

**INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
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ISO/IEC JTC 1/SC 29/WG 11
CODING OF MOVING PICTURES AND AUDIO**

**ISO/IEC JTC1/SC29/WG11
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Title: Status and workplan for ISO/IEC 23092-4 (MPEG-G Reference SW)
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1 Introduction

This document reports the current status of MPEG-G reference software implementation.

2 Status

This document concerns the Reference SW tag *1.2.1-beta.1*, from the GIT repository at `git@gitlab-scistimm.epfl.ch:MPEG-G/mpegg-reference-sw.git`.

Part	Main component	Sub components	Owner	Development and integration	ETA	Comments
Part 1	Core	Decapsulator	Daniel Naro	Implemented.		
		Encoder	Daniel Naro	Implemented, apart from DSC and MIT support		
		Example program	Daniel Naro	Implemented.		
		Command line decoder	Daniel Naro		After MPEG-126	
		Conformity tests	Daniel Naro	Part of Part 5 development		
Part 2	Raw Reference parser		Massimo Ravasi	Implemented		
	Parameter Set parser	Bit-stream parser	Massimo Ravasi	Implemented		
		Multiple Par Set support	Massimo Ravasi	Implemented		
		Par Set inheritance support	Massimo Ravasi		After MPEG-126	
		Par Set inheritance – Conformity tests	Massimo Ravasi		After MPEG-126	
	Access Unit parser	Bit-stream parser	Massimo Ravasi	Implemented		
	Sequence decoder	Class P decoder	Massimo Ravasi	Implemented		
		Class N decoder	Massimo Ravasi	Implemented		
		Class M decoder	Massimo Ravasi	Implemented		
		Class I decoder	Massimo Ravasi	Implemented		
		Class HM decoder	Massimo Ravasi	Implemented		
		Class U decoder	Massimo Ravasi	Implemented		
		Integration with Entropy decoder	Massimo Ravasi, Junaid Ahmad	Implemented		
		MSCORE decoder	Massimo Ravasi	Implemented	MPEG-126	
		MPEG-G record output	Massimo Ravasi	Implemented		
Conformity tests	Giorgio Zoia, Massimo Ravasi	Part of Part 5 development	After MPEG-126			
Subsequence transformations	Equality	Jan Voges, Tom Paridaens	Implemented	MPEG-126		
	Equality – Conformity tests	Jan Voges, Tom Paridaens, Massimo Ravasi	In progress	After MPEG-126		

Part	Main component	Sub components	Owner	Development and integration	ETA	Comments
		Merge	Junaid Ahmad, Massimo Ravasi	Implemented		
		Merge – Conformity tests	Junaid Ahmad, Massimo Ravasi		After MPEG-126	
		Match	Jan Voges, Tom Paridaens	Implemented	MPEG-126	
		Match – Conformity tests	Jan Voges, Tom Paridaens, Massimo Ravasi	In progress	After MPEG-126	
		RLE	Junaid Ahmad	Implemented		
		RLE – Conformity tests	Junaid Ahmad, Massimo Ravasi		After MPEG-126	
	Subsymbol transformations	Diff	Jan Voges, Tom Paridaens	Implemented	MPEG-126	
		Diff – Conformity tests	Jan Voges, Tom Paridaens, Massimo Ravasi	In progress	After MPEG-126	
		LUT	Junaid Ahmad	Implemented		
		Diff – Conformity tests	Junaid Ahmad, Massimo Ravasi		After MPEG-126	
	CABAC engine		Junaid Ahmad, Jan Voges, Tom Paridaens	Implemented		
	Quality values	Library and test program	Jan Voges	Implemented		
		Integration with Entropy decoder	Jan Voges	Implemented		
		Conformity tests	Jan Voges	Superseded by "Sequence decoder / Conformity tests"		
	Read names	Library and test program	Junaid Ahmad	Implemented		
		Conformity tests	Junaid Ahmad, Massimo Ravasi	Superseded by "Sequence decoder / Conformity tests"		
	Entropy decoder	Library and test program	Junaid Ahmad	Implemented		
		Conformity tests	Junaid Ahmad	Superseded by "Sequence decoder / Conformity tests"		
	Multiple alignments decoder		Claudio Alberti, Massimo Ravasi	Implemented	MPEG-126	
		Conformity tests	Claudio Alberti, Massimo Ravasi		After MPEG-126	
	Computed	Reference Transformation	Massimo Ravasi	Implemented	MPEG-127	

Part	Main component	Sub components	Owner	Development and integration	ETA	Comments
	reference decoder	Reference Transf – Conformity tests			MPEG-127	
		Push In	Massimo Ravasi		MPEG-127	
		Push in – Conformity tests			MPEG-127	
		Local Assembly	Jan Voges	In progress	MPEG-127	
		Local Assembly – Conformity tests	TBD		MPEG-127	
		Global Assembly	Massimo Ravasi	In progress	MPEG-126	
		Global Assembly – Conformity tests	Massimo Ravasi		MPEG-127	
	Reference to Raw Reference decoder		Massimo Ravasi	Implemented	MPEG-126	
		Conformity tests	Massimo Ravasi		After MPEG-126	
	Various	Cmd-line interface	Massimo	Implemented		

2.1 Supported conformance bit-streams

The normative decoder is capable of decoding the following normative conformance bitstreams, as specified in [1]:

- gen-003.mgb
- gen-004.mgb
- gen-005.mgb
- gen-006.mgb
- gen-016.mgb
- gen-018.mgb
- gen-019.mgb
- gen-024.mgb
- gen-026.mgb
- gen-027.mgb
- gen-028.mgb
- qv-001.mgb
- qv-002.mgb
- qv-004.mgb
- qv-006.mgb
- ref-001.mgb
- ref-002.mgb
- ref-003.mgb

This list is also available in the GIT repository in file `doc/CONFORMANCE.md`.

3 Repository

The Git repository is planned to be moved on MPEG Gitlab server <https://mpegx.int-evry.fr>. As of 20/March/2019, the migration from current GIT repository to the new one on MPEG Gitlab server is being delayed due to technical issues with the new repository.

4 References

- [1] N17923 – Text of ISO/IEC 23092-5 Conformance