

- ✓ *HDMI full-HD video/audio input*
- ✓ *Integrated H.264 Encoder and COFDM DVB-T Modulator*
- ✓ *Front-panel programmable operation*
- ✓ *Works with any RF coax, fiber or TVoTP wideband amplifier/distribution network*
- ✓ *Very economic*
- ✓ *Plug-and-play robust alternative to HDMI extenders*
- ✓ *Building block for TV head-end*
- ✓ *Building block for Multisource Multiroom HD system*
- ✓ *Digital Signage, Hospitality, Residential, Public spaces*

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## Main features

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ABI-MD3001S0T is an integrated encoder/modulator that converts a Full-HD HDMI video/audio signal (from a Satellite receiver, Media player, PC, Blue-ray player, HD camera) to a DVB-T VHF or UHF signal, that can be received by any compliant SetTopBox or TV tuner.

The device can be deployed in both private and professional environments:

- Send HD pictures and video in sports bars, fitness centres, stores, hotel lobby, travel station, waiting room,...
- Build a compact TV head-end for hotels, hospitality, trading rooms,...
- Create a reliable and flexible HD Multisource Multiroom residential distribution system

The small size allows easy integration into shallow enclosures, overhead plenum, furniture, switchboard panels.

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## Safety

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- All the safety and operating instructions should be read before the product is operated.
- Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered.
- This product should be operated only from the type of power source delivered with the product.
- If an outside antenna or cable system is connected to the product, make sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges.
- For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- Do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

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## Characteristics

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### INPUT signals

- Feedthrough VHF-UHF : RF 50-862MHz on F female connector
- Video & Audio input : HDMI on HDMI Type A female connector

### ENCODER

- Video resolution : up to 1080p@30Hz
- PC resolution : 800x600;1024x768;1280x600;1280x720;1280x768;1360x768;1366x768
- Video compression : H.264/AVC
- Audio compression : MPEG-1 Audio layer II (ISO/IEC 11172-3)
- PID setting: PMT/Video/Audio/PCR
- PSI : NID/ONID/P.D.S./TS ID
- LCN : Up to 1023
- Service name : 15 characters

### MODULATION

- Number of carriers : 2K/8K
- Guard interval : 1/4, 1/8, 1/16, 1/32
- Code rate : 1/2, 2/3, 3/4, 5/6, 7/8
- Constellation : QPSK / 16QAM / 64QAM

### OUTPUT signal

- COFDM standard : DVB-T acc. to ETSI EN 300744 on F female connector
- Frequency range : 177,25 to 233,25MHz and 474,25MHz to 856,25MHz
- Output level : 90dB $\mu$ V to 75dB $\mu$ V
- Channel bandwidth : 6-8MHz
- MER : better than 36dB

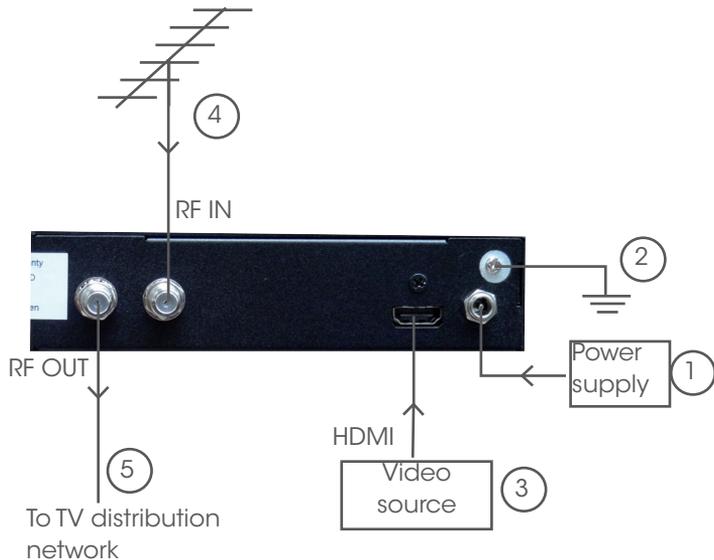
### DIMENSIONS

- WxHxD(mm) : 150x150x37
- Weight : 0,5kg
- Power supply : 12VDC, 8W  
100-264VAC 50-60Hz adapter included

## Installation

Please follow the instructions below to install the ABI-MD3001SOT.

1. Connect the power plug to the socket.
2. Connect the proper earthing wire.  
**⚠** A ground connection is necessary for protection and proper working of the equipment.
3. Connect to a video source.
4. Connect to an aerial or another modulator
5. Connect to the set-top box or a digital television.



## General use

Front panel control buttons

-  Menu: press the up or down button to scroll up or down.  
Settings: press the up or down button to modify values.
-  Menu: press the right or left button to scroll forwards or backwards.  
Settings: press the right or left button to scroll forwards or backwards.
-  Menus: press the OK button to select submenu.  
Submenus: press the OK button to select the setting.  
Settings: press the OK button to confirm the setting.

# Quick Menu Guide

## System booting

Boot system  
Please wait ...

HD MODULATOR  
474.000MHz

→ RF Output Frequency

## Main menu

HD MODULATOR  
474.000MHz



MAIN Menu  
RF OUT



MAIN Menu  
Video



MAIN Menu  
Audio



MAIN Menu  
Stream



MAIN Menu  
System

## Submenu

Main Menu  
RF Out



RF Out  
Setup RF Output

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RF Out  
Rtrv Status

---

RF Out  
Advanced

Main Menu  
Video



Video  
Rtrv Status

Main Menu  
Audio



Encode Rate  
192K

Main Menu  
Stream



Stream  
Set Service ID

---

Stream  
Set Service Name

---

Stream  
Set LCN

---

Stream  
Set PID

---

Stream  
Set NIT

---

Stream  
Set PDS

---

Stream  
Set TS ID

---

Stream  
Rtrv Status

Main Menu  
System



System  
Rtrv Inventory

---

System  
Reset System

---

System  
System Root

## Operating adjustment

For 'Menu & Submenu' settings, press the OK button to access the adjustment mode. In this mode '\*\*' will be displayed in the upper right corner. Use the UP or DOWN buttons to select parameter values, then press OK button to confirm the setting.

### RF OUTPUT

#### A. Setup RF output

RF Output Setup RF Output	Following the main Submenu flow charts enter the 'Setup RF Output' mode.
Country: Europe	Press the OK to enter the next page for country selection.
Country: Europe	* Press the OK to access the adjustment mode. The LCD display will show an asterisk '**' in the upper right corner. You can now press the UP or Down to select the country you require. Press OK to save. (Europe, Taiwan, OC NTSC, OC PAL, Australia, New Zealand.)

Use the same steps above to adjust the following items.

Area: France	France, Italy, Nordic, UK, Belgium, Others
Frequency: E11(219.5MHz)	E05(177.5MHz)~E69(858MHz)
Output Level: 80dBuV	75~90dBuV
Carrier: 8K	2K, 8K
Constallation: QAM64	QAM64, QAM16, QPSK
FEC: 3/4	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval: 1/32	1/4, 1/8, 1/16, 1/32
Are you sure? y	When all the items in 'Setup RF Output' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

#### B. Retrieve status

Following the main Submenu flow charts enter the 'Retrieve Status' mode, you can check the parameters of your previous setting in 'Setup RF Output'.

#### C. Advanced

RF Output Advanced	Following the main Submenu flow charts enter the 'RF Output Advanced' mode.
Freq Offset: No Offset	Frequency Offset : -10K ~ +10K, No Offset
RF Output: Enable	Enable, Disable
Are you sure? y	When all the items in 'RF Output Advanced' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

### VIDEO

#### Retrieve status

The ABI-MD3001S0T will detect and analyze the input video signal automatically. Then you can check the parameters or the status in the 'Video Retrieve Status' mode.

Video Rtrv Status	Following the main Submenu flow charts enter the 'Retrieve Status' mode.
Video Source: HDMI	Automatically detect and analyze.
In Resolution: 1920x1080/50i	Automatically detect and analyze.
Encoder Rate: 11.0Mbps	Automatically detect and analyze.
Out Resolution: 1080i	Automatically detect and analyze.
Encoder Status: Running	Automatically detect and analyze.

### AUDIO

Audio Rtrv Status	Following the main Submenu flow charts enter the 'Audio Rtrv Status'. Press the OK to enter the Submenu.
Encoder Rate: 192K	Fixed value. 192K.

### STREAM

#### A. Set Service ID

Video Set Service ID	Following the main Submenu flow charts enter the 'Set Service ID'. Press the OK to enter the Submenu.
Service ID: 256	Press the OK to enter service ID mode. Press the OK to access edit mode. Now press the UP or Down to set ID. Press Right to advance to the next character and Up or Down to set. Press the OK to save. (1-65535)
Are you sure? y	When all the items in 'Stream Service ID' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

#### B. Set Service Name

Stream Set Service Name	Following the main Submenu flow charts enter the 'Set Service Name'. Press the OK to enter the Submenu.
Service Name: HD AV MOD	Edit the service name by preference. 0~9 ; A~Z ; "-" ; " " 15 characters.
Are you sure? y	When all the items in 'Stream Service Name' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

#### C. Set LCN

Stream Set LCN	Following the main Submenu flow charts enter the 'Set LCN'. Press the OK to enter the Submenu.
LCN: 1	Edit the logical channel number by preference. 1~1023
Are you sure? y	When all the items in 'Stream set LCN' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

#### D. Set PID

PMT: 129	32~8190, excluding 71
PCR: 308	32~8190, excluding 71
Video: 2064	32~8190, excluding 71
Audio: 2068	32~8190, excluding 71
Are you sure? y	When all the items in 'Stream Set PID' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

### E. Set NIT

OrgNetwork ID: 1	According to different area to setup the parameter values. 1~65535
Network ID: 1	1~65535
Network Name: NETWORK	A-Z, 0-9, 7 Characters
Are you sure?  y	When all the items in 'Stream Set NIT' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

### F. Set PDS

Private Data: 00000028	8 Hex
Are you sure?  y	When all the items in 'Stream set PDS' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

### G. Set TS ID

TS ID: 201	1~65535
Are you sure?  y	When all the items in 'Stream set TS ID' are done, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

### H. Retrieve Status

Following the main Submenu flow charts enter the 'Stream' mode. In 'Retrieve Status' mode, press the OK button to check the parameters of your previous settings in 'Stream'.

## SYSTEM

### A. Retrieve inventory

System Rtrv Inventory	Following the main Submenu flow charts enter the 'System Retrieve Inventory'. Press the OK to enter the Submenu.
System Info HW:2.00 SW: 2.00	Press OK to enter the next page, you can check both hardware and software version.
System Info July 14 2014	Press RIGHT to access the next page for more information. Press OK to exit.

### B. Reset System

System Reset System	Following the main Submenu flow charts enter the 'System Reset System'. Press the OK to enter the Submenu.
Reset Mode: Hard Reset	Hard Reset, Soft Reset, Reset to default
Are you sure?  y	When the system reset is selected, there will be a confirmation on the display. Press UP or Down to select YES or NO. y: the settings above will be stored in memory. n: to cancel.

# Channels Europe

**CHANNEL TABLE LIST-EUROPE**

Channel	Channel Frequency MHz	Digital central Frequency MHz	Channel	Channel Frequency MHz	Digital central Frequency MHz	Channel	Channel Frequency MHz	Digital central Frequency MHz
<b>Standard B + G Europe</b>								
<b>Band I</b>			S23	318-326	322	<b>Band V</b>		
E2	47-54	50.5	S24	326-334	330	E38	606-614	610
E3	54-61	57.5	S25	334-342	338	E39	614-622	618
E4	61-68	64.5	S26	342-350	346	E40	622-630	626
<b>Band S</b>			S27	350-358	354	E41	630-638	634
S1	104-111	107.5	S28	358-366	362	E42	638-646	642
S3	111-118	114.5	S29	366-374	370	E43	646-654	650
S3	118-125	121.5	S30	374-382	378	E44	654-662	658
S4	125-132	128.5	S31	382-390	386	E45	662-670	666
S5	132-139	135.5	S32	390-398	394	E46	670-678	674
S6	139-146	142.5	S33	398-406	402	E47	678-686	682
S7	146-153	149.5	S34	406-414	410	E48	686-694	690
S8	153-160	156.5	S35	414-422	418	E49	694-702	698
S9	160-167	163.5	S36	422-430	426	E50	702-710	706
S10	167-174	170.5	S37	430-438	434	E51	710-718	714
<b>Band III</b>			S38	438-446	442	E52	718-726	722
E5	174-181	177.5	S39	446-454	450	E53	726-734	730
E6	181-188	184.5	S40	454-462	458	E54	734-742	738
E7	188-195	191.5	S41	462-470	466	E55	742-750	746
E8	195-202	198.5	<b>Band IV</b>			E56	750-758	754
E9	202-209	205.5	E21	470-478	474	E57	758-766	762
E10	209-216	212.5	E22	478-486	482	E58	766-774	770
E11	216-223	219.5	E23	486-494	490	E59	774-782	778
E12	223-230	226.5	E24	494-502	498	E60	782-790	786
<b>Band S</b>			E25	502-510	506	<b>LTE</b>		
S11	230-237	233.5	E26	510-518	514	E61	790-798	794
S12	237-244	240.5	E27	518-526	522	E62	798-806	802
S13	244-251	247.5	E28	526-534	530	E63	806-814	810
S14	251-258	254.5	E29	534-542	538	E64	814-822	818
S14	258-265	261.5	E30	542-550	546	E65	822-830	826
S16	265-272	268.5	E31	550-558	554	E66	830-838	834
S17	272-279	275.5	E32	558-566	562	E67	838-846	842
S18	279-286	282.5	E33	566-574	570	E68	846-854	850
S19	286-293	289.5	E34	574-582	578	E69	854-862	858
S20	293-300	296.5	E35	582-590	586			
S21	302-310	306	E36	590-598	594			
S22	310-318	314	E37	598-606	602			

1 RECOMMENDED MPEG-4 CODE RATE

Modulation Constellation	FEC	6MHz Bandwidth				7MHz Bandwidth				8MHz Bandwidth				
		Guard Interval	1/4	1/8	1/16	1/32	1/4	1/8	1/16	1/32	1/4	1/8	1/16	1/32
QPSK	1/2			4.14	4.39	4.52	4.35	4.83	5.12	5.27	4.98	5.53	5.85	6.03
	2/3	4.97	5.52	5.85	6.03	5.80	6.45	6.83	7.03	6.64	7.37	7.81	8.04	
	3/4	5.59	6.22	6.58	6.78	6.53	7.25	7.68	7.91	7.46	8.29	8.78	9.05	
	5/6	6.22	6.91	7.31	7.54	7.25	8.06	8.53	8.79	8.29	9.22	9.76	10.05	
	7/8	6.53	7.25	7.68	7.91	7.62	8.46	8.96	9.23	8.71	9.68	10.25	10.56	
	1/2	7.46	8.29	8.78	9.04	8.70	9.67	10.24	10.55	9.95	11.06	11.71	12.06	
	2/3	9.95	11.05	11.70	12.06	11.61	12.90	13.66	14.07	13.27	14.75	15.61	16.09	
	3/4	11.19	12.44	13.17	13.57	13.06	14.51	15.36	15.83	14.93	16.59	17.56	18.10	
16QAM	5/6	12.44	13.82	14.63	15.08	14.51	16.12	17.07	17.59	16.59	18.43	19.25	20.11	
	7/8	13.06	14.51	15.36	15.83	15.24	16.93	17.93	18.47	17.42	19.35	20.49	21.11	
	1/2	11.19	12.44	13.17	13.57	13.06	14.51	15.36	15.83	14.93	16.59	17.56	18.10	
	2/3	14.92	16.58	17.56	18.09	17.41	19.35	20.49	21.11	19.91	22.12	23.42	24.13	
	3/4	16.79	18.66	19.76	20.35	19.59	21.77	23.05	23.75	22.39	24.88	26.35	27.14	
	5/6	18.66	20.73	21.95	22.62	21.77	24.19	25.61	26.39	24.88	27.65	29.27	30.16	
	7/8	19.59	21.77	23.05	23.75	22.86	25.40	26.89	27.71	26.13	29.03	30.74	31.67	
	64QAM													

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