

IEEE Standard for Device Discovery, Connection Management, and Control Protocol for IEEE 1722™ Based Devices

Corrigendum 1: Technical and Editorial Corrections

IEEE Computer Society

Sponsored by the
Microprocessor Standards Committee

IEEE
3 Park Avenue
New York, NY 10016-5997
USA

IEEE Std 1722.1™-2013/Cor 1-2018
(Corrigendum to IEEE Std 1722.1-2013)

IEEE Standard for Device Discovery, Connection Management, and Control Protocol for IEEE 1722™ Based Devices

Corrigendum 1: Technical and Editorial Corrections

**Microprocessor Standards Committee
of the
IEEE Computer Society**

Approved 23 October 2018

IEEE-SA Standards Board

Abstract: Technical and editorial corrections are provided by this corrigendum to IEEE Std 1722.1-2013.

Keywords: AVDECC, bridged LAN, corrigendum, IEC 61883, IEEE 802.1™ AVB protocols, IEEE 802.1AS™, IEEE 802.1BA™, IEEE 802.1Q™, IEEE 1722™, IEEE 1722.1™, LAN, QoS, SMPTE ST 2022-6:2011, time-sensitive media streaming, time-sensitive networking, time synchronization, TSN

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

Copyright © 2019 by The Institute of Electrical and Electronics Engineers, Inc.
All rights reserved. Published 15 March 2019. Printed in the United States of America.

IEEE™ and 802© are registered trademarks in the U.S. Patent & Trademark Office, owned by The Institute of Electrical and Electronics Engineers, Incorporated.

PDF: ISBN 978-1-5044-5497-1 STD23521

IEEE prohibits discrimination, harassment and bullying.

For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Important Notices and Disclaimers Concerning IEEE Standards Documents

IEEE documents are made available for use subject to important notices and legal disclaimers. These notices and disclaimers, or a reference to this page, appear in all standards and may be found under the heading “Important Notices and Disclaimers Concerning IEEE Standards Documents.” They can also be obtained on request from IEEE or viewed at <http://standards.ieee.org/ipr/disclaimers.html>.

Notice and Disclaimer of Liability Concerning the Use of IEEE Standards Documents

IEEE Standards documents (standards, recommended practices, and guides), both full-use and trial-use, are developed within IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (“IEEE-SA”) Standards Board. IEEE (“the Institute”) develops its standards through a consensus development process, approved by the American National Standards Institute (“ANSI”), which brings together volunteers representing varied viewpoints and interests to achieve the final product. IEEE Standards are documents developed through scientific, academic, and industry-based technical working groups. Volunteers in IEEE working groups are not necessarily members of the Institute and participate without compensation from IEEE. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

IEEE Standards do not guarantee or ensure safety, security, health, or environmental protection, or ensure against interference with or from other devices or networks. Implementers and users of IEEE Standards documents are responsible for determining and complying with all appropriate safety, security, environmental, health, and interference protection practices and all applicable laws and regulations.

IEEE does not warrant or represent the accuracy or content of the material contained in its standards, and expressly disclaims all warranties (express, implied and statutory) not included in this or any other document relating to the standard, including, but not limited to, the warranties of: merchantability; fitness for a particular purpose; non-infringement; and quality, accuracy, effectiveness, currency, or completeness of material. In addition, IEEE disclaims any and all conditions relating to: results; and workmanlike effort. IEEE standards documents are supplied “AS IS” and “WITH ALL FAULTS.”

Use of an IEEE standard is wholly voluntary. The existence of an IEEE standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

IN NO EVENT SHALL IEEE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE.

Translations

The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE should be considered the approved IEEE standard.

Official statements

A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered or inferred to be the official position of IEEE or any of its committees and shall not be considered to be, or be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

Comments on standards

Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE. However, IEEE does not provide consulting information or advice pertaining to IEEE Standards documents. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to comments or questions except in those cases where the matter has previously been addressed. For the same reason, IEEE does not respond to interpretation requests. Any person who would like to participate in revisions to an IEEE standard is welcome to join the relevant IEEE working group.

Comments on standards should be submitted to the following address:

Secretary, IEEE-SA Standards Board
445 Hoes Lane
Piscataway, NJ 08854 USA

Laws and regulations

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE Standards document does not imply compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

IEEE draft and approved standards are copyrighted by IEEE under U.S. and international copyright laws. They are made available by IEEE and are adopted for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making these documents available for use and adoption by public authorities and private users, IEEE does not waive any rights in copyright to the documents.

Photocopies

Subject to payment of the appropriate fee, IEEE will grant users a limited, non-exclusive license to photocopy portions of any individual standard for company or organizational internal use or individual, non-commercial use only. To arrange for payment of licensing fees, please contact Copyright Clearance Center, Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750

8400. Permission to photocopy portions of any individual standard for educational classroom use can also be obtained through the Copyright Clearance Center.

Updating of IEEE Standards documents

Users of IEEE Standards documents should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect.

Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit the IEEE Xplore at <http://ieeexplore.ieee.org/> or contact IEEE at the address listed previously. For more information about the IEEE-SA or IEEE's standards development process, visit the IEEE-SA Website at <http://standards.ieee.org>.

Errata

Errata, if any, for all IEEE standards can be accessed on the IEEE-SA Website at the following URL: <http://standards.ieee.org/findstds/errata/index.html>. Users are encouraged to check this URL for errata periodically.

Patents

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA Website at <http://standards.ieee.org/about/sasb/patcom/patents.html>. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

Participants

At the time this corrigendum was submitted to the IEEE-SA Standards Board for approval, the IEEE Standard Device Discovery, Connection Management, and Control Protocol for IEEE 1722 Based Devices Working Group had the following membership:

Matthew Xavier Mora, *Chair*
Michael Johas Teener, *Vice Chair*
Don Pannell, *Secretary*
Ashley Butterworth, *Editor*
Jeff Koftinoff, *Editor*

Gordon Bechtel	Ethan Grossman	Chris Pane
Willem-Jan Dirks	Craig Gunther	Kevin Pedersen
Kevin Durand	Mark Hu	Volker Schüppel
Aaron Gelter	Andrew Lucas	Kieran Tyrrell
Bill Gravelle	Steve Matovski	Ana Yndurain
	Dave Olsen	

The following members of the individual balloting committee voted on this corrigendum. Balloters may have voted for approval, disapproval, or abstention.

Stefan Aust	Werner Hoelzl	David Olsen
Gordon Bechtel	Noriyuki Ikeuchi	Chris Pane
Christian Boiger	Atsushi Ito	Arumugam Paventhan
Ashley Butterworth	Raj Jain	Venkatesha Prasad
Juan Carreon	Michael Johas Teener	Alon Regev
Yesenia Cevallos	Adri Jovin	Maximilian Riegel
Minho Cheong	Piotr Karocki	Bartien Sayogo
Keith Chow	Stuart Kerry	Stephen Schwarm
Rodney Cummings	Yongbum Kim	Thomas Starai
Richard Edgar	Jeff Koftinoff	Eugene Stoudenmire
Yukihiro Fujimoto	Arthur H. Light	Walter Struppler
Aaron Gelter	Michael Lynch	David Thompson
James Gilb	Syam Madanapalli	Kieran Tyrrell
David Gregson	Roger Marks	Dmitri Varsanofiev
Ethan Grossman	Arthur Marris	Khurram Waheed
Randall Groves	Matthew Xavier Mora	Hung-Yu Wei
Craig Gunther	Charles Ngethe	Oren Yuen
Marco Hernandez		Daidi Zhong

When the IEEE-SA Standards Board approved this corrigendum on 23 October 2018, it had the following membership:

Jean-Philippe Faure, *Chair*
Gary Hoffman, *Vice Chair*
John D. Kulick, *Past President*
Konstantinos Karachalios, *Secretary*

Ted Burse	Xiaohui Liu	Robby Robson
Guido R. Hiertz	Kevin Lu	Dorothy Stanley
Christel Hunter	Daleep Mohla	Mehmet Ulema
Joseph L. Koepfinger*	Andrew Myles	Phil Wennblom
Thomas Koshy	Paul Nikolich	Philip Winston
Hung Ling	Ronald C. Petersen	Howard Wolfman
Dong Liu	Annette D. Reilly	Jingyi Zhou

*Member Emeritus

Introduction

This introduction is not a part of IEEE Std 1722.1-2013/Cor 1-2018, IEEE Standard for Device Discovery, Connection Management, and Control Protocol for IEEE 1722™ Based Devices – Cor 1: Technical and Editorial Corrections.

This corrigendum contains corrections to IEEE Std 1722.1-2013. The area covered by this standard is undergoing evolution. Revisions are anticipated within the next few years to clarify existing material, to correct possible errors, and to incorporate new related material.

Contents

2. Normative references	11
3. Definitions, acronyms, and abbreviations	11
3.1 Definitions	11
5. General requirements	11
5.3 AVDECC Entity	11
6. AVDECC Entity Discovery	11
6.2 AVDECC Discovery Protocol	11
7. AVDECC Entity Model	16
7.2 Descriptors	16
7.3 Descriptor Field Value Types	39
7.4 Commands and Responses	46
7.5 Notifications	54
8. Connection Management	54
8.2 AVDECC Connection Management Protocol	54
9. Enumeration and control	54
9.2 AVDECC Enumeration and Control Protocol	54
Annex A (informative) Bibliography	57
Annex C (normative) AVDECC Proxy Protocol	58
C.3 DNS-SD TXT Record	58
C.5 Protocol Description	59
Annex D (normative) Memory Object Uploads	63
D.2 Memory Object Upload Entity State Machine	63
D.3 Memory Object Upload Controller State Machine	66

IEEE Standard for Device Discovery, Connection Management, and Control Protocol for IEEE 1722™ Based Devices

Corrigendum 1: Technical and Editorial Corrections

(This corrigendum is based on IEEE Std 1722.1™-2013.)

NOTE—The editing instructions contained in this amendment define how to merge the material contained here into the base document and its other amendments to form the new comprehensive standard.

Editing instructions are shown in ***bold italic***. Four editing instructions are used: change, delete, insert, and replace. ***Change*** is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed either by using ~~strikethrough~~ (to remove old material) and underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this NOTE will not be carried over into future editions because the changes will be incorporated into the base standard.¹

¹Notes in text, tables, and figures are given for information only, and do not contain requirements needed to implement the standard.

2. Normative references

Insert into Clause 2 the following into the list of references in alphanumeric order:

IIDC2 Digital Camera Control Specification Ver.1.0.0²

3. Definitions, acronyms, and abbreviations

3.1 Definitions

Insert the following term and definition in alphabetical order:

AVDECC Responder An AVDECC Entity that can transmit or receive the AVDECC protocol and is not an AVDECC Controller, AVDECC Listener or AVDECC Talker.

5. General requirements

5.3 AVDECC Entity

5.3.1 Requirements and options

Change the second paragraph of 5.3.1 as follows:

A discoverable AVDECC Entity is an AVDECC Entity that is capable of advertising itself on a local area network (LAN). An AVDECC Entity that is to be discoverable on a network shall implement:

- 6.2.4 “Advertising Entity State Machine”
- 6.2.5 “Advertising Interface State Machine”
- 6.2.7 “Discovery Interface State Machine”

6. AVDECC Entity Discovery

6.2 AVDECC Discovery Protocol

6.2.1 AVDECC Discovery Protocol Data Unit format

6.2.1.9 entity_model_id field

Insert into 6.2.1.9 the following list item at the end of the dashed list:

- In AVB_INTERFACE descriptors: **mac_address**, **clock_identity**, **priority1**, **clock_class**, **offset_scaled_log_variance**, **clock_accuracy**, **priority2**, **domain_number**, **log_sync_interval**, **log_announce_interval** and **log_pdelay_interval**

²Available at http://jiia.org/en/standard_dl/ngcp-wg/

6.2.1.11 talker_stream_sources field

Change 6.2.1.11 as follows:

The **talker_stream_sources** field is used to identify the maximum number of Streams an AVDECC Talker is capable of sourcing simultaneously. This value should not be used as the current number of stream sources. The current number of stream sources value is obtained from the Entity's description. For example, for AEM, use the number of STREAM_OUTPUT descriptors in the current CONFIGURATION descriptor; see 7.2.1 and 7.2.2.

6.2.1.13 listener_stream_sinks field

Change 6.2.1.13 as follows:

The **listener_stream_sinks** field is used to identify the maximum number of Streams an AVDECC Listener is capable of sinking simultaneously. This value should not be used as the current number of stream sinks. The current number of stream sinks value is obtained from the Entity's description. For example, for AEM, use the number of STREAM_INPUT descriptors in the current CONFIGURATION descriptor; see 7.2.1 and 7.2.2.

6.2.1.15 controller_capabilities field

Change Table 6.5 as follows:

Table 6.5—controller_capabilities field

Bit	Field Value	Function	Meaning
31	00000001 ₁₆	IMPLEMENTED	Implements an AVDECC Controller.
0 to ~~20~~ 30	—	—	Reserved for future use.

Change the title and text of 6.2.1.21 as follows:

6.2.1.21 association_id field

The **association_id** field is used to associate multiple AVDECC Entities into a logical collection. This allows each loudspeaker of a multi-channel rig to be a separate AVDECC Entity but to be associated by the AVDECC Controller into a single logical AVDECC Entity.

If the ASSOCIATION_ID_SUPPORTED flag is not set in the **entity_capabilities** field then this field is set to zero (0) or ffffffff₁₆.

If ASSOCIATION_ID_SUPPORTED flag is set and ASSOCIATION_ID_VALID flag is not set in the **entity_capabilities** field then this field is set to zero (0) or ffffffff₁₆.

If ASSOCIATION_ID_SUPPORTED and ASSOCIATION_ID_VALID flags are set in the **entity_capabilities** field then the value of this field is the EUI-64 used to associate the AVDECC Entities (all associated AVDECC Entities will have the same EUI-64 in this field).

6.2.4 Advertising Entity State Machine

6.2.4.1 State machine variables

Insert 6.2.4.1.4 after the end of 6.2.4.1.3:

6.2.4.1.4 delayTimerTimeout

The delayTimerTimeout is the time relative to currentTime that the state machine is required to wait after the re-announce timer fires or an external request is received before sending an ENTITY_AVAILABLE message.

6.2.4.2 State machine functions

Insert 6.2.4.2.2 after 6.2.4.2.1:

6.2.4.2.2 randomDeviceDelay()

The randomDeviceDelay function returns the number of milliseconds that the device should wait between the firing of the re-announce timer or being requested to send an ENTITY_ADVERTISE message and sending the message. The randomDeviceDelay function generates a random delay with a uniform distribution across the range of zero (0) to 1/5 of the valid time of the AVDECC Entity in milliseconds (see 6.2.1.6).

The pseudo-random number generation algorithm should be chosen so that different hosts do not generate the same sequence of numbers for subsequent calls to randomDeviceDelay. The pseudo-random number generation algorithm should have a maximum length sequence of no less than $2^{32} - 1$. The pseudo-random number generator shall be seeded using the least significant (most rapidly varying) octets of the sum of the requestor's IEEE 802 MAC address and the local real time clock. The use of a ones-complement (end-around-carry) sum is suggested but not required.

6.2.4.3 State machine diagram

Replace Figure 6.2 with the following figure [(a) removed "rcvdDiscover = FALSE" from WAITING state; (b) fixed incorrect reannounceTimerTimeout calculation in ADVERTISE state; and (c) added DELAY state and timer]:

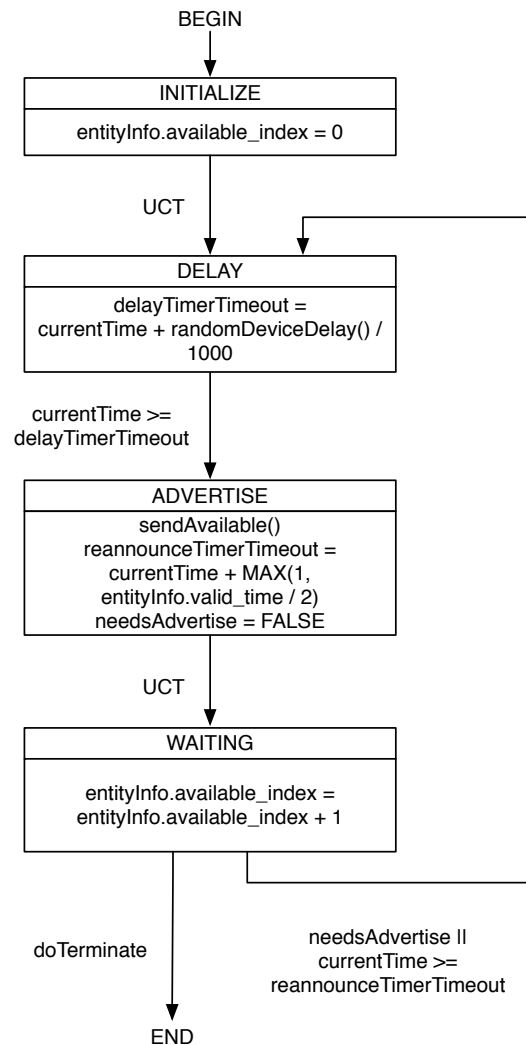


Figure 6.2—Advertise Entity State Machine

Insert into 6.2.4.3 the following note after Figure 6.2:

NOTE—The reannounceTimerTimeout calculation in the ADVERTISE state is based on the value of the **valid_time** field. The **valid_time** field is in units of 2 s. The MAX calculation within the calculation of reannounceTimerTimeout returns the number of seconds that is added to the current time to determine the timer firing time.

6.2.5 Advertising Interface State Machine

6.2.5.1 State machine variables

Delete the following subclauses in 6.2.5.1, and renumber the remaining subclauses accordingly:

~~6.2.5.1.1—advertisedGrandmasterID~~

~~6.2.5.1.2—entityInfo~~

~~6.2.5.1.3 rcvdDiscover~~

~~6.2.5.1.4 entityID~~

~~6.2.5.1.7 linkIsUp~~

~~6.2.5.1.8 lastLinkIsUp~~

6.2.5.3 State machine diagram

Replace Figure 6.3 with the following figure:

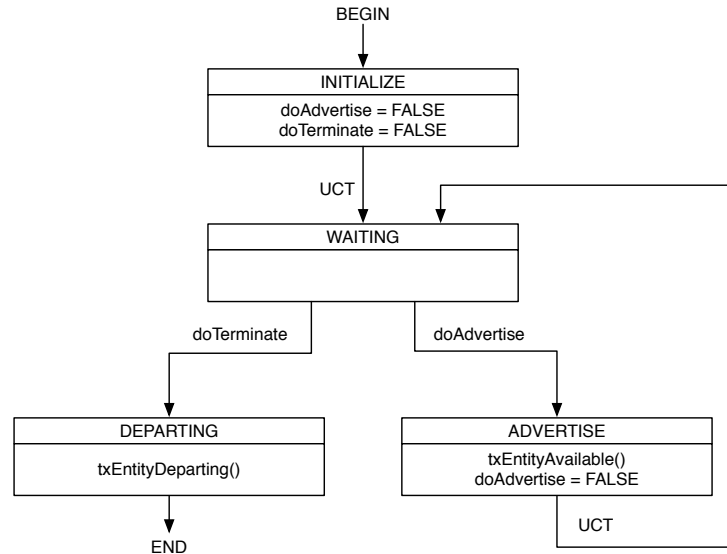


Figure 6.3—Advertise Interface State Machine

Insert 6.2.7 after 6.2.6.4:

6.2.7 Discovery Interface State Machine

6.2.7.1 State machine variables

6.2.7.1.1 advertisedGrandmasterID

The advertisedGrandmasterID is the ClockIdentity of the grandmaster in the gPTP domain that this interface is participating in.

6.2.7.1.2 rcvdDiscover

The rcvdDiscover variable is a Boolean indicating that an ADPDU has been received with a message_type of ENTITY_DISCOVER.

6.2.7.1.3 entityID

The entityID variable is an unsigned 64-bit value containing the entity_id from the received ENTITY_DISCOVER ADPDU. This is set at the same time and from the same ADPDU as rcvdDiscover.

6.2.7.1.4 linkIsUp

The linkIsUp variable is a Boolean indicating that the interface's media link is up (connected). This variable is updated whenever the state of the link changes.

6.2.7.1.5 lastLinkIsUp

The lastLinkIsUp variable is a Boolean indicating the last known value of linkIsUp. This variable is used to determine when the value of linkIsUp changes.

6.2.7.2 State machine diagram

Figure 6.5 shows the Discovery Interface State Machine diagram.

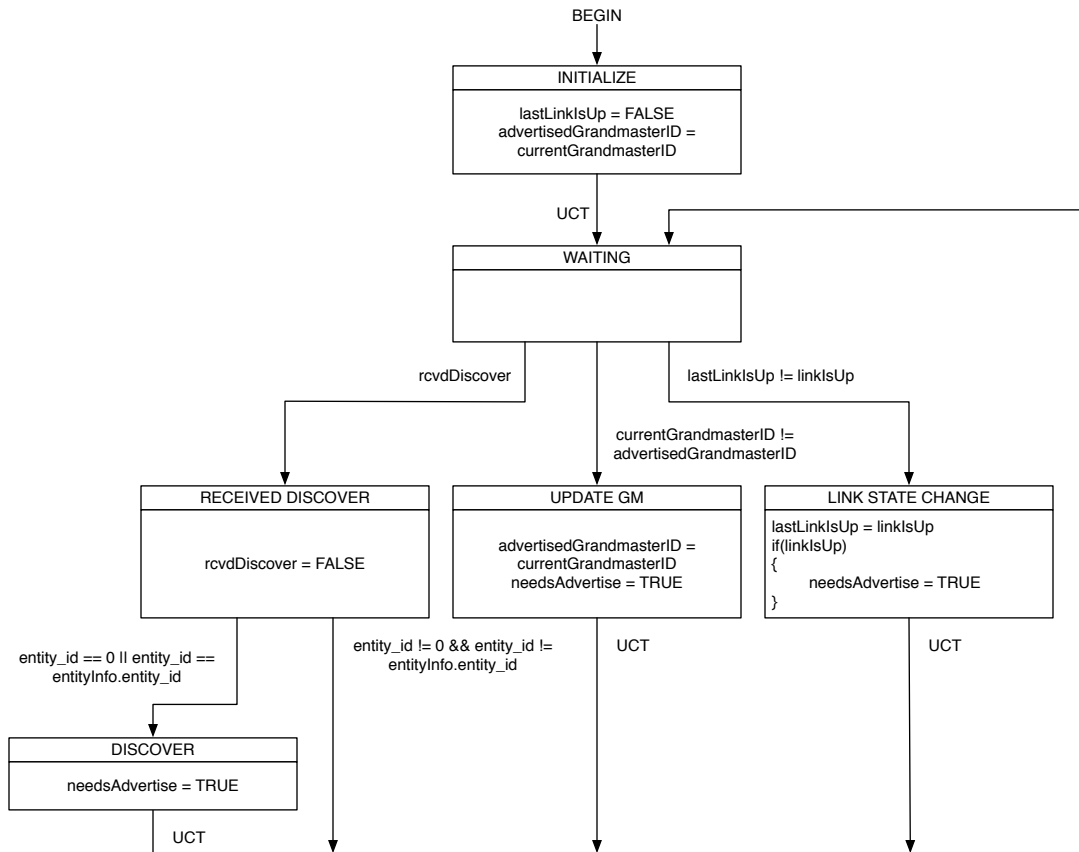


Figure 6.5—Discovery Interface State Machine

7. AVDECC Entity Model

7.2 Descriptors

Replace the phrase "being source from" with "being sourced from" throughout Tables 7.25, 7.27, 7.29, 7.31, 7.38, 7.40, 7.41, 7.44, 7.48, 7.49, 7.53, 7.54, and 7.58.

7.2.1 ENTITY Descriptor

Change Table 7.2 as follows:

Table 7.2—ENTITY Descriptor

Offset (octets)	Length (octets)	Name	Description
0	2	descriptor_type	The type of the descriptor. Always set to ENTITY.
2	2	descriptor_index	The index of the descriptor. This is always set to zero (0) for the ENTITY descriptor as there is only ever one in an AVDECC Entity.
4	8	entity_id	The Entity ID of the AVDECC Entity. This is the same as the <u>entity_id</u> field in AVDECC Discovery Protocol. See 6.2.1.8.
12	8	entity_model_id	The AVDECC Entity model id for the AVDECC Entity. This is the same as the <u>entity_model_id</u> field in AVDECC Discovery Protocol. See 6.2.1.9.
20	4	entity_capabilities	The capabilities of the AVDECC Entity. This is the same as the <u>entity_capabilities</u> field in AVDECC Discovery Protocol. See 6.2.1.10.
24	2	talker_stream_sources	~~The number of Output Streams the AVDECC Entity has. This is the same as the talker_stream_sources field in AVDECC Discovery Protocol. This is also the number of STREAM_OUTPUT descriptors the AVDECC Entity has for Output Streams.~~ This is the maximum number of STREAM OUTPUT descriptors the AVDECC Entity has for Output Streams in any of its Configurations. This is the same as the <u>talker_stream_sources</u> field in AVDECC Discovery Protocol. The value of this field is not used as the current number of available stream sources; instead the number of Stream Output descriptors in the <u>current Configuration shall be used.</u> See 6.2.1.11.

Table 7.2—ENTITY Descriptor (*continued*)

Offset (octets)	Length (octets)	Name	Description
26	2	talker_capabilities	The AVDECC Talker capabilities of the AVDECC Entity. This is the same as the talker_capabilities field in AVDECC Discovery Protocol. See 6.2.1.12.
28	2	listener_stream_sinks	~~The number of Input Streams the AVDECC Entity has. This is the same as the listener_stream_sinks field in AVDECC Discovery Protocol. This is also the number of STREAM_INPUT descriptors the AVDECC Entity has for Input Streams.~~ This is the maximum number of STREAM_INPUT descriptors the AVDECC Entity has for Input Streams in any of its Configurations. This is the same as the listener_stream_sinks field in AVDECC Discovery Protocol. The value of this field is not used as the current number of available stream sinks; instead the number of Stream Input descriptors in the current Configuration shall be used. See 6.2.1.13.
30	2	listener_capabilities	The AVDECC Listener capabilities of the AVDECC Entity. This is the same as the listener_capabilities in AVDECC Discovery Protocol. See 6.2.1.14.
32	4	controller_capabilities	The AVDECC Controller capabilities of the AVDECC Entity. This is the same as the ~~AVDECC—Controller_capabilities~~ controller_capabilities field in AVDECC Discovery Protocol. See 6.2.1.15.
36	4	available_index	The available index of the AVDECC Entity. This is the same as the available_index field in AVDECC Discovery Protocol. See 6.2.1.16.
40	8	association_id	The association ID for the AVDECC Entity. This is the same as association_id field in AVDECC Discovery Protocol. See 6.2.1.21.

Table 7.2—ENTITY Descriptor (*continued*)

Offset (octets)	Length (octets)	Name	Description
48	64	entity_name	64-octet UTF-8 string containing an AVDECC Entity name.
112	2	vendor_name_string	The localized string reference pointing to the localized vendor name. See 7.3.6.
114	2	model_name_string	The localized string reference pointing to the localized model name. See 7.3.6.
116	64	firmware_version	64-octet UTF-8 string containing the firmware version of the AVDECC Entity.
180	64	group_name	64-octet UTF-8 string containing the group name of the AVDECC Entity.
244	64	serial_number	64-octet UTF-8 string containing the serial number of the AVDECC Entity.
308	2	configurations_count	The number of Configurations the device has. A device is required to have at least one (1) Configuration.
310	2	current_configuration	The index of the currently set Configuration.

7.2.3 AUDIO_UNIT Descriptor

Change Table 7.5 as follows:

Table 7.5—AUDIO_UNIT Descriptor

Offset (octets)	Length (octets)	Name	Description
0	2	descriptor_type	The type of the descriptor. Always set to AUDIO_UNIT.
2	2	descriptor_index	The index of the descriptor. This is the index of the Audio Unit.
4	64	object_name	64-octet UTF-8 string containing a Unit name.
68	2	localized_description	The localized string reference pointing to the localized Unit name. See 7.3.6.
70	2	clock_domain_index	The descriptor_index of the CLOCK_DOMAIN descriptor describing the Clock Domain for the Unit.
72	2	number_of_stream_input_ports	The number of Input Stream Ports used by this Audio Unit.

Table 7.5—AUDIO_UNIT Descriptor (*continued*)

Offset (octets)	Length (octets)	Name	Description
74	2	base_stream_input_port	The index of the first STREAM_PORT_INPUT descriptor.
76	2	number_of_stream_output_ports	The number of Output Stream Ports used by this Audio Unit.
78	2	base_stream_output_port	The index of the first STREAM_PORT_OUTPUT descriptor ~~s~~ .
80	2	number_of_external_input_ports	The number of External Input Ports used by this Audio Unit.
82	2	base_external_input_port	The index of the first input EXTERNAL_PORT_INPUT descriptor ~~s~~ .
84	2	number_of_external_output_ports	The number of External Output Ports used by this Audio Unit.
86	2	base_external_output_port	The index of the first output EXTERNAL_PORT_OUTPUT descriptor ~~s~~ .
88	2	number_of_internal_input_ports	The number of Internal Input Ports used by this Audio Unit.
90	2	base_internal_input_port	The index of the first input ~~INTERNAL_JACK_INPUT~~ and INTERNAL_PORT_INPUT descriptor ~~s~~ .
92	2	number_of_internal_output_ports	The number of Internal Output Ports used by this Audio Unit.
94	2	base_internal_output_port	The index of the first output ~~INTERNAL_JACK_OUTPUT~~ and INTERNAL_PORT_OUTPUT descriptor ~~s~~ .
96	2	number_of_controls	The number of Controls within this Audio Unit.
98	2	base_control	The index of the first CONTROL descriptor.
100	2	number_of_signal_selectors	The number of Signal Selectors within this Audio Unit.
102	2	base_signal_selector	The index of the first SIGNAL_SELECTOR descriptor.
104	2	number_of_mixers	The number of Mixers within this Audio Unit.
106	2	base_mixer	The index of the first MIXER descriptor.
108	2	number_of_matrices	The number of Matrices within this Audio Unit.