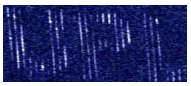
Now for something completely different... slow hellschreiber! I have since found out that what I was sending is a form of Sequential Multi-Tone frequency doman Hellschreiber (S/MT-Hell), which is a mode occasionally used on HF bands but obviously at a higher speed. The version I sent was similar to the official S/MT-Hell, except at much slower speeds. Also I scanned my characters in pixel columns from top to bottom rather than bottom to top, the result was that the text appears to slope backwards slightly on the QRSS Viewer screen. The officel S/MT-Hell mode uses frequency shifts the opposite way around, but this wouldn't work on QRSS Viewers.

GØUPL

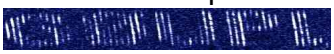
The message was just my callsign encoded on a 58 by 15 pixel grid (right). I used a Windows font to create the 5 letter word, then shifted around in the "Paint" program in order to get the cross through the zero and make it fit. The 1024 byte memory page of the beacon permits up to 64 x 16 pixels to be used. The left over 6 columns are required so that there are enough spare bytes to transmit the station ID in standard 12 wpm morse.

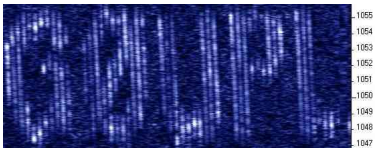
Each memory location holds one transmitter state, which can be on/off, last 0.1s, 1s, 3s or 10s, and apply one of 16 different frequency steps. Programming a Hell message consists of sending the pixels in the correct sequence (the image is scanned in columns from top to bottom, left to right). Each pixel either has the beacon transmitting or not (if there is no pixel) and applies a frequency shift dependent on the pixel row. My message font is completely non-standard for real "Hell".

First to report was Peter DL6NL from near Munich. This is the first screenshot I received of my Hell message and was a huge relief, it showed that I had not done anything **really** stupid like program the message upside down or something. This screenshot is the Argo software's 3-second dot mode, and shows the letter P of the callsign. Argo needs to be slowed down to 10s mode before the letters start to look right.

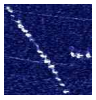


Shortly afterwards, came the "UPL" in 10s mode, the first real Hell image received! This was tremendously exciting. You can see the backwards slant as predicted, and the letters clearly scanning in vertical lines. The image below is two Argo 10s screenshots pasted together and shows the complete callsign.





In 20s mode, Peter DL6NL's Argo produced the shown to the right. Peter called this "THE

MASTERPIECE 46" because capturing it took a lot of patience and adjustment. In the Argo software the frequency and time axis are automatically adjusted by the software, so increasing the timescale to 10s decreases the frequency scale, resulting in the "taller" letters. 

And what of the staircase linearity? Left shows another Argo shot from Peter, showing that the linearity is much improved. The question on the frequency chirp on the QRSS10 "N" isn't really resolved by this shot.

I also received some nice shots of the complete callsign from Peter DF3LP in Kiel (see right).