

Contesting

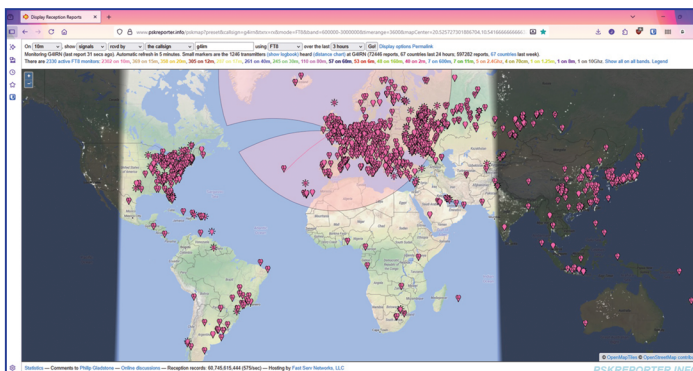


PHOTO 1: PSK Reporter is a great real-time indicator of HF propagation.

Successful contesters plan an approach then adapt during the contest to the real-time variables.

Thinking ahead can gain you points. Being on air at the right time, on the right band, with the antenna pointing in the right direction are all important. But so is your physical and mental preparedness, especially in a 24- or 48-hour contest. In this article, the focus is on single operator HF contesting strategy.

If you are taking time to strategise, you are probably aiming to do well – hoping to beat your previous score, having a ‘first place’ or shoot for a record. However, there’s no getting away from it... the primary contributing factor to contest success is practice.

Practice brings operational flair, familiarity with propagation and callsigns, exploitation of more advanced software features and muscle memory operation of the station. There is no substitute. Experience helps you to learn from mistakes, identify station enhancements and improve your operating and planning abilities.

Get to thoroughly know your contest software. Understand how to use its features. Is yours the best software for a particular contest? Get used to different contest software products and understand their strengths and weaknesses.

For CW contests, try simulators such as Morse Runner or RufzXP. Get on the air and try conversational QSOs to gain more confidence and speed. For SSB, practise your typing.

Be self-analytical. Consider your own operating style and how you could do better. Can you automate any of your activities? For example, turning the rotator, switching antennas and calling CQ are all manual activities but improvements are often made by aggregating several small enhancements.

Talk to others about their approach and consider how you might improve.

Having selected a contest, become completely familiar with the rules and past results. Choose a category and power level. Play to your station’s strengths (your best antenna, for example). Analyse your own previous logs and, if they are available, public logs will give additional insight, helping to determine scoring opportunities and what’s needed to be successful. Ask yourself: how many QSOs are required to achieve my goal? Who else might be in the same category? What are their strengths? When did other stations take breaks? At what time are the peak QSO rates? What are the predominant directions for QSOs? When does each band open to various areas? When do the bands die off? Are there any unusual propagation openings?

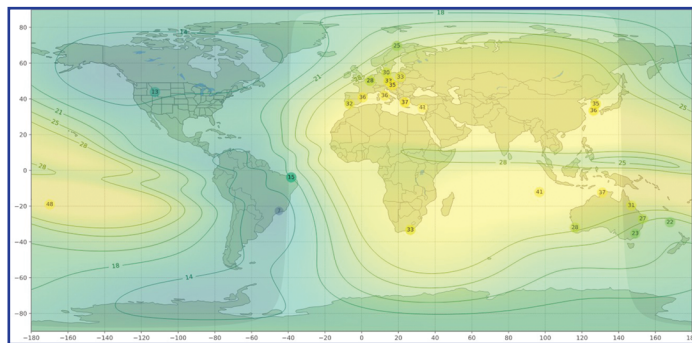


PHOTO 2: A Maximum Usable Frequency map combined with a Grey Line Map can help band selection.

Decide whether you will be making a full-time or a part-time effort. If you opt for the latter, you may wish to align your operating periods with peak propagation times. Also, think about operating technique – if you have a second receiver, can you use it to help to work extra QSOs or multipliers? If you have two radios, consider if a second antenna is viable – anything to improve productivity. Then set yourself hourly targets; pin them on the wall as a reminder.

In some contests, all traffic is in a single direction (the ARRL contests where only North America is worked, for example). On the other end of the scale, the CQ World Wide or WPX can solicit QSOs from all directions (Australia, followed by Africa, followed by Canada) – they are ‘rotator-intensive’ contests. A second antenna (even a vertical) may increase station flexibility and hence operating rate.

In the days before the contest, look at solar weather, propagation forecasts [1] and monitor the contest band(s) to get an appreciation for conditions. Monitoring FT8 traffic on PSK Report gives great insight into current band conditions (Photo 1) as can auroral predictions (Photo 2).

Station readiness

Contest stations are often a complex mix of software, hardware and networking and there is plenty of scope for things to go wrong. Don’t leave it too late to test the station and antennas thoroughly because everything needs to be ‘contest ready’, allowing time to iron out any glitches. It may be useful to have a checklist, so nothing is overlooked in the shack.

Make sure you are comfortable in your operating position. Everything should be in easy reach without having to twist your body or stretch.

- Ensure the contest software is correctly configured with the latest contest template (rules can sometimes change between events), Exchange File (contains previously used exchange values), the latest country file and the latest Super Check Partial (SCP) file.
- You may wish to update the SCP and/or Exchange File with recently announced contest participants if they are not already in there.
- Configure the screen layout to your preference.
- Set the PC clock time accurately.
- Check radio interfaces: CAT, PTT and microphone and/or CW keyer if applicable.
- If you use a second radio, check the interlock and filtering are working.
- Check the audio level, Tx bandwidth and processor level. On SSB,

since many stations will use narrow receive filters, it's pointless transmitting a signal wider than 2.4KHz. Set your Tx bandwidth to match.

- Set CW/Data macros and/or prepare your Digital Voice Keyer.
- Set radio controls in readiness.
- Try logging half a dozen test QSOs to make sure everything works as expected, then delete them before the contest.
- If you are aiming to work DX (to the USA, for example), print out their band plans as an aide-memoire.

Operator readiness

For a 24-hour contest – and more so for a 48-hour contest – being ready to stay awake and alert for long hours is a challenge. Top tester Jose, CT1BOH in an interview by W1DED reveals his tactics [2]. Before a 48-hour weekend contest, Jose takes a sleeping pill at Friday around noon and sleeps all day. From midnight, he'll operate for the entire 48-hour contest. He will not eat and if he needs to take a 'comfort break', that will be done at the operating position. This is extreme but highlights a winner's mentality.

Staying awake and reasonably alert for the entirety of a 24-hour contest is quite achievable provided you go into it well rested, keep well hydrated and eat sensibly. Make sure you have food and drink to hand but remember that too many carbohydrates can induce tiredness so choose your snacks carefully. If you must take a rest, check your previous research to determine when the quietest period might be and don't miss grey lines if you can help it.

Of course, full-weekend 48-hour contests are even more challenging. Very few can operate a full 48 hours but many testers can get by with just a few hours' sleep. Remember that whatever target or record you're aiming for, someone else may be aiming for that too. Can you afford to not be at the radio?

During the contest

As a rule, operate on the highest band that's open or regularly flip between the two highest open bands, or anywhere you can garner contacts and multipliers. During the contest you will experience propagation changes so, if QSOs dry up, try something different such as move frequency or band or change the antenna direction.

However it goes, remember all the good practice principles you've previously learned:

- Keep a copy of band-plans and contest rules handy.
- Keep QSOs as brief as possible.
- Use standard phonetics on SSB.
- On CW, use appropriate speeds and don't call another station on zero-beat.
- Be aware of other nearby stations or the possibility of another inaudible station on your frequency.

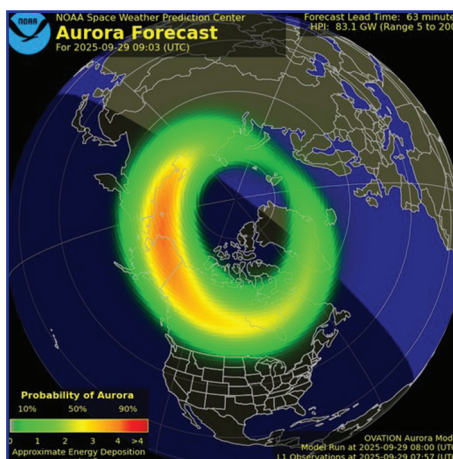


PHOTO 3: Auroral activity can kill HF so a forecast can help with tactics.

- If you can pass a multiplier to another band, always do it.

There's nothing to substitute intuition and experience but using software tools can give extra insight to conditions in real time:

- **A grey line map** The transition to twilight or dawn (the 'grey line') is often an exciting time for long-haul propagation. It's a time when distant multipliers can be heard, sometimes for very short periods of time, particularly at LF, and you need to be there and ready. Your contest software may have such a map built in (Photo 2).
- **Solar Weather** has a huge impact on propagation, particularly over the poles. Keep an eye on the Solar Flux, A and K indices. Another great indicator for propagation is the Maximum Usable Frequency [3] – use it to make band choices.
- **Reverse Beacon Network (RBN)** [4] for CW and Data Modes will indicate where your signal is being heard at any time. If you're not being heard in the desired direction, consider a band change. Even if you are 'unassisted' (no help from the DX cluster), viewing a map of where your signal is being heard is both permitted and very useful.
- **PSK Reporter** [5] shows real-time FT* modes traffic and can also be a great indicator of real-time propagation on a band, even if you are using a different mode. You could check out a band's performance before QSY-ing there.

Keep busy – look out for unexpected band openings, say in the middle of the night. If you have a second receiver, listen on other bands to see how they are performing. Can you hear needed multipliers on those bands? Keeping busy and trying to achieve your hourly targets nets additional QSOs and can help drive you through sleepy periods.

Remember that some contests, even in the 'non-assisted' category, allow self-spotting on the DX Cluster. Although not so advantageous on CW or data due to the RBN, it's a good way

to alert your presence to 'assisted' stations or those hooked up to a cluster node without RBN spots. Make sure you take advantage of self-spotting rules.

Operate in band segments that are accessible to target areas (stations in the USA have different band plans to ours). Also, if you're relying on being spotted by RBN, remember that many skimmer receivers have limited coverage and may not listen high in the bands.

It's important during the contest to keep up your QSO rate and to keep working multipliers. Remember your earlier research, particularly for band openings. Be there to check them and keep revisiting. If things slow down, do something different.

Remember that CQ-ing (running) may solicit casual tuners but search & pouncing will probably elicit more multipliers. You need to find a productive balance. Setting contest objectives (points or QSOs over time) and putting them on a wallchart or on the screen can keep you on your toes and push your motivation.

After the contest

Immediately after the contest and any rest you may need, check your log is in order and submit it to the adjudicators, as per the rules. You may also wish to post it to 3830.com [6] and share your experiences with other like-minded testers on the UK HF Contesting [7] reflector. Even if you don't post, reading others' stories provides good insight.

Weeks or even months after the contests, the results will be published and you should receive a UBN report. Check your UBN carefully and use it as a learning experience – could any errors have been avoided?

Listening back to recordings can be useful. It's also useful to look at the breakdown on other people's scores and their logs if they are public. Where and how did they gain advantage over you? Can you learn anything from it?

Conclusion

In radio contests, the adage 'Failing to prepare is preparing to fail' holds true. Thoughtful planning and preparation can provide a significant advantage over your competitors.

References

- [1] solarham.com
- [2] youtube.com/watch?v=rnD4a7sqoGQ
- [3] prop.kc2g.com/
- [4] reversebeacon.net/
- [5] pskreporter.info/pskmap.html
- [6] 3830scores.com/
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