

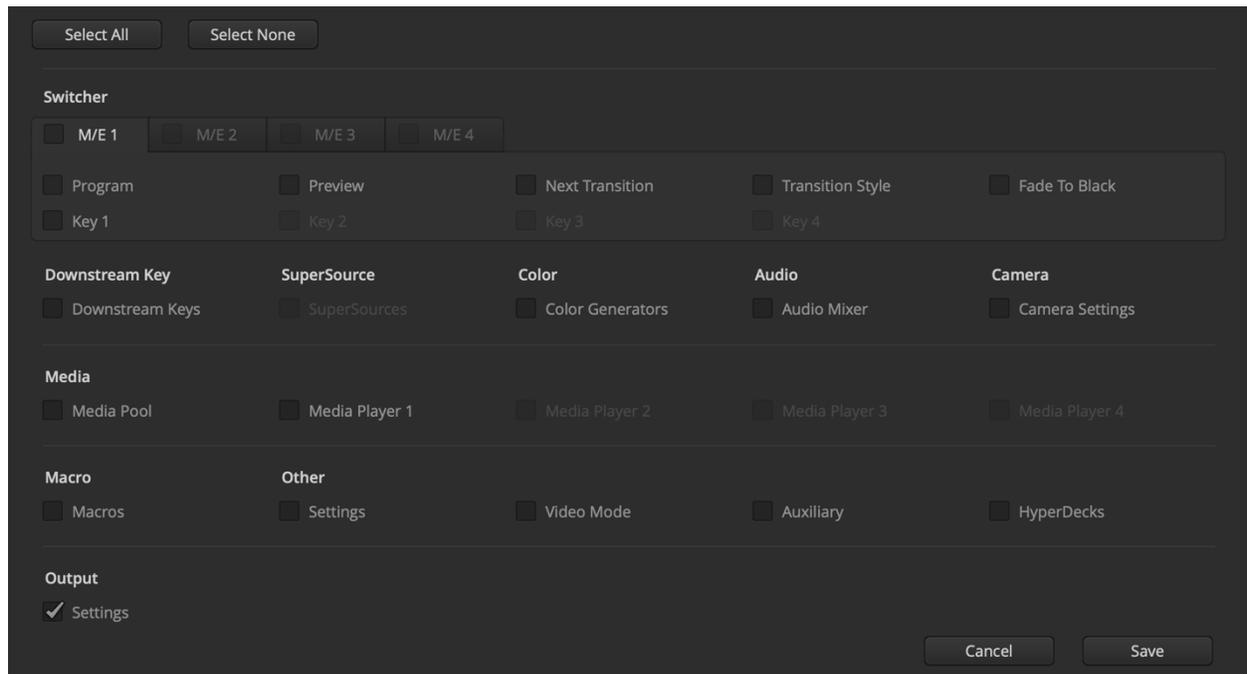
Streaming XML Information

The ATEM Mini Pro is capable of direct streaming over Ethernet to various services using RTMP or RTMPS protocol. The Mini Pro comes with menus for common services like YouTube, Facebook and Twitch. Advanced users may add or change the preset menus by editing an XML file in specific locations. This document covers the editing of these files.

The user has limited control over the streaming capabilities of the ATEM Mini Pro over Ethernet. There are two places where an XML may be changed for streaming. One is fairly simple for changing the URL and bit rate. The other file is for advanced users allowing changes to the actual menu in the ATEM Software GUI.

Simple Server and Bit Rate Change

The ATEM software provides the ability to save internal settings to an XML file using the “Save As” and “Restore” selections in the “File” menu. These settings may be saved and restored covering a wide range of switcher controls. To look at the streaming information, use File->Save As. Place the file in a convenient location on the computer. When prompted for what settings to save, click “Select None”, then click “Settings” in the “Output” section at the bottom of the window. This will save just the streaming output settings making it a bit easier to read. Using a proper text editor, open the XML file saved. Note the text editors that come with Windows and Mac are not suitable for editing XML files as they may place hidden characters in the file.



Opening the XML file with a text editor we see the following example:

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <Profile majorVersion="1" minorVersion="5" product="ATEM Mini Pro">
3   <Output>
4     <LiveStream serviceName="YouTube" url="rtmp://a.rtmp.youtube.com/live2" key="abc-def-ghi-jkl">
5       <Credentials username="" password=""/>
6       <bitrate low="3000000" high="4500000"/>
7       <audioBitrate low="128000" high="128000"/>
8     </LiveStream>
9     <Record filename="Test High" recordInAllCameras="True"/>
10  </Output>
11 </Profile>
12

```

The only things we can change are highlighted. Only a few of these data fields can be restored.

LiveStream serviceName="YouTube"	Changing this will not change the software menu.
url="rtmp://... "	This may be modified for the server of interest. See discussion below on using the RTMP URL string.
key="abc...."	This may be modified with the stream key.
Credentials username=""	When a service requires authentication, enter the user name here.
Credentials password=""	When a service requires authentication, enter the password here.
bitrate low="3000000"	The low bit rate for up speeds up to 30fps. This may be changed from 1 to 70 Mb/s in the form 1 Mb = "1000000"
bitrate high="4500000"	The high bitrate for up to 60fps. This may be changed.
audioBitrate low="128000"	The Audio Bit rate for low frame rates up to 30.
audioBitrate high="128000"	The Audio Bit rate for high frame rates.
record filename="Test High"	May be edited for the recorded file name.
recordInAllCameras="True"	May be set to True or False to trigger Pocket Cameras for recording.

Once the file is edited, use the File->Restore and load into the ATEM Mini Pro. The user may see changes to the Bit Rate, Key and File name. When the "On Air" button is used in the software or the Mini Pro panel, these settings should be applied.

Advanced Streaming Editing

The Streaming Output menu in the ATEM Mini Pro is already populated with common services like Facebook, Twitch and YouTube. For most users, simply adding the stream key is enough to get going. For advanced users, there is the ability to customize this menu adding (or removing) other streaming services. The ATEM Mini Pro uses RTMP protocol for streaming. Services that do not utilize RTMP cannot be added to the streaming menu.

On the computer (Windows or Mac) there is a “Streamin.xml” file that is used to set up the menu for output streaming in the ATEM Mini Pro. This file is read when the software is started. Changes to this file would require a reload of the ATEM software control in order to take effect.

This file is located in a protected area of the computer OS, so editing is not trivial. This usually means administrator rights to access. That is why it is for advanced users.

Windows

The file is located in:

```
C:\Program Files (x86)\Blackmagic Design\Blackmagic ATEM  
Switchers\ATEM Software Control\Streaming.XML
```

Mac

The file is located in:

```
/Library/Application Support/Blackmagic  
Design/Switchers/Streaming.XML
```

The “/library” is at the root level of the drive where “/users” is located. So it will not be found in a user or application subdirectory. This is not the only “library” folder.

Because the above file locations are protected, administrative privileges are necessary.

Important: When a software update is installed, this file (Streaming.xml) will be removed and replaced with a default version. It is important that if changes are made, make a copy of this file in a safe location before performing a software update.

Editing the “Streaming. XML” file will look like this. This is the YouTube section of the XML file.

```
293 <service>
294   <name>YouTube</name>
295   <servers>
296     <server>
297       <name>Primary</name>
298       <url>rtmp://a.rtmp.youtube.com/live2</url>
299     </server>
300     <server>
301       <name>Secondary</name>
302       <url>rtmp://b.rtmp.youtube.com/live</url>
303     </server>
304   </servers>
305   <profiles>
306     <profile>
307       <name>Streaming High</name>
308       <config resolution="1080p" fps="60">
309         <bitrate>9000000</bitrate>
310         <audio-bitrate>128000</audio-bitrate>
311         <keyframe-interval>2</keyframe-interval>
312       </config>
313       <config resolution="1080p" fps="30">
314         <bitrate>6000000</bitrate>
315         <audio-bitrate>128000</audio-bitrate>
316         <keyframe-interval>2</keyframe-interval>
317       </config>
318     </profile>
319     <profile>
320       <name>Streaming Medium</name>
321       <config resolution="1080p" fps="60">
322         <bitrate>7000000</bitrate>
323         <audio-bitrate>128000</audio-bitrate>
324         <keyframe-interval>2</keyframe-interval>
325       </config>
326       <config resolution="1080p" fps="30">
327         <bitrate>4500000</bitrate>
328         <audio-bitrate>128000</audio-bitrate>
329         <keyframe-interval>2</keyframe-interval>
330       </config>
331     </profile>
332     <profile>
333       <name>Streaming Low</name>
334       <config resolution="1080p" fps="60">
335         <bitrate>4500000</bitrate>
336         <audio-bitrate>128000</audio-bitrate>
337         <keyframe-interval>2</keyframe-interval>
338       </config>
339       <config resolution="1080p" fps="30">
340         <bitrate>3000000</bitrate>
341         <audio-bitrate>128000</audio-bitrate>
342         <keyframe-interval>2</keyframe-interval>
343       </config>
344     </profile>
345   </profiles>
346 </service>
```

Looking at the structure shows Services, Servers, and Profiles. Services would be the streaming service of choice. Servers are the specific locations to connect for streaming. Profiles are for setting bit rates and key frame intervals. Note some fields may be shown, however, editing may not change anything at the moment. Here is a description of the fields.

service name	This is the specific name of the service which will be visible in the selection menu.
server name	If a service has multiple servers, they may be specifically named for the menu.
url	This is the RTMP streaming URL used to connect to the server. See URL information below for more information
profile name	This is the bit rate or quality menu name visible in the software gui.
resolution	This will always be "1080p" for the ATEM Mini Pro. Changing this value will have no effect.
fps	This value will be set for 30 and 60. The bitrate for 30 applies from 23.98 to 30fps and the bitrate for 60 applies to 50, 50.94 and 60 fps. This allows the user to have lower bit rates for lower fps given the same quality.
bitrate	The bitrate in "bits" may be modified here. Values are flexible from 1 to 70 Megabits. 1 Megabit is expressed as "1000000".
audio-bitrate	The audio bitrate in "bits" may be modified here. 128 Kilobits is expressed as "128000".
keyframe-interval	The default is 2 seconds for most services.

Once this file has been modified, the ATEM software control must be restarted to take effect. The Output streaming menu should reflect these changes. If the changes are not visible, it is possible the file is corrupt and that section would be ignored. Make sure a plain text editor is used to make changes as some add hidden characters that may cause data fields to not work properly.

URL Information

The ATEM Mini Pro works with a simple RTMP or RTMPS string. The streaming service usually defines the specifics of the stream. If there are problems making the stream work, it may be a good idea to test in OBS. If the string works in OBS it will usually work in the ATEM Mini. There might be exceptions to this as well.

The ATEM Mini Pro XML now supports authentication fields. This information would be required if a user name and password were needed to connect to the server.

```
46  <!-- RTMP session username and password, if required by service
47      <credentials>
48          <username>test</username>
49          <password>abc123xyz</password>
50      </credentials>
51  -->
```

You may add the new <credentials> section shown above to the xml after the <servers> section.

<username>	The user name would be added here.
<password>	The password would be entered here.

In previous versions of the software, there are some commonly accepted methods of passing authentication in the URL. These may still work. Here are a couple of possibilities:

```
"rtmp://_stream_name_. _service_name_.com:_port_/_stream_?rtmpauth=_user_name:_password_"
```

or

```
"rtmp://user_name:password@IP_address:_port_/stream"
```

This method is service dependent if it is accepted or not. It is best to contact the service to see if an embedded authentication in the URL will work. This too, can be tested in OBS.