

# MOST

Media Oriented Systems Transport

Multimedia and Control  
Networking Technology

**MOST FunctionBlock NetworkMaster**

**Rev 3.0.2**

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**MOSTCO CONFIDENTIAL**

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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	3.0
[2]	MOST FBlock template GeneralFBlock	3.0.3

## Document History

### 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: – Corrected invalid parameter sequence for ConfigurationControl.
3.0.2-003	0xA02	SaveConfiguration: – Function deleted.

### 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	– Configuration: Removed Get OPType. – Added statement that DeltaFBlockList has to fit in a single telegram.
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	– Added Occurrence attribute to all functions. – Corrected ParamPos from 1 to 0 for parameterless OPTypes. – Modified boundary descriptor range--now 0..93.
3.0.0-002	0xA00	– Changed function class of Configuration from Unclassified Property to Sequence Property. – In function Configuration, added new Enum value NewExt to ConfigurationControl. "New" becomes reserved. Added RxTxLog to DeltaFBlockList. – Added missing OPType Get for function Configuration. – Removed remark that Configuration messages must not be segmented. This is described in more detail in the MOST Specification.
3.0.0-003	0xA01	– Modified InstID range for CentralRegistry to also include 0x00.
3.0.0-004	0xA03	– Removed function Boundary.
3.0.0-005	0xA10	– Added function SystemAvail.

### 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 FBlock Definition

### 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. 3.0.2 and are included here by reference:

FktID	Function name
0x000	FktIDs
0x010	Version
0x011	FBlockInfo

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 classes:** 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	Range of values	Code	Symbolic Name	Description
Enum	0x00...0x04	0x00	NotOK	NotOK
		0x01	OK	OK
		0x02	Invalid	Invalid
		0x03	Reserved	Reserved
		0x04	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 = 0x00...0x01	-
		ConfigurationControl = 0x02	Content: <a href="#">FBlockID</a> (repeated), <a href="#">InstID</a> (repeated) Stream structure: {FBlockID1, InstID1} {, FBlockID2, InstID2} ...
		ConfigurationControl = 0x04	Content: <a href="#">RxTxLog</a> (repeated), <a href="#">FBlockID</a> (repeated), <a href="#">InstID</a> (repeated) Stream structure: {RxTxLog1, FBlockID1, InstID1} {, RxTxLog2, FBlockID2, InstID2} ...

#### FBlockID

Functional address of an FBlock.

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

## InstID

Distinction of identical FBlocks in a system.

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

## RxTxLog

Calculated by each device when the network is initialized:  
 $RxTxLog = 0x0100 + RxTxPos$ .

May also be defined later by the user with range:  
[0x0010...0x02FF] and [0x0500...0x0FEF]

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

## 2.1.2 CentralRegistry (0xA01)

Occurrence: Mandatory

Query of information about an FBlock from the Central Registry. The parameter InstID is optional. After a Get command without any parameter, the NetworkMaster responds with all registry entries.

### 2.1.2.1 Format of Function

**Function classes:** 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

Functional address of an FBlock.

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

#### InstID

Distinction of identical FBlocks in a system.

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

#### FBlockInfoList

List of information about the FBlocks.

Basis data type	Length	Condition	Description
Stream		-	Content: <a href="#">RxTxLog</a> (repeated), <a href="#">FBlockID</a> (repeated), <a href="#">InstID</a> (repeated) Stream structure: {RxTxLog1, FBlockID1, InstID1} {, RxTxLog2, FBlockID2, InstID2}

#### RxTxLog

Calculated by each device when the network is initialized:  
RxTxLog = 0x0100 + RxTxPos.

May also be defined later by the user with range:  
[0x0010...0x02FF] and [0x0500...0x0FEF]

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

## 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 classes: Unclassified Method

FBlock	Function	OPType	Parameter
NetworkMaster (0x02)	OwnConfigInvalid (0xA03)	StartResultAck	<a href="#">SenderHandle</a> , <a href="#">State</a> , <a href="#">DeviceID</a>
		ErrorAck	<a href="#">SenderHandle</a> , ErrorCode, ErrorInfo
		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	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

#### State

The state of the "own configuration invalid" handling.

Basis data type	Range of values	Code	Symbolic Name	Description
Enum	0x00...0x01	0x00	Active	"own configuration invalid" handling active
		0x01	Finished	"own configuration invalid" handling completed

#### DeviceID

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

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

## 2.1.4 SystemAvail (0xA10)

Occurrence: Optional

After System State OK is entered the NetworkMaster shall query the property ImplFBlockIDs of each device that either reported an empty or non empty list as FBlockIDs.Status before.

Furthermore, the NetworkMaster shall also query the property ImplFBlockIDs after it has received an FBlockIDs.Status message from a device that has not replied to ImplFBlockIDs.Get at all or has replied with ImplFBlockIDs.Error 0x41 before.

A system integrator may decide to delay that request according to the specific needs.

By comparing the list of implemented FBlocks 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.

This function is optional.

### 2.1.4.1 Format of Function

**Function classes:** 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	Range of values	Code	Symbolic Name	Description
Enum	0x00...0x02	0x00	Incomplete	Incomplete At least on node is not fully operable: All nodes have answered but at least one node has answered with the error 0x41.
		0x01	Complete	Complete All nodes are fully operable: All available nodes have reported their implemented FBlocks through the property ImplFBlockIDs.
		0x02	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	Range of values	Code	Symbolic Name	Description
Enum	0x00...0x01	0x00	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.)
		0x01	Complete	Complete DeviceAvail is Complete and all FBlocks reported by ImplFBlockIDs are registered in the Central Registry.