

HDMI Modulator DVB-C / IP

HDM 4 C



Bedienungsanleitung *User manual*

Montage- und Sicherheitshinweise

Vor Arbeiten am Modulator bitte unbedingt folgende Sicherheitsbestimmungen sorgfältig lesen!



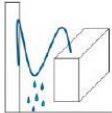
Achtung

Die auf dem Gerät angegebene Nennspannung muss mit der örtlichen Netzspannung übereinstimmen. Die Hinweise zum Betrieb des Gerätes sind zu beachten.



Erdung und Potenzialausgleich

Vor Erstinbetriebnahme die Erdung herstellen und den Potenzialausgleich durchführen.



Anschlusskabel

Stolperfrei mit einer Schlaufe verlegen, damit bei Kondenswasser- und/oder Schwitzwasserbildung kein Wasser ins Gerät läuft sondern auf den Boden abtropft.

Aufstellungsort auswählen

Montage nur auf eine feste, ebene und möglichst brandresistente Oberfläche. Starke Magnetfelder in der Nähe vermeiden. Zu starke Hitzeeinwirkung oder Wärmestau haben einen negativen Einfluss auf die Lebensdauer. Nicht direkt über oder in der Nähe von Heizungsanlagen, offenen Feuerquellen o.ä. montieren, wo das Gerät Hitzestrahlung oder Öldämpfen ausgesetzt ist. Lüftergekühlte und passiv gekühlte Geräte so montieren, dass die Luft ungehindert durch die unteren Belüftungsschlitze angesaugt wird und die Wärme an den oberen Lüftungsschlitzen austreten kann. Für freie Luftzirkulation sorgen und unbedingt die richtige Einbaulage beachten!



Feuchtigkeit

Tropf-, Spritzwasser und hohe Luftfeuchtigkeit schaden dem Gerät. Bei Kondenswasserbildung warten, bis die Feuchtigkeit abgetrocknet ist. Betriebsumgebung laut spezifizierter IP-Schutzklasse.



Achtung Lebensgefahr!

Gemäß der aktuell gültigen Fassung der EN 60728-11 müssen koaxiale Empfangs- und Verteilanlagen den Sicherheitsanforderungen bezüglich Erdung, Potentialausgleich etc. entsprechen, sonst können Schäden am Produkt, ein Brand oder andere Gefahren entstehen. Sicherungen werden nur von autorisiertem Fachpersonal gewechselt. Es dürfen nur Sicherungen des gleichen Typs eingesetzt werden. Bei Beschädigung ist das Gerät außer Betrieb zu nehmen.



Installations- und Servicearbeiten

Dürfen nur von autorisiertem Fachpersonal entsprechend den Regeln der Technik durchgeführt werden. Vor Beginn der Servicearbeiten die Betriebsspannung abschalten und gegen Wiedereinschalten sichern. Um die Störstrahlsicherheit zu garantieren, müssen sämtliche Geräteabdeckungen nach Öffnen wieder fest verschraubt werden.



Gewitter

Aufgrund erhöhter Blitzschlaggefahr keine Wartungs- und/oder Installationsarbeiten am Gerät oder an der Anlage vornehmen.



Umgebungstemperatur

Betrieb und Lagerung nur innerhalb des spezifizierten Temperaturbereichs.



Abschluss / Terminierung

Nicht benutzte Teilnehmer-/ Stammleitungsausgänge sind mit 75 Ohm-Widerständen abzuschließen.



Vorsicht! Laserstrahlung -> Unfallgefahr durch Blendung!

Nicht in den direkten oder reflektierten Strahl blicken. Es besteht Verletzungsgefahr für die Augen.



Recycling

Unser gesamtes Verpackungsmaterial (Kartonagen, Einlegezettel, Kunststoff-Folien und -beutel) ist vollständig recyclingfähig.

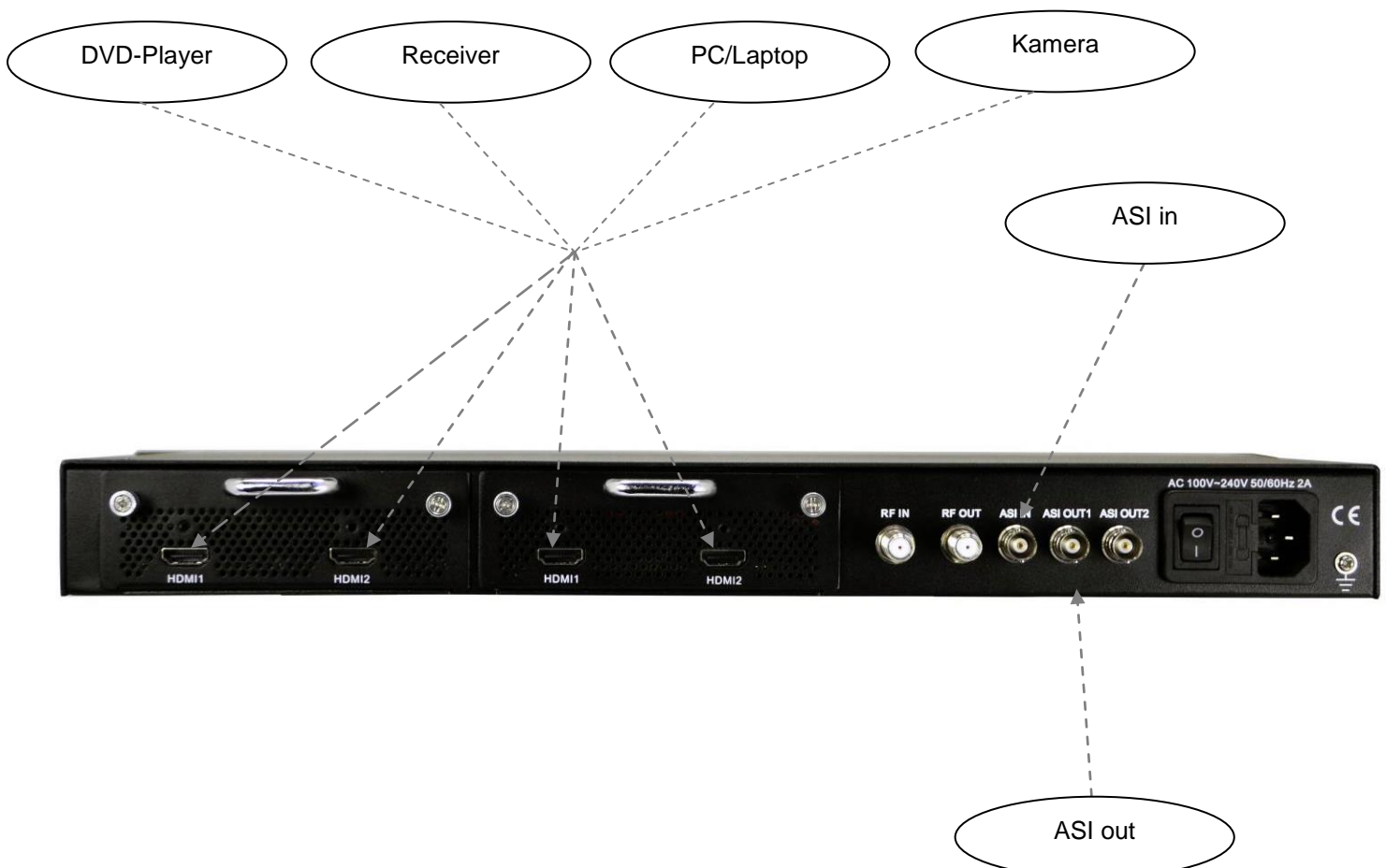
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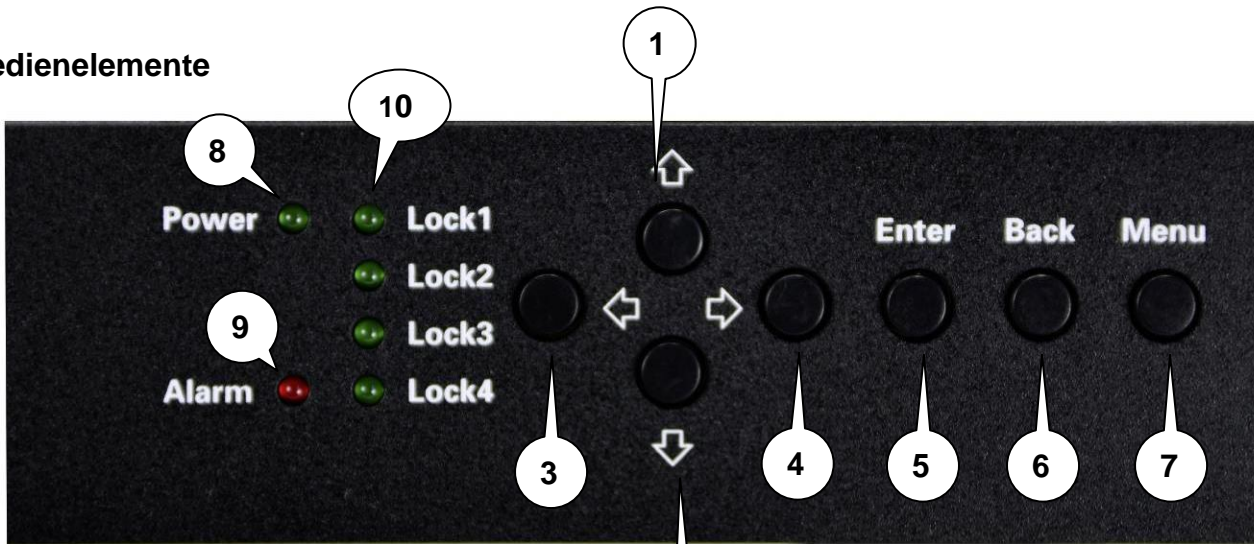
Beschreibung

Modulator zur Umsetzung von bis zu 4 HDMI-Signalen und einem ASI-Transportstrom in einen DVB-C (QAM) Kanal. Die Signale stehen auch als IP-Stream zur Verfügung und können in IPTV-Netzwerke eingespeist werden. Das ASI-Signal steht an zwei Ausgängen zur Weiterverarbeitung zur Verfügung. Als Videoformat kann wahlweise der MPEG 2- oder der MPEG 4-Standard genutzt werden. Das Gerät ist flexibel einsetzbar und kann HDMI-Signale und ASI-Transportströme z.B. von Receivern, Computern, Kameras und DVD-Playern verarbeiten.

HINWEIS Nach einem Netzausfall bleiben alle Daten erhalten.

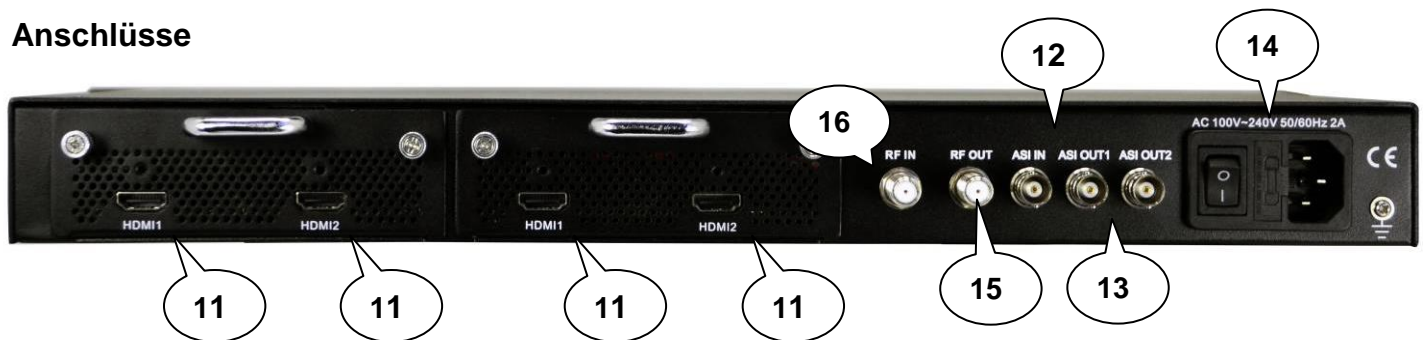


Bedienelemente

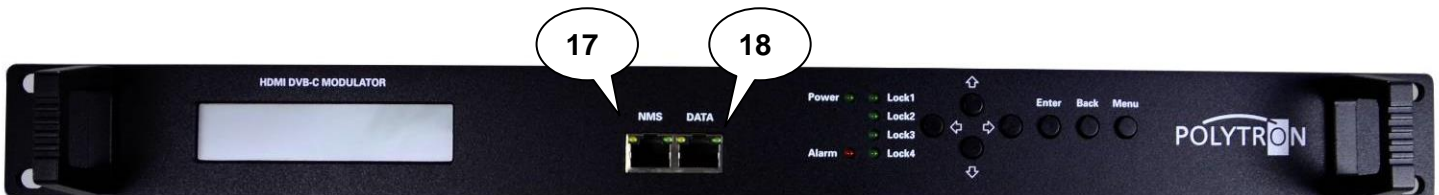


- 1 Taste nach oben im Menü
- 2 Taste nach unten im Menü
- 3 Taste nach links im Menü
- 4 Taste nach rechts im Menü
- 5 Taste Enter (Auswahl bestätigen)
- 6 Taste Back (im Menü einen Schritt zurück)
- 7 Taste Menu (um in das Menü zu kommen und es zu verlassen)
- 8 Anzeige Betriebsspannung
- 9 Anzeige Alarm, wenn kein Signal anliegt
- 10 Anzeige ob ein HDMI Signal anliegt

Anschlüsse



- 11 HDMI-Eingänge
- 12 ASI in
- 13 ASI out
- 14 Netzanschluss / Netzschalter / Netzsicherung
- 15 HF-Ausgang
- 16 Durschleifeingang (zum Zusammenschalten mit externen Signalquellen)



- 17 LAN-Anschluss zum Programmieren über Web-Browser
- 18 IP Ausgang

Grundeinstellungen im Auslieferungszustand

Die HDM-Geräte sind im Auslieferungszustand entsprechend der Hardware-Bestückung vorkonfiguriert. Die Eingangssignale sind als H.264 Signale festgelegt. Die Modulator-Ausgänge sind alle aktiv. Am ASI-Ausgang wird das Signal des Modulators A zur Verfügung gestellt.

HINWEIS

Die Modulatoren der DVB-C-Geräte sind nach Norm J.83A (DVB-C Annex A) vorkonfiguriert!

Der Auslieferungszustand kann jederzeit durch „Factory set“ hergestellt werden. Alle Transportstrominformationen werden neutral vorgegeben und können den Erfordernissen des Kabelnetzbetreibers angepasst werden.

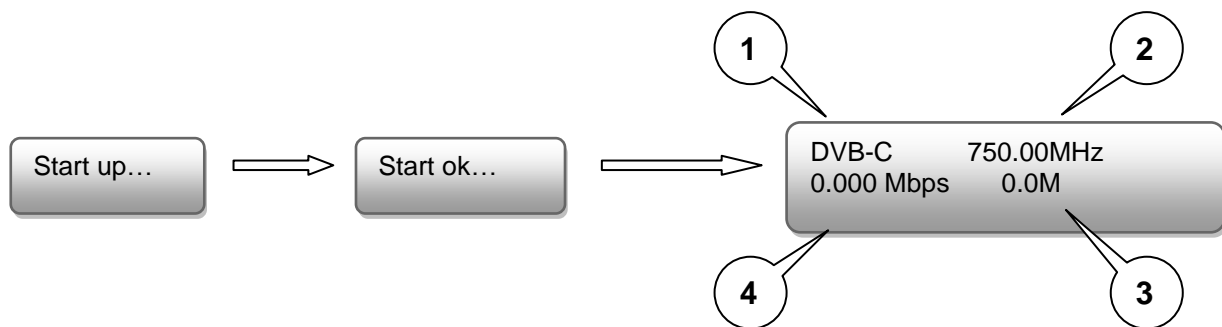
Die Grundeinstellungen der Geräte sind nachfolgend dargestellt:

HDM 4 C	
Netzwerk*	
IP Adresse	192.168.001.225
Subnetzmaske	255.255.255.000
Gateway	192.168.000.001
Webmanagement-Port	80
Login Username	admin
Login Password	admin
Eingang 1/2	
Video Format	H.264
Aspect Ratio	Auto
Low delay	Normal
Video BitRate (Mbps)	8
H.264 Profile	High Profile
H.264 Level	Level 4.0
Audio Format	Mpeg 2
Audio BitRate	192 kbps
Audio Gain (0-400%)	100%
IP Output	alle Streams sind aktiviert
SPTS1	224.002.002.002 Port 2234 UDP
SPTS2	224.002.002.002 Port 2236 UDP
SPTS3	224.002.002.002 Port 2238 UDP
SPTS4	224.002.002.002 Port 2240 UDP
MPTS	224.002.002.002 Port 2242 UDP
Service IP	192.168.002.137
Subnetzmaske	255.255.255.000
Gateway	192.168.002.000
Modulator	
Standard	J.83A (DVB-C Annex A)
Konstellation	256 QAM
Symbolrate	6,9 Msps
HF-Frequenz	306,00 / 314,00 / 322,00 / 330,00 MHz
HF-Ausgangspegel	-16,00 dBm
Ausgang E Bitrate (ASI)	60,00 Mbps

* Wird der Auslieferungszustand erneut hergestellt, so bleiben die Netzwerkeinstellungen unverändert gemäß der zuletzt gesicherten Konfigurationen erhalten.

Handprogrammierung am Gerät

LCD Anzeige nach dem Einschalten:



1. Zeigt die Modulation des Ausgangssignals.
2. Zeigt die Ausgangsfrequenz.
3. Zeigt die Datenrate des Ausgangssignals.
4. Ohne Bedeutung

Übersicht Hauptmenü:

Das Hauptmenü erscheint nach drücken der Taste „Menu“.

Mit den Pfeiltasten erfolgt die Steuerung durch das Menü.

Mit „Enter“ werden die Einstellungen bestätigt.

Mit „Back“ einen Schritt zurück in das vorherige Menü.

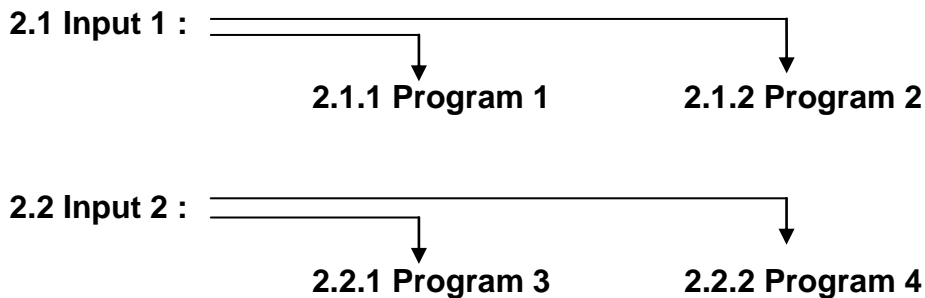


1. Alarm Status

Wenn kein Signal anliegt, steht unter dem Menüpunkt Alarm Status „No Video in“ und die LED (9) für Alarm leuchtet rot. Diese leuchtet auch rot, wenn am Ausgang ein Daten Overflow besteht.

2. Input Settings / Eingangs Einstellungen

Die 4 Eingänge sind wie folgt anzuwählen:



Video Format:

Mpeg2 oder H.264 / Standard: H.264

Low delay:

Normal, Mode 1, Mode 2 / Standard: Normal

Video Bit Rate:

Wert zwischen 1 und 19 Mbps einstellen / Standard: 8 Mbps

Audio Format:

Mpeg2, Mpeg2 AAC oder Mpeg4 AAC / Standard: Mpeg2

Audio Bit Rate:

Auswahl: 64, 96, 128, 192, 256, 320 kbps. / Standard: 192 kbps.

Program info / Program name / Service name / PIDs :

Programm spezifische Änderungen können geändert werden.

ASI

Parse Program:

Auslesen der Programme aus dem ASI-Datenstrom

Select Program:

Auswahl der Programme zur Modulation in DVB-C oder zum ASI-Ausgang.

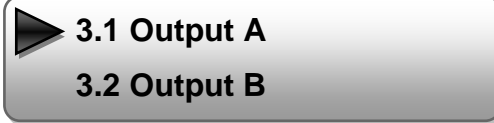
✓: Das Programm ist zur Weiterverarbeitung ausgewählt.

X: Das Programm wird nicht weiter verarbeitet.

3. Modulation Setting / Modulator Einstellungen

3.x Output:

Auswahl: A, B, C, D



3.x.1 RF on:

RF (DVB-C) on oder off
Standard: on



3.x.2 Standard:

Auswahl: J.83A, J.83B, J.83C
Standard: J.83A (DVB-C)

3.x.3 Constellation / QAM Mode:

Auswahl: 16 QAM, 32 QAM, 64 QAM,
128 QAM, 256 QAM
Standard: 256 QAM

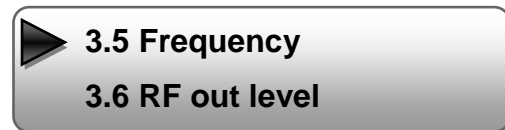


3.x.4 Symbol Rate:

Auswahl 5 bis 9 Msps
Standard: 6,9 Msps

3.x.5 RF Frequency / Ausgangsfrequenz:

Bereich: 30-960 MHz
Standard: 306/314/322/330 MHz



3.x.6 RF output level / Ausgangspegel:

Pegelbereich -30 dBm bis -10 dBm

-30 dBm = 79 dB μ V -25 dBm = 84 dB μ V
-20 dBm = 89 dB μ V -15 dBm = 94 dB μ V
-10 dBm = 99 dB μ V

3.x.7 ASI output / ASI Ausgang:

Auswahl: ABCD



4. TS config


Einstellung TSID und ONID

5. Network / Network Einstellungen

5.1 NMS Anschluss für die Programmierung über Software einstellen

5.1.1 NMS IP Address:

Einstellung der IP Adresse
für den Webbrowser Zugang
Standard: 192.168.001.225



5.1.1 NMS IP Address
5.1.2 NMS IP Address

5.1.2 Subnet Mask:

Standard: 255.255.255.000

5.1.3 Gateway:

Standard: 192.168.000.001



5.1.3 Gateway
5.1.4 MAC Address

5.1.4 MAC Address:

Wird dem Gerät vom Hersteller zugewiesen

5.1.5 Web NMS Port:

Standard: 00080



5.1.5 Web NMS Port
5.1.6 Reset Password

5.1.6 Reset Password:

Auswahl "Yes" or "No". Das Passwort und der Username kann wieder auf
„Default“ (Passwort: admin und Username: admin) zurückgesetzt werden

5.2 IP Stream: Einstellung für den IP Stream

5.2.x IP Output:

Auswahl: 1, 2, 3, 4

Data enable:

IP Ausgang Enable/ON oder Disable/OFF
Standard: enable/ON




Data enable
Filter null package

Null package Filter:

Filter Yes or No
Standard: Yes

Output IP:

Multicast IP Adresse des ausgehenden Datenstroms
Standard: 224.002.002.002
Eingabe VLC Player: **udp://@ 224.002.002.002**



Output IP
Port

Port:

Standard: OUT1 = 02234, OUT2 = 02236,
OUT3 = 02238, OUT4 = 02240

Service IP:

Eingang-IP-Adresse des Modulators
Default: 192.168.002.137

Subnet Mask:

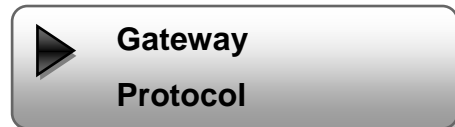
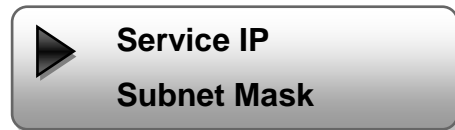
Standard: 255.255.255.000

Gateway:

Standard: 192.168.002.000

Protocol:

Standard: UDP



6. System

6.1 Save config / Einstellungen speichern

Auswahl: „Yes“ oder „No“

6.2 Load saved CFG / Lade abgespeicherte Einstellungen

Auswahl: „Yes“ oder „No“.

6.3 Factory reset / Lade Grundeinstellungen

Auswahl: „Yes“ oder „No“.

Achtung: Nach einem Reset müssen die Ausgangsparamter, gemäß der Bedienungsanleitung, auf die Standard-Werte eingestellt werden.

6.4 LCD timeout / Dauer der LCD Anzeige

Auswahl: 5s, 10s, 30s, 45s, 60s, 90s, 120s.
Standard: 30s

6.5 Version

Software und Hardware Version

Programmierung über Webbrowser (NMS)

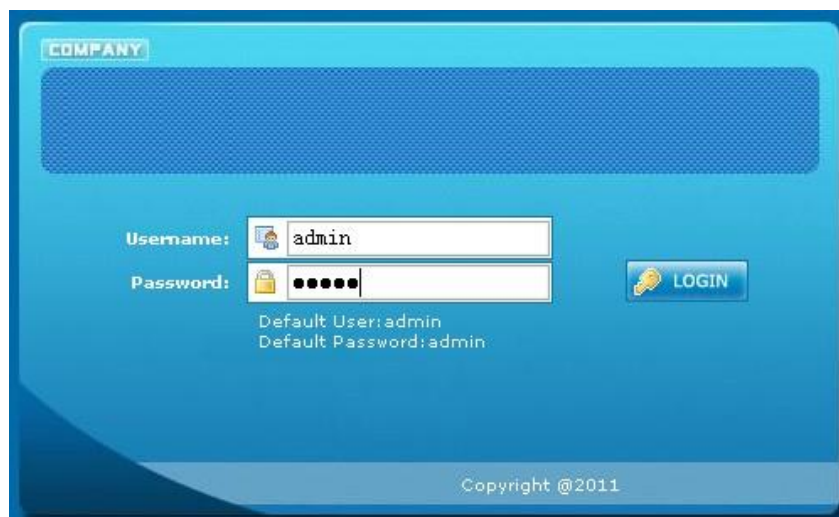
Verbinden Sie den PC oder Notebook, durch ein Standard-Netzwerkkabel, mit der NMS-Buchse. Falls ein Proxyserver verwendet wird ist dieser, in den Netzwerkverbindungen, zu deaktivieren. Der verwendete PC muss sich im gleichen Netzwerk befinden wie der Modulator. In der Grundeinstellung besitzt das Gerät die IP-Adresse 192.168.001.225. Dem PC muss somit die IP-Adresse 192.168.001.xxx zugewiesen werden (Netzwerkverbindungen). Nicht erlaubt sind die Ziffern 0, 255 oder bereits verwendete IP-Adressen. Diese Einstellung können Sie unter Netzwerkverbindungen -> LAN-Verbindung vornehmen.

Im Webbrowser folgende IP-Adresse eingeben:

<http://192.168.001.225>

Username: admin

Password: admin



Übersichtsseite

Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Cable Encoder Modulator

Version Information

Software Version:	1.07hs Build 123 May 18 2013
Hardware Version:	7.4
Web Version:	1.02

Status Information

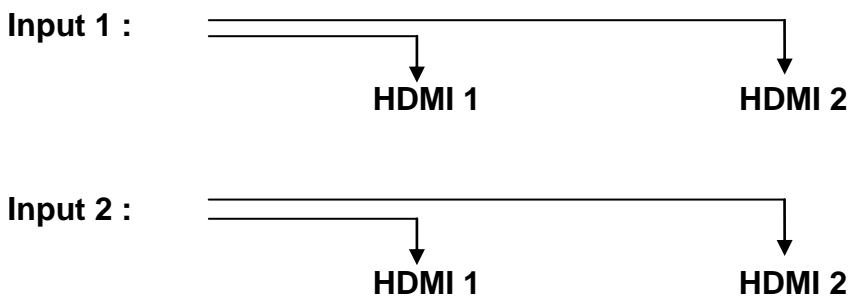
Input	Input 1	Input 2	ASI
Interface:	HDMI	HDMI	ASI
Bitrate:	15.606 Mbps	16.771 Mbps	0.000 Mbps

Output	Output A	Output B	Output C	Output D
Maxout Bitrate:	50.686 Mbps	50.686 Mbps	50.686 Mbps	50.686 Mbps
Current Bitrate:	7.660 Mbps	8.016 Mbps	8.308 Mbps	8.531 Mbps
TS Overflow:	●	●	●	●
RF Frequency:	474.000 MHz	482.000 MHz	490.000 MHz	498.000 MHz
RF Outlevel:	-10.0 dBm			

Auf der Übersichtsseite sind alle Statuswerte ersichtlich.
 Angezeigt wird die Version der Software, Hardware und Weboberfläche.
 Zusätzlich können aktuelle Informationen bzw. Zuordnungen für das Ein – und Ausgangssignal
 abgelesen werden.
 In der linken Spalte können alle veränderbaren Parameter ausgewählt werden.

Einstellungen

Die 4 Eingänge können wie folgt ausgewählt und eingestellt werden:



Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
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 - Network
 - Password
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2CH Mpeg2/H.264 HD Encoder Configuration (EN13)

Video Format	H.264	H.264
Video BitRate	8.000 Mbps	8.000 Mbps
Audio Format	Mpeg2	Mpeg2
Audio BitRate	192 Kbps	192 Kbps
Program Out Enable (ABCD)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Program Name	TV-101	TV-102
Service ID	0x101	0x102
PMT PID	0x100	0x104
Video PID	0x101	0x105
Audio PID	0x102	0x106
PCR PID	0x103	0x107
Video:	●	●
Video Format:	1920x1080 50i	1920x1080 50i
Encoding:	●	●
Bitrate:	8.631 Mbps	8.598 Mbps
Rom Version:	0.0.0.6	0.0.0.6

Help
Default
Apply

Video Format:

Mpeg2 oder H.264
Standard: H.264

Video Bit Rate:

Wert zwischen 1 und 19 Mbps einstellen
Standard: 8 Mbps

Audio Format:

Mpeg2, Mpeg2 AAC oder Mpeg4 AAC
Standard: Mpeg2

Audio Bit Rate:

Auswahl: 64, 96, 128, 192, 256, 320 kbps.
Standard: 192 kbps.

Program Out enable :

Ohne Eingangssignal wird der Programmname ohne Bildinhalt angezeigt.
Falls ein Eingang nicht benötigt wird, kann das Programm hier abgeschaltet werden.
Mit dem Haken wird festgelegt ob das HDMI-Signal dem Ausgang A bis D zugewiesen wird.

Programm Name:

Hier kann dem Programm ein Name zugewiesen werden.

Service ID, PMI, Video, Audio und PCR PID:

Das System erstellt automatisch die Standard Einstellungen
Der User muss nur eingreifen, falls die gleiche PID in dem System bereits vergeben wurde.

Video und Encoding Anzeige:

Die Anzeigen sollten grün leuchten.

Video Format:

Zeigt das Format des Eingangssignals

Bitrate:

Zeigt die tatsächliche encoding bitrate

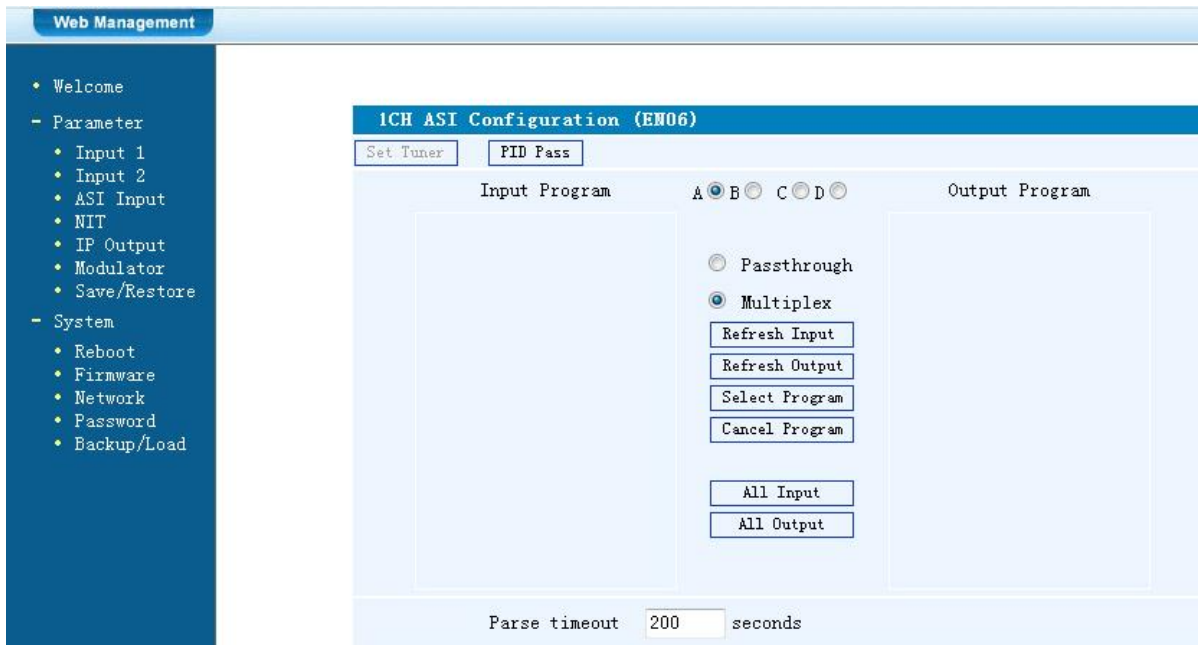
Apply:

Startet den Encoder nach Einstellungen neu.

Default:

Die Einstellungen werden auf Werkseinstellung zurückgesetzt.

ASI Input



PID Pass:

Falls die gleiche PID in dem System bereits vergeben wurde, ist es möglich die PID`s zu verändern. Änderungen sollten nur von erfahrenen Nutzern durchgeführt werden.

Passthrough:

Am Ausgang werden nur die ausgewählten ASI-Programme moduliert.

Multiplex:

ASI-Programme können mit HDMI-Eingängen gemischt werden.

Input Program:

Alle im ASI-Datenstrom enthaltenen Programme werden angezeigt.

Output Program:

Die ausgewählten modulierten Programme werden angezeigt.

Refresh Input:

ASI-Datenstrom wird ausgelesen, aktualisieren der Eingangs-Programmliste.

Refresh Output:

Aktualisieren der Ausgangs-Programmliste.

Select Program:

Am Eingang gewählte Programme dem Ausgang hinzufügen.

Cancel Program:

Am Ausgang gewählte Programme entfernen.

All Output:

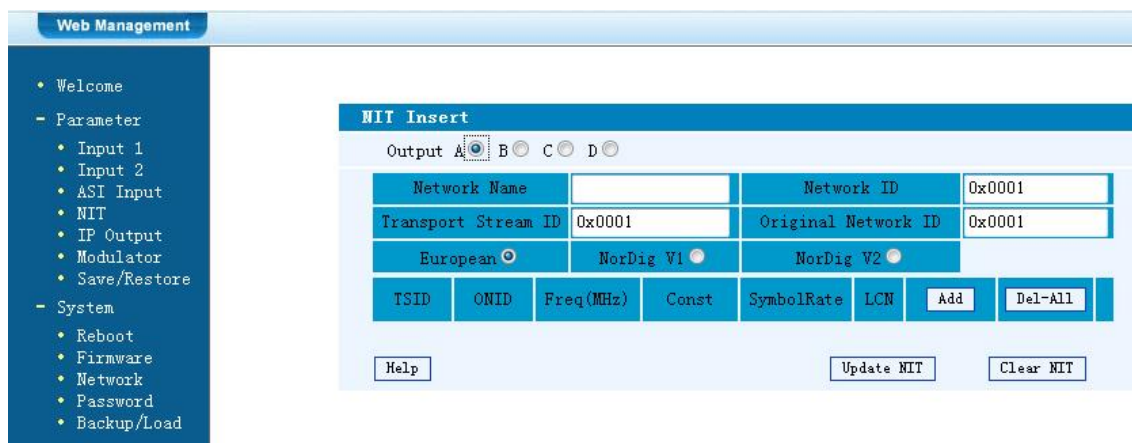
Wählt alle im Ausgang angezeigten Programme aus.

Parse timeout:

Auslese-Zeitbegrenzung des ASI-Datenstroms.

NIT

In die NIT Einstellung muss nur in großen Netzen eingegriffen werden. Änderungen sollten nur von erfahrenen Nutzern durchgeführt werden.

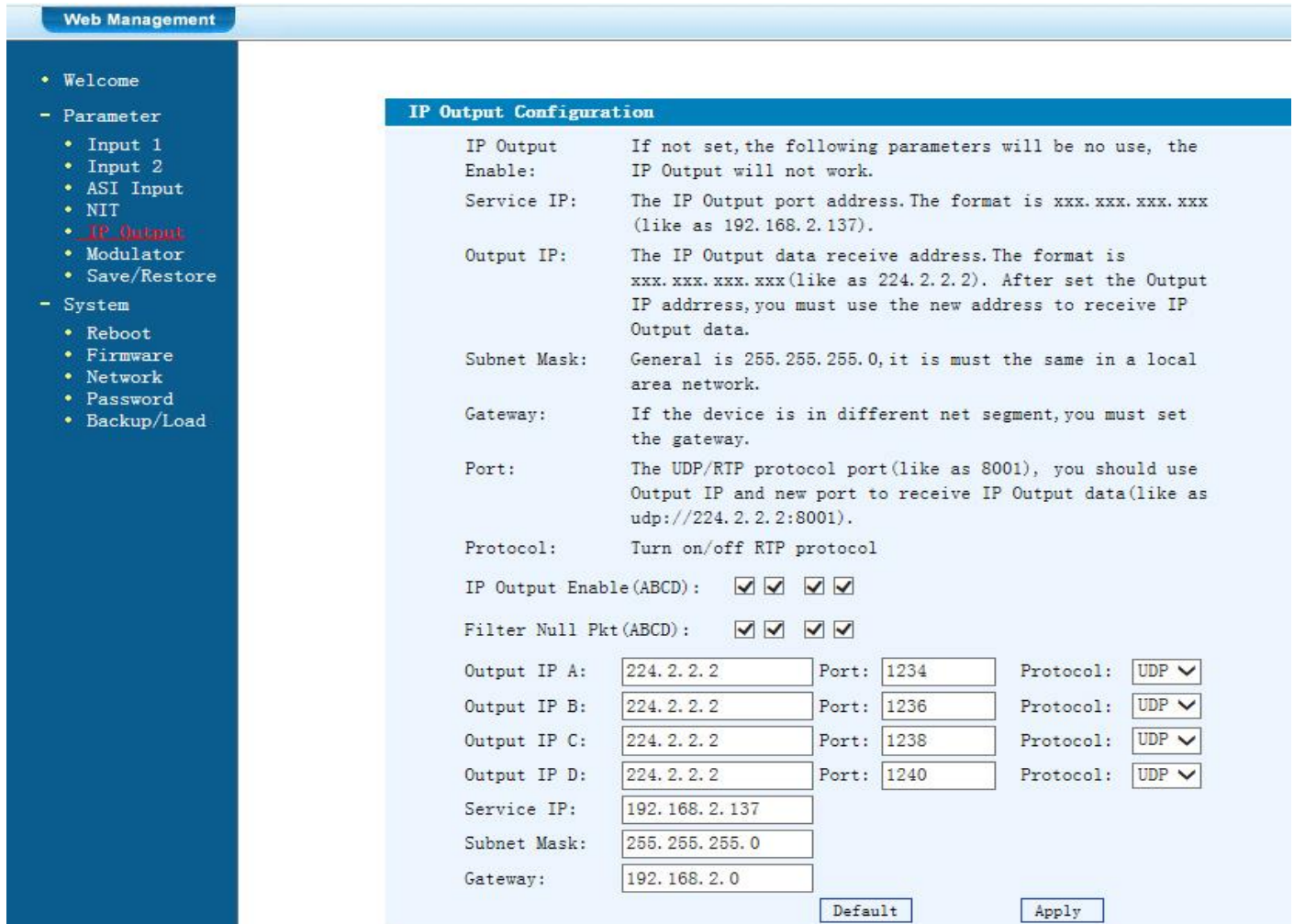


The screenshot shows a web management interface with a sidebar menu on the left and a main configuration area on the right. The sidebar menu includes 'Welcome', 'Parameter' (with sub-items: Input 1, Input 2, ASI Input, NIT, IP Output, Modulator, Save/Restore), and 'System' (with sub-items: Reboot, Firmware, Network, Password, Backup/Load). The main area is titled 'NIT Insert' and contains the following configuration options:

- Output: Radio buttons for A (selected), B, C, and D.
- Network Name: Text input field.
- Network ID: Text input field containing '0x0001'.
- Transport Stream ID: Text input field containing '0x0001'.
- Original Network ID: Text input field containing '0x0001'.
- Format Selection: Radio buttons for European (selected), NorDig V1, and NorDig V2.
- Table Headers: TSID, ONID, Freq(MHz), Const, SymbolRate, LCN.
- Table Actions: Add, Del-All.
- Buttons: Help, Update NIT, Clear NIT.

IP Output

Einstellungen für den IP Ausgang:



Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - **IP Output**
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

IP Output Configuration

IP Output Enable: If not set, the following parameters will be no use, the IP Output will not work.

Service IP: The IP Output port address. The format is xxx.xxx.xxx.xxx (like as 192.168.2.137).

Output IP: The IP Output data receive address. The format is xxx.xxx.xxx.xxx (like as 224.2.2.2). After set the Output IP address, you must use the new address to receive IP Output data.

Subnet Mask: General is 255.255.255.0, it is must the same in a local area network.

Gateway: If the device is in different net segment, you must set the gateway.

Port: The UDP/RTP protocol port (like as 8001), you should use Output IP and new port to receive IP Output data (like as udp://224.2.2.2:8001).

Protocol: Turn on/off RTP protocol

IP Output Enable (ABCD):

Filter Null Pkt (ABCD):

Output IP A: Port: Protocol:

Output IP B: Port: Protocol:

Output IP C: Port: Protocol:

Output IP D: Port: Protocol:

Service IP:

Subnet Mask:

Gateway:

IP Output Enable:

IP Output ON oder OFF

Service IP:

Eingangs-IP Adresse des Modulators

Standard: 192.168.002.137

Output IP:

Multicast IP Adresse des ausgehenden Datenstroms

Standard: 224.002.002.002

Input VLC Player: **udp://@ 224.002.002.002**

Subnet Mask:

Standard: 255.255.255.000

Gateway:

Standard: 192.168.002.000

Port

Standard: A=02234, B=02236, C=02238, D=02240

Modulator

Web Management

- Welcome
- Parameter
 - Input 1
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Modulator Configuration

RF On (ABCD)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Standard	<input type="text" value="J.83A(DVB-C)"/>				
Constellation	<input type="text" value="256 QAM"/>				
Symbol Rate	<input type="text" value="6.875"/>	Msp	(5.000 - 9.000 Msp)		
RF Frequency A	<input type="text" value="474.000"/>	MHz	(30.000 - 1000.000 MHz)		
RF Frequency B	<input type="text" value="482.000"/>	MHz	(30.000 - 1000.000 MHz)		
RF Frequency C	<input type="text" value="490.000"/>	MHz	(30.000 - 1000.000 MHz)		
RF Frequency D	<input type="text" value="498.000"/>	MHz	(30.000 - 1000.000 MHz)		
RF Outlevel	<input type="text" value="-10.0"/>	dBm	(-30.0 - 0.0 dBm)		
ASI Output	<input type="text" value="Output A"/>				

Standard:

Auswahl: J.83A, J.83B, J.83C

Standard: J.83A (DVB-C)

Constellation / QAM Mode:

Auswahl: 16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM

Standard: 256 QAM

Symbol Rate:

Auswahl 5 bis 9 Msp

Standard: 6,9 Msp

RF Frequency / Ausgangsfrequenz:

30-960 MHz

Standard: 306/314/322/330 MHz

RF output level / Ausgangspegel:

Pegelbereich -30 dBm bis -10 dBm

-30 dBm = 79 dB μ V

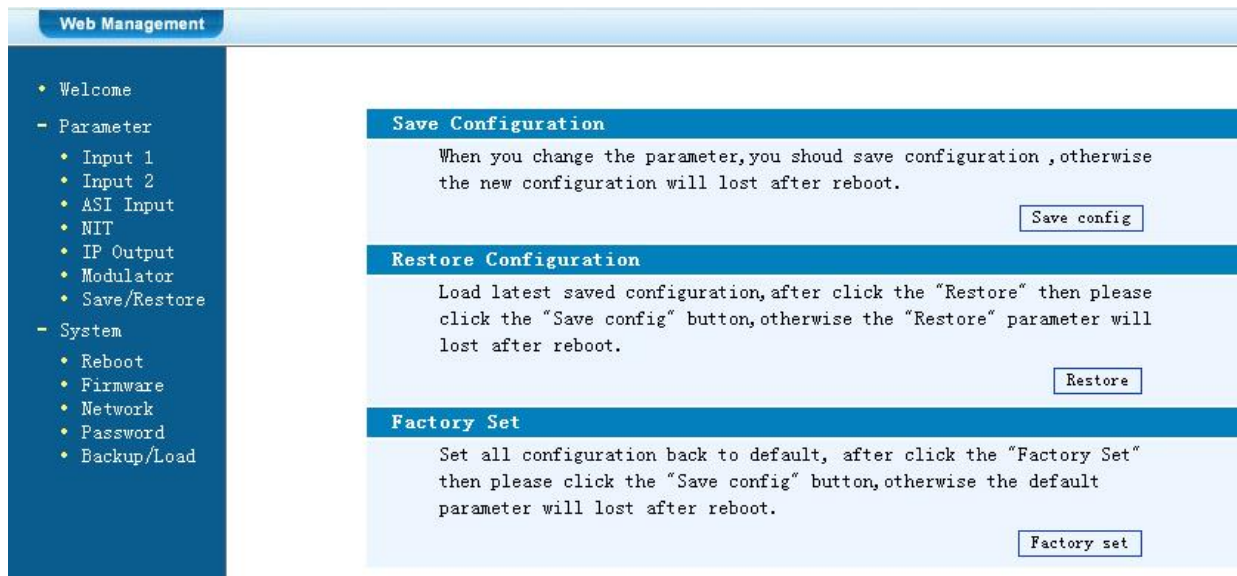
-25 dBm = 84 dB μ V

-20 dBm = 89 dB μ V

-15 dBm = 94 dB μ V

-10 dBm = 99 dB μ V

Save and restore



The screenshot shows the 'Web Management' interface with a left-hand navigation menu and a main content area. The navigation menu includes 'Welcome', 'Parameter' (with sub-items: Input 1, Input 2, ASI Input, NIT, IP Output, Modulator, Save/Restore), and 'System' (with sub-items: Reboot, Firmware, Network, Password, Backup/Load). The main content area has three sections:

- Save Configuration:** A blue header with text: "When you change the parameter, you should save configuration, otherwise the new configuration will be lost after reboot." and a "Save config" button.
- Restore Configuration:** A blue header with text: "Load latest saved configuration, after click the 'Restore' then please click the 'Save config' button, otherwise the 'Restore' parameter will be lost after reboot." and a "Restore" button.
- Factory Set:** A blue header with text: "Set all configuration back to default, after click the 'Factory Set' then please click the 'Save config' button, otherwise the default parameter will be lost after reboot." and a "Factory set" button.

Save Configuration:

Ausgewählte Parameter speichern

Restore Configuration:

Die zuletzt gespeicherten Parameter wiederherstellen.

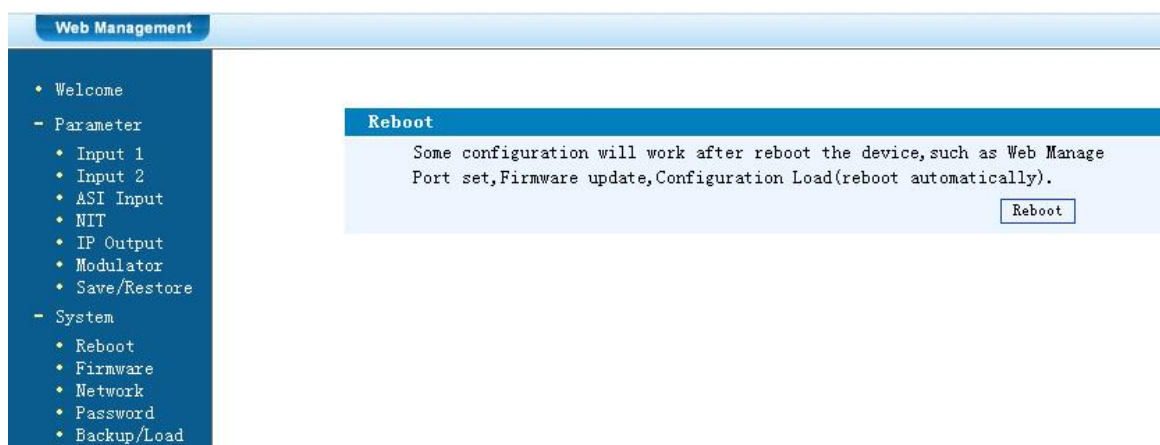
Danach speichern (Save Configuration) da sonst diese Daten bei einem Reboot verloren gehen.

Factory Set:

Werkseinstellungen: Stellt die Default Parameter wieder her.

Reboot

Neustart des Modulators nach Firmware update oder Einstellung anderer Parameter.

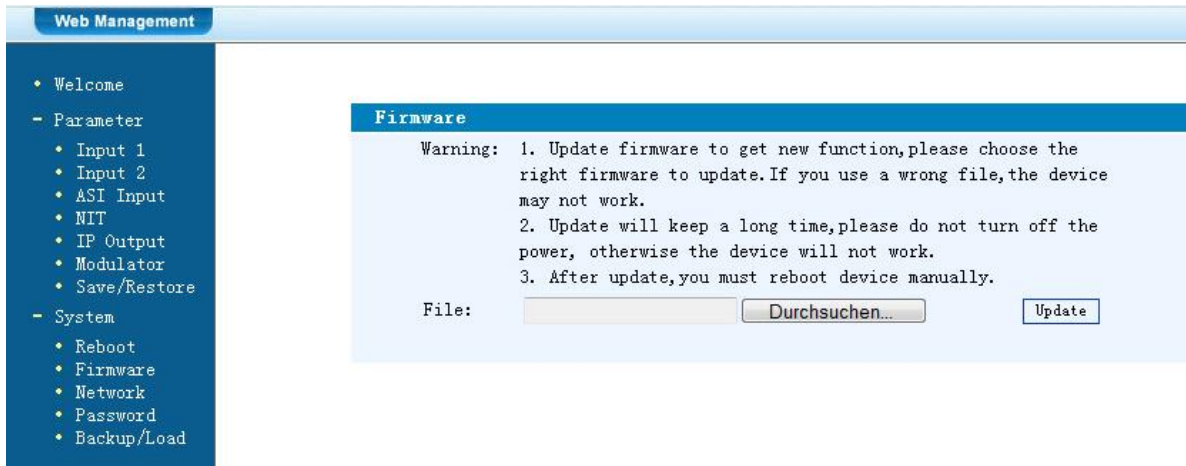


The screenshot shows the 'Web Management' interface with the same navigation menu as above. The main content area has one section:

- Reboot:** A blue header with text: "Some configuration will work after reboot the device, such as Web Manage Port set, Firmware update, Configuration Load (reboot automatically)." and a "Reboot" button.

Firmware Update

Mit "Durchsuchen" den Order mit dem Firmware-Update suchen und Datei auswählen. Danach auf „Update“ klicken.



Web Management

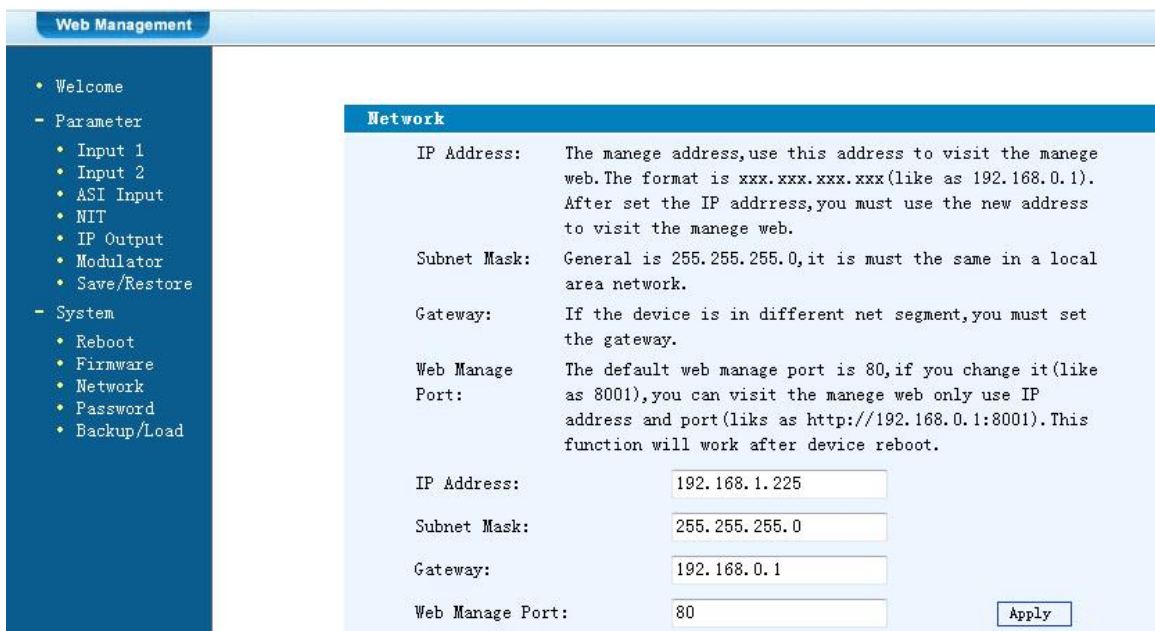
- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Firmware

Warning: 1. Update firmware to get new function, please choose the right firmware to update. If you use a wrong file, the device may not work.
 2. Update will keep a long time, please do not turn off the power, otherwise the device will not work.
 3. After update, you must reboot device manually.

File:

Network / Netzwerkeinstellungen



Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Network

IP Address: The manage address, use this address to visit the manage web. The format is xxx.xxx.xxx.xxx (like as 192.168.0.1). After set the IP address, you must use the new address to visit the manage web.

Subnet Mask: General is 255.255.255.0, it must be the same in a local area network.

Gateway: If the device is in different net segment, you must set the gateway.

Web Manage Port: The default web manage port is 80, if you change it (like as 8001), you can visit the manage web only use IP address and port (like as http://192.168.0.1:8001). This function will work after device reboot.

IP Address:

Subnet Mask:

Gateway:

Web Manage Port:

IP Address:

Einstellung der IP Adresse für den Webbrowser Zugang
 Standard: 192.168.001.225

Subnet Mask:

Standard: 255.255.255.000

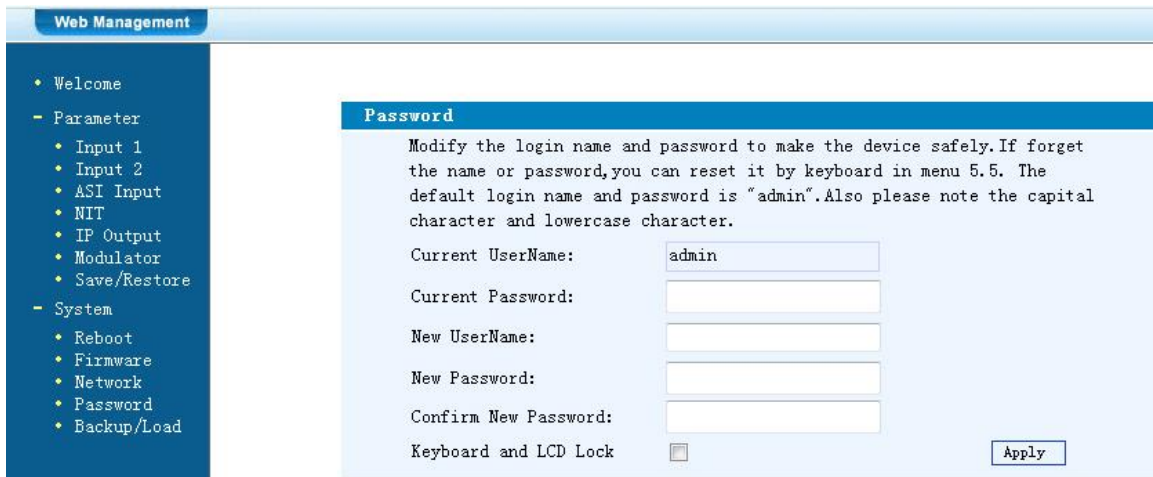
Gateway:

Standard: 192.168.000.001

Web Manager Port:

Standard: 00080

Password / Passwort und User Name ändern



Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Password

Modify the login name and password to make the device safely. If forget the name or password, you can reset it by keyboard in menu 5.5. The default login name and password is "admin". Also please note the capital character and lowercase character.

Current UserName:

Current Password:

New UserName:

New Password:

Confirm New Password:

Keyboard and LCD Lock

Current UserName:

Derzeitiger Benutzername eingeben (default admin)

Current Password:

Derzeitiges Passwort eingeben (default admin)

New UserName:

Neuer Username eingeben

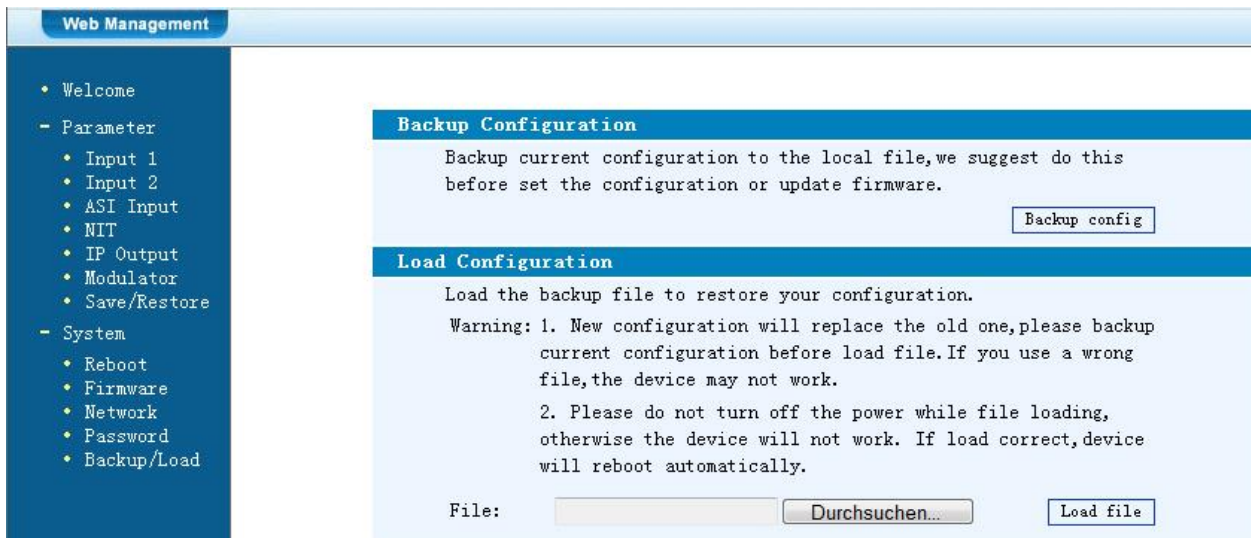
New Password:

Neues Passwort eingeben

Confirm New Password:

Passwort bestätigen

Backup / Load



Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Backup Configuration

Backup current configuration to the local file, we suggest do this before set the configuration or update firmware.

Load Configuration

Load the backup file to restore your configuration.

Warning: 1. New configuration will replace the old one, please backup current configuration before load file. If you use a wrong file, the device may not work.

2. Please do not turn off the power while file loading, otherwise the device will not work. If load correct, device will reboot automatically.

File:

Backup Configuration:

Zum Speichern einer Backupdatei auf PC oder Notebook.

Load Configuration:

Zum Laden einer Backupdatei von PC oder Notebook.

Mit "Durchsuchen" den Ordner mit der Backupdatei suchen und Datei auswählen. Danach auf „Load file“ klicken.

Technische Daten

Typ / Type	HDM 4 C
Artikel-Nr. / Article no.	5741654
Videoformat / Video Encoding	H.264 / Mpeg2
Eingänge / Inputs	4x HDMI, 1x ASI (BNC)
Ausgänge / Outputs RF(F-connector)	1x DVB-C, 2x ASI (BNC), IP (RJ45)
Auflösung / Resolution	1920*1080_60P, 1920*1080_50P ⁽¹⁾ , 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P
Audioformat / Audio Encoding	MPEG1 Layer II
Sampling Rate / Sample rate	48 kHz
Bitrate / Bit rate	64 kbps, 96 kbps, 128 kbps, 192 kbps, 256 kbps, 320 kbps
Ausgang / Output	DVB-C
Bandbreite / Bandwidth	8 MHz
Modulation (gem. DVB-Standard)	16 QAM...256 QAM
Symbolrate / Symbol rate	5...9 Msps
MER	≥42 dB
Ausgangsfrequenz / RF frequency	30...960 MHz, 1 kHz Step
Ausgangspegel / RF output level	-30...-10 dBm (81...97 dBμV), 0,1 dB step
IP-Anschlüsse / IP connectors	RJ45 Ethernet LAN
IP- Verschlüsselungsstandard / IP encoding standard	ETSI TS102034
IP-Datenstrom / IP type of streaming	IPv4 Multicast (SMTP)
Stromversorgung / Power supply	100...240 VAC
Betriebstemperatur / Operation temperature	0...45 °C
Maße (BxHxT) / Dimensions (WxHxD)	482 x 430 x 44 mm
Gewicht / Weight	4,5 kg

HINWEIS

Die meisten TV-Geräte unterstützen den Standard 1080P über den Antenneneingang (Tuner) nicht.

Mounting and safety instructions

Before working on the modulator please read the following safety precautions carefully!



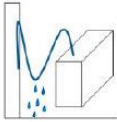
Attention

The rated voltage stated on the device must correspond with the mains voltage. The instructions for operating the device must be observed.



Grounding and potential equalization

Please establish grounding and perform potential equalization before initial startup.



Connection cable

Always install the connection cables with a loop so that no condensed water can penetrate along the cable.

Select installation site

Install only on a solid, plane and at most fire-resistant surface. Avoid strong magnetic fields in the surroundings. Too strong heat effect or accumulation of heat will have an adverse effect on the durability. Don't mount directly over or nearby heating systems, open fire sources or the like, where the device is exposed to heat radiation or oil vapours. Don't block the ventilation slots of devices fitted with fans or heatsinks, as this will cause heat to build up inside the devices and may cause fire. Free air circulation is absolutely necessary to permit the device to function properly. It's imperative to observe the mounting position!



Moisture



Protect the device from high humidity, dripping and splashing water. If there is condensation, wait until the device is completely dry. Operating environment according to the specified IP protection class.

Caution! Danger of life!

According to the currently valid version of EN 60728-11, coaxial receiving and distribution systems must meet the safety requirements regarding grounding, potential equalization, etc., otherwise damage to the product, fire or other hazards may occur. Electrical fuses may only be replaced by authorised specialist persons. For the replacement of electric fuses, only same type and amperage have to be used. In case of damage the device has to be taken out of service.



Mounting and service works

May be only done by authorized staff according to the rules of technology. Devices have to be switched off before starting any maintenance or service work. In order to guarantee interference immunity, all device covers must be screwed tight again after opening.



Thunderstorm

Do not carry out maintenance or repair work on the device due to higher risk of lightning strike.



Ambient temperature

Operation and storage only within the specified temperature range.



Termination

Not used receiver and trunk line outputs have to be terminated with 75 Ohm-resistors.



Caution! Laser beam -> risk of accidents due to blinding!

Don't look into the laser beam or at direct reflexes of reflecting or polished surfaces. There is a danger of injury to the eyes.



Recycling

All of our packaging materials (packaging, identification sheet, plastic foil and bag) are fully recyclable.

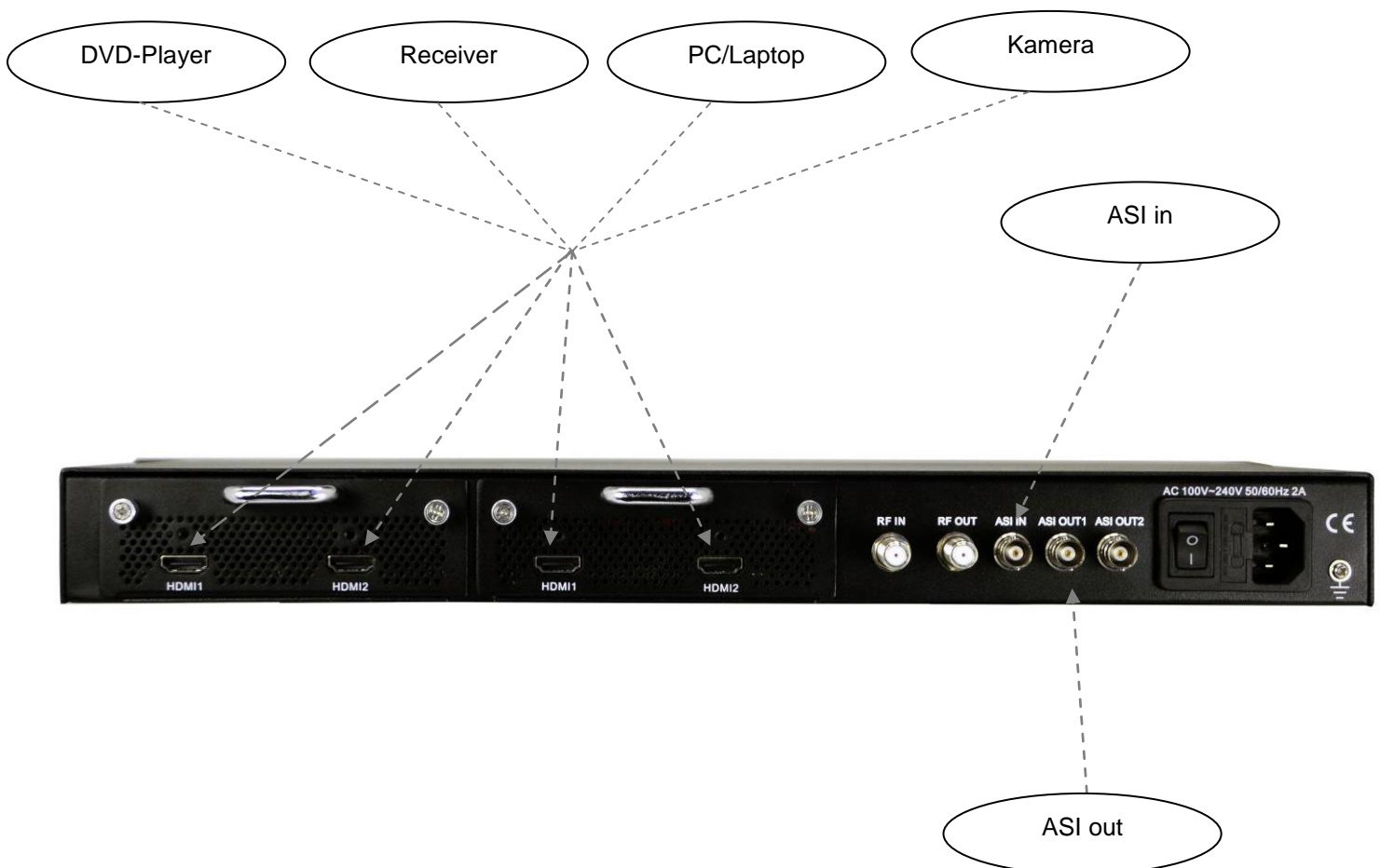
Contents

Mounting and safety instructions	22
Contents	23
Description	23
Display and Buttons	24
Connectors	24
Factory settings	25
Hand programming of the device	26
Programing via web browser (NMS)	31
Specifications.....	41

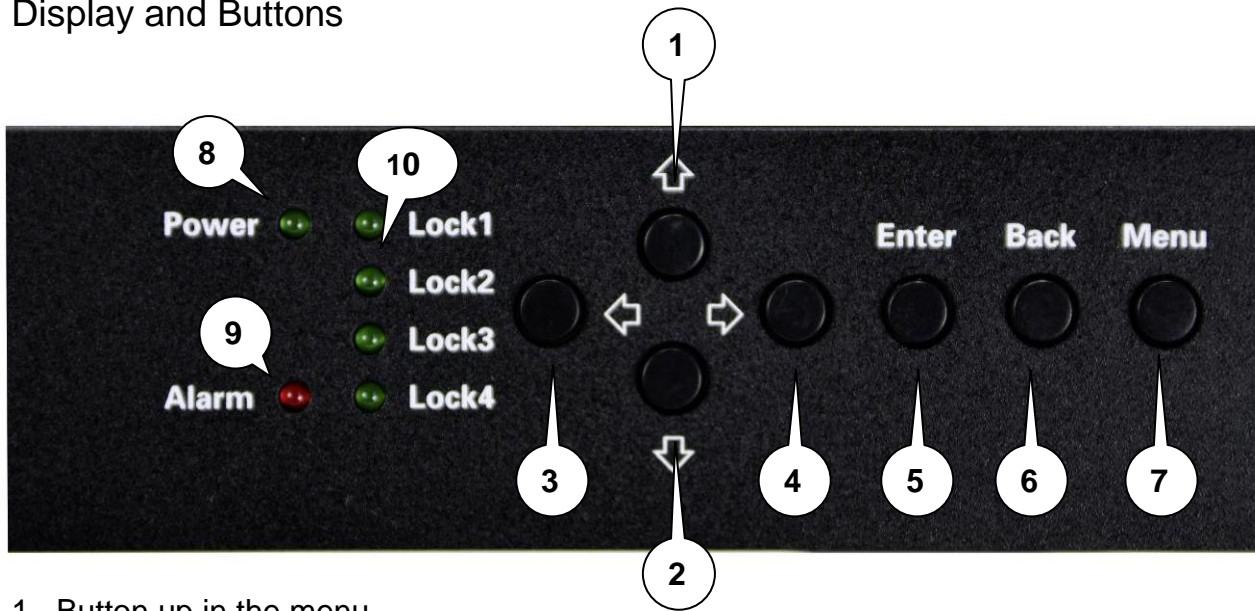
Description

Modulator for converting up to 4 HDMI signals and an ASI transport stream into a DVB-C (QAM) channel. The signals are also available as IP-Stream and can be fed into IPTV networks. The ASI signal is available at two outputs for further processing. The MPEG 2 or MPEG 4 standard can be used as video format. The device is flexible and can process HDMI signals and ASI transport streams from receivers, computers, cameras and DVD players.

NOTE All data will remain intact after a power cut has occurred.

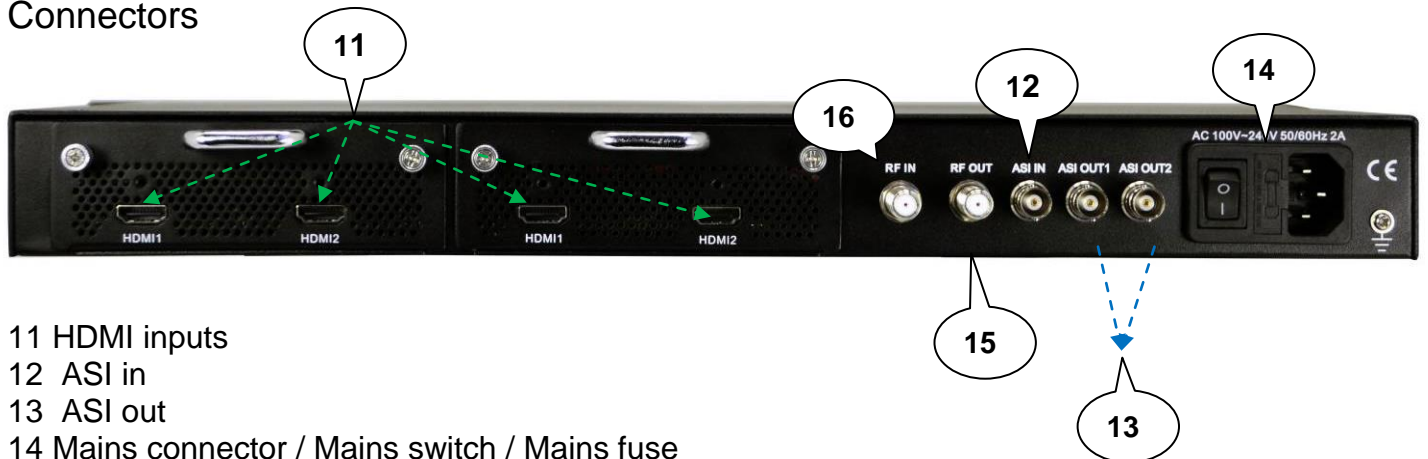


Display and Buttons



- 1 Button up in the menu
- 2 Button down in the menu
- 3 Button left in the menu
- 4 Button right in the menu
- 5 Button Enter (confirm selection)
- 6 Button Back (in menu one step back)
- 7 Button Menu (go inside menu and out)
- 8 Indicate Operating voltage
- 9 Indicate Alarm, if there is no signal
- 10 Indicate if there is a signal

Connectors



- 11 HDMI inputs
- 12 ASI in
- 13 ASI out
- 14 Mains connector / Mains switch / Mains fuse
- 15 RF-Output
- 16 Combining-input (for external signal sources)



- 17 LAN input for programming via web browser
- 18 IP output

Factory settings

The HDM devices are preconfigured in the delivery state according to the hardware configuration. The input signals are defined as H.264 signals. The modulator outputs are all active. The signal of the modulator A is provided at the ASI output.

Note

The modulators of the DVB-C devices are pre-configured according standard J.83A (DVB-C Annex A)!

The delivery status can be established at any time by "Factory set". All transport stream information is given neutral and can be adapted to the requirements of the cable network operator.

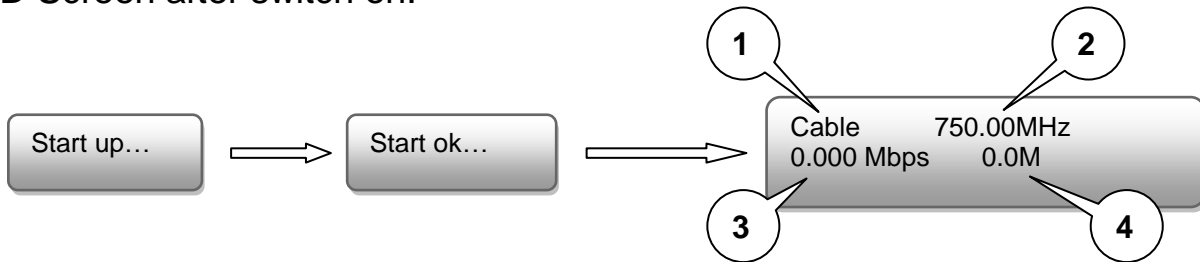
The basic settings of the devices are shown below:

	HDM 4 C
Network*	
NMS IP Address	192.168.001.225
Subnet Mask	255.255.255.000
Gateway	192.168.000.001
Web NMS Port	80
Login Username	admin
Login Password	admin
Input 1/2	
Video Format	H.264
Aspect Ratio	Auto
Low delay	Normal
Video Bit Rate (Mbps)	8
H.264 Profile	High Profile
H.264 Level	Level 4.0
Audio Format	Mpeg 2
Audio Bit Rate	192 kbps
Audio Gain (0...400%)	100%
IP Output	all streams are activated
SPTS1	224.002.002.002 Port 2234 UDP
SPTS2	224.002.002.002 Port 2236 UDP
SPTS3	224.002.002.002 Port 2238 UDP
SPTS4	224.002.002.002 Port 2240 UDP
MPTS	224.002.002.002 Port 2242 UDP
Service IP	192.168.002.137
Subnet Mask	255.255.255.000
Gateway	192.168.002.000
Modulator	
Standard	J.83A (DVB-C Annex A)
Constellation	256 QAM
Symbol Rate	6.9 Msps
RF Frequency	306.00 / 314.00 / 322.00 / 330.00 MHz
RF Output level	-16.0 dBm
Output E Bit Rate (ASI)	60.00 Mbps

* If the delivery status is re-established, the network settings remain unchanged in accordance with the most recently saved configurations.

Hand programming of the device

LCD Screen after switch on:



1. Shows the modulation of the output signal
2. Output frequency
3. Data rate of the output signal
4. Not relevant

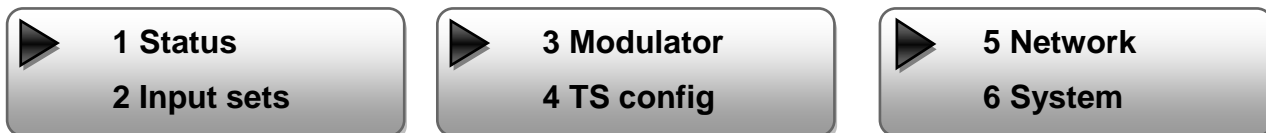
Over view Main menu:

The main menu occurs after pushing the button "Menu".

Menu navigation by using arrow buttons.

Setting confirmation by "Enter".

One step back through pushing button "Back"

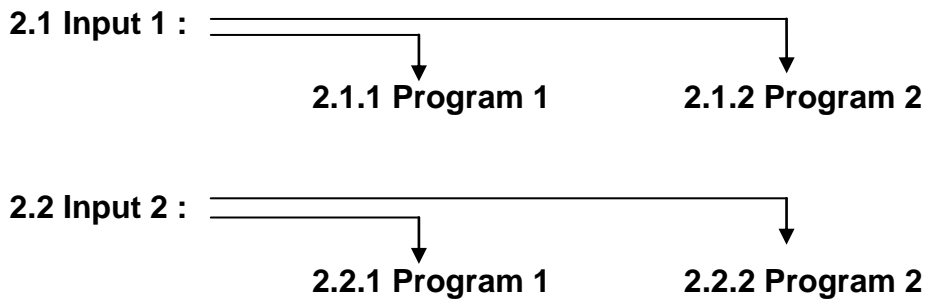


1. Alarm Status

If there is no signal at the input, the menu point "Alarm Status" will be shown: "No video in" and the alarm indicator (9) turns on. This lights also red if a bit rate overflow occurs at the output.

2. Encode Settings

The 4 Inputs are to select as follows:



Video Format:

Mpeg2 or H.264 / Default: H.264

Low delay:

Normal, Mode 1, Mode 2 / Default: Normal

Video Bit Rate:

Set value between 1 and 19 Mbps / Default: 8 Mbps

Audio Format:

Mpeg2, Mpeg2 AAC or Mpeg4 AAC / Default: Mpeg2

Audio Bit Rate:

Select: 64, 96, 128, 192, 256, 320 kbps. / Default: 192 kbps.

Program info / Program name / Service name / PIDs :

Channel specific changings can be done.

2.3 ASI

Parse Program:

It is a read-only interface for checking the quantity of ASI input program.

Select Program:

√: The program is selected to multiplexed and output.

X: The program is not selected to multiplexed and output.

3. Modulate Setting


3.x Output:

Selection: A, B, C, D

 **3.1 Output A**
3.2 Output B

3.x.1 RF on:

RF (DVB-C) on or off
Default: on

 **3.x.1 RF on**
3.x.2 Standard

3.x.2 Standard:

Selection: J.83A, J.83B, J.83C
Default: J.83A (DVB-C)

3.x.3 Constellation:

Selection 16 QAM, 32 QAM, 64 QAM,
128 QAM, 256 QAM
Default: 256 QAM

 **3.x.3 Constellation**
3.x.4 Symbol rate

3.x.4 Symbol Rate:

Selection: 5 to 9 Msps
Default: 6,9 Msps

3.x.5 RF Frequency:

Range: 30-960 MHz
Default: 306/314/322/330 MHz

 **3.5 Frequency**
3.6 RF out level

3.x.6 RF output level:

Level range: -30 dBm to -10 dBm

-30 dBm = 79 dB μ V -25 dBm = 84 dB μ V
-20 dBm = 89 dB μ V -15 dBm = 94 dB μ V
-10 dBm = 99 dB μ V

3.x.7 ASI output:

Select: ABCD

 **3.7 ASI output**

4. TS config

Adjust TSID and ONID

5. Network Settings

5.1 NMS Anschluss für programmieren über Software einstellen

5.1.1 NMS IP Address:

Adjustment for the IP Address
For the web browser access.
Default: 192.168.001.225



5.1.1 NMS IP Address
5.1.2 Subnet mask

5.1.2 Subnet Mask:

Default: 255.255.255.000

5.1.3 Gateway:

Default: 192.168.000.001



5.1.3 Gateway
5.1.4 MAC Address

5.1.4 MAC Address:

Unique address from the producer.

5.1.5 Web NMS Port:

Default: 00080



5.1.5 Web NMS Port
5.1.6 Reset Password

5.1.6 Reset Password:

Select "Yes" or "No". Restore the default password and username.
„Default“ (Password: admin and username: admin).

5.2 IP Stream: Adjustments for the IP Stream

5.2.x IP Output:

Select: 1, 2, 3, 4

Data enable:

IP output enable/ON or disable/OFF
Default: enable/ON




Data enable
Null PKT Filter

Null package Filter:

Filter Yes or No
Default: Yes

Output IP:

Multicast IP Address of the data stream
Default: 224.002.002.002
VLC Player: **udp://@ 224.002.002.002**



Output IP
Port

Port:

Default: OUT1 = 02234, OUT2 = 02236,
OUT3 = 02238, OUT4 = 02240

Service IP:

Input-IP address of the modulator
Default: 192.168.002.137

Subnet Mask:

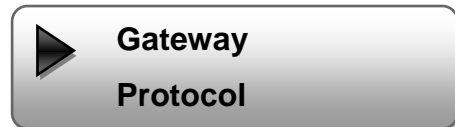
Standard: 255.255.255.000

Gateway:

Standard: 192.168.002.000

Protocol:

Standard: UDP



6. System

6.1 Save config /

Select: „Yes“ or „No“

6.2 Load saved CFG

Select: „Yes“ or „No“.

6.3 Factory reset

Select: „Yes“ or „No“.

Attention: The output parameters have to set after a reset, to the default values from the user manual.

6.4 LCD timeout

Select: 5s, 10s, 30s, 45s, 60s, 90s, 120s.

Default: 30s

6.5 Version

Software and Hardware version

Programing via web browser (NMS)

Connect PC or laptop, via standard network cable, with the NMS-socket.

If you use a Proxy server, please deactivate them in the network settings.

The PC has to be in the same network like the modulator. Default IP address of the device is 192.168.001.225. The PC needs in this case the IP address: 192.168.001.xxx. Not allowed is 0, 255 or already used ip addresses. This settings can be done in Windows -> Network connections -> LAN connection.

IP address to enter the web browser:

<http://192.168.001.225>

Username: admin

Password: admin



Overview page

Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Cable Encoder Modulator

Version Information

Software Version:	1.07hs Build 123 May 18 2013
Hardware Version:	7.4
Web Version:	1.02

Status Information

Input	Input 1	Input 2	ASI
Interface:	HDMI	HDMI	ASI
Bitrate:	15.606 Mbps	16.771 Mbps	0.000 Mbps

Output	Output A	Output B	Output C	Output D
Maxout Bitrate:	50.686	50.686	50.686	50.686
	Mbps	Mbps	Mbps	Mbps
Current Bitrate:	7.660	8.016	8.308	8.531
	Mbps	Mbps	Mbps	Mbps
TS Overflow:	●	●	●	●
RF Frequency:	474.000	482.000	490.000	498.000
	MHz	MHz	MHz	MHz
RF Outlevel:	-10.0 dBm			

On the overview page are all parameters visible.

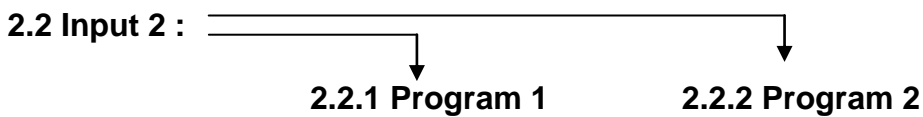
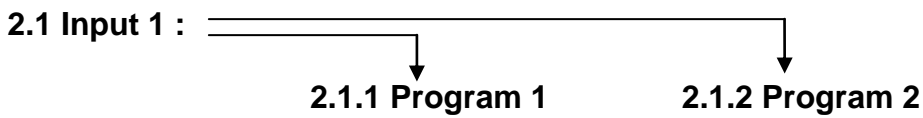
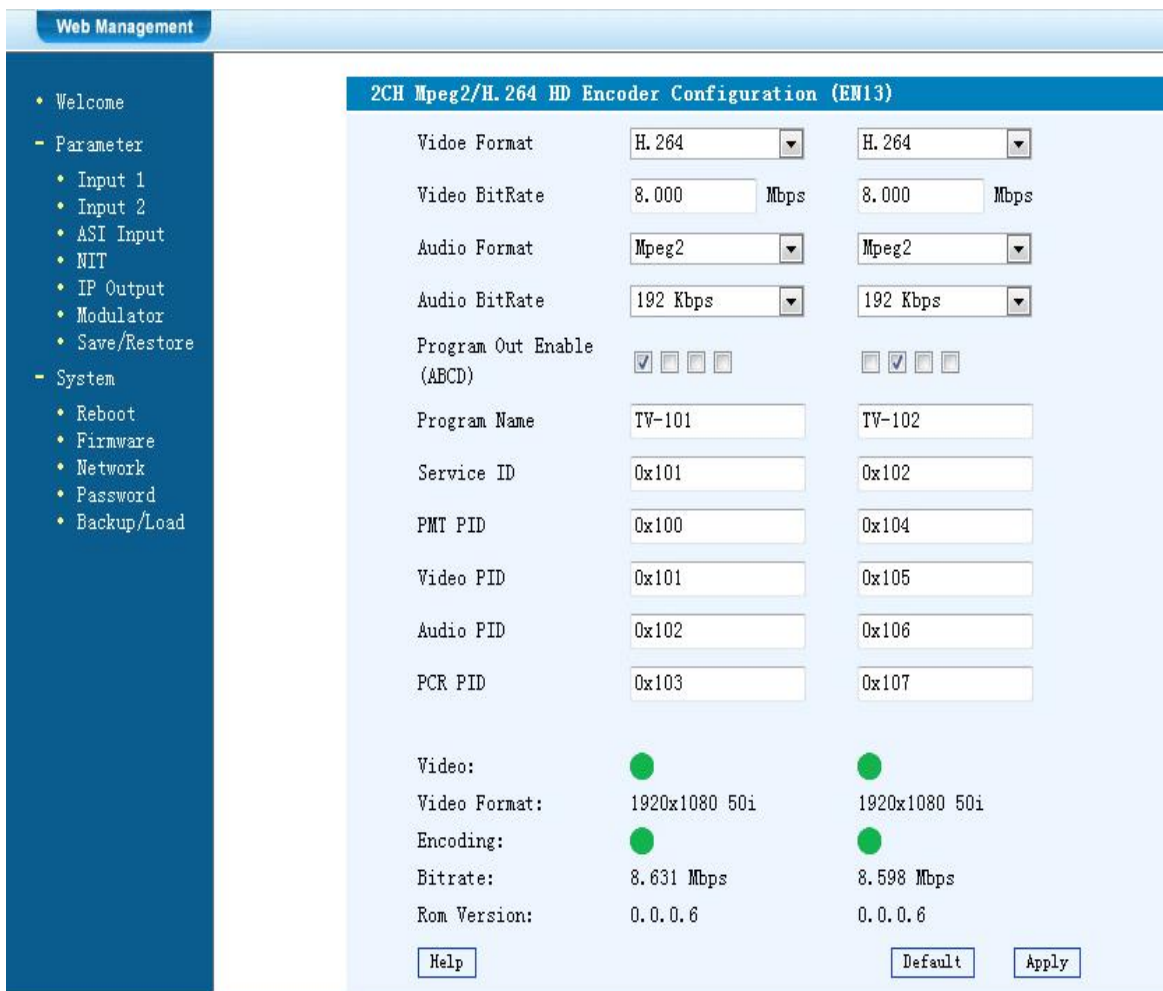
Displayed is the version of the software, hardware and web interface.

Additionally shown is current information about the input and output signal.

In the left column can all adjustable parameters be selected.

Input Settings

The 4 Inputs are to select as follows:

The screenshot displays the 'Web Management' interface for a 2CH Mpeg2/H.264 HD Encoder Configuration (EN13). The left sidebar contains a navigation menu with 'Parameter' expanded to show 'Input 1' and 'Input 2'. The main content area shows configuration for two programs, Program 1 and Program 2.

Parameter	Program 1	Program 2
Video Format	H.264	H.264
Video BitRate	8.000 Mbps	8.000 Mbps
Audio Format	Mpeg2	Mpeg2
Audio BitRate	192 Kbps	192 Kbps
Program Out Enable (ABCD)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Program Name	TV-101	TV-102
Service ID	0x101	0x102
PMT PID	0x100	0x104
Video PID	0x101	0x105
Audio PID	0x102	0x106
PCR PID	0x103	0x107
Video:	●	●
Video Format:	1920x1080 50i	1920x1080 50i
Encoding:	●	●
Bitrate:	8.631 Mbps	8.598 Mbps
Rom Version:	0.0.0.6	0.0.0.6

Buttons: Help, Default, Apply

Video Format:

Mpeg2 or H.264

Standard: H.264

Video Bit Rate:

Set value between 1 and 19 Mbps

Default: 8 Mbps

Audio Format:

Mpeg2, Mpeg2 AAC or Mpeg4 AAC

Standard: Mpeg2

Audio Bit Rate:

Selection: 64, 96, 128, 192, 256, 320 kbps.

Default: 192 kbps.

Program Out enable:

If there is no signal only the channel name will be shown.

If an input is not used, the program can be here switched off.

With the hook you choose also the output channel (A up to D)

Program Name:

Assign a free selectable name to the program.

Service ID, PMI, Video, Audio und PCR PID:

The system creates automatically the default settings.

Is the PID already used in the system, the user has to change this settings.

Video and Encoding:

The points should light green.

Video Format:

The format of the input signal is shown.

Bitrate:

Displays the current encoding bitrate.

Apply:

Click this button to apply the modified parameters.

Default:

Click this button to apply the default setting.

ASI Input



PID Pass:

Is the PID already used in the system, the user has to change this settings.

Passthrough:

Only the selected ASI programs are modulated at the output.

Multiplex:

ASI programs can be mixed with HDMI inputs.

Input Program:

All programs in the ASI stream are displayed.

Output Program:

The selected modulated programs are displayed.

Refresh Input:

Click on "Refresh Input" to refresh the input program list.

Refresh Output:

Click on "Refresh Output" to refresh the output program list.

Select Program:

At the input selected programs, add to the output.

Cancel Program:

Remove the selected programs on the output.

All Input / All Output:

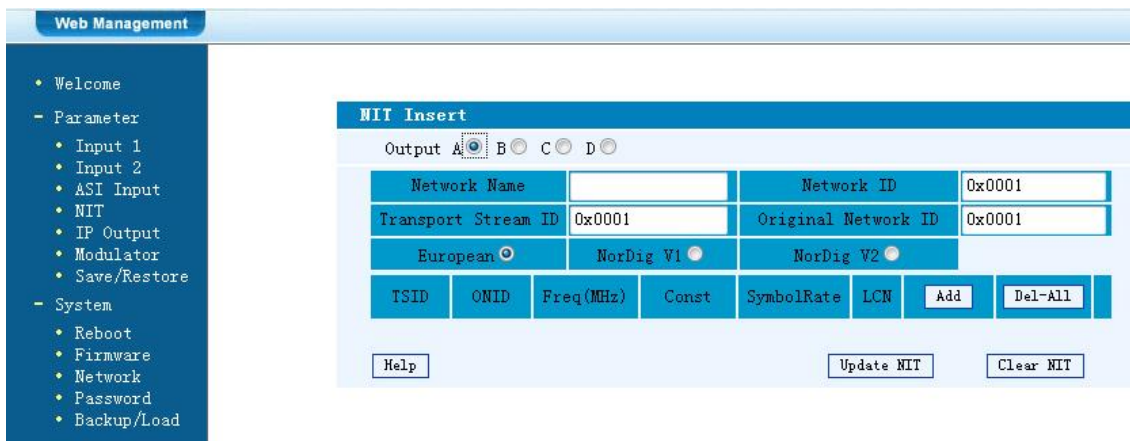
To select all the input/output programs with one-time clicking.

Parse timeout:

Time limitation to parse the input programs.

NIT

The NIT settings have only to be modified in large networks.



The screenshot shows a web management interface with a sidebar menu and a main content area. The sidebar menu includes:

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

The main content area displays the "NIT Insert" configuration page. At the top, there are radio buttons for "Output A", "B", "C", and "D", with "A" selected. Below this is a table for NIT configuration:

Network Name		Network ID	0x0001
Transport Stream ID	0x0001	Original Network ID	0x0001
European	<input checked="" type="radio"/>	NorDig V1	<input type="radio"/>
		NorDig V2	<input type="radio"/>

Below the table is a header row for a list of NIT entries:

TSID	ONID	Freq(MHz)	Const	SymbolRate	LCN	Add	Del-All
------	------	-----------	-------	------------	-----	-----	---------

At the bottom of the page, there are three buttons: "Help", "Update NIT", and "Clear NIT".

IP Output

Settings for IP output

Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

IP Output Configuration

IP Output Enable: If not set, the following parameters will be no use, the IP Output will not work.

Service IP: The IP Output port address. The format is xxx.xxx.xxx.xxx (like as 192.168.2.137).

Output IP: The IP Output data receive address. The format is xxx.xxx.xxx.xxx (like as 224.2.2.2). After set the Output IP address, you must use the new address to receive IP Output data.

Subnet Mask: General is 255.255.255.0, it is must the same in a local area network.

Gateway: If the device is in different net segment, you must set the gateway.

Port: The UDP/RTP protocol port (like as 8001), you should use Output IP and new port to receive IP Output data (like as udp://224.2.2.2:8001).

Protocol: Turn on/off RTP protocol

IP Output Enable (ABCD):

Filter Null Pkt (ABCD):

Output IP A:	<input type="text" value="224.2.2.2"/>	Port:	<input type="text" value="1234"/>	Protocol:	<input type="text" value="UDP"/>
Output IP B:	<input type="text" value="224.2.2.2"/>	Port:	<input type="text" value="1236"/>	Protocol:	<input type="text" value="UDP"/>
Output IP C:	<input type="text" value="224.2.2.2"/>	Port:	<input type="text" value="1238"/>	Protocol:	<input type="text" value="UDP"/>
Output IP D:	<input type="text" value="224.2.2.2"/>	Port:	<input type="text" value="1240"/>	Protocol:	<input type="text" value="UDP"/>

Service IP:

Subnet Mask:

Gateway:

IP Output:
IP output ON or OFF

Service IP:
Input-IP address of the modulator
Default: 192.168.002.137

Output IP:
Multicast IP address of the data stream
Default: 224.002.002.002

Subnet Mask:
Default: 255.255.255.000

Gateway:
Default: 192.168.002.000

Port:
Default: A=02234, B=02236, C=02238, D=02240

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Modulator

Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Modulator Configuration

RF On (ABCD)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		
Standard	<input type="text" value="J.83A (DVB-C)"/>		
Constellation	<input type="text" value="256 QAM"/>		
Symbol Rate	<input type="text" value="6.875"/>	Msp/s	(5.000 - 9.000 Msp/s)
RF Frequency A	<input type="text" value="474.000"/>	MHz	(30.000 - 1000.000 MHz)
RF Frequency B	<input type="text" value="482.000"/>	MHz	(30.000 - 1000.000 MHz)
RF Frequency C	<input type="text" value="490.000"/>	MHz	(30.000 - 1000.000 MHz)
RF Frequency D	<input type="text" value="498.000"/>	MHz	(30.000 - 1000.000 MHz)
RF Outlevel	<input type="text" value="-10.0"/>	dBm	(-30.0 - 0.0 dBm)
ASI Output	<input type="text" value="Output A"/>		

Standard:

Selection: J.83A, J.83B, J.83C

Default: J.83A (DVB-C)

Constellation:

Selection: 16 QAM, 32 QAM, 64 QAM, 128 QAM, 256 QAM

Default: 256 QAM

Symbol Rate:

Selection: 5 to 9 Msp/s

Default: 6,9 Msp/s

RF Frequency:

Range: 30-960 MHz

Default: 306/314/322/330 MHz

RF output level:

Range -30 dBm to -10 dBm

-30 dBm = 79 dB μ V

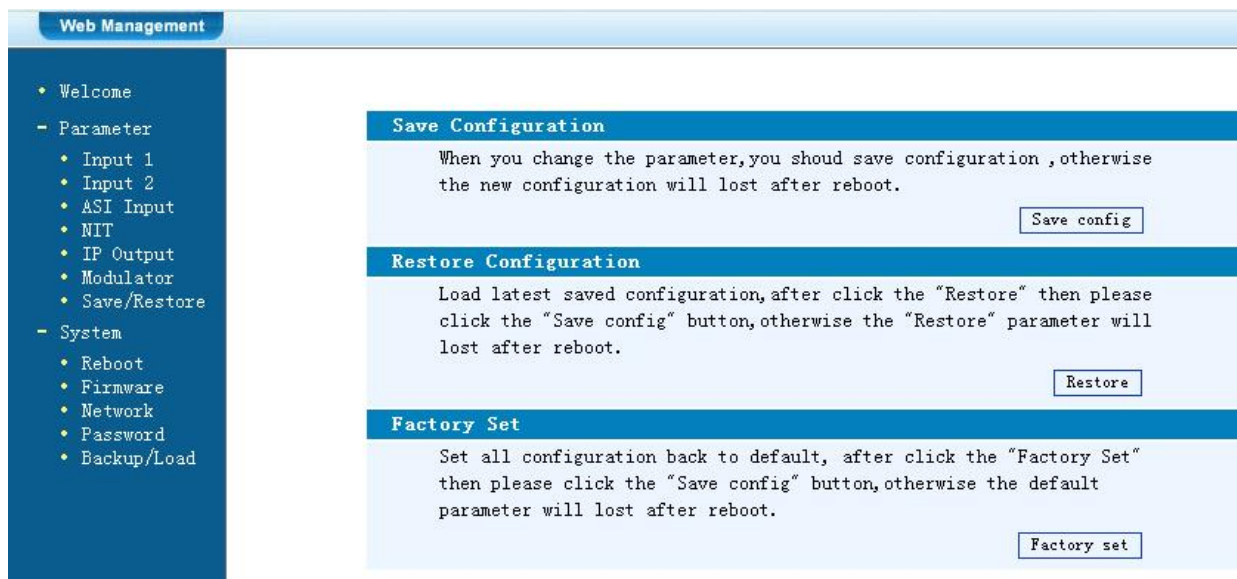
-25 dBm = 84 dB μ V

-20 dBm = 89 dB μ V

-15 dBm = 94 dB μ V

-10 dBm = 99 dB μ V

Save and restore



The screenshot shows a web management interface with a left sidebar and a main content area. The sidebar is titled "Web Management" and contains a tree view with the following items:

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

The main content area has three sections:

- Save Configuration**: When you change the parameter, you should save configuration, otherwise the new configuration will be lost after reboot.
- Restore Configuration**: Load latest saved configuration, after click the "Restore" then please click the "Save config" button, otherwise the "Restore" parameter will be lost after reboot.
- Factory Set**: Set all configuration back to default, after click the "Factory Set" then please click the "Save config" button, otherwise the default parameter will be lost after reboot.

Save Configuration:

Save settings

Restore Configuration:

Restore the last saved parameters. Save after (Save Configuration).

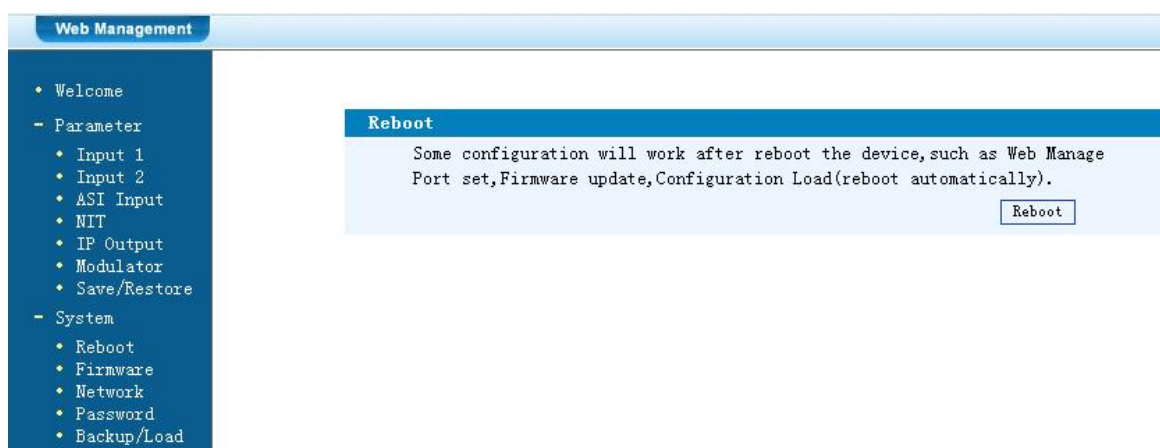
If not, the settings will be lost after the next reboot.

Factory Setting:

Restore the default settings.

Reboot

Reboot after firmware update or using new adjustments.

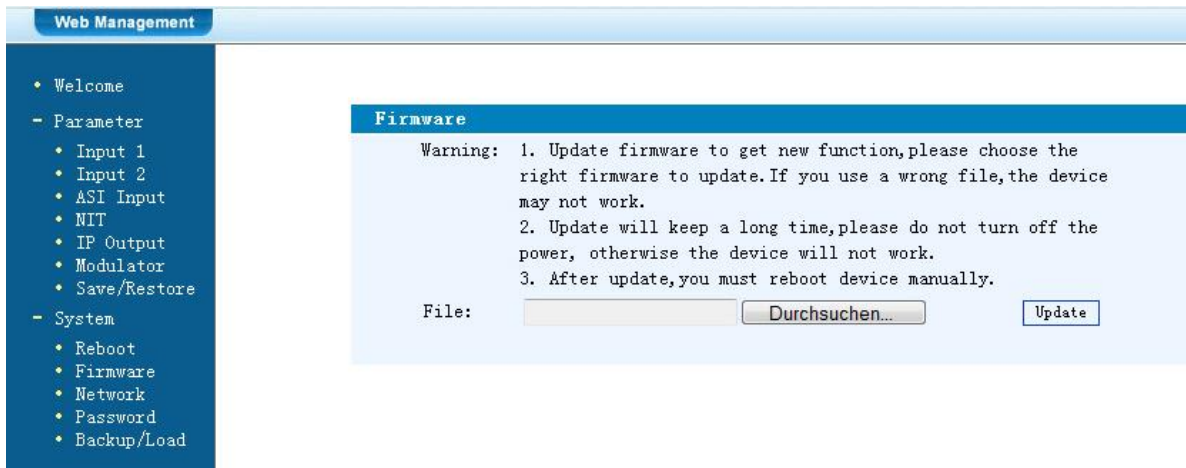


The screenshot shows the same web management interface as above, but with the "Reboot" option selected in the main content area. The sidebar remains the same. The main content area has one section:

- Reboot**: Some configuration will work after reboot the device, such as Web Manage Port set, Firmware update, Configuration Load (reboot automatically).

Firmware Update

Choose with “Search or Find”, the directory where the firmware update is located. Then click to the button „Update“.



Web Management

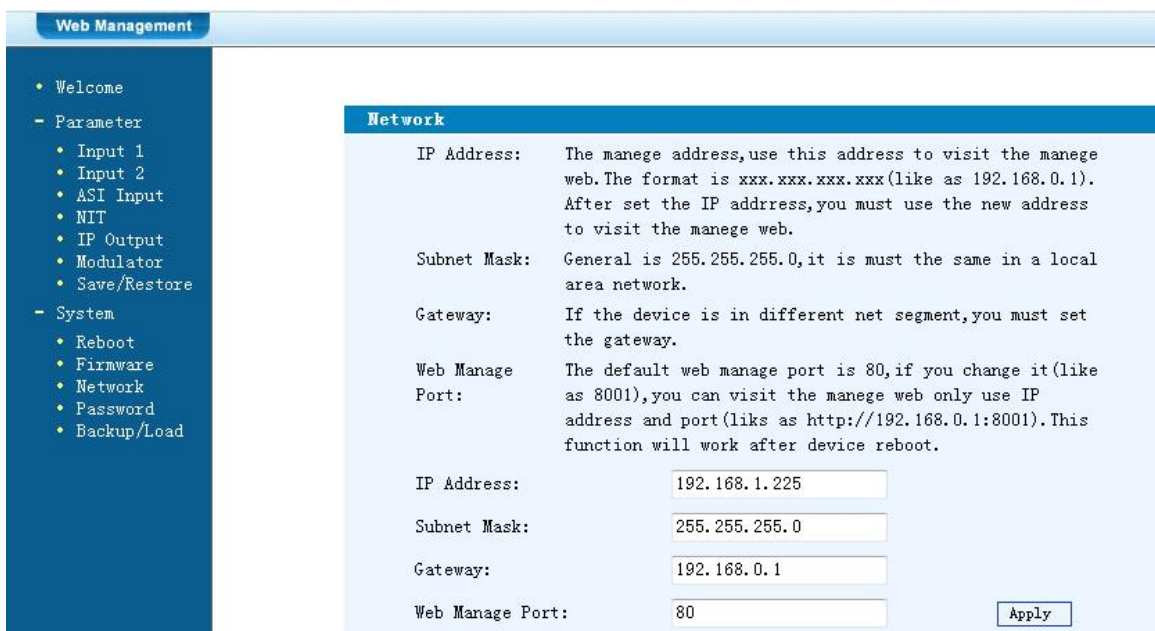
- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Firmware

Warning: 1. Update firmware to get new function, please choose the right firmware to update. If you use a wrong file, the device may not work.
 2. Update will keep a long time, please do not turn off the power, otherwise the device will not work.
 3. After update, you must reboot device manually.

File:

Network



Web Management

- Welcome
- Parameter
 - Input 1
 - Input 2
 - ASI Input
 - NIT
 - IP Output
 - Modulator
 - Save/Restore
- System
 - Reboot
 - Firmware
 - Network
 - Password
 - Backup/Load

Network

IP Address: The manage address, use this address to visit the manage web. The format is xxx.xxx.xxx.xxx (like as 192.168.0.1). After set the IP address, you must use the new address to visit the manage web.

Subnet Mask: General is 255.255.255.0, it must be the same in a local area network.

Gateway: If the device is in different net segment, you must set the gateway.

Web Manage Port: The default web manage port is 80, if you change it (like as 8001), you can visit the manage web only use IP address and port (like as http://192.168.0.1:8001). This function will work after device reboot.

IP Address:

Subnet Mask:

Gateway:

Web Manage Port:

IP Address:

IP address for web browser access

Default: 192.168.0.1.225

Subnet Mask:

Default 255.255.255.000

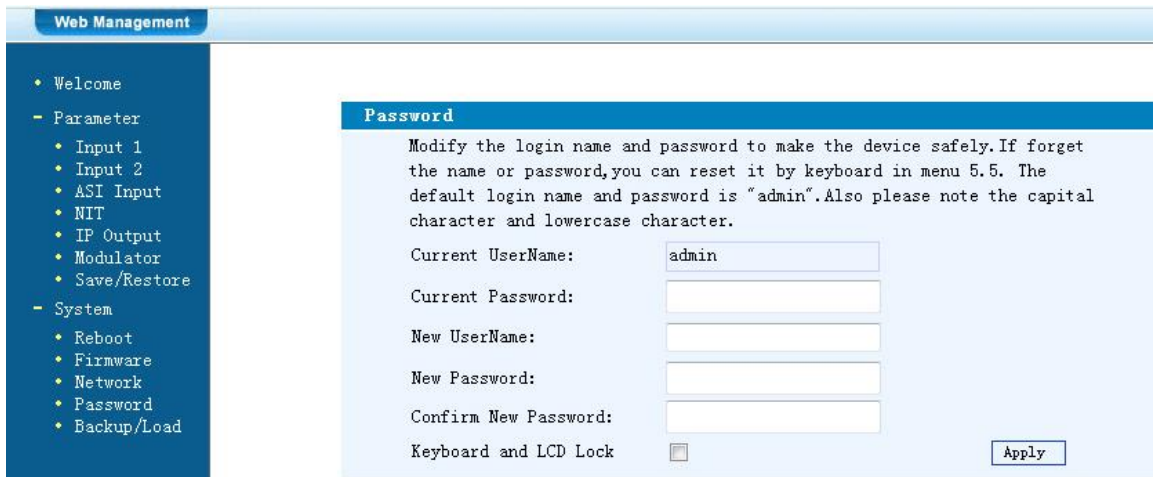
Gateway:

Default 192.168.0.001

Web Manager Port:

Default 00080

Password



The screenshot shows the 'Web Management' interface with a sidebar menu on the left and a main content area. The sidebar menu includes 'Welcome', 'Parameter' (with sub-items: Input 1, Input 2, ASI Input, NIT, IP Output, Modulator, Save/Restore), and 'System' (with sub-items: Reboot, Firmware, Network, Password, Backup/Load). The main content area is titled 'Password' and contains the following text: 'Modify the login name and password to make the device safely. If forget the name or password, you can reset it by keyboard in menu 5.5. The default login name and password is "admin". Also please note the capital character and lowercase character.' Below this text are five input fields: 'Current UserName:' (containing 'admin'), 'Current Password:', 'New UserName:', 'New Password:', and 'Confirm New Password:'. There is also a checkbox for 'Keyboard and LCD Lock' and an 'Apply' button.

Current UserName:

Enter current UserName (default admin)

Current Password:

Enter current Password (default admin)

New UserName:

Enter new UserName

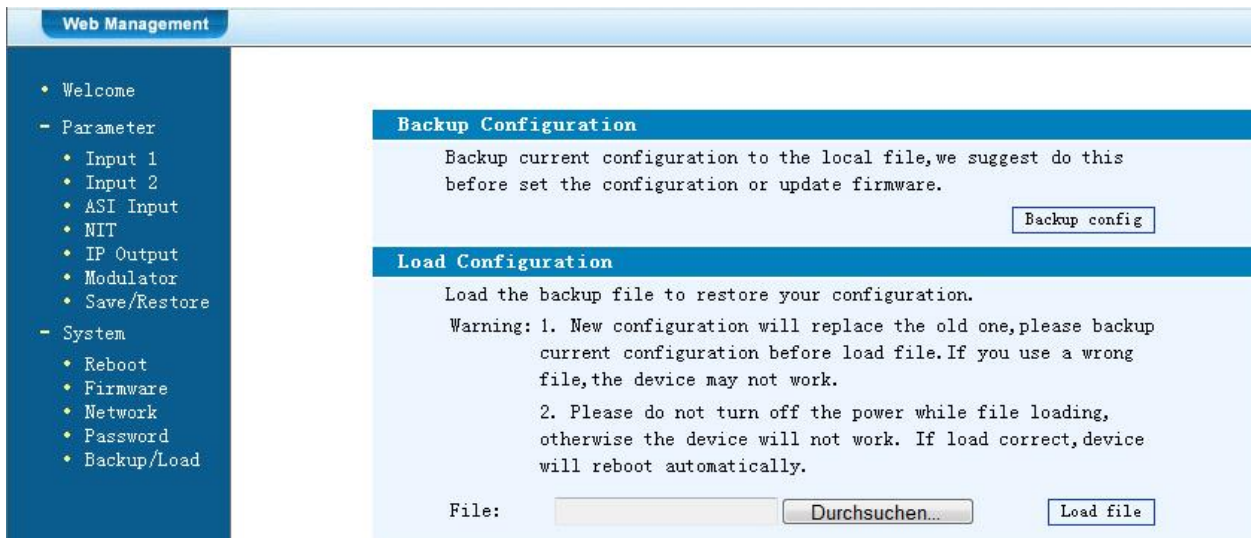
New Password:

Enter new Password

Confirm New Password:

Confirm the new password

Backup / Load



The screenshot shows the 'Web Management' interface with a sidebar menu on the left and a main content area. The sidebar menu is identical to the previous screenshot. The main content area is titled 'Backup Configuration' and contains the following text: 'Backup current configuration to the local file, we suggest do this before set the configuration or update firmware.' Below this text is a 'Backup config' button. Below the 'Backup Configuration' section is the 'Load Configuration' section, which contains the following text: 'Load the backup file to restore your configuration. Warning: 1. New configuration will replace the old one, please backup current configuration before load file. If you use a wrong file, the device may not work. 2. Please do not turn off the power while file loading, otherwise the device will not work. If load correct, device will reboot automatically.' Below this text is a 'File:' label, an input field, a 'Durchsuchen...' button, and a 'Load file' button.

Backup Configuration:

Save a backup file on PC or notebook.

Load Configuration:

Load a backup file from PC or notebook.

Choose with "Search or Find", the directory where the backup file is located.

Then click to the button „Load file“

Specifications

Typ / Type	HDM 4 C
Artikel -Nr. / Article no.	5741654
Videoformat / Video Encoding	H.264 / Mpeg2
Eingänge / Inputs	4x HDMI, 1x ASI (BNC)
Ausgänge / Outputs RF(F-connector)	1x DVB-C, 2x ASI (BNC), IP (RJ45)
Auflösung / Resolution	1920*1080_60P, 1920*1080_50P ⁽¹⁾ , 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P
Audioformat / Audio Encoding	MPEG1 Layer II
Sampling Rate / Sample rate	48 kHz
Bitrate / Bit rate	64 kbps, 96 kbps, 128 kbps, 192 kbps, 256 kbps, 320 kbps
Ausgang / Output	DVB-C
Bandbreite / Bandwidth	8 MHz
Modulation (gem. DVB-Standard)	16 QAM...256 QAM
Symbolrate / Symbol rate	5...9 Msps
MER	≥42 dB
Ausgangsfrequenz / RF frequency	30...960 MHz, 1 kHz Step
Ausgangspegel / RF output level	-30...-10 dBm (81...97 dBμV), 0,1 dB step
IP-Anschlüsse / IP connectors	RJ45 Ethernet LAN
IP- Verschlüsselungsstandard / IP encoding standard	ETSI TS102034
IP-Datenstrom / IP type of streaming	IPv4 Multicast (SMTP)
Stromversorgung / Power supply	100...240 VAC
Betriebstemperatur / Operation temperature	0...45 °C
Maße (BxHxT) / Dimensions (WxHxD)	482 x 430 x 44 mm
Gewicht / Weight	4,5 kg

(1) Please note. Most of the TVs doesn't support standard 1080P via the antenna input (tuner).

Notizen/Notes

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