

DM200HD

HD ENCODER TO DVB-T / DVB-C USER GUIDE

4K UltraHD HDMI 2.2 Loop through

High RF Output Level

USB pen drive video player

- Perfect image and audio synchronization
- RF Loop through 5... 2.200 MHz
- Video bit rate up to 30 Mbps
- Over 36 dB MER (Modulation Error Rate)
- Low consumption and energy saving function



5
WARRANTY YEARS

Ready for
UHDTV

**MADE IN
ITALY**

Ver. 1.2

AUDIO - VIDEO

VIDEO ENCODING		H.264
VIDEO INTERFACE		HDMI 2.2
VIDEO RESOLUTION MODES		576p - 720p - 1080p
VIDEO BIT RATE	Mbp/s	5... 30
AUDIO MODE		MPEG AC3 DTS AAC

RF OUTPUT

FREQUENCY RANGE	MHz	VHF: E5... E12 +S11... S20 / UHF: E21... E69
MER	dB	>36
RF OUTPUT LEVEL	dB μ V	70... 100
RF LOOP PASS THROUGH		5... 2.200 MHz Loss \leq 2
DVB-T		
CONSTELLATION - FEC		QPSK - 16QAM - 64QAM - 1/2 - 2/3 - 3/4 - 5/6 - 7/8
GUARD INTERVALL		1/4 - 1/8 - 1/16 - 1/32
MODULATION CARRIERS		2K/8K
SELECTABLE BANDWIDTH	MHz	6 / 7 / 8

DVB-C

CONSTELLATION		16QAM - 32QAM - 64QAM - 128QAM - 256QAM
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GENERAL

POWER SUPPLY	Volt	15VDC (External PSU 100-240VAC 50/60Hz)
POWER CONSUMPTION	W	4,8 Watt Max. / 3,5 Watt Energy saving mode
DIMENSIONS	mm	193x109x39h
OPERATING TEMPERATURE	C°	0... 45

DESCRIPTION OF SYMBOLS AND ELECTRICAL SAFETY



The equipment complies with the CE requirements



The equipment is designed for indoor use only



Equipment grounding terminal



This symbol indicates that the equipment complies with the safety requirements for class II equipment



To avoid the risk of electric shock, do not open the equipment.



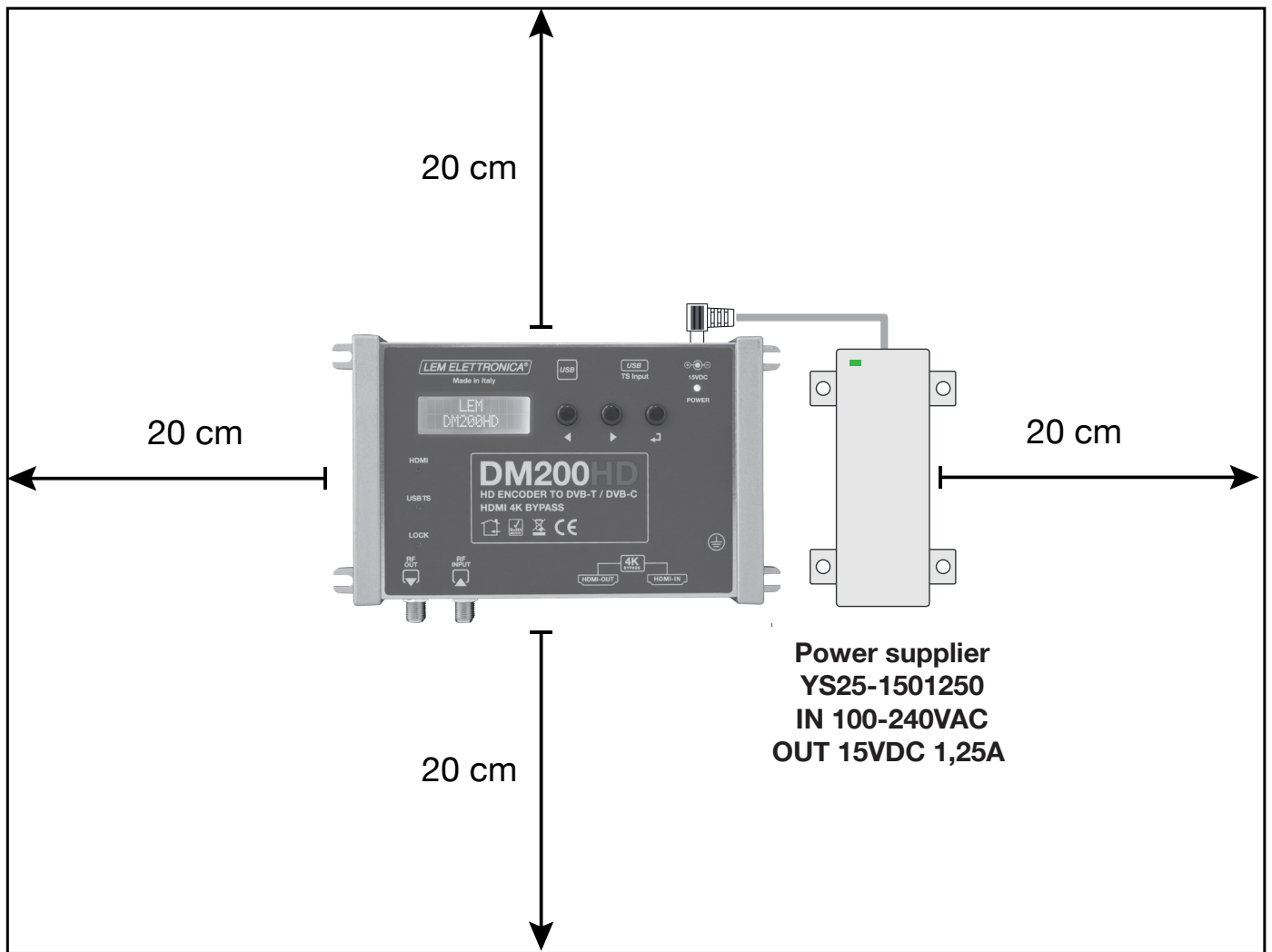
The equipment is compliant with RoHS 2011/65EU



Dispose according to local authorities recycling processes

Safety instructions

1. Read carefully these instructions
2. Keep these instructions
3. Heed all warnings
4. Follow all instructions
5. Do not expose this apparatus to extreme temperatures
6. Do not install this apparatus near water or expose to rain and moisture
7. Place the apparatus in a dry and well-aired location
8. Install the unit on a vertical wall, or in a waterproof cabinet with a minimum IP55 rating, and fix it safely using the provided fixing plugs
9. Connect the power adapter cord to a detachable power supply socket
10. Unplug the apparatus during lighting storms or when unused for long time
11. Only use accessories specified by the manufacturer
12. Do not remove the cover without disconnecting from the mains first
13. Ambient temperature should not be higher than 45°
14. Please allow air circulation around the apparatus



IMPORTANT!

Place the apparatus and the power supplier in a dry and well-aired location

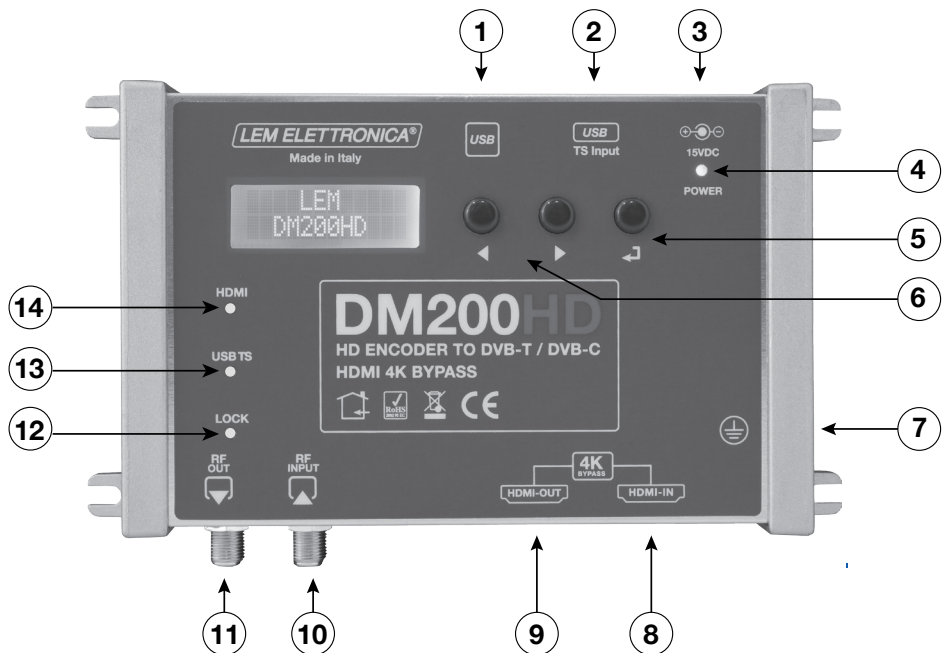
Install the unit on a vertical wall, or in a waterproof cabinet with a minimum IP55 rating, and fix it safely using the provided fixing plugs

Use only the power supplier YS25-1501250 provided with the amplifier.

The use of not-original power suppliers determines the not-compliance of the product and can cause malfunctions and void the warranty

DM200HD DESCRIPTION

- ① USB Type B (F.W. Upgrade)
- ② USB Type A (USB Pendrive for Video Play)
- ③ Power Input 15Vdc
- ④ Power Supply Status Led
- ⑤ Confirmation key
- ⑥ Menu navigation keys
- ⑦ Ground point
- ⑧ HDMI Input
- ⑨ HDMI Output
- ⑩ RF Input
- ⑪ RF Output
- ⑫ Video Signal Lock
- ⑬ USB TS Signal
- ⑭ HDMI Connected



DVB-T available rates (Mbit/s) in 8MHz channels

MODULATION	FEC Coding Rate	GUARD INTERVAL (TG)			
		1/4	1/8	1/16	1/32
QPSK	1/2	4.98	5.53	5.85	6.03
	2/3	6.64	7.37	7.81	8.04
	3/4	7.46	8.29	8.78	9.05
	5/6	8.29	9.22	9.76	10.05
	7/8	8.71	9.68	10.25	10.56
16QAM	1/2	9.95	11.06	11.71	12.06
	2/3	13.27	14.75	15.61	16.09
	3/4	14.93	16.59	17.56	18.10
	5/6	16.59	18.43	19.52	20.11
	7/8	17.42	19.35	20.49	21.11
64QAM	1/2	14.93	16.59	17.56	18.10
	2/3	19.91	22.12	23.42	24.13
	3/4	22.39	24.88	26.35	27.14
	5/6	24.88	27.65	29.27	30.16
	7/8	26.13	29.03	30.74	31.67

Table (1)

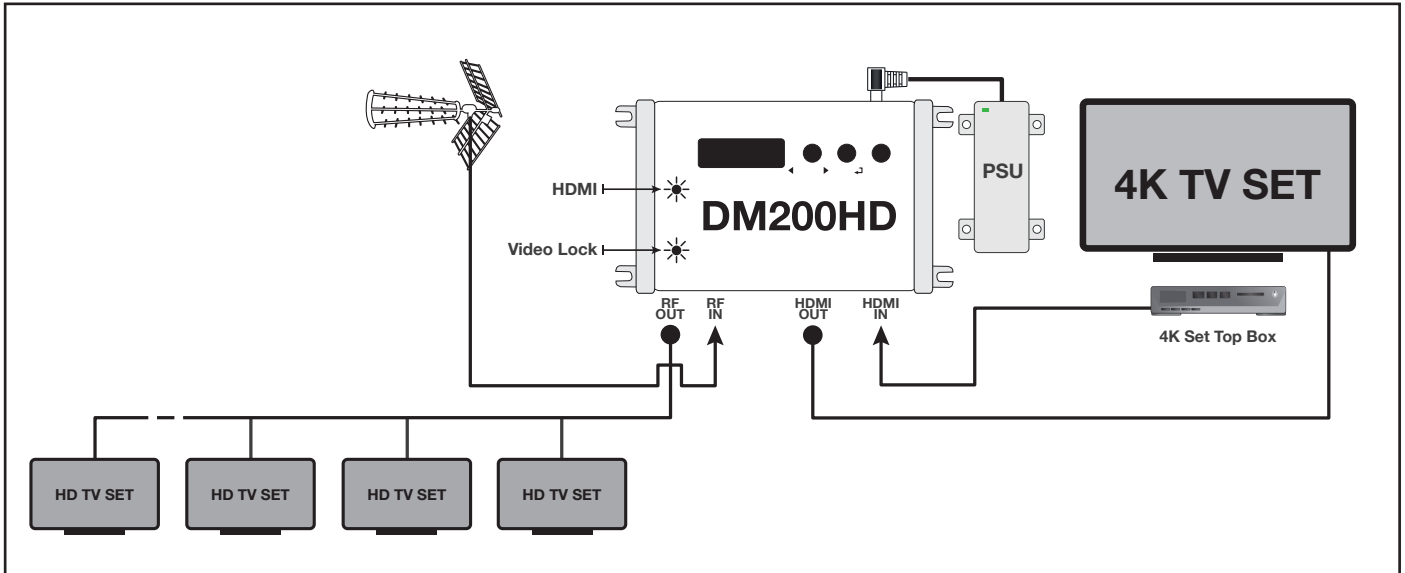
DVB-C Available rates (Mbit/s)

BANDWIDTH	MODULATION				
	16QAM	32QAM	64QAM	128QAM	264QAM
8MHz	25.64	32.05	38.47	44.88	51.29
6MHz	19.23	24.04	28.85	33.66	38.47

Table (2)

CONNECTION TO A HDMI SOURCE

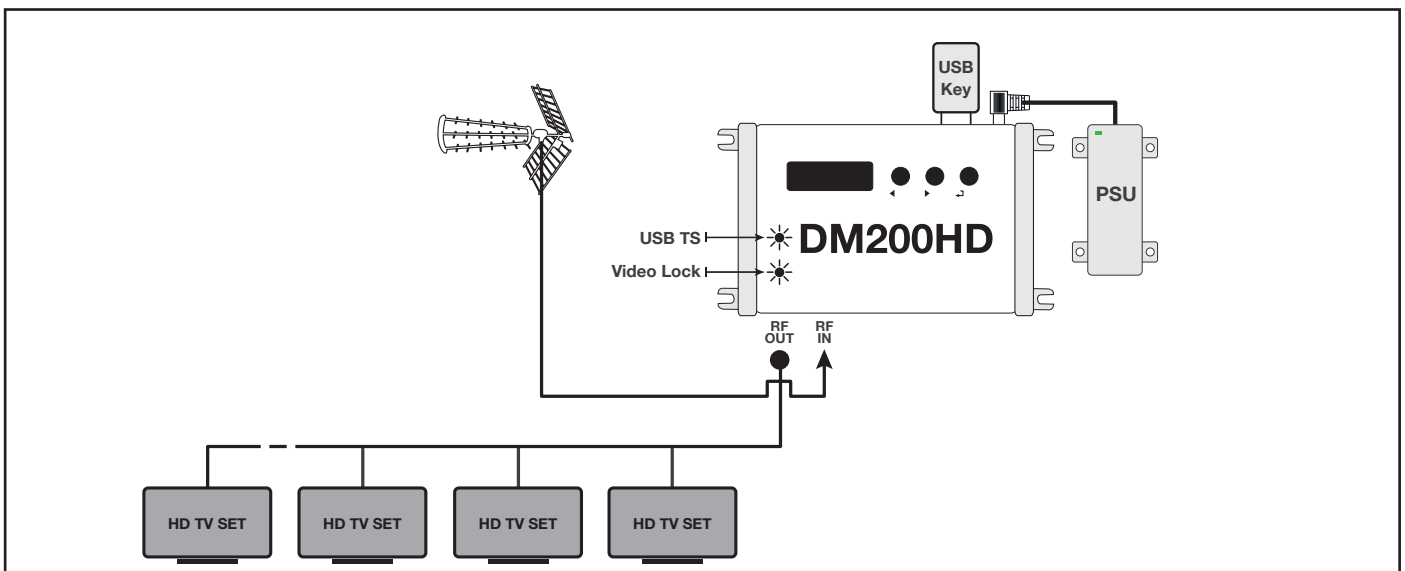
- 1_Plug the RF coaxial input and output cables
- 2_Plug the HDMI input and output cables
- 3_Plug the power supplier unit to DM200HD and only then connect the power supplier to mains plug. Wait the end of the booting procedure to start programming the DM200HD
- 4_If the HDMI input source is correct the Led **HDMI** and **LOCK** will be lighted on



CONNECTION TO A USB PEN DRIVE SOURCE

- 1_Plug the RF coaxial input and output cables
- 2_Insert the USB pendrive to the USB type A input containing a video file named **media.ts**
- 3_Connect the power supplier unit to DM200HD and only then connect the power supplier to mains plug. Wait the end of the booting procedure to start programming the DM200HD
- 4_The Led **USB TS** and **LOCK** will be lighted on

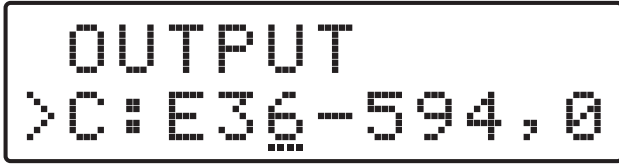
Note: the bitrate of the media.ts file cannot exceed the DM200HD encoder bitrate



DM200HD Programming

1. Press to activate the display
2. Press and hold for five seconds to enter the programming menu

If any key is pressed for 3 minutes the display turn to standby mode. Press any key to re-activate.



↑
Function Selector

↑
Pointer to scroll figures



Menu browsing keys

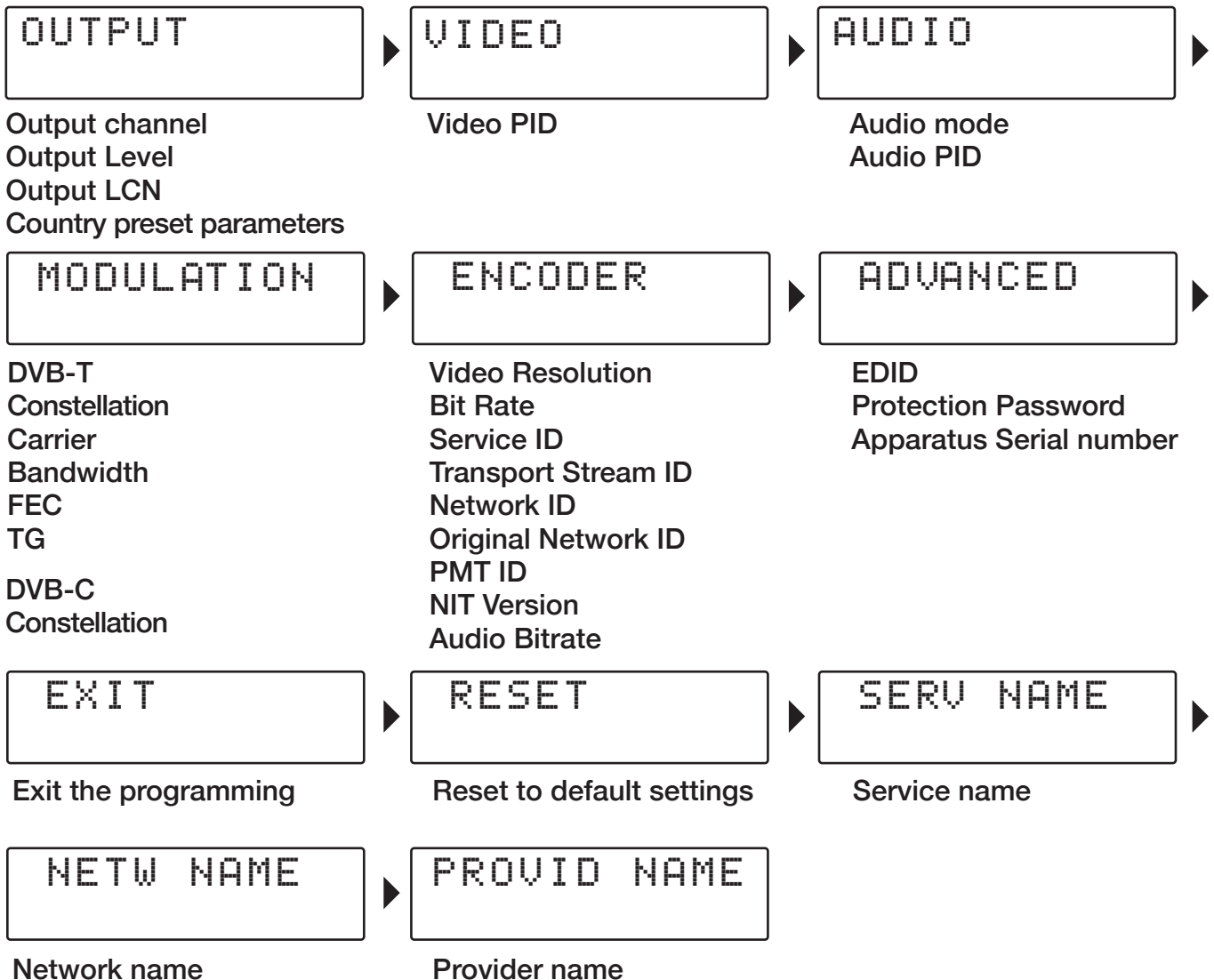


Confirmation Key

DM200HD has a built-in DVB-T/C tuner for self test. Every parameter modification is verified and stored and require from 10 to 15 seconds.



Menu Structure



OUTPUT

RF OUTUP

```
OUTPUT
```

Press **↵** to enter the **OUTPUT** menu.

OUTPUT CHANNEL

```
OUTPUT
>CH: 36-594.0
```

Position the function selector **>** on **CH** and press **↵** to activate the pointer **---** and set the output channel. To confirm your selection press **↵**.

E5÷E12/S11÷S20/

E21÷E69

Default: E36



On the right of the selected channel is displayed the center frequency in MHz.

OUTPUT LEVEL

```
CH: 36-594.0
>LEV: 90dBuV
```

Position the function selector **>** on **LEV** and press **↵** to activate the pointer **---** and set the RF output level. To confirm your selection press **↵**.

70÷ 100dBuV (1dB step)

Note: the maximum input level for a TV set is 75dBuV

OUTPUT LCN

```
LEV: 90dBuV
>LCN: 00801
```

Position the function selector **>** on **LCN** and press **↵** to activate the pointer **---** and set LCN number required. To confirm your selection press **↵**.

00001 ÷ 65535



If in the network there are more than one DM200HD to avoid TSID conflict when the LCN number is changed also the TSID is automatically reassigned.

Country preset parameters

```
LCN: 00101
>CNTRY: ITA
```

See Table below

AUSTRIA	AUT	GERMANY	DEU	NETHERLANDS	NLD	SLOVENIA	SVN
AUSTRALIA	AUS	GREECE	GRC	NORWAY	NOR	SPAIN	ESP
CROATIA	HRV	HUNGARY	HUN	NEW ZEALAND	NZL	SWEDEN	SWE
CZECH REP	CZE	ISRAEL	ISR	POLAND	POL	SWITZERLAND	CHE
DENMARK	DNK	IRELAND	IRL	PORTUGAL	PRT	UNITED KINGDOM	GBR
ESTONIA	EST	ITALY	ITA	RUSSIA	RUS		
FINLAND	FIN	LATVIA	LVA	SINGAPORE	SGP		
FRANCE	FRA	MALAYSIA	MYS	SLOVAKIA	SVK		

AUDIO VIDEO SETUP

VIDEO SET UP

```
VIDEO
```

Press **↵** to enter the menu to select the video compression required.

VIDEO PID

```
>VPID: 01280
```

00001 ÷ 65535

Position the function selector **>** on **MODE** and press **↵** to activate the pointer --- and set **◀ ▶** **VPID**. To confirm your selection press **↵**.

AUDIO

```
AUDIO
```

Press **↵** to enter the **AUDIO** menu.

AUDIO MODE

```
AUDIO  
>MODE: MPEG
```

MPEG / AC / DTS / AAC

Press **↵** to enter the menu to select the **AUDIO MODE**. Select **▶** and confirm your choice pressing **↵**.

AUDIO PID

```
MODE: MPEG  
>APID: 01281
```

00001 ÷ 65535

Position the function selector **▶** on **APID** Press **↵** to activate the pointer --- and set **◀ ▶** **APID**. To confirm your selection press **↵**.

MODULATION

MODULATION

Press **←** to enter the **MODULATION** menu.

MODULATION MODE

MODULATION
>DVB: DVB-T

Position the function selector **>** on **DVB** and press **←** to activate the pointer --- and select the **DVB-T** or **DVB-C** modulation mode. To confirm your selection press **←**.

DVB-T - DVB-C

DVB-T

CONSTELLATION

DVB: DVB-T
>COST: 64QAM

Position the function selector **>** on **COST** and press **←** to activate the pointer --- and select the constellation. To confirm your selection press **←**.

QPSK - 16 - 64QAM

MODULATION CARRIER

COST: 64QAM
>CARR: 8K

Position the function selector **>** on **CARR** and press **←** to activate the pointer --- and select the **2K** or **8K** carrier. To confirm your selection press **←**.

2K - 8K

BANDWIDTH

CARR: 8K
>BW: 8MHz

Position the function selector **>** on **BW** and press **←** to activate the pointer --- and select the bandwidth. To confirm your selection press **←**.

6 - 7 - 8 MHz

The channel bandwidth is pre-set in relationship to the country channeling.

FEC

BW: 8
>FEC: 7/8

Position the function selector **>** on **FEC** and press **←** to activate the pointer --- and select the Forward Error Correction value. To confirm your selection press **←**.

1/2 - 2/3 - 3/4 - 5/6 - 7/8

TG

FEC: 7/8
>Tg: 1/32

Position the function selector **>** on **Tg** and press **←** to activate the pointer --- and select the Tg value. To confirm your selection press **←**.

1/32 - 1/16 - 1/8 - 1/4

DVB-C

CONSTELLATION

DVB: DVB-C
>COST: 64QAM

Position the function selector **>** on **COST** and press **←** to activate the pointer --- and select the constellation. To confirm your selection press **←**.

16 - 32 - 64 - 128 - 256QAM

ENCODER

ENCODER

Press **↵** to enter the **ENCODER** menu
Line up the function selector **>** to the parameter and press **↵** to activate the pointer **---** and select the value pressing **◀ ▶**. To confirm the selection press **↵**.

Video Resolution

ENCODER
>RESOL:1080

576 - 720 - 1080

Bit Rate

RESOL:1080
>BRATE:18000

4000... 30.000 Mbps
See Table (1) or (2)

Service ID

BRATE:18000
>SID:00256

00001÷65535

Transport Stream ID

SID:00256
>TSID:00101

00001÷65535

Network ID

TSID:00101
>NID:01855

00001÷65535

Original Network ID

NID:01855
>ONID:01855

00001÷65535

PMT ID

ONID:01855
>PMTID:04651

00001÷65535

NIT Version

PMTID:04651
>NIT:005

001÷999

Audio Bitrate

NIT:005
>ABR:256Kbps

64-96-112-128-160-192-
224-256-320-384 Kbps

ADVANCED

ADVANCED

Press **↵** to enter the **ENCODER** menu
Line up the function selector **>** to the parameter and press **↵** to activate the pointer **---** and select the value pressing **◀ ▶**. To confirm the selection press **↵**.

EDID

ADVANCED
>EDID:INT4K

INT2K; INT4K; COPY

INT2K= HDMI Bypass HD only

INT44= HDMI Bypass 4K and HD

COPY= Bypass resolution detected from TV input HDMI

Protection Password

EDID:INT4K
>PSW:000

Apparatus Serial number

PSW:000
>SN:00014

EXIT

```
EXIT
```

To exit the setting procedure select **EXIT** and press **↵**. Select **YES** and press **↵** to confirm.

```
CONFIRM?  
YES  NO
```

To continue the DM200HD setting select **NO** and press **↵** to confirm.

RESET

```
RESET
```

To cancel all settings select the **RESET** menu pressing **↵** and Select **YES** and confirm **↵**. All the factory settings will be restored and the DM200HD rebooted.

```
CONFIRM?  
YES  NO
```

SERVICE NAME

```
SERV NAME
```

Press **↵** to enter **SERVICE NAME** menu
Line up the function selector **>** to the parameter and press **↵** to activate the pointer **---** and select the digit pressing **◀ ▶**. To confirm press **↵**.

```
SERV NAME  
>DM200HD
```



The preset service name is **DM200HD** but can assigned a different name with up to 11 digits

NETWORK NAME

```
NETW NAME
```

Press **↵** to enter **SERVICE NAME** menu
Line up the function selector **>** to the parameter and press **↵** to activate the pointer **---** and select the digit pressing **◀ ▶**. To confirm press **↵**.

```
NETW NAME  
>LEM NETWORK
```

PROVIDER NAME

```
PROVID NAME
```

Press **↵** to enter **PROVIDER NAME** menu
Line up the function selector **>** to the parameter and press **↵** to activate the pointer **---** and select the digit pressing **◀ ▶**. To confirm press **↵**.

```
PROVID NAME  
>PrivateProv
```

Label with serial and tracking data

AA1000015019-X1020L

Model Serial # Manuf. Week Manuf. Year HW Rel. FW Rel.