



Assignment of HAVi CTS code and Unit_SW_Version

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Abstract This specification defines CTS code for use by the Home Audio Video interoperability (HAVi) architecture. It also specifies a Unit_SW_version for the HAVi Unit directory.

Keywords:

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1. Preface

1.1 Purpose and Scope

This specification defines the CTS code for use by the Home Audio Video interoperability (HAVi) architecture. It also specifies a Unit_SW_Version for the HAVi Unit directory as defined by the 1394 Unit_Spec_ID. These values fall under the IEEE 1212-1995 specification, as referenced in [2]. These are extension to the assignment in IEC61883-1 [3].

1.2 Overview

The Home Audio Video interoperability (HAVi) architecture defines a framework and a set of APIs to allow devices operating in a IEEE1394 network to interact and provide services. Full details of the HAVi specification may be found at [1].

As part of the HAVi architecture, the underlying message system in HAVi uses a CTS code to denote a HAVi message being carried on the FCP protocol.

In addition, HAVi uses the Unit_SW_Version field to define the software version of the HAVi specification that a particular implementation conforms to.

It is understood that the 1394 Trade Association has the ability to assign new CTS codes within the domain of the FCP protocol. Additionally, it can assign Unit_SW_Version values within the scope of the 1394 TA's Unit_Spec_ID.

2. References

2.1 Related Technical Specifications

[1] The Home Audio Video Specification V1.0 Beta <http://www.sony.co.jp/HAVi/>
(at the time of the publication of this draft, the above document is not available from the URL above. In the meanwhile, this document is posted to the 1394ta web site/member only/draft specification page)

[2] ISO/IEC 13123:1994, Control and Status Register (CSR) Architecture for Microcomputer Buses

[3] IEC-61883-1: Digital interface for consumer Audio/Video equipment Part 1:General

[4] IEEE std 1394-1995: Standard for a High Performance Serial Bus

Reference [2] is also known as the IEEE 1212 standard. The document can be obtained from the following:

2.1.1 International Electrotechnical Commission (IEC) (contact in the United States)

U.S. National Committee of the IEC ANSI
11, West 42nd Street, 13th floor
New York, NY 10036

Phone: +1-212-642-4900
+1-212-642-4980 (sales)
Fax: +1-212-398-0023
Internet: <http://www.ansi.org>

Documents can be ordered from:

<http://www.iec.ch/cs1ord-e.htm>
<http://www.iec.ch/cs1oi-e.htm>

3. Change History

no change history is available – this is the first draft

4. CTS code

4.1 CTS code for HAVi protocol

The proposed HAVi CTS code is 3. Table 4-1 summarizes the CTS code assignments:
Refer to reference[1] for the detail of HAVi protocol.

Table 4-1 CTS code assignment

CTS code of FCP frame	meaning
0000b	AV/C frame
0001b	Reserved for the CAL frame
0010b	Reserved for the EHS frame
0011b	HAVi frame
0100b	Reserved for future specification
...	
1101b	
1110b	Vender unique frame
1111b	Extended CTS

5. Unit directory

5.1 Unit_Spec_ID

The Unit_Spec_ID field for the FCP units shall be the organization ID of 1394TA.

5.2 Unit_SW_version

The Unit_SW_version field is used to identify which protocol is supported by the device. If a device supports more than one protocol, the device shall have separate unit directory for each protocol supported.(note 2)

Table 5-1 Unit_SW_version code assignment

Unit_SW_version value	meaning
01 00 00 ₁₆	Reserved (note 1)
01 00 01 ₁₆	This unit uses AV/C protocol
01 00 02 ₁₆	Reserved for the CAL protocol
01 00 04 ₁₆	Reserved for the EHS protocol
01 00 08 ₁₆	This unit uses HAVi protocol
01 40 00 ₁₆	This unit uses vender unique protocol
01 40 01 ₁₆	This unit uses vender unique and AV/C protocol (note 3)
Other values	Reserved for future definition

Note 1: Some early implementation of AV/C device may use this value.

Note 2 : IEC-61883 implies one unit directory shared by multiple protocols using Unit_SW_Version as bit fields corresponding to each protocol. However, separate unit directory is advantageous as it allows to have protocol dependent entry in the unit directory.

Note 3: This value is defined for the compatibility of IEC-61883-1 specification. It is recommended to have two separate directories for the vender unique and AV/C protocol instead of having one unit directory with this Unit_SW_version value.

The other entries of unit directory may be defined and used by the protocol specified by the Unit_SW_Version.