

User's Manual

TAVQ

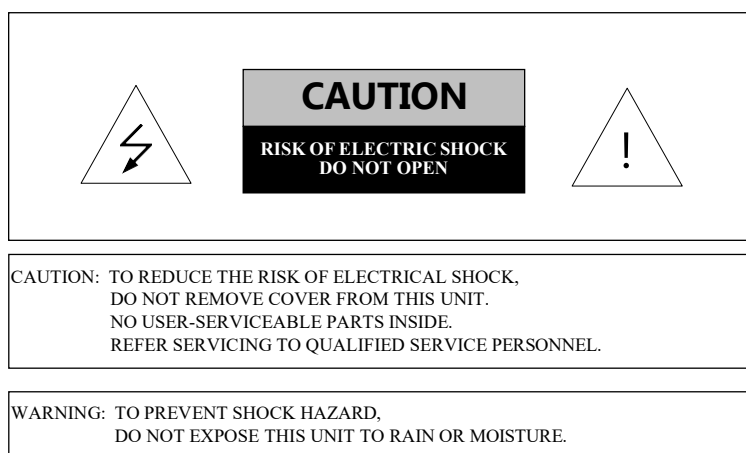
8VSB-QAM Transcoder

Contents

1. Safety Instructions & Precautions.....	3
2. Operation Guide.....	4-6
2-1. Front Panel.....	4
2-2. Top Edge.....	5
2-3. Rear Panel.....	6
3. System Configurations.....	7-18
3-1. Configure through web GUI.....	7
3-1-1. Ethernet.....	7
3-1-2. RF IN / RF OUT.....	8-9
3-1-3. TUNER CONFIG.....	9-15
3-1-4. SAVE.....	16-18
3-1-5. SPECIFICATIONS.....	19

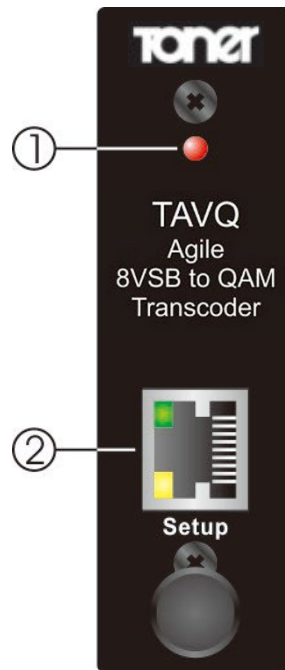
1. Safety Instructions & Precautions

- Do not operate the unit in high-humidity areas, or expose it to water or moisture. No objects filled with liquid should be placed on the device.
- Disconnect the product from the wall outlet prior to cleaning. Use a light, damp cloth (no solvents) to dust or clean the product.
- Do not block or cover slots and openings in the unit. These are provided for ventilation and protection from overheating. Never place the unit near or over a radiator or heat register. Do not place the unit in an enclosure such as a cabinet without proper ventilation.
- We strongly recommend using the enclosed ground wire connecting to the ground cable of your house/building to avoid voltage spikes or ground fault.
- Never insert objects of any kind into the unit through openings, as the objects may touch dangerous voltage points or short out parts. This also could cause fire or electrical shock.
- When replacement parts are required, ensure that the service technician uses replacement parts specified by the seller. Unauthorized substitutions may damage the unit or cause electrical shock or fire, and will void the warranty.
- Upon completion of any service or repair to the unit, ask the service technician to perform safety checks to ensure that the unit is in proper operating condition.



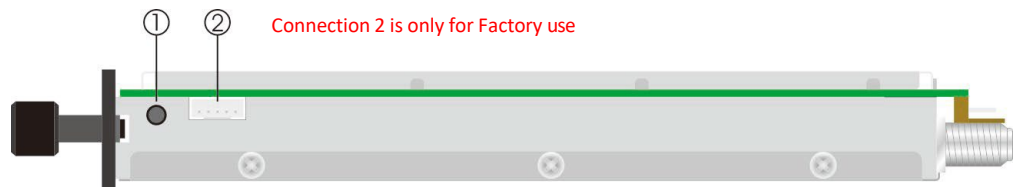
2. Operation Guide

2-1. Front Panel



1. POWER INDICATOR : Should be solid RED, (if blinking then there is no input signal)
2. RJ 45 CONNECTOR : For web/remote configuration and system management

2-2. Top Edge



To do a Software Update follow this procedure

Step 1 Hold down this button for 5 seconds (button 1)

Step 2 Power up TAVQ transcoder by plugging the power connector in on the rear of the unit

Step 3 Now follow up software update procedures provided with the Software update

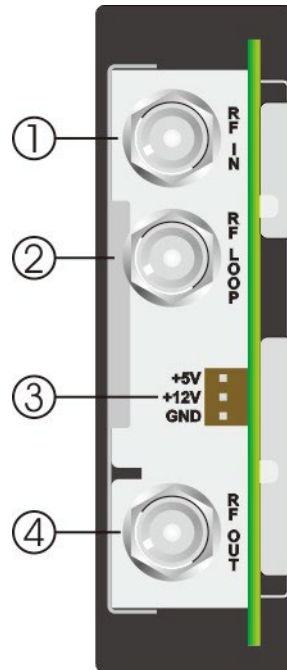
To reset the IP address to Factory default (192.168.1.149)

Step 1 Power on the TAVQ on

Step 2 Hold down button (#1 above) for 5 seconds and release

The TAVQ is re set to factory standard

2-3. Rear panel



1. RF IN : Signal Input 8VSB
2. RF LOOP : RF Loop output
3. POWER CONNECTOR : Power Supply Input (5VDC/ 12VDC/ GND)
4. RF OUT : QAM Signal Output

3. System Configurations

3-1. Configure through IP interface

Connect the unit to a computer with a ethernet RJ45 cable.

Enter the IP address of the unit (Default address: 192.168.1.149) on web browser



3-1-1. ETHERNET –

The image shows a web interface titled 'Device Settings'. At the top, there are four tabs: 'ETHERNET', 'RF IN / RF OUT', 'MISC', and 'SAVE'. The 'ETHERNET' tab is selected and highlighted with a red circle. Below the tabs, the section is titled 'Ethernet'. There are several configuration fields: 'MAC Address' with the value '00:50:C2:A1:75:94', 'IP Address' with '192.168.1.149', 'Gateway' with '192.168.1.210', 'Subnet Mask' with '255.255.255.0', and 'DNS' with '168.95.1.1'. A checkbox labeled 'Enable/Disable Editing' is checked and circled in red. At the bottom, there is a black 'Update' button.

Image 1

REV

Select the check box to allow editing then un-select it and save your settings.

3-1-3. Tuner Config (Input)

The screenshot displays the 'Device Settings' interface. At the top, there is a navigation bar with four tabs: 'ETHERNET', 'RF IN / RF OUT' (which is circled in red), 'MISC', and 'SAVE'. Below the navigation bar, the 'RF IN Setting' section is visible, followed by the 'Tuner Config' section. The 'Tuner Config' section contains the following settings:

- Input RF Mode:** A dropdown menu currently set to 'Frequency'.
- Input RF Frequency:** A text input field containing '57', followed by the unit 'MHz'.
- Input Signal:** A dropdown menu currently set to '8VSB'.
- Lock Status:** A button labeled 'unLock' in red text.
- Mux Type:** A dropdown menu currently set to 'Remux'.

At the bottom of the 'Tuner Config' section, there is a black button labeled 'Scan'.

Image 2

RF Input mode can be set to Channel number or to frequency (center frequency)

Input signal is default to 8VSB and there are no other options (Greyed out)

Once you scan the input the Lock status will change to **lock** if the TAVQ finds the correct input channel.

Mux Type allows you to select either Pass through or Remux

Pass Through will pass the entire multiplex of the tuned channel (Major and minor channels)

Remux allows you to select which service(s) to process from the tuned channel

Pass Through

If you have selected **Pass Through** and the RF input signal is **locked**, then the TAVQ will send the entire mux to the RF Output Image 3. (If the signal is not locked you cannot proceed)

The screenshot shows the 'Device Settings' interface. At the top, there is a navigation bar with four tabs: 'ETHERNET', 'RF IN / RF OUT' (which is selected and circled in red), 'MISC', and 'SAVE'. Below the navigation bar, the title 'RF OUT Setting' is displayed. Underneath, the 'RF OUT Config' section contains four settings:

- Output RF Mode: A dropdown menu currently showing 'Channel'.
- Output RF Channel Number: A text input field containing the number '8'.
- Output RF Signal: A dropdown menu currently showing 'QAM-256'.
- Output RF Attenuation: A text input field containing '0', followed by the unit 'dB'.

At the bottom of the configuration section, there are two buttons: a blue 'Prev' button and a black 'Next' button.

Image 3

RF output can be set by Channel or by Frequency

Output signal can be set to QAM 256 or QAM 64 (**QAM 256 is default**)

Output RF attenuation allows you to reduce the RF Output level from, 31 dBmV down to 0 dBmV in 1 dB steps

Remux

If Remux is selected and RF input signal is locked, you then go to the Services List (Image 4) menu

Select **NEXT**

NOTE: anytime you select PREV (Previous) to go to a prior screen the Transcoder will stop processing signals until you re scan

Device Settings

ETHERNET RF IN / RF OUT MISC SAVE

RF OUT Setting

Services List

- ☐ PMT - 0x30 [2-MeTV]
- ☐ PMT - 0x40 [2-GRIT]
- ☐ PMT - 0x50 [2-MSTRY]
- ☐ PMT - 0x60 [2-H&I]
- ☐ PMT - 0x70 [2-RTV]
- ☐ PMT - 0x80 [2-DECAD]
- ☐ PMT - 0x90 [2-STORY]
- ☐ PMT - 0xA0 [2-PTN]
- ☐ PMT - 0xB0 [2-NWMX2]

Prev

Next

Image 4

This screen shows all the services (programs) in the 8VSB Multiplex that are available for processing

Select the box next to each service you want to process through in the Remux

Once you select the services you want, click **NEXT** To Image 5

The image shows a configuration screen with a light blue background. It contains four sections, each separated by a horizontal line. Each section represents a PMT (Program Map Table) entry. The first three sections have a checked checkbox, while the fourth has a checkbox with a blue border. Each section lists the PMT ID, a service name in brackets, and then lists the video and audio streams with their respective codecs, each preceded by a checked checkbox.

- ☒ **PMT - 0x30 [2-MeTV]**
 - ☒ **Video - mpg2**
 - ☒ **Audio (eng) - ac3**
 - ☒ **Audio (spa) - ac3**
- ☒ **PMT - 0x40 [2-GRIT]**
 - ☒ **Video - mpg2**
 - ☒ **Audio (eng) - ac3**
- ☒ **PMT - 0x50 [2-MSTRY]**
 - ☒ **Video - mpg2**
 - ☒ **Audio (eng) - ac3**
- ☒ **PMT - 0x60 [2-H&I]**
 - ☒ **Video - mpg2**
 - ☒ **Audio (eng) - ac3**

Image 5

On this screen you are able to see the services selected as well as the Video and Audio PID's

If there are more than one Audio PIDs available I/E for a second language here is where you can select if you want it

Select **NEXT** to go to the Remux configuration screen (image 6)

Remux Config

Major Only ☒

Service 1	pmt pid	0x30	major	101	minor		short name	2-MeTV	serid	0x3
Service 2	pmt pid	0x40	major	102	minor		short name	2-GRIT	serid	0x4
Service 3	pmt pid	0x50	major	103	minor		short name	2-MSTRY	serid	0x5
Service 4	pmt pid	0x60	major	104	minor		short name	2-H&I	serid	0x6
Service 5	pmt pid	0x70	major	105	minor		short name	2-RTV	serid	0x7
Service 6	pmt pid	0x80	major	106	minor		short name	2-DECAD	serid	0x8
Service 7	pmt pid	0x90	major	107	minor		short name	2-STORY	serid	0x9
Service 8	pmt pid	0xA0	major	108	minor		short name	2-PTN	serid	0xA
Service 9	pmt pid	0xB0	major	109	minor		short name	2-NWMX2	serid	0xB

Image 6

If you select “Major Only” then you can only edit and display the Major channel number and minor is greyed out. If you do not select “Major only” then you can edit both the major and the minor number which will be displayed.

pmt pid -- Number range is Hex [0x20 ~ 0x1ffe], Dec [32 ~ 8190] **We strongly suggest that you do not edit these pid numbers unless you are an expert in Hexadecimal numbering**

major/minor -- This is Major/Minor channel. Number range is (1 to 1023) short

name -- This is Service Name. Character length is max 7 characters serid -- This

is Service ID. Number range is Hex [0x1 ~ 0xffff], Dec [1 to 65535]

Select **Next** to go to the RF Output configuration setting screen (image 7)

The screenshot shows a web interface for 'Device Settings'. At the top, there is a navigation bar with four tabs: 'ETHERNET', 'RF IN / RF OUT' (which is circled in red), 'MISC', and 'SAVE'. Below the navigation bar, the page title is 'RF OUT Setting'. Underneath, there is a section titled 'RF OUT Config'. This section contains four configuration items, each with a label and a control element: 'Output RF Mode' with a dropdown menu showing 'Channel'; 'Output RF Channel Number' with a text input field containing the number '8'; 'Output RF Signal' with a dropdown menu showing 'QAM-256'; and 'Output RF Attenuation' with a text input field containing '0' and a 'dB' unit label to its right. At the bottom of the configuration section, there are two buttons: a blue 'Prev' button and a black 'Next' button.

Image 7

You can select RF output either by Channel number or by RF Center

Frequency Enter the channel number or channel center frequency

You can select the RF Output signal QAM mode, either QAM 256 or QAM 64 (QAM-256 is default)

You can now select the RF Output attenuation 0 to 31 dB

NOTE: Reducing the RF Output level with this output attenuation setting will negatively impact C/N.
For more than 2 or 3 dB of attenuation a FAM Attenuator pad on the output is a better choice
Our FAM Kit provides many attenuator options to choose from

You can now select **NEXT** to go to the device status page (Image 8)

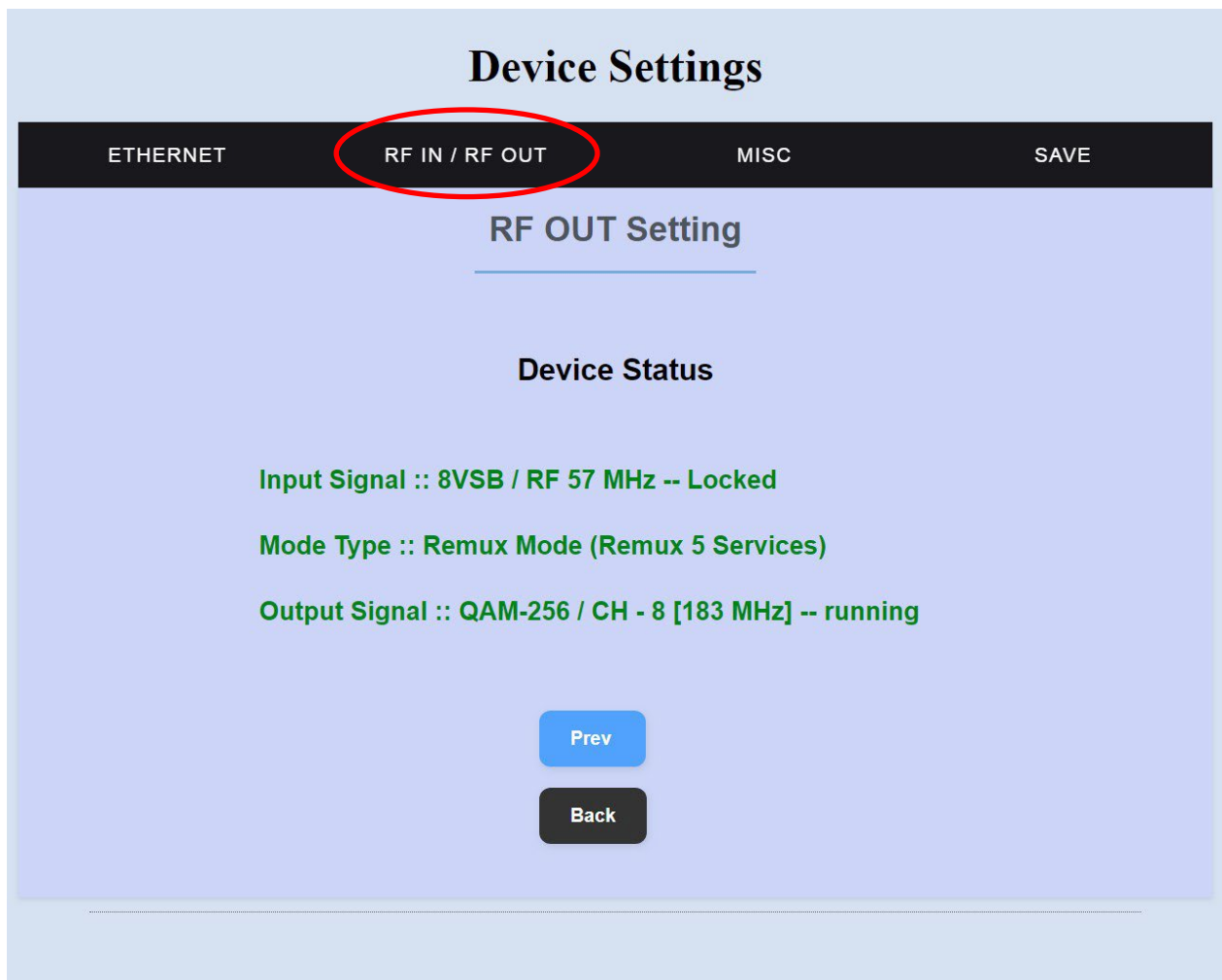


Image 8

This screen confirms the previous settings you have made

If the screen content is RED then the input is no longer locked to an 8VSB Channel, you may have lost the input signal, you need to go back and re scan

(3-1-3. Tuner Config (Input) on Page 8)

3-1-4. Saving Settings

Go to the **SAVE** tab on the main menu screen to save all your settings (Image 9)



Image 9

Click on the box to save your settings. (If you fail to do this you will have to start over)

Backup / Restore / Copy

From this screen you can also perform a backup of your settings, restore settings from a previous backup or copy the current settings.

To start, click on the Backup / Restore button, this will take you to the Backup / Restore / Copy filer screen (Image 10)

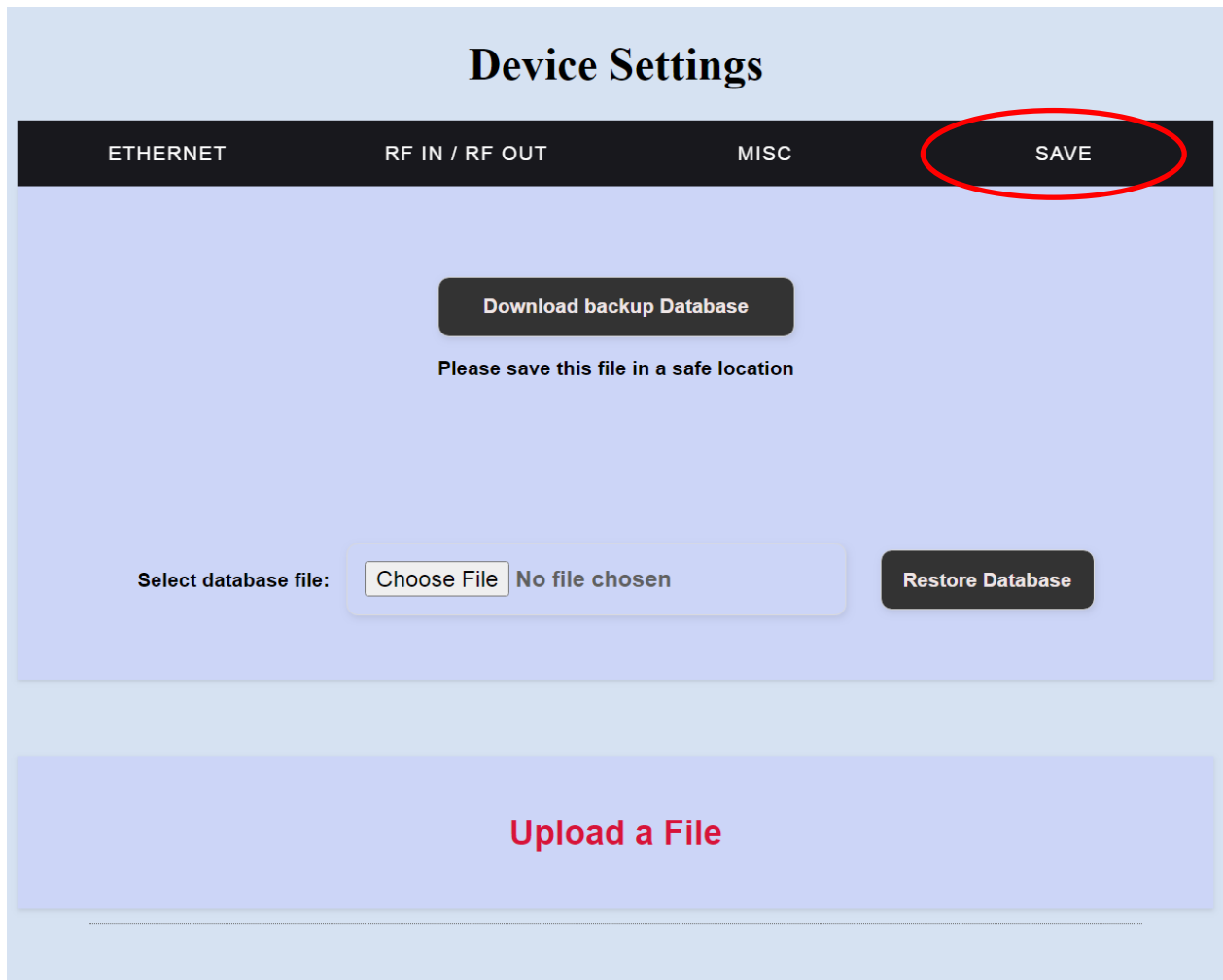


Image 10

BACKUP:

Click Download backup Database to copy the file of all settings and data in file name **IP.config**
(For example, if IP is 192.168.1.159, it will be filed as 192.168.1.159.config)

RESTORE:

Click Choose File to select configuration file, and click Restore Database to re configure the TAVQ to a previously saved configuration

Remember once you upload a config file to save it on your TAVQ

COPY:

Step 1; Select Choose File and select the file you want to copy, an icon comes up on your computer
(Image 11)

Step 2; Select saved file (.config)

Step 3; Select a new file name and location and save it to your PC

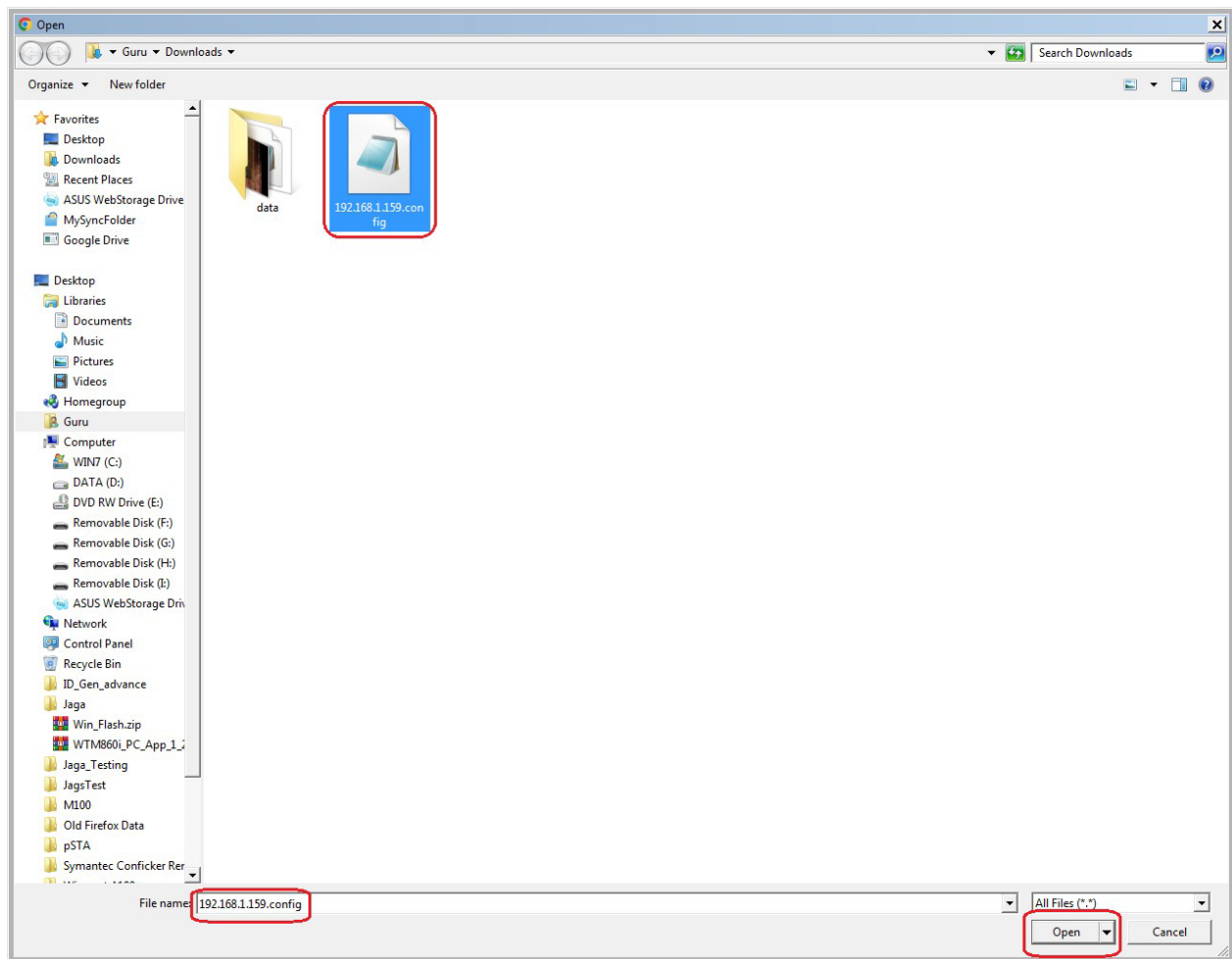


Image 11

Specifications

Terrestrial RF Input

Frequency Range:	54 to 608 MHz
Input Level:	-35 to 40 dBmV
Input Impedance:	75 ohms
Loop-Through Gain:	±3 dB
Connector:	F-Type Female

RF Modulation

ITU-T J.83 Annex:	Annex B
Modulation Format:	Cable QAM
Mode:	64 QAM or 256 QAM
Phase Noise:	@1K≥70dBC; @10K≥80dBC; @100K≥60dBC
MER:	36-40 dB

RF Output

Frequency Range:	54-1000 MHz
Bandwidth:	6 MHz (NTSC)
QAM Symbol Rate:	(1) 64 QAM : 5057 Mbps (2) 256 QAM : 5360 Mbps
Output Level:	+35 dBmV with 30 dB adjustment (+30 dBmV for 860-999 MHz)
Spurious Level:	-55 dB typical
Out-of-Band Noise:	-55 dB typical
Frequency Stability:	±20 KHz max
Output Impedance:	75 Ohms

Web Control Interface

Connector:	F-Type Female
Communication Interface:	Ethernet/LAN
Electrical Interface:	IEEE 802.3, 10 Base-T
Connector Type:	RJ45

General

DC Power Input:	5V/410mA and 12V/200mA
Operating Temperature:	0 to 50°C
Size:	1"W x 3.5"H x 7.5"D
Weight:	1.2 lbs

Support

Contact your sales person or our technical support department for assistance with the TAVQ Toner Cable Equipment Inc. 969 Horsham Rd Horsham PA 19044 USA
Tel: (1) 215 675 2053 • e-mail: info@tonercable.com • Website www.tonercable.com