DSR-5000

Multi-Format Professional HDTV Processor

User Manual

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DSR-5000 Multi-Format Professional HDTV Processor

1. Safety

Please read this chapter before installation and use of the device

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.

The device described in this manual is designed to be used by properly-trained personnel only. Adjustment, maintenance and repair of the device shall be carried out by qualified personnel.

No operator serviceable parts inside. Refer servicing to qualified personnel. To prevent electrical shock, do not remove covers.

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

- Do not use the equipment in moisture environment surroundings.

  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.

2. Overview

As the latest version of flagship professional IRD, the DSR-5000's capability to decode all video formats, coupled with a wide choice of input options for all transmission mediums, the DSR-5000 provides significant benefits and the maximum flexibility for professionals who wish to migrate their operations from MPEG-2 SD to MPEG-4 AVC HD. With a built-in Multiplexer, the output TS could be highly customized. Equipped with 2 PCMCIA slots, DSR-5000 supports various CA systems such as Conax, Cryptoworks, Irdeto, NDS, Mediaguard, SECA, Viaccess etc. All of these flexibilities make the receiver the best choice for your digital HDTV headend system.

2.1 Features

- MPEG-2/4 SD and HD decoding
- MPEG-4 AVC SD decoding
- MPEG-4 AVC HD decoding
- HD to SD down-conversion
- HD/SDI video output
- SDI video output
- YPbPr video output
- 2 Stereo pair audio decode
- Built-in Multiplexer/Filter
- IP input or output with UDP/RTP
- Multicast and Unicast on IP
- Supports various Conditional Access systems
- SDI video output with 2 digital audio embedded
- Compatible with Multiple De-encrypt CI modules
- Upgradable through LAN
- Easy-to-use LCD menu

2.2 Models

There are many models of DSR-5000 basing on different functions

DSR-5000 Multi-Format Professinal HDTV Processor

	DSR-5000-30xx					DSR-5000-42xx					DSR-5000-44xx				
	-S	-S2	-T	-C	-D	-S	-S2	-T	-C	-D	-S	-S2	-T	-C	-D
DVB-S Input/Loop through Output	●					●					●				
DVB-S2 Input/Loop through Output		●					●					●			
DVB-T Input/Loop through Output			●					●					●		
DVB-C Input/Loop through Output				●					●					●	
DS3 Input/ Output					●					●					●
6 Channel IP Input/ Output						●	●	●	●	●					
32 Channel IP Input/ Output											●	●	●	●	●
PCMCIA slot	●					●					●				
ASI Input*2/Output*1	●					●					●				
SDI Output	●					●					●				
BNC Output	●					●					●				
A/V Output	●					●					●				
Y、Pb 和 Pr Output	●					●					●				
● standard															

The '●' sign indicates standard option.

3. Installation

Warning

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 instrument, is likely to make the instrument dangerous. The type of main plugged shipped with each instrument depends on the country of application.

The mounting environment should be relatively dust free, free of excessive vibration and the ambient temperature between 0 ℃ to 40 ℃. Relative humidity of 20% to 80% (non-condensed) is recommended.

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 70 ℃.

Caution

Do not connect AC power until you have verified that the line voltage is correct and the proper fuses are installed. The equipment requires a power source of either 50/60 Hz at 110V or 50/60 Hz at 240V. The voltage ranges for these nominal voltage values are shown in the table:

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

Caution

Be sure the supply voltage is within the specified range.

Checking 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.

3.1 Inspection and Test

Check if the devise has any visible damage. If everything seems all right, 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 turned 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)

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.

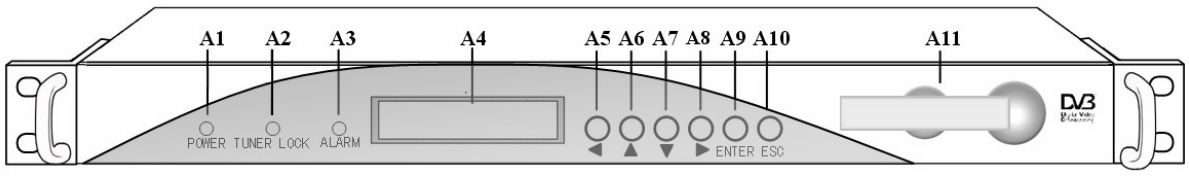
3.2 Functional Self Test

No specific functional self test is needed.

The device has been factory tested according to recognized test procedures and is ready for operation.

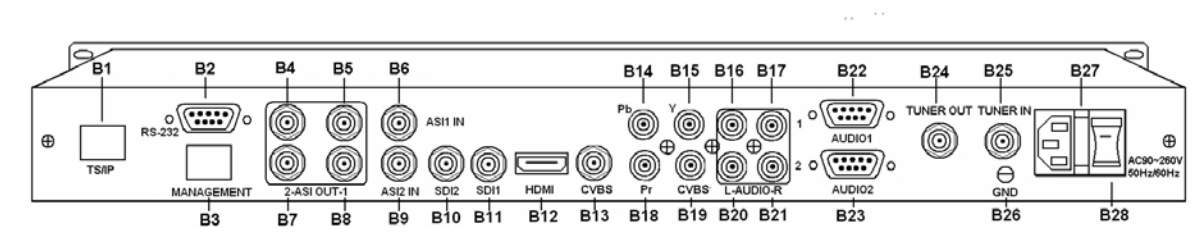
4. Structure

4.1 Front Panel



A1	POWER	Power indicator, green light means power is OK
A2	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.
A3	ALARM	Alarm indicator
A4	LCD	2 × 20 character LCD
A5-A10	Operation buttons	
		〔▲〕〔▼〕 are used to up/down pages of menu or increase/decrease value when edit numbers
		〔◄〕〔►〕 are used to move cursor
		〔ENTER〕is used to enter sub menu or confirm operation
		〔EXIT〕is used to return previous menu or cancel operation
A11	Common Interface	PCMCIA Module slot

4.2 Rear Panel

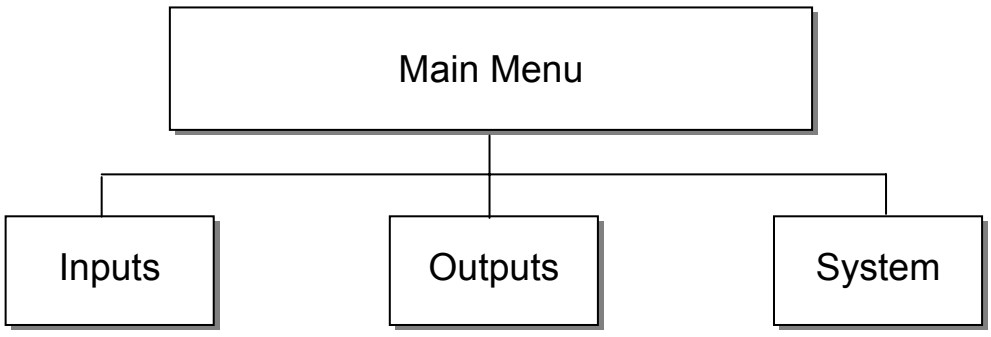


B1	TS/IP	IP input/output port
B2	RS-232	serial port for printing information
B3	MANAGEMENT	Interface as network management and software upgrading
B4,B7	ASI2 OUT	ASI2 output port
B5,B8	ASI1 OUT	ASI1 output port(independently from ASI 1)
B8	ASI1 IN	ASI1 input port
B9	ASI2 IN	ASI2 input port
B10	SDI2	SDI 2 output port
B11	SDI1	SDI 1output port(same with B11)
B12	HDMI	HDMI output port
B13	CVBS	CVBS output port(BNC)
B15,B14,B18	Y,Pb,Pr	YPbPr output port
B19	CVBS	CVBS output port(RCA)
B16,B17	AUDIO1	Audio1 output port (RCA)
B20,B21	AUDIO2	Audio2 output port(RCA)
B22	AUDIO1	Audio1 output port (RS-232, AESEBU digital audio, XLR balanced/unbalanced)
B23	AUDIO2	Audio2 output port (RS-232)
B24	TUNER OUT	Tuner signal loop out
B25	TUNER IN	Tuner signal input
B26	GND	Grounding terminal
B27	Fuse	V250V/2A fuse
B28	Socket	AVC 90~250V input

5. Menu Structure and Operation

There is a 2×20 character LCD in front panel. After turn on power, it will show boot information

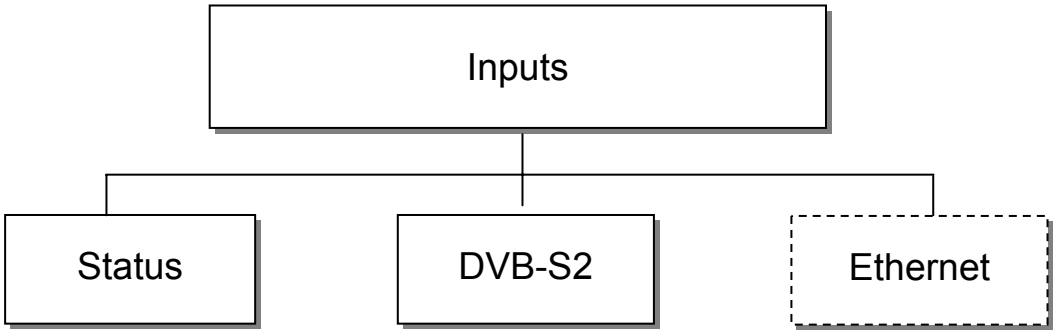
First line is product name; Second line is IP address of this device. Press 〔ENTER〕 button to enter main menu:



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

5.1 Inputs Menu

There are three options: Status and DVB-S2:



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 *No link.*

5.1.2 DVB-S2 Menu

There are 6 options to set QPSK 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. <B>

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.

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

5.1.3 Ethernet Menu

(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 5.2.7.)

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.

Multicase 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.

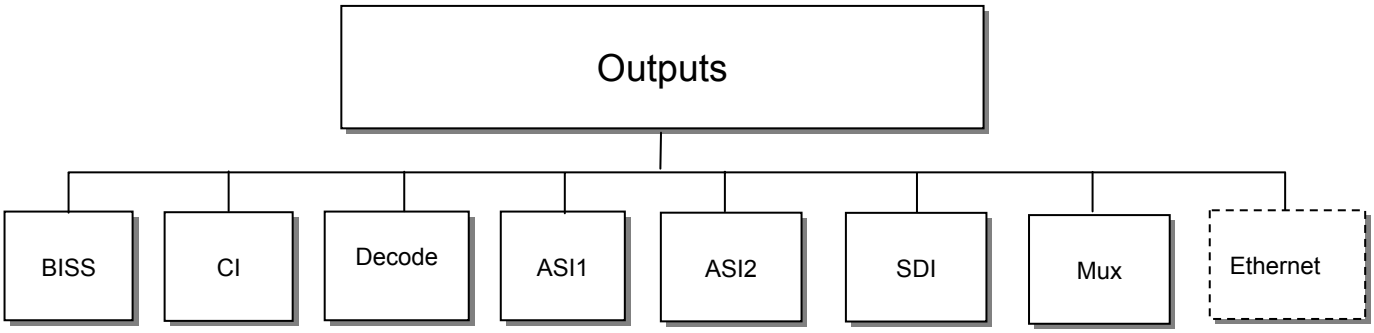
5.2 Outputs Menu

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

Note: (A) The Mux menu is showed only if the functional block is enabled. Refer to section

5.2.7.

(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 5.2.7.



5.2.1 BISS Menu

Biss: 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 Key enter：set Biss 1, password is required

Biss E Key enter：set Biss E, ID number and password are required

Biss source: ASI 1 Input, ASI 2 Input, TUNER, CI de-encrypted and IP.

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 2 submenus: ‘CI Source’ and ‘Setup’ which allow you to set or select the parameters of the CI.

CI Source: press the <ENTER>-key, then use <▲> or <▼>-key select Tuner or ASI1 input or ASI2 input or BISS 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.

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 <▲> or <▼>-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).

5.2.3 Decoder

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

Source: Press the <ENTER>-key and use the <▲> or <▼>-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.

(The Mux TS is valid only when the Mux function block is enabled and turned on. The Mux TS indicates not only the after-multiplexed TS when Mux is enabled, refer to section 5.2.7 and section 5.3.6 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 DSR-5000. The programs could be coming from ASI input, Tuner, TS/IP input or the internal CI de-encryption block. Use the <▲> or <▼>-key to roll up or down between the program names, and use <◀>-and <▶>-key to switch among input sources, where a number in front of the program name indicates the input source:

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

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

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

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

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 or SECAM or NTSC or PAL 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 <▲> <▼> <◀> <▶>-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 <▲> <▼> <◀> <▶>-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.

Status: It indicates the status of the decoder. It includes PMT, PN, A/V, Video and Audio.

Program set up: In this menu, you could set the programs, including the BISS list and output programs.

5.2.4 ASI1

You can configure the settings of ASI1 in this menu.

ASI1 Source: Press the <ENTER>-key and use the <▲> or <▼>-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.

BISS De-encrypted: the de-encrypted transport stream from BISS functional block will be delivered to the ASI output port on the back panel.

(The Mux TS is valid only when the Mux function block is enabled and turned on. The Mux TS indicates not only the after-multiplexed TS when Mux is enabled, refer to section 5.2.7 and section 5.3.6 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 5.2.4

5.2.6 Mux

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.

Output Bit Rate

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 DSR-5000. The programs could be come from ASI input, Tuner, TS/IP input or the internal CI de-encryption block. Use <▲> <▼>-keys to roll up the program names, and use <◀> <▶>-keys to switch among input sources, where a number in front of the program name indicates the input source:

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

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

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

C-xxxxx displays the program name which comes from the internal CI functional block.

On ‘Mux 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 ‘Mux 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).

5.2.7 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 5.3.6 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 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.

Source: select the source of the transport stream over IP streaming output. There are 5 type of source optional:

ASI1 Input
ASI2 Input
CI De-encrypted
TUNER
Mux TS (note the Mux TS is showed only when the Mux function block is enabled and turned on. The Mux TS indicates not only the after-multiplexed TS

when Mux is enabled, refer to section 5.2.7 and section 5.3.6 for how to set the Mux function block)

BISS De-encrypted

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.

Uni/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 DSR-5000, 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 <▲> <▼>-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:

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.

x-Multicast Port: Enter the UDP port number of the TS over IP stream output.

x-Switch: each channel could be switched On/Off independently. The default value is 'off'. To activate the channel, you should turn on.

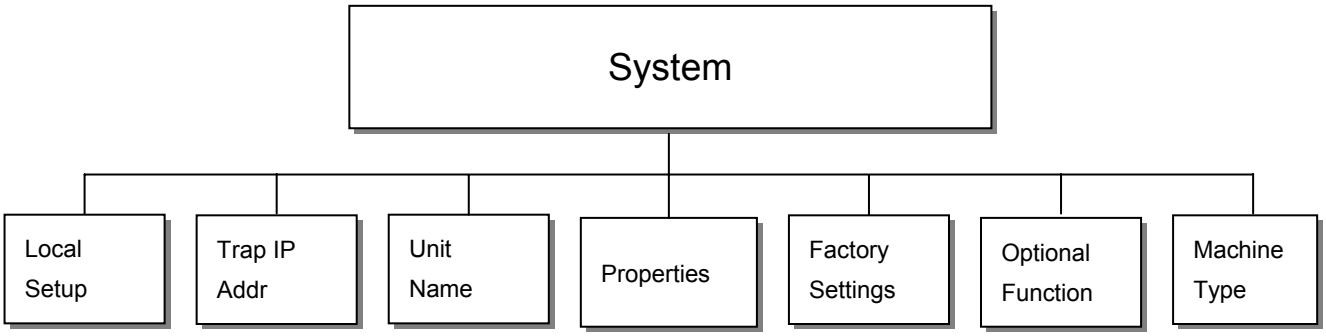
x-Program: it shows all programs carried by the transport stream from the source selected. Press <ENTER>-key and use <▲> <▼>-keys to roll up and down between the program names, where a number in front of the program name indicates the input source:

A-xxxxx displays the program name, which signal source is ASI.
T-xxxxx displays the program name, which signal source is TUNER.
I-xxxxx displays the program name which comes from the internal CI functional block.
C-xxxxx displays the program name which comes from the internal Mux functional block.

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:



5.3.1 Local Setup

Each DSR-5000 has an IP address, a network sub mask and a gateway. These must be set to an appropriate value for the network.

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 Addr

The DSR-5000 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 DSR-5000 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:

External Board Type: Press <ENTER>-key to active the menu, use <▲> <▼>-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.

Mux Function: Press <ENTER>-key to active the menu, use <▲> <▼>-keys to configure the Mux functional block as 'Enable' 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. Accessory list

DSR-5000-xx	1pc
CD	1pc
User Manual	1pc
Power Cord	1pc
RCA A/V Cable	1pc
ASI Cable	1pc