

## Digital Terrestrial Television: What DVB-T configuration is adopted by whom ?

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COFDM modulation was the one adopted by the DVB-T consortium for Digital Terrestrial TV broadcast for its flexibility and its ability to be deployed over any country. According to countries in the world and local regulations applying therein, either DVB-T networks already are in place (thus analogue switch-off is on the way), or moving to terrestrial digital television is ongoing, usually starting with trials.

Whatever the way historical operators started with analogue TV, whatever the geographical constraints are, moving to DVB-T can be optimistically considered. Of course, the right balance must be adopted between OFDM parameters, modulation robustness, target bit rate, multiplex composition, cell size, network and synchronization mode...

Dimensioning of these parameters can be a problem for receivers or chips manufacturers, system integrators that are not located on the same country, country or even continent as their potential customers. However, they need to know exactly how to configure their equipments to best fit with regional settings of a target country. That is why ENENSYS Technologies presents here a short overview of DVB-T parameters that are used for DTTV broadcasting: fully deployed digital terrestrial TV schemes or trials / partial deployments are covered by the following tables.

All over the world...

ENENSYS Technologies delivers DVB-T or DVB-H modulators with a whole set of profiles, giving customers the opportunity to set their modulator in a "per country" configuration. Users can also create and save their own profiles gathering OFDM parameters, output level and frequency, input redundancy settings, external synchronization parameters, MFN/SFN mode of operation, MIP controlling mode... they can retrieve in one click.

[www.enensys.com](http://www.enensys.com)

### Australia

Operational Bands	VHF and some UHF
Carrier type	8k
Guard	1/16 & 1/8 for 3/4 & 2/3 FEC
FEC	3/4 and 2/3 (see above)
Modulation	64QAM
MFN or SFN mode ?	both MFN and SFN
Channel bandwidth	7MHz for both VHF and UHF

### Belgium

Operational Bands	UHF
Carrier type	8k
Guard	1/8
FEC	
Modulation	
MFN or SFN mode ?	SFN
Channel bandwidth	8MHz

### Finland

Operational Bands	UHF
Carrier type	8k
Guard	1/8
FEC	2/3
Modulation	64QAM
MFN or SFN mode ?	MFN
Channel bandwidth	8MHz

### Germany

Operational Bands	UHF and VHF
Carrier type	8k
Guard	1/8
FEC	2/3 & 3/4
Modulation	16QAM
MFN or SFN mode ?	SFN & MFN
Channel bandwidth	8MHz UHF & 7MHz VHF

### Hungary

Operational Bands	UHF
Carrier type	8k
Guard	1/32
FEC	2/3
Modulation	64QAM
MFN or SFN mode ?	
Channel bandwidth	8MHz

### Austria

Operational Bands	UHF
Carrier type	8k
Guard	1/8
FEC	3/4
Modulation	16QAM
MFN or SFN mode ?	SFN being used for trial
Channel bandwidth	8MHz

### Denmark

Operational Bands	UHF
Carrier type	8k
Guard	1/4
FEC	2/3
Modulation	64QAM
MFN or SFN mode ?	MFN with SFN
Channel bandwidth	8MHz

### France

Operational Bands	UHF
Carrier type	8k
Guard	1/8
FEC	2/3
Modulation	64QAM
MFN or SFN mode ?	Mostly MFN
Channel bandwidth	8 MHz

### Holland

Operational Bands	UHF only
Carrier type	8k
Guard	1/8
FEC	2/3
Modulation	64QAM
MFN or SFN mode ?	MFN's and local SFN's
Channel bandwidth	8MHz

### Ireland

Operational Bands	UHF
Carrier type	8k
Guard	
FEC	
Modulation	
MFN or SFN mode ?	
Channel bandwidth	8MHz

Italy	
Operational Bands	UHF and VHF
Carrier type	8k
Guard	1/32
FEC	2/3 for UHF, 3/4 for VHF
Modulation	64QAM
MFN or SFN mode ?	MFN
Channel bandwidth	UHF/8MHz, VHF/7MHz (VHF/8MHz to come later)

Portugal	
Operational Bands	UHF
Carrier type	8k
Guard	1/4 during trial
FEC	2/3 during trial
Modulation	64QAM
MFN or SFN mode ?	National SFNs planned
Channel bandwidth	8MHz

Spain	
Operational Bands	UHF
Carrier type	8k
Guard	1/4
FEC	2/3
Modulation	64QAM
MFN or SFN mode ?	MFN and SFN
Channel bandwidth	8MHz

Switzerland	
Operational Bands	UHF
Carrier type	8k
Guard	64QAM
FEC	
Modulation	
MFN or SFN mode ?	MFN
Channel bandwidth	8MHz

United Kingdom	
Operational Bands	UHF only
Carrier type	2k
Guard	1/32
FEC	3/4 for 16QAM, 2/3 for 64QAM
Modulation	most 16QAM, 2 MUX 64QAM
MFN or SFN mode ?	MFN
Channel bandwidth	

Norway	
Operational Bands	UHF only
Carrier type	8k
Guard	
FEC	
Modulation	64QAM
MFN or SFN mode ?	both
Channel bandwidth	8MHz

Singapore	
Operational Bands	UHF
Carrier type	2k mobile, 8k fixed
Guard	1/4 mobile, 1/8 fixed
FEC	1/2 mobile, 2/3 fixed
Modulation	QPSK mobile, 64QAM fixed
MFN or SFN mode ?	MFN and SFN
Channel bandwidth	8MHz

Sweden	
Operational Bands	UHF
Carrier type	8k
Guard	1/8
FEC	2/3
Modulation	64QAM
MFN or SFN mode ?	MFN and SFN
Channel bandwidth	8MHz

Taiwan	
Operational Bands	UHF only
Carrier type	8k
Guard	1/8
FEC	1/2 mainly, some 3/4
Modulation	16QAM
MFN or SFN mode ?	MFN and SFN
Channel bandwidth	6MHz

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