Cadmos
microsystems

Media Switch family

ATC Router

Highlights

- Up to 24 high-speed WAN ports;

- Up to 12 10/100 Base-T Ethernet ports;

- Up to 6 independent sections:
  - 4 high-speed WAN ports,
  - 2 Ethernet ports;

- SNMP protocol;

- Serial Data Synchronization, matching more serial lines, each one with its own characteristics:
  - Protocols (HDLC, HDLC LAP-B, AIRCAT 500, TVT2, CD2, etc.),
  - Electrical standards (V.24, V.36, etc),
  - Baud rate (from 300 to 115200),
  - Timings (also using internal clock);

- User-configurable packets filtering, to remove or re-direct packets on more ports;

- Multiplex features, remoting serial ports and making long distance connections by Ethernet or Fiber;

- Integration with legacy systems;

- Link Quality analyzer;

- Centralization and remote control (FTP, Web server, SNMP or proprietary NMS).

The ST unit (Switching and Tunneling) is the equipment of Media Switch family specifically designed to act as an ATC Router, performing switching and tunneling functions between serial ports and/or Ethernet ports. It can:

- Manage up to 24 serial ports (synchronous or asynchronous) and up to 12 independent Ethernet ports

- Operate with different serial protocols (HDLC, HDLC LAP-B, AIRCAT500, TVT2, CD2, etc.)

- Integrate advanced remote control functions by FTP, WEB server, SNMP or proprietary NMS.

Main features

The ST unit, connected to a local area network, acts as a data communications server providing wide-area connectivity. The ST unit supports a wide range of WAN protocols, allowing several different clients to access the data communication server simultaneously.

The ST unit provides up to 6 independent sections, each one with two 10/100 Ethernet ports and 4 high-speed WAN serial ports, thus acting as an intelligent WAN/LAN bridge, a WAN/LAN gateway device, or a remote WAN connectivity unit.
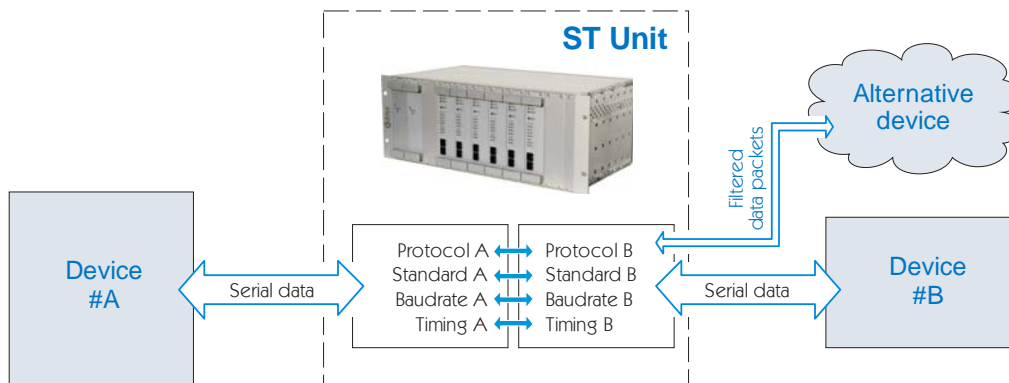
Moreover, the SNMP server functionality of the ST unit allows any workstation on the LAN to obtain detailed information from the unit.

Thanks to the modular design of the ST unit, it can be easily expanded supporting additional communication protocols, thus preserving the user's investment upon technological changes.

ST series

Typical applications

The ST unit set for Serial Data Synchronization allows to interface WANs which differ in protocol type, standard (V.24, V.36, etc.), baud rate and/or timing (also using the internal clock).
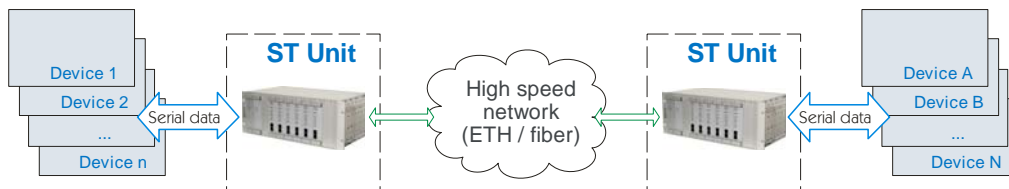
Advanced user-configurable filtering functions can be used to redirect or remove specific data packets.

Used as MUX, the ST unit can connect remote devices, matching each one for protocol, baud rate, electrical standard and/or timing.

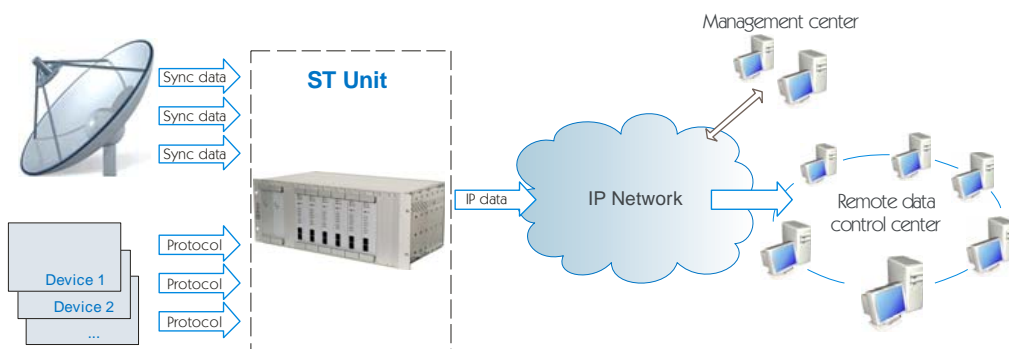Connection can be made by LAN or fiber, based on the distance and installation requirement.

ST unit is also the ideal solution to centralize serial devices to a remote control center.

Different kind of devices can be simultaneously connected, matching each one with the relevant serial line characteristics. Data are multiplexed on the IP network connection (also in bonding configuration) to be sent to the remote control station.

The unit is fully remotely configurable, by using FTP, WEB, SNMP features or proprietary NMS.

Flexible design

The unit flexible functional architecture allows its use in several different operative scenarios. In each condition the ST can be tailored to the actual needs.

The unit is made up of max 6 independent sections (each of them with a SC-MCF board, equipped with a 32bit embedded CPU) optimized to manage up to 4 synchronous/asynchronous serial lines and 2 Ethernet ports (also configurable for channel bonding).

For each section the communication protocol can be defined, as well as the operating characteristics of each serial line (which can differ in physical characteristics, timing, baud rate, etc.).

The ST unit can be configured with 1 to 6 boards, which can be used for independent processing or making them cooperate. So the unit can act as six independent switching/tunneling equipments, but can also implement a unique expandable switching/tunneling equipment, with up to 24 synchronous/asynchronous serial ports and up to 12 Ethernet ports.
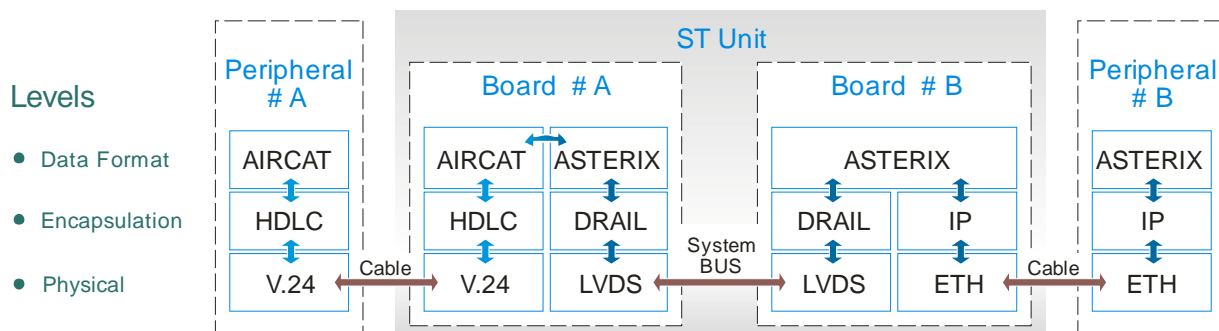
The unit is endowed with several proprietary communication bus that support high speed data transfer and configuration information exchange.

Switching/Tunneling functions are fully user-configurable via Remote Control software.

Encapsulations

The unit manages data exchanged between serial devices and/or Ethernet LAN, by using different encapsulation protocols.

Each section interfaces the serial remote device by using the relevant protocol. Data are extracted and can be addressed to another serial or Ethernet port of the same board (with the same protocol) or a serial/Ethernet port of another board. In the latter case, a different protocol can be used.

Levels	Peripheral # A	Board # A		Board # B		Peripheral # B
● Data Format	AIRCAT	AIRCAT	ASTERIX	ASTERIX		ASTERIX
● Encapsulation	HDLC	HDLC	DRAIL	DRAIL	IP	IP
● Physical	V.24	V.24	LVDS	LVDS	ETH	ETH

ST Unit — System BUS — Cable

Reliability and Maintainability

ST units plus are:

- *high reliability;* the state-of-the-art architecture and components are designed to achieve a high MTBF, and all its parts can be redundant, to avoid any possible breakdown;

- *optimized maintainability,* with redundant modules hot-swap interfaces, thus obtaining an extremely low MTTR (Mean Time to Restore) and a network down time close to zero (99.9999% availability).

Technical Specifications

Operational:

The unit manages several serial multi-standard lines, performing the following functions:

- serial-to-serial,
- serial-to-ethernet,
- switching/tunneling.

Max configuration:

Up to 6 SC-MCF boards, each one able to interface:

- up to 4 V.24 or 2 V36/V.11 serial ports
- up to 2 Ethernet ports 10/100Mbps.

Serial port characteristics:

Each serial port can be set for different type, standard, baud rate or timing:

- Synchronous / asynchronous
- Baud rate or timing are user configurable (internal clock generator available)
- ITU-T standard: V.24, V.36 or V.11 (X.21)

Remote setting:

Via WEB server.

Operation:

Local: limited to monitoring functions, by frontal panel LEDs.
Remote: configuration and operation monitoring, via LAN.

MTBF

>500.000 hours for each data channel
(MIL-HDBK-217F Part stress)

Power distribution

Power distribution relies on two power supplies, in redundant configuration

Mains:

Typical: 220 Vac / 50 Hz
Max range: 90 to 264 Vac

Power consumption:

0,16A (max configuration)

Dimensions

Height: 176 mm (4 U rack 19")
Width: 482 mm (19" rack mount)
Depth: 250 mm (mainframe)
            max size 280 mm

For more information about our products, please visit

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Cadmos Quality Management System is **ISO 9001:2000** certified

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