

CTA Bulletin

Recommended Practice for ATSC 3.0 Television Sets, Logical Layer

CTA-CEB32.3

December 2017

NOTICE

Consumer Technology Association (CTA)™ Standards, Bulletins and other technical publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for his particular need. Existence of such Standards, Bulletins and other technical publications shall not in any respect preclude any member or nonmember of the Consumer Technology Association from manufacturing or selling products not conforming to such Standards, Bulletins or other technical publications, nor shall the existence of such Standards, Bulletins and other technical publications preclude their voluntary use by those other than Consumer Technology Association members, whether the standard is to be used either domestically or internationally.

Standards, Bulletins and other technical publications are adopted by the Consumer Technology Association in accordance with the American National Standards Institute (ANSI) patent policy. By such action, the Consumer Technology Association does not assume any liability to any patent owner, nor does it assume any obligation whatever to parties adopting the Standard, Bulletin or other technical publication.

This document does not purport to address all safety problems associated with its use or all applicable regulatory requirements. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations before its use.

This document is copyrighted by the Consumer Technology Association (CTA)™ and may not be reproduced, in whole or part, without written permission. Federal copyright law prohibits unauthorized reproduction of this document by any means. Organizations may obtain permission to reproduce a limited number of copies by entering into a license agreement. Requests to reproduce text, data, charts, figures or other material should be made to the Consumer Technology Association (CTA)™.

(Formulated under the cognizance of the CTA **R4 Video Systems Committee**.)

Published by
©CONSUMER TECHNOLOGY ASSOCIATION 2017
Technology & Standards Department
www.cta.tech

All rights reserved

FOREWORD

This document was developed by the Consumer Technology Association's R4 Video Committee

(This page intentionally left blank.)

CONTENTS

1 Scope.....	5
2 References.....	5
2.1 Informative References	5
2.1.1 Informative Reference List.....	5
2.1.2 Informative Reference Acquisition	6
2.2 Compliance Notation.....	6
2.3 Definitions	6
2.4 Symbols and Abbreviations	6
3 Overview	7
4 Link-Layer Protocol	7
4.1 Baseline Link Layer Implementation for ATSC 3.0 Television Sets	7
4.2 Header extension.....	8
5 Signaling, Delivery, Synchronization, and Error Protection.....	8
5.1 General	8
5.2 LLS Tables, Service List Tables, Rating Region Tables, and System Time Fragments	8
5.3 Advanced Emergency Alert.....	8
5.4 Service Delivery System	9
5.4.1 General.....	9
5.4.2 ROUTE Based Services.....	10
5.4.3 MMT Based Services	10
5.5 Descriptors.....	11
5.6 Capability Codes.....	11
5.7 Content Advisory Ratings	11
5.8 Delivery over Broadband	11
5.9 Staggercast	12
5.10 AL-FEC.....	12
5.11 Concurrent Elementary Streams.....	12
5.12 Closed Captions	13
5.13 Synchronization.....	13
5.14 Buffering of Elementary Streams.....	14
6 Service Announcement	14
6.1 General	14
6.2 XML Parser	14
6.2.1 Capabilities.....	14
6.2.2 Reserved, Unused, and Unexpected Fields	14
6.3 Service Fragment.....	15
6.3.1 Service Type.....	15
6.3.2 Genre.....	15
6.3.3 Name and Description Elements Extensions (Service Level).....	15
6.3.4 Content Advisory Ratings Information (Service Level)	15
6.3.5 Service Level Private Extensions.....	15
6.4 Schedule Fragment	15
6.5 Content Fragment.....	15
6.5.1 Name and Description Elements Extensions (Content Level)	15
6.5.2 Content Level Private Extensions.....	15
6.5.3 Device Capabilities	16
6.5.4 SG Data Encapsulation	16
6.5.5 SG Data Delivery	16

6.6 Content that would not be shown 16

FIGURES

No table of figures entries found.

TABLES

Table 1: Protocols and Scenarios 10