

OpenCable™ Specifications

Host 2.X Multi-FAT Receiver Extension

OC-SP-HOST2-MFATEXT-I02-110512

ISSUED

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Document Status Sheet

Document Control Number:	OC-SP-HOST2-MFATEXT-I02-110512			
Document Title:	Host 2.X Multi-FAT Receiver Extension			
Revision History:	I01—Issued 5/2/05			
	I02—Issued 5/12/11			
Date:	May 12, 2011			
Status:	Work in Progress	Draft	Issued	Closed
Distribution Restrictions:	Author Only	CL/Member	CL/Member/Vendor	Public

Key to Document Status Codes:

- Work in Progress** An incomplete document, designed to guide discussion and generate feedback, that may include several alternative requirements for consideration.

- Draft** A document in specification format considered largely complete, but lacking review by Members and vendors. Drafts are susceptible to substantial change during the review process.

- Issued** A stable document, which has undergone rigorous member and vendor review and is suitable for product design and development, cross-vendor interoperability, and for certification testing.

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1 SCOPE

1.1 Introduction and Overview (Informative)

The OpenCable Host 2.X specification defines bidirectional digital set-top boxes (OCS2) and bidirectional integrated terminal devices (OCT2). This specification defines the requirements for either OCS2 or OCT2 devices to be extended to include multiple cable tuners with Multi-stream CableCARD interface support. Figure 1 is one example of a possible Multi-stream Host (M-Host) that also includes optional PIP support and Digital Video Recording (DVR) capability.

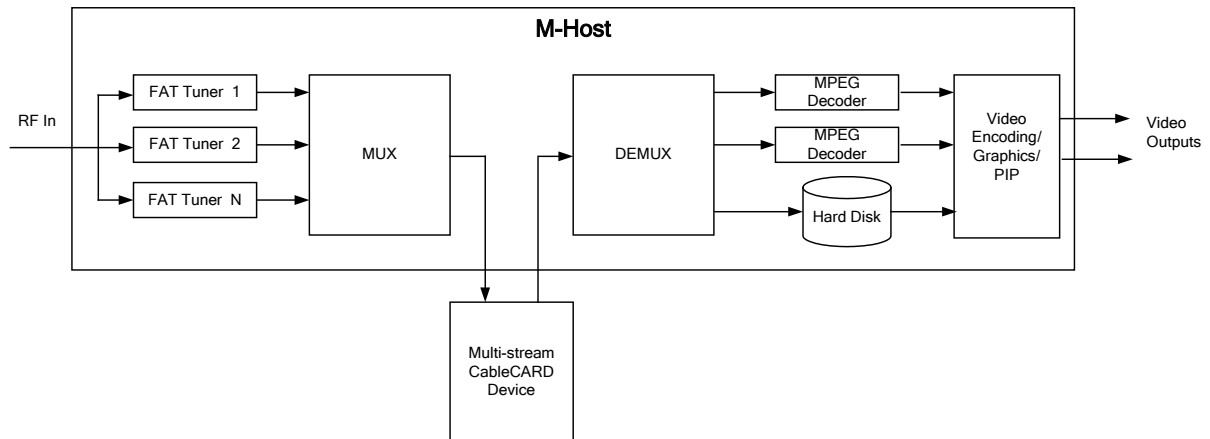


Figure 1 - Block Diagram of the OpenCable Multi-FAT Set-top (Informative)

1.1 Purpose of document

This specification defines minimum technical requirements and additional features that must be added to an OpenCable Host 2.X device to support multiple FAT tuners.

1.2 Organization of document

The remainder of this document is organized as follows:

- Section 2 – Provides normative references used in this specification.
- Section 3 – Provides definitions of terms used in this specification.
- Section 4 – Provides definitions of abbreviations and acronyms used in this specification.
- Section 5 – Provides the detailed specification of technical requirements for the M-Host device.

1.3 Requirements

Throughout this document, the words that are used to define the significance of particular requirements are capitalized. These words are:

- | | |
|--------------|---|
| “SHALL” | This word or the adjective “REQUIRED” means that the item is an absolute requirement of this specification. |
| “SHALL NOT” | This phrase means that the item is an absolute prohibition of this specification. |
| “SHOULD” | This word or the adjective “RECOMMENDED” means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighed before choosing a different course. |
| “SHOULD NOT” | This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label. |
| “MAY” | This word or the adjective “OPTIONAL” means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item. |

2 REFERENCES

2.1 Normative References

In order to claim compliance with this specification, it is necessary to conform to the following standards and other works as indicated, in addition to the other requirements of this specification. Notwithstanding, intellectual property rights may be required to use or implement such normative references.

All references are subject to revision, and parties to agreement based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific:

- For a specific reference, subsequent revisions do not apply.
- For a non-specific, non-Bundle reference, the latest version applies.
- For non-specific CableLabs references that are part of the [OC-BUNDLE] the versions mandated in a particular Bundle apply.

[CCCP]	CableCARD Copy Protection 2.0 Specification, OC-SP-CCCP2.0, Cable Television Laboratories, Inc. Referenced in [OC-BUNDLE].
[CCIF]	CableCARD Interface 2.0 Specification, OC-SP-CCIF2.0, Cable Television Laboratories, Inc. Referenced in [OC-BUNDLE].
[HOST]	OpenCable Host Device 2.1 Core Functional Requirements, OC-SP-HOST2.1, Cable Television Laboratories, Inc. Referenced in [OC-BUNDLE].
[OC-BUNDLE]	OpenCable Bundle Requirements, OC-SP-BUNDLE. See Section 2.2.1 to acquire this specification.
[OCAP]	OpenCable Application Platform (OCAP), OC-SP-OCAP, Cable Television Laboratories, Inc. Referenced in [OC-BUNDLE].

2.2 Reference Acquisition

2.2.1 OpenCable Bundle Requirements

The OpenCable Bundle Requirements specification [OC-BUNDLE] indicates the set of CableLabs specifications required for the implementation of the OpenCable Bundle. The version number of [OC-BUNDLE] corresponds to the release number of the OpenCable Bundle that it describes. One or more versions of [OC-BUNDLE] reference this specification. Current and past versions of [OC-BUNDLE] may be obtained from CableLabs at <http://www.cablelabs.com/opencable/specifications>.

2.2.2 Other References

CableLabs Specifications and License Agreement:

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3 TERMS AND DEFINITIONS

This specification uses the following terms:

M-HOST	An OpenCable Host 2.X device containing multiple FAT tuners.
M-CARD	A CableCARD device that implements the multi-stream interface defined in [CCIF].
OpenCable Bundle	The OpenCable Bundle defines a set of specifications required to build a specific version of an OpenCable device. See [OC-BUNDLE].
S-CARD	A CableCARD device that implements the single-stream interface defined in [CCIF].

4 ABBREVIATIONS AND ACRONYMS

This specification uses the following abbreviations:

FAT Forward Application Transport

5 TECHNICAL REQUIREMENTS

5.1 General Requirements

5.1.1 OpenCable HOST 2.X Compliance

The M-HOST SHALL comply with all normative requirements in [HOST].

5.1.2 Middleware

The M-HOST SHALL comply with all normative requirements of [OCAP].

5.1.3 CableCard Interface Support

The M-HOST SHALL provide an implementation of the M-CARD interface as specified in [CCIF].

NOTE: For compatibility with existing CableCARDS, the M-HOST MAY also support the S-Card interface as specified in [CCIF]; however, the M-HOST would then operate only in single-tuner mode.

5.1.4 Copy Protection

The M-HOST SHALL implement M-Mode Copy Protection as defined in [CCCP].

5.2 Tuner Requirements

The M-HOST SHALL support the simultaneous reception of at least two independent FAT channels anywhere in the Host 2.X FAT channel RF frequency range and deliver the demodulated streams to the CableCARD using the multi-stream mode defined in [CCIF].

All FAT tuners SHOULD meet the same performance requirements as specified in [HOST].

The M-HOST SHALL support reception of all FAT channels and interface to all cable signals through a single RF input connector.

NOTE: Splitter/combiners attached to the chassis are permitted. Separately cabled or connected equipment is not permitted.

Appendix I Revision History

The following ECN was incorporated into version I02 of this specification:

EC Identifier	Accepted Date	Title of EC
HOST2-MFATEXT-N-11.1654-2	5/9/11	MHost: Reference edits for OpenCable bundle inclusions

