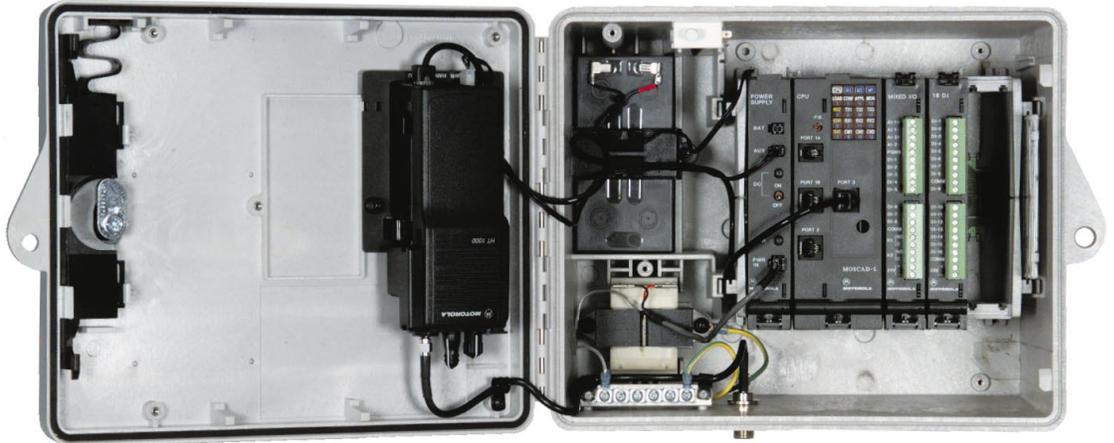# MOSCAD Interface
to
Electromechanical Sirens

The MOSCAD and MOSCAD-L Remote Terminal Units (RTU) provides an intelligent interface to new or existing Electromechanical Sirens. These RTUs allow electromechanical sirens to operate in sophisticated siren control systems.

FEATURES/BENEFITS

Electromechanical Interface

The MOSCAD-L RTU controls the siren and receives alarms through a direct contact interface to control relays and feedback sensors. Logic within MOSCAD analyzes the feedback to determine the success of the activation.

◆ *Control relays initiate siren rotation and start the blower and chopper motors. Feedback can be provided through rotation sensors, air pressure sensors, and current sensors.*

System Integrity

System integrity is of critical importance. MOSCAD is designed to prevent a siren activation based on a recording of a previous siren activation.

◆ *MOSCAD prevents malicious activations through the use of extremely accurate time stamped data embedded within the command. At the remote siren site, a complex program analyses the activation command and only then activates the siren.*

MDLC Protocol Reliability

Unlike DTMF signaling which has no inherent error detection, MDLC uses 16 bit CRC error detection when using wire line communications and a higher level 32 bit CRC error detection method when operating in the harsh radio environment.

◆ *The MOSCAD MDLC protocol is designed to help ensure the integrity of the data throughout the siren system.*

Siren Control from Many Control Centers

The MOSCAD RTU supports Peer to Peer communications. This means that RTUs in the siren system can receive commands and report back to more than one control center.

◆ *The MOSCAD RTUs will support operation within sophisticated siren control systems using backup or redundant control centers.*

Efficient Communications

MOSCAD is designed to make extremely efficient use of the radio communication medium. This is especially important on a trunking system so that the siren system adds minimal loading.

◆ *Using MOSCAD allows a single transmission burst to contain a sequence of activation information for the required siren commands. For example; Rotation, Blower, Chopper.*

True Compatibility with Motorola Trunking

MOSCAD is totally integrated with Motorola's trunking system protocol. The MOSCAD/Trunked Radio interface is designed to provide channel grant and channel busy indications to the MOSCAD RTU.

◆ *This total integration ensures that data is only sent on the channel when the channel is available. The system is designed so that data is not sent blindly.*

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MOSCAD Interface
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Remote Programming

The MOSCAD RTU controls the siren, therefore the duration of the siren tones may be programmed over-the-air while the siren system is still operational.

◆ *Changes to the siren-on duration maybe quickly made by Motorola or the user at minimal or no additional cost. Adjustments to mechanical timing relays are not required.*

Automatic Testing of Sirens

The MOSCAD RTU can automatically test the rotation functionality of the siren on a scheduled basis.

◆ *The rotation function is quite often the most prone to failure. Automatic weekly testing provides early reporting of failures before the infrequent "growl" tests are conducted.*

Remote Diagnostics

The MOSCAD MDLC protocol allows a support center to do remote over-the-air diagnostics without interfering with the operation of the Siren Control System.

◆ *This allows efficient optimization of the system at minimal cost.*

Electromechanical Siren Controller Data Monitored by MOSCAD RTU

Note: The MOSCAD RTU mechanical siren interface is a software application provided when MOSCAD is purchased as part of a system solution from Motorola.

SPECIFICATIONS

Activation	Yes/No, based upon siren activation and positive feedback from current, air pressure, and rotation sensors.
Rotation	Yes/No, based upon the number of pulses from the rotation sensor.
Activation Failure	Pass/Fail, generated in the MOSCAD RTU based upon negative feedback from one or more current, air pressure, and rotation sensors.
False Activation	Pass/Fail, not activation triggered, but positive feedback from current and/or air pressure sensors.
Partial Failure	Pass/Fail, either the siren did not activate or did not rotate
RTU Communication	OK/Fail, based upon communication to the site.
RTU AC Voltage	Pass/Fail, based upon the status of the AC voltage at the RTU.
Siren AC Voltage	Pass/Fail, based upon the AC voltage sensor located in siren.
Siren DC Voltage	Pass/Fail, based upon the DC voltage sensor located in the siren.
Siren Intrusion	Alarm/Normal, based upon the status of the tamper switch located on the siren controller cabinet door.
RTU Intrusion	Alarm/Normal, based upon the status of the tamper switch located on the RTU cabinet door.
I/O Module Failure	Indicates the current status of the Digital Input and Digital Output modules as either FAIL or Normal.

General Specifications

Physical	CPU & Radio are Mounted within NEMA4 enclosure
Power Supply	Dual: 117 Vac power supply with automatic switchover to backup battery
Environmental	Temperature: -30° to +60°C Humidity: 90% Relative Humidity @ +50°C

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