7820000 Video Equipment
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

Bijan Behzadi
813-520-4351
behzadi@pbworld.com

Comments: (1-8-13)
Please revise to read "Ensure the outdoor power consumption does not exceed 125 watts." since there are indoor power conumption requirement exist. 2- 782-2.2.2.2 Inputs and Outputs:Please check the sentence completion. It discusses 4 component video input but only specifies 3. Provide the video display control system with a minimum configuration of 84 composite video inputs, 4 component (red, green, and blue [RGB]) video inputs, 8 SXGA inputs, and 84 DVI inputs as well as network connections, decoders, and associated hardware and software required to display 32 inputs simultaneously at a minimum resolution of 720 pixels x 480 pixels and a frame rate of 30 fps, or as shown in the Plans.

Response: The power consumption requirement applies only to the cameras governed by these specifications. While the cameras described in this specification are typically used (and designed for use) in outdoor environments, we do not believe it is necessary to explicitly state “outdoor power consumption”. The Traffic Engineering Research Laboratory (TERL) has evaluated a number of cameras against requirements in this specification without issue using the power consumption requirements as stated. No change.

****

Chris R. Birosak
ITS Program Manager
District One, Florida Department of Transportation
801 N. Broadway Ave.
Post Office Box 1249
Bartow, Florida 33831-1249
Phone (863) 519-2507
Fax (863) 534-0915
email - chris.birosak@dot.state.fl.us

Comments: (1-17-13)
The D1 ITS Office reviewed the subject specification and we have the following comment:
Section **782-1.2.9.3 Encoding Video Specifications** – The MPEG 2 format is being removed from table 1.1. This is the only format we have deployed in D1. It appears moving forward all new cameras would only be H.264 (or above).
Our Barco system, in its current state, will not accommodate H.264 streams. This would require upgrading all the SVC-1 cards to SVC-2 cards. Therefore any new H.264 cameras would not work on our existing system.

Response: The encoding requirements in this section only apply to IP cameras (cameras that incorporate encoder functions within the camera itself). There is no requirement for all new camera installations to be H.264, though the security and surveillance industry that drives the

CCTV market are certainly headed in that direction more and more with each passing day.

The reality is that most, if not all, IP cameras that are viable for FDOT projects do not produce MPEG2 format video streams. We contemplated removing the MPEG2 requirement for IP Cameras, but left this content in the specification in the unlikely event that an MPEG2 IP camera was offered in the future. Up to this point, the IP cameras that have been submitted to the Traffic Engineering Research Lab for APL listing do not produce MPEG2. TERL staff believes it is unlikely that IP cameras will include MPEG2. We are therefore removing the requirement for MPEG2 IP cameras at this time.

If MPEG2 is required, then using an analog camera with a separate encoder (the older and common design philosophy we have used in the past for the majority of our systems) might be a better solution.

The FDOT specifications, taken as a whole, are intended to allow agencies and designers to select the best option that works for their specific project needs. However, at some point, we should not be surprised if we have fewer and fewer choices with respect to standard definition analog cameras and MPEG2 encoders, along with more and more choices with IP cameras that include high definition video and H.264.

As you have pointed out, your Barco system is a limiting factor and your future design decisions will need to weigh the pros, cons and cost-benefit of either sticking with older MPEG2 technology, updating your TMC display equipment such that it can handle both MPEG2 and H.264, implementing a transcoding solution to bridge the technology gap between new field equipment and legacy central systems, etc.

Changes made.

****

James S. LaBatt
Blackhawk Enterprises
1400 Village Sq. #3-216
Tallahassee, FL 32312
www.blackhawkenterprises.com
office: 850-668-5293
mobile: 850-766-1388

Comments: (1-18-13)
782-1.2.2 Lens: Ensure that the standard definition CCTV camera has a minimum 22x motorized optical zoom lens with automatic iris. Ensure that the high definition CCTV camera has a minimum 18x motorized optical zoom lens with automatic iris.
The intent of lowering this to 18x is for HD cameras. However this paragraph states "standard definition", so lowering would open the door for substandard products. Should be 22x for standard def and 18x for high def.

Response: The specification has been edited to clarify that 22x is minimum for standard definition cameras and 18x is the minimum for high definition. Changes made.

782-1.2.9.1 Video Encoding: The camera must utilize the Moving Picture Experts Group's MPEG-2 video compression technology in accordance with the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) requirements detailed in the ISO/IEC 13818 standard or the Moving Picture Experts Group's MPEG4 part 10 (H.264) video compression technology in accordance with the ISO and IEC requirements detailed in the ISO/IEC 14496-10:2009 Standard.
There are no MPEG2 IP domes. They are all H.264

Response: Agree. The specification has been edited to clarify that 22x is minimum for standard definition cameras and 18x is the minimum for high definition. Changes made.

782-1.2.9.2 Encoded Video Interoperability: Ensure the camera's encoded video is interoperable with hardware and software decoders from other manufacturers. Ensure the camera's encoded video can be decoded by a minimum of two other manufacturer's software decoders and a minimum of two hardware decoders
Not really applicable for H.264. Very few decoders on the market as most is software decoding. Would be better suited to say "adheres to the H.264 standard"

Response: Agree. The specification has been edited to remove requirements for hardware decoding interoperability. Changes made.

H.264
176 x 120, 352 x 240, 720 x 480
This doesn't make sense

Response: Agree. This had already been modified prior to your comment. The table now only lists minimum vertical resolutions that are common and required. Additional resolutions are also acceptable (and common – for instance 720 vertical for HD). No change.

Plans. The camera must be capable of remote firmware upgrade via the communication interface. Ensure that IP cameras support the Open Network Video Interface Forum (ONVIF) Core, Streaming, and Media Service specifications.
Agreed that ONVIF should be supported. But you may want to also add NTCIP. God knows when SWRI will implement ONVIF.

Response: Language changed to clarify that both NTCIP and ONVIF are required for IP cameras. Change made.

****