

# Streambox Avenir Micro (SBT3-E9850M) and Drone (SBT3-E9850D) Encoders

## BASIC REFERENCE

### Introduction

The Avenir Micro Encoder and Avenir Drone Encoder are miniature, portable HD/SD Encoders that operate on battery or AC power. Both can be used with modular accessories to add power or modems directly to the unit. The Micro and Drone have the same specifications and software, but the Drone has a lightweight chassis.

### Supported Inputs/Outputs

**USB:** 2 USB sockets in front; one in back.

**Ethernet:** Single Ethernet/LAN connections, RJ-45; only one is required

**Input Connections:** HD-SDI/SD-SDI signal (BNC), HDMI

**Supported Input Video resolutions/framerates:**

**HD:** 1080i (50, 59.94, 60 fps), 720p (50, 59.94, 60 fps), 1080psf (23.98, 24 fps)

**SD:** NTSC (29.97 fps), PAL (25 fps)

**Supported Input Audio:** SDI-Embedded Audio (up to 8 channels); HDMI Audio (2 channels)

**Output:** IFB Audio – 1 channel 3.5mm (1/8") TRS headphone jack

### Manuals and Knowledge Base

You may download the Streambox Avenir Micro/Drone Here is a link to the Streambox Support Portal section for the Streambox Avenir line, which has a Knowledge Base and Documentation: [http://support.streambox.com/?b\\_id=1813](http://support.streambox.com/?b_id=1813)

### Web Control Interface

**Local Network:** When connected to a local network using Ethernet or WiFi, you can open a web browser and connect directly to the IP address of the Avenir.

**WiFi:** You can connect directly to a Micro or Drone encoder via a peer-to-peer WiFi connection for remote control. Using a mobile device (iPhone/Android) or a computer with WiFi:

1. From your smart-phone or other WiFi device, scan available WiFi networks (see image on right) for the Micro device name (this will be the same as the serial number). Then connect to that device using 10 ones (1111111111) for a password.
2. From the web browser on the device, enter the URL <http://10.111.111.1> to access the Micro device's web interface.
3. Remember to return the remote device (phone or laptop) to the original WiFi connection when you are done.

### Remote Web Control via Internet

When the Avenir is connected to the internet by any connection, it automatically uses one of its connections to contact our Remote Configuration server. The Remote Config permits users to access the Avenir remotely from anywhere on the internet.

1. Open a web browser to the following address: <http://avenir.streambox.com/remote/>
2. Enter the Avenir's serial number (caps-sensitive) and, if set, your access Password (if no password is used, leave it blank).
3. Click Logon. If the device is online, as shown by the Status

### Basic Network Needs

**Port:** The Encoder will stream, by default, using **port 1770 UDP**, and the Decoder will receive on the same port. Data must be allowed through any firewalls in the network path between Encoder and Decoder.

**NAT:** (optional) Both units are not required to have their own Public IP addresses when the stream is crossing the Internet, but **Network Address Translation** may make it simpler to stream to the Decoder.

**Firewall:** Firewall at a receiving location (Decoder/Enterprise Server) should to be set with a **port forward** (a.k.a. **port filter**) so that all traffic received from the internet that's been sent to **port 1770 UDP** must be forwarded to the private IP of the decoder.

- **Example:** A Decoder has a static private IP address of 192.168.10.10. In the firewall settings, the user (or IT person) must set port-forwarding in the firewall so all UDP packets sent from Any address on the internet to Port 1770 on the firewall will be forwarded to 192.168.10.10 on port 1770

**Static or Dynamic IPs:** The Streambox will ship with both network adapters in **DHCP mode** and will attempt to acquire an IP address from the local network

- Units used for Encoding are *recommended* by Streambox to have a local static or reserved IP address.
- Units used for Decoding are *required* to have a static or reserved IP address, whether local or public.

### Connecting to a Network

Use the Advanced Menu of the Web UI to set the IP address, configure Wifi and WWAN modems. You can access the Advanced Menu by opening the menu button on the main interface (3 horizontal lines in a stack).

From there, select the Network button.

Set the unit's streaming to ALL mode to make all configurations available. Then select LAN1 to configure IP address, Subnet Mask, Default Gateway,

(DNS coming soon)

### Contacting Streambox Support

Streambox Support can be reached via email: [support@streambox.com](mailto:support@streambox.com) and by phone: **206-956-0544 Option 2**

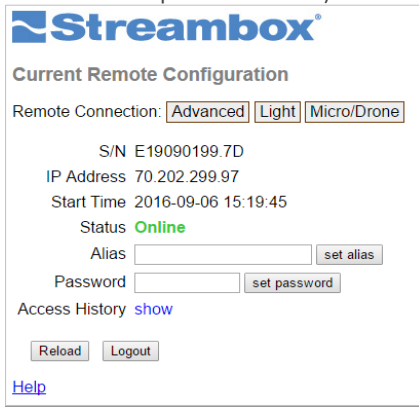
Support Hours may change, and [up-to-date hours](#) can be found on the Support Website.

Stream to the Cloud by entering the IP Address, from the chart below, of the nearest Streambox Cloud Server, in the Network settings (**Target Decoder IP**) of the Encoder.

[http://support.streambox.com/customer/en/portal/articles/1430274-streambox-cloud-server-ip-addresses?b\\_id=1884](http://support.streambox.com/customer/en/portal/articles/1430274-streambox-cloud-server-ip-addresses?b_id=1884)

line, 3 buttons will appear:

- Advanced (full featured page for advanced users or product support)
- Light (a simpler version of the full featured page)
- Micro/Drone or Mobile Site page (this is the primary user interface and is presented below).



4. Select a button to open the User Interface of your choosing.

**NOTE:** On this page you may set an Alias for this Avenir which can be used in place of the serial number. Also, you can set a password on this screen. If you forget the password, only Streambox Support can reset it.

## Encoder Basic Setup

The Encoder will start streaming using a default preset, or the previously-set settings, as soon as it starts up. Ensure that a supported video source is connected.

Use the **Decoder Settings** (in the Advanced Menu's Settings) to set the IP address of the machine you'll be streaming to, whether it's a Server (Enterprise or Cloud), Decoder (any model) or Media Player. Streaming across the internet means that you must use a Public IP address; private addresses won't route through the internet. See the **Basic Network Needs** section above.

Set the desired **Target Bitrate**, and enable **LDMP**. In the **Video Menu/Tab** and **Audio Menu/Tab**, set the desired quality settings. Recommended settings can be found in the manual, but as a general rule, Full HD resolution should have 6-12 Mbps, depending on how much visual motion there is (high motion demands higher bitrate to preserve quality), and Full SD should have 1.5-3.5 Mbps.

## Basic Troubleshooting

*Encoder should/shouldn't stream at startup*

- Toggle the "Stream on boot" setting in the Advanced UI, Settings, System, Other, "Strm on boot" to the desired position.

*No video/Frozen video in Preview Screen*

- Video not connected/detected or Preview disabled ("Live Preview" in Video menu)
- Stream not reaching Decoder: try disabling **LDMP** (Network Menu- set to UDP mode) to see if that helps; that could indicate the Encoder is not receiving acknowledgements from the Decoder. Alternately, try streaming to another Decoder or the Streambox Cloud service to check the network connection.

*Packet Loss (discoloration or smearing, choppy audio):*

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*Dropped Frame counts increasing on Encoder:*

- Network settings are inadequate for quality settings; reduce resolution/framerate or increase **Target Bitrate** | **VBR Buffer** | **ACK\_TO** & **CWND** (LDMP) settings
- Stream to a local machine, then gradually add network segments to identify and locate network congestion

*Modem not connecting:*

- Perhaps the modem has a SIM PIN enabled; disable it.
- Consult the Avenir Manual for info on configuring the APN, Username, Password, Phone Number, and other information for the network connection.

*Modem not detected*

- If you just inserted or re-seated the SIMs on an embedded modem or the entire embedded modem module, power-cycle the entire Avenir so it will recognize them properly.
- Try removing and re-connecting a USB modem.
- Some USB modems are recognized by Avenir as Ethernet devices, which don't appear on the modems list. Switch the Net Mode to ALL or LAN and try streaming with only the USB modem enabled.

## Encoder Test: Stream to Media Player

Download our free Streambox Media Player to a computer on the same local network as your E9200 Encoder, and try streaming over the LAN to that media player.

[Windows](#)

[OSX:](#)

<http://update.streambox.com/updater/smphdwin/latest/StreamboxMPHD-Win.exe> <http://update.streambox.com/updater/smphdosx/latest/StreamboxMPHD-OSX.dmg>

## Streaming to Streambox Cloud

Streaming to Streambox Cloud is an excellent way to test the setup of your stream. Create a Cloud trial account at:

<http://live.streambox.com/ls/reg.html>

Your Streambox Cloud account will have a **Group** (also called **DRM**) field which must be set in the Encoder's Metadata field. Use the **Metadata Menu** (of the Windows application) to enter your **Group/DRM** text into the first of the Network Groups fields or the DRM field or the **Metadata Tab** (of the Web Interface).

Stream to the Cloud by entering the IP Address, from the chart below, of the nearest Streambox Cloud Server, in the Network settings (**Target Decoder IP**) of the Encoder.

Cloud Server Name	IP Address	Region
LiveUS.streambox.com	52.25.129.48	Western USA (Oregon)
LiveUSEast.streambox.com	54.83.19.155	Eastern USA (Virginia)
LiveAU.streambox.com	52.62.2.246	Asia Pacific (Sydney)
LiveDE.streambox.com	54.93.179.19	Europe (Frankfurt)
LiveEU.streambox.com	54.247.100.52	Europe (Ireland)
LiveIN.streambox.com	52.66.83.26	Central Asia (India)
LiveJP.streambox.com	52.69.71.156	Asia Pacific (Tokyo)

LiveSA.streambox.com	54.233.86.10	South America (Sao Paulo)
LiveSG.streambox.com	52.76.243.157	Asia Pacific (Singapore)

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