

Digita DVB-H network: transmission parameters

Version	Date
0.1	07.12.2006
0.11	13.12.2006
0.12	22.12.2006
0.13	12. 2.2007
0.2	15. 3.2007
0.21	18.5.2007
0.22	3.8.2008
0.23	4.11.2008
0.3	5.11.2009
0.31	9.11.2009

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1. Scope

The present document describes the current network parameters of Digita's DVB-H MobileTV network.

IMPORTANT NOTE:

The reader should notice that the parameter values are not fixed but may change in the future.

2. Digita DVB-H parameters

2.1. Physical layer

Parameter	Value
Frequency band	UHF
Bandwidth	8MHz
Mode	8k
Modulation	16QAM
Code rate	½
Guard Interval	1/8
TPS signalling	Cell ID in use MPE FEC in use Time Slice in use

Area specific information:

Network Area	Center frequency	Channel	Network Structure
Helsinki	586MHz	35	SFN
Turku	538MHz	29	SFN
Sub area 1: Salo	538MHz	29	SFN
Oulu	498MHz	24	SFN
Tampere	642MHz	42	SFN

2.2. Network parameters

Parameter	Value		
Original network ID	0x002B		
Network ID	0x002B		
Platform ID	0x000002		
Platform name	MobiiliTV-ohjelmat		
Platform Provider name	Digita Oy		
Area specific information	Area	Cell ID	TS ID
	Helsinki	0x4001	0x4001
	Turku	0x4002	0x4002
	Oulu	0x4003	0x4003
	Tampere	0x4004	0x4004

2.3. Time Slice and MPE-FEC parameters

Parameter	Value
MPE-FEC code rate	5/6 (15%)
Burst duration	burst dependent (<100ms)
Burst size	Max 1Mbit
Peak bitrate per burst	burst dependet (max. avg. 10 500kbit/s)
Time Slice period	1000ms (for main channel, for subchannels N x 1024ms)
Number of MPE-FEC rows	Max 768

2.4. PSI/SI signalling

Table	Max repetition rate
PAT	100ms
PMT	125ms
NIT	2000ms
INT	2000ms
SDT	2000ms
TDT	15000ms

2.5. IP Layer

Parameter	Value
IP version	IPv4

2.6. AV Parameters

Parameter	Value
Video codec and profile	H264 Baseline profile
IRD class	B
Resolution	QVGA (320 x 240)
Frame Rate	15
Bit rate	246kbit/s CBR (TV service) 100kbit/s CBR (visual radio service)
Video encapsulation	RTP
Audio codec	AAC
Audio format	Stereo
Audio Bitrate	64kbit/s
Audio sampling frequency	32kHz
Audio encapsulation	RTP

2.7. ESG

OMA BCAST standard is being supported by Digita DVB-H network. The current implementation of the standard is completely compliant with Nokia IMG 2.0. The more detailed documentation has been published by Nokia, available in the Internet, http://www.mobiletv.nokia.com/solutions/airif/files/IG_20_OMA_BCAST_ESG.pdf

Parameter	Value
Data model	OMA BCAST ESG standard

Bootstrap port number	9214
compression	GZIP
ESG schedule	currently 2 days

Area specific information

Area	ESG type	ESG IP address	ESG port number	ESG bitrate
Helsinki	OMA BCAST	Bootstrap: 232.0.1.1 Session: 232.0.64.1		300kbit/s
Turku	OMA BCAST	Bootstrap: 232.0.1.2 Session: 232.0.64.2		300kbit/s
Oulu	OMA BCAST	Bootstrap: 232.0.1.3 Session: 232.0.64.3		300kbit/s
Tampere	OMA BCAST	Bootstrap: 232.0.1.4 Session: 232.0.64.4		300kbit/s

2.8. SDP

SDP information is partly generated by the encoding system and partly the ESG system. Here's an example of SDP information for a typical encrypted tv service:

```

v=0
o=dco.ipdc 648098 10 IN IP4 127.0.0.1
s=audiovideo
c=IN IP4 232.1.1.0
t=3466717200 3466803600
a=StreamCount:integer;2
a=Timeout:integer;30
a=NetworkDelay:integer;2000
a=BurstInterval:integer;1078
a=stkmstream:1

m=audio 10022 RTP/AVP 97
c=IN IP4 232.1.1.0
b=AS:64
a=control:streamid=1
a=StreamId:integer;1
a=rtpmap:97 mpeg4-generic/32000/2
a=fmtp:97 profile-level-id=15; config=1290; streamtype=5; ObjectType=64; mode=AAC-hbr; SizeLength=13;
IndexLength=3; IndexDeltaLength=3

m=video 10020 RTP/AVP 96
c=IN IP4 232.1.1.0
b=AS:103
a=control:streamid=0
a=StreamId:integer;0
a=rtpmap:96 H264/90000
a=fmtp:96 profile-level-id=42E00C; sprop-parameter-sets=Z0LgDJZSAoP0kAg=,aM44gA==; packetization-mode=1

m=data 10024 UDP bcast-stkm
c=IN IP4 232.1.1.0
a=bcastversion:1.0
a=fmtp:bcast-stkm streamid=1; kmstype=oma-bcast-drm-pki; serviceprovider=ToDoProviderName
  
```

2.9. Service protection

For the Service Purchase and Protection part, the OMA BCASD DRM Profile is supported by Digita DVB-H network for the moment. The current implementation is completely compliant with Nokia IMG 2.0. The more detailed documentation has been published by Nokia, available in the Internet, http://www.mobiletvforum.com/solutions/airif/files/ig_2_0_spp.pdf.

Parameter	Value
Security protocol	Ipssec