

# ANSI/CTA Standard

**Modular Communications Interface  
for Firmware Transfer Message Set**

**ANSI/CTA-2045.1**

**(Formerly ANSI/CEA-2045.1)**

**July 2014**



**Consumer  
Technology  
Association**

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(Formulated under the cognizance of the CTA **R7.8 Modular Communication Interface for Energy Management Subcommittee.**)

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## **FOREWORD**

This standard was developed by the Consumer Electronics Association's R7.8 Modular Communications Interface for Energy Management subcommittee.

## CONTENTS

<b>1 Scope</b> .....	<b>1</b>
<b>2 References</b> .....	<b>1</b>
<b>2.1 Normative References</b> .....	<b>1</b>
<b>2.1.1 Normative Reference List</b> .....	<b>1</b>
<b>2.1.2 Normative Reference Acquisition</b> .....	<b>1</b>
<b>2.2 Compliance Notation</b> .....	<b>1</b>
<b>2.3 Definitions and Abbreviations</b> .....	<b>1</b>
<b>3 Message Set</b> .....	<b>2</b>
<b>3.1 Firmware Download</b> .....	<b>2</b>
<b>3.1.1 Current Image Parameters</b> .....	<b>2</b>
<b>3.1.1.1 Get Firmware Version Request</b> .....	<b>3</b>
<b>3.1.1.2 Get Firmware Version Response</b> .....	<b>3</b>
<b>3.1.2 OTAP Action</b> .....	<b>3</b>
<b>3.1.2.1 Set OTAP Action Request</b> .....	<b>4</b>
<b>3.1.2.2 Set OTAP Action Response</b> .....	<b>4</b>
<b>3.1.3 OTAP Status</b> .....	<b>4</b>
<b>3.1.3.1 Set OTAP Status Request</b> .....	<b>5</b>
<b>3.1.3.2 Set OTAP Status Response</b> .....	<b>5</b>
<b>3.1.4 OTAP Image Transfer</b> .....	<b>6</b>
<b>3.1.4.1 Set Image Transfer Request</b> .....	<b>6</b>
<b>3.1.4.2 Set Image Transfer Response</b> .....	<b>6</b>
<b>3.2 Firmware Transfer Sequence Diagrams</b> .....	<b>6</b>

## FIGURES

Figure 1: Successful Firmware Transfer Sequence Diagram.....	7
Figure 2: Restart Firmware Transfer Sequence Diagram .....	9

# Modular Communications Interface for Firmware Transfer Message Set

## 1 Scope

This specification is an extension of the ANSI/CEA-2045 Modular Communications Interface (MCI) for Energy Management standard. It presents messages and methods that enable reprogramming the SGD firmware over the MCI interface.

## 2 References

### 2.1 Normative 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. Users of this standard are cautioned that newer editions of the referenced standards might or might not be compatible.

#### 2.1.1 Normative Reference List

1. ANSI/CEA-2045, Modular Communications Interface for Energy Management, February 2013

#### 2.1.2 Normative Reference Acquisition

1. Techstreet, 3916 Ranchero Drive, Ann Arbor, MI, USA 48108; Phone 800-699-9277; Fax 734-780-2046; Internet <http://www.techstreet.com>; Email [techstreet.service@thomsonreuters.com](mailto:techstreet.service@thomsonreuters.com)

## 2.2 Compliance Notation

As used in this document “shall” and “must” denote mandatory provisions of the standard. “Should” denotes a provision that is recommended but not mandatory. “May” denotes a feature whose presence does not preclude compliance, and implementation of which is optional. “Optional” denotes items that may or may not be present in a compliant device.

## 2.3 Definitions and Abbreviations

Big-Endian	Specifies that the transmission byte order of a data stream is MSB first
CRC	CRC-16-CCITT using the $x^{16} + x^{12} + x^5 + 1$ polynomial with a starting value of zero
LSB	Least Significant Byte e.g. for the value 0x12345678, 0x78 is the LSB
LSN	Bits $2^3$ through $2^0$ e.g. the LSN of 0xAB is 0xB
MSB	Most Significant Byte e.g. for the value 0x12345678, 0x12 is the MSB