# Instruction Manual

HDE41IP

| Product Name | Model no. |
|---|---|
| Quad-channel H.264 Encoder, IP output streams | HDE41IP |

| **Version** | 1.2 | **Date** | 8/2020 | **EN** |
|---|---|---|---|---|

# Contents

## General Description & Main Features

Our new HDMI IPTV Streamer & Encoder HDE41IP is designed for medium to large sized projects. It is a 1080p60Hz full HD video and audio encoder that enables the distribution of SD and HD video content through IP networks or internet in digital quality. With the H.264 compression and the IPTV multicasting technologies, our new IPTV model makes better use of LAN bandwidth, by streaming each channel once over the network.

- 4 HDMI inputs / 1 IP Streaming port / 1 NMS port
- Quad HDMI 1.4 Encoder with UDP or RTP IP stream output via one 10/100M RJ-45
- Supports the main IP Streaming protocols UDP/RTP unicast or multicast
- Energy-saving and long-term reliability
- Simple and intuitive step-by-step configuration

## General Safety Introduction

◆ Read Instruction
  All the safety and operating instructions should be read before the product is operated.
◆ Retain Instruction
  The safety and operating instructions should be retained for future reference.
◆ Heed Warnings
  All warnings on the product and in the operating instructions should be adhered to.
◆ Follow Instructions
  All operating and use instructions should be followed.

### Basic safety instructions

— Unplug this product from the wall outlet before cleaning.
  Do not use liquid cleaners or aerosol cleansers. Use a damp cloth for cleaning.

— Do not use attachments that are not recommended by the product manufacturer as they may cause hazards.

— Do not use this product near water. For example, near a bathtub, wash bowl, kitchen sink or laundry tub; in a wet basement; or near a swimming pool; and the like.

— Do not place this product on an unstable cart, stand, tripod, bracket, or table.
  The product may fall, causing serious injury to a child or adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product.   Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

— A product and cart combination should be moved with care. Quick stops, excessive force, and un-even surfaces may cause the product and cart combination to overturn.

— Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or similar surface. This product should not be placed in a built-in installation such as bookcase or rack unless proper

ventilation is provided or the manufacturer's instructions have been adhered to.

— This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

— Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

— This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other) This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

— If this product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin, the plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

— If an outside antenna or cable system Is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

— 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 overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

— An outside antenna system should not be located in the vicinity of overhead power lines, other electric light or power circuits, where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them may be fatal.

— Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

— Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

— Damage Requiring Service
  Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

  A. When the power-supply cord or plug is damaged,
  B. If liquid has been spilled, or objects have fallen into the product,
  C. If the product has been exposed to rain or water,
  D. If the product does not operate normally by following the operating instructions.
       Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified

technician to restore the product to its normal operation,
- E.  If the product has been dropped or damaged in anyway, and
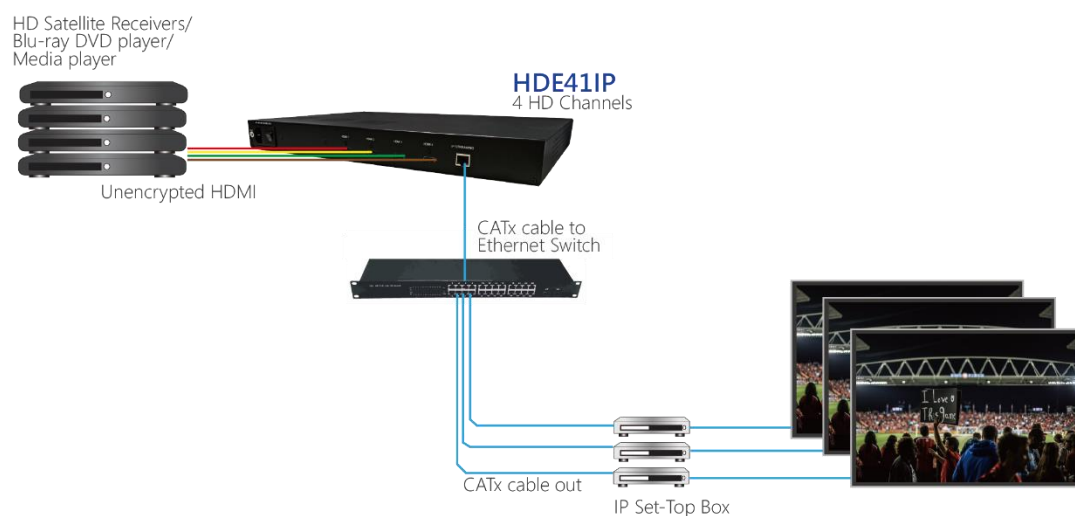- F.  When the product exhibits a distinct change in performance—this indicates a need for service.

— When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutes may result in fire, electric shock or other hazards.

— Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

— The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

— The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

## Technical Specification

| Type/Reference | Premium IPTV Streamer & Encoder /HDE41IP |
|---|---|
| **INPUT** | |
| Video & Audio input | 4 x HDMI |
| Connector type | Type A receptacle |
| Video resolution | Up to 1080p@60Hz |
| Audio | Embedded audio from HDMI input |
| **OUTPUT** | |
| IP stream output | 1 x RJ-45 10/100Mbps Ethernet, 1 x 10/100M Management |
| Streams | 4 x SPTS (1 stream per each input, 4 streams in total) |
| Output Resolution | Up to 1080p@30Hz |
| Destination IP addresses | User programmable |
| Simultaneous users | Depending on the bit rate and the network infrastructure |
| Latency | 200-1500ms (Max.) |
| **SYSTEM** | |
| Streaming protocols | UDP/RTP unicast or multicast |
| Video encoding | H.264/AVC |
| Encoding bit rate mode | CBR |
| Selectable video bit rate | 4 to 14 Mbps |
| Audio encoding | MPEG-1 audio layer ll |
| Selectable audio bit rate | 128,192, 256, 384Kbps |
| **CONFIGURATION** | |
| On-site management | LCD panel & Buttons |
| Remote operation | Control over LAN (Web GUI) |
| **GENERAL** | |
| Type | 1RU 19-inch rack mount, rack ears shipped attached |
| Dimensions/Weight | 44x440x280mm / 3.5 kg |
| Power supply | AC 110 – 240 internal power supply |
| Power consumption | 25W |
| Operation temperature | 0 to +55 °C |
| Accessories | 1 x AC power lead |

## Basic Installation

**Quick Menu Guide**

| | | |
|---|---|---|
| | System Booting<br><br>Please wait… | |
| | HDE41IP<br>Encoder&Streamer | |
| **Main Menu** | **Egress** | Setup Stream IP |
| | | Setup Stream Port |
| | | Rtrv Status |
| | **Video** | Set Video |
| | | Rtrv Status |
| | **Audio** | Set Audio |
| | **Stream** | Set Service |
| | | Set LCN |
| | | Set PID |
| | | Set NIT |
| | | Set PDS |
| | | Set TS ID |
| | | Rtrv Status |
| | **System** | Rtrv Inventory |
| | | Reset System |
| | | Upgrade Code |
| | | Setup IP |
| | | Rtrv IP |
| | | Set Language |

**Submenu**

(*)   Make sure you choose the correct port "1, 2, 3 or 4" before setting parameters in IP Stream(Egress),Video, Audio, Stream sections.

## Operating Adjustment Via LCD & Buttons

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.

### Egress Output(IP Encoder/Streamer)

#### A.  Stream IP

| | |
|---|---|
| Egress Output<br>Setup Stream IP | Following the main Submenu flow charts enter the ' Setup Stream IP' mode. |
| Enable DHCP<br>ENABLE | Press the OK button to enter the next page for DHCP setup. |
| Enable DHCP                          ∗<br>ENABLE | *Press the OK button 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 buttons to select the setting you require. Press OK button to save.*<br>(DISABLE, ENABLE) |
| Are you sure?<br>                                        y | When all the item in 'Setup Stream IP' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

#### B.  Setup Stream Port

| | |
|---|---|
| Egress Output<br><br>Setup Stream Port | Following the main Submenu flow charts enter the ' Setup Stream Port' mode. |
| Port Number:<br>1 | 1, 2, 3, 4 |
| IP DEST Address:<br>239.255.1.1 | X.X.X.X |
| SRC Port:<br>59168 | Source Port: 1-65535* |
| DEST Port:<br>59268 | Destination Port: 1-65535* |
| Are you sure?<br>                                        y | When all the item in 'Setup Stream Port' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

*Some parameters may conflict with local usage settings.

#### C.  Retrieve Stream Status

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

## VIDEO

### A. Set Video

| | |
|---|---|
| Port Number:<br>1 | Following the main Submenu flow charts enter the ' Set Video' mode. Choose 1, 2, 3 or 4 for more settings. |
| Output:<br>Disable | Video Output: Enable, Disable |
| Encoder Rate:<br><br>8M | 4~14M |
| Are you sure?<br><br>               y | When all the items in 'Set Video' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO 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 'Video'.

## AUDIO

| | |
|---|---|
| Port Number:<br><br>1 | Following the main Submenu flow charts enter the ' Set Audio' mode. Choose 1, 2, 3 or 4 for more settings. |
| Encoder Rate:<br><br>128K | 128K, 192K, 256K, 384K |
| Are you sure?<br><br>               y | When all the items in 'Set Audio' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

## STREAM

### A. Set Service

| | |
|---|---|
| Stream<br><br>Set Service Name | Following the main Submenu flow charts enter the 'Set Service '. Press the OK button to enter the Submenu. |
| Port Number:<br><br>1 | Choose 1, 2, 3 or 4 for more settings. |
| Service ID:<br><br>1 | Edit the Service ID by preference.<br>0-9; A-Z, "-" ; ' '   at most 15 characters |
| Service Name:<br><br>HDCH-1 | Edit the Service name by preference.<br>0-9; A-Z, "-" ; ' '   at most 15 characters |
| Provider Name:<br><br>DTV | Edit the Provider Name by preference.<br>0-9; A-Z, "-" ; ' '   at most 15 characters |

| | |
|---|---|
| Set Service Type:<br><br>ADV HD Service | ADV HD Service, ADV SD Service, HD Serivce, SD Service |
| Are you sure?<br><br>                 y | When all the items in 'Stream Set Service' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

## B. Set LCN

| | |
|---|---|
| Stream<br><br>Set LCN | Following the main Submenu flow charts enter the 'Set LCN'.<br><br>Press the OK button to enter the Submenu. |
| Port Number:<br><br>1 | Choose 1, 2, 3 or 4 for more settings. |
| LCN:<br><br>200 | Edit the logical channel number by preference.<br><br>1~1023 |
| Are you sure?<br><br>                 y | When all the item in 'Stream set LCN' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

## C. Set PID

| | |
|---|---|
| Port Number:<br><br>1 | Choose 1, 2, 3 or 4 for more settings. |
| PMT:<br><br>129 | 32~8191, exluding 71 |
| PCR:<br><br>768 | 32~8191, exluding 71 |
| Video:<br><br>2064 | 32~8191, exluding 71 |
| Audio:<br><br>2068 | 32~8191, exluding 71 |
| Are you sure?<br><br>                 y | When all the item in 'Stream set PID' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

## D. Set NIT

| | |
|---|---|
| Port Number:<br><br>1 | Choose 1, 2, 3 or 4 for more settings. |

| | |
|---|---|
| OrgNetwork ID:<br><br>1 | According to different area to setup the parameter values.<br><br>1~65535 |
| Network ID:<br><br>1 | 1~65535 |
| Network Name:<br><br>NETWORK | A-Z, 0-9. At most 7 Characters |
| Network Ver:<br><br>1 | 1-31 |
| Are you sure?<br><br>                                  y | When all the item in 'Stream set NIT' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

**E.   Set PDS**

| | |
|---|---|
| Port Number:<br><br>1 | Choose 1, 2, 3 or 4 for more settings. |
| Private Data:<br><br>00000028 | 8 Hex |
| Are you sure?<br><br>                                  y | When all the item in 'Stream set PDS' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

**F.   Set TS ID**

| | |
|---|---|
| Port Number:<br><br>1 | Choose 1, 2, 3 or 4 for more settings. |
| TS ID:<br><br>201 | 1~65535 |
| Are you sure?<br><br>                                  y | When all the item in 'Stream set TS ID' are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

**I. 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<br><br>Rtrv Inventory | Following the main Submenu flow charts enter the ' System Retrieve Inventory'. Press the OK button ro enter the Submenu. |

| System Info<br><br>HW: x.x SW: x.x | Press the OK button to enter the next page, you can check both hardware and software version. |
|---|---|
| System Info<br><br>MM/DD/YYYY | Press the RIGHT button to access the next page for more information.Press the OK button to exit. |

## B. Reset System

| System<br><br>Reset System | Following the main Submenu flow charts enter the ' System Reset System'.Press the OK button ro enter the Submenu. |
|---|---|
| Reset Mode:<br><br>Hard Reset | Hard Reset(Reboot), Reset to default |
| Are you sure?<br><br>          y | When the system reset is selected, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

## C. Upgrade Software (via Front panel NMS RJ-45 interface)

| Upgrading Code<br><br>Please wait… | Please confirm IP setting correctly before upgrading code. |
|---|---|

## D. Setup IP

| Enable DHCP:<br><br>DISABLE | DISABLE, ENABLE<br>※  Please select "DISABLE" in "Enable DHCP" before editing the IP address. Otherwise the IP setting will not be completed. |
|---|---|
| IP Address:<br><br>192.168.1.168 | X . X. X. X |
| Net Mask:<br><br>255.255.255.0 | X . X. X. X |
| Default Gateway:<br><br>192.168.1.3 | X . X. X. X |
| Are you sure?<br><br>          y | When the items in "Setup IP" are done, there will be a confirmation on the display. Press UP or Down button to select YES or NO. Select 'y' for YES, all the settings above will be stored in memory. Select 'n' for NO to cancel. |

## E. Retrieve IP

Following the main Submenu flow charts enter the 'System Retrieve Status' mode. In 'Retrieve Status' mode, press the OK button to check the parameters of your previous settings in 'Stream Setup IP'
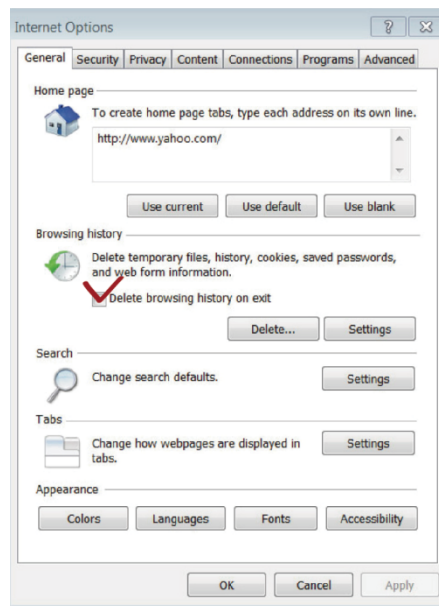
## F. Set Language

Only provide English in this version.

**OPERATING ADJUSTMENT VIA WEB BROWSER** (via Front panel NMS RJ-45 interface)

The web browser will allow the user to fully configure the HDE41IP unit via an Ethernet connection. Your computer will require a static IP address in the range 192.168.1.XXX

1. Connect the PC to the LAN port of the HDE41IP unit.

2. The configuration process must be made in local mode, although later you will be able to access the unit from any PC in the LAN.

3. Launch the web browser and delete browsing history.



4. Enter the HDE41IP IP address



5. Click on ENTER to access the welcome screen. Enter the default password '1234'