



ANTRICA

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Product User Manual



**4K Video Encoder with
Ubuntu & Docker**



ANT-5000E



June 2026



V1.1



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Revision Control

Date	Version	Reason	Created By
20 th April 2026	V1.0	Template created	Leslie Litwin
8-Jun-26	V1.1	Updated	David M

1.0 Introduction

1.1 ANT-5000 series of platforms

The ANT-5000, 5000E and 5000DE are a series of encoder platforms built on the same hardware.

- 1.1.1 The ANT-5000 is a bare bones Ubuntu computer with a Docker image environment for customer development using Antrica hardware
- 1.1.2 The ANT-5000E is an Antrica 4K HDMI video encoder including the option to add Docker images over Ubuntu to utilize additional CPU power and resources like the 256GB NVME memory additional ethernet NIC and HDMI output plus various USB ports not used by the 4K Encoder.
- 1.1.3 The ANT-5000DE is a 4K Dante Encoder (Dante is a brand of Audinate). This is developed for the Dante AV-H video and audio streaming system that allows multiple encode and decode hardware products to be connected and controlled by Dante controller.

2.0 ANT-5000E encoder Quick start Guide

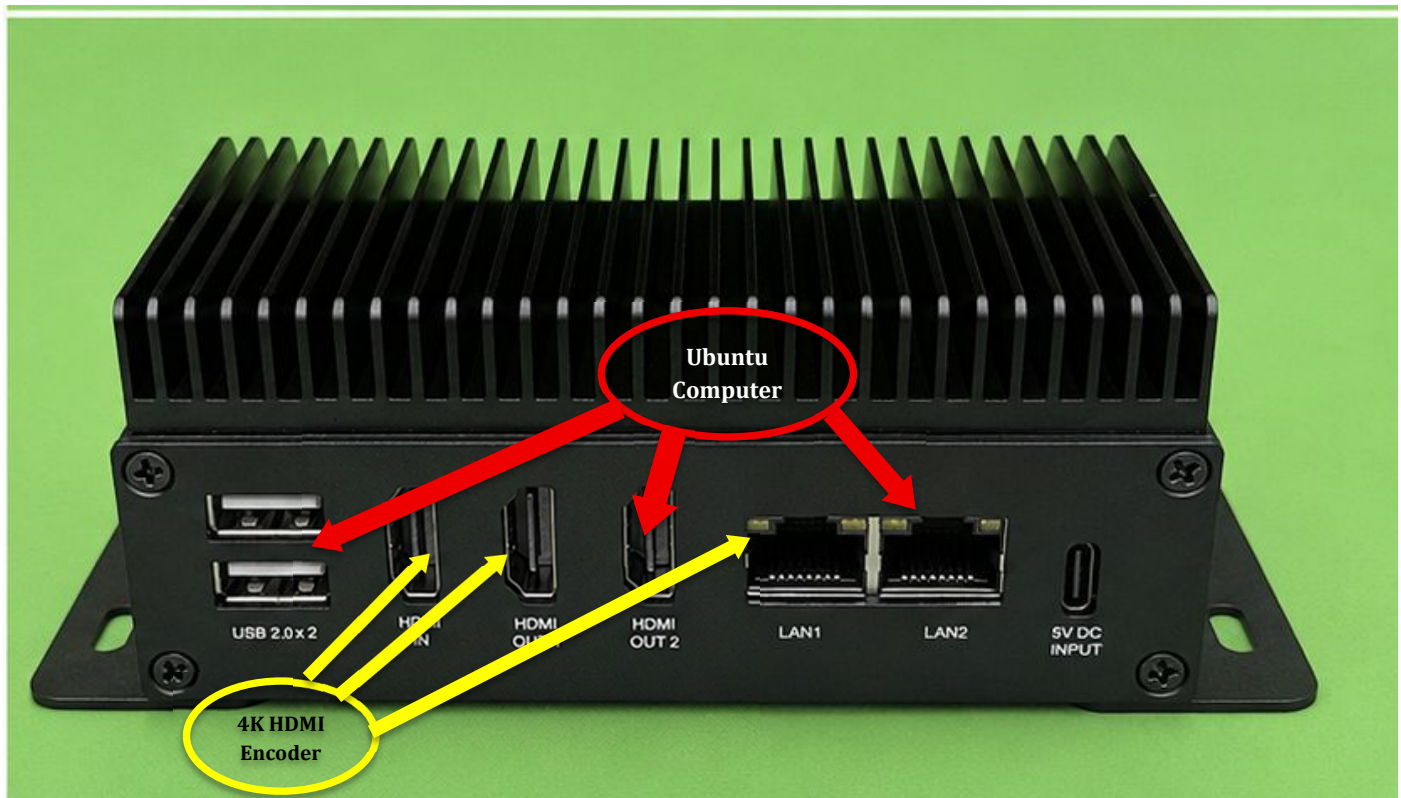
This document is a quickstart guide to the ANT-5000E encoder used as a 4K video encoder. There are sections that describe how to access the Ubuntu OS Docker and the Dante variant.

3.0 Connection Diagrams

3.1 Connection Diagram General

The ANT-5000 has one HDMI input and 2 HDMI outputs and 2 Ethernet GigE NICs.

These are reserved for the 4K HDMI encoder functions and use by the Ubuntu OS as shown. The USB functions can only be used by the Ubuntu OS and the 5V USB-C power input is for the unit as a whole (Note this is a 3.5A 5v interface for PSU supplied)



The Encoder HDMI output is intended as a bypass out for the HDMI in so a local monitor can be used. Example: a 4K PC with a monitor used as a source can have the encoder inserted between PC and Monitor.

The Ubuntu Operating system can utilize its own independent HDMI out for a Monitor and Ethernet port completely independent from the Encoder. The settings for these are controlled by the Ubuntu OS. Any of the USB ports may be used for a keyboard and mouse to interface with Ubuntu

3.2 Connection Diagram: Front

- a) USB2.0 dual ports used for the Ubuntu OS
- b) HDMI Tx1: Used as the 4K encoder input, setup in Web UI
- c) HDMI Rx1: Used as the bypass HDMI out for Tx1, setup in web UI
- d) HDMI Rx2: This the HDMI out for the Ubuntu OS
- e) LAN 1: GigE port for the Encoder setup in the encoder Web UI
- f) LAN 2: GigE port for Ubuntu OS
- g) DC IN: 5v 3.5 Amp power input via a USB-C connector (PSU supplied)



3.3 Connection Diagram: Rear

- a) Reset 1: Factory reset of the unit to defaults if pressed for 10 seconds
- b) USB C: Used by the Ubuntu OS also USB 3.0 x 2
- c) Reset 2 reserved for the Ubuntu OS
- d) IR : Interface reserved for Ubuntu OS
- e) Mic: Microphone reserved for the Ubuntu OS
- f) LED: Status LED used by the 4K encoder to show boot status
- g) Audio in/out: Analogue audio interface for the Encoder can be used instead of embedded HDMI audio
- h) SD Card: Micro SD card slot for Firmware load and other functions reserved for the 4K Encoder



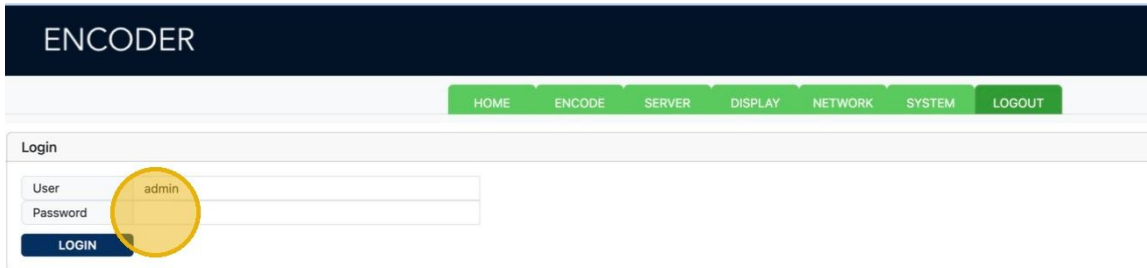
4.0 Authentication and Security

4.1 Login in screen

Access this by entering the default IP address in a browser of **192.168.0.224**

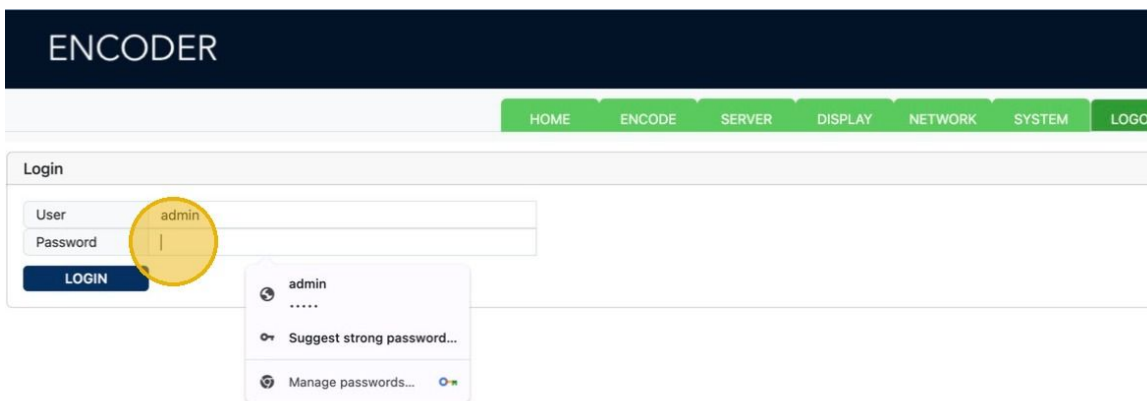
The default user name is **admin** and password also **admin**

(Change these if needed in the **SYSTEM** tab



The screenshot shows the 'ENCODER' login interface. At the top is a dark blue header with the word 'ENCODER' in white. Below it is a navigation bar with green tabs: HOME, ENCODE, SERVER, DISPLAY, NETWORK, SYSTEM, and LOGOUT. The 'Login' section contains two input fields: 'User' with the text 'admin' and 'Password' which is empty. A yellow circle highlights the 'Password' field. Below the fields is a blue 'LOGIN' button.

4.2 Click the Password field to trigger the saved password prompt.

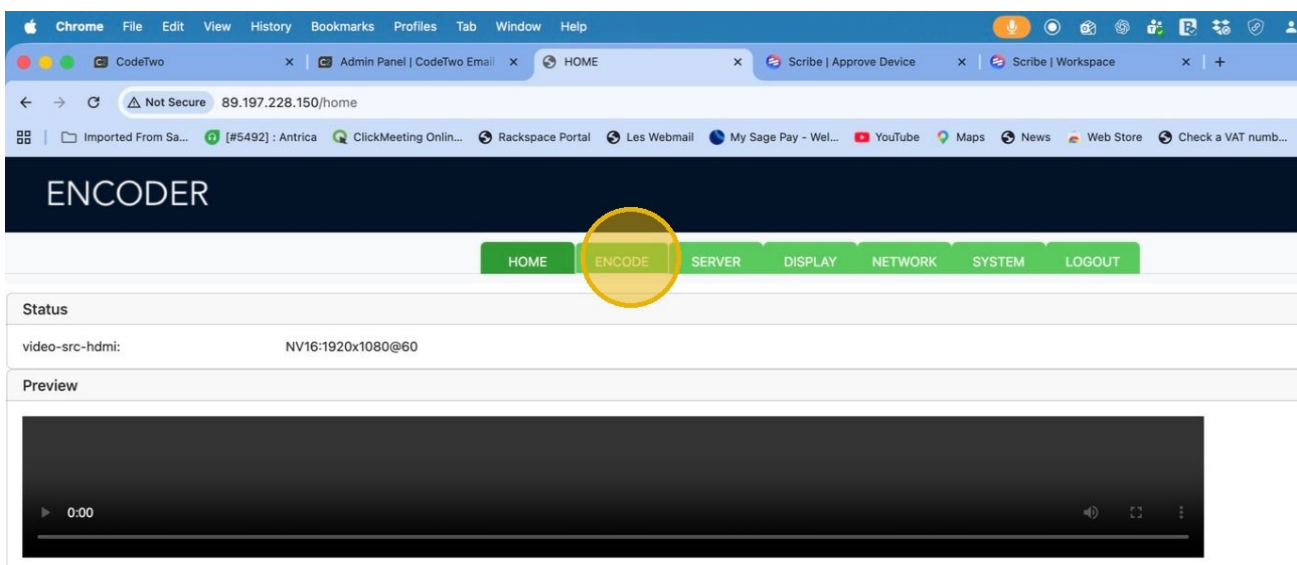


This screenshot shows the same login interface as before, but with a password prompt visible. A yellow circle highlights the 'Password' field. A dropdown menu is open below the field, showing the text 'admin', a masked password '.....', and two options: 'Suggest strong password...' and 'Manage passwords...'.

5.0 HOME Screen

Once logged in you are presented with the HOME screen showing Video source information i.e. HDMI and resolution. A preview of the video input source (this view shows HDMI input is in sleep mode)

NEXT: Select the **ENCODE** tab to see encoder settings (next slide)



The screenshot shows the 'ENCODER' HOME screen in a web browser. The browser's address bar shows '89.197.228.150/home'. The interface has a dark blue header with 'ENCODER' and a navigation bar with green tabs: HOME, ENCODE, SERVER, DISPLAY, NETWORK, SYSTEM, and LOGOUT. The 'HOME' tab is selected and highlighted with a yellow circle. Below the navigation bar, the 'Status' section shows 'video-src-hdmi: NV16:1920x1080@60'. The 'Preview' section shows a video player with a black screen and a '0:00' timestamp.

6.0 ENCODER (encode Tab)

Encoder resolution OSD and other stream characteristics settings

Also see SERVER settings in the next section for more stream characteristic settings.

Here you have 4 settings for the 4 streams : Main Sub1 sub2 sub3 ..these can be renamed

Each stream has 3 horizontal line settings:

1. Resolution frame rate and GOP
2. On screen display settings like colour position and text content this is burnt into the video stream. Time stamp can be date time or both.
3. Codec settings like H264 265 base main or high profile and CBR VBR modes

ENCODER

HOME ENCODE SERVER DISPLAY NETWORK SYSTEM LOGOUT

SAVE

video: main

resolution	3840x2160	framerate	30	GOP	30
OSD label	MAIN	color	white	position	top-left
codec	h264	profile	baseline	BPS	10000000
					rc mode

video: sub1

resolution	1920x1080	framerate	30	GOP	30
OSD label	SUB1	color	white	position	top-left
codec	h264	profile	baseline	BPS	2000000
					rc mode

video: sub2

resolution	1280x720	framerate	30	GOP	30
OSD label	SUB2	color	white	position	top-left
codec	h265	profile	baseline	BPS	1000000
					rc mode

7.0 Server (Tab)

7.1 Setting up the type of stream

In this section you have 2 sub sections RTSP and UDP

7.1.1 RTSP allows setting RTSP characteristics for unicast or multicast use, the authentication username and password and various port settings (multicast)

The default RTSP port 554 can also be changed.

typical URL: `rtsp://user:user@192.168.0.228:554/sub2`

The **username** and **password** and **Sub2** in this example can be changed in this section.

7.1.2 UDP this is used for one way streaming over UDP such as RTP over UDP and MPEG-TS. Both unicast and multicast settings are applied here

URL: would be `UDP://@:1234` or `udp://@224.22.23.11:1234`

NCODER

HOME ENCODE **SERVER** DISPLAY NETWORK SYSTEM LOGOUT

Username: user Password: user port: 554

in	✓	audio	✓	transport	ANY	✓	mcast address	224.3.0.0	mcast port	5000	mcast TTI
b1	✓	audio	✓	transport	ANY	✓	mcast address	224.3.0.0	mcast port	5004	mcast TTI
b2	✓	audio	✓	transport	ANY	✓	mcast address	224.3.0.0	mcast port	5008	mcast TTI
b3	✓	audio	✓	transport	ANY	✓	mcast address	224.3.0.0	mcast port	5012	mcast TTI

protocol unicast rtp host address host port 0

protocol unicast rtp host address host port 0

8.0 DISPLAY (Tab)

This allows information to be displayed on boot up via the HDMI bypass output.

It is useful for finding IP address and firmware information .

ENCODER

HOME ENCODE SERVER **DISPLAY** NETWORK SYSTEM LOGOUT

Display OSD Label

label: \$VERSION; || \$SRC_NAME:\$SRC_RES;\$SERVERS | \$IP_ADDR;\$MAC_ADDR | \$STREAMS ||

show for (s): 10 color: white shade: 33 position: bottom-center

APPLY

9.0 Network (Tab)

Select the Network tab to allow configuration of network IP DHCP and URL for an NTP time server. Interface eth0 (LAN1) is used with the 4K encoder and eth1 (LAN2) is associated with the Ubuntu operating system.

ENCODER

HOMEENCODESERVERDISPLAYNETWORKSYSTEMLOGOUT

SAVE

Interface: eth0

Managed	☒
IPv4	STATIC
Address	192.168.0.99
Gateway	192.168.0.1
Netmask	255.255.255.0
DNS	8.8.8.8
NTP	192.168.0.123

Interface: eth1

Managed

10.0 SYSTEM (Tab)

The system settings tab allows firmware upgrades , factory reset and other system functions

9.1 Update password - update allows passwords to be changed

9.2 System Update - Load Update: This allows firmware to be uploaded

9.3 System config - Load and Save Config: save and load all the settings in the encoder to duplicate or restore settings.

ENCODER

HOMEENCODESERVERDISPLAYNETWORKSYSTEMLOGOUT

Update password

User	admin
Password	
(repeat)	

UPDATE

System update

Choose FileNo file chosen

LOAD UPDATE

System config

Choose FileNo file chosen

LOAD CONFIGSAVE CONFIG

System restart

9.4 System restart - Reboot Factory Reset: A reboot remotely or fully restore to factory default including password and IP address

9.5 License - Load and Save License: This feature allows customers to request full copies of future features which may be installed as demo versions thus fully unlocking these features.

9.6 HTTP - enable HTTPS if required.

9.7 SSL - Upload an SSL certificated if required

9.8 Time Zone - set the time zone manually

9.9 Firmware Version: is at the base of this page

The screenshot displays the 'SYSTEM' configuration page of the ANT-5000 web interface. At the top, a navigation bar includes tabs for HOME, ENCODE, SERVER, DISPLAY, NETWORK, SYSTEM (which is active), and LOGOUT. The main content area is divided into several sections: 'System restart' with 'REBOOT' and 'FACTORY RESET' buttons; 'License' with a file upload field and 'LOAD LICENSE' and 'SAVE LICENSE INFO' buttons; 'HTTP' with an 'Enable https' toggle and an 'UPDATE' button; 'SSL' with fields for 'SSL KEY' and 'SSL CERT', each with a file upload button and 'LOAD SSL' and 'RESET SSL' buttons; 'Time Zone' with a dropdown menu set to 'Europe/London' and an 'APPLY' button; and 'System version' at the bottom showing 'encoder 1.3.7 - ANT5000 1.0 - Thu 26 Mar 15:54:22 GMT 2026 - unlicensed'. A yellow circle highlights the 'APPLY' button in the Time Zone section.

11.0 LOGOUT (Tab)

selecting this tab will automatically log you out of the webpage of this product.

To log back in go to the HOME tab (IP address in a browser)

12.0 Ubuntu and Docker

12.1 Accessing the terminal interface of Ubuntu

The default IP address of the device is static: 192.168.0.224 – (unless Dante is installed on the system in which case it will be in DHCP).

For developers who wish to access the device as an Ubuntu box the “enable-terminal-1.3.7-sw.img” software image update can be applied through the web interface. This enable-terminal file can be found within the folder <https://downloads.antrica.com/Encoders/ANT-5000/Firmware/CURRENT-firmware/>

After this is applied the encoder application will not be started after reboot / power cycles by default and an on-screen terminal will be displayed instead. This allows any modifications to the system to be done as required.

To revert to starting the encoder by default delete the file: “/userdata/.terminal” and reboot.

Encoder Docker Images Exporting Docker images: Create your docker image – for this example we will download the test image “helloworld”:

docker pull hello-world

Using default tag: latest latest:

Pulling from library/hello-world Digest:

sha256:e0b569a5163a5e6be84e210a2587e7d447e08f87a0e9079836 3fa44a0464a1e8

Status: Image is up to date for hello-world:latest

docker.io/library/hello-world:latest

To export the image to a file use the “docker image save” command:

docker image save -o hello-world.tar hello-world:latest

This creates a tar file containing the docker image which can be imported into the docker encoder:

Import the encoder image into docker:

docker load -i hello-world.tar

98a92b28c9b8: Loading layer

[=====>]

7.168kB/7.168kB

Loaded image: hello-world:latest

13.0 Dante Version of the ANT-5000 (ANT-5000DE)

The ANT-5000DE will appear in Dante Controller as "Device Name" ANTENC-AV-H-a1bfec and a "Model Name" of ANT5000 AV-H and will appear as a source with 1 video and 2 audio channels.

