



ATSC4 INTEGRATOR'S MANUAL



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Revision Record			
Revision	Date	Revision Editor	Revision Description
1	10/28/24	AP	Release version 1.0

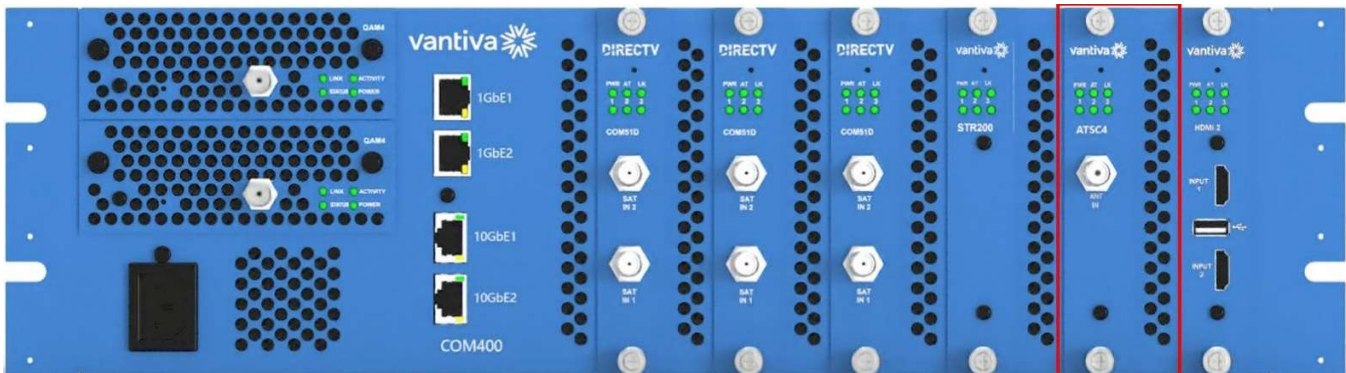
1 INTRODUCTION

- ATSC4 is a “blade” style product that is intended to work within a MCS COM3000 environment. The ATSC4 is a device for receiving off-air, local ATSC broadcast channels or local QAM (J.83 Annex B) input and converting those signals to IP (MPEG2 transport) for processing by the COM400 and eventual output in a commercial (multi-client or endpoint) deployment.
- The ATSC4 will work with the COM400 or COM421 chassis like the COM51 satellite tuner card.
- The ATSC4 is capable of handling four simultaneous off-air frequencies.
- Each of the four tuners has the capability to tune up to ten programs from one RF carrier.
- The ATSC4 card can tune to four different simultaneous frequencies using terrestrial modulations: ATSC1.0, QAM (J.83B), DVB-T, DVB-T2, or ISDB-T. ATSC3 is not currently supported.

2 INSTALLATION

2.1 ATSC4 INSTALLATION

The ATSC4 card inserts into the COM400, or 421 chassis like a COM51 card.



2.2 IP ADDRESS

Like the COM 51, the ATSC4 card's default IP address is $192.168.3.(chassisId*16+slot+1)$. The IP address can be changed manually. The ATSC4 card also receives a DHCP IP address. The COM51 Pairing info screen will discover the ATSC4 and provide a hyperlink to the interface. (SW version 02.04.47 or higher)

2.3 SIGNAL ACQUISITION

When planning an installation, it is important to know the location of the property in relation to the transmission tower(s). There are multiple websites dedicated to mapping an address and listing available off-air channels. The recommended practice is to use an enterprise grade antenna recommended for the geographic location, mounted on the roof of the property. Care must be used when combining two or more antennas. Consult with your antenna vendor or distributor.

The antenna(s) should be peaked for maximum signal level and SnR using an RF meter capable of measuring 8VSB signal.

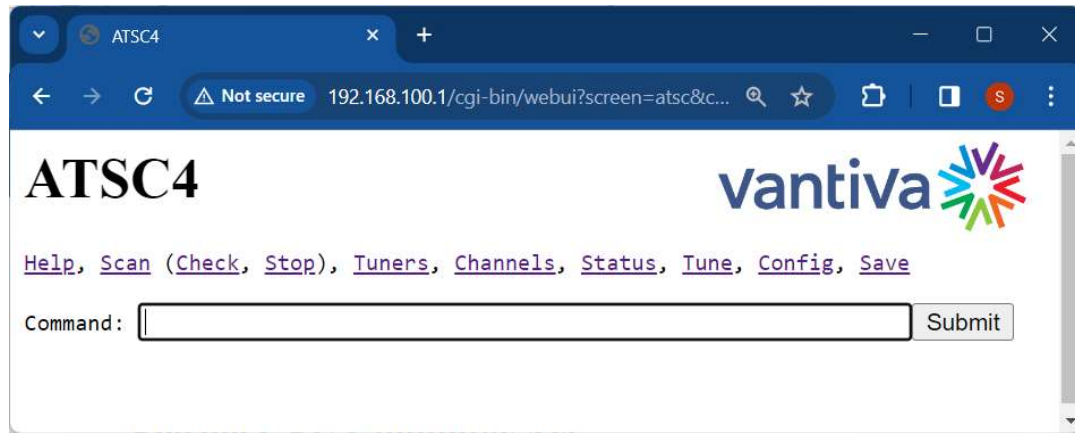
Note to System Installer

This reminder is provided to call the systems installer's attention to Section 820-93 of the National Electric Code which provide guidelines for proper grounding and specify that the Coaxial cable shield shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Safety Warning

Antennas should be installed by qualified installation technicians using proper personal protective equipment (PPE). **Read all safety instructions provided with the antenna.**

3 SETUP AND CONFIGURATION



The WebUI can be accessed at the cards' IP address. The WebUI provides links to perform the most common actions:

- "Help" will show the most common commands.
- "Scan" can scan through all the frequencies to find channels.
- "Check" will check the status of a scan.
- "Stop" will stop the channel scan.
- "Tuners" will show the frequencies and signal strength for the four tuners.
- "Channels" will show all channels discovered.
- "Status" will show the status of all filters outputting IP video.
- "Tune" will configure a filter to a discovered channel to output to a Port.
- "Config" can configure the card's IP address.
- "Save" will save the current state to flash.

3.1 SOFTWARE UPDATE

The current ATSC4 software is available on the Vantiva website:

<https://www.vantiva.com/video-multi-client-solutions-documentation-library/>

1. Download the software to a folder on a PC connected to the COM chassis.
2. Log into the ATSC4 and navigate to the upload tab.
3. Using the Choose File option select the software file from the location on the PC.
4. Click upload.
5. The ATSC4 will reboot during the upload process. Wait about 5 minutes for the upload to be completed.

ATSC4



[Help](#), [Scan](#) ([Check](#), [Stop](#)), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

ATSC4_DT01.00.03.bin

Software version can be verified using Config / get / Info

ATSC4



[Help](#), [Scan](#) ([Check](#), [Stop](#)), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

```
$ get info
ATSC4 Version: 01.00.03; Oct 18 2024 18:54:22
Chassis 1; Slot 2; HwId 2; BoardId 0
MAC EC:93:7D:E0:14:89
```

3.2 SCAN PAGE

ATSC4



[Help](#), [Scan](#) ([Check](#), [Stop](#)), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

Modulation= Start= End= Clear=

The Scan page is the default landing page when logging into the ATSC4. User controls include:

- The modulation type (ATSC 1.0, QAM J.83B, DVB-T, DVB-T2, ISDB-T)
- Start / End RF channel for the scan. Setting this to the lowest / highest RF channel will reduce scan time but is not required.

If the modulation type is set to "AUTO", all the different modulation types will be tried until a tuner lock is acquired. It is recommended to set the Modulation to ATSC in the United States.

(Check, Stop) functions allow the user to check scan progress and stop scan when preferable. Once the Scan is complete, available channels are listed in the Channels tab.

NOTE: Scan may capture ATSC3 channels where available. ATSC3 is not currently supported.

During a scan you can click on Check to see the current progress:

When complete selecting Check will display the scan is complete and the number of channels found:

```
$ get scan  
Done. 85 channels
```


3.3 CHANNELS

The Channels tab will display all scanned channels.

Included information:

- Modulation Type
- Off-air RF channel and program number
- Channel identification (Call sign)
- PSIP major and minor channel
- Signal strength and snr

\$ get channels

mod	freq.prog	name	major.minor	strength	snr
ATSC	7.3	WHMB-HD	40.1	-46	34
ATSC	7.4	CHSN	40.2	-46	34
ATSC	7.5	QVC	40.3	-46	34
ATSC	7.6	HSN	40.4	-46	34
ATSC	7.7	QVC2	40.5	-46	34
ATSC	7.8	CHSN+	40.6	-46	34
ATSC	8.3	WIIH-LD	17.1	-71	19
ATSC	9.3	WISH-HD	8.1	-46	31
ATSC	9.4	getTV	8.2	-46	31
ATSC	9.5	Radar	8.3	-46	31
ATSC	9.6	My_INDY	23.1	-46	31
ATSC	9.7	RADAR	23.2	-46	31
ATSC	9.8	WISHNET	23.3	-46	31
ATSC	9.9	DIYA	8.4	-46	31
ATSC	13.1	WTHR-HD	13.1	-45	33
ATSC	13.2	Dabl	13.2	-45	33
ATSC	13.3	Me-TV	13.3	-45	33
ATSC	13.4	Crime	13.4	-45	33
ATSC	13.5	Quest	13.5	-45	33
ATSC	13.6	NEST	13.6	-45	33
ATSC	17.1	WALV-CD	46.1	-53	34
ATSC	17.2	CRIME	46.2	-53	34
ATSC	17.3	ShopLC	46.3	-53	34

ATSC	17.4	NOSEY	46.4	-53	34
ATSC	17.5	CONFESS	46.5	-53	34
ATSC	17.6	HEROES	46.6	-53	34
ATSC	17.7	WTHR-HD	13.13	-53	34
ATSC	20.2	WSWY-LD	21.1	-66	26
ATSC	20.4	RTV	21.2	-66	26
ATSC	20.6	REVN	21.3	-66	26
ATSC	20.8	Action	21.4	-66	26
ATSC	20.10	Family	21.5	-66	26
ATSC	20.12	Revival	21.6	-66	26
ATSC	20.14	GLTVii	21.7	-66	26
ATSC	21.3	WFYI-1	20.1	-51	33
ATSC	21.4	WFYI-2	20.2	-51	33
ATSC	21.5	WFYI-3	20.3	-51	33
ATSC	22.3	WXIN-DT	59.1	-54	33
ATSC	22.4	AntTV__	59.2	-54	33
ATSC	22.5	Rewind_	59.3	-54	33
ATSC	22.6	Charge!	59.4	-54	33
ATSC	22.7	WTTK-DT	29.1	-54	33
ATSC	23.1	WDTI-DT	69.1	-59	32
ATSC	23.2	WDTI-ES	69.2	-59	32
ATSC	23.3	WDTI-SD	69.3	-59	32
ATSC	24.1001	WUDZ-LD	28.1	-60	30
ATSC	24.1002	WUDZ-LD	28.2	-60	30
ATSC	24.1003	WUDZ-LD	28.3	-60	30
ATSC	24.1004	WUDZ-LD	28.4	-60	30

3.4 SIGNAL STRENGTH AND SNR

In Vantiva Lab testing the ATSC4 will start to show consistent CC errors (dropped packets) at -78dBm with snr of 15. However, this is well below the threshold of adequate signal. It is recommended that signal inputs are -60dBm minimum with an SNR of 25 or greater.

3.5 TUNE PAGE



The tune page is used to select which off-air programs will be output to a specific IP address. This is done using a series of filters:

- Tuner filters
 - Select one of four tuners filter (0-3).
 - Each tuner filter must be set to one ATSC carrier.
- Each tuner filter will allow up to ten programs.
- Tuner / Channel filter must both correspond to one frequency (channel)

The tune page displays the filter setup section and the channel list as shown below:

```
$ get status
```

tuner.filter	mod	freq.prog	ip:port	name	major.minor	PIDs	packets	bitrate	errors	strength	snr
<pre>\$ get channels</pre>											
mod	freq.prog	name	major.minor	strength	snr						
ATSC	7.3	WHMB-HD	40.1	-46	34						
ATSC	7.4	CHSN	40.2	-46	34						
ATSC	7.5	QVC	40.3	-46	34						
ATSC	7.6	HSN	40.4	-46	34						
ATSC	7.7	QVC2	40.5	-46	34						
ATSC	7.8	CHSN+	40.6	-46	34						
ATSC	8.3	WIIH-LD	17.1	-71	19						
ATSC	9.3	WISH-HD	8.1	-46	31						
ATSC	9.4	getTV	8.2	-46	31						
ATSC	9.5	Radar	8.3	-46	31						

3.6 TUNER FILTER OPTIONS

The tuner filter can be set up using two options:

1. Stream out all programs on a RF carrier to the QAM.

Using this option will result in:

- All programming from the 8VSB signal be modulated on the selected QAM carrier.
- Use QAM port base.
- PSIP information will be passed through the QAM to the end device. The Tv will display the channels on the PSIP channel from the broadcaster.
- PSIP program information will be displayed on screen.
- Programs cannot be mapped via the COM51D EPG.

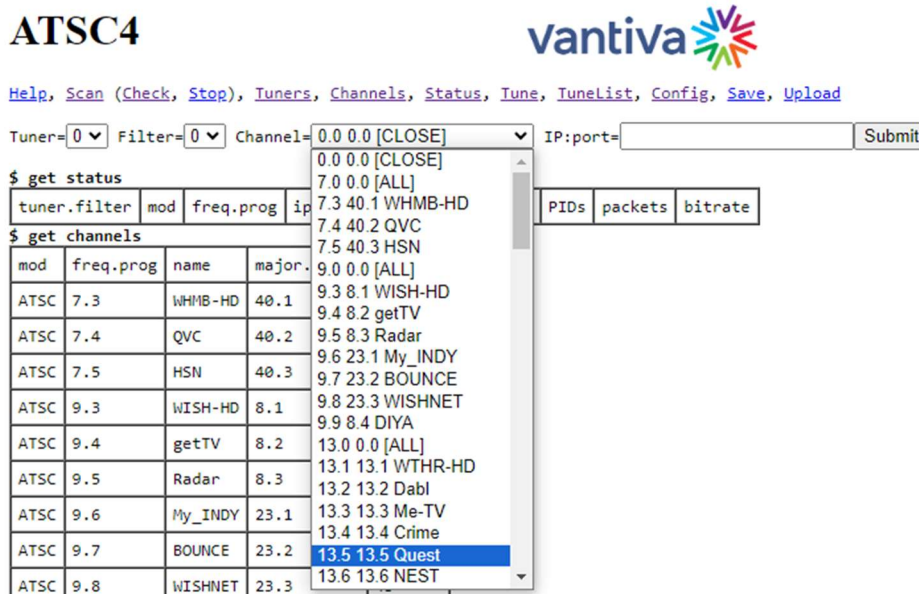
2. Select individual programs and stream to a specific QAM4 IP:Port.

Using this option will stream each program to a specific QAM4 IP:Port.

- This will allow the COM51D EPG to assign PSIP channel mapping to each program
- OTA PSIP program information and channel mapping will not pass through the COM system.

3.7 TUNER FILTER SETUP

Select the tuner and filter number from the drop down boxes. The first tuner and filter are listed as 0. Select the program from the drop down menu and input the destination IP address and port. The destination IP can be the QAM4 IP and port number, a multicast IP address, or a third party IP address and port.



The screenshot shows the ATSC4 web interface with the following elements:

- Navigation:** [Help](#), [Scan](#) (Check, Stop), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)
- Form Fields:** Tuner=0, Filter=0, Channel=0.0 0.0 [CLOSE], IP:port=, Submit
- Terminal Output:**

```

$ get status
tuner.filter mod freq.prog ip
$ get channels
mod freq.prog name major.
ATSC 7.3 WHMB-HD 40.1
ATSC 7.4 QVC 40.2
ATSC 7.5 HSN 40.3
ATSC 9.3 WISH-HD 8.1
ATSC 9.4 getTV 8.2
ATSC 9.5 Radar 8.3
ATSC 9.6 My_INDY 23.1
ATSC 9.7 BOUNCE 23.2
ATSC 9.8 WISHNET 23.3
                
```
- Dropdown Menu:** A list of channel options including 0.0 0.0 [CLOSE], 7.0 0.0 [ALL], 7.3 40.1 WHMB-HD, 7.4 40.2 QVC, 7.5 40.3 HSN, 9.0 0.0 [ALL], 9.3 8.1 WISH-HD, 9.4 8.2 getTV, 9.5 8.3 Radar, 9.6 23.1 My_INDY, 9.7 23.2 BOUNCE, 9.8 23.3 WISHNET, 9.9 8.4 DIYA, 13.0 0.0 [ALL], 13.1 13.1 WTHR-HD, 13.2 13.2 Dabl, 13.3 13.3 Me-TV, 13.4 13.4 Crime, 13.5 13.5 Quest (highlighted), and 13.6 13.6 NEST.
- Table Headers:** PIDs, packets, bitrate

In the example below we have set tuner 0, filter 0 to send all programming from RF channel 7 to QAM port 16. The QAM4 receives this as a single stream and will report bitrate only on the first QAM program. The TV will map the channels to the channel assigned by the broadcaster.

ATSC4

[Help](#), [Scan \(Check, Stop\)](#), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

Tuner= Filter= Channel= IP:port=

\$ get status

tuner.filter	mod	freq.prog	ip:port	name	major.minor	PIDs	packets	bitrate	errors	strength	snr
0.0	ATSC	7.0	192.168.6.2:16	NA	0.0	0x0-0x1ffe	38920	19991168	0	-46	34

The COM51D QAM tab will display as follows:

EdgeQAM Modulator

Which EdgeQam (192.168.6.1+chassis):

Mega-Bits Per Second

Port = QamChannel * 16 + QamSubChannel

	PortBase	Chan	-1	-2	-3	-4	total
Qam1	16	23	19.0	0.0	0.0	0.0	19.0

Note the bitrate on the ATSC4 approximately matches the QAM4 bitrate

In the example below we will set individual tuner filters for each program on an ATSC8 carrier.

- Tuner 0 filter 0 is streaming RF channel 7.3 to QAM4 port 17.
- Tuner 0 filter 1 is streaming RF channel 7.4 to QAM port 18.
- Tuner 0 filter 2 is streaming RF channel 7.5 to QAM port 19.

\$ get status

tuner.filter	mod	freq.prog	ip:port	name	major.minor	PIDs	packets	bitrate	errors	strength	snr
0.0	ATSC	7.3	192.168.6.2:17	WHMB-HD	40.1	0x0,0x30-0x31,0x34	192337	5885152	0	-46	34
0.1	ATSC	7.4	192.168.6.2:18	CHSN	40.2	0x0,0x40-0x41,0x44	96453	5921248	0	-46	34
0.3	ATSC	7.5	192.168.6.2:19	QVC	40.3	0x0,0x50-0x51,0x54	3649	3008000	0	-46	34

\$ get channels

The QAM4 now displays bitrate on ports 17 -19. Bitrates displayed for each stream approximately match

Port = QamChannel * 16 + QamSubChannel

	PortBase	Chan	-1	-2	-3	-4	total
Qam1	16	23	6.8	5.5	2.6	0.0	14.8

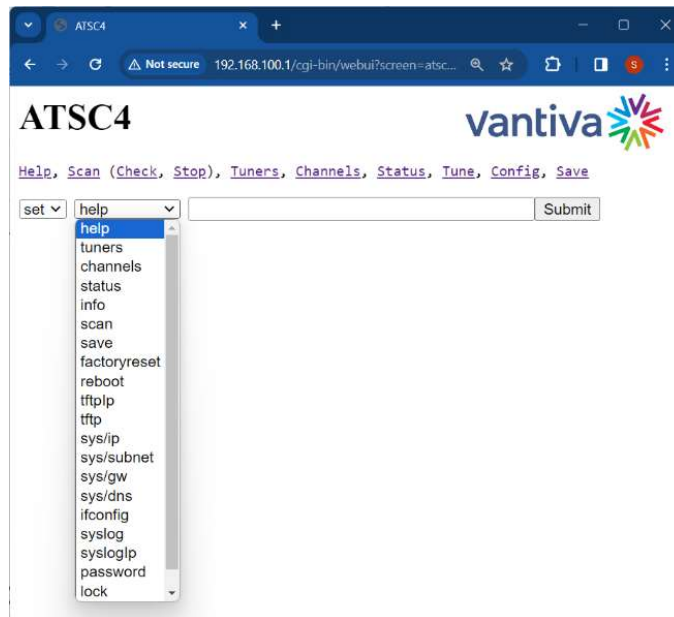
3.8 EPG ENTRY

EPG text is standard for any external source. In the example below we are mapping three channels from the ATSC4 to channels 2-4.

```
The format is displayNumber-minor majorNumber-minorNumber-[hd|sd] qamChassis port
OR displayNumber-minor majorNumber-minorNumber-[hd|sd] multicastIP port
OR displayNumber-minor majorNumber-minorNumber-[hd|sd] -qamCarrier program
OR displayNumber-minor NMyChan_Event_info qamChassis port
The chassis and port are used for PSIP guide generation. Set to -1 to disable.
```

```
2-0 Nlocal_WHMB 1 17
3-0 Nlocal_QVC 1 18
4-0 Nlocal_HSN 1 19
```

3.9 CONFIG PAGE



The "Config" page allows simple card configuration changes:

- IP address
- Subnet mask
- Gateway
- TFTP server IP address
- TFTP filename (for software updates)
- Reboot

3.10 SAVE YOUR CHANGES

The user must explicitly save their changes to flash. No changes are persistent until they are saved to flash.

ATSC4



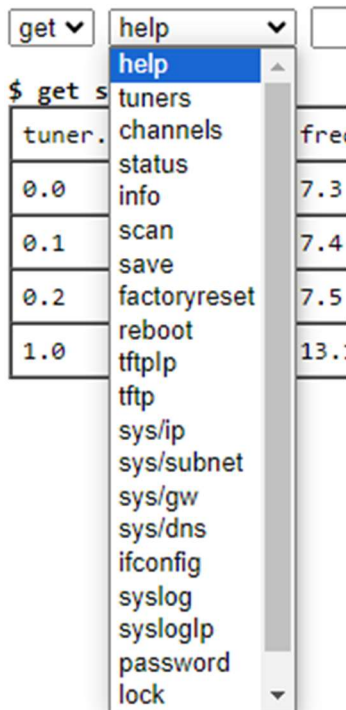
[Help](#), [Scan \(Check, Stop\)](#), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

Command:

\$ set save

3.11 ATSC4 CONFIG

The ATSC Config section has options for setting functions and getting information about the ATSC4.



<p>get info View software version Chassis/slot info MAC address</p>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <input type="text" value="get"/> <input type="text" value="help"/> <input type="text"/> <input type="button" value="Submit"/> </div> <pre> \$ get info ATSC4 Version: 01.00.03; Oct 18 2024 18:54:22 Chassis 1; Slot 2; HwId 2; BoardId 0 MAC EC:93:7D:E0:14:89 </pre>
<p>get ifconfig</p>	<pre> \$ get ifconfig eth0 Link encap:Ethernet HWaddr 40:0F:C1:68:87:50 inet addr:192.168.3.129 Bcast:192.168.255.255 Mask:255.255.0.0 UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:9513 errors:0 dropped:1056 overruns:0 frame:0 TX packets:6440932 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:1619254 (1.5 MiB) TX bytes:8745201275 (8.1 GiB) eth0:2 Link encap:Ethernet HWaddr 40:0F:C1:68:87:50 inet addr:192.168.3.21 Bcast:192.168.255.255 Mask:255.255.0.0 UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 lo Link encap:Local Loopback inet addr:127.0.0.1 Mask:255.0.0.0 UP LOOPBACK RUNNING MTU:65536 Metric:1 RX packets:9189176 errors:0 dropped:0 overruns:0 frame:0 TX packets:9189176 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:11882351599 (11.0 GiB) TX bytes:11882351599 (11.0 GiB) default via 192.168.0.1 dev eth0 127.0.0.0/8 dev lo scope link 192.168.0.0/16 dev eth0 scope link src 192.168.3.21 Kernel IP routing table Destination Gateway Genmask Flags Metric Ref Use Iface default 192.168.0.1 0.0.0.0 UG 0 0 0 eth0 127.0.0.0 * 255.0.0.0 U 0 0 0 lo 192.168.0.0 * 255.255.0.0 U 0 0 0 eth0 </pre>

<p>get syslog</p>	<pre> \$ get syslog Jan 1 01:41:35 192 user.warn app: Channel(0, 7.5, NA, 0.0, 1) Jan 1 01:41:35 192 user.warn app: VCT CRC error Jan 1 01:41:35 192 user.warn app: Channel(0, 7.3, WHMB-HD, 40.1, 2) Jan 1 01:41:35 192 user.warn app: Channel(0, 7.4, QVC, 40.2, 2) Jan 1 01:41:35 192 user.warn app: Channel(0, 7.5, HSN, 40.3, 2) Jan 1 01:41:35 192 user.warn app: VCT CRC error Jan 1 01:41:36 192 user.warn app: VCT CRC error Jan 1 01:41:36 192 user.warn app: VCT CRC error Jan 1 01:41:37 192 user.warn app: Tune(0, 1, 8) Jan 1 01:41:39 192 user.warn app: Tune(0, 1, 9) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.3, NA, 0.0, 1) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.4, NA, 0.0, 1) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.5, NA, 0.0, 1) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.6, NA, 0.0, 1) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.7, NA, 0.0, 1) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.8, NA, 0.0, 1) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.9, NA, 0.0, 1) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.3, WISH-HD, 8.1, 2) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.4, getTV, 8.2, 2) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.5, Radar, 8.3, 2) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.6, My_INDY, 23.1, 2) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.7, BOUNCE, 23.2, 2) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.8, WISHNET, 23.3, 2) Jan 1 01:41:39 192 user.warn app: Channel(0, 9.9, DIYA, 8.4, 2) </pre>
<p>Set factory reset Clears all information and settings</p>	<div style="border: 1px solid #ccc; padding: 5px;"> set ▼ factoryreset ▼ <input style="width: 300px; height: 20px; margin-left: 10px;" type="text"/> Submit </div>
<p>Set static IP information</p>	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="margin-bottom: 5px;"> set ▼ sys/ip ▼ <input style="width: 150px; height: 20px; margin-left: 5px;" type="text"/> Submit </div> <div style="margin-bottom: 5px;"> set ▼ sys/subnet ▼ <input style="width: 150px; height: 20px; margin-left: 5px;" type="text"/> Submit </div> <div style="margin-bottom: 5px;"> set ▼ sys/gw ▼ <input style="width: 150px; height: 20px; margin-left: 5px;" type="text"/> Submit </div> <div style="margin-bottom: 5px;"> set ▼ sys/dns ▼ <input style="width: 150px; height: 20px; margin-left: 5px;" type="text"/> Submit </div> </div>
<p>Set password</p>	<div style="border: 1px solid #ccc; padding: 5px;"> get ▼ password ▼ <input style="width: 100px; height: 20px; margin-left: 5px; border: 1px solid #ccc;" type="text" value="123456"/> Submit </div> <p>\$ set password 123456</p>

3.12 TUNE LIST

Like COM51D “Tuneall” function the tune list will save ATSC4 settings as a text file. This file can be saved and reapplied or edited.
It is recommended to save this file for future reference.

ATSC4



[Help](#), [Scan \(Check, Stop\)](#), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

```
tuner.filter mod freq.port ip:port  
tuner.filter mod freq.port qamMajor-qamMinor
```

```
0.0 ATSC 7.3 192.168.6.2:17  
0.1 ATSC 7.4 192.168.6.2:18  
0.2 ATSC 7.5 192.168.6.2:19
```

Submit

4 TROUBLESHOOTING

1. Verify off-air signals are good with a signal level meter set to 8VSB.
 - You may need to re-peak your antenna based on the weakest signal being used.
 - Signal levels greater than -65dBm are typically needed for consistent quality pictures.
2. Due to the signal path on the ATSC4 there is slightly more attenuation on tuner 4. This would very rarely cause a problem, but it may be wise to avoid using tuner 4 for your weakest channel.
3. Connect your antenna feed into a TV, set up air channels and auto scan. Compare picture quality.
4. Verify the destination IP:Port being used is not duplicated by other signal sources.

4.1 ERROR REPORTING

If the signal received by the ATSC4 drops below threshold it will report errors in the tune and channel displays. These errors will continue to display even if the signal is restored to a satisfactory level. This feature is designed to aid in troubleshooting.

[Help](#), [Scan \(Check, Stop\)](#), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

Tuner= Filter= Channel= IP:port=

\$ get status

tuner.filter	mod	freq.prog	ip:port	name	major.minor	PIDs	packets	bitrate	errors	strength	snr
0.0	ATSC	7.3	192.168.6.2:17	WHMB-HD	40.1	0x0,0x30-0x31,0x34	8167638	4909056	59	-79	18
0.1	ATSC	7.4	192.168.6.2:18	CHSN	40.2	0x0,0x40-0x41,0x44	12183488	7241760	68	-79	18
0.3	ATSC	7.5	192.168.6.2:19	QVC	40.3	0x0,0x50-0x51,0x54	3541400	2256000	57	-79	18

\$ get channels

Once the signal issues have been resolved the errors can be cleared from the Config tab. Select set and clear from the dropdown options and click on Submit.

ATSC4



[Help](#), [Scan \(Check, Stop\)](#), [Tuners](#), [Channels](#), [Status](#), [Tune](#), [TuneList](#), [Config](#), [Save](#), [Upload](#)

\$ set clear

If the signal is correct the tune tab will report no errors.

\$ get status

tuner.filter	mod	freq.prog	ip:port	name	major.minor	PIDs	packets	bitrate	errors	strength	snr
0.0	ATSC	7.3	192.168.6.2:17	WHMB-HD	40.1	0x0,0x30-0x31,0x34	9029743	5071488	0	-51	34
0.1	ATSC	7.4	192.168.6.2:18	CHSN	40.2	0x0,0x40-0x41,0x44	13364460	7482400	0	-51	34
0.3	ATSC	7.5	192.168.6.2:19	QVC	40.3	0x0,0x50-0x51,0x54	3916812	2171776	0	-51	34

\$ get channels