a lesson.

## WHY SUNIX

### ■ Strong tailor making ability

In this project, among the linkage serial equipment, there is an encryption keyboard that is not standard serial equipment. Therefore, the SUNIX R&D team made several adjustments to fit in with the customer's special hardware needs. This strong tailor making ability won the customer's confidence and trust.

### ■ Professional RS-232 technical support

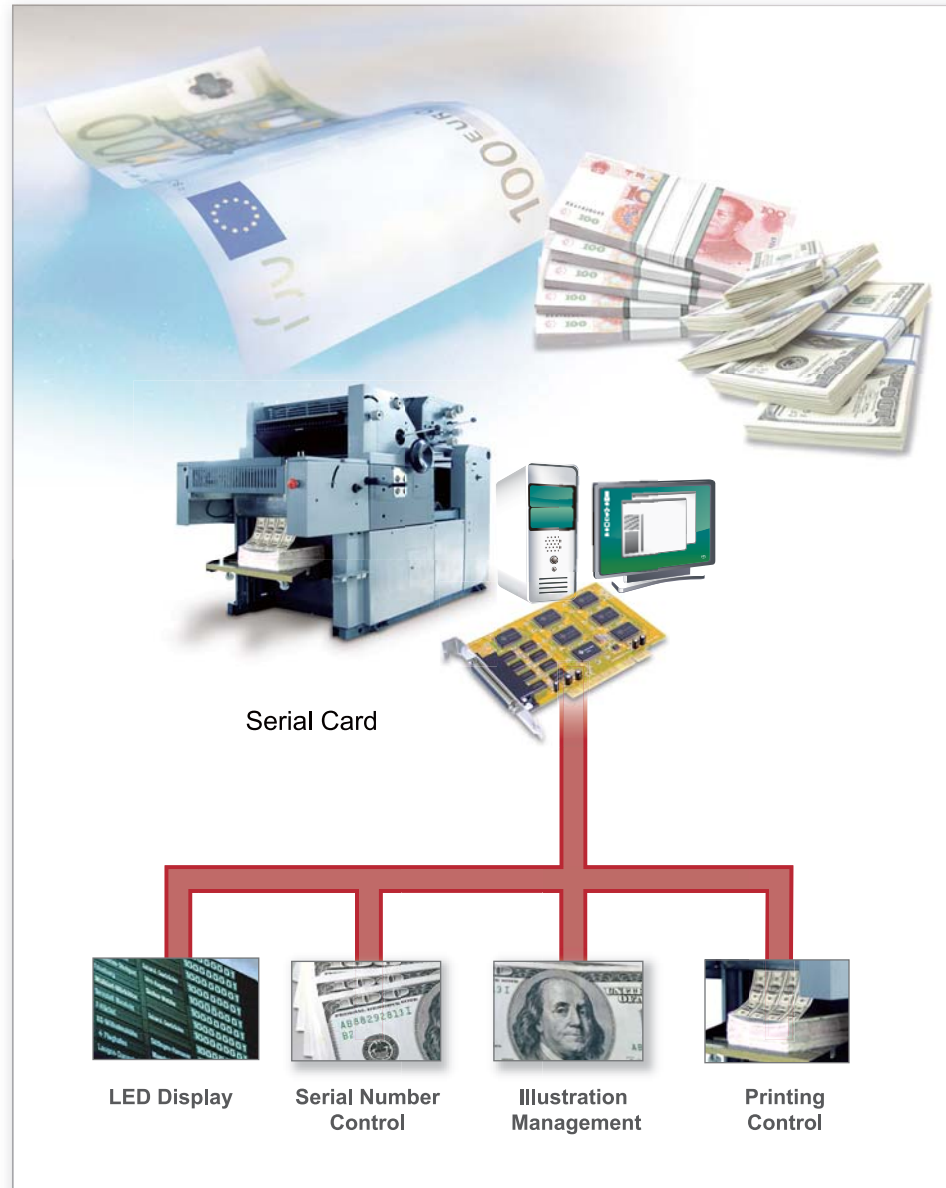
The SUNIX R&D team has over 20 years of RS-232 expertise and practical experience, which they passionately share with their global partners. Through this interaction, tremendous value is created.



# Currency Printing Shop

Banknote Printing and Counterfeit Banknote Counters

## 8-port RS-232 Series Communication Card



## Unveiling the Secrets of Currency Printing Shops

Once inside the 230 thousand square meter area of the currency printing shop, an indescribable sense of excitement rises as you walk through the magnificent marble paved lobby, because right behind it is the currency printing shop, where you can see and smell the fresh taste of finely crafted banknotes flashing before your eyes.

A senior technician tells us: What looks like a simple banknote is actually full of several hidden devices, such as currency figurehead watermark, hand carved sculptures, magnetic security thread, low-vision feature, currency denominator printed in color-shifting ink, horizontal and vertical dual numbers, micro-printing letters, etc. .... at least 10 different counterfeiting prevention security features. The most effective way to check a banknote's authenticity is by observing the hair on the image. The hair on a real bill is very clear and vivid, with each strand completed in one single brushstroke. Such fineness cannot be copied on a counterfeit bill. Currency printing shops use the RS-232 signal to perform such precise image control. In addition, the number of banknotes printed and the important task of assigning a serial number for each banknote is also precisely controlled through the RS-232 signal!

In order to raise the hurdle for printing counterfeit currency, technicians at the currency printing shops go all out in making new technological breakthroughs, and at the same time request very unique equipment specifications. SUNIX not only provides state-of-the-art RS-232 serial cards, but also produces customized RS-232 transmission cables that are tailored made to meet the special requirements of currency printing shops. This type of exclusive service allows currency printing shop workers to feel assured and at ease. After going through a continuous and rigorous verification process, it is hard not to respect the devotion and expertise that is behind the printing of each and every banknote.

## WHY SUNIX

### ■ Exclusive differentiation gives customers complete assurance

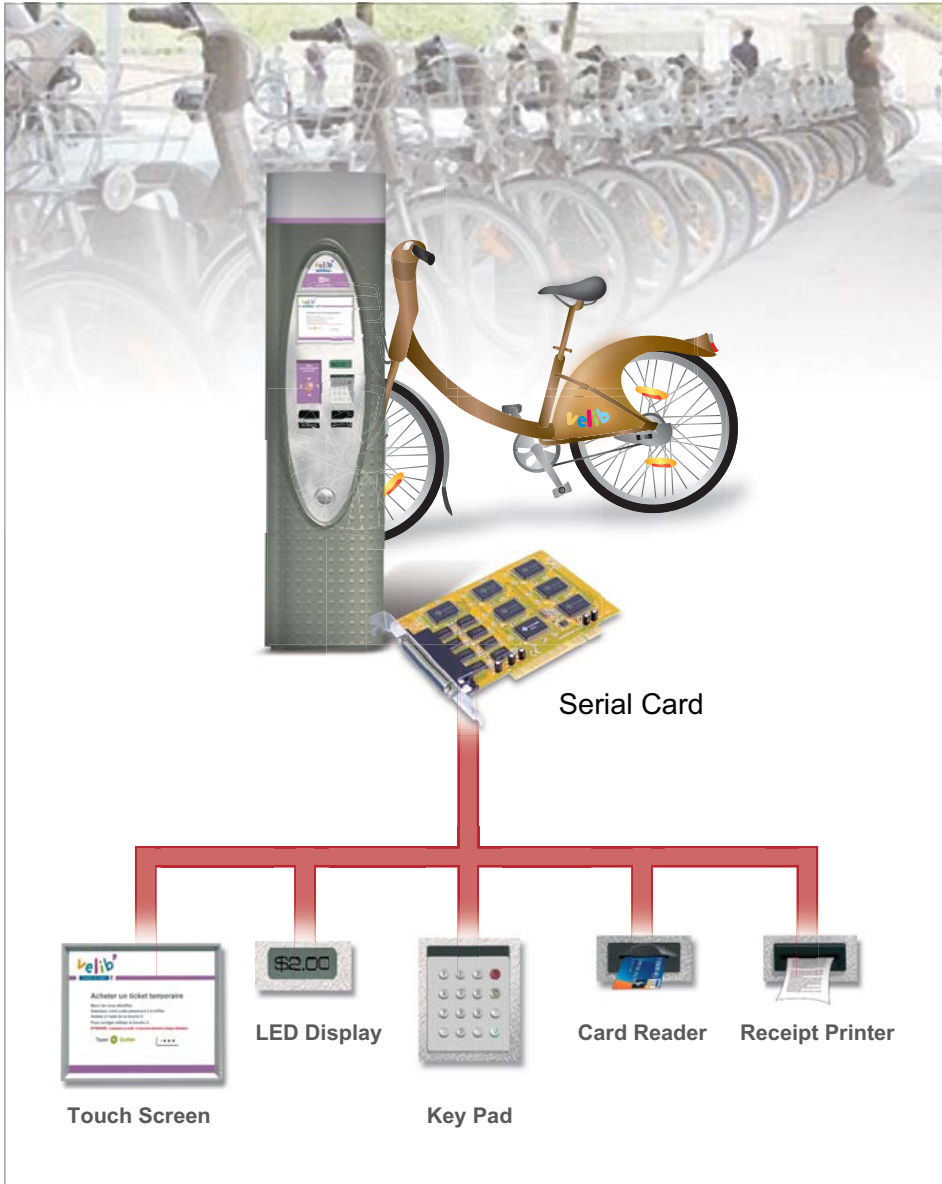
To prevent the leakage of currency printing technology, every process and detail within a currency printing shop is carefully controlled. The full range of services provided by SUNIX not only meets customer's demanding requests toward the RS-232 technology, its customized production of the RS-232 transmission cable also gives customers an exclusive differentiation, and thereby creating an additional layer of protection in the currency printing process.

### ■ Counterfeit banknote counters and foreign currency coin dispensers both controlled by the RS-232 signal

Counterfeit banknote counters are also used inside currency printing shops. The identification of counterfeit banknotes as well as the fast and efficient counting of counterfeit banknotes can be conducted through the RS-232 signal. In addition, foreign currency coin dispensers use the RS-232 to control coin insertion, press button selection, cash dispensing and counting.



## 8 Ports RS-232 Serial Card



## Using public bicycles to roam the beauties of the city

Riding a bicycle leisurely down the lanes and alleys of a city not only can avoid being caught up in congested traffic, but is also a good way of exercising and help save precious energy. It would be even better if you could ride freely around town, renting and returning the bike whenever you liked, not having to worry about parking or the bike being stolen, or about maintenance and repair. Whether you are a city citizen or a sightseeing visitor from afar, all you need to do is buy a value storage card and pay at an automated parking machine, then you can get on a bicycle to roam the beauties of the city.

Bicycling has become a new living and environmental protection trend! Cities in Europe have begun to provide public bicycle transportation service. The user does not have to return the bicycle back to the original pick up location; instead, they can drop it off at any other bicycle stand. It is also linked to the mass transportation system, turning it into a very convenient urban transportation network.

To make this innovative and practical public transportation project work, each automatic parking machine needs 8 ports RS-232, i.e.. For many years, the high quality image of the SUNIX serial card has been highly recognized by many government bidding projects throughout Europe. Our distributors sent the SUNIX 8 ports serial card for testing. Based on the previously built up trust, SUNIX was able to smoothly win the project and participate in the establishment of the public bicycle payment collection system. This was a great thrill and honor for SUNIX, because this type of civil service, which joins together art, environmental protection, and humanities, is the direction SUNIX is aiming to achieve.

## WHY SUNIX

### ■ The close partnership between SUNIX and distributors create win-win situation

SUNIX's sales team works closely as partners with its brand distributors worldwide, providing them with high quality products and technical support. To avoid unnecessary market conflict and provide timely information, SUNIX aggressively assists distributors with their customer service and backs up distributors' projects through effective tracking and management.

### ■ Combining art, humanities, and technology into the SUNIX culture

While most people have a cold and indifferent feeling toward technology, SUNIX is dedicated to providing intelligent, humanized communication technology to help people live a more convenient and comfortable life. The corporate culture mixes humanity and art, and promotes green environmental protection along with fashion aesthetics. The value of SUNIX products comes not only from its state-of-the-art technology, but also the new technology trend arising from its fusion of art, humanities, and technology.

## Bluetooth to RS-232 Adapter



## Modern Day Ship Navigator

Great advancements have been made in wireless communication technology, but most people still do not know how wireless communication can be applied! SUNIX's chief engineer of R&D drew up a clear structure chart on the conference white board, showing how the Port Authority Control Center can utilize Bluetooth and RS-232 technology along with GPS to control the flow of ships inside the port. Project officials at the Port Authority were thrilled at this clear and practical technological experience because the SUNIX technology would be taking big steps toward modernizing the country's ports.

The various types of linkage lines and adapters between GPS, PDA, and notebook computers often confuse and frustrate users. The SUNIX Bluetooth to RS-232 adapter can link up to the RS-232 serial port in the GPS, then transmit through Bluetooth 2.4GHz to the PDA and computer, which also have Bluetooth modules. Once the ship's global positioning coordinates are sent to the ship's PDA or computers, crew members can accurately judge whether or not they are on course or need instructions from the Port Authority Control Center, thus ensuring safe passage in and out of the port waters.

Ports are important windows for a country's economic prosperity while visitor and container throughput are important economic indicators measuring a port's development potential. Wireless technology has become modern day ship navigators, giving the country's gateways a professional and advanced image.

## WHY SUNIX

### ■ Rich industry application experience, wins customer trust

When the SUNIX R&D team drew up a clear wireless application structure chart on the conference white board, it greatly boosted customer's confidence and helped save a lot of unnecessary study and investigation time. This was a pleasant and win-win first contact and provided tremendous value for the customer, because with the support of SUNIX's technical team, it ensured that the project would be successful in the shortest amount of time.

### ■ Practical RS-232 to Bluetooth experience, helping customers implement wireless applications

Not only is the SUNIX R&D team strong in product planning and support, but more important is its valuable industry related knowledge that has been acquired through years of customer ODM experience. Although wireless products are convenient, however, the installation and set up process is relatively complicated. During the RS-232 to Bluetooth product development stage, SUNIX engineers were able to put their practical experience to the test, and help the customer quickly implement their wireless application.



# Airport Airport Environment Monitoring System

## 4 Ports RS-422/485 Serial Card



## Outstanding Technology Witnesses Historic Moment

As the flight from Taipei, Taiwan slowly landed at the new and modern Hongqiao International Airport, close to a century of separation disappeared in a flash and the shortest distance in communicating was found. Shanghai's Hongqiao International Airport uses the latest SUNIX Matrix serial card, helping to set up high standard airport facilities and witnessing a historic moment in cross strait direct flights.

Holding a certified inspection certificate from the Aeronautical Project and Design Institute, the technical support at SUNIX along with its distributors let out a sigh of relief. After three months of continuous hard work and challenges, this certificate was finally obtained. The Institute imposes very high requirements for international airports, demanding the best of every item in order to create a good image of the nation's gateway. This project required 4 ports RS-422/485 serial cards linking to IO modules. The system is used to provide travelers with the most comfortable environment by controlling the temperature, humidity, lighting, etc. inside the airport, and for monitoring flight safety, such as the wind speed.

Flight safety requirements are extremely accurate with no tolerance for error. The same high inspection standard also applies to the facilities inside an airport. The SUNIX RS-422/485 serial card has two important designs that greatly impressed the Institute. One was the AHDC/CS™, which is to control the direction of signals directly from the hardware. This is state-of-the-art technology. Along with the auto detect and switching RS-422/485 design, the Institute was very pleased and excited after completing the inspection. SUNIX's technical expertise and high quality serial communication products witnessed the historic moment of the first cross strait direct flight in a hundred years.

## WHY SUNIX

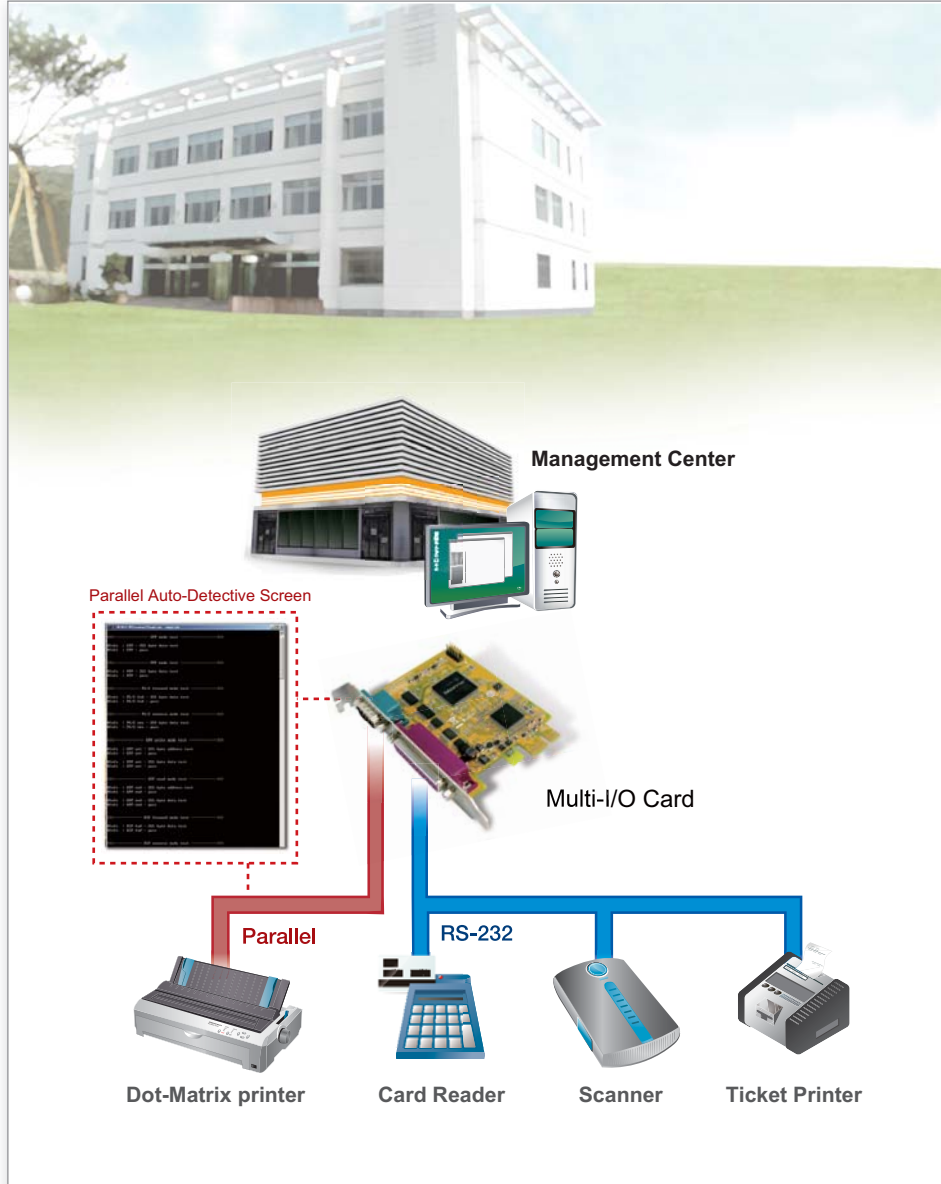
### ■ Top AHDC/CS™ technology controls signal transmission without almost no time lag

The SUNIX RS-422/485 serial card comes with the world's leading AHDC/CS™ technology. AHDC/CS™ technology controls the direction of signals directly from the hardware. This saves the hassle of having to write special software programs to control the signal flow and overcomes the disadvantage of not being able to precisely control the signal transmission time lag. The SUNIX AHDC/CS™ technology has built in Matrix chipset, enabling precise control of signal transmission without almost no time lag and the ability to detect the state of full duplex as well. For a project that requires accurate signal management, SUNIX provides the most precise signal control instrument.

### ■ Using technology to resolve the pains of history

As human culture continues to progress and develop, historical changes are bound to occur. SUNIX's leading serial and parallel port technology allows the global village concept to be gradually realized. Through academic, technology, environmental protection, and economic prosperity issues exchanging, people in all corners of the Earth will have the chance to interact with each other.

## 2 Ports RS-232 & 1 Port Parallel Multi I/O Card



## Working With Success to Create Win-Win

Many successful individuals or companies become successful by finding the right formula, and then replicating the formula over and over again, until they become the role model of success among their peers or their industry. National projects emphasize and rely heavily on previous success examples because these projects involve huge budgets as well as the overall development of the country. The highest national tax agency was revamping its tax collection system and needed a trustworthy vendor with plenty of successful experience.

We wanted a parallel card that could self testing and verifying completely support ECP/EPP/BPP/SPP. This was a very special request because it required a team that could design chips. Actually SUNIX parallel card not only can support all four modes, but even more special is its unique self detection design that can automatically detect the modes. The user simply plugs in the equipment and the SUNIX parallel card will automatically detect and adjust the necessary settings for the specific mode. This humanized design allows the user to completely forget about any manual setting problems. However, self testing and verifying support all four modes was a new and interesting topic.

From the beginning, the SUNIX chip design team built a self simulation and testing system. Through the virtual equipment, test results showed that the SUNIX parallel card could simultaneously support ECP/EPP/BPP/SPP modes. The SUNIX R&D team once again successfully fulfilled the customer's demands, and won the customer's admiration for its unique auto detection design. SUNIX's success experiences, spread through word of mouth, drove the country's highest tax agency to acquire the SUNIX 2 ports and 1 port parallel multi I/O card, enabling all the tax agencies to link up their office machines to printers and scanners. As the top ranking tax officer believed, "Only by working with successful people can you achieve even greater success!"

## WHY SUNIX

### Self detecting ECP/EPP/BPP/SPP modes

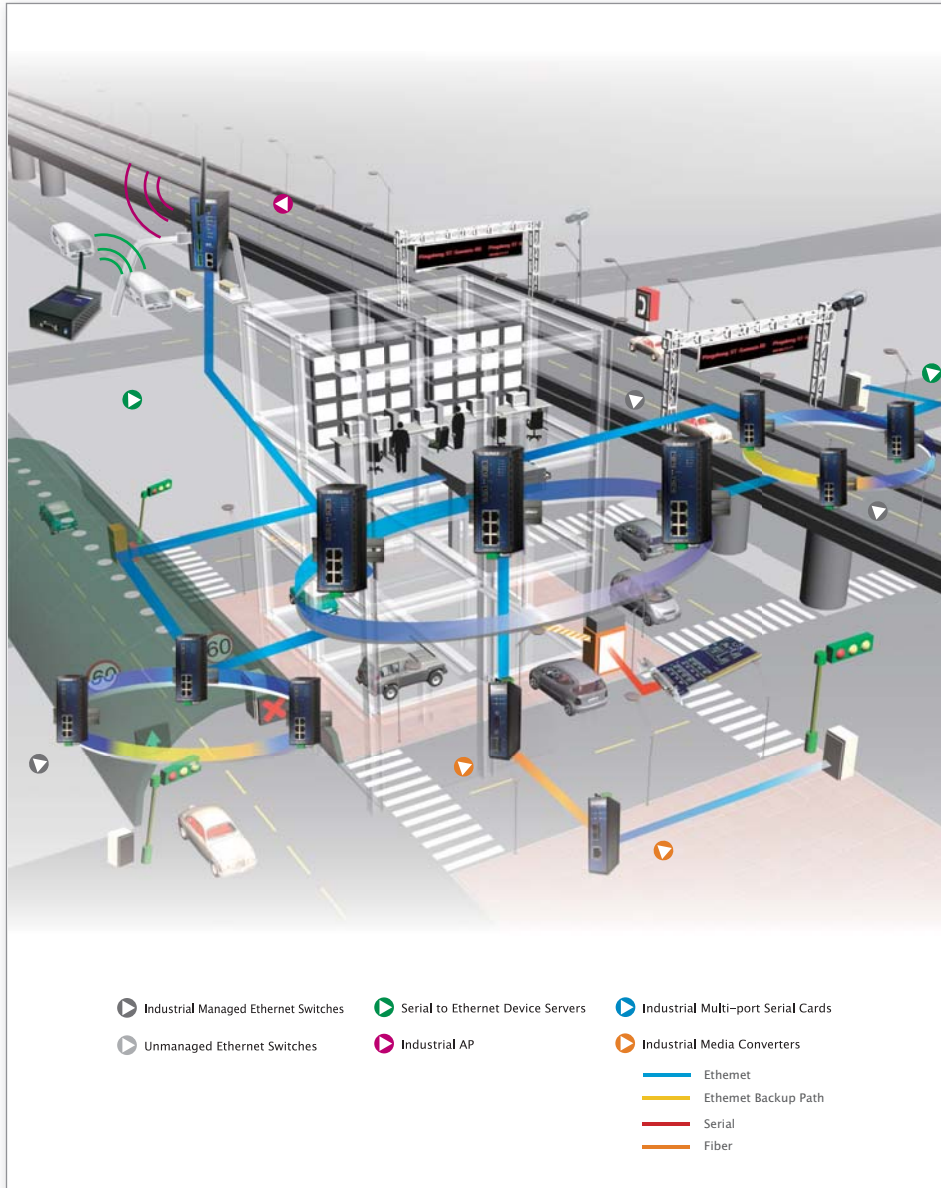
Being able to simultaneously support ECP/EPP/BPP/SPP modes gives more flexibility when expanding equipment. Full support of the IEEE1284 communication protocol allows easy equipment expansion such as printers, card readers, scanners, etc. to be added. The most important point in this project is the SUNIX R&D team's ability to fulfill the customer's demands and their passionate service, thereby winning the customer's complete trust.

### Working with success to create win-win

- SUNIX has been specializing in parallel and serial communication cards for over 20 years. Constant development and improvement has made us the leading manufacturer in the world, while our accumulated success experience can help many customers resolve their problems. We never know when problems will arise, but most important is the ability to solve the problems and march toward success!

# Transportation Highway Monitoring System

## Industrial Ethernet Switches & Fiber Media Converter



## A Glorious Battle

Highways are very important national constructions. Government agencies not only require highways to provide smooth, high speed transportation, but must also have safety protection measures. Through Ethernet network technology, the connection between highways, expressways and normal roads can be monitored, including all electrical information, emergency stop markers, dynamic sign posting and collection of traffic data via sensors separated by remote digital IOs. This system can distinguish between different types of vehicles; measure the weight, average speed, and traffic density, etc. The collected information is transmitted via an Ethernet network to a Central Control Center for real time safety monitoring and future construction planning reference.

Highways often cross a vast amount of territory. The sensors and signal facilities placed along the way must face the challenges of an ever changing environment when transmitting information through the Ethernet. Therefore, the system's reliability and stability is of the greatest importance. After more than 6 months of testing, among several manufacturers providing the same type of product, the Ethernet switches and fiber media converter supplied by SUNIX was the only one to fully pass the functional evaluation. Besides its high stability, its ability to withstand extreme -40 ~ 85°C temperature conditions and its easy to install DIN rail design received very high comments, thereby winning a glorious battle that lasted over one year!

## WHY SUNIX

### ■ Obtained many patents for outstanding mechanical engineering ability

The SUNIX mechanical team has many patents for its humanized designs. The Ethernet switches not only have outstanding heat dispersion function, it also has a patented DIN rail, so that when a switch needs to be changed or removed, it can be easily replaced and installed by simply pulling down on the clip lock.

### ■ Adaptable to wide temperature range in rigorous industrial environment

During the product design stage, SUNIX products must undergo strict laboratory quality control and testing. The SUNIX Ethernet switches went through repeated -40 ~ 85°C wide temperature range testing in the Programmable Temperature Humidity Chamber, so that it would still perform normally even under the most extreme temperature changing conditions.



### 4 Ports RS-232 Serial Card



### Music and fun at the tip of your fingers

After inserting a coin, you can immediately download the song onto your cell phone. The widespread application of multimedia KIOSK has brought about convenience and comfort into our daily lives. Through the Bluetooth wireless transmission or USB interface you can download your favorite music as well as the latest movies onto your cell phone, MP3, or IPOD. The multimedia KIOSK, which is installed in large shopping malls and department stores, provides music lovers with an all new instant multimedia access experience.

Compared to walking into a store and buying a CD, instant downloading provides even greater appeal and impulsive buying. The most important factor in multimedia downloading is stability. Product compatibility and quality requirements are also of the highest standard, i.e. "the product must be Microsoft WHQL certified" and the testing program is needed during installation. The SUNIX Serial Card series has already been WHQL certified, which can quickly create a mutual trust platform with the customer.

In addition, SUNIX provides a silent-install driver package that helps customers save a lot of online driver installation and testing time. The overall cooperation leaves a deep impression on both parties. SUNIX provides high quality products and services while customers turn wonderful music and fantastic movie clips into instantly accessible fun!

### WHY SUNIX

#### ■ Microsoft WHQL certification

Microsoft WHQL certification is the best way to ensure a product's compatibility with the Windows software system and its legitimate usage. All SUNIX RS-232 Serial Card products have passed Windows XP and Vista X86/X64 certification. This is widely used and trusted by customers around the world and can thereby effectively help customers win project bids.

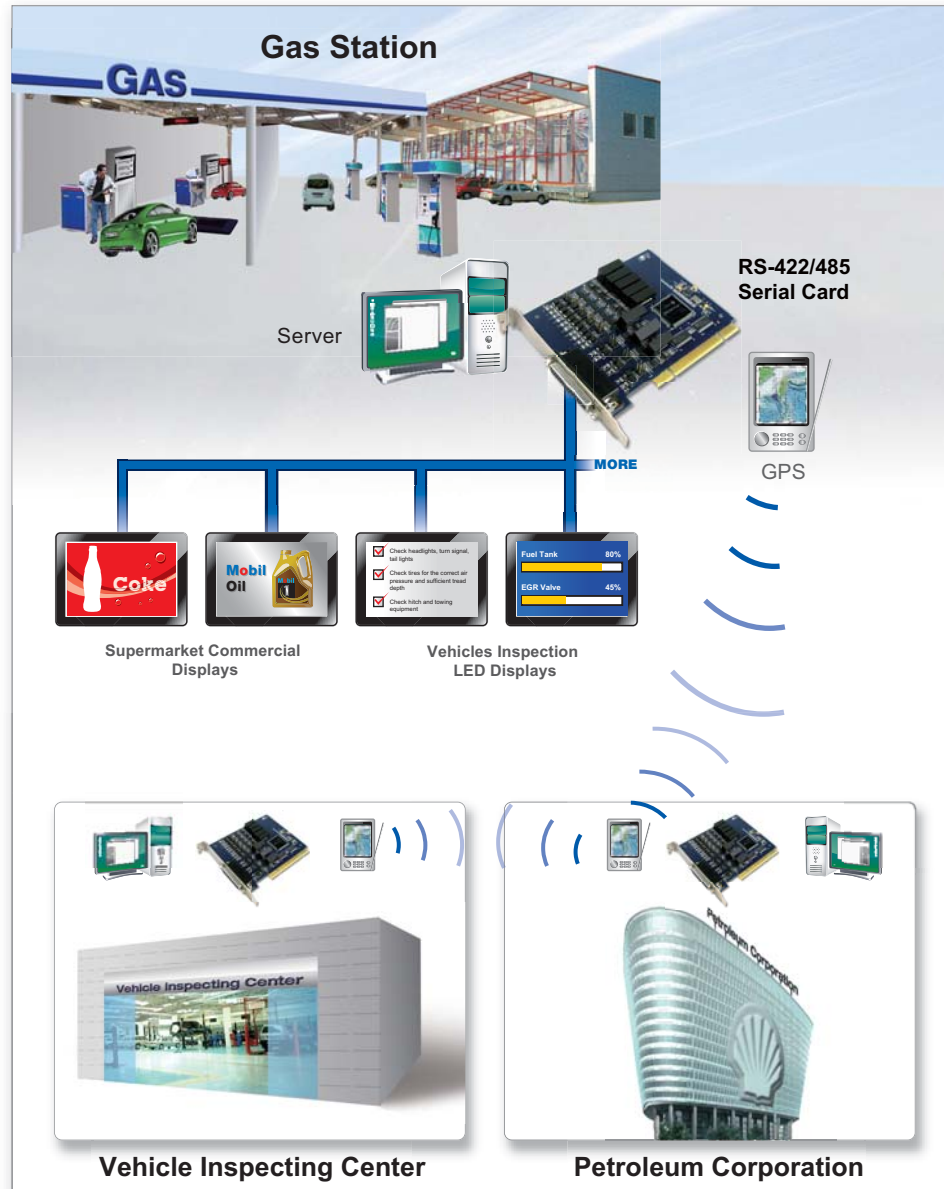
#### ■ Provide project EMS customers with the best solution

For project customers who need to install many PCs, SUNIX provides the silent-install driver package, which can greatly reduce the steps and time needed for driver installation and testing.



# Gas Station Multimedia and Motor Registry Operations

## 8 Ports RS-422/485 Card with Power Selectable



## The New Economics of Gas Stations

When you drive into a gas station, not only can you fill up on gas, but also inspect your car. If you have time, you can park the car and go into the supermarket to do some shopping. At the same time, the LCD displays in the supermarket are constantly broadcasting product commercials and messages, so that you buy a little bit more and satisfy your purchasing desires.

Combining gas filling, car inspection, and shopping, gas stations today not only provides convenience, but also creates new business opportunities for itself. In order to deliver vehicle inspection service, gas stations have to link up to the Motor Vehicles Office using the RS-422/485 linkage to GPS to perform long range wireless transmission. In addition, the LCD displays located within the supermarkets are also linked to the GPS through the RS-422/485 so that headquarters can update new commercials and messages.

The frequent driving in and out of cars from the gas station, vibration, noise, and lightning all can affect the long range signal transmission of the RS-422/485. The SUNIX RS-422/485 provides customers with surge and isolation protection for customers to choose from, which ensures that information and important equipment will not be damaged by sudden changes in electric voltage. Moreover, for gas stations provided diverse services, the SUNIX RS-422/485 Auto Detect and Switching design allows the various devices on the RS-422/485 to automatically switch signals. "Simple and convenient" has become the core competitive force behind the new gas station economics.

## WHY SUNIX

### ■ RS-422/485 Auto Detect and Switching

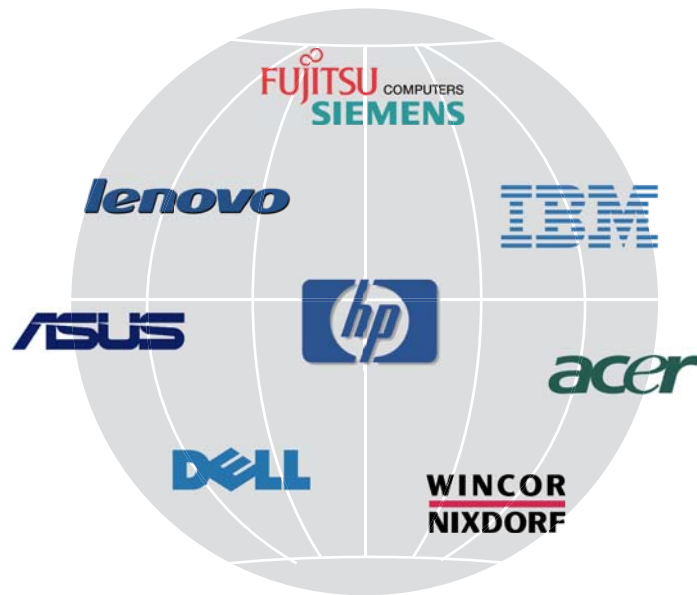
The SUNIX RS-422/485 Card has the unique RS-422/485 Auto Detect and Switching design, which can detect and determine whether the equipment point is a RS-422 or RS-485 and then automatically switches signals. This type of design saves engineers the trouble of having to switch signals when using the equipment.

### ■ Complete surge and isolation protection

The RS-422/485 is usually used for long range signal transmission. During the transmission, because of the long distance, signals are very likely to be affected by abnormal electrical surges or even lightning strikes. With the complex environment of gas stations, the SUNIX RS-422/485 provides 600W surge and 2.5K isolation protection to choose from, so that data transmission and customer's equipment won't be effected when sudden changes in electrical voltage occur.



## GLOBAL PARTNERS



## HISTORY

- **1986** Established in Taipei, Taiwan.
- **1987** Introduced the world's first Floppy Disk Controller Card with auto switch between 1.44M/720K/1.2M/360K.
- **1988** R&D Asia's first Hard Disk Controller Card for MFM/RLL features.
- **1989** Introduced the world's first Floppy Disk Controller Chipset, "8398," with integrated auto switch function for 1.44M / 720K / 1.2M / 360K.
- **1991** R&D Asia's first Hard Disk Controller Chipset, "8321" and "8322," with integrated auto switch function for 1.44M / 720K / 1.2M / 360K.
- **1994** Announced the world's first Parallel IC chipset, SUN1688.
- **1995** Announced the world's first PCI card, and received patents in over 50 countries.
- **1996** Announced the world's first PCI to Serial chipset, SUN1888, and PCI to Parallel single IC chipset, SUN1889.
- **1998** SUNIX I/O Communication Card product lines acknowledged for its outstanding quality and bestowed with the name of "Golden Card."
- **2001** Sin-Dian Factory in Taiwan is accredited with ISO 9001:2000 certification from the US and UK.
- **2004** Whole series of I/O Communication Cards received Microsoft WHQL certification.
- **2004** Kun-Shang Factory in China is accredited with ISO 9001:2000 certification from the US and UK.
- **2005** Kun-Shang Factory in China is accredited with ISO 14001:2004 certification.
- **2006** Announced the world's first 16 serial port chipset, "Matrix."
- **2007** Named as "Top Ten Communication Brands Influencing China."
- **2009** Kun-Shang Factory in China is accredited with QC80000 certification.

## BRAND VALUE

### Communication Intelligent

*SUNIX has been specializing in the communication industry. Its outstanding senior R&D team provides customers with a full range of communication products that are functionally stable, leading in technology, high quality, and reliable. By giving high technology a human touch and integrating humanities, art, and technical “communication intelligent” into our daily life, we can lead a better life; and through continuous innovation and fulfilling the needs of our customers, we can help you achieve success.*

### Technology meets daily life

