

The adoption of digital detectors and PACS has provided physicians in healthcare institutions with an effective means to electronically generate, transmit, archive, retrieve and display images to be used for the diagnosis of disease. Monochrome CRTs and LCDs were the original choice of displays. Now color displays are increasingly replacing monochrome displays mainly for cost reasons in Radiology, but also for use in multi-modality display stations and in areas where color is essential such as in Telemedicine and Telepathology.

The ACR-NEMA Working Group 11 has developed a Display Function Standard to allow for the standardization of monochrome image display devices. The AAPM Task Group 18 has developed methods to permit implementation of image Quality Assurance Programs as well as Acceptance Procedures for monochrome display devices.

No Display Function Standard is available for the standardization of color display devices nor are there recommendations for image Quality Assurance Programs or Acceptance Procedures for color display devices.

This presentation demonstrates that consistent color presentation as well as consistent grayscale presentation for digital color displays can be achieved with the appropriate software and a simple and portable color detector. The software to achieve color fidelity works fast and, with the aid of the portable detector, can be applied remotely, saving precious resources in the management and operation of color displays.

The presentation also provides a look into the future when a handheld color camera will be available to permit in-field evaluation of pertinent image quality measures like modulation transfer function and signal-to-noise ratio of color display devices in the reading room.