

ICS 35.220  
CCS A 91

**GA**

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

**GA/T 1399.4-2023**

---

**Video and image analysis system for public security - Part 4:  
Technical requirements for video and image retrieval**

公安视频图像分析系统 第4部分：视频图像检索技术要求  
(English Translation)

**Issued on: May 4, 2023**

**Implemented on: October 1, 2023**

---

**Issued by: Ministry of Public Security**

## Table of Contents

|                                                                                           |
|-------------------------------------------------------------------------------------------|
| Preface                                                                                   |
| Introduction                                                                              |
| 1 Scope                                                                                   |
| 2 Normative references                                                                    |
| 3 Terms, definitions and abbreviations                                                    |
| 4 Functional composition and retrieval process                                            |
| 5 Functions                                                                               |
| 6 Performance                                                                             |
| 7 Interface                                                                               |
| Appendix A (Normative) Calculation method of average precision mean                       |
| Appendix B (Normative) Interface Object Characteristics Attributes                        |
| Appendix C (Normative) Video Image Information Object Unified Identification Coding Rules |
| Appendix D (Normative) Video Image Information Object Data Item Code                      |
| Appendix E (Normative) Interface Object and Object Collection XML Schema Description      |

## Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

This document is part 4 of GA/T 1399 "Public Security Video Image Analysis System". GA/T 1399 has been published in the following parts.

- Part 1: General technical requirements;
- Part 2: Technical requirements for video image content analysis and description;
- Part 4: Technical requirements for video image retrieval.

## Introduction

GA/T 1399 "Public Security Video Image Analysis System" stipulates the system composition, external connection and the purpose is to standardize the planning and design of the public security video image analysis system.

Design, software development, testing and acceptance, to promote the development of

intelligent applications of public security video images.

GA/T 1399 is proposed to consist of 5 parts.

--Part 1: General technical requirements. The purpose is to determine the overall technical requirements that the public security video image analysis system needs to comply with.

-- Part 2: Technical requirements for video image content analysis and description. The purpose is to standardize the video content analysis and description of public security video image analysis systems.

Image content analysis and description application process and functional composition, functions, performance, video image content analysis data description and other technologies Require.

-- Part 3: Technical requirements for video image enhancement. The purpose is to standardize the video image enhancement technology in the public security video image analysis system.

Technical requirements such as functional composition, processing flow, functions and performance.

-- Part 4: Technical requirements for video image retrieval. The purpose is to standardize the video image retrieval technology in the public security video image analysis system.

Technical requirements such as functional composition, retrieval process, functions, performance, and correspondence between functions and interfaces.

--Part 5: Test Specifications. The purpose is to standardize the test environment, test process, and function test of the public security video image analysis system.

and performance testing and other technical requirements.

Public Security Video Image Analysis System Part 4: Technical requirements for video image retrieval

## 1 Scope

This document specifies the functional composition and retrieval process, functions, performance, interfaces, etc. of video image retrieval in the public security video image analysis system.

Technical requirements.

This document is applicable to the planning, design, software development, testing and acceptance of public security video image analysis systems, and other video image analysis systems.

Can be used for reference.

## 2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 28181 Technical requirements for information transmission, exchange and control of public security video surveillance network systems GB 37300-2018 Specification for video image information collection in key public security areas GA 36-2018 Motor Vehicle License Plates of the People's Republic of China GA/T 543.1-2011 Public Security Data Element (1) GA/T 1399.1-2017 Public Security Video Image Analysis System Part 1: General Technical Requirements GA/T 1400.1-2017 Public Security Video Image Information Application System Part 1: General Technical Requirements GA/T 1400.3-2017 Public Security Video Image Information Application System Part 3: Database Technical Requirements GA/T 1400.4-2017 Public Security Video Image Information Application System Part 4: Interface Protocol Requirements GA/T 2000.260-2019 Public Security Information Code Part 260: Video Image Object of Interest Labeling Color Code

### 3.1 Terms and Definitions

The terms and definitions defined in GA/T 1399.1-2017, GA/T 1400.1-2017 and the following apply to this document.

#### 3.1.1

video and image retrieval Search for targets and related events in video images.

#### 3.1.2

attribute-based retrieval Search for targets in video images that meet specified attribute conditions.

#### 3.1.3

Image-based retrieval Search for targets in the video image whose similarity with the target to be searched in the specified image exceeds the set threshold.