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PTZ Camera Production Technology and Its Role in Live Broadcasting Over the Internet

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Abstract:

Technology is the lifeblood, enhancing and developing production processes and boosting creativity. By embracing technology and staying up to date with emerging trends, the increasing use of PTZ cameras in corporate events has opened new doors in the field of professional photography.

The development of PTZ cameras in live broadcasting is an important topic in today's digital age, as live broadcasting plays an important role in various fields such as media, education, commerce, etc. Improving image and sound quality, enhancing control and operation, and developing new applications for PTZ cameras will contribute to enhancing the viewing experience and increasing the efficiency of live broadcasting. With the launch of advanced models such as the Panasonic AW-UE160, the capabilities and expectations of these cameras are on an upward trajectory of image quality.

Event organizers, audio and video professionals, and large corporations should take note of the impact they are having on live broadcasting experiences. Embracing this wave of innovation is not only about keeping up with the times, but also about putting in the effort creatively and equally whether it is a product launch, a corporate meeting, distance learning, or a conference. The use of PTZ cameras in event photography is not just a trend, but a transformative force that reshapes and re-enacts live coverage (live broadcast) of events, thanks to their quality and ease of use, which gives a more attractive and rich experience. As the industry continues to evolve and innovate, we expect these cameras to provide great distinction in event coverage and broadcasting on air.

The importance of the research: The importance of the research from a scientific point of view is centered on improving control and operation of (PTZ) cameras, developing new applications for (PTZ) cameras in live broadcasting and improving its quality, increasing understanding of the impact of camera technologies on broadcast quality, and in practical applications of live broadcasting in conferences and distance education, and compatibility and integration between live broadcasting systems. From a practical point of view in terms of improving the quality of live broadcasting, increasing the efficiency of PTZ camera control, reducing the cost and time required for broadcasting, and improving the viewing experience. As well as the economic importance in developing the live broadcasting industry (activities of the online part remotely for one of the lectures inside Hall 209 at the Higher Institute of Applied Arts in the Fifth Settlement), and working to increase the accessibility of live events such as conferences and remote meetings.

Research problem: PTZ cameras have a major role in the live broadcast of various events, so how can they help with live broadcast problems? The main question of the research appears: Can PTZ cameras in the live broadcast process obtain satisfactory technical quality of sound and image (image resolution, frame rate, and sound quality), as well as compatibility and integration with various broadcast programs and systems?

The research questions are summarized in: - What are the advantages of using PTZ cameras to shoot ? - How does using a PTZ camera contribute to In live broadcast of the event and how to control it?

Research hypotheses: - Using PTZ cameras improves the quality of shots, visual effects and movement in shots, reduces errors, and improves shooting efficiency.

- Using PTZ cameras helps in live broadcasting of various events easily and smoothly.
- Workers in the field of photography and live broadcasting are aware of all the features and requirements of photography and control of PTZ cameras, and reduces production costs.

Research objectives: - Studying the technical developments in PTZ camera. - Exploring the applications of PTZ camera in live broadcasting. - Developing a vision that can be applied on the ground to remotely transfer the activities of the online part of one of the lectures inside Hall 209 at the Higher Institute of Applied Arts in the Fifth Settlement.

Research Methodology:
The research follows the descriptive approach to study PTZ cameras, as well as the technical analysis
results: - Using PTZ cameras improves image quality as it provides a clear, detailed and high-resolution image. - Using PTZ cameras allows for better interaction between students and the lecturer, thus improving the student experience. - Using PTZ cameras reduces costs as the number of cameras used is reduced. - Ease of installing and using PTZ cameras. - PTZ cameras produce a high-quality image. - The possibility of obtaining high-quality image and sound during live broadcasting of lectures. - Ease of control and operation of live broadcasting of lectures using PTZ cameras.

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