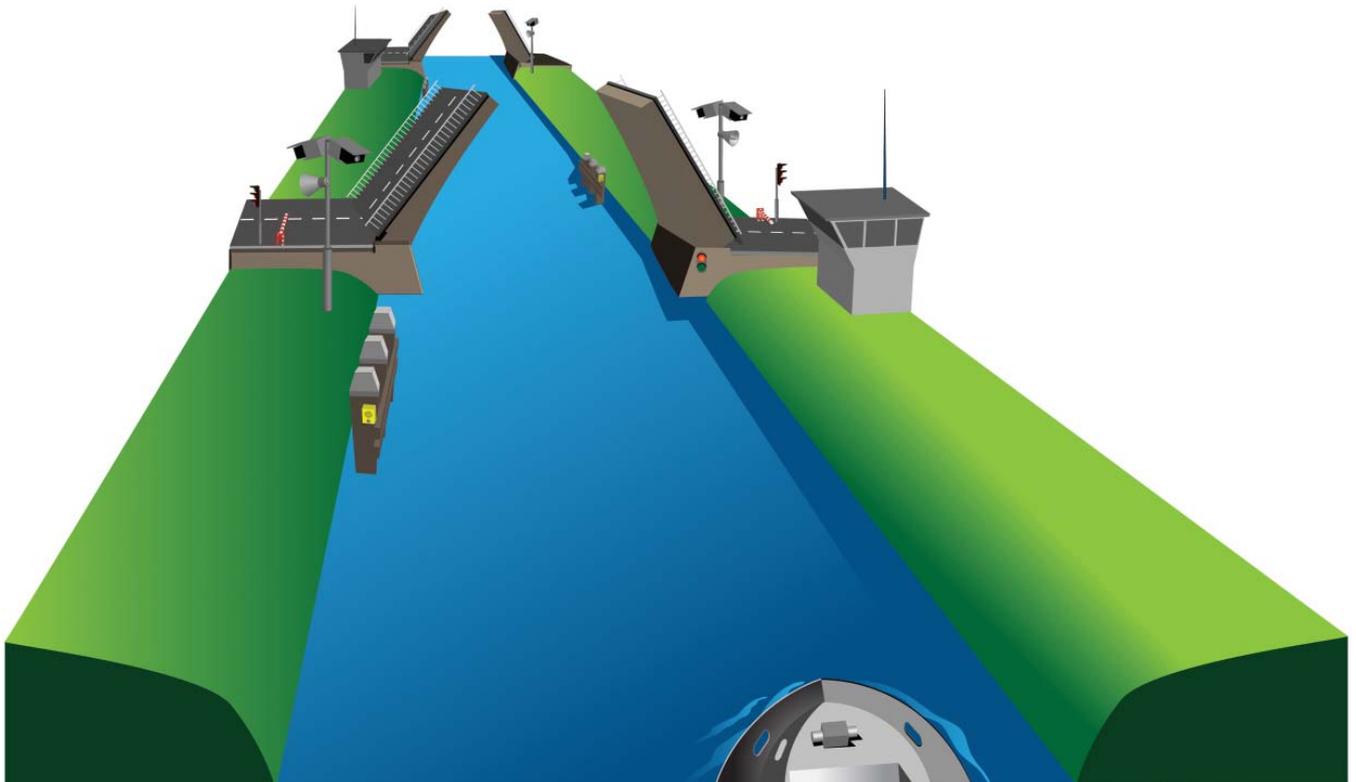


..... Bridge & Lock System

Integrated Voice Communication System for bridges and locks

In the past every bridge had its own keeper. Today the monitoring and control of bridges and locks tend to get more and more centralized. To be able to handle the traffic safely a number of communication and control devices must be placed at the bridge/lock site. MEP has developed specialized modules that handle all voice communication that is needed for this job.



To control a bridge in a safe way a number of devices are necessary:

- Two 2-way Public Addressing (PA) voice lines.
- One VHF radio with Received Signal Strength Indication (RSSI).
- A number of outdoor intercom units (PPU) along side the canal.
- A number of indoor intercom units for technical purposes.
- A fail-safe PLC which controls the traffic lights, the barrier and the bridge itself.
- A number of closed circuit television (CCTV) cameras.

Gateway to communication



The command centre takes in calls from the sites and these are routed to the traffic manager. The traffic manager answers these calls and passes them to one of the operators. The operator will handle all voice and control actions necessary to regulate traffic. The CCTV cameras provide the operator with a good view of the situation on the road and waterway.

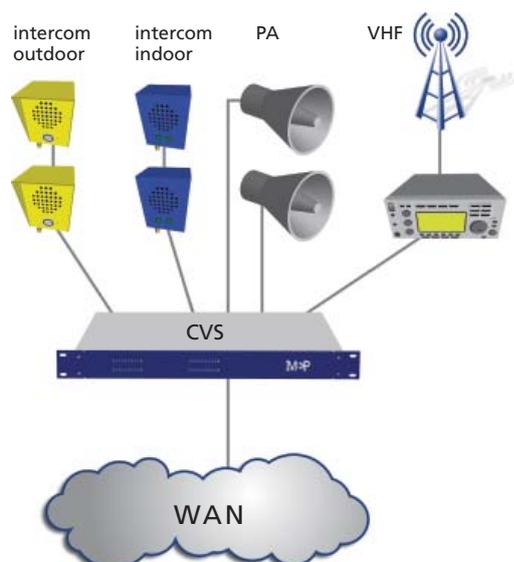
All bridge and lock speech devices are connected to a Compact Voice Switch (CVS) with a specialized module, located on the bridge/lock site. The special module can handle the PA, radiochannel and in-/outdoor intercom in one cost effective solution. All remote CVS voice switches are connected to the central main voice switch by means of an IP network. The main voice switch can connect up to a hundred of these remote sites.

The bridge control functions are handled by means of a PLC and a SCADA application. This system is separated from the CVS communication system and has its own user interface.

The Voice switch and the PLC communicate with each other to simplify operator procedures. If, for instance, a ship without a transceiver places a call on a PPU its location can be indicated on the map of the SCADA application. The traffic manager will answer the call to enquire the needs of the calling party. If the bridge must be opened the manager will pass the call to the operator, it is possible for the Scada system to instruct

the main voice switch to route calls to the operator.

All voice communication devices are shown on the voice communication panel. Short and long term voice logging is available to document all occurrences. The Scada system handles all traffic lights, barriers, CCTV cameras and bridge/lock controls.



If multiple locks and/or bridges exist within the same operation area the system can be configured for large area coverage. Which makes it possible to handle more than one concurrent call on the same frequency.

A sophisticated control and monitoring system (CMS) makes it easy to operate and service the system.

All devices like PLC, VCS and radar use the same IP network, lowering the total cost of ownership.