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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GA/T 1154.5-2016

**Video analysis instrument -- Part 5: Technical requirements for
video and image enhancement and restoration**

视频图像分析仪 第5部分：视频图像增强与复原技术要求

(English Translation)

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References

Foreword

GA/T 1154 "Video Image Analyzer" is planned to be divided into the following parts.

---Part 1: General technical requirements;

---Part 2: Video image abstract technical requirements;

---Part 3: Video image retrieval technical requirements;

---Part 4: Video image face comparison technical requirements;

---Part 5: Technical requirements for video image enhancement and restoration;

---Part 6: Technical requirements for semantic description of video images;

This part is part 5 of GA/T 1154.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

Please note that some contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

This part was proposed and managed by the Technical Committee for the Standardization of Social and Public Security Applications of the Ministry of Public Security.

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1 Scope

This part of GA/T 1154 specifies the terms, definitions and abbreviations of video image analyzers with video image enhancement and restoration functions Language, general rules, functional requirements, performance requirements, test methods, inspection rules. This part is a supplement to GA/T 1154.1-2014.

This section applies to the development, production and inspection of video image analyzers with video image enhancement and restoration functions.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 30147 Technical requirements for real-time intelligent analysis equipment for security surveillance video GA/T 1154.1-2014 Video Image Analyzer Part 1: General Technical Requirements GA/T 1154.2-2014 Video Image Analyzer Part 2: Video Image Abstract Technical Requirements

3.1 Terms and definitions

GA/T 1154.1-2014 and the following terms and definitions apply to this document.

3.1.1

Video image videoandimage Video sequence image, video single frame image.

3.1.2

Video image enhancement videoandimageenhancement Using image processing technology to improve the definition and contrast of video images and other quality indicators.

[Rewrite GA/T 1154.1-2014, definition 3.1.7] 3.1.3 Video image restoration

videoandimagerestoration Using the prior knowledge in the image degradation process, through modeling and other means, eliminate the noise caused by the sensor, the inaccurate focus of the camera, the object and the phase.

Image degradation caused by relative movement between cameras, random atmospheric flow and haze effects, etc., restore the original video image.

[Rewrite GA/T 1154.1-2014, definition 3.1.8] 3.1.4 Resolution the number of black and white scale lines (TV lines) that can be distinguished within the same image height or width, horizontal resolution refers to the resolution within the horizontal size the number of vertical black and white bars (TVL), the vertical resolution refers to the number of horizontal black

and white bars (TVL) that can be distinguished within the vertical size of the image.

3.1.5

Degree of identification the human eye judges the ease of identifying objects (numbers, letters, people, faces, license plate numbers, objects, etc.) in the image.

3.2 Abbreviations

The following abbreviations apply to this document.

AVI. Audio Video Interleaved Format (AudioVideoInterleaved) BMP. Bitmap CIF. Common Intermediate Format (CommonIntermediateFormat) FTP. File Transfer Protocol (FileTransferProtocol) HSV. hue, saturation, brightness color model (HueSaturationValue) JPG. Full name JPEG, Joint Photographic Experts Group (JointPhotographicExpertsGroup) MPEG. Moving Picture Experts Group (MovingPictureExpertsGroup) MTBF. Mean Time Between Failures (MeanTimeBetweenFailure) OSD. On-ScreenDisplay PNG. Portable Network Graphic Format (PortableNetworkGraphicFormat) PS. Program Stream (ProgramStream) RGB. red, green and blue color space (Red, Green, Blue) ROI. Region of Interest (RegionofInterest) SATA. Serial Advanced Technology Attachment (SerialAdvancedTechnologyAttachment) SVAC. Security Monitoring Video and Audio Coding (SurveillanceVideoandAudioCoding) USB. Universal Serial Bus (UniversalSerialBus)

4.1 Product classification

The product function classification and classification of a video image analyzer (hereinafter referred to as the analyzer) with the function of video image enhancement and restoration shall comply with According to the requirements of 4.1 in GA/T 1154.1-2014, the classification code for video image enhancement and restoration is 05.

The functional requirements of product classification code A and B are shown in Table 1.