

Shout_(cast) it out!

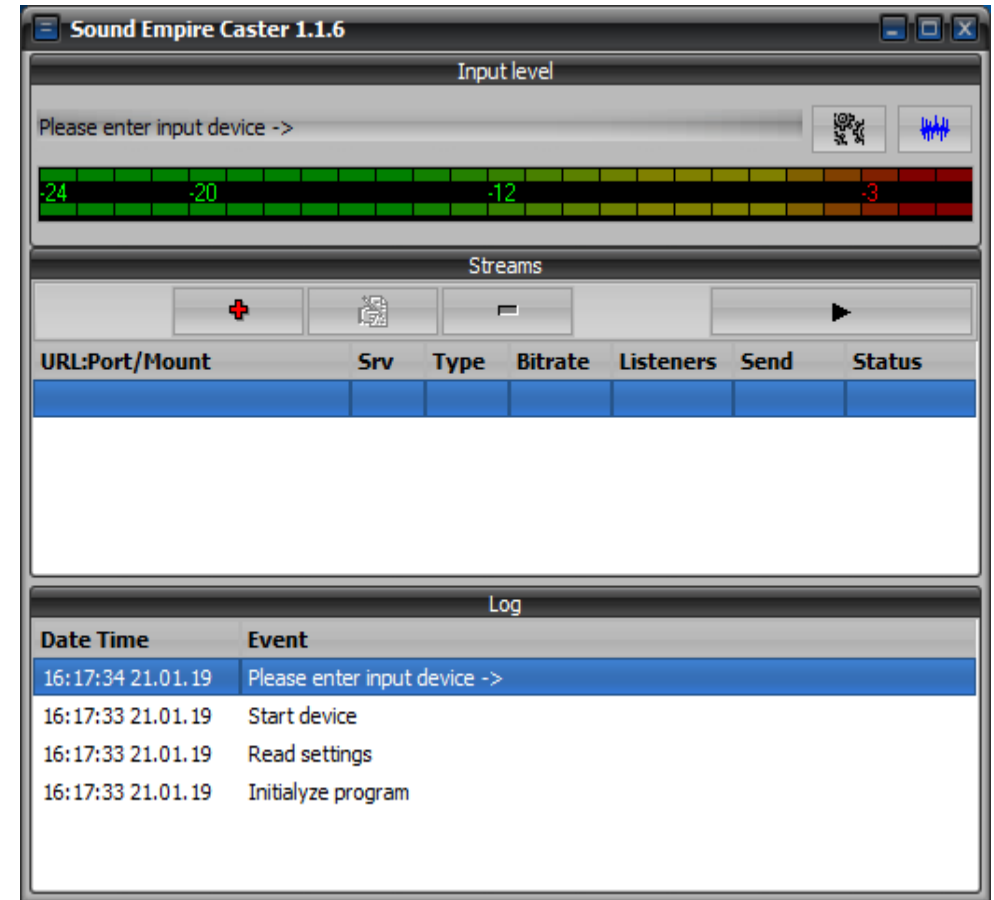
Using a Shoutcast or Icecast stream as an STL with
your Nautel transmitter

What we'll cover...

- How to set up an Icecast server
- What encoder should I use?
 - Which ones to avoid!
- Encoder Configuration for SECaster
 - Some tips and 'gotchas' when setting up your stream
- How to configure your transmitter to best use your stream
- MaxxKonnnect Wireless as an alternate IP delivery option

Using a Shoutcast/Icecast Stream with your Nautel transmitter

- Download Icecast server from www.icecast.org
- Quick & Easy setup
- Encoder and server on the same PC



Install & configure your Icecast server

Visit www.icecast.org. Click Download and choose Icecast for Windows. Download and execute the file.

Once installed, browse to C:\Program Files (x86)\Icecast

In the Icecast folder, find **icecast.xml**. Right click and choose Edit. The file should open in Notepad.

Install & configure your Icecast server

Scroll through the file and find the <authentication> section.

```
<authentication>
  <!-- Sources log in with username 'source' -->
  <source-password>hackme</source-password>
  <!-- Relays log in with username 'relay' -->
  <relay-password>hackme</relay-password>

  <!-- Admin logs in with the username given below -->
  <admin-user>admin</admin-user>
  <admin-password>hackme</admin-password>
</authentication>
```

Edit username
and passwords

```
<!-- set the mountpoint for a shoutcast source to use, the default if not
  specified is /stream but you can change it here if an alternative is
  wanted or an extension is required
<shoutcast-mount>/live.nsv</shoutcast-mount>
-->
```

Configure your Icecast Server

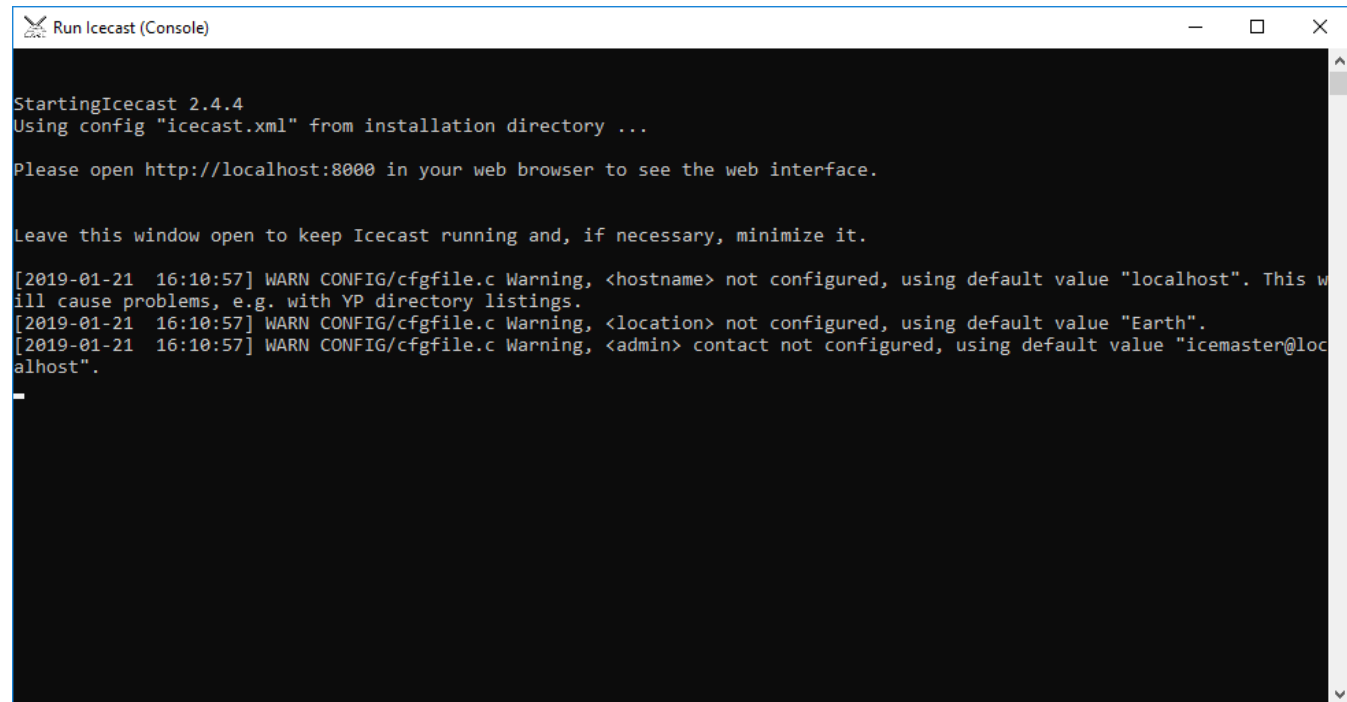
Click Start, find Icecast. Then choose 'Run Icecast (console)'

A command window will open.

This MUST remain open.

Closing it will stop the Icecast server.

You can minimize it.



```
Run Icecast (Console)
StartingIcecast 2.4.4
Using config "icecast.xml" from installation directory ...

Please open http://localhost:8000 in your web browser to see the web interface.

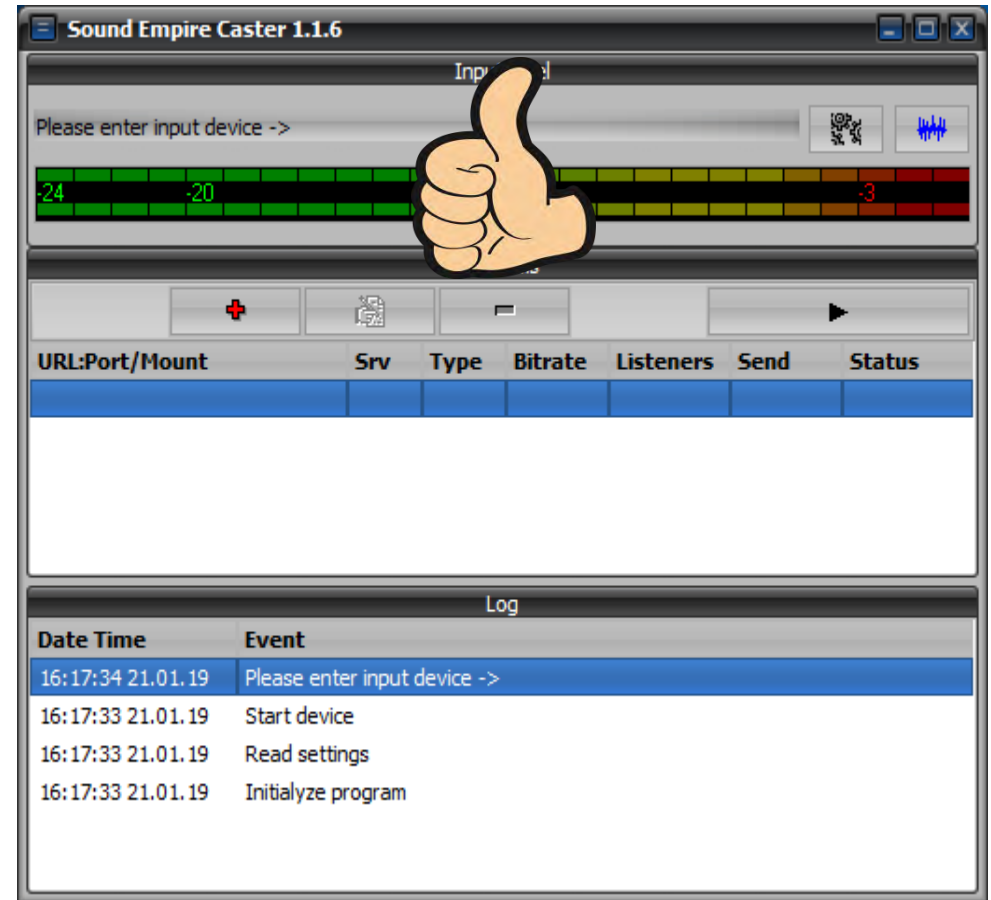
Leave this window open to keep Icecast running and, if necessary, minimize it.

[2019-01-21 16:10:57] WARN CONFIG/cfgfile.c Warning, <hostname> not configured, using default value "localhost". This will cause problems, e.g. with YP directory listings.
[2019-01-21 16:10:57] WARN CONFIG/cfgfile.c Warning, <location> not configured, using default value "Earth".
[2019-01-21 16:10:57] WARN CONFIG/cfgfile.c Warning, <admin> contact not configured, using default value "icemaster@localhost".
```

What encoder can I use?

Sound Empire Caster (SECaster) is our recommended encoder for this application.

- It's free.
- It's reliable.
- It's easy to configure.
- It works.



Why can't I use another encoder?

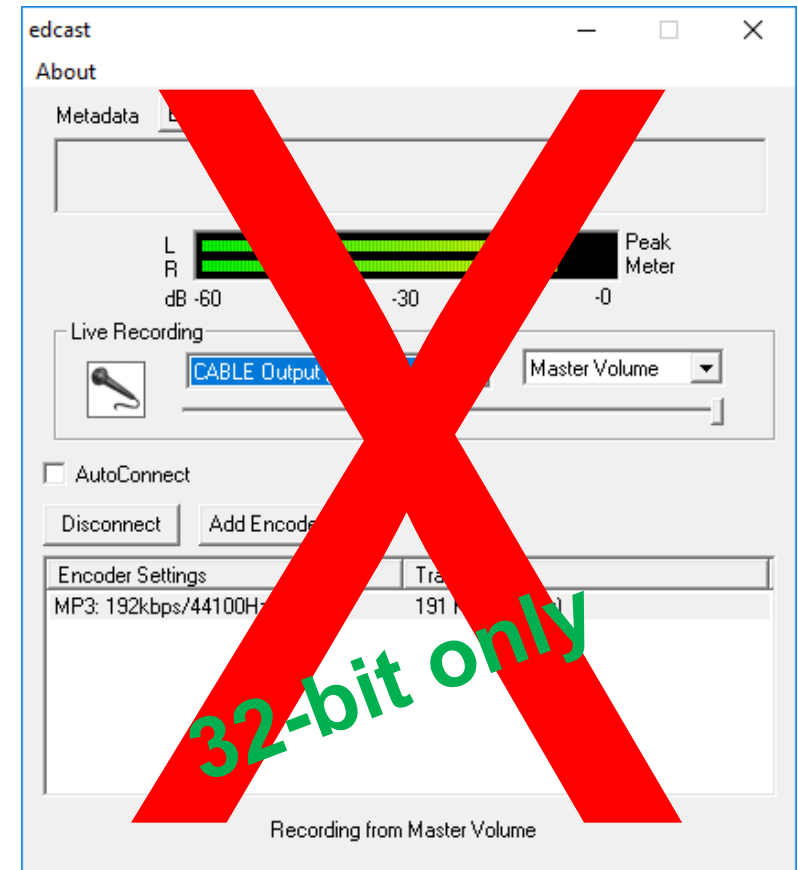
You can!



Encoder must be able to support MP3 or WAV

Encoder must support L/R stereo streaming

Encoder **MUST** stream at 16-bit



Why can't I use another encoder?

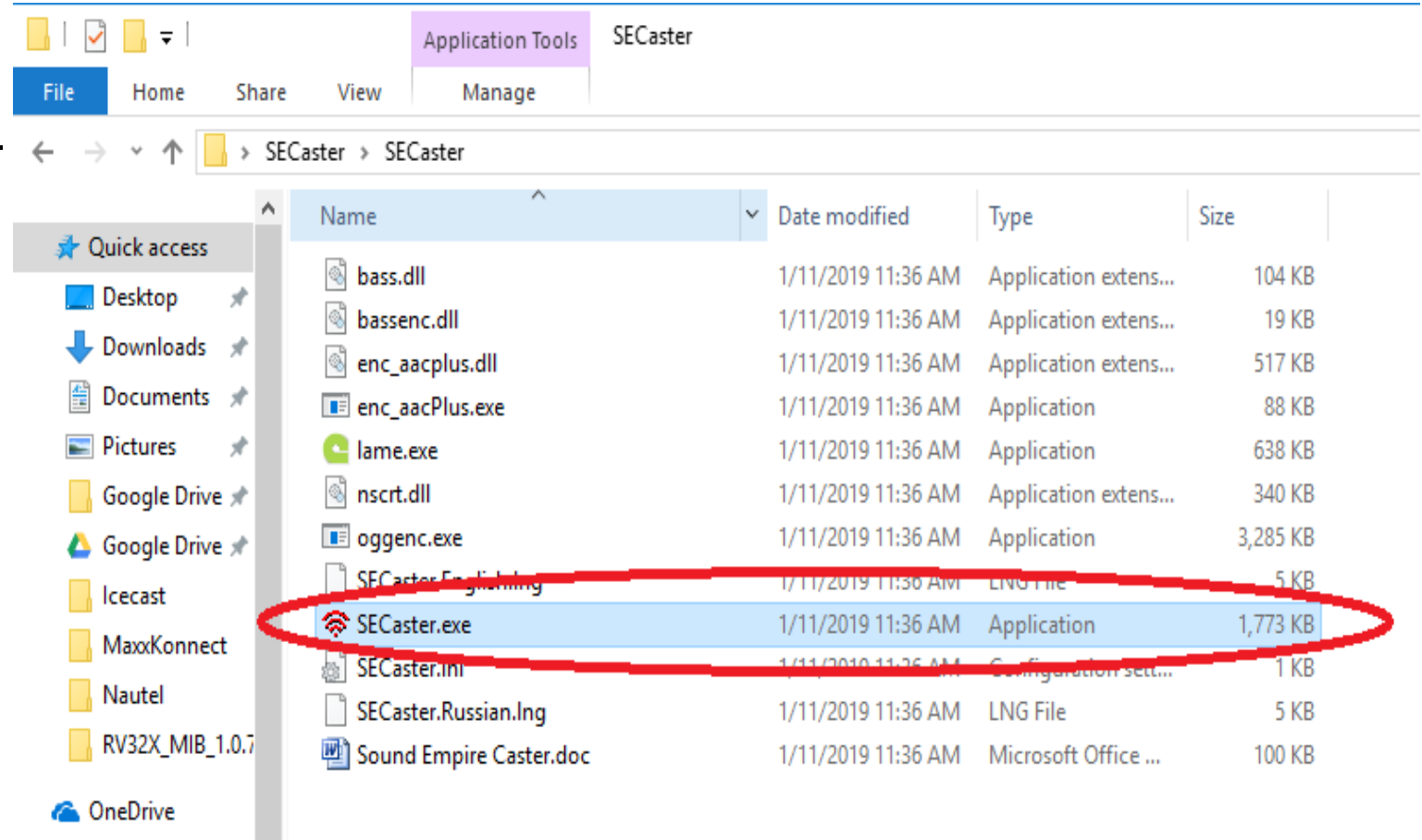


Setup SECaster as your encoder

SECaster downloads as a .zip file. Extract it. Then run SECaster.exe

SeCaster is NOT an installer – just an executable.

Create a desktop shortcut for easier accessibility

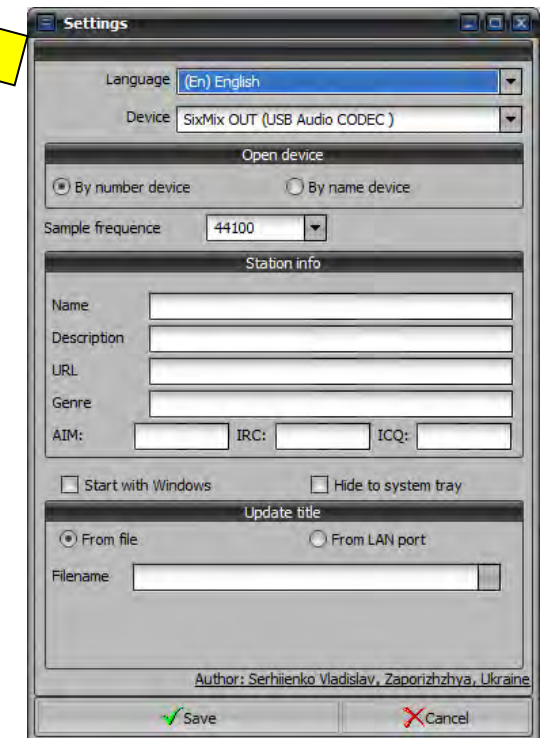
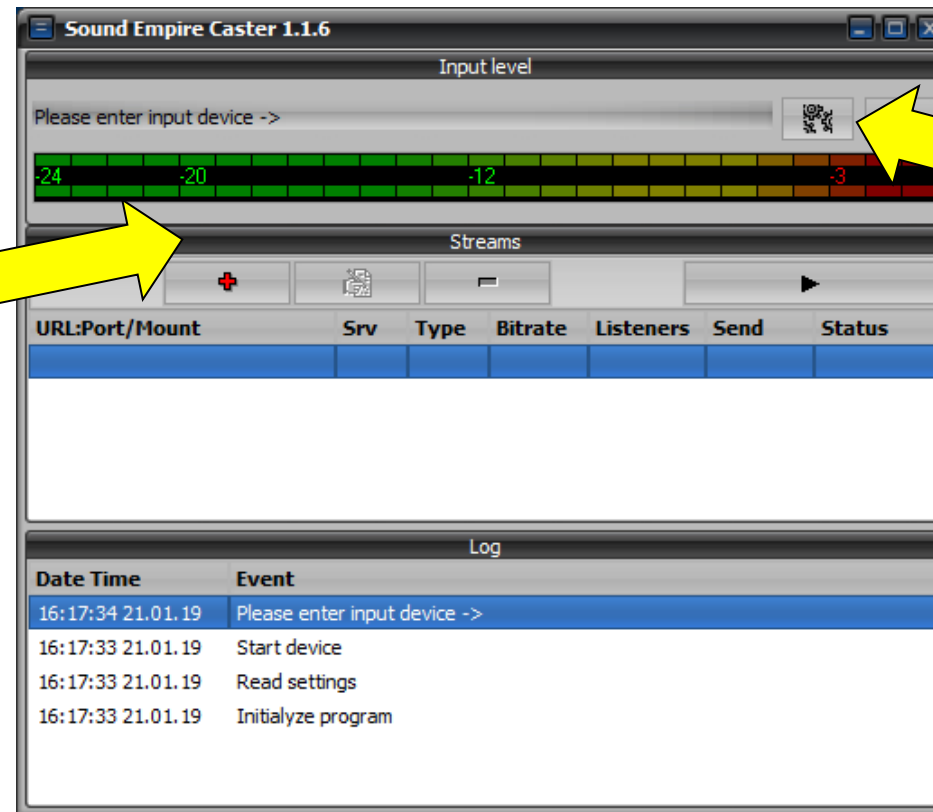
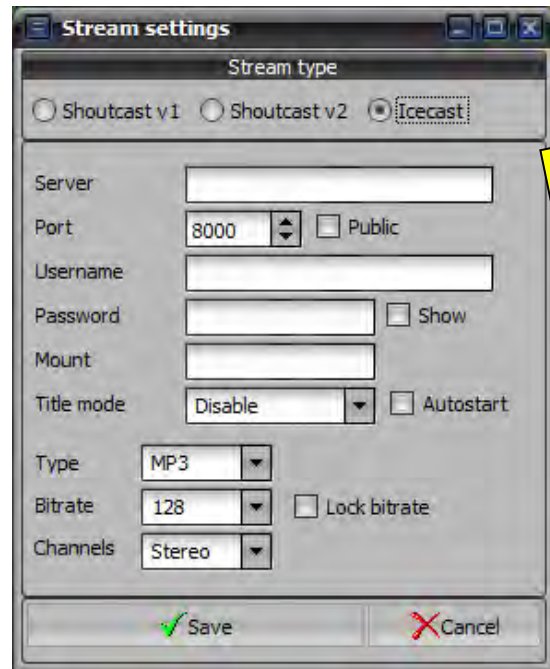


Setup SECaster as your encoder


Set up your audio input and encoder settings.

Click the **+** to setup stream encoder

Click the  to setup audio & encoder parameters.



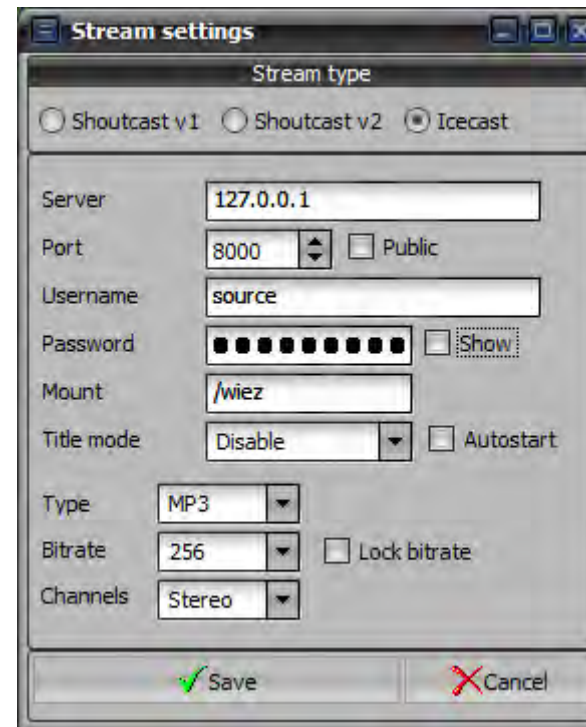
Setup SECaster as your encoder

In  Audio setup, select Your audio input device.



In **+** the Stream settings, specify your server address and port number.

If server & encoder are on the same PC, server is **127.0.0.1**
SECaster default port is **8000**.
Username & password were what you specified in the XML file.



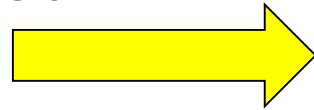
Mount is CRITICAL for Icecast streams.

This is the unique identifier for the stream, as multiple streams can use the same port.

Typically it would be your callsign – formatted as **/wiez**

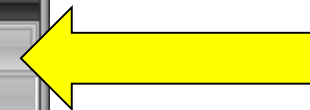
Setup SECaster as your encoder

Once configured, close out of the settings. Then, on the main page, you'll see the stream you configured.



| URL:Port/Mount | Srv | Type | Bitrate | Listeners | Send | Status |
|---------------------|-----|------|---------|-----------|----------|--------|
| 127.0.0.1:8000/wiez | Ice | MP3 | 256 | 0 (1) | 13.61 MB | Online |

| Date Time | Event |
|-------------------|--------------------------------|
| 16:52:52 21.01.19 | Stream start successfully |
| 16:52:51 21.01.19 | Manual stop |
| 16:15:59 21.01.19 | Stream start successfully |
| 16:15:25 21.01.19 | Error 2. Can't open the stream |
| 15:25:37 21.01.19 | Stream start successfully |
| 15:25:29 21.01.19 | Manual stop |



To begin encoding, click the



Play button

THE networking step

Streaming via open Internet

- Open port on your router
- Port should steer to the IP of your Icecast server

Port Address Translation

| Port Address Translation Table | | | |
|--------------------------------|--------------------------|--------------------|---------|
| <input type="checkbox"/> | Service | Name or IP Address | Status |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | StreamTCP[TCP/8000~8000] | 192.168.37.170 | Enabled |
| <input type="checkbox"/> | StreamUDP[UDP/8000~8000] | 192.168.37.170 | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |
| <input type="checkbox"/> | [REDACTED] | [REDACTED] | Enabled |

Add Edit Delete Service Management ...

Configure your Nautel to decode the stream you configured

In the AUI, click Menu, Audio Player in the Audio Player screen, click the “Streams” tab.

Then, click “Add” at the bottom.

When “Add Audio Stream” appears, choose “Icecast/Shoutcast” as the Type.

Name is the friendly name in the Preset

The URL is the full stream address.

The screenshot displays the Nautel AUI interface. At the top, there are status indicators for Date & Time (Mon Jan 21 2019, 16:56:12), Scheduler (Off), Transmitter (0 W, 95.30 MHz, 1.30 kW), and Exciter (Internal). The main area is titled 'Audio Player' and has two tabs: 'Playlists' and 'Streams'. The 'Streams' tab is active, showing a table with one entry: 'MKW' of type 'Icecast/Shoutcast'. An 'Edit Stream' dialog box is open over the table, with fields for Type (Icecast/Shoutcast), Name (MKW), and URL (http://166.255.18.238:8000/wiez). At the bottom of the interface, there are buttons for 'Add', 'Edit', and 'Delete', and a navigation bar with 'RF On', 'RF Off', 'Menu', 'Status', 'Logs', 'Reset', and 'Log Out'.

Configure your Nautel to decode the stream you configured

In Menu, select Presets, then load your preset.

Select, the Main Audio tab. Then set Audio Backup to Enabled.

Choose Audio Source as Audio Player -> AES 2

Select the name you created for your stream as the Audio Player Source.

You may have to adjust the Digital Level depending on your audio encoding level, preprocessing, Orban card, etc.

The screenshot displays the Nautel web interface for configuring a transmitter. The top section shows the transmitter's status, including the date and time (Mon Jan 21 2019, 14:15:00), the transmitter name (106.1), and the power output (244 W). The exciter is set to Internal, and the FM modulation is at 109.3%. The main section is titled 'Presets: * Current Settings' and is divided into several tabs: General, Main Audio, SCA, RDS, and Other Settings. The 'Main Audio' tab is currently selected, showing the following settings: Audio Source (MPX), MPX Level (3.50 Vpp), Audio Backup (Enabled), Audio Source (Audio Player -> AES 2), Audio Player Source (MaxxKonnnect Backup), Digital Level (0.0 dBFS), Audio Mode (Mono L+R), 15kHz Lowpass (Disabled), Preemphasis (0us), and Backup Audio Gain Adjust (0.00 dB). The interface also includes buttons for Load, Save, Save New, and Delete, and a bottom navigation bar with options like RF On, RF Off, Menu, Status, Logs, Local Remote, Reset, and Log Out.



as an alternative STL option

Prioritized, High Speed LTE Internet for Transmitter Sites

- Commercial Class Service – higher QOS on carrier networks
- Static IP address with every activation
- NO throttling of speeds
- NO port blocking
- VPN capable



www.bohnbroadcast.com
844-549-2646

To summarize...

- Icecast is easy to set up!
- AES2 = Audio Player in the AUI
- Anything less than 96kbps MP3 sounds like garbage
- MaxxKonnnect Wireless makes connectivity easy!
- Don't forget to open the port if you're streaming via Internet
- Use SECaster as your encoder. It'll save you a lot of headaches
 - If you use another encoder, it MUST be 16-bit.



Thank You

