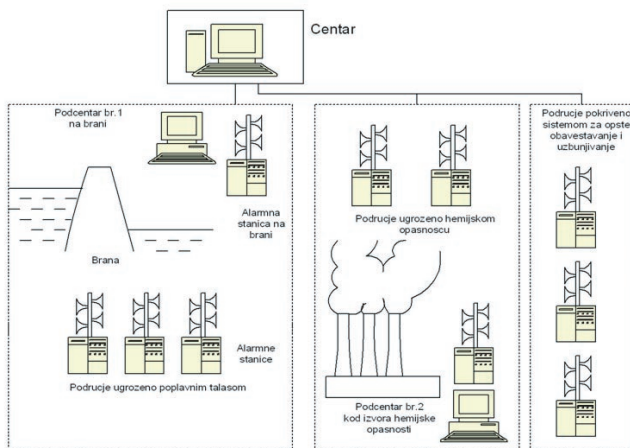


S,A & W SYSTEM

Surveillance, Alert & Warning System

APPLICATION

The Surveillance, Alert & Warning System is used for surveillance and warning about the potential causes of public dangers in specific areas. The system acquires all the necessary data which represent the state of objects which might cause the potential emergency and dangers, and in case that an emergency situation arises, the system is used for general, partial or selective warning the population in the endangered area about the danger's occurrence and its cease.



BASIC FUNCTIONS OF THE SYSTEM

- Remote activation of electronic alarm sirens. Remote activation of alarm sirens can be done selectively, providing activation of all electronic alarm sirens in the system, or only the selected ones. Sirens can be activated to issue warning signals and/or emission of speech messages, directly from the respective center.
- Remote control of correct issuing of the warning commands and overall functioning of the system, providing the feedback information about alarm sirens operation, and information about the correct operation of remote outstations. Automatic on-line testing includes detection of the potential fault, with a diagnostic of a type and category, in all alarm stations in the system, including testing of the transmission lines operation. This provides detailed insight into the operation of the system as a whole. Check of electronic alarm sirens is done without activation of the sirens (silent test of sirens operation).
- Possibility of connection of Municipal Center with the neighboring municipal centers and with immediately superior regional Surveillance, Alert & Warning center.

- Possibility of local activation of the electronic siren in cases when remote communication lines do not function.
- Autonomous power supply of the remote station with electronic alarm siren through the battery back-up with automatic recharging unit, what provides the system with full autonomy.
- Acceptance of the information about occurrence of the emergency situation from the sub-center (where there is a potential local danger, e.g. high dam, dangerous chemical plant, etc.) with the possibility of automatic generation of respective warning signal (only warning signal for natural disaster, according to the special protocol, which can be effected only when there are no available human resources (operators), or they are incapacitated to function).
- Possibility of easy and simple relocation of the Remote Control Center on the alternative location, with preservation of all vital functions of the System.



Alarm station – Inner schedule of equipment



Alarm station on the object

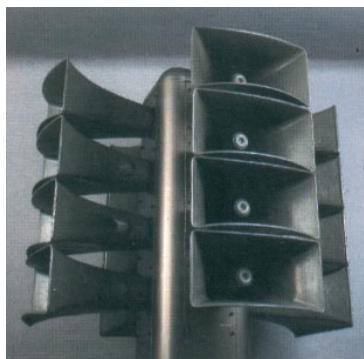
SYSTEM EQUIPMENT

The equipment of the Surveillance, Alert & Warning System is divided into the following functional parts:

- Sub-system for remote activation of the electronic alarm sirens which consist of:
 - Central Unit (CU)
 - Sub-central Unit (SU)
 - Peripheral Unit (PU)

Sub-system as a whole provides remote activation of electronic alarm sirens and monitoring and control of the overall operation of the Surveillance, Alert & Warning System.

- Electronic Alarm Siren, is the executive part of the system which provides, besides issuing of warning signals, which is its main function, emission of speech messages (remotely from the center, or locally on the spot).
- Uninterruptible Power Supply System, which provides functioning of the system in situations when power supply from the main power supply is failed, either because of local failure, or because of complete power supply system outage



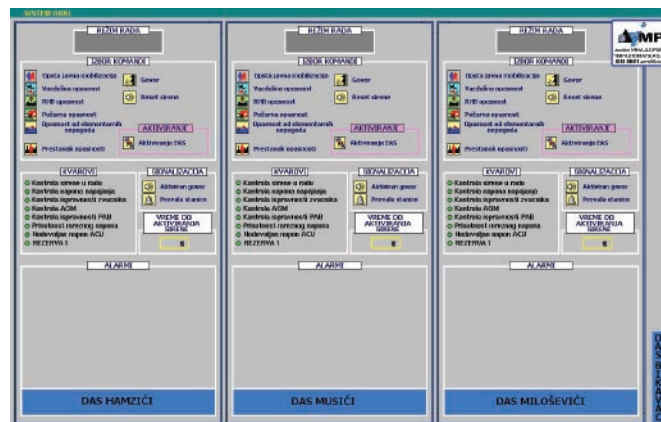
Sound group

SOFTWARE PACKAGE FOR THE SYSTEM

Software package for the Surveillance, Alert & Warning System provides exceptionally comfortable and user friendly monitoring and remote control of the entire system operation through the Central Unit PC computer in the Control Room. It provides monitoring of the entire system operation and availability, and remote activation of electronic alarm sirens with the appropriate warning signals, or transmitting any type of speech message, via the PC computer keyboards.

Monitoring of the alarm station operation is done by the Central Unit through the global presentation-BASIC WINDOW-of the area that is being monitored and covered by the respective Control Center.

Monitoring of the alarm station operation, through which the remote activation of electronic sirens is done, is realized via the display on a PC monitor. The remote activation of electronic alarm sirens is realized via the PC monitor and keyboards, via the window WARNING CENTER.



TECHNICAL SPECIFICATION

- Warning audio alarms: According to JUS Z.F.1.002 standards (6 basic types of warning audio alarms, with two spare signals)
- Speech signal bandwidth: 300-3400 Hz
- Maximal number of remote commands from the Control Center: 16
- Maximal number of feed back signalizations from the alarm stations: 32
- Maximal number of alarm stations: 64
- Possibility of remote control and activation of sirens: selectively, individual and group activation
- Maximal number of groups: 4
- Telecommunications: Standard telephone pair, and/or radio system.
- Protection in data transmission: digital transmission with CRC protective code better than 10⁻⁷ at normal event distribution
- Probability of false command execution: less than 10⁻²⁷
- Level of sound pressure (measured at 30 m, according to standard JUS Z.F.1.002):
 - max 115 dB(C) at various propagation characteristics (360o, 270o, 2x 90o, 90o)
 - max 120 dB(C) at radiation angle 90o or 2x90o and doubled number of horns (8) in the vertical axis
- Power supply:
 - For Central Unit and sub-unit: by Standard UPS unit for PC computer, which is powered through 220 V AC, mains, with additional batteries for extended autonomy from 2 h to 12h (optional),
- Consumption of CU (PC computers): max 250W
- For alarm station: by 220 V AC mains which through charger/rectifier charges the battery of 48 V DC, Consumption depends on the operation of the alarm station.
- Capacity of the battery is standard 50 Ah, which provides the autonomous operation of the alarm station for minimum of 30 min. continuous emission of the warning alarm sound.
- Temperature working range:
 - For Central Unit : 0 to 45 C
 - For Alarm Station: -25 to 55 C
- Store temperature: -40 to + 70 C

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