



# APRS2HEMA GATEWAY SERVICE V1.01

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## What is APRS2HEMA and how do I use it?

**APRS2HEMA** is a gateway between the **APRS** system and **HEMA** (via **HEMA Spotting Engine**). It allows you to self spot or spot another station using only an APRS equipped radio. Spots appear on the <http://hema.org.uk/indexSpotting.jsp> website page.

APRS2HEMA was inspired by APRS2SOTA and the great work of Stewart Wilkinson G0LGS. To reduce the learning curve for APRS2SOTA users I have used the same basic message format, so if you are able to use APRS2SOTA then you can use APRS2HEMA. As so many HEMA operators are also SOTA operators it seemed appropriate. Thanks to Rob Cridland G7LAS and Stewart Wilkinson G0LGS for help support. A special thanks to Rob Cridland for working with me to devise a suitable mechanism to interface APRS2HEMA with the HEMA Spotting Engine and making sure that happened.

The gateway reads messages sent to the APRS-IS network and posts 'Spots' on the HEMA Spotting Engine on the HEMA site.

## Message Information Required

Each APRS2HEMA message requires:

- A Summit Reference (see HEMA Summits Database)
- Frequency (with or without units, can be given as kHz or MHz)
- TX Mode (FM,AM,SSB,CW,PSK,RTTY,FT8,DATA)

## Formatting of Parameters

<SUMMIT REF> <FREQUENCY> <MODE> [STATUS] [ASP]

Parameters may be separated by a comma <,> or a simple space as above. [ ] denote an optional parameter.

## Optional Information/Status [ ]\*

Currently APRS2HEMA does not support free text comments. It does however support canned text abbreviations for common phrases. These will grow over time but for now the following are optionally available.

- CQ – Calling CQ now
- QRV – Standing By For Calls
- QRT – Finished for the day 73
- ASP[1/2/3] – AUTO SPOT ME in 1,2 or 3 Hrs\*\* (see note below)
- TEST – Tells APRS2HEMA to process the message but NOT send to HEMA Spotting Engine

## Example Messages

G/HTW-008 145.525 FM CQ

## G/HTW-008 7030 CW QRV

### ACK

ACK is currently unsupported but will be actioned as soon as possible. This means that once you send your APRS2HEMA message **you should delete or stop sending it after some attempts** because your radio will not be sent an ACK to tell it to stop on its own. This would also happen if the iGate you were received by was RX only.

Normally when you send your spot via APRS2HEMA as a message the system will look for a correctly formatted message number tailing the message text. Numbers are separated by a { (see italics selection example below *{20}*). According to APRS specification if this is missing in your message then APRS2HEMA will not send and ACK as it is not possible for your equipment to know which message attempt was ACK'd.

```
2021-05-24 08:14:39 BST: 2E0WWV-7>APY03D,WIDE1-1,WIDE2-1,qAR,2E0WWV-10::HEMA
:G/HTW-008 145.525 FM{20}
```

As soon as ACK is implemented I will update this document and the website.

### CALLSIGNS

APRS2HEMA requires the originating callsign to be a valid amateur radio callsign. The system makes periodic checks to ensure that stations posting spots are entitled to do so. System default is to add /P to callsigns automatically. The system does not add M/D/G/W codes to prefixes based on summit etc. This may be a future addition.

### Rate Limits & Abuse

Stations who abuse the system or use it irresponsibly may be temporarily blocked or even permanently banned by the gateway. I am implementing mostly automated stonewalling and may not respond for a long time to requests to look into "I was banned" emails. My suggestion at present is – use it as you need to and you shouldn't have any issues. If however you start sending multiple dupes and false data then your most certainly going to get black holed.

### Auto-Spot / Geo Fence\*\* (coming soon)

I am working to introduce a helpful feature in future releases that will allow users to send a spot up-to 2 hours before activating. Adding ASP1 or ASP2 or ASP3 to the message optional parameters will tell APRS2HEMA to begin watching your LOCATION BEACON for 1,2 or 3 Hours from receipt of the message. When you beacon a location within the activation zone of the summit, APRS2HEMA will immediately then post that spot to HEMA Spotting Engine.

### General information

APRS in the UK is operated on 144.800MHZ in the FM mode. Dotted around the UK are many Digipeater or iGates that may be able to hear your APRS packet and send it to the Internet for you. I cannot tell you how to configure your individual radio to send a APRS2HEMA message but a quick Google or Youtube search should give you a few pointers.

If you do not have an APRS radio do not despair! There are other ways to use the service. Apps such as APRSDROID and APRS.FI will run on your phone even without cell phone coverage. They can be setup to encode your message and play it as a packet of data over the phone handset speaker. Put the speaker next to your HT microphone and key up on 144.800MHZ and then trigger the APRS packet on your phone app. It is totally possible to send APRS data using this method. It's not always easiest but if you can't afford a

dedicated APRS radio it is an ideal way to get around the problem.

73 Scot

2E0WWV