

IF-RF UP-CONVERTER MODULE

JH-UPC860L & JH-UPC860H



2011-07-25

Copyright © 2011

Document History

Name	Description	Date	Version
JH-UPC860 DS	Original Version	25-07-2011	V1.0
JH-UPC860 DS en	English Version	08-10-2011	V1.0

Catalogue

Summary.....	1
Exterior.....	1
Application.....	2
Feature.....	2
Mechanical Dimensions.....	2
Specification.....	3
JH-UPC860L.....	3
JH-UPC860H.....	4

Summary

JH-UPC860H and JH-UPC860L are frequency agility full channel up converters module from Jinghong company. Based on advanced active frequency mixing chip, adapting double converting technology, depth filter technology, MCU, real-time power detection, digitally controlled attenuator, compact design, and single 5V power supply, with I²C and SPI control interface, also LCD display and key button interface. They are available for both local control/display and network management software control. They are very suitable for radio and television system IF-RF conversion applications. Meanwhile, they have excellent performance, small size, low power consumption and competitive price.

The module converts an IF signal with a bandwidth of up to 24 MHz (for adjacent IF signals) and is centered at an intermediate frequency of 36.125 MHz or 44.00MHz to any RF output frequency between 50 MHz and 860 MHz. The output level can be adjusted in step sizes of 1 dB between 30 dBmV and 60 dBmV. This complete functionality is packaged in a shielded 197.5mm × 67.5mm × 14 mm module.

Connect the LCD display and 4-key button keypad to corresponding module socket, the operator can easily set the output frequency and power level locally, and the LCD screen can display real-time parameters. Connect the I²C or COM port to the master device port to realize the management for up converter frequency and power level parameters.

JH-UPC860H and JH-UPC860L are full channels frequency agile up-converter, adapting precision aluminum shell by CNC, the shielding performance is superior. JH-UPC860H is high output (60dBmV) with 30dB adjustable range, power detection, LCD screen interface, and a key-board interface. JH-UPC860L has smaller size, fixed low output (30dBmV), non-power detection, no LCD screen interface, and no key-board interface.

Exterior



JH-UPC860L



JH-UPC860H

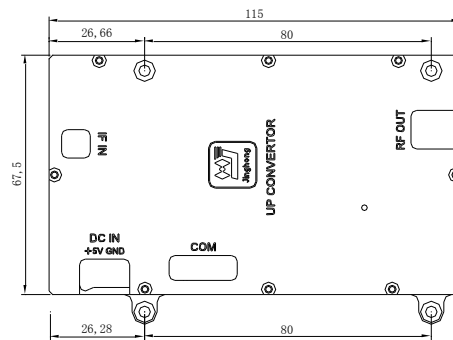
Application

- CMTS
- VOD System
- IP-QAM Modulator
- DVB-QAM Modulator
- CATV Head end equipment

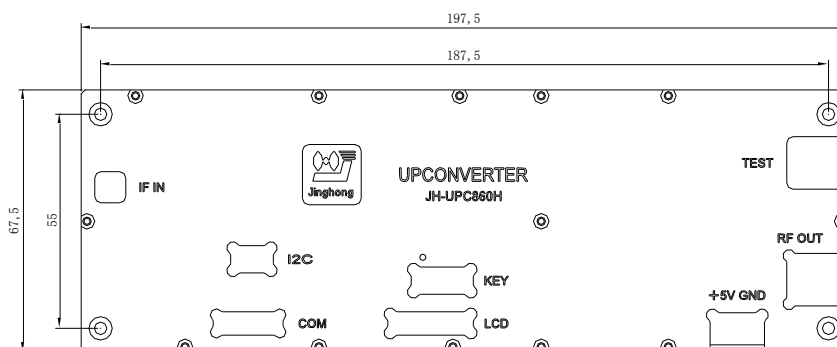
Feature

- Compact, low power consumption, single 5V power supply
- Full range of channels, high output, low harmonic distortion
- Outband rejection > 60dBc
- Complete control interface and display interface
- They are adaptable and easy to install, easy to complete.

Mechanical Dimensions



JH-UPC860L



JH-UPC860H

Specification

JH-UPC860L

Parameter	Min.	Typ.	Max.	Unit
Operating Conditions				
Supply voltage	4.75	5.0	5.25	V
Consume current	370	380	390	mA
Input Parameter				
Input frequency	44 / 36.125			MHz
IF power level	28	30	32	dBmV
IF signal bandwidth	6	8	24	MHz
Input impendence		75		Ω
Input return loss	14	16		dB
Output Parameter				
Output frequency rang	50		860	MHz
Output power level	8	10	12	dBmV
Frequency step size		0.25		MHz
Converting gain		-20		dB
Frequency offset	0.1		10	KHz
Frequency stability		25		ppm
Noise factor	10	11.5	13	dB
Phase noise		0.3		Degrees (RMS integrated from 1KHz to 40MHz)
Channel bandwidth		8		MHz
The others any channel spurious			<-30	dBmV
Output impendence		75		Ω
Interface				
DC +5V Input	JK2EDG3.81			
IF input port	SMA Socket			
RF output port	SMA Socket or F type connector			
COM port	9-pin connector			
Others				
Temperature range	-20~50℃			
Cooling	By the shell			
Size	115.0mm×67.5mm×11.0mm			

JH-UPC860H

Parameter	Min.	Typ.	Max.	Unit
Operating Conditions				
Supply voltage	4.75	5.0	5.25	V
Consume current	680	690	700	mA
Input Parameter				
Input frequency	44 / 36.125			MHz
IF power level	28	30	32	dBmV
IF signal bandwidth	6	8	24	MHz
Input impedance		75		Ω
Input return loss	14	16		dB
Output Parameter				
Output frequency rang	50		860	MHz
Output power level	30	45	60	dBmV
Power level step size		1		dB
Frequency step size		0.25		MHz
Converting gain		30		dB
Frequency offset	0.1		10	KHz
Frequency stability		25		ppm
Noise factor	12	13.5	15	dB
Phase noise		0.3		Degrees (RMS integrated from 1KHz to 40MHz)
Channel bandwidth		8 or 6		MHz
The others any channel spurious			<0	dBmV (@maximum output)
Output impedance		75		Ω
Interface				
DC +5V Input	JK2EDG3.81			
IF input port	SMA Socket			
RF output port	F type connector			
COM port	9-pin connector			
I ² C port	4-pin connector			
LCD display	16-pin connector			
Key port	5-pin connector			
Others				
Temperature range	-20~50°C			
Cooling	By the shell			
Size	197.5mm×67.5mm×14.0mm			