

## BRAIN

With SYAC·TB BRAIN, SYAC·TB offers a supervision solution at 360 degrees.

The SYAC·TB BRAIN solution is able to manage, from a single user interface, all the various security and other subsystems.

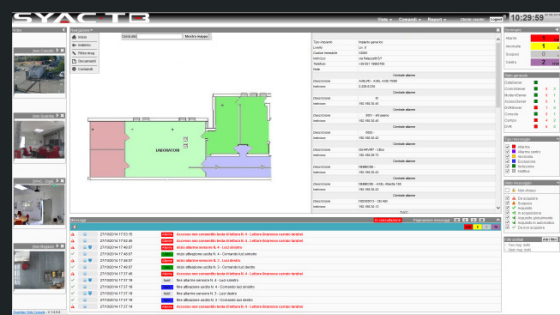
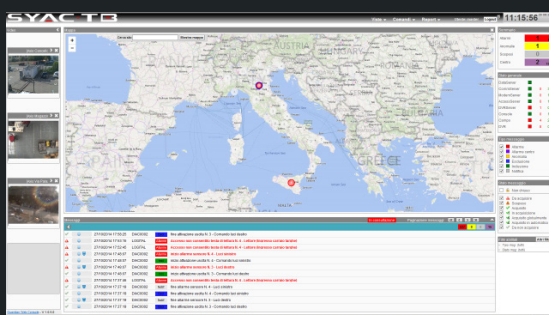


The SYAC·TB BRAIN is the all-in-one management and supervision solution able to control and manage all the security and other systems from a single user interface.

The architecture of the SYAC·TB Brain solution provides a server control unit connected in a network to one or more field devices (hardware concentrators) dedicated to interfacing and normalizing all the existing subsystems related to video security but also to anti-intrusion, fire, access control and building automation.

The hardware concentrator on one hand acts as a “programmable controller” which, equipped with digital I/O and a number of communication ports, allows the remote peripheral devices to interface in a simple, fast and reliable way; on the other hand, the hardware concentrator normalizes all the data evenly and communicates them via IP networks to the server enabling the SYAC·TB Brain to control and manage the entire system.

This kind of architecture foresees the expandability through supplementary modules, as well as the possibility of custom integrations in case of non-standard interfacing requirements. For this reason, the SYAC·TB Brain solution is suitable for both small stand alone installations and big geographically distributed applications.





## Client Applications

Console: is the device that serves as the graphical interface used by the operator for the ordinary management of the system (alarms, controls, video, access)

Tool: is the graphical tool for the management of peripheral sites, maps, correlations between sensor cameras, access ....

Video Matrix: is a graphical interface that runs alongside the Console Alarms and matrix that allows viewing of video sources.

Admin Console: pertains to client applications for process control and utilized for the distribution of servers on the network.

## Reports and Statistics

Data Warehouse: pertain to the creation of a database engine and statistical methods that are involve in the construction of two additional databases that will reside on another server.

It is dedicated to the statistical analysis of historical data of SYAC•TB BRAIN. The benefit is that, once realized, it will be possible to perform virtually any type of query statistics (if well designed) without burdening the database online.

It will not also require to write SQL queries or programs, but the interface will only be done by dragging fields (measures and dimensions) in a table Excel.

The Centre is built using industry standard technologies and systems:

- PC desktop for the user interface
- PC front-end server for communication and database
- Equipment Networking
- Network Protocol standard
- Microsoft Windows Operating Environment
- Using Microsoft SQL Server database
- Use of standard systems for fault tolerance (Cluster and Storage in RAID)
- Using virtualization platform such as VM-WARE

## Peripheral System

It is a set of control units of individual security systems, including among others, system for intrusion, fire, video surveillance, access control and technology.

Every system, has a subsystem that functions autonomously and independent. It is centralized and governed by a system of supervision and local or remote control protocol.

The centralization of communication is via standard carriers:

- IP networks over LAN / WAN
- GPRS mobile networks
- Networks RS232 / RS485

The interface to the central system for intrusion alarm, fire and technology is done by the BRAIN CONCENTRATOR. It is a device that performs the following functions:

- interfacing field devices (eg. Central alarm) through appropriate communication protocol.
- normalizing data according to a standard format: this track is in accordance with directives on CEI79-6 security. The normalization allows for the uniform handling of different devices.
- managing the communication with the center; This means the center forward messages from the periphery, forward messages from the periphery to the center, run a continuous polling of life to check the operating status of the device.

The BRAIN CONCENTRATOR is the device that is provided with communication modules focused on:

- IP network on LAN / WAN
- GPRS mobile network

## KEY FEATURES

In this section we set out the main features of the system. For scalability and expandability of the system it is possible to add new functions as may be required by the customer.

### Functionality

- supervision of alarm systems, and its peripherals
- managing messages from peripheral centers
- control of application life devices through polling configurable intervals
- ability to send commands to the peripheries
- prints and reports on:
  - historical posts
  - relationship operator
  - registry and configuration peripheral node
- display of alarms received in the modes:
  - synoptic multilevel with navigation hypertext
  - the symbolism of the sensors on Synoptic CEI
  - flashing the component field in alarm CEI
  - chronological list of recent alarms / events received
  - display filters for isolate the types of Message: alarm, fault, event, etc..
- alarm management:
  - acquisition and take-over by the operator
  - generation of alarm in the face of unexpected and expected events
  - display of event data / sensor / peripheral node
  - presentation of master data

### On the Outskirts

- list view associated actions
- compilation report on preconfigured forms and partially completed events
  - Management of time zones
  - Management of verbal communication through Voice Modem
  - Management of operators:
    - procedure for login to the console with identification of the operators through the inclusion of USERID and PASSWORD
    - use of system LDAP and LDAPS
    - SYAC•TB BRAIN native authentication
    - 10 levels and association operator console feature levels operator
    - logoff procedures to block the operation of the console
    - management of tasks without the operator through block operations of the console which may happen after a certain time of inactivity (configurable); to recover the machine, it must be switched to "on" again using the current operator password
- Phone book and notes for the operator
- Analysis of historical:
  - alarms
  - commands

- activity operator
- actions taken
- report
- statistics through the use of temporal filters, details, event types, ...
  - ability to update the firmware of the periphery
  - provide operator's Manual in Italian, with an explanation of all the functions of the console
  - backup data periodically

The system SYAC•TB BRAIN, entirely made in Italy, is continuously updated to meet new demands and requirements of existing and new customers. If new features are developed, it is automatically inserted into the current version.

## OPERATION

The basic concept of the system is to have a single interface for management and to have a system of supervision for all connected peripherals.

The operator, from a single point may, at any time, check the local subsystem and take charge of the management of the security of the peripheral site.

The monitoring will be done through:

- Receive alerts
- Sending commands
- Control procedures

The alarms from the suburbs are highlighted in an immediate way by visual and acoustic signals, guiding the operator in in-charge of managing the event.

This is the part of the user interface that has been carefully prepared to provide a simple to use, but at the same time, complete structure. It allows for a quick and accurate management of events as well as to reconstruct a posteriori in any operation.

The events can be monitored and managed in two distinct modes: graphical and textual.

The foregoing map displays the elements, which make up the

peripheral system, includes:

- Alarm Sensors
- Outputs (actuators)
- Cameras
- Reading Heads (access control)
- Concentrators

Through the acquisition card event ( that contains all the data related to the event) may be used to handle the event and create event management structure.

At the end of the event, the operator will close the event and the presented reports will no longer be editable.

## SCALING THE SYSTEM

The proposed system of centralized alarms, as described in the previous paragraph, offers high scalability and system expansion.

The expansion of the system can occur for:

- New software components of the central system
- New peripheral sites
- New external systems interfaced to the peripheral node

New SW components of the central system

Adding new components to a control center provides the following:

- Information database to a new component
- Configuration of the functionality of this component
- Enablement of the component

As already mentioned in the intro-duction, each of the components can be added to the initial configuration. However, it should not create a situation which adversely affects the service (except for the replacement of the DataServer). In this regard, the reasons why you may want to add an item, are mainly:

- Most workstations
- Improved performance of communication
- Automatic backup of the communication
- Automatic data backup
- Remote control and partial of a node

In CLUSTER configuration, each client system connecting to a single node or opens a connection to a single IP address; the possible switching from one node to another is dependent on the CLUSTER SERVER.

## NEW PERIPHERAL SITES

Expand the system with new peripheral sites is very simple.

It may involve just taking a database to the new node and start the procedure for connecting the nodes (configuration for connection to the network)

The system is compatible with the regulations CEI79 so you can incorporate into the system a new type of control panel by simply developing new communication protocol and converting it into CEI79.

This conversion makes it transparent to the operator, the type and model of this system in the suburbs. It should make the system consistent in the management of all alarm systems.

New external systems interfaced to the peripheral node

The proposed peripheral system, allows the system to interact with new components SW and HW and with other external devices.

In such a case it is necessary to:

- prepare the HW for interfacing with the physical device
- prepare the SW component for the communication and management of such a device

## VIDEO INTEGRATION

The system SYAC•TB BRAIN is capable of interfacing the DigiEye video recording systems through the integration of communication protocols (SDK, ActiveX, DLL, ..) of the installed system.

The typical functions of the CCTV that are integrated are as follows:

- Request a viewing camera
- Request for viewing images from the historical recorded
- Control pan / zoom cameras arranged (fixed PTZ, dome)
- Quad (if enabled)

The other features are typical for each producer, which can therefore be integrated following a feasibility analysis.

The operator of the SYAC•TB BRAIN CONSOLE can directly control an alarm directly from map graphics on the remote site. Any request to see the image may be done by simply clicking this relevant camera icon on the map.

The images will be displayed on a sidebar (up to 4 boxes) small; the camera can be (manually operated) by moving the images to the center pane larger (zoom function).

The commitment bandwidth of course is not continuous. The request for the images, is compared to request for an alarm and to request for the operator of the center.

The other operations (request for historical images, ...) can be carried out within the frame itself.

All these operations, macro commands that are normally present in every visual digital, can be implemented only if provided for in the system development SDK.

The normal functions of configuration, parameterization, of visual digital are entrusted to the program.

Visual digital configuration provided by the manufacturer.

## INTEGRATION ACCESS CONTROL

The system SYAC•TB BRAIN has been able to interface the system with access control, alarm monitoring and data collection. The main devices are those with which it interacts, typically intended to control and access security: control unit gap, badge readers, biometric readers, meccatrinici locking systems and various sensors (counts parking places, infrared filter, etc. ..).

The integration with the system of centralized alarms SYAC•TB BRAIN, is via I / O contacts or through incorporation protocols made available from producer.

The integration with access control system allows you to:

- Receive alarm events and status
- Send commands

The alarms are detected by the terminals by basing it on the digital inputs or its current state (open door, open without consent, initialization, etc..), Or reports that are coming from both the access control and the related logical checks. The latter being carried out in transit (passage not enabled, wrong time, mon assigned badge, etc.). using both the server and the current processes.

The events related to typical access control that may affect the management of alarms are:

- Varco unauthorized
- Burglary gap
- Door open too long
- Input (physical input) in alarm

The commands are sent to the access control server, which will be responsible for forwarding relevant info to the gate terminals and peripheral controllers.

Each gateway can be controlled:

- Opening the gap
- Unlocking the gate
- Locking the gate
- Disabling the inputs
- Sending commands for changing the status of a head or a gate controlled by a head.
- Request the status of a head.
- Request historical transit.
- Request the status of the system configuration, a single adapter, a single terminal or a single head

The main devices are those with which it interacts, typically intended to control and access security:

- control unit gap
- badge readers
- biometric readers
- locking systems
- counting sensors
- license plate reading

## REPORTS AND STATISTICS

SYAC•TB BRAIN provides a good engine for generating reports and statistics using the OLAP technology.

Every day, the system performs a procedure that extracts the information contained in the database of the system SYAC•TB BRAIN. It may also be used to update the database for statistical analysis (OLAP SYAC•TB BRAIN).

Users have two interfaces in order to interact with the system and to obtain the required information:

- STATISTICS REPORT SYAC•TB BRAIN is a collection of report parameters with web interface and default statistics on messages.
- QUERY EXCEL STATISTICS SYAC•TB BRAIN - the database of statistics can be used directly in an Excel spreadsheet to build customized queries on all data.

SYAC•TB already pre-configured reports can be called directly from an Internet browser and are as follows:

- Alarms for a timeslot
- Alarms for a day of the week
- Alarms for a day
- Alarms for a month
- Alarms for CEI event type
- Alarms for event type access control
- Events for the month
- CEI messages for a month
- Access control messages for a month

It's possible to build customized queries on the database statistics using the program Microsoft Excel.

## HARDWARE

### Module "BRAIN CONCENTRATOR": Modular connection to public networks for the achievement of technological advanced service

Hardware Features

- Microcontroller 120 Mhz
- 1 Flash 2 M Byte
- 1 RAM 128 KB
- 2 ports RJ45 LAN Ethernet 10 Mb / s
- Connection server on the LAN / WAN
- Connecting local subnet
- 2 serial ports multiprotocol
- RS232 3-wire (RX, TX and GND)
- 2-wire RS485 (A and B)
- TTL 3 wires (RX, TX and GND)
- Clock & Data (DA and CK)
- Wiegand (D0 and D1)
- 1 serial port RS485 auxiliary
- 12 VDC for
- Bus extension card

- Connection server via RS485
- 8 digital inputs up to 30 VDC and 10 mA Sink NA or N.C.
- 4 digital outputs Relay 'Max 30 VDC and 1 A Load NA or N.C.
- 1 Real Time Clock with internal battery
- 29 status signaling LEDs

### Firmware Features

The flexibility and efficiency of the device, as well as the number of protocols that it can support, allows users to create countless applications, such as:

- Gateway and NAT: This function can be extended to any object TCP / IP connected to its Ethernet subnet Permet – a kind of transparent access to that object visible to the network and only to IP certificates and with the same IP of the SK -2 thus preventing a proliferation address on the main network .
- Technology: This feature provides secure access to the management of 4 inputs and 6 outputs from the dedicated workstation.
- Access Control: This function allows you to use your device as a controller for an opening on the Ethernet network RS485

The BRAIN CONCENTRATOR has a complete monitoring interface for diagnostics The LEDs shall be made available on the front panel of the device.

### Module "G-BOX OEM": Modular connection to public networks for the achievement of technological advanced services

### Hardware Features

- Microcontroller 120 Mhz
- 1 Flash 2 M Byte
- 1 RAM 128 KB
- 1 RJ45 Ethernet LAN ports 10 Mb / s
- Connection server on the LAN / WAN
- 2 serial ports multiprotocol
- RS232 3-wire (RX, TX and GND)
- 2-wire RS485 (A and B)
- 5 LEDs indicating the state
- Power supply: 10-30 VDC (220V)

### Firmware Features

The G-BOX OEM is a device specifically designed for application on the LAN, WAN and MAN, ideal for remote controls, security systems and technology.

Due to its versatility, this is the perfect device for remote monitoring and to serve as a remote control for any serial device on the Ethernet network, such as:

- central fire alarm or
- matrix video
- technological systems

Communication takes place through the appropriate serial communication protocol. And, depending on the application used, the communication is customized and/or converted to TCP / IP or

### UDP / IP over Ethernet

As an alternative to the Ethernet network, the device offers the possibility of providing an analog modem for communication.

G-BOX is particularly suitable for safety applications in banking environment / industry where it is used to generate the customer's own data network.

The commitment of the band that network data is absolutely not significant.

Appropriate LED signals indicate the status of the connections.  
The simple installation makes this device an easy tool for integration of local systems of centralized systems.

## INTERFACED DEVICES

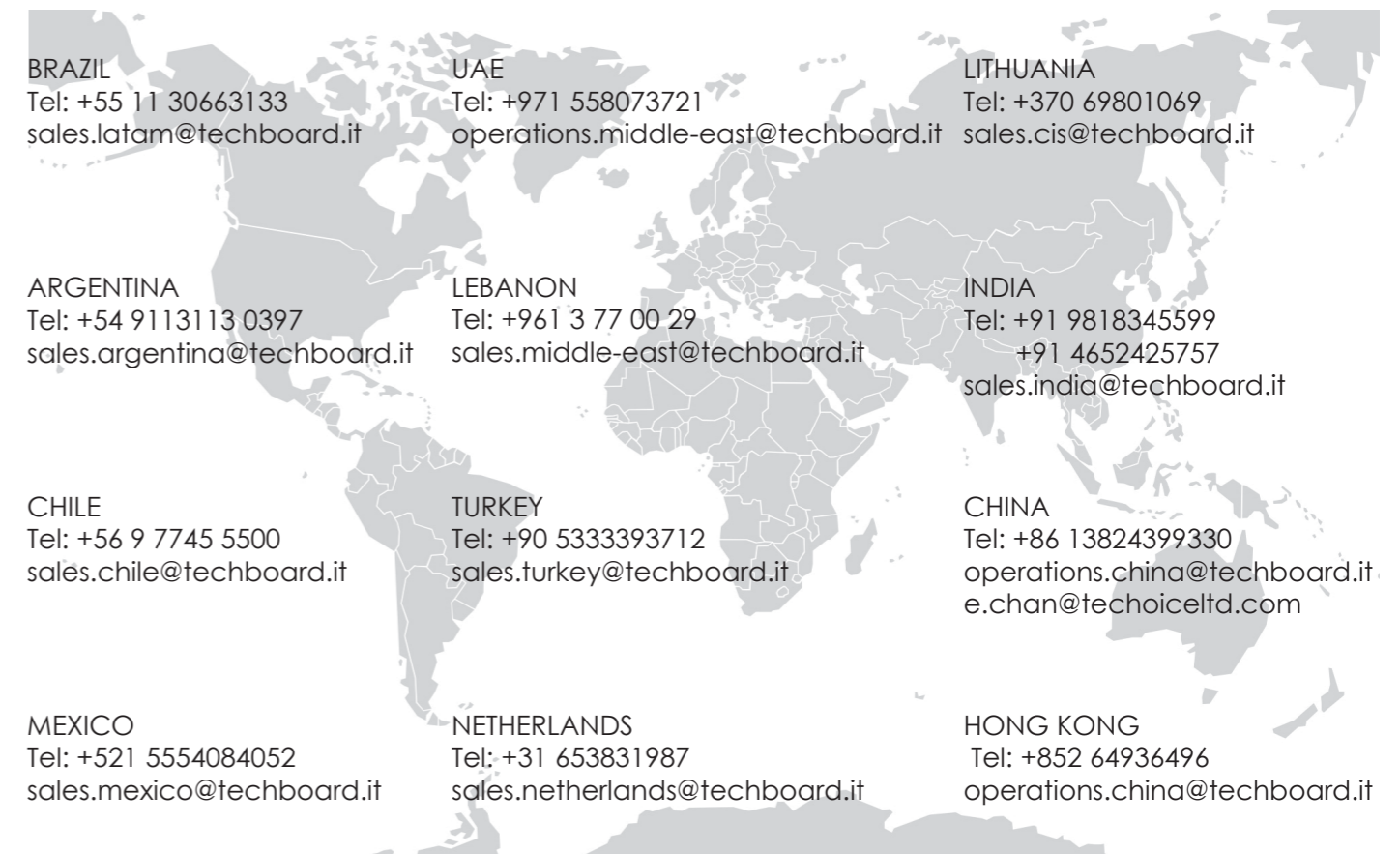
The system of centralization SYAC-TB BRAIN connects devices via the serial interface (RS232, RS422, RS485) or capture card I / O.

The peripheral system of the base is able to communicate with the central alarm equipped with the communication protocol and in turn complies with CEI79-5 (Second Edition) and CEI79-6 (Second Edition).

To centralize any alarm control panels and / or other devices that do not support these standards, it is necessary to implement the normalization of the proprietary protocol in the Protocol CEI.

And charged to the customer the availability of the communication protocols of the control panel.

# CONTACTS



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