



FTA Communication Technologies

18 Duchscherstroos, L-6868 Wecker, Luxembourg
Tel: +352 264 367 1 Fax: +352 264 313 68
e-mail: info@inverto.tv Web: www.inverto.tv

IDLV-5000P

Professional MPEG-2/MPEG-4 AVC SD/HD
Integrated Receiver Decoder

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Integrated Receiver
Decoder

User Manual

Model IDLV-5000P



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1. Before Use the Device

Thank you for purchasing the IDLV-5000P series.

This User Manual is written for operators/users of the IDLV-5000P Multi-Format Professional HDTV Processor to assist in installation and operation. Please read this user manual carefully before installation and use of the device

FOR YOUR SAFETY

This equipment is provided with a protective earthing ground incorporated in the power cord. The main plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor, inside or outside the device, is likely to make the device dangerous.

Do not remove the covers of this equipment. Hazardous voltages are present within this equipment and may be exposed if the covers are removed. Only Inverto trained and approved service engineers are permitted to service this equipment.

No operator serviceable parts inside. Refer servicing to Inverto trained and approved service engineers.

For the correct and safe use of the device, it is essential that both operating and servicing personnel follow generally accepted safety procedures in addition to the safety precautions specified in this manual.

Whenever it is likely that safety protection is impaired, the device must be made in-operative and secured against unintended operation. The appropriate servicing authority must be informed. For example, safety is likely to be impaired if the device fails to perform the intended measurements or shows visible damage.

WARNINGS

- The mounting environment should be relatively dust free, free of excessive vibration and the ambient temperature between 0C° to 40C°. Relative humidity of 20% to 80% (non-condensed) is recommended.
- Avoid direct contact with water.
- Never place the equipment in direct sunlight.
- The outside of the equipment may be cleaned using a lightly dampened cloth. Do not use any cleaning liquids containing alcohol, methylated spirit or ammonia etc.
- For continued protection against fire hazard, replace line fused only with same type.
- Air intake for cooling is achieved via holes at the side of the device and the fans inside. The air flow should not be obstructed. Therefore, the device has to be placed on a flat surface, leaving some space at the sides of the device.
- When in operation, the internal temperature should not exceed the limit of 70C°.

2. Introduction

The IDLV-5000P is full compliant with MPEG-2 (MP@ ML& MP@HL), H.264 and DVB-S2/S/-C/-T standards. With a wide choice of input options for all transmission mediums, the IDLV-5000P provides significant benefits and the maximum flexibility for professionals who wish to migrate their operations from MPEG-2 SD to H.264 HD.

Equipped with 2 PCMCIA slots, it also supports various CA systems such as Irdeto, Conax, Viaccess, Cryptoworks, Mediaguard, and SECA, etc.

With TS over IP output (Optional), user could convert DVB-S2/S/-C/-T programs into IP format. It can be monitored and set parameters easily with Ethernet management software. Moreover, it supports CVBS, YPbPr, BNC, SDI, HDMI, AES_EBU output interface. High transmission speed and low error rate give more valuable features to this model. With 19" rack, makes the receiver the best choice for your digital Headend System.

MODEL LIST

Function \ Model No.	IDLV-5000P-10x			IDLV-5000P-20x			IDLV-5000P-30x			IDLV-5000P-40x		
	-C	-T	0	-C	-T	0	-C	-T	0	-C	-T	0
10/100M Base-T TSoIP Board				•	•	•				•	•	•
DVB-C Input	•			•			•			•		
DVB-T Input		•			•			•			•	
DVB-S2 Input			•			•			•			•
PCMCIA slots*2		•			•			•			•	
ASI TS Input/Output		•			•			•			•	
HD-SDI Output Audio Embedded								•			•	
Ethernet Remote Control								•			•	
CVBS Video 1*RCA & 1*BNC		•			•			•			•	
Analogue Audio 2 * L+R		•			•			•			•	
AES_EBU Output								•			•	
YPbPr Output		•			•			•			•	
HDMI Output								•			•	

Where the '•' sign stands is a standard option.

3. Installation

3.1 INSPECTION

Open the packaging box, check if all accessories are in the box according to the packing list, and if the device has any visible damage, please contact the agent.

3.2 OPERATING VOLTAGE

Do not connect AC power until you have verified that the line voltage is correct and the proper fuses are installed. The device's power supply is fitted with a wide-ranging power supply. It is suitable for supply voltages of 100-240 Vac -10% +6% at 50/60 Hz nominal. Be sure the supply voltage is within the specified range.

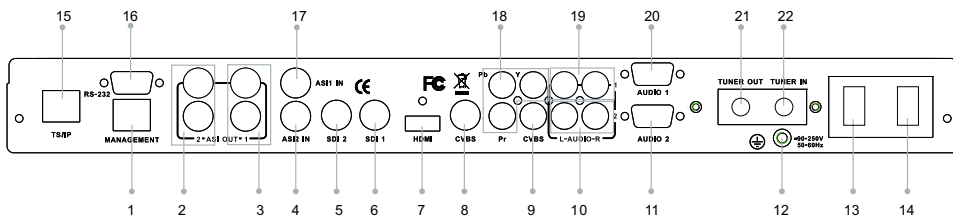
POWER REQUIREMENT	
Input voltage	90-250 Vrms auto select
Frequency	47 to 63 Hz
Power	50 VA max. / 30 VA typical.
Current	110 V/0.27A or 240 V/0.125A typical

3.3 THE FUSES

The recognized recommended fuses are size 5 by 20 mm, rate T 2.0A, 250 V (UL and IEC approved). The line fuse is housed in a small container besides the power connector on the rear panel. To check the fuse, insert the tip of a screwdriver in the slot at the middle of the container and pry gently to extend the fuse where there is a little tap and pull out the fuse gently. The fuse is attached to the line module and cannot be removed.

3.4 CONNECTING UP THE DEVICE

Always use the specified cables supplied for signal integrity and compliance with EMC requirements. The rear panel is directly related to the input and output options fitted. Below figure shows a typical rear panel.



1. **MANAGEMENT** LAN port for software update
2. **ASI OUT2** Group2 ASI output port (one for back-up)
3. **ASI OUT1** Group1 ASI output port (one for back-up)
4. **ASI2 IN** ASI2 input port
5. **SDI2** SDI2 output port
6. **SDI1** SDI1 output port
7. **HDMI** HDMI output port
8. **CVBS** CVBS BNC output port
9. **CVBS** CVBS RCA output port
10. **L-Audio-R2** Group2 RCA audio output port
11. **AUDIO2** AES/EBU and Balance Audio output port1 (need to use the RS232-to-XRL converting cable in accessories)
12. **GND** Grounding terminal
13. **Power Socket** AC 90~250V 50-60Hz input
14. **Switch** Power switch
15. **TS/IP** input/output port
16. **RS-232** serial port for printing information
17. **ASI1 IN** ASI1 input port
18. **YPbPr** YPbPr output port

- 19. **L-Audio-R1** Group1 RCA audio output port
- 20. **Audio1** AES/EBU and Balance Audio output port1 (need to use the RS232-to-XRL converting cable in accessories)
- 21. **TUNER OUT** Tuner signal loop through output port
- 22. **TUNER IN** Tuner signal input

3.5 POWER ON THE DEVICE

Be sure the device is mounted into the rack properly and firmly, and the signal cables are connected well, then power can be applied to the device. The main socket and fuse are located at the rear panel of the device.

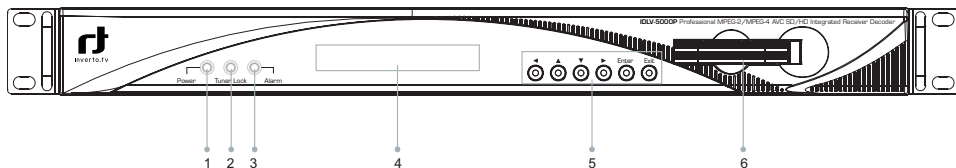
When the device is powered on, verify that the display shows the following message:

Digital TV Processor (factory default unit-name)

IP: 10.10.60.148 (factory default IP Address for LAN access)

If no message is shown in the display or there is not light in the display, the device is defective and has to be returned for servicing.

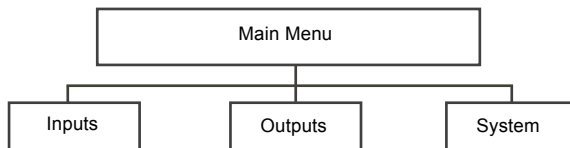
4. Navigating the Front Panel



- 1. **POWER** Power indicator, green light means power is OK
- 2. **TUNER LOCK** Tuner lock indicator, green light means signal is locked; if there is no light, which means no signal input or wrong parameters setting.
- 3. **ALARM** Alarm indicator
- 4. **LCD** 2 x 20 character LCD
- 5. **Operation button** <LEFT> <UP> <DOWN> <RIGHT> <ENTER> <EXIT> buttons
<UP> <DOWN> buttons are used to up/down pages of menu or increase/decrease value when edit numbers
<LEFT> <RIGHT> buttons are used to move cursor
<ENTER> button is used to enter sub menu or confirm operation
<EXIT> button is used to return previous menu or cancel operation
- 6. **Common Interface** PCMCIA Module slot

5. Menu Structure and Operating the Device

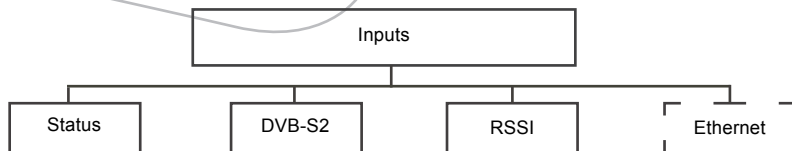
The menu structure of the device is showed in below figure. After initialization is completed, press (ENTER) button to enter main menu:



- (1) Input Setup Set input parameters
- (2) Output Setup Set output parameters
- (3) System Set system parameters

5.1 INPUTS MENU

There are four options: Status, DVB-S2, RSSI and Ethernet (optional):



5.1.1 Status Menu

It contains four options, ASI1, ASI2, TUNER and IP IN, to show the status of signal input:

- **ASI1:** When signal from ASI1 input port is locked, it will display package format and code rate; if signal is not locked, it will show Unlock.
- **ASI2:** When signal from ASI2 input port is locked, it will display package format and code rate; if signal is not locked, it will show Unlock.
- **TUNER:** When signal from tuner input port is locked, it will display package format and code rate; if signal is not locked, it will show Unlock.
- **IP IN:** When signal from IP input port is locked, it will display package format and code rate; if signal is not locked, it will show Unlock.

Note: this option only appears when set the External Function as "IP IN". Please refer to section 'Optional Function' for setting method.

5.1.2 DVB-S2 Menu

There are 6 options to set DVB-S2 parameters. After signal is locked, the TUNER LOCK indicator on front panel will turn green.

- **LNB Frequency:** Input LNB frequency
- **Satellite Frequency:** Input downstream frequency of satellite
- **Symbol Rate:** Input symbol rate of satellite
- **LNB Voltage:** select the correct LNB voltage output of the F-connector: Off, 13 V, 18 V. <A>
- **LNB 22KHz:** activate the LNB 22 kHz control signal to the LNB: On or Off.
- **DISQEC:** Can select OFF/Port A/Port B/Port C/Port D

Note: please contact the local satellite operator for the satellite frequency and symbol rate.

<A> Normally, 13V switches the LNB to receive Vertical/Left hand polarization while 18V receive Horizontal/Right hand.

 Normally, 22KHz control signal switches the LNB to receive high band if any.

5.1.3 RSSI

There are two options to show the quality of receiving DVB-S2 signal.

5.1.4 Ethernet Menu

Note: The Ethernet menu is showed only if the IP streaming in/out board is installed and the TS/IP streaming board is set to "IP IN". Refer to section 'Optional Function'.

The Ethernet connector is for receiving transport stream over IP. The Ethernet connector has user-configurable IP address, network mask and default gateway. These must be set to appropriate values for the network over which the transport stream over IP is received.

- **Stream IP Addr:** Enter the IP address for streaming IP input of the unit.
- **Stream Netmask:** Enter the network sub mask for the subnet to which the unit is connected for IP streaming traffic.
- **Stream Gateway:** Set the gateway for the network to which the unit is connected for IP streaming traffic.
- **Stream Mac Address:** factory-set MAC addresses are guaranteed to be unique. Therefore you cannot configure the address.

- **Multicast IP Addr:** Enter the IP address of the multicast stream for the transport stream over IP.
- **Multicast UDP Port:** Enter the UDP port number of the TS over IP stream.
- **Protocol:** select the protocol for multicast: UDP or RTP.
- **Output Smoothing:** set the quality of TS which comes from the TS/IP input.
- **Auto:** the bit rate is variable.
- **Disable:** the unit let the TS pass by.
- **Fixed Rate:** the bit rate is fixed.
- **TS Bit Rate:** set the bit rate of the TS comes from the TS/IP input. The setting is only valid when the output smoothing is configured as Fixed Rate.

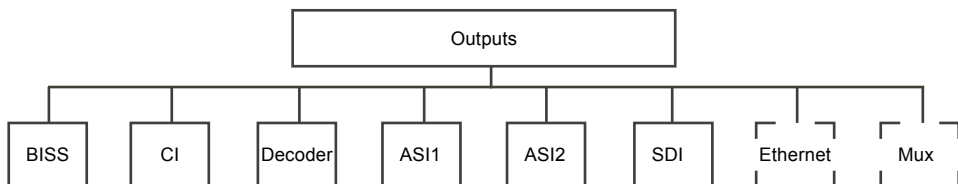
5.2 OUTPUTS MENU

Under Outputs Menu, you can monitor and configure the parameters of the CI, AV decoder, ASI out, ASI2/SDI out, Mux (A), BISS, SDI out and TS over IP output (B).

Note:

(A) The Mux menu is showed only if the functional block is enabled. Refer to section 'Optional Function'.

(B) The Ethernet menu is showed only if the IP streaming in/out board is installed and the TS/IP streaming board is set to "IP Out". Refer to section 'Optional Function'.



5.2.1 BISS Menu

It includes Biss Mode, Biss 1 Setup and Biss E Setup

Biss Mode: Set Biss mode, can select OFF, Biss E or Biss 1

Biss 1 Setup: set Biss 1, password is required

Biss E Setup: set Biss E, ID number and password are required

5.2.2 CI Menu

There are two PCMCIA slots for inserting CAM for de-encrypting program from the input signal.

Before setting CI, ensure the signal from ASI input is locked or the Tuner locks on the correct Transponder (this depends on in which signal the encrypted program carried). The 'Tuner Lock' LED will 'on' in green.

There are 3 submenus: 'CI Source', 'Setup' and 'CAM name' which allow you to set or select the parameters of the CI.

1. CI Source: press the <ENTER> key, then use <UP> or <DOWN > key select Tuner or ASI1 input or ASI2 input or TS/IP input (only when the TS/IP is set "IP In", refer section 5.2.7 for details) to set the signal source of descrambling, press <ENTER> key to save or press <EXIT> key to scrap.

2. Setup: under this sub menu, you can see all program names from the source of CI that was set in 'CI Source' previously. All free programs are marked with 'Free' in the first row.

To select which program to be de-encrypted, press the <UP> or <DOWN>key to roll up and down the program names and press <ENTER> key to change the status of the corresponding program (only encrypted program could be selected). Three different statuses could be set:

Slot 1 (de-encrypted with upper CAM inserted)

Slot 2 (de-encrypted with lower CAM inserted)

Bypass (no de-encryption).

The status will be shown in the first row on the LCD display. Confirm this setup when leaving this sub menu, press <ENTER>key to save or press <EXIT>-key to scrap.

The de-encrypted program could be delivered to other functional blocks, like A/V decoder, ASI1, ASI2, SDI, Mux and TS/IP output (refer to section 5.2.3~5.2.8 for more).

3. CAM name: under this sub menu, you can see the names of CAM modules.

5.2.3 Decoder

You can configure the parameters of Video and Audio of the program decoded by AV decoder.

Status: OK or Alarms indicates the status of the decoder. You can use the <ENTER> key to check detailed information.

- **Source:** Press the <ENTER> key and use the <UP> or <DOWN> key to roll up or down to select the signal source of ASI output, there are 5 type of signal source optional:
- **CI De-encrypted:** the de-encrypted transport stream from CI functional block will be delivered to the ASI output port on the back panel.
- **TUNER:** the transport stream from Tuner block will be delivered to the ASI output port on the back panel.
- **ASI1 Input:** the transport stream comes from ASI1 input port will be delivered to the ASI1 output port on the back panel.
- **ASI2 Input:** the transport stream comes from ASI2 input port will be delivered to the ASI2 output port on the back panel.
- **Mux TS:** the transport stream comes from internal Mux functional block will be delivered to the ASI output port on the back panel.

Note: The Mux TS is valid only when the Mux function block is enabled and turned on. Refer to section 'Mux' and section 'Optional Function' for how to set the Mux function block.

Press <ENTER> key to save or press <EXIT> key to scrap. A few seconds after the source being selected, the TS will be delivered to the ASI output port on the back panel.

- **Program:** under this sub menu, you will see all program names detected by IDLV-5000P. The programs could be coming from ASI input, Tuner, TS/IP input, the internal CI de-encryption block, BISS De-encryption block or MUX TS. Use the <UP> or <DOWN> key to roll up or down between the program names, and use <LEFT> and <RIGHT> key to switch among input sources, where a number in front of the program name indicates the input

- **source:**

0-xxxxx displays the program name, which comes from ASI input.

1-xxxxx displays the program name, which comes from TUNER input.

2-xxxxx displays the program name, which comes from TS/IP input

3-xxxxx displays the program name which comes from the CI.

4-xxxxx displays the program name, which comes from ASI2 input.

5-xxxxx displays the program name, which comes from BISS De-encrypted input.

6-xxxxx displays the program name, which comes from MUX TS.

A few seconds after the program being selected, the A/V signal will be delivered to the related connectors on the back panel.

- **Video:** You can configure the video parameters of programs in this submenu. Press the <ENTER>-key to confirm or press the <EXIT> key to cancel.
- **Video Standard:** you can select Auto/1920x1080i 60/1920x1080i 50/1280x720p 60/1280x720p 50/720x480p 60/720x576p 50/525x480i 60/625x576i 50 for the composite video output.
- **Screen:** select the screen mode: 4:3 Full, 16:9 Full or 4:3 Letterbox.
- **DVB Subtitle Lang:** select the language of DVB Subtitle.
- **EBU Subtitle Lang:** select the language of EBU Subtitle.
- **Subtitle Priority:** configure the priority of Subtitle; choose whether DVB or EBU should be first.
- **Fail Mode:** choose which kind of picture will appear when signal is fail. You can select Black Screen or No Sync or Still Picture
- **Audio:** You can configure the audio settings in the submenu.
- **Audio1 Level:** use the <UP> <DOWN> <LEFT> <RIGHT> keys to modify the audio1 level within this range: 0~99.
- **Audio1 Mode:** select Stereo, Left, Right or Mono for soundtracks.
- **Audio1 Language:** select the language of the audio.
- **Audio2 Level:** use the <UP> <DOWN> <LEFT> <RIGHT> keys to modify the audio2 level within this range: 0~99.
- **Audio2 Mode:** select Stereo, Left, Right or Mono for soundtracks.
- **Audio2 Language:** select the language of the audio.

5.2.4 ASI1

You can configure the settings of ASI1 in this menu.

ASI1 Source: Press the <ENTER> key and use the <UP> or <DOWN> key to roll up or down to select the signal source of ASI output, there are 5 type of signal source optional:

1. **CI De-encrypted:** the de-encrypted transport stream from CI functional block will be delivered to the ASI output port on the back panel.
2. **TUNER:** the transport stream from Tuner block will be delivered to the ASI output port on the back panel.
3. **ASI1 Input:** the transport stream comes from ASI1 input port will be delivered to the ASI1 output port on the back panel.
4. **ASI2 Input:** the transport stream comes from ASI2 input port will be delivered to the ASI2 output port on the back panel.
5. **Mux TS:** the transport stream comes from internal Mux functional block will be delivered to the ASI output port on the back panel.

Note: The Mux TS is valid only when the Mux function block is enabled and turned on. Refer to section 'Mux' and section 'Optional Function' for how to set the Mux function block.

Press <ENTER> key to save or press <EXIT> key to scrap. A few seconds after the source being selected, the TS will be delivered to the ASI output port on the back panel.

5.2.5 ASI2

The same configuration method like section of 'ASI1'

5.2.6 SDI

You can configure the settings of SDI output in this menu.

- **Audio PID:** press the <UP> <DOWN> keys to choose the audio PID from 1~4.
- **Embed Audios:** there are 4 options: none, one&two, two, and one.
- **SDI Output Mode:** configure output mode HD-SDI or SD-SDI
- **SDI H Offset:** the range is 0~999

5.2.7 Mux

Note: this Mux menu is showed only when the Mux function block is enabled and turned on. And the Mux is alternative (refer to section 'Optional Function' for how to turn on and set the Mux function block).

- **Mux Switch:** the internal multiplexer could be switched On/Off. The default value is 'off'. To activate the re-Multiplexing function, you should turn on this Mux functional block.
- **Bit Rate:** should be set to a specified value that doesn't exceed the Maximum physical limit of the output medium. For example, to deliver the multiplexed TS to an 8MHz DVB 256QAM modulator, it should not exceed 55000Kb/s, otherwise overflow occurs.
- **TS ID:** you can configure the TS ID to mark the multiplexed TS. Default value is 1.
- **Program List:** press the <ENTER> key to enter 'Mux List' sub-menu.
- It shows all programs detected by IDLV-5000P. The programs could be come from ASI input, Tuner, TS/IP input or the internal CI de-encryption block. Use <UP> <DOWN> keys to roll up the program names, and use <LEFT> <RIGHT> keys to switch among input sources, where a number in front of the program name indicates the input source:
 - 0-xxxx displays the program name, which comes from ASI input.
 - 1-xxxx displays the program name, which comes from TUNER input.
 - 2-xxxx displays the program name, which comes from TS/IP input
 - 3-xxxx displays the program name which comes from the CI.
 - 4-xxxx displays the program name, which comes from ASI2 input.
 - 5-xxxx displays the program name, which comes from BISS De-encrypted input.

On 'Program List' sub-menu, on the first row, all encrypted programs are labeled with a '\$' sign.

All programs that are being selected to be re-multiplexed are labeled as 'Pass', otherwise, the un-selected programs are labeled as 'Fobrid'. Use <ENTER> key to selected or un-selected the program being shown.

When leaving the 'Program List' sub-menu, a new menu will be shown 'Confirm changed?' Press <ENTER> key to validate all programs just be selected to be multiplexed or to scrap by pressing <EXIT> key.

After a few seconds, the multiplexed TS will be generated and delivered to the specified destination(s).

5.2.8 Ethernet

Note: this menu is showed only when the TS/IP streaming is installed and the board is set to "IP Out", refer to section 'Optional Function' for how to set up.

The TS/IP Ethernet connector could also be configured as the output of the transport stream over IP. The parameters listed below must be set to appropriate values for the network over which the transport stream over IP is broadcasted.

- **Stream IP Addr:** Enter the IP address for streaming IP output of the unit.
- **Stream Netmask:** Enter the network sub mask for the subnet to which the unit is connected for IP streaming traffic.
- **Stream Gateway:** Set the gateway for the network to which the unit is connected for IP streaming traffic.
- **Stream Mac Address:** factory-set MAC addresses are guaranteed to be unique. Therefore you cannot configure the address.
- **Protocol:** select the protocol for multicast: UDP or RTP.
- **TS Pkts Per UDP:** set the number of the TS packages encapsulated in one UDP package. The valid range goes from 1 to 7.
- **Time To Live:** set the number of the routers over which the TS over IP can be transmitted. The valid range goes from 1 to 5.
- **Type of Service:** select the type of service. There are: Normal, Min Monetary Cost, Max Reliability, Max Throughput or Min Delay optional.
- **Source:** select the source of the transport stream over IP streaming output.

There are 5 type of source optional:

AS11 Input
AS12 Input
CI De-encrypted
TUNER
Mux TS

Note: the Mux TS is showed only when the Mux function block is enabled and turned on. Refer to section 'Mux' and section 'Optional Function' for how to set the Mux function block.

After the operation, the selected transport stream will be delivered to the TS / IP function block for further operation.

- **Mode:** select the mode of IP stream, you can select DVB or IPTV.
- **DVB mode:** the transport stream which comes from the 'source' selected in previous step will be packed into **IP Stream directly**. Therefore the IP stream carries all programs and be delivered to the specified Multicast or Unicast IP address.
- **IPTV mode:** the transport stream which comes from the 'source' selected in previous step will be de-Muxed to several single programs, and each program is packed into one IP stream. Therefore each IP stream carries only one program and be delivered to the specified Multicast or Unicast IP address. You can configure maximum 6 IPTV channels.
- **Multicast Setup:** use <ENTER> key to enter sub-menu. The sub-menu is different according to different 'mode' selected in previous step.

DVB mode

- **Multicast IP:** Enter the IP address of the IP stream for the transport stream over IP output. You can configure the IP stream output mode in Multicast or Unicast.
Multicast could be established by setting Multicast IP address in the range of 239.255.255.255 to 224.0.0.0.
Unicast could be established with the same settings of Multicast, the only differences are the Multicast IP address, and should NOT be in the range of 224.0.0.0 to 239.255.255.255, which is for Multicast. Although the display is 'Multicast IP' on the first row, the stream itself is Unicast. The IP address of receiver device (maybe PC with VLC) needed to be set to as the unicast address on IDLV-5000P, please don't use DHCP to get a dynamic IP address for receiver device.
- **Multicast UDP Port:** Enter the UDP port number of the TS over IP stream output.

IPTV mode

- **Max Channels (<=6):** you can configure the number of IPTV channel. The valid range goes from 0 to 6.
- After the configuration, you can use <UP> <DOWN> keys to roll up and down between the channels. Each channel could be configured independently.
- **Channel x:** 'x' means the channel number. Press <ENTER> key to go down to the sub-menu.

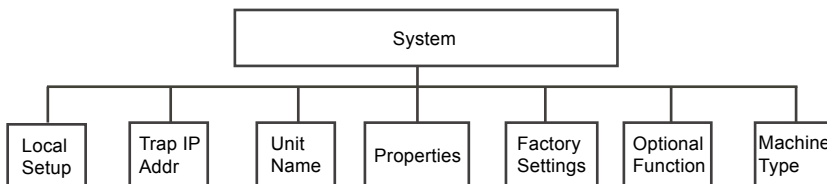
There are 4 sub-menus:

1. **x-Multicast IP:** Enter the IP address of the IP stream for the transport stream over IP output. You can also configure the IP stream output mode in Multicast or Unicast by setting Multicast IP address.
2. **x-Multicast Port:** Enter the UDP port number of the TS over IP stream output.
3. **x-Switch:** each channel could be switched On/Off independently. The default value is 'off'. To activate the channel, you should turn on.
4. **x-Program:** it shows all programs carried by the transport stream from the source selected. Press <ENTER> key and use <UP> <DOWN> keys to roll up and down between the program names, where a number in front of the program name indicates the input source:
 0-xxxx displays the program name, which comes from ASI input.
 1-xxxx displays the program name, which comes from TUNER input.
 2-xxxx displays the program name, which comes from TS/IP input
 3-xxxx displays the program name which comes from the CI.
 4-xxxx displays the program name, which comes from ASI2 input.
 5-xxxx displays the program name, which comes from BISS De-encrypted input.
 6-xxxx displays the program name, which comes from MUX TS.

All encrypted programs are labeled with a '\$' sign on the first row. Press <ENTER> key to the program just be selected to be delivered to the specified IPTV channel or to scrap by pressing <EXIT> key.

5.3 SYSTEM MENU

There are seven sub-menus:



Each IDLV-5000P has an IP address, a network sub mask and a gateway. These must be set to an appropriate value for the network over which the unit can be accessed by the remote control system such as the HDMS.

- **IP Address:** The IP address for the unit.
- **Network Mask:** The network mask for the subnet to which the unit is connected.
- **Gateway:** The gateway for the network to which this unit is connected.

5.3.2 Trap IP Address

The IDLV-5000P provides a Monitor Center IP address. You can set this to be the same IP address of the Monitor Center, which is typically a PC in order to allow the device to send messages to the monitor center.

5.3.3 Unit Name

The IDLV-5000P allows you to edit the unit name which is displayed on the front panel LCD. Default name is 'Digital TV Processor'. The unit name should not be longer than 20 characters in ASCII format.

5.3.4 Properties

- **Version:** show software version of this device
- **MAC Address:** Factory-set MAC address which is guaranteed to be unique. You cannot configure this address.
- **Linux OS version:** show Linux OS version
- **ARM SW version:** show ARM software version

- **Decoder version:** show Decoder version
- **FPGA version:** show FPGA version
- **TS/IP IN (or OUT) NIOS:** it's changed when TS/IP board is set to "IP Out" or "IP IN".
- **TS/IP IN (or OUT) FPGA:** it's changed when TS/IP board is set to "IP Out" or "IP IN".

5.3.5 Factory Setting

All the user configurable parameters will be set to the factory default settings, including IP address and the unit name.

5.3.6 Optional Function

There are two submenus:

1. External Board Type: Press <ENTER>-key to active the menu, use <UP> <DOWN> keys to configure the TS/IP functional block as 'IP In' or 'IP Out' or 'No Exist', and the option is exclusive. Press <ENTER> key to confirm or to scrap by pressing <EXIT> key.

After the operation, you need reboot the unit to valid the configuration.

IP In: the TS/IP port is configured as input, you can feed transport stream over IP into the unit.

The menu 'Ethernet' will be showed under the inputs menu.

IP Out: the TS/IP port is configured as output, you can set the transport stream over IP output to the IP network.

The menu 'Ethernet' will be showed under the outputs menu.

No Exist: the TS/IP port is invalid. Therefore the menu 'Ethernet' will not be showed anywhere.

2. Mux Function: Press <ENTER> key to active the menu, use <UP> <DOWN> keys to configure the Mux functional block as 'Enable' or or 'Disable'. Press <ENTER> key to confirm or to scrap by pressing <EXIT> key.

5.3.7 Machine Type

This setting is reserved for factory-setting, and you are not allowed to access this menu.

6. FAQ

1. Why is there nothing in the LCD?

Answer: Please check whether the power supply is connected well first. If not, insert it well and turn on the device. If there is still nothing displayed on the LCD, then the unit may be damaged, please contact the agent for technical support.

2. Why can the DVB-S2 signal not be locked?

Answer: Please ensure whether the input cable in connected well first. If not, insert it well. If it is connected well, please check whether all the necessary parameters are set properly. If not, please set the parameters properly. If the signal still cannot be locked, please check whether the quality of the signal is out of the threshold of the Tuner. If not, then the device might be damaged, please contact the agent for support.

3. Why can the ASI not be locked?

Answer: Please make sure the BNC cable is connected well and there are programs transmitted to the unit via the BNC cable.

7. Technical Specifications

INPUT

DVB-S2 QPSK/8PSK Demodulation

Input frequency range	950~2150MHz
Input level	-65~-25dBm
Input impedance	75Ω
Connector	F Connector
Symbol rate	5~45Msp/s for QPSK; 10~31Msp/s for 8PSK
Rolling off factor	0.35 for QPSK; 0.35, 0.25, 0.2 for DVB-S2
Punctured rates	DVB-S2 QPSK: 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-S: 1/2, 2/3, 3/4, 5/6, 6/7, 7/8
LNB Level	0, 13V, 18V
0/22K	0/22K
DiSEqC	DiSEqC 1.0

DVB-C QAM Demodulation

Tuner Input symbol rate	1~7Mbps(PAL) or 1~6Mbps(NTSC)
Demodulation	16/32/64/128/256 QAM
Tuner Bandwidth	6MHz or 7MHz or 8MHz
Input frequency range	50~860MHz
Digital signal Input level	-15~-15dBmV
Input connector	IEC Female (7/8MHz) or F Female (6MHz)
Input impedance	75Ω

DVB-T COFDM Demodulation

Constellation	QPSK, 16-QAM, 64-QAM
Tuner bandwidth	6MHz/7MHz/8MHz
FFT mode	2K/8K
Guard interval	1/4, 1/8, 1/16, 1/32, off
FEC code rate	1/2, 2/3, 3/4, 5/6, 7/8
Input frequency rate	470-862MHz (8MHz); 174-230MHz (7MHz)
Digital signal Input level	-20~-70dBmV
Input connector	IEC Female (7/8MHz) or F Female (6MHz) Input
Input impedance	75Ω

DS3 Input

Input connector	BNC Female
Input impedance	75Ω
Max input code rate	44.736Mbits/s
Format	Unframed Framing according to G.804 / G.752 (DS3)

Note: In the options you can also use navigation «Left» and «Right» key to change the settings (not for all settings).

OUTPUT

DS3 loop through output

Connector	75Ω, BNC female
Max. output code rate	44.736Mbits/s
Format	Unframed Framing according to G.804 / G.752 (DS3)

TS over IP Output

Connector	RJ45 10/100Base-T
Max. output code rate	70Mbits/s
UDP/RTP	Multicast or Unicast
Multicast control protocol	IGMPV2

I/O INTERFACE

Tuner input/loop through	1× Input, 1×loop through output
Power supply socket	3 pin inputs
RS-232	1×9-pin D-sub male(for software update, Max Data Rate is 115200bps)
TS/IP	TS over IP input/output (optional)
Management	Network management system, allowing parameter setting and software upgrade
ASI input	2 x BNC Female
ASI output	4 x BNC Female
SDI output	2 x BNC Female, supports HD-SDI/SD-SDI, (one for back-up) optional
HDMI output	1(optional)
YPbPr output	1
CVBS output	1×RCA, 1×BNC Female
AES/EBU	2 x 9 pins D-type connector (optional)

GENERAL

Power supply	AC 90V~250V 50Hz/60Hz
Net weight	5Kg
Dimensions	483x255x44mm
Operating temperature	0~45C°
Storage temperature	20~70C°

Accessory List

IDLV-5000P-xx	1pc
CD	1pc
User Manual	1pc
Power Cord	1pc
RCA A/V Cable	1pc
BNC Cable	1pc
RS232-to-XRL cable	2pcs