AutoSky Skywarn for hamvoip Allstar on the Pi 2/3

AutoSky is a Skywarn program designed to work with Allstar. It receives NOAA warnings for your county and announces them on your local node. It is easy to setup and has been adapted to work with hamvoip V1.5 software. AutoSky voices out simple voice alerts like “Tornado Watch” or “Flood Warning” at the drop of transmissions using the Allstar tailmessage command. It covers all the alert messages that would normally be encountered in a Skywarn system. AutoSky is an additional package in the hamvoip repository. To download the package at the Linux prompt type:

```
pacman -Sy hamvoip-autosky
```

This will install AutoSky in the **/usr/local/bin/AUTOSKY** directory.

All user changeable items are in the **AutoSky.ini** file. For use with hamvoip installations Autosky only requires the setting of your county ID as described below. All other parameters should remain as set.

The following are the steps for setup of AUTOSKY in the hamvoip V1.5+ software.

Set your County

Find your county URL and update in the **/usr/local/bin/AUTOSKY/AutoSky.ini** file.

Visit **https://alerts.weather.gov/** and select your state and county. Click on the ATOM link at the left of the entries and copy the URL. Paste the URL into the $OFILE line. It will look like this:

```
OFILE="https://alerts.weather.gov/cap/wwaatmget.php?x=PAC017&y=0"
```

The URL will be different after the /cap/ for your particular county.

Test and initialize AutoSky

At this point you can test run AutoSky. If you are in the AUTOSKY directory type **./Autosky** otherwise **/usr/local/bin/AUTOSKY/AutoSky**

On the first run it will initialize all the temporary files and tell you it is not enabled. Autosky always comes up in the OFF state at boot. Be aware that AutoSky needs to initialize its files at each boot so it you reboot the system you will need to re-enable it.

To enable type:

./AutoSky.ON or **/usr/local/bin/AUTOSKY/AutoSky.ON**

You can also type: **./AutoSky.OFF** or **/usr/local/bin/AUTOSKY/AutoSky.OFF** should you want to disable alerts. See below for an automated way to do this using DTMF.

Add a start command

If you want AutoSky to run automatically at each boot freeing you of the manual starting steps add the following two lines to the end of the **/etc/rc.local** file.

```
/usr/local/bin/AUTOSKY/AutoSky
/usr/local/bin/AUTOSKY/AutoSky.ON
```

Add a cron entry

Add a crontab entry to poll data – type **crontab -e** and add this line after any existing lines. (Note there are spaces between the *'s after the 4 below.)

***/4 * * * * /usr/local/bin/AUTOSKY/AutoSky**

Change the */4 for interval you desire. */4 is a four minute poll cycle which is the desired default.

Set the tail message

The tail message path and file name is setup in **/etc/asterisk/rpt.conf** in the nodes section for the first node or the node you specified in the /**usr/local/bin/AUTOSKY/AutoSky.ini** file. If a specific node is not specified in AutoSky.ini it uses the first or primary node.

If desired tail messages can be added in addition to WX alerts for system announcements such as club meetings, events, etc.

tailmessagetime is based on local TX idle time, not clock time and will be played at a carrier drop after the time elapses. You can change the timing but remember if you set it too long you may miss important warnings and messages.

Here is an example for setting the tailmessage commands in **/etc/asterisk/rpt.conf**

```
;
; TAIL MESSAGE CONTROL
; The tailmessagetime,tailsquashedtime, and tailmessages need to be set
; to support tail messages. Remove leading ; to uncomment
;
tailmessagetime=180000    ; Play a tail message every 3 mins (180000)
tailsquashedtime=60000    ; If squashed by a user TX, try again after 60 seconds (60000)
;
; TAILMESSAGELIST HAS LIST OF ROTATING MESSAGES TO BE PLAYED FOR TAIL MESSAGE
; This shows the tail message for hamvoip AutoSky. You can add additional
; message files separated with a comma
;
tailmessagelist=/tmp/AUTOSKY/WXA/wx-tail
;
```

TAIL MESSAGE NOTES

Many use tail messages to send club announcements and other info on a repeater. A example of how to do this dynamically is to specify an announcement file in addition to the WX alert file.

tailmessagelist=/tmp/AUTOSKY/WXA/wx-tail,/etc/asterisk/local/announcements

The announcements file would be an audio file, maybe announcments.wav. You **do not** include the suffix in the tailmessagelist file names.

You could then dynamically copy different audio message files to the announcements file to change messages.

You can adjust the tailmessage timings to your liking. Timings would also depend on the number of announcements besides WX alerts you have queued.

Turning AutoSky on and off

The **AutoSky.OFF** and **AutoSky.ON** commands turn the alert system off and on. To automate this via DTMF you can optionally setup two command codes.

Run Autosky via cron or manually before issuing these commands

This is setup in **/etc/asterisk/rpt.conf** in the functions section. Here is what the commands would look like -

```
880=cmd,/usr/local/bin/AUTOSKY/AutoSky.OFF
881=cmd,/usr/local/bin/AUTOSKY/AutoSky.ON
```

*880 = Alerts off
*881 = Alerts on

The function numbers can be changed to your liking. Voice feedback confirms the action.

Use with Multiple nodes

AutoSky can be used with multiple nodes on one server. To do so you need to add the tail message commands to each node definition in /etc/asterisk/rpt.conf. In addition in the AutoSky.ini file you would add the nodes space delimited in one line. The default is NODE=$NODE1 which would set it to the first defined node in rpt.conf. If you want to define additional nodes you can add them like this:

```
NODE=”40000 40001 40002”  ; Define three nodes
NODE=”$NODE1 40001”  ; This would use your first node and additionally 40001
```

Replace the nodes numbers above with your real node numbers.

ADDITIONAL NOTES

rpt.sh in the AUTOSKY Directory is a small shell script that allows typing in a repeater dtmf string from a shell prompt instead of using asterisk -rv -or- a radio. Typing the leading star is optional.

The AUTOSKY SOUNDS directory contains the announcements for AutoSkyWarn. They are WAV 8K and can be replaced with sound files of your choice if desired. These are indexed files based on the alert. Do NOT change the names!

Users can setup a command code to execute AutoSky manually and not wait for the cron to execute.

```
882=cmd,/usr/local/bin/AUTOSKY/AutoSky
```

The AutoSky.ini file has "test" lines of code clearly marked. Uncomment a line for testing during nice weather. Just remember to re-comment the line for normal operations. This will issues selected alerts for testing. Be sure you tell your users you are testing!

There is a log file located in the main AUTOSKY directory. This logs all alert changes with date and time for reference. Logs look like this -

```
Wed Mar 29 11:28:02 EDT 2017 - Alert issued - Wind Advisory issued March 29 at 10:23AM CDT until March 29 at 6:00PM CDT by NWS
Wed Mar 29 12:56:02 EDT 2017 - Alert issued - Wind Advisory issued March 29 at 10:23AM CDT until March 29 at 6:00PM CDT by NWS
Wed Mar 29 12:56:02 EDT 2017 - Alert issued - Wind Advisory issued March 29 at 10:23AM CDT until March 29 at 6:00PM CDT by NWS
Wed Mar 29 13:00:02 EDT 2017 - Alert issued - Wind Advisory issued March 29 at 10:23AM CDT until March 29 at 6:00PM CDT by NWS
Wed Mar 29 17:08:02 EDT 2017 - Alert issued - Wind Advisory issued March 29 at 4:05PM CDT until March 29 at 6:00PM CDT by NWS
Wed Mar 29 19:04:02 EDT 2017 - Clear Alerts
```

The distributed logfile has example lines in it. To clear the logfile type:

>/usr/local/bin/AUTOSKY.AutoSky-log.txt

The log file can be viewed to see what alerts have been activated for your county. Because this file is not written very often it is saved on the SD card so logs are kept through reboots.

The journal (log) will show the cron hits and display a result -

```
Mar 29 23:44:01 Pi3-test CROND[14129]: (root) CMD (/root/test/AUTOSKY3/AutoSky)
Mar 29 23:44:02 Pi3-test CROND[14128]: (root) CMDOUT (AutoSky Xresult is 0)
```

The Xresult value is -

0 = No change - no Alert change since last check
1 = Alert change – an alert change has been issued
2 = error

The journal is viewed by typing 'journalctl -f' CNTRL-C to exit.

If you run AutoSky manually you will probably see a '0' result unless a change has taken place since the last cron hit or last time you manually ran it.

The file - **say-wx-alert.sh** - can be run to say a one time alert or with a 'C' parameter to give continuous alerts at a 10 minute intervals in place of or in addition to using tailmessage. Tailmessage only gives alerts if a node is keyed. So if no one keys then you will not hear the repetitive alerts. This is just an option and example of how to do this without or in addition to using tailmessages. The interval is configurable in the script.

I hope you find this package it useful. Feedback appreciated.

AutoSky was originally written by Steve, KF5VH and modified for hamvoip Allstar by Doug, WA3DSP.

IMPORTANT NOTICE

This AutoSky script is intended to provide an indication of an alert. Further information about the alert should be found by other means, a smart phone, tablet, computer, NOAA radio, commercial radio and TV, etc. In a severe weather prone area do not depend solely on any one source for information. Like any other electronic medium it is susceptible to failure. No matter what the Weather Alerts are indicating, the information gathered and presented may NOT be accurate. You MUST use your own judgment to determine your best course of action in any given circumstance! There are many reasons WHY the data here may not be accurate, including, but not limited to, software problems, network problems, and or hardware problems. The Weather Alerts and other Weather information should NOT be used to make any determination of actual current conditions, it is merely an indication of what the software is seeing as a result of it's attempts to read publicly available data sources. These data sources may be unavailable, unreachable, or inaccurate. Please check other sources to verify any information presented here. |