A Preliminary Study on the Impact of Digital Transformation of the All-Media Studio at Taixing Radio and Television Station

Authors: Li Jia

Date: 2023-10-08T00:00:00+00:00

Abstract

The broadcast studio represents a vital component of television program production. To better accommodate the demands of all-media convergence development in journalism and to enhance the visual appeal, timeliness, and interactivity of news programs, in 2016 our station undertook the reconstruction of the original 200-square-meter studio, equipping it with high-definition digital technology and redesigning it to align with the characteristics of the all-media era. The robust functionalities of the new all-media studio have furnished innovative expressive modalities for program production and broadcasting, yielding substantial improvements in audience ratings.

Full Text

Preamble

A Brief Discussion on the Digital Transformation of the Full-Media Studio Hall of Taixing Radio and Television Station

Abstract: Studio halls are an important component of television program production. To better adapt to the requirements of integrated full-media development for news and improve the visibility, timeliness, and interactivity of news programs, in 2016 our station reconstructed the original 200-square-meter studio hall using high-definition digital equipment combined with the characteristics of the full-media era. The powerful functions of the new full-media studio hall provide innovative forms of expression for program production and broadcasting, resulting in significantly improved program ratings.

Keywords: graphic packaging; studio graphics; full-media integration

CLC Number: G220.7
Document Code: A

Article ID: 1671-0134(2017)10-117-02
DOI: 10.19483/j.cnki.11-4653/n.2017.10.049

By Li Jia

Studio halls, as the main component of television program production systems, have evolved from analog to digital and from standard-definition to high-definition. With the rapid development of the Internet era and mobile terminals, the full-media age has arrived. For television programs, integrating traditional technology with emerging media technology represents the current primary development direction, and accelerating the construction of full-media production and broadcasting platforms has become a new trend in the broadcasting industry. In 2016, our station undertook the digital reconstruction of the original 200-square-meter studio hall, adopting high-definition digital equipment and incorporating the characteristics of the full-media era. This technological innovation supports program concept innovation, creating a full-media news digital broadcasting platform. The newly built studio hall incorporates advanced technologies including ultra-high-resolution large-screen packaging display systems, high-definition/standard-definition three-dimensional graphic online packaging systems, high-definition three-dimensional visualization interactive systems, subtitle graphic creation and broadcasting systems, and virtual reality graphic packaging systems. This multi-functional, full-media interactive studio supports comprehensive, multi-scene, multi-space, and multi-viewpoint broadcasting and has now been successfully put into operation.

The multimedia interaction area is equipped with a 3$×$3 array of 55-inch ultra-narrow bezel LCD splicing screens, powered by the Idpe 3DM-4K ultra-high-resolution large-screen display packaging system and the Idpe Media Live intelligent scheduling management system for effect presentation on ultra-large-scale displays and comprehensive management and scheduling of multiple signals in the studio. This system schedules, plays, and controls various signals displayed on the large screens in the broadcasting area of the studio set.

1.4 Graphic Commenting System

The configuration includes the Idpe G-Touch2-HD high-definition three-dimensional visualization interactive system, comprising a graphic commenting workstation, professional commenting software, large-screen touch drivers, and iPads.

2. Advantages of the Graphic Packaging System

Online packaging technology offers the characteristics of speed, low cost, standardization, and high quality during program implementation. Compared with traditional subtitle machines, its advantages are evident. Beyond providing extensive text and graphic information for programs, its exquisite, beautiful, and dynamic visuals directly and significantly enhance program content packaging.

Its implementation contributes to better overall station packaging. In the television packaging workflow, online packaging is a crucial component of "on-air packaging," sharing the same purpose of establishing and maintaining the television channel's brand image. It represents the application of image identification standards under overall packaging guidelines, providing a series of external form specifications and enhancements to the overall image.

3. Integration of Studio Hall and Graphic Packaging

As times evolve, audiences demand higher quality, more targeted content from television programs. The introduction of studio online packaging has become imperative. Our studio hall uses online packaging products from Beijing Idpe Company, whose three-dimensional real-time graphic creation system offers efficient three-dimensional graphic production and rendering capabilities. The system features a simple and convenient operation interface, a rich model material library, diverse graphic scene special effects, and support for importing 2D/3D design modules from third-party software. These powerful functional characteristics can meet almost all design requirements during program template production, effectively improving creators' work efficiency and enabling them to easily and quickly produce rich and complex three-dimensional graphic effects while focusing more on fulfilling the functional requirements of three-dimensional graphic templates for programs.

3.1 Graphic Packaging

Studio online packaging covers commonly used graphic scenes in programs, including titles, subtitle bars, over-shoulder graphics, bottom crawls, end credits, dialogue subtitles, program guides, and corner logos. Packaging these scenes through the three-dimensional scene production function of graphic packaging can significantly enhance visual effects. Unlike traditional systems where anchors read scripts and later staff play corresponding large-screen content, our studio hall is also equipped with a three-dimensional graphic commenting and broadcasting control system. Compared with traditional commenting systems, this system is built upon Idpe's three-dimensional graphic rendering engine (IDPRE) as its core, with graphic video commenting and broadcasting system software as its foundation, combined with plasma touch display units for commenting and broadcasting. Anchors control real-time three-dimensional scene broadcasting through gestures, enhancing screen expressiveness and bringing a refreshing experience to audiences, further enriching program presentation forms.

3.2 Virtual Reality Graphic Packaging

The iVRS virtual reality graphic packaging system extends the functions of the three-dimensional graphic system, achieving perfect fusion between real scenes and virtual reality graphic scenes, presenting vivid and realistic visual effects to

audiences, and enriching program broadcasting formats and creative possibilities. Our studio hall unifies the production platform for all graphic broadcasting systems, eliminating the need for duplicate template production. Templates can be retrieved as needed, optimizing material and template management. Foreground graphics and graphic templates within large screens can be broadcast in linkage, meeting the requirements of news programs for graphic effects and presentation forms.

3.3 Large-Screen Backgrounds

The application of large-screen backgrounds in studio halls is an emerging trend in recent years. Large-screen backgrounds emphasize multi-camera, multi-background, and comprehensive television picture effects, which can greatly enhance the spatial sense of the studio. Traditional studio large-screen backgrounds generally play pre-produced footage with relatively monotonous broadcasting forms that cannot effectively echo program content. The introduction of graphic packaging products provides new display methods for large-screen broadcasting. During broadcasting, accompanying the anchor's narration, large screens can display rich content including video connections and data analysis, enhancing program visibility and flexibility.

After the high-definition transformation of the full-media studio hall system was put into operation, the combined application of online packaging systems, virtual reality technology, background large screens, and graphic commenting products has provided unlimited creative space for our station's television programs. As technology continues to develop and mature, the full-media studio hall will play an even more important role in our station's television programs, enriching television screens and better meeting audience demands.

[1] Zhu Jun. A Brief Discussion on the Rise of the Full-Media Concept in Radio and Television from the Evolution of Studios[J]. Film & Video Production, 2017(02): 46-50.

(Author's Affiliation: Taixing Radio and Television Station, Jiangsu Province)

Note: Figure translations are in progress. See original paper for figures.