

# MOST

Media Oriented Systems Transport

Multimedia and Control  
Networking Technology

**MOST FBlock NetworkMaster**

**Rev 3.1.0**

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**MOSTCO CONFIDENTIAL**

**See page 3 for the terms of disclosure**



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## Bibliography

All documents, which this MOST document has references to, are listed here with the actual revision this document is referring to.

Number	Document	Revision
[1]	MOST Specification	3.1
[2]	MOST FBlock template GeneralFBlock	3.1

## Document History

### Changes NetworkMaster FBlock 3.0.2 to NetworkMaster FBlock 3.1.0

Change Ref.	FktID	Changes
3.1.0-001	General	<ul style="list-style-type: none"> <li>– Slightly improved description of FBlockID and InstID parameters.</li> <li>– Updated reference to General FBlock Rev. 3.1</li> <li>– Removed FBlockInfo (0x011) from list of functions that are referenced from the GeneralFBlock.</li> </ul>
3.1.0-002	0xA00	Configuration: <ul style="list-style-type: none"> <li>– Restructured so that no immediate repeated Stream parameters appears inside DeltaFBlockList.</li> <li>– Excluded 0xFF from value range of FBlockID.</li> <li>– Excluded 0x00 and 0xFF from value range of InstID.</li> <li>– Renamed RxTxLog to LogicalNodeAddress;</li> </ul>
3.1.0-003	0xA01	CentralRegistry: <ul style="list-style-type: none"> <li>– Consolidated potentially misleading description for parameter RxTxLog.</li> <li>– Renamed RxTxLog to LogicalNodeAddress.</li> <li>– Modified description so that optional parameters are no longer mentioned.</li> <li>– Added 0x00 to value range of FBlockID.</li> <li>– Excluded 0xFF from FBlockInfoList.FBlockID and FBlockInfoList.InstID.</li> </ul>
3.1.0-004	0xA03	OwnConfigurationInvalid: Renamed parameter DeviceID to LogicalNodeAddress.
3.1.0-005	0xA10	SystemAvail: Shortened the description to not preempt the MOST specification and updated description of DeviceAvail=Incomplete.

### Changes NetworkMaster FBlock 3.0.1 to NetworkMaster FBlock 3.0.2

Change Ref.	FktID	Changes
3.0.2-001	General	Filled the SymbolicName attribute for all Enums.
3.0.2-002	0xA00	Configuration: <ul style="list-style-type: none"> <li>– Corrected invalid parameter sequence for ConfigurationControl.</li> </ul>
3.0.2-003	0xA02	SaveConfiguration: <ul style="list-style-type: none"> <li>– Function deleted.</li> </ul>

### Changes NetworkMaster FBlock 3.0.0 to NetworkMaster FBlock 3.0.1

Change Ref.	FktID	Changes
3.0.1-001	General	– Removed obsolete FunctionSection attributes.
3.0.1-002	0xA00	<ul style="list-style-type: none"> <li>– Configuration: Removed Get OPType.</li> <li>– Added statement that DeltaFBlockList has to fit in a single telegram.</li> </ul>
3.0.1-003	0xA03	– OwnConfigurationInvalid: New function.

**Changes NetworkMaster FBlock 2.5.1 – Speed Grade MOST50 to NetworkMaster FBlock 3.0.0**

Change Ref.	FktID	Changes
3.0.0-001	General	<ul style="list-style-type: none"> <li>– Added Occurrence attribute to all functions.</li> <li>– Corrected ParamPos from 1 to 0 for parameterless OPTypes.</li> <li>– Modified boundary descriptor range--now 0..93.</li> </ul>
3.0.0-002	0xA00	<ul style="list-style-type: none"> <li>– Changed function class of Configuration from Unclassified Property to Sequence Property.</li> <li>– In function Configuration, added new Enum value NewExt to ConfigurationControl. "New" becomes reserved. Added RxTxLog to DeltaFBlockList.</li> <li>– Added missing OPType Get for function Configuration.</li> <li>– Removed remark that Configuration messages must not be segmented. This is described in more detail in the MOST Specification.</li> </ul>
3.0.0-003	0xA01	<ul style="list-style-type: none"> <li>– Modified InstID range for CentralRegistry to also include 0x00.</li> </ul>
3.0.0-004	0xA03	<ul style="list-style-type: none"> <li>– Removed function Boundary.</li> </ul>
3.0.0-005	0xA10	<ul style="list-style-type: none"> <li>– Added function SystemAvail.</li> </ul>

**Changes NetworkMaster FBlock 2.5.1 - Speed Grade MOST25 to NetworkMaster FBlock 2.5.1 – Speed Grade MOST50**

Change Ref.	FktID	Changes
2.5.1-001	-	- Created NetworkMaster for speed grade MOST50, based on NetworkMaster 2.5.1 (speed grade MOST25).
2.5.1-002	0xA03	- Function Boundary: Modified range of Boundary Descriptor - previously 6-15, now 0-29.

# 1 Introduction

This document contains the specification of an FBlock. MOST FBlocks are standardized and maintained by MOST workgroup Device Architecture (WG\_DA). In order to speed up the process of making new Function Blocks available, every FBlock will be updated individually as required.

## 2 Function Catalog

### 2.1 NetworkMaster (FBlockID = 0x02)

In a MOST network there exists exactly one NetworkMaster. The NetworkMaster administrates the Central Registry that represents an image of the physical and logical system configuration.

In addition to the functions contained in this document, the following functions are also part of the NetworkMaster FBlock. They exist in the GeneralFBlock template Rev. 3.1.0 and are included here by reference:

FktID	Function name
0x000	FktIDs
0x010	Version

Function Overview		
FktID	Name	Occurrence
0xA00	<a href="#">Configuration</a>	Mandatory
0xA01	<a href="#">CentralRegistry</a>	Mandatory
0xA03	<a href="#">OwnConfigInvalid</a>	Optional
0xA10	<a href="#">SystemAvail</a>	Optional

## 2.1.1 Configuration (0xA00)

Occurrence: Mandatory

Informs each device about the state of the network configuration. The Status is reported by a broadcast message.

### 2.1.1.1 Format of Function

**Function class:** Sequence Property

FBlock	Function	OPType	Parameter
NetworkMaster (0x02)	Configuration (0xA00)	Status	<a href="#">ConfigurationControl</a> , <a href="#">DeltaFBlockList</a>
		Error	ErrorCode, ErrorInfo

### 2.1.1.2 Parameter

#### ConfigurationControl

Validity of the Central Registry.

Basis data type	Code	Name	Description
Enum (1 byte)	0x0	NotOK	NotOK
	0x1	OK	OK
	0x2	Invalid	Invalid
	0x3	Reserved	Reserved
	0x4	NewExt	NewExt

#### DeltaFBlockList

List of changed FBlocks. The DeltaFBlockIDList must not contain more entries than a single transfer can transport. If there are more FBlocks, several single transfers must be performed.

Basis data type	Length	Condition	Description
Stream		ConfigurationControl = 0x0...0x1	
		ConfigurationControl = 0x2	Content: <a href="#">InvalidList</a>
		ConfigurationControl = 0x4	Content: <a href="#">NewExtList</a>

#### DeltaFBlockList.InvalidList

List of entries for ConfigurationControl=Invalid.

Basis data type	Length	Description
Stream		Content: <a href="#">{FBlockID, InstID}</a> [repeated]

#### InvalidList.FBlockID

FBlockID part of the functional address.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 254	

### InvalidList.InstID

InstID part of the functional address for distinction of identical FBlocks in a system.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	1 . . . 254	

### DeltaFBlockList.NewExtList

List of entries for ConfigurationControl=NewExt.

Basis data type	Length	Description
Stream		Content: { <a href="#">LogicalNodeAddress</a> , <a href="#">FBlockID</a> , <a href="#">InstID</a> }[repeated]

### NewExtList.LogicalNodeAddress

Logical node address.

Basis data type	Unit	Exp.	Step
Unsigned Word	none	0	1

### NewExtList.FBlockID

FBlockID part of the functional address.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 254	

### NewExtList.InstID

InstID part of the functional address for distinction of identical FBlocks in a system.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	1 . . . 254	

## 2.1.2 CentralRegistry (0xA01)

Occurrence: Mandatory

NetworkSlaves use this function to query the Central Registry. The Central Registry contains the logical node address and the respective FBlocks of each node.

### 2.1.2.1 Format of Function

**Function class:** Unclassified Property

FBlock	Function	OPType	Parameter
NetworkMaster (0x02)	CentralRegistry (0xA01)	Get	<a href="#">FBlockID</a> , <a href="#">InstID</a>
		Status	<a href="#">FBlockInfoList</a>
		Error	ErrorCode, ErrorInfo

### 2.1.2.2 Parameter

#### FBlockID

FBlockID part of the functional address.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 255	

#### InstID

InstID part of the functional address for distinction of identical FBlocks in a system.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 255	

#### FBlockInfoList

List of information about the FBlocks.

Basis data type	Length	Description
Stream		Content: <a href="#">LogicalNodeAddress</a> , <a href="#">FBlockID</a> , <a href="#">InstID</a> ][repeated]

#### FBlockInfoList.LogicalNodeAddress

Logical node address.

Basis data type	Unit	Exp.	Step
Unsigned Word	none	0	1

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### FBlockInfoList.FBlockID

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FBlockID part of the functional address.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 254	

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### FBlockInfoList.InstID

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InstID part of the functional address for distinction of identical FBlocks in a system.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	1 . . . 254	

### 2.1.3 OwnConfigInvalid (0xA03)

Occurrence: Optional

This function is used to

1. inform the NetworkMaster that a NetworkSlave has received a Configuration.Status(Invalid) message that affect FBlocks the NetworkSlave has registered in the Central Registry. This will prompt the NetworkMaster to start the "own configuration invalid" handling, as described in the MOST Specification.
2. inform the NetworkSlave when the NetworkMaster has completed the "own configuration invalid" handling.

#### 2.1.3.1 Format of Function

Function class: Unclassified Method

FBlock	Function	OPType	Parameter
NetworkMaster (0x02)	OwnConfigInvalid (0xA03)	StartResultAck	<a href="#">SenderHandle</a> , <a href="#">State</a> , <a href="#">LogicalNodeAddress</a>
		ErrorAck	<a href="#">SenderHandle</a> , <a href="#">ErrorCode</a> , <a href="#">ErrorInfo</a>
		ProcessingAck	<a href="#">SenderHandle</a>
		ResultAck	<a href="#">SenderHandle</a> , <a href="#">State</a>

#### 2.1.3.2 Parameter

##### SenderHandle

Unique identifier of the requesting task within the device.

Basis data type	Unit	Exp.	Step
Unsigned Word	none	0	1

##### State

The state of the "own configuration invalid" handling.

Basis data type	Code	Name	Description
Enum (1 byte)	0x0	Active	"own configuration invalid" handling active
	0x1	Finished	"own configuration invalid" handling completed

##### LogicalNodeAddress

The logical node address of the NetworkSlave that received the Configuration.Status(Invalid) message that affects its own FBlocks.

Basis data type	Unit	Exp.	Step
Unsigned Word	none	0	1

## 2.1.4 SystemAvail (0xA10)

Occurrence: Optional

By comparing the list of implemented FBlocks obtained through NetBlock.ImplFBlockIDs with the list of registered FBlocks in the Central Registry, the NetworkMaster can determine the current state of the system configuration and makes this information available via the function SystemAvail.

### 2.1.4.1 Format of Function

**Function class:** Unclassified Property

FBlock	Function	OPType	Parameter
NetworkMaster (0x02)	SystemAvail (0xA10)	Get	
		Status	<a href="#">DeviceAvail</a> , <a href="#">FBlockAvail</a>
		Error	ErrorCode, ErrorInfo

### 2.1.4.2 Parameter

#### DeviceAvail

Device availability.

Basis data type	Code	Name	Description
Enum (1 byte)	0x0	Incomplete	Incomplete At least one node is not fully operable because of one of the following conditions: - All nodes have answered but at least one node has answered with the error 0x41. - The property ImplFBlockIDs is not requested, for example, because the system scan has detected an unsolvable address conflict or the system scan is not finished.
	0x1	Complete	Complete All nodes are fully operable: All available nodes have reported their implemented FBlocks through the property ImplFBlockIDs.
	0x2	Error	Error At least one node has not answered to ImplFBlockIDs or has returned an error not equal to 0x41.

**FBlockAvail**

FBlock availability.

Basis data type	Code	Name	Description
Enum (1 byte)	0x0	Incomplete	Incomplete All other cases (Not all FBlocks reported by the property ImplFBlockIDs of the available devices are currently registered in the CentralRegistry or the state of DeviceAvail is still Incomplete.)
	0x1	Complete	Complete DeviceAvail is Complete and all FBlocks reported by ImplFBlockIDs are registered in the Central Registry.

Notes: