

BOSTON TRANSPORTATION DEPARTMENT VIDEO MONITORING SYSTEM SPECIFICATIONS

September 22, 2008

General

This specification set forth the minimum requirements for a video monitoring (VM) system that monitors vehicles on a roadway via a traffic monitoring camera system with remote viewing capability.

The system shall consist of a pendant dome mounted traffic monitoring camera with remotely controlled pan/tilt/zoom, and supervisor computer software and digitizer/remote receiver.

Communications for remote monitoring/control at Boston City Hall shall be via direct fiber or copper communications, a telephone dial-up, or an ISDN line as shown on plans or as directed by the BTM Engineer. The contractor shall install line boosters if needed in order to provide reliable communications between the proposed field location and the supervisor computer. Camera control protocols shall be compatible with the existing switching hardware/software and other control equipment at the Boston Traffic Control Center. Video image via direct copper shall be provided at a minimum of 5 frames per second unless otherwise approved by the BTM Engineer. Video images via fiber shall be visible simultaneously and provided at a minimum rate of 30 frames per second. The camera provided as part of the system shall provide for video output and control via both analog (coax) and IP (MPEG4).

Environmental

The VM field equipment shall be designed to operate reliably in the adverse environment found in the typical roadside traffic cabinet. It shall meet the environmental requirements set forth by the NEMA (National Electrical Manufacturers Association), TS1 and TS2 standards. Operating temperature shall be from -35 to +74 degrees C at 0% to 95% relative humidity, non-condensing.

Electrical/Mounting

The cabinet equipment shall be plug connected and shelf mounted. IP output from the camera shall be via an RJ-45 connector and analog video output via BNC connector. The camera shall be mounted as directed by the BTM engineer. When mast arm mounted, brackets shall be utilized which position the camera so it will not be blocked by signs or vehicle housings.

Image Sensor and pan/tilt system for Traffic Monitoring

A dual mode Day/Night color/bw CCD camera with ¼ inch image format and a remotely controlled pan/tilt mechanism and optical zoom to at least 26X shall be provided to generate images for traffic monitoring. Sensitivity of the camera shall allow operation with a minimum illumination of .08 lux at ½ second day mode and .013 lux at ½ second night mode. The camera and ancillary control/interface electronics shall provide images which shall be viewable at the VM's remote supervisor computer or video matrix switch. Automatic/manual iris and AGC on/off shall be remotely selectable at the supervisor computer or video switch as directed by the BTD Engineer.

The software and hardware for the VM system shall be designed so as to not interfere with the existing video system. The contractor shall make all connections necessary to provide video and PTZ control at the Boston City Hall Traffic Control Center.

Submittals

All proposed equipment shall be submitted to the BTD Engineer for approval.

Documentation

Wiring diagrams and manuals shall be supplied for all equipment installed and connections made to the BTD central control system or other video field hardware as part of the VM System. When copper pairs are utilized, the colors for pairs utilized shall be noted on the drawings. A block diagram shall be included which shows all devices installed as part of the system. Documentation shall include instructions for set up and troubleshooting of all components in the Video Monitoring System.

Installation and Training

The supplier of the video monitoring system shall supervise the installation and testing of the system and control computer equipment. Copper pairs utilized to transmit video or PTZ control shall be permanently labeled in each cabinet with camera location and adjacent traffic cabinets. A factory certified representative from the supplier shall be on site during installation. Eight hours of training shall be provided in the operation, setup, and maintenance of the video monitoring system. Instruction and materials shall be provided for a maximum of 20 persons and shall be conducted at a time and location selected by BTM. The contractor shall submit proposed material to be covered for approval by the BTM Engineer.

Warranty, Maintenance and Support

The video monitoring system shall be warranted by its supplier for two (2) years from the date of installation.

The supplier shall maintain a program for technical support and software following expiration of the warranty period.