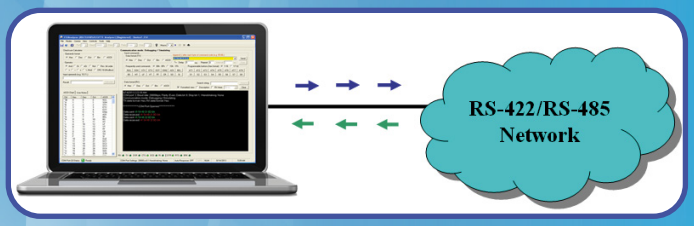
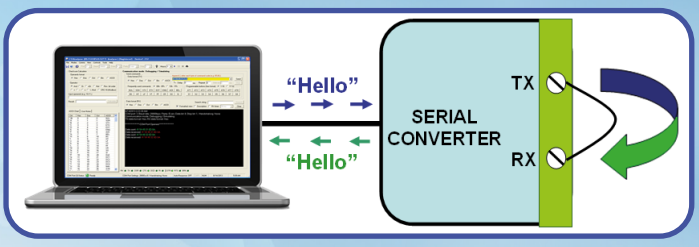
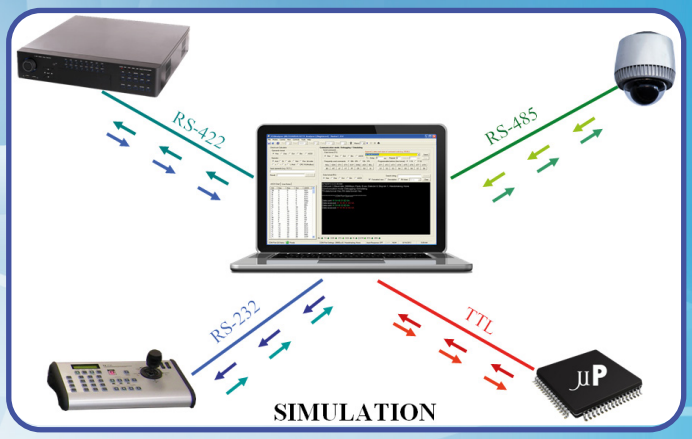
EXPLORE



System Diagnosis



Loopback Tests



Software Development

Reverse Engineering

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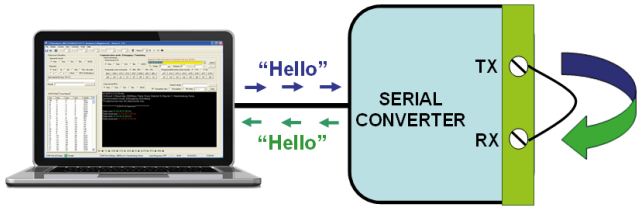
EXPLORE

UNLOCKING YOUR SERIAL DEVICES AND PROTOCOLS

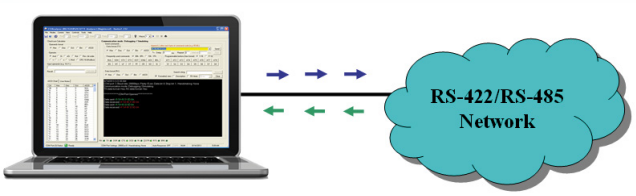
A data network does not consist only of hardware products; there are different types of software and protocols, and to make things even more complicated, many manufacturers have incorporated proprietary protocols for their devices. Integrating different devices and protocols within a data network is always the most challenging task for system integrators, firmware/software developers, and site engineers. With our powerful 232Anlayzer tools, controlling, monitoring, and debugging serial devices and high-level protocols have never been easier. The applications for our 232Analyzer tools range from the simplest loopback tests for both devices and serial data networks, to complicated protocol analysis and to sophisticated firmware and GUI software development.

Loopback Tests



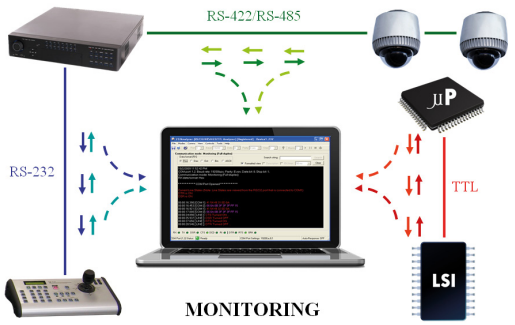
The 232Analyzer is a handy tool for performing loopback tests for both data and signals, providing a simple and effective way to verify the condition of serial devices and networks.

System Diagnosis



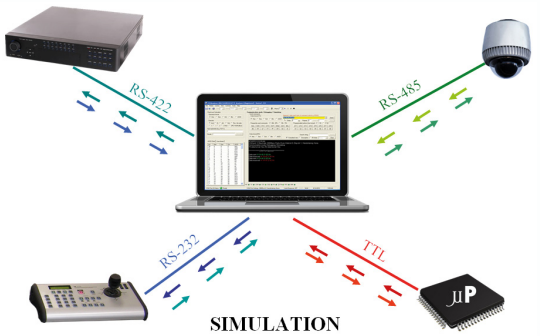
By tapping into any point within a data network, the 232Analyzer is capable of performing system diagnosis and analysis. Not limited to interaction with the master, it can also be used to communicate with the slave units and analyze the entire system.

Reverse Engineering



The 232Analyzer is capable of monitoring serial communications with direction indication and timestamps for long-hour recording. With the user-friendly logging window and options, reverse engineering has never been easier.

Software/Firmware/GUI Development



System integration is always the most challenging task in the data communication industry. The 232Analyzer software comes with the most useful and powerful features for simulating and integrating sophisticated serial devices and networks.

Benefits of Software Analyzers

- Because of their nature, software analyzers are generally more user-friendly.
- Software analyzers come with many more useful and powerful features than hardware analyzers do.
- Software analyzers are more cost-effective and convenient.
- The company licenses can be installed on multiple computers and travel from one place to another, requiring no additional expensive devices.
- Activation of software analyzers is fast and easy and does not require frustrating product waiting time.

Choosing the right analyzer tools can save you a tremendous amount of invaluable engineering time and cost! 232Analyzer is the best protocol analyzer of its type; it has been proven by tens of thousands of satisfied customers and is widely used in the communication, automation and control industries. Its clients include Boeing, Honeywell, Johnson Controls, NASA, Siemens, and many other market leaders.

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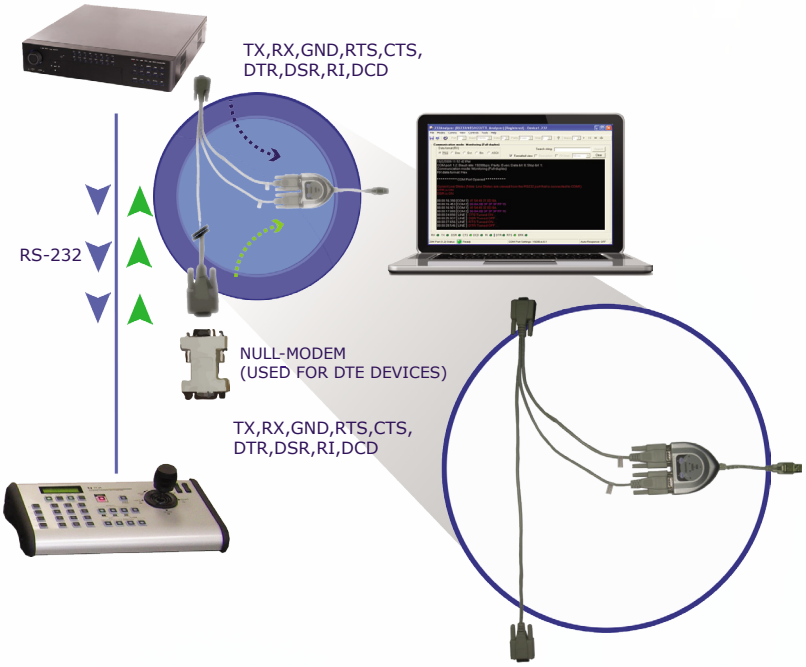
RS-232 ANALYZER

(DATA + FULL SIGNALS)

The 232Analyzer is an easy-to-use, powerful tool for system integrators, firmware/software developers, and site engineers to control, monitor, and debug serial devices and data networks.

RS-232 MONITORING



The 232Analyzer allows users to monitor full-duplex RS-232 communications with direction indication and timestamps. Not only is the data from both directions captured; the RS-232's signals (handshake line states) are also recorded in the logging window.

Key Features:
Data + full signal monitoring
Timestamps in milliseconds
Long-hour recording
Customizable color-coded logging window
Supports all data formats

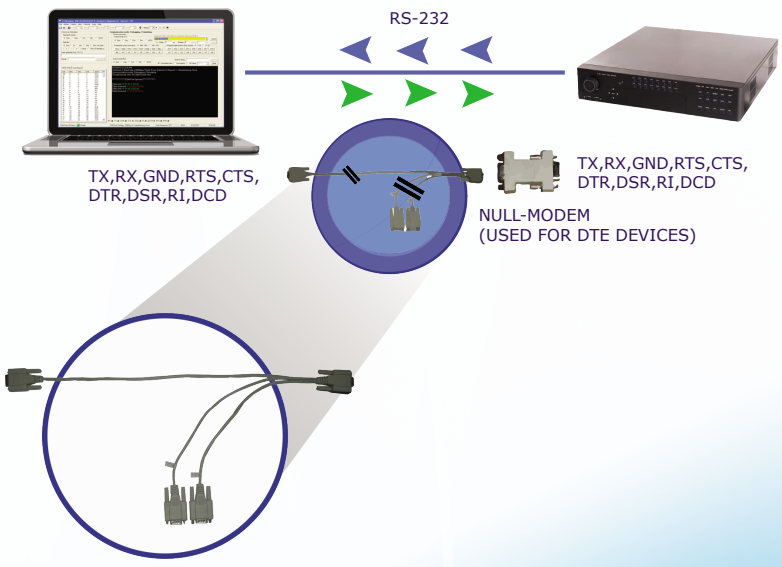
Hardware Accessories:
1x USB-232A-1
1x CBL-Full-1A

RS-232 SIMULATION

The 232Analyzer comes with many useful features, such as virtual LEDs for monitoring/-controlling handshake line states, programmable automated responses for responding to incoming commands or line state changes, and macros for simulating a sophisticated communication scenario – at the click of a button!

Key Features:
Advanced data + full signal simulation
Customizable color-coded logging window
Supports all data formats

Hardware Accessories:
1x USB-232A-1
1x CBL-Full-1A



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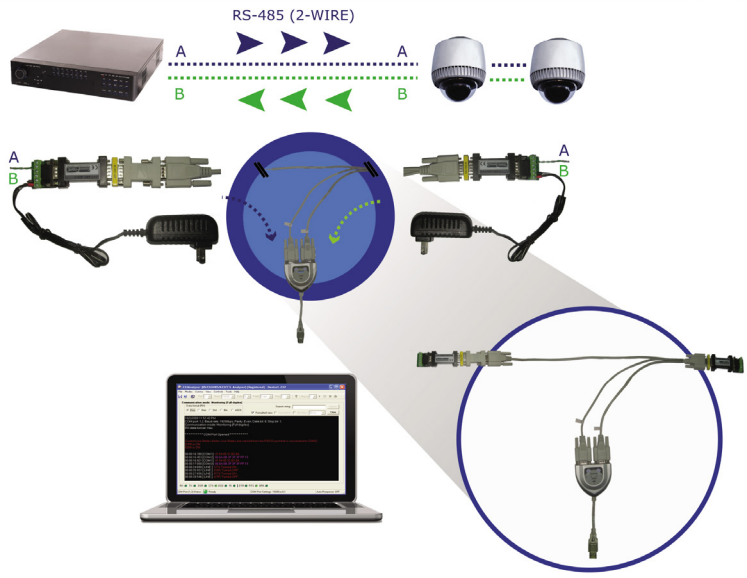
RS-485 ANALYZER

(DATA + DIRECTION INDICATION)

With the versatile and powerful features available in the 232Analyzer software, it has never been easier to monitor, control, and debug sophisticated RS-232 / RS-485 / RS-422 / TTL devices and systems.

RS-485 MONITORING



Data from both the master and slave units on a 2-wire half-duplex RS-485 system runs on the same single-pair cable. Unlike other analyzers on the market, the 232Analyzer not only monitors the data flowing in between the RS-485 devices, but also captures the directions from which the data is coming, and with timestamps in milliseconds. This is very important because it allows users to know exactly when and what commands the master and slaves are sending and responding.

Key Features:
Data with direction indication
Timestamps in milliseconds
Long-hour recording
Customizable color-coded logging window
Supports all data formats

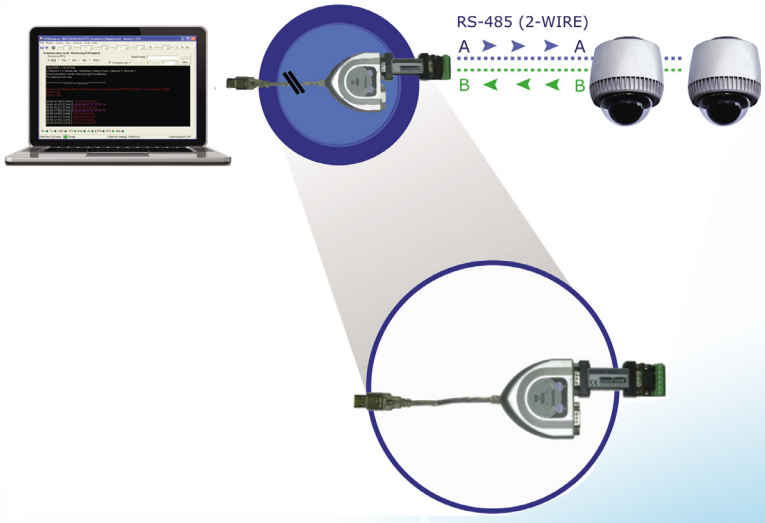
Hardware Accessories:
1x USB-232A-1
1x CBL-Full-1A
2x CVT-485_422-1
2x PWR-5_US-2 (5V DC Regulated Power Adapter)
2x GCH-9_MM-1 (DB-9 Male-Male Gender Changer)

RS-485 SIMULATION

With powerful tools such as the protocol checksum calculator, send-command pane, programmable buttons, automated responses, and macros, simulating/controlling RS-485 devices and networks has never been easier. The 232Analyzer is capable of simulating both the RS-485 master and slave units. Not limited to the RS-485 devices alone, the 232Analyzer helps you analyze and develop the entire RS-485 communication system!

Key Features:
Advanced and powerful data simulation
Customizable color-coded logging window
Supports all data formats

Hardware Accessories:
1x USB-232A-1
1x CVT-485_422-1



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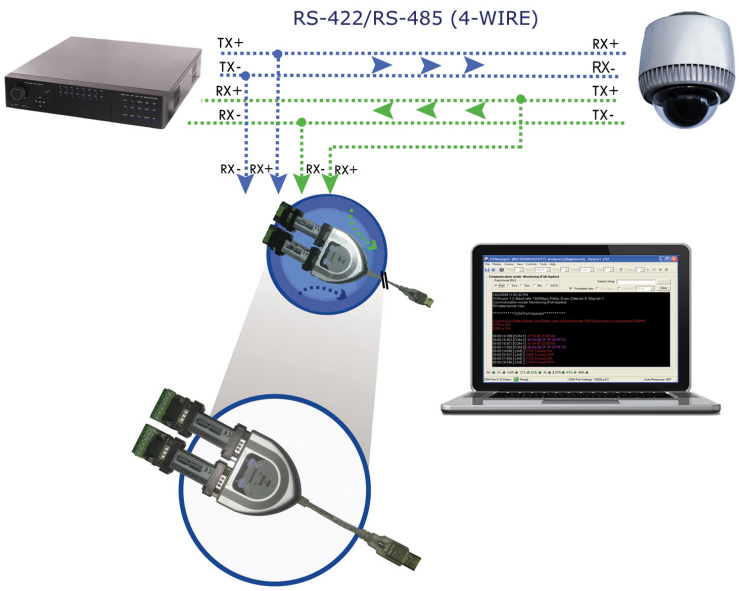
RS-422 ANALYZER

(DATA + DIRECTION INDICATION)

Virtually any type of serial device or serial communication system can be controlled or monitored using the 232Analyzer, including PLC, RTU, HMI, SCADA, factory and building automation systems, pro-sound mixers, AV matrix switchers, CCTV systems, and access control systems.

RS-422 MONITORING



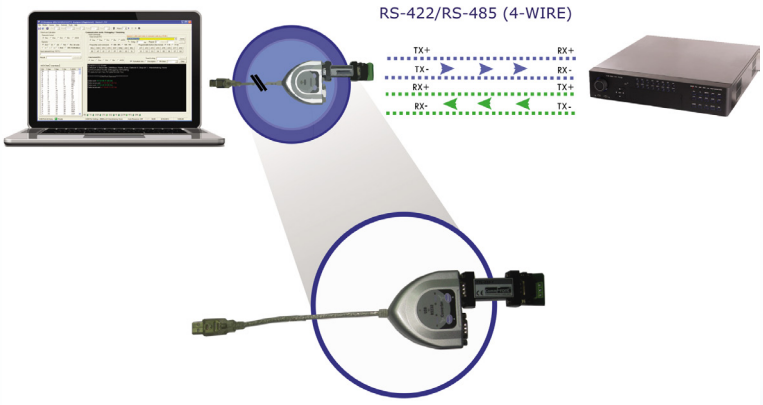
The 4-wire RS-422/RS-485 systems run on two twisted-pair cables, the 232Analyzer is not only capable of capturing data flowing simultaneously in between the RS-422/RS-485 devices, but also records the directions that the data is coming from, with timestamps.

Key Features:
Data with direction indication
Timestamps in milliseconds
Long-hour recording
Customizable color-coded logging window
Supports all data formats

Hardware Accessories:
1x USB-232A-1
2x CVT-485_422-1

RS-422 SIMULATION

A typical RS-422/RS-485 network consists of one master and many slave units, whereas the 232Analyzer can perform both tasks – as a master or as a slave unit. With powerful features such as programmable buttons, automated responses, and macros, the 232Analyzer allows you to control and simulate the master or addressable slave units in the system. This is very helpful not only for debugging your RS-422/RS-485 devices but also in building your RS-422/RS-485 network!



Key Features:
Advanced and powerful data simulation
Customizable color-coded logging window
Supports all data formats

Hardware Accessories:
1x USB-232A-1
1x CVT-485_422-1

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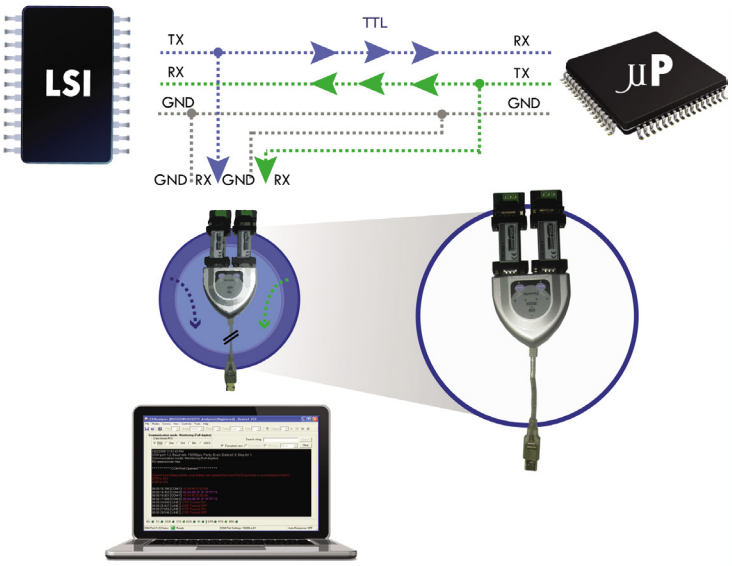
TTL ANALYZER

(DATA + DIRECTION INDICATION)

Choosing the right analyzer tools can save you a tremendous amount of invaluable engineering time and cost! The 232Analyzer is the best protocol analyzer of its type; it has been proven by tens of thousands of satisfied customers and is widely used in the communication, automation and control industries.

TTL MONITORING



The 232Analyzer allows users to monitor full-duplex TTL communications with direction indication and timestamps. Not only is the data flowing in between the TTL devices captured, but the directions from which the data is coming are also recorded with timestamps.

Key Features:
Data with direction indication
Timestamps in milliseconds
Long-hour recording
Customizable color-coded logging window
Supports all data formats

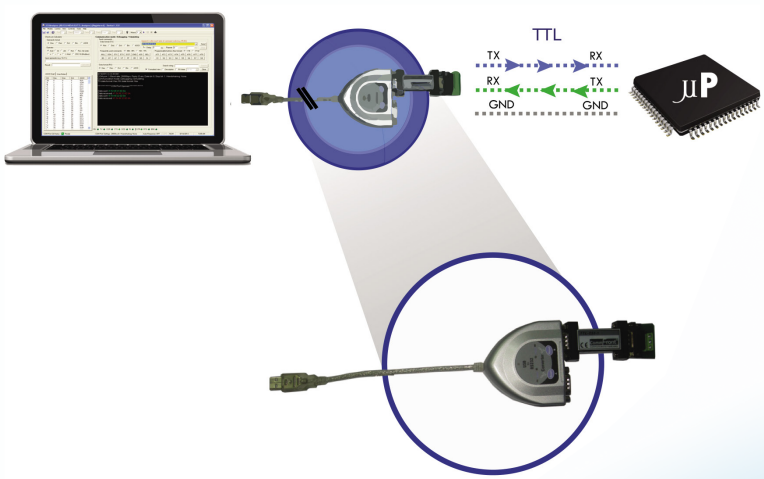
Hardware Accessories:
1x USB-232A-1
2x TTL-232-1 (or 2x TTL33-232-1)

TTL SIMULATION

TTL is widely used in electronic circuitry and devices. The 232Analyzer turns your computer into a portable analyzer for developing and debugging your TTL communication protocols. With powerful features such as the send-command pane, programmable buttons, automated responses, and macros, the 232Analyzer allows you develop your TTL communication systems in the shortest possible time!

Key Features:
Advanced and powerful data simulation
Customizable color-coded logging window
Supports all data formats

Hardware Accessories:
1x USB-232A-1
1x TTL-232-1 (or TTL33-232-1)



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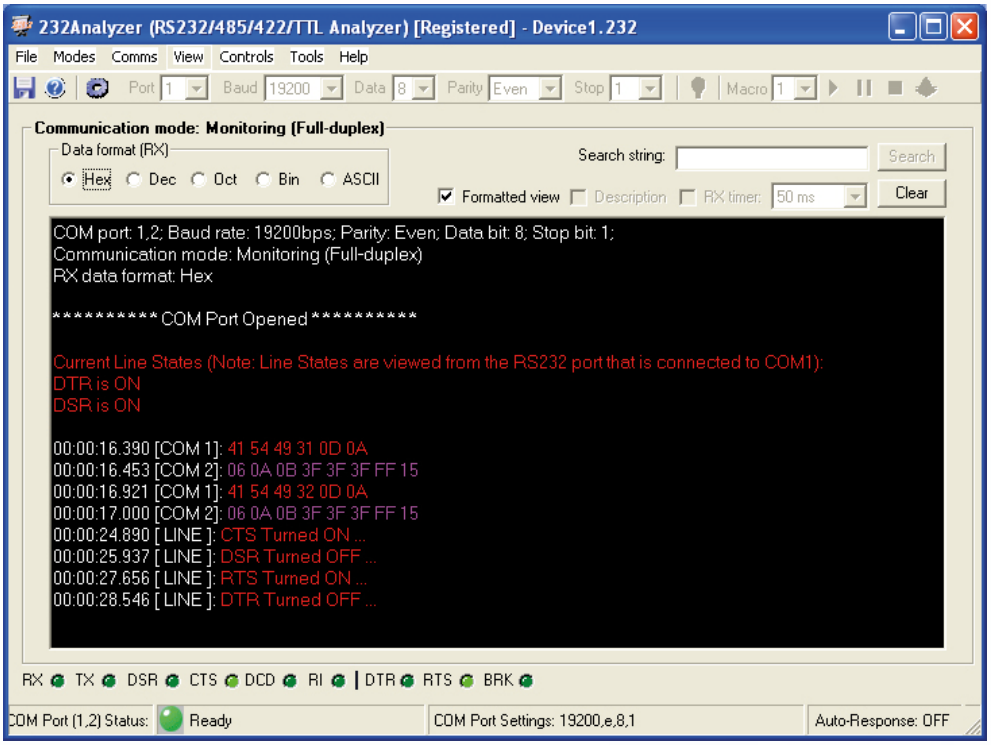
ADVANCED FEATURES (I)

Virtual LEDs for Handshake Lines

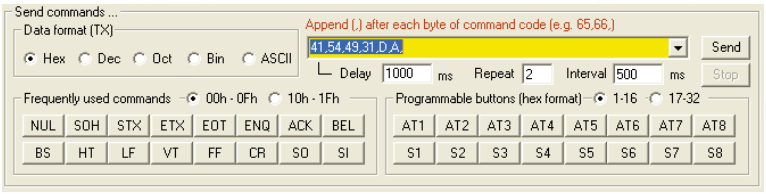
The handshake line states can be monitored from the virtual LEDs and the communication logging window. DTR (Device Terminal Ready) and RTS (Request To Send) can also be triggered by clicking on the respective LED.

Communication Logging Window



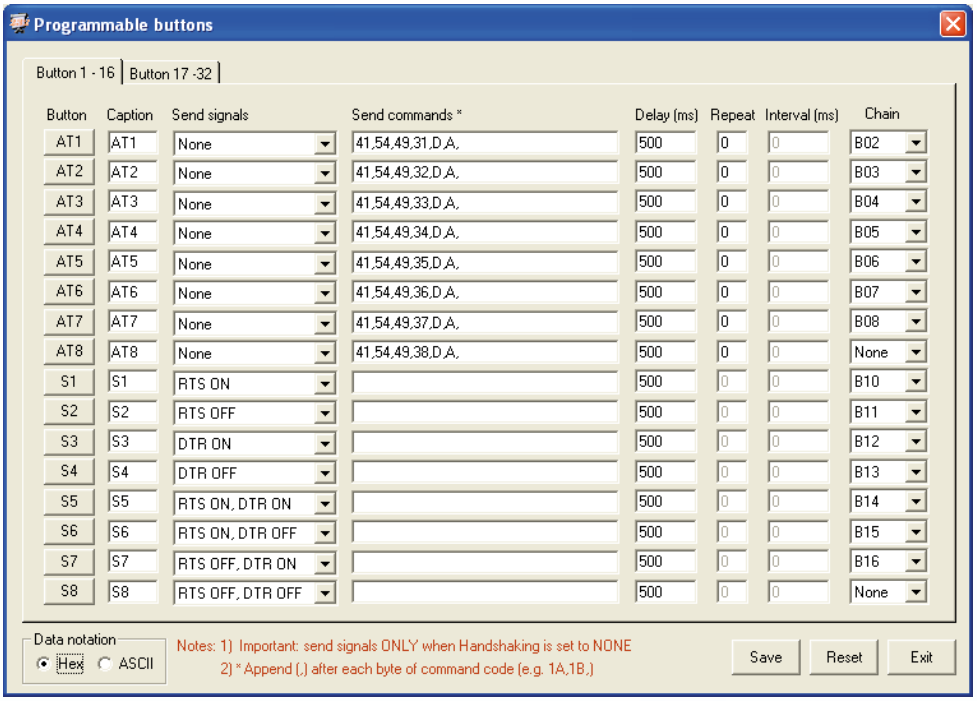
Data and line state changes (for RS-232) can be captured in the customizable color-coded logging window, and can then be saved as .txt, .doc, or .rtf files for further analysis. All data formats are supported. Logging in monitoring mode features timestamps in milliseconds.

Send Command Pane



Commands can be sent directly from the command input box, with the options of delay, repeat, and interval in milliseconds. The last 16 commands sent are stored in the drop-down box for quick recall.

Programmable Buttons



Programmable buttons provide an easy way to control sophisticated devices. It allows you to store signal controls and command strings in a single button, with the options of delay, repeat and intervals. You can also chain different buttons together, so that when the first button's commands (and/or signal controls) are completed, it will continue to send commands (and/or signal controls) that are stored in the following buttons. There is a total of 32 programmable buttons.

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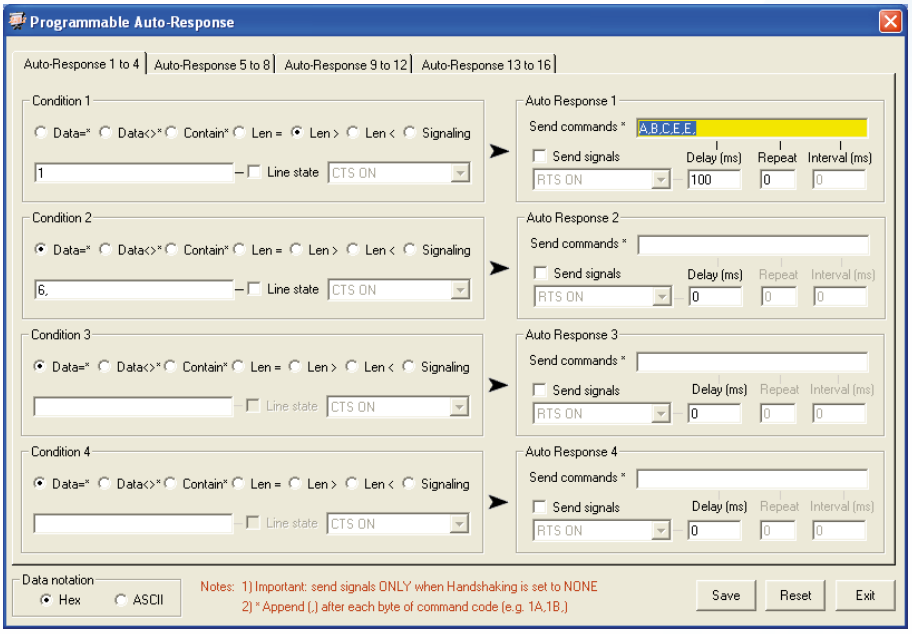
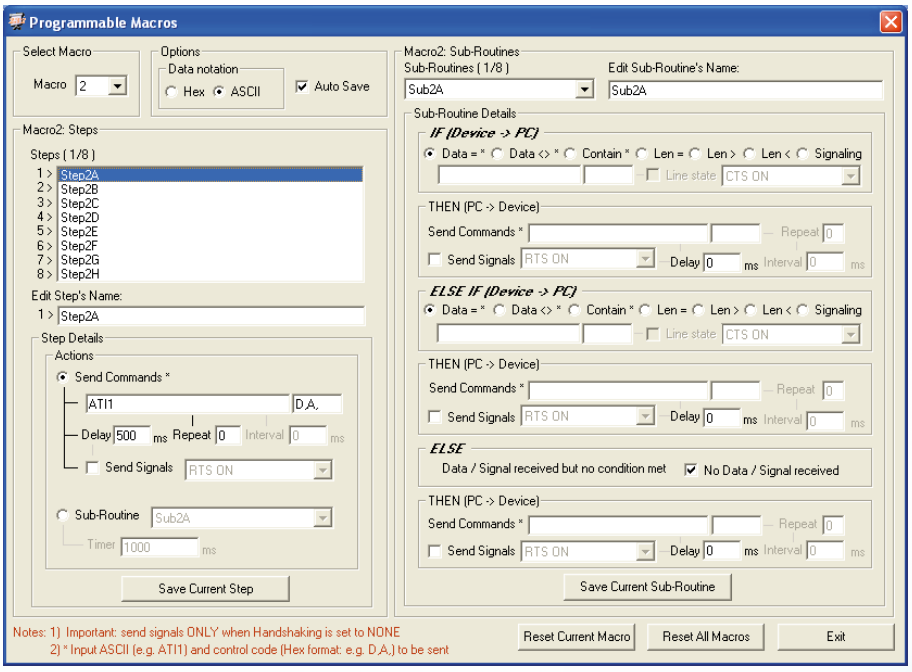
ADVANCED FEATURES (II)

Automated Responses



Programmable Auto-Response allows the program to respond to pre-defined incoming data and/or line state changes, which is very useful when debugging complicated serial devices or data networks, because some devices require a very short response time before the communication request becomes invalid. A total of 16 Auto-Response is available in the program.

Programmable Macros



Programmable Macros is a powerful feature that allows users to program a communication scenario with steps and sub-routines. The program has a total of 8 macros, and each macro consists of 8 steps and 8 sub-routines. Macros can be run individually or in sequence, therefore, the program can handle a total of 64 communication scenarios.

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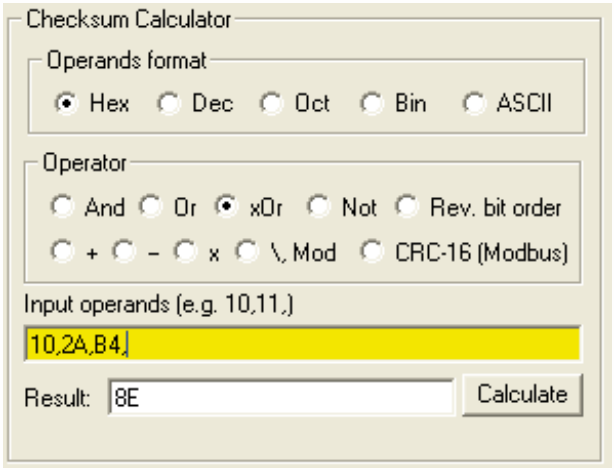
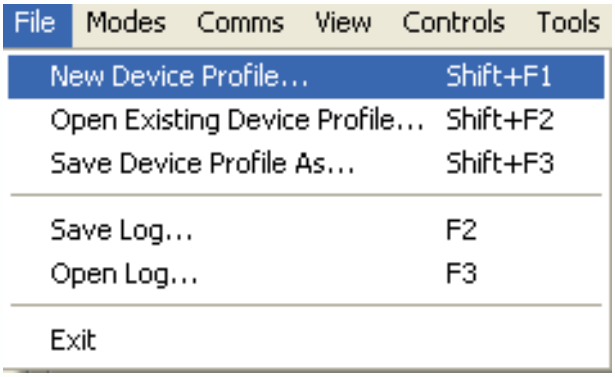
Checksum Calculator



Checksum Calculator provides an easy and fast way to calculate the required checksum bytes, which are added at the end of the command string for data integrity checking. All data formats are supported.

Bit wise logic calculation:
AND, OR, xOR, NOT, Reverse Bit Order
Math Calculation: +, -, x, \, Mod
CRC-16 (for Modbus) calculation.

Device Profiles



Each device has its own COM port and protocol settings, including baud rate, parity, flow control, user notes, programmable buttons, auto-response, and macros. All of these settings can be saved and opened in a single file to save the trouble of redoing them over and over again. Device profiles save tremendous amount of your invaluable engineering time.

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TECHNICAL DATA

232Analyzer Features

- Analyze RS-232, RS-422, RS-485, and TTL devices and data networks.
- Two communication modes: Debugging/simulating and monitoring (half- or full-duplex).
- Long-hour logging (can go up to weeks, depending on the computer's specifications).
- Millisecond timestamps in monitoring mode.
- Send/receive data in all formats: Hexadecimal, Decimal, Octal, Binary, and ASCII.
- Send/receive signals (handshake lines): RTS, DTR, CTS, DSR, DCD, and RI. User-friendly customizable color-coded communication logging window.
- All communications are logged and can be saved as .txt, .doc or .rtf files for further analysis.
- COM 1 to 16.
- Frequently used keys: 00h to 1Fh (a total of 32 numbers).
- Programmable Buttons: Send command strings, signals or data sequence with the click of a button. Buttons can be chained so multiple commands can be sent at a single shot (a total of 32 numbers).
- Programmable Auto-Response: Upon receiving certain data or signals, program automatically sends out data and/or signals (a total of 16 numbers).
- Programmable Macros: Send sets of data/signals; respond to different types of incoming data/signals with timer and sequence (a total of 8 macros, each macro consists of 8 steps and 8 sub-routines).
- Virtual LEDs: View RS-232 line state, control RTS and DTR, and break communication when necessary.
- Checksum Calculator: Logic, Math and CRC calculation.
- Notation Converter: Convert data from one notation to another.
- ASCII chart: All 256 ASCII code in different formats.
- User Notes: User notes can be stored and saved in the device profile.
- Device Profile: Settings for devices can be saved and opened as a single file.
- Flexible screen adjustment.
- User preferences settings: General, start-up actions, and exit actions, etc.
- Supports all major Windows Operating Systems including Windows 8, 7, Vista, and XP, both 32 and 64 bits.

Hardware Specifications

Part Number: CBL-Full-1A

- Machine-made full-duplex monitor/control cable
- Full RS-232 data and signal lines: TX, RX, GND, RTS, CTS, DTR, DSR, DCD, and RI
- 1x 6-foot (2-meter) long straight-through cable; one end with DB-9 female connector, and the other end with DB-9 male connector
- 2x3-foot (1-meter) long monitor cables with labels, both ends with DB-9 female connectors

Part Number: USB-232A-1

- Port-powered, bi-directional USB to dual RS-232 adapter
- Built-in FTDI chipset
- Fully compatible with 32 and 64-bit Windows 8/7/Vista/XP/Server2008 /Server2003, Mac and Linux
- 300 to 128K baud operation
- Plug and play (hot-pluggable, data format auto-sensing and self-adjusting)
- SMT technology

Part Number: CVT-485_422-1

- Industrial-grade RS-232 to RS-485/RS-422 converter
- Dual-function with selectable jumpers for RS-485 or RS-422 mode
- Port-powered with optional 5V DC input
- 300 to 115.2K baud operation
- Built-in 600W surge protection
- Built-in 15kV ESD protection
- SMT technology
- Plug and play (hot-pluggable, data format auto-sensing and self-adjusting)
- Data direction auto-turnaround, no flow control or software drivers needed

Part Number: TTL-232-1 / TTL33-232-1

- Industrial-grade RS-232 to TTL 5V (TTL-232-1) or 3.3V (TTL33-232-1) converter
- Port-powered, no external power needed
  300 to 115.2K baud operation
- Built-in 600W surge protection
- Built-in 15kV ESD protection
- SMT technology
- Plug and play (hot-pluggable, data format auto-sensing and self-adjusting)
- No flow control or software drivers needed

Part Number: GCH-9_MM-1

- DB-9 male to male gender changer
- Used for connecting two female DB-9 connectors
- Connectors: DB-9 male on both ends

Part Number: PWR-5_US-2

- 5VDC regulated power adapter
- Input: 110VAC to 240VAC, 50 or 60Hz
- Output: Regulated 5VDC/1A
- Power plug: US type A

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Industrial Communication Solutions
RUGGED. SIMPLE. RELIABLE.

For the past decade, CommFront has built a reputation as a major supplier of rugged and reliable, yet simple, data communication products and solutions. From factories to energy plants, shipyards to transportation terminals, and server rooms to laboratories, CommFront provides complete solutions for data and device connectivity, conversion, protection, extension, and research. CommFront offers the broadest selection of rugged, simple, and reliable data communication and machine-to-machine (M2M) connectivity products, ranging from legacy serial communications to modern TCP/IP communications, copper wire to optical fiber, and D-sub to USB connectivity.

CommFront products have been proven to be reliable and are widely used in critical areas that require safe, reliable, and uninterrupted operation, including:

- Factory Automation
- Building Automation
- Energy Plants
- Shipyards and Marine
- Transportation
- Industrial and Commercial Buildings
- PoS, ATMs, and Banks
- PLC, RTU, HMI, and SCADA Systems
- Security and Surveillance
- Instrumentation
- IT Networks
- Laboratories

Pushing our products to the limit, so you don't have to

Data networks are widely used in automation, control, and communication systems that perform many important tasks ranging from production, automation, communications, security, surveillance, to research. Data networks are mission-critical, and even the shortest downtime or delay can be very costly; furthermore, data networks consist of many different components and are often used over long distances in an electrically noisy environment. Engineering, testing, and troubleshooting can be very time-consuming and challenging. At CommFront, we push our products to their limit over a 3-to-6-month assessment and certifying process, complete with functionality, reliability, and EMC/EMI tests. We test radiation, emissions, and immunity to guarantee the safety of our human users and compatibility with their devices. The industry has many certifying agencies, ranging from the reputable to the less reputable, and from 3 months to 3 days of certification time. CommFront chooses to partner with SGS and TUV because they have the strictest rules and regulations for product testing and certifications. Both SGS and TUV are the Nationally Recognized Testing Laboratories [NRTLs] in North America (approved by the Occupational Safety & Health Administration [OSHA]) and the Notified Bodies in the European Union, the most meticulous and recognized certifying labs in the industry. This makes our products worry- and hassle-free for safety, compatibility, and interfacing with mission-critical equipment.

A reliable data network starts with choosing the right solutions and partners. CommFront engineers have the rich field experience and in-depth knowledge to understand your problems, how to solve them, and most importantly, how to prevent them – right from the design stage. We design and engineer our products not just on the product level but also from the system perspective, for we believe that data communication products do not function by themselves; rather, they are part of a system. Any supplier can sell you a product, but only CommFront is equipped with the rich field experience, world-class certifications, proven track record, and strict ISO quality management system to ensure your total satisfaction.

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THE KEYS TO OUR EXCELLENCE

- Industrial Ruggedness
- Certification by World-Class Labs
- Designed & Manufactured to ISO Standards
- Lead-Free RoHS Compliance
- Applied Reliability Engineering
- Proven Track Record
- 5-Year Replacement Warranty
- 30-Day Money-Back Guarantee
- Free Worldwide Shipping
- Intensive and Fast Support

SAFETY ASSURANCE

CommFront products are strictly certified by SGS/TUV – the world's leading inspection, testing, and certification companies.

QUALITY ASSURANCE

CommFront products are designed and manufactured to ISO 9001 standards. Our quality control system is strictly certified by SGS (Cert No. SG12/04213).

WARRANTY & GUARANTEE

CommFront products have been proven to be reliable. We back our high-quality products with a 5-year replacement warranty and a 30-day risk-free money-back guarantee.

OUR CLIENTS

Throughout the years, CommFront has gained a sterling reputation in the industry, and its clients include many industry leaders. Below are some of our satisfied customers from around the world, just to name a few:

ABB
Advanced Control Systems
Allied Electronics
Applied Materials
AT&T
BAE Systems
Boeing
Cisco
Emerson Power
Fluke
General Electric
Google Inc.
Harris Corp.
Hewlett Packard
Honeywell Corp.
IBM Corp.
Intel Corp.
ITT Corp.
Johnson Controls
L-3 Communications
LG Corp.
Lockheed Martin
Microsoft
Mitre Corp.
MIT Laboratory
Motorola
NASA
Nissan
Northrop Grumman
Panasonic
Qualcomm
Raytheon Corp.
Rockwell Collins
Samsung
Schneider Electric
Seagate
Siemens Corp.
Singapore Technologies
Sirius Satellite
Spectra Energy
Serveron Corp.
Toshiba
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