## Common Airborne Instrumentation System

# CAIS

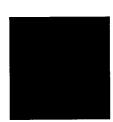
## **Configuration ID List**

A00.00-C009 6 August 1997 Rev A



**CAIS Joint Program Office** 

Naval Air Warfare Center Aircraft Division 5.4 Test Article Preparation Patuxent River, MD 20670-5304



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## **Configuration ID List**

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August 6, 1997

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#### A00.00-C009A

## TABLE OF CONTENTS

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#### PAGE NO.

1. INTRODUCTION	1
1.1 Purpose	1
1.2 Responsibility	1
1.3 Scope	
1.4 Definitions	1
1.5 Abbreviations	1
2. APPLICABLE DOCUMENTS	2
3. CONFIGURATION ID'S	3
3.1 ID CLASSES	3
3.1.1 DAU ID's	3
3.1.2 Sub-DAU ID's	
3.2 ID ASSIGNMENTS	
3.2.1 AATIS ADAU	
3.2.2 ADAU	5
3.2.3 AVDAU	5
3.2.4 CNIM	
3.2.5 DDAU	5
3.2.6 GDAU	5
3.2.7 MDAU	6
3.2.8 MDAU/A	6
3.2.9 PBC	6
3.2.10 WBRU	7
APPENDIX A DAU ID REQUEST FORM	8
APPENDIX B SUB-DAU ID REQUEST FORM	9

## LIST OF TABLES

#### PAGE NO.

TABLE 1	CAIS DAU IDS	4
	AATIS ADAU SUB IDS	
	ADAU SCC Sub-DAU IDS	
	MDAU SCC SUB-DAU IDS	
TABLE 5	WBRU SCM SUB-DAU IDS	1

### **1. INTRODUCTION**

#### 1.1 Purpose

One of the features of the Common Airborne Instrumentation System (CAIS) equipment is the ability to perform a configuration match test. This allows the ground support unit to interrogate all data acquisition unit (DAU) addresses in the system to discover which DAU types have been assigned which DAU addresses. As a result, each DAU type and signal conditioning card type must have a unique identification value (ID).

#### 1.2 Responsibility

The Office of the Secretary of Defense (OSD) has established the CAIS Joint Program Office (CAIS JPO) as the overall controlling activity for the CAIS program. The CAIS JPO is responsible for changes and contents of this document.

#### 1.3 Scope

This document will identify the configuration ID's for all CAIS and CAIS compliant line replaceable units (LRU's). CAIS compatible LRU's will be covered only to the extent vendors have requested ID's for their CAIS compatible equipment.

#### **1.4 Definitions**

<u>Configuration ID</u> - An ID unique to each DAU type. When requested by the CAIS Bus Controller, each DAU shall respond with its configuration ID. The configuration ID is assigned at time of manufacture.

DAU Address - See DAU ID.

<u>DAU ID</u> - An ID unique to each DAU on a CAIS bus. The DAU ID is assigned at time of installation by configuring the code plug (or equivalent).

#### **1.5** Abbreviations

AATIS	Advanced Airborne Test Instrumentation System
CAIS	Common Airborne Instrumentation System
JPO	Joint Program Office
DAU	Data Acquisition Unit
DDAS	Digital Data Acquisition System
GSU	Ground Support Unit
ID	Identifier
LRU	Line Replaceable Unit

### **2. APPLICABLE DOCUMENTS**

The following documents of the exact issue shown form a part of this document to the extent specified herein. In the event of a conflict between the documents referenced herein and the contents of this document, the contents of this document shall be considered a superseding requirement.

None.

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### **3. CONFIGURATION ID'S**

#### 3.1 ID Classes

There are two classes of ID's that will be covered in this document. The first is the DAU ID. All DAU's must have a unique ID. The second is the Sub-DAU ID. These are ID's given to cards or modules within a DAU (e.g., signal conditioning cards). These ID's must be unique only within a particular DAU ID. All ID's are assigned as 16 bit codes; however, since some units can only respond with 12 bits, an attempt will be made to maintain 12 bit resolution.

#### 3.1.1 DAU ID's

All DAU ID's will be assigned by the CAIS JPO. An attempt will be made to block manufacturers' units together. This will aid the ground support software in partially identifying unknown DAU's.

#### 3.1.2 Sub-DAU ID's

Since Sub-DAU ID's are unique to a given DAU, manufactures may submit a list of Sub-DAU ID's for inclusion pending approval. Approval will be based upon adherence to the general principles presented in this document. Updates to the Sub-DAU ID lists will be accepted in the same manner as new inclusions.

All Sub-DAU ID lists will be treated as individual lists. However, there are some situations where the cards/modules in one DAU may also be used in another DAU. As long as it remains viable, the lists for the two (or more) DAU's will be linked. If there is a DAU specific item in one list, a reserve tag will appear in the other. This will make the two (or more) lists appear as one. If the need for the lists to diverge ever arises, the logistics will already be in place.

#### 3.2 ID Assignments

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TABLE 1 lists the CAIS DAU IDs.

ID (Hex)	DAU	Model Number	Manufacturer
0000	Reserved		
0E0F*	AATIS ADAU	5310000-001	SCI, Inc.
0E8F*	ADAU	5319000-001	SCI, Inc.
8000	WBRU	MMSC-800-148	Aydin Vector
8010	PBC	PBC-800	Aydin Vector
8020	CNIM	CNI-800	Aydin Vector
F000	GDAU	5318700-001	SCI, Inc.
F010	DDAU	5318600-001	SCI, Inc.
F020	MDAU	MMSC-800-126	Aydin Vector
F030	MDAU/A	MMSC-800-147	Aydin Vector
F050	AVDAU	5319500-001	SCI, Inc.
FFFF	Reserved		
* Tolerance ±10 <sub>H</sub>	,		

TABLE 1CAIS DAU IDs

#### 3.2.1 AATIS ADAU

The Advanced Airborne Test Instrumentation System (AATIS) analogdiscrete data acquisition unit (ADAU) accepts transducer inputs from a wide variety of sources, both analog and digital. Due to AATIS being the precursor to CAIS, AATIS DAU's are compatible with the CAIS bus. The AATIS ADAU Sub-DAU ID's are defined in TABLE 2.

#### TABLE 2AATIS ADAU Sub IDs

ID (Hex)	AATIS SCC	Model Number	
<08D0	Not Used		
08EF	CSG	5146860-001	
092F	PDM	5146800-001	
096F	SDC	5146940-001	
09EF	SRC	5146930-001	
0A2F	ETR	5146920-001	
0AEF	AA	5146840-001	
0B2F	ADF1	5146870-001	
0B4F	ADF2	5146880-001	
0B6F	ADF3	5146890-001	
0C2F	PSD	5146810-001	
0CCF	RTSC2	5146820-001/002	
0D0F	RTSC4	5146830-001/002	
0D2F	TES	5146850-001	
0E2F	FCPT	5146910-001	
All IDs: Tolera	nce $\pm 10_{\rm H}$ .		

#### 3.2.2 ADAU

The analog-discrete DAU (ADAU) accepts transducer inputs from a wide variety of sources, both analog and digital. These signals are conditioned by a series of user-selected signal conditioner cards. The SCC Sub DAU ID's are defined in TABLE 3.

#### 3.2.3 AVDAU

The avionics DAU (AVDAU) interfaces to MIL-STD-1553, F-15 H009, and F-16 Advanced Weapons Multiplexed (WMUX) avionics busses in receive mode only.

#### 3.2.4 CNIM

The CAIS noseboom interface module (CNIM) is a DDAS module designed to allow a specific noseboom interface unit access to the CAIS bus.

#### 3.2.5 DDAU

The discrete DAU (DDAU) obtains the status of up to 128 single-ended external discrete input sources or up to 64 differential external discrete input sources.

#### 3.2.6 GDAU

The global positioning system (GPS) DAU (GDAU) acquires time, space position, and other data from a GPS receiver which has been configured with a NAVSTAR GPS Receiver Instrumentation Port.

TARIES	ADAU SCC Sub-DAU IDs
INDLLJ	

ID (Hex)	SCC	Model Number
<08D0	Not Used	
090F	CSG	5319270-001
094F	PDC	5319330-001
098F	SSDC	5319350-001
09AF	TCSC	5319390-001
09CF	ASDC	5319360-001
0A0F	SRC	5319380-001
0A4F	ETR	5319290-001
0A6F	BC	5319260-001
0A8F	FCPT	5319320-001
0AAF	EMUX-1	5319300-001
0ACF	EMUX-2	5319300-002
0B0F	Reserved (AA)	
0B8F	ADF1	5319210-001
<b>OBAF</b>	ADF2	5319230-001
0BCF	ADF3	5319230-002
0C0F	SSC-2	5319370-002
0C4F	PSD	5319340-001
0CEF	VRSC	5319430-001
0D4F	TES	5319400-001
0D6F	SSC-1	5319370-001
0D8F	ADF4	5319230-004
0DCF	DAC	5319280-001
0DEF	Reserved (ARC)	
0E4F	1553TI	5319410-001
0E6F	Reserved (A429)	
All IDs: Toleran	$ce \pm 10_{H}$ .	

#### 3.2.7 MDAU

The miniature DAU (MDAU) is a CAIS compliant unit. It is an Aydin Vector Micro Miniature Signal Conditioner (MMSC-800) configured with a CAIS bus interface. Functionally, it is similar to the ADAU. The MDAU is no longer a standard product; it has been replaced by the MDAU/A. The MDAU signal conditioning module (SCM) Sub-DAU ID's are defined in TABLE 4.

#### 3.2.8 MDAU/A

The MDAU/A is the 'A' revision to the MDAU. The 'A' revision primarily upgraded the speed at which the MDAU would respond to the CAIS bus. The 'A' model is still referred to as the MDAU. The MDAU/A SCM Sub-DAU ID's are defined in TABLE 4.

#### 3.2.9 PBC

The programmable bus controller (PBC) acts as a 1553 bus controller for multiple 1553 based transducers.

TABLE 4 MDAU SCM Sub-DAU IDs

TABLE 4    MDAU SCM Sub-DAU IDs		
ID Range (Hex)	MDAU SCM	Model Number
0000-03F0	AM-801	18102050
0400-07F0	AM-802	18102051
0800-0BF0	AP-801	18102031
0C00-0FF0	BR-801	18002100
1000-13F0	BR-802	18002101
1400-17F0	CA-801	18001040
2000-23F0	CA-804	18001043
2400-27F0	DF-801	18102030
2C00-2FF0	DM-801	18102020
3000-33F0	DM-801A	18102022
3800-3BF0	Reserved (WBRU)	
3C00-3FF0	LV-801	18101121
4000-43F0	Reserved (WBRU)	
4400-47F0	SC-801	18002010
4800-4BF0	SC-802	18002011
4C00-4FF0	SC-802A	18002019
5000-53F0	SC-802B	18002020
5800-5BF0	SC-804	18002013
5C00-5FF0	SC-804V	18002018
6000-63F0	SC-805	18002014
6400-67F0	SC-806	18002015
6C00-6FF0	SC-808	18002017
7400-77F0	PSI-864 A/B	18102102/18102103
7800-7BF0	SD-801	18102040
7C00-7FF0	SD-802	18102041
8400-87F0	SD-804	18102043
8800-8BF0	SM-801	18102201
8C00-8FF0	SM-804	18102204
9000-93F0	SR-801	18102010
9400-97F0	TCR-801/802	18101101/18101104
980-09BF0	TCR-801A/802	18101122/18101104
9C00-9FF0	VC-801	18101119
A000-A3F0	TC-801	18102060
The ranges account for the etc.	e dash numbers. The first ID in	the range is -1, the second is -2

#### 3.2.10 WBRU

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The wide band remote unit (WBRU) accepts wide band (high sample rate) inputs typical of flutter analysis. The WBRU SCM Sub-DAU ID's are defined in TABLE 5.

ID Range (Hex)	MDAU SCM	Model Number
0000-03F0	Reserved (MDAU)	
0400-07F0	Reserved (MDAU)	
0800-0BF0	AP-801	18102031
0C00-0FF0	Reserved (MDAU)	
1000-13F0	Reserved (MDAU)	
1400-17F0	Reserved (MDAU)	
2000-23F0	CA-804	18001043
2400-27F0	DF-801	18102030
2C00-2FF0	DM-801	18102020
3000-33F0	DM-801A	18102022
3800-3BF0	DP-801/802	18101123/1810112
3C00-3FF0	Reserved (MDAU)	
4000-43F0	RM-801	18101135
4400-47F0	Reserved (MDAU)	
4800-4BF0	Reserved (MDAU)	
4C00-4FF0	Reserved (MDAU)	
5000-53F0	Reserved (MDAU)	
5800-5BF0	SC-804	18002013
5C00-5FF0	SC-804V	18002018
6000-63F0	Reserved (MDAU)	
6400-67F0	Reserved (MDAU)	
6C00-6FF0	Reserved (MDAU)	
7400-77F0	Reserved (MDAU)	
7800-7BF0	SD-801	18102040
7C00-7FF0	SD-802	18102041
8400-87F0	SD-804	18102043
8800-8BF0	Reserved (MDAU)	
8C00-8FF0	Reserved (MDAU)	
9000-93F0	SR-801	18102010
9400-97F0	TCR-801/802	18101101/1810110
0000 00 -0	TCR-801A/802	18101122/1810110
9800-9BF0		
9800-9BF0 9C00-9FF0	VC-801	18101119

TABLE 5 WBRU SCM Sub-DAU IDs

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## APPENDIX A DAU ID REQUEST FORM

DAU Abbreviation	Model Number
DAU Description (2-3 Sentences)	
Note: If DAU abbreviation is an acronym, please spell out	it as part of the description.

Company	
Address	
City, State & Zip	
Phone	
Fax	
<b>Point of Contact</b>	······································

	DAU ID Assigned
I Date Rovd	DAO ID Assigned
We have a figure of the second s	
	NO Sub DALLIDE Red/d YES NO
Further Action Req'd YES	NO Sub DAU IDs Reg'd YES NO
- 11 - 12 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2011 - 2	Sub DAU ID Request Attached YES NO

A0	0.0	0-C	009	A
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## APPENDIX B SUB-DAU ID REQUEST FORM

<b>DAU</b> Abbreviation		Model Number	
Sub-DAU ID	Name		Model Number
Note: If changes to modules are not	treated as revis	ions, but as different configuration	ns, consider a range of IDs for eachint.

Company Address		
City, State & Zip		
Phone		
Fax	 	
<b>Point of Contact</b>		

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13. ABSTRACT (Maximum 200 wor The Department of Defense has standardization, commonality, that it allows aircraft test and well as common technical know Office, a tri-service group, to co support for this system. This if of CAIS bus controllers and day establishes the requirements of bus. It encompasses the physic	as developed the Common Airk , and interoperability among a evaluation facilities to use con- wledge and procedures for the onduct requirements analyses interface control document (IC at a acquisition units could refe- for digital command/response,	ircraft test instrume mmon airborne syste se systems. It is the , manage system up D) was written to pr rence to ensure inter time division multij	entation systems. The ems and ground support responsibility of the C grades, and provide fu ovide a single docume roperability on the CA lexing techniques for	value of CAIS is ort equipment, as CAIS Program all life-cycle nt that designers AIS bus. This ICD	
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