



AEROSPACE RECOMMENDED PRACTICE

ARP6012

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Superseding ARP6012

JAUS Compliance and Interoperability Policy

RATIONALE

ARP6012 provides an interoperability approach and guidelines. As such, it documents a recommended interoperability policy for programs using JAUS. These guidelines are not subject to change based on evolving technologies; stabilization is indicated.

STABILIZED NOTICE

This document has been declared "Stabilized" by the SAE AS-4 JAUS Joint Architecture for Unmanned Systems Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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FOREWORD / EXECUTIVE SUMMARY

The SAE AS-4 Unmanned Systems Technical Committee defines a set of standards for use in the research, development, design, acquisition and deployment of unmanned systems. These standards provide a robust message set and message exchange protocol to promote interoperability between systems and components.

This Society of Automotive Engineers (SAE) Aerospace Recommended Practice (ARP) provides guidance to acquisition program managers, system specifiers, designers, et al., on the application of SAE JAUS Standards. Guidance is provided through the identification of applicable AS-4 Aerospace Specification (AS) standards documents and how these documents complement one another to achieve JAUS interoperability between systems that implement them.

1. INTRODUCTION

The SAE Joint Architecture for Unmanned Systems (JAUS) is a technology enabler for air, ground, water surface, and underwater unmanned systems. SAE JAUS is platform independent and thus provides a standard for interfacing with different types of vehicles, sensors, operator control stations, and payloads.

The SAE AS-4 Unmanned Systems Technical Committee defines a set of standards for use in unmanned systems. While each standard can be used individually, specific guidance is required for combining them. This recommendation provides this guidance and defines the concept of “interoperability profiles” (Section 5). An Interoperability Profile is the result of a strategic application of standards in a layered approach. The desired result is for any two systems that implement the same Interoperability Profile to interoperate in a useful way.

1.1 Scope

This document, the *JAUS Compliance and Interoperability Policy* (ARP6012), recommends an approach to documenting the complete interface of an unmanned system or component in regard to the application of the standard set. While non-SAE AS-4 JAUS documents are referenced in this ARP they are not within the scope of this document and should be viewed as examples only.

1.2 JAUS Compliance and JAUS Interoperability Defined

The phrase “JAUS Compliant” is often used interchangeably with the phrase “JAUS Interoperable”. These phrases are not interchangeable and to use them in this manner is incorrect. The following definitions are used throughout the remainder of this document:

- “JAUS Compliance” is the binary (pass/fail) measure of an implementation’s adherence to an individual published SAE JAUS specification.
- “JAUS Interoperability” is the ability to exchange data in accordance with an identified set of SAE JAUS specifications.

2. REFERENCES

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of the other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), Web address: www.sae.org

AIR5665A	Architecture Framework for Unmanned Systems
AS5669A	JAUS Transport Specification
AS5684	JAUS Service Interface Definition Language
AS6009	JAUS Mobility Service Set