

## About This Standard

Mandated

**Standard Identifier** MIL-STD-188-198A(4)

### **Title of Standard**

Joint Photographic Experts Group (JPEG) Image Compression for the National Imagery Transmission Format Standard, 15 December 1993 with Notice 1, 12 October 1994; Notice 2, 14 March 1997; Notice 3, 1 March 2001; and Notice 4, 31 March 2004

### **Standards History**

Introduced to Registry	Date Emerging	Date Mandated	Last Status Update	Last Status Review	Inactive/Retired
2007-06-27	n/a	2007-06-27	2007-06-27	2007-06-27	n/a

**Standards Body** [DoD](#)

[Broken Link?](#)

**URL to Access or** <http://assist.daps.dla.mil/quicksearch>

**Acquire**

### **Working Group**

**Primary Owner** Geospatial Intelligence TWG (GWG)

**Secondary Interest** Collaboration TWG

**Service Area** GEOINT: Still Imagery

**KIPs** No KIP Found

### **Standard Applicability**

#### **2007-06-27**

When used by systems required to comply with the National Imagery Transmission Format Standard (NITFS) and/or the NATO Secondary Imagery Transmission Format (NSIF), STANAG 4545, MIL-STD-188-198A establishes (profiles) the features and functional behavior for imagery data compressed using the JPEG image compression algorithm. This implementation profile addresses lossy and lossless compression for both eight- and 12-bit gray-scale imagery, 24-bit color imagery, eight- and 12-bit spectral imagery, radar-derived imagery, and similar applications.

### **Standard Abstract**

#### **2007-06-27**

MIL-STD-188-198A establishes the requirements to be met by systems complying with NITFS when image data are compressed using the JPEG image compression algorithm as described in ITU-T T.81, Digital Compression and Coding of Continuous-tone Still Images. It provides technical detail of the NITFS compression algorithm designated by the code C3 in the Image Compression field of the National Imagery Transmission Format (NITF) file image subheader, JPEG, for both eight- and 12-bit gray scale imagery, 24-bit color imagery, eight- and 12-bit spectral imagery, radar-derived imagery, and similar applications. It also provides the required default quantization tables for use in imagery dissemination systems complying with NITFS.

### **Profiling Questions**

**GEOINT: Still Imagery** • Does your system exchange Still Imagery data with external systems?

### **Products Incorporating This Standard**

Companies with commercially available implementations/products include: BAE Systems, DigitalGlobe, GeoEye, Research Systems, Inc. (RSI), Eastman Kodak, ERDAS Inc., Technology Services Corporation (TSC), Harris Corporation, ITT, Paragon Imaging, PCI Geomatics, PhotoTelesis, Recon Optical, & Sensor Systems.

### **Relevant Information**

ITU-T T.81 is also published as ISO/IEC 10918-1. An implementation profile widely used in the commercial market place and on the world-wide-web is the JPEG File Interchange Format (JFIF), MIME Type image/jpeg. JFIF is a minimal file format which enables JPEG bitstreams to be exchanged between a wide variety of platforms and applications. This minimal format does not include any of the advanced features found in the NITFS JPEG profile or any application specific file format. The only purpose of this simplified format is to allow the simple exchange of monochrome and color JPEG compressed images (pixels only) using the lossy JPEG algorithm.

### **Implementation Guidance**

See STDI-0005, Implementation Practices of the NITFS, available at: <http://www.gwg.nga.mil/ntb/baseline/docs/ipon/index.html>. The STDI-0005 document is a compilation of common practices, conventions, and guidelines for implementing the National Imagery Transmission Format Standard (NITFS). The objective is to help promote common specification and application of the NITFS suite of standards by all fielded and developmental digital imagery-related systems. It describes common conventions for implementing the suite of NITFS standards that promote and sustain NITFS compliance and interoperability for the production, storage, cataloging, discovery, selection, exploitation, and dissemination of digital imagery, raster map, and other related raster products.

### **Standard Selection Criteria**

#### **Net-Centric Interoperability**

This standard is part of the National Imagery Transmission Format Standard (NITFS) suite of standards. NITFS is the common thread of interoperability for the formatting, imagery library storage and cataloging, dissemination, and exploitation of National Technical Means (NTM), Tactical Airborne, and Commercial imaging sources.

#### **Technical Maturity**

The NITFS application of JPEG has been implemented and fielded since the mid 1990's. While NITFS has also adopted the ISO/IEC 15444-1 JPEG 2000 standard for imagery compression, use of ITU-T T.81 JPEG will continue indefinitely. Commercial implementations of the standard are largely driven by marketability to the DoD and IC. Companies with commercially available implementations/products include: BAE Systems, DigitalGlobe, GeoEye, Research Systems, Inc. (RSI), Eastman Kodak, ERDAS Inc., Technology Services Corporation (TSC), Harris Corporation, ITT, Paragon Imaging, PCI Geomatics, PhotoTelesis, Recon Optical, & Sensor Systems.

**Public Availability**

Freely downloadable via the following URLs:  
<http://www.gwg.nga.mil/ntb/baseline/docs/2500c/index.html> and  
<http://assist.daps.dla.mil/quicksearch/>.

**Implementability**

This military standard is widely implemented within the DoD and the Intelligence Community by National Technical Means (NTM), tactical airborne, commercial satellite imaging systems, imagery library and dissemination systems, and a variety of commercial exploitation workstations. A standards compliance and interoperability program supports implementation of the capabilities specified within this standard.

**Authority**

NITF JPEG is a military standard prepared by the National Geospatial-Intelligence Agency (NGA) as an implementation profile of international standard, ITU-T T.81, Information Technology - Digital Compression and Coding of Continuous-Tone Still Images, Part 1. The standard is also cited by STANAG 4545, NATO Secondary Imagery Format (NSIF). The Geospatial Intelligence Standards Working Group (GWG) and its NITFS Technical Board (NTB) provide an open process for maintaining and developing this standard.

**Standard Type**      Military

**Keywords for Search**      None