

ANSI/CEA Standard

DTV Remodulator Specification

ANSI/CEA-762-B

July 2009



CEA[®]
Consumer Electronics Association

www.CE.org

NOTICE

Consumer Electronics Association (CEA[®]) 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 CEA 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 CEA members, whether the standard is to be used either domestically or internationally.

Standards, Bulletins and other technical publications are adopted by CEA in accordance with the American National Standards Institute (ANSI) patent policy. By such action, CEA 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 CEA Standard is considered to have International Standardization implication, but the International Electrotechnical Commission activity has not progressed to the point where a valid comparison between the CEA Standard and the IEC document can be made.

This Standard 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 Standard to establish appropriate safety and health practices and to determine the applicability of regulatory limitations before its use.

(Formulated under the cognizance of the CEA's **R4.8 DTV Interface Subcommittee**.)

Published by

©CONSUMER ELECTRONICS ASSOCIATION 2009
Technology & Standards Department
1919 S. Eads Street
Arlington, Virginia 22202

**PRICE: Please call IHS
USA and Canada (1-800-854-7179)
International (303-397-7956)**

<http://global.ihs.com>

All rights reserved

Printed in U.S.A.

PLEASE!

DON'T VIOLATE
THE
LAW!

This document is copyrighted by the Consumer Electronics Association (CEA[®])
and may not be reproduced without permission.

Organizations may obtain permission to reproduce a limited number of copies by
entering into a license agreement. For information contact:

IHS
15 Inverness Way East
Englewood, Colorado 80112-5704
or call U.S.A. and Canada 1-800-854-7179, International (303) 397-7956
See <http://global.ihs.com> or email global@ihs.com

FOREWORD

Users of this standard should note that, at some future point, copy protection parameters, methods and/or standards are expected to be established with which copy-protected content traversing the DTV RF interface will be required to comply.

This standard was developed under the auspices of the CEA R4.8 DTV Interface Subcommittee.

(This page intentionally left blank.)

Contents

1	Scope	2
2	References	2
2.1	Normative Reference List.....	2
2.2	Normative Reference Acquisition.....	2
2.3	Informative References	3
2.4	Informative Reference List	3
2.5	Informative Reference Acquisition	3
3	DTV Remodulator RF Output Specifications	3
3.1	Selectable Output Channel Frequency	3
3.2	Nominal RMS Output Level.....	3
3.3	Pilot Phase Noise.....	3
3.4	Modulation Error Ratio (MER).....	4
3.5	Output Impedance.....	4
3.6	Connector.....	4
3.7	Side-band Output.....	4
4	DTV RF Remodulator Recommended Input	5
4.1	Input Overview	5
4.2	Input Recommendations from Remodulator to Source.....	6
4.3	Input Recommendations from Source to Remodulator.....	6
5	Measurement	7

Figures

Figure 1	Roll-Off Illustration	5
Figure 2	Re-Modulator System	6
Figure 3	Data_Valid Timing.....	7

Tables

Table 1	Data and Clock Rates	7
---------	----------------------------	---

DTV Remodulator Specification

1 Scope

This standard defines minimum specifications for a one-way data path utilizing an 8-VSB trellis remodulator in compliance with ATSC A/53, Part 2:2007, *ATSC Digital Television Standard Part 2 - RF/Transmission System Characteristics*.

This standard applies to any type of device used to connect to an ATSC compliant digital television (DTV) receiver. Devices meeting this standard should interoperate with any ATSC compliant receiver that also supports "monitor mode."

For information about "monitor mode", refer to CEA-CEB5-B, *Recommended Practice for DTV Receiver "Monitor" Mode Capability*.

This standard addresses both required RF output specifications for a DTV remodulator and recommendations concerning input to the remodulator.

2 References

The following standards contain provisions that, through reference in this text, constitute normative provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed in 2.1.

2.1 Normative Reference List

ATSC A/53, Part 2:2007, *ATSC Digital Television Standard Part 2 - RF/Transmission System Characteristics*

CEA-542-B, *Recommended Cable Television Channel Identification Plan* (November 2008)

IEC 60169-24, *Radio-frequency connectors - Part 24: Radio-frequency coaxial connectors with screw coupling, typically for use in 75 ohm cable distribution systems (Type F)*, (1991-11)

2.2 Normative Reference Acquisition

ANSI/CEA Standards:

- Global Engineering Documents, World Headquarters, 15 Inverness Way East, Englewood, CO USA 80112-5776; Phone 800-854-7179; Fax 303-397-2740; Internet <http://global.ihs.com>; Email global@ihs.com

ATSC Standards:

- Advanced Television Systems Committee (ATSC), 1750 K Street N.W., Suite 1200, Washington, DC 20006; Phone 202-828-3130; Fax 202-828-3131; Internet <http://www.atsc.org/standards.html>

IEC Standards:

- Global Engineering Documents, World Headquarters, 15 Inverness Way East, Englewood, CO USA 80112-5776; Phone 800-854-7179; Fax 303-397-2740; Internet <http://global.ihs.com>; Email global@ihs.com
- IEC Central Office, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland; Phone +41 22 919 02 11; Fax +41 22 919 03 00; Internet <http://www.iec.ch>; Email pubinfor@iec.ch