



Rainbow 's multi-channel playback master control room.

CEI has provided comprehensive services to Rainbow Networks (RNC) a division of Cablevision in New York, since 1998. Rainbow originates a spectrum of cable channel programming viewed by more than 150 million people on a daily basis, including such well-known channels as AMC, Fox Sports Net, IFC, We tv, MASN, MSG and many others.

CEI's first project for Rainbow involved the provision of complete turnkey space planning, engineering, design, and implementation services for their new program production, origination and uplink facility. The state-of-the-art broadcast center provides services to more than 20 HD channels and 24 SD channels of programming in an automated multi-channel origination and live production environment.

In the spring of 2002, Rainbow contracted with CEI to provide broadcast consultant and turnkey services for the development of the Rainbow DBS Origination Facility. The project was located within RNC's Technology Center in Bethpage, NY, a facility for which CEI had previously provided the same services during its development and build-out. The Rainbow DBS Origination Facility provides all the Network Operations Center (NOC) activities including server play-out, real-time feed processing, monitoring and transmission operations. In the NOC, all original and re-transmitted channels are constantly monitored at several points within their inbound/origination and outbound/transmission signal paths. The DBS facility currently produces two HD channels for national and international distribution with multi-language and sub-titling.

Rainbow made a significant investment in 2007-2008 in the HD upgrade of the master control facilities. The AMC, IFC, and WE tv channels, which traditionally were only standard definition (SD), were augmented with high-definition (HD) air channels; and all long form play-back for all channels were moved from tape-based to an all server-based system driven from an HD and SD digital archive.

The HD channels were mandated to air all program content in full screen 16x9 with no "letter box" or "pillared" segments. 5.1 surround sound, along with a separate audio program and a stereo PCM down-mix channel, were required for all HD channels. Downstream processing of the program channel included the insertion of bugs, logos, animated snipes, local commercial avail signals, closed captioning, and ratings signals in preparation for air release. The master control rooms accommodate up to six channels of simultaneous play-out. Signal confidence monitoring was converted from an all standard definition glass monitor wall to a mixed SD and HD array of LCD displays driven by an integrated multi-viewer system. Distributed operational workstations allow for individual channel play-out control and monitoring. A central master control platform allows for occasional live programming for special events.

CEI has continued its ongoing relationship with Rainbow with the successful completion of a complete media asset management system, and master control and channel release systems for Fox HD, Rainbow HD, Fuse HD, MSG HD, MASN HD and Sundance SD/HD.

In 2009, Rainbow launched MSG Varsity with five regional channels of local high school sports and academic competition programming. Along with program playback, the systems provide VOD playback and interactive network streaming channels.