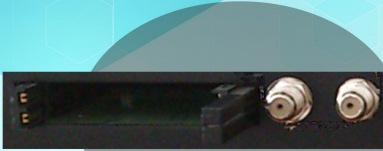


Multi-Channel Descramble CI IRD Option Modulator



Q5 Professional Descramble CI IRD equipped with 12 independent tuners, which can be either of DVB-S2, ISDB-T, DVB-C, DVB-T/T2, DTMB, ATSC types, and option modulation (DVB-C/ DVB-T/ISDB-T/ATSC/DTMB) to convert Video/Audio signals into RF over exist Coax Cable distribution. It provides a best-of-class gateway platform for Digital TV Owners and IPTV operators.

Q5 head-end interface conversion device and Routes Any or All Transport Streams via IP Output Port by 512*SPTS, and 8*MPTS channels simultaneously. It is integrated with tuner demodulation with ASI input and gateway function, which can demodulate from 12 tuners and directly convert the TS from DVB-ASI, then output the IP package through different IP address and ports.

Q5 enables an all-IP headend architecture, resulting in a more scalable and lower-cost transition to IP-based services. It distribute any HD and SD of encrypted Tuners Channels to unlimited TVs over the existing TV coax cables with real time perfect quality at any distance. This is an ideal solution for environments where you have a large number of encrypted Channels, and used largely to Medium-Scale IPTV, Hotel, entertainment facilities, education broadcasting systems at schools and government buildings or any kinds of Source signals convert to Cable TV broadcast environments in limited budget severely.

Main Features

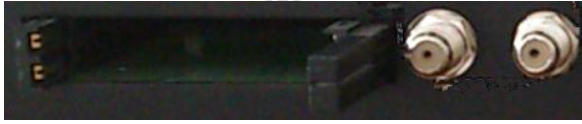
- Distribute Up to 12 encrypted Tuners input
- Selectable DVB-S2, ISDB-T, DVB-C, DVB-T/T2, DTMB, ATSC encrypted Tuners inputs
- DVB-S2 inputs support up to **16apsk, 32apsk** (optional)
- Optional DVB-C (QAM), DVB-T (COFDM), ATSC-T, ISDB-T, DTMB Modulation, **4*Carrier RF Out, 8/16*carrier RF out (option) (16/32*carriers DVBC QAM output optional)**
- In modulation Mode, support 128*IP input
- Two separate ASI input for External TS Multiplexing
- Simultaneously 8*MPTS, 512*SPTS and passthrough over UDP/RTP IP out in Tuners Gateway
- DVB-S2 support receive T2MI stream and PLS value setting
- support DVB-T2 Multi PLP select
- 4 separate multiplexing and Up-converter modulating adjacent carrier ou
- Supported CAM card brands: Irdeto, novel-supertv, NAGRA kudelski, NDS TV, BGCTV
- Support Single TS stream and Multi-TS stream(optional)
- Selectable the Value of PCR PID same as Video PID
- LCN (Logical Channel Number) support
- PSI/SI editing & inserting; PID Remapping & Filtering
- Support TTL editing
- Support PCR correct and PCR interval adjusting
- Low power consumption and high reliability
- passed the EU CE&RoHS certification
- Easy-to-Use System Management via Web

Application

- Advertising, monitoring, training and educating
- Upgrade all your analog Head-ends to digital TV Solution
- Enterprise, Hotel, campus, hospital, Public Place
- Low cost Digital TV distribution

TECHNICAL SPECIFICATIONS

CI Module



Numbers of Boards	2 Tuners ports per module Up to 6 Modules in Back panel
Numbers of Ports	2, 4, 6, 8, 10, 12 Channels
Tuner Types	DVB-S2, ISDB-T, DVB-C, DVB-T/T2, DTMB, ATSC
Connector	F-female type

DVB-S/S2 Tuners

Input Frequency	950-2150Mhz
Symbol rate	2~45Mbauds(DVB-S QPSK) 1~45Mbauds(DVB-S2 QPSK) 2~30Mbauds(DVB-S2 8PSK)
Signal Strength	- 65 ~ -25dBm
Roll Off	0.20; 0.25; 0.35(Only DVB-S)
Demodulation Mode	DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2 QPSK: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB-S2 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 DVB-S2 16APSK (optional): 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB-S2 32APSK (optional): 3/4, 4/5, 5/6, 8/9, 9/10
LNB Polarity Selection Vol	0, 13V, 18V Selectable
LNB Band Selection Tone	0/22Khz Selectable
Input Impedance	75 Ω
Satellite Selection	Command DiSEqC 2.0

ATSC Tuners

Frequency range	50 ~ 860 MHz
Key reference specification	ATSC A/53
Input level	-34 to +40 dBmV
Constellation	8-VSB
Bandwidth	6Mhz

DVB-C Tuner Input

Connector Type	8*F type female 75Ω for Input
Input Frequency Range	51 ~ 862MHz
Input Level	51 ~ 75dBμV
Symbol Rate	1 ~ 75MBaud (ITU J.83 Annex A, B, C)
Constellation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
Input Return Loss	7dB (typ.)

DTMB Tuner Input

Connector Type	8*F type female 75Ω for Input
Input Frequency Range	46.5 ~ 866MHz
Input Level	-87 ~ -29dBm
Symbol Rate	7.56MBaud
Bandwidth	6MHz, 7MHz, 8MHz
Constellation	4QAM-NR, 4QAM, 16QAM, 32QAM, 64QAM
Guard Interval	PN420, PN595, PN945
Roll-off Factor	0.05
Interleaving Depth	240, 720
FEC Code Rate	0.4, 0.6, 0.8

DVB-T/T2 Tuners

Frequency Range	30MHz-1000Mhz
Bandwidth	6Mhz, 7Mhz, 8Mhz
Level	-87 ~ -20dBm
Constellation	QPSK, 16QAM, 64QAM
FEC Demodulation	DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8, DVB-T2:1/2, 3/5, 2/3, 3/4, 4/5, 5/6
Guard Interval	DVB-T: 1/4, 1/8, 1/16, 1/32, DVB-T2:1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
Tuner switchable	up to 24*tuner DVB-S/S2/C/T/T2 in (no out)

ISDB-T Tuners

Input frequency range	30 ~ 900MHz
Bandwidth	6MHz
Constellation	DQPSK, QPSK, 16QAM, 64QAM
Interleave	0, 4, 8, 16
Guard Interval	1/32, 1/16, 1/8, 1/4
Transmission Mode	2K, 4K, 8K (FFT)
FEC (Code Rate)	1/2, 2/3, 3/4, 5/6, 7/8

DVB-ASI inputs

Connector	BNC female, 75Ω
Signal Level	200-800mVp-p
Packet Length	188 bytes
Maximum bit-rate per port	≤100Mbps
Number of Input Ports	Dual separate ASI ports (4*RF ISDB-T version only support 1*ASI in)

Stream Output

DVB-ASI	2 Separate ASI, 75Ω, BNC, 188Bytes MPEG TS over DVB-ASI (EN 50083-9) Selectable Mirror of One MPTS or RF Channel
RJ45 Port	100/1000M GbE Port
Simultaneous output with 512* SPTS and 8*MPTS	MPEG TS over UDP, unicast, and multicast streaming MPEG TS over RTP/RTSP Configurable packet size(2-7)x188Bytes Filter Null Packet
SPTS limit selectable	2.3M, 2.5M, 2.9, 3.3M, 3.8M, 4.6M, 5.7M, 7.6M, 11.5M, 23M

Modulation Part (optional)

Connector	1 Port, F-Type, 75
Output Return Loss	14 dB
MER	≥40dB
RF output level	-24 ~ 0dbm, 1db step
RF frequency	50 ~ 960Mhz, 1KHz step, 30~960Mhz for DVB-C
separate control	Frequency difference range (0-40M)
Numbers of RF Channel	4, 8/16(optional), 32(optional, only for DVBC)
Modulation Mode	4/16/32*DVB-C, 4/8/16*DVB-T, 4/8/16*ATSC, 4/8/16* ISDB-T, 4/8/16*DTM

DVB-T Standard

FFT mode	EN300744 2K, 8K (4 RF mode only support 2K)
Bandwidth	6M, 7M, 8M
Constellation	QPSK, 16QAM, 64QAM
Guard Interval	1/4, 1/8, 1/16, 1/32
FEC	1/2, 2/3, 3/4, 5/6, 7/8

DVB-C Standard

J83.A (DVB-C, J83.B, J83.C)

Carrier	ANNEX A	Annex B	Annex C	
Constellation (QAM)	16,32,64,128, 256	64	256	64/256
Bandwidth (Mhz)	8	6	6	6
Symbol Rate (Mbaud)	5-7	5.057	5.361	4.2-5.3

ISDB-T Standard

Constellation	ARIB STD-B31 DQPSK, QPSK, 16QAM, 64QAM
Guard Interval	1/32, 1/16, 1/8, 1/4
Transmission Mode	2K, 4K, 8K (4 RF mode only support 2K)
Code rate	1/2, 3/4, 5/6, 7/8
BandWidth	6Mhz

ATSC Standard

ATSC A/53

DTMB Standard

Constellation	8 VSB
Constellation	GB20600-2006 4QAM, 16QAM, 32QAM, 64QAM
Code rate	0.4, 0.6, 0.8
Guard Interval	420, 595, 945

Multiplexing

Maximum PID Remapping	180 input per channel
PID remapping by automatically or manually	
PSI/SI	SDT/PMT/TOT/PAT/BAT/CAT/TDT/NIT Accurate PCR adjusting
Max Numbers	4 mux for RF and 1 Mux for 4*MPTS (4*MPTS channels can Separate MUX) IP out in Modulation 4 Mpts IP out In Tuners gateway

System

Local interface	LCD + control buttons
Remote management	Web/NMS
NMS interface	RJ45, 100M
Language	English

Environment

Voltage range	100 to 240V AC ; 50/60Hz
Power consumption	60W
Operation Temperature	0 ~ 45°C
Storage Temperature	-20 ~ 80°C
Dimensions	482mm (L) * 380mm (W) * 44mm (H)
Weight	4.5kg