ARRL Sweepstakes 2025:
PVRC's plan to continue our leadership
By Ty Stewart, K3MM and Jim Nitzberg WX3B

October 22, 2025

PVRC Club Challenge
Set the Club Record

- Note the new larger club circle is now in effect! Details at http://www.arrl.org/contest-club-tools/
- This is a "higher sunspot" year. We may have better participation!!
- We can achieve maximum participation this year; however we need traditional 'Phone Only' ops to get on for CW, and vice versa
- **PVRC Chapter Leaders are the Key to this successful mission**

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Sweepstakes Scores Historical Perspective

- Our consistent winning formula:
  - Operate BOTH modes and maintain our MASSIVE SSB turnout
  - SSB is our traditional strength...however...
  - Please do your best on BOTH MODES!!

PVRC: Club Strategy

- Encourage Individuals to set HIGH Goals for themselves
- Promote Single-Op High Power Assisted Operations
- Multi-ops, in general, are discouraged for SS since Individual operators of a modest station contribute far more to the score than multi-ops, per operator with BIC time! This is a great one to break out as a Single Op!
- Parallel single-ops at a super-station are the exception.

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Individual Operating Strategies Maximum Score Potential

- Start at the BEGINNING of the contest – Saturday afternoon
- Listen to the bands for 30 – 60 minutes BEFORE the contest starts to get an idea of the way propagation is running on each band. Check DXMaps for current props, A/K
- Plan to operate until 2:00 – 3:00am Sunday morning on the first day – don't give up too early! Get back on by 6-7am
- Save leftover off time(s) for Sunday afternoon

Individual Operating Strategies

- Test out ALL your equipment FAR in advance of the contest dates.
- Have all of your Fn messages tweaked and tested ahead of time
- Make sure your SSB audio is optimized – have someone else check it out with you
- Sweepstakes is all about RATE! Keep your rate up and keep your eye on that rate-meter.
- DO NOT CHASE MULTIPLIERS. They likely all come to you if you keep your BIC.
- Be Accurate – do NOT bust the call sign! Don't be afraid to ask for repeats to get everything correct.
- SSB SO2R operators: Always call CQ on At Least 1 radio while S&Ping on your second; Ready to try Piper?
- if you are assisted in CW, GRAB and pounce (G&P) with both radios can be very productive if you are very efficient.

Individual Operating Strategies

- Do NOT answer weak stations when rates are good.
- Get to the next HOT (lower) band FAST, mark your spot for 20, 40m and maybe 75m SSB!
- Play to your Station's Strengths. You only get to contact each station once. If you have a good 75m antenna – spend lots of time on 75 meters!
- Do NOT get psyched out by others with high numbers. Slow and steady, especially on phone can get you a top score.
- Work the shortest skip band that supports high rate. This is normally the lowest band, and it keeps the QSO potential in densely populated areas (NE US).
- If you use packet/skimmer, do not waste time in pileups; call later if you can't get right through.

Station Strategies
For expected 2025 Conditions

- Use Low, Efficient antennas. Dipoles and Inverted Vees at 35 – 50 feet make EXCELLENT SS antennas.

- With the high MUFs, low K and some short skip, 10 and/or 15 meters **could** be really hot bands. 20 daytime will likely be working well short during the day, so it may still be the best place to start.

- A Warning about 10 & 15 meters. They can *sound* excellent, and joyful without as much QRM. But often, it is only western stations calling CQ – and your rate could be limited.

- Use a EWE, Beverage or other RX antenna for 75/80 and maybe 40 meters if noisy or to deal with QRM. NE/SW/NW are all important directions

- Maximize your comfort. Keep snacks, drinks, etc., at easy reach. Keep aspirin/Excedrin handy.

GO (to) LOW (bands) EARLY

- While band condition dependent, going to the LOW bands early, can maximize your rate. This year, you might be able to remain on 20, and then 40 longer…
- 80m *could* sparkle with short skip. 80m keeps signals in the most dense ham population: the EAST coast.
- This has a favorable effect on YOUR RATE
- This year, with the extra sunspots, 40 could be the new 75/80 at night
- If you are using wire antennas and low power, 40 is often a good place to START.

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How Skimmers and the Reverse Beacon Network Change the CW Game

- SO2R operators using dual pounce can achieve higher rates than RUNNING!
- Pouncers with one radio can do almost as well as runners.
- Relatively high quality of spots compared to old style (traditional) packet
- Don't want to run? Grab and POUNCE your heart out!!

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For less experienced CW Operators

- Operate in the Assisted ("U") Class
- Call CQ at YOUR preferred speed, higher in the band
- Grab and pounce by clicking spots
- If you are very new: Verify the call sign…and exchange… before you call. If you do this successfully, only the serial # is unique to your QSO.
- Use of history file is optional and can pre-fill some of your exchange
- Be accurate and do not be afraid to ask for repeats until you are confident you are correct.
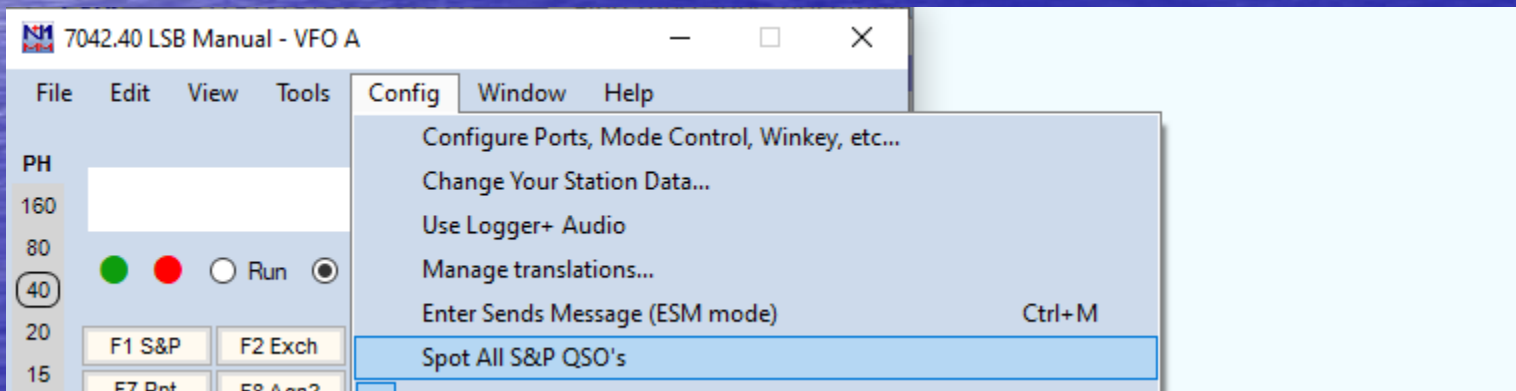
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Using Skimmer for Sweepstakes CW

- Add the reverse beacon network to your packet nodes, if they're not already there.
- Run your own private skimmer(s) – CW Skimmer or SDC (Flexradio) skimmers are excellent – guaranteed propagation but filter and check calls more carefully
  - VE7CC is an excellent 'retail' node
- Consider adding some filters
  - Limit skimmers to SWEEPSTAKES section reports only
- Time out your CW packet spots for 5 to 10 minutes. (…maybe up to 15 minutes for SSB)
- EVERYBODY gets skimmed when they call CQ, which means everyone has "run" potential
- On Sunday, when all the big guns have worked each other, even a modest station calling CQ gets a lot of callers!!

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Setting N1MM+ Up to
SPOT all Search and Pounce QSOs

- Can be done even if you are running unassisted
- A selection in N1MM Configure menu
- CW spotting has effectively been REPLACED by the CW Skimmers.

VERY Important for SSB!
Self-spotting is permitted!

- Not just Sweepstakes, but ALL ARRL Contests
- All categories: Can be done even if you are running unassisted
- Use of the {SpotME} Macro within N1MM
- You can also spot yourself the way you would spot another station, simply type your call sign in on your run frequency.
- For SSB, this is a great way to level the playing field and increase your activity and fun, particularly if you are low power and/or part time
- This helps our club goal of maximizing our score

What is a an HMO?

- Highly Motivated Operator, out to improve PVRC's club score by operating from two locations, with two call signs, during the contest.

- Advantage: You have good runs both days! Drawback: You sacrifice your own individual score, since you use two call signs.

- PVRC Club Advantage: You generate a larger score for PVRC.

- Interested? Contact Jim Nitzberg, WX3B for details. Only one call sign can be used for a "transmitter" in SS.

- Example: WX3B operates as KF3P Saturday from N3HBX and makes 1,000 QSOs x 75 sections. Sunday, WX3B goes back to his own house, makes another 1,000 QSOs by 75 sections. More fun, more activity, and more PVRC Points – all by CQing and running stations. No hunting for stations Sunday!

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What is a PARALLEL Operation?

- Multiple, simultaneous operator efforts with multiple call signs from ONE station.
- W3LPL is our best example – HUGE club benefit, fun, multi-operator environment keeps things fresh.
- 2 or more competitive scores come out of ONE station
- If your station can run M/2, you can support a parallel effort

Sweepstakes History File

- Can help / Can also hurt
- Does NOT replace listening!
- Can make your QSOs easier
- Use as a cross check / double check tool
- If you like the idea: TEST IT OUT, LONG BEFORE the contest.

Getting all hands ON DECK

- PVRC Reflector and regional meetings.
- On-line meetings
- Chapter leaders as motivators
- Selected volunteers emailing members
- All hands on deck approach/attitude

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Not Operating?
You can STILL HELP!

- Consider making your station available if you are not using it, and you are comfortable hosting a trusted guest, and taking appropriate safety precautions.
- Assist other PVRCers with antenna and equipment "parties"
- Be a dedicated spotter and…get on the air and SPOT EVERYONE on SSB!! This makes the game better for all of us.
- You might be SURPRISED how much spotting helps folks that are trying to run stations on SSB!
  - Not everyone will spot themselves yet

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Send In Your Log

- You laugh, but individuals forget to do this!
- Make SURE you mark your log for Potomac Valley Radio Club.
  - You laugh, but people submit for the WRONG club, too!!
- Log submission is on-line and due 5 days after the contest!!
  - https://contest-log-submission.arrl.org/
- Save a copy of the ARRL's robot receipt
- Make sure your LOG was received CORRECTLY!

Fall, 2025 Propagation
A review of what to expect

- 20m & 15m likely to be your daylight money bands
- 20m & 40m to be your evening bands: remember 40 has no broadcast stations below 7.200. 7.178+ is the cutoff for the General allocation. I've had good luck very high on 40, but slow down and act casual to work a ton of 2x3 calls! Take the time to talk them through the exchange.
- 40m & 80m for late night
- Be aware that 80m has a history of going long at times, however it usually shortens up after midnight as EU fades.
- 10 & 15 meters could be useful if there is short skip or you are bombing into the west coast on SSB
- 15 meters *might* be better in 2025, however if you can run on 20, don't settle for a SLOWER run on 15 or 10!
- 160 will be useless for SS

Potential Operating Schedule Ideas for 24 hour operators

- Start on 20, move to 40 early, and then 75/80 once 40 goes long (more useful on phone weekend)

- Stay on 80 and/or 40 all night long, (don't bother with 160 this year)

- When the rate drops, take a break at about 2-3 am local, but be ready to resume on 80 and/or 40 by 6 or 7 am Sunday

- If you think your rate will improve Sunday, you might be in for an unpleasant surprise so don't be too quick to give up for the evening.

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Operating Schedule for part time operators

- Sunday is likely to be your most interesting day. People will flock to YOU for QSOs
- 40m & 75m will be great evening bands.
- Any time you get on is better than NOT getting on
- 40/20m is also a FUN Sunday morning band for part-timers.
- Low dipoles and 500+ watts = BIG SCORES!

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Operating Schedule for
part time operators (Sunday Only)

- Bill, K3WI (SK) pioneered a winning formula for making 1,000 SSB QSOs in just about 12 hours in Sweepstakes SSB. He did this with 1500w and wires.
- Show up on Sunday morning with a KW and start calling CQ. 80 & 40 are particularly good before sunrise, especially if you are FRESH MEAT!
- Since all the big guns have already worked each other, this is a non-stop, FUN, RUN-fest.
- Part timers with modest stations succeed by showing up on Sunday because they are WANTED by everyone!!
- This part-time "maximum fun per hour" technique works on CW as well.
- Added benefit: No Sunday Doldrums – constant activity.

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Summary of hints for part-time/low power stations

- Late Saturday, all day Sunday are your most productive times.
- The "second" hottest band may actually be easier to make QSOs on
- Avoid large pileups – move on if you can't work someone in several calls
- Pouncing? Listen and pre-fill the parts of the exchange so you copy the entire exchange before you call. Not a bad 2nd radio strategy if busy running.
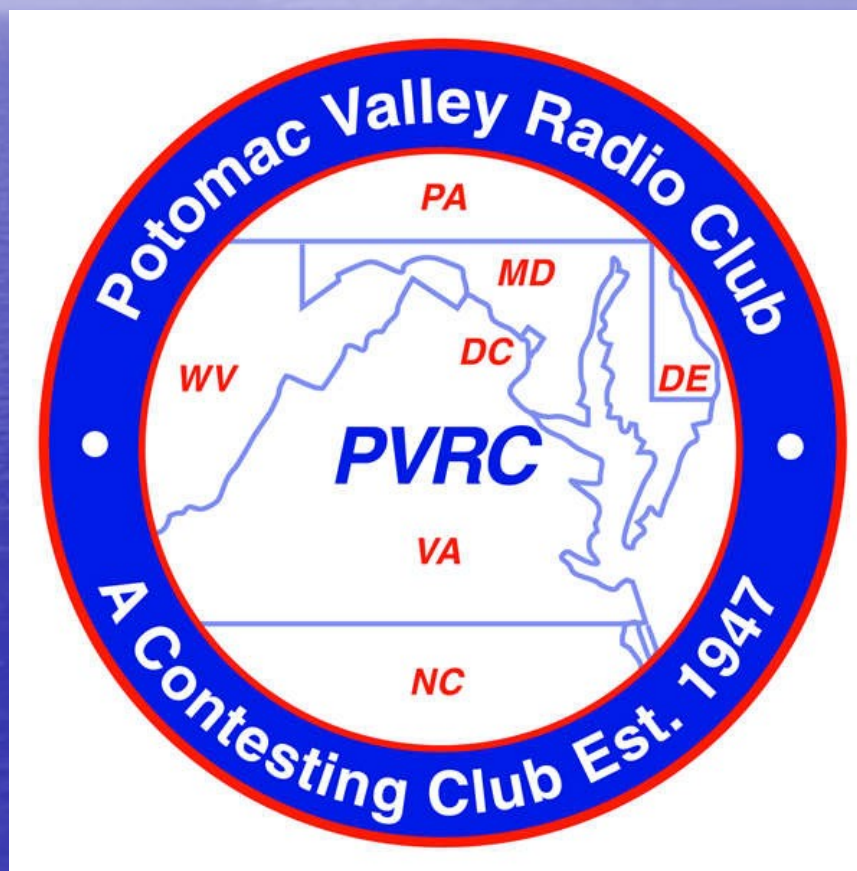
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2025 Sweepstakes Dates

- CW: 2100Z, Nov 1 to 0259Z, Nov 3
- SSB: 2100Z, Nov 15 to 0259Z, Nov 17
- Operate no more than 24 of the 30 hours
- Off periods may not be less than 30 minutes in length.
- Listening time counts as operating time.
- 5 day log submission DEADLINE!!
- Log submission is now ON-LINE:
  – https://contest-log-submission.arrl.org/

Go PVRC!

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Elecraft K3 TX Audio Settings (Thanks to N3KS/TI7W)

- **TX EQ (SSB)**
- 0.05   -10
- 0.10   -10
- 0.20   -10
- 0.40   -11
- 0.80   -9
- 1.60   -6
- 2.40   +2
- 3.20   -3
-
- MIC Gain: 45
- CMP: 28
-
- ** Microphone: Heil HC-5 Element

Elecraft K3 TX Audio Settings
(Thanks to Alan WA3EKL)

- **TX EQ (SSB)**
- 50Hz   1
- 100Hz   0
- 200Hz   0
- 400Hz   2
- 800Hz   1
- 1600Hz   2
- 2400Hz   2
- 3200Hz   0
- MIC Gain: 10
- CMP: 20
- Vox Gain   20
- ** Microphone: Heil HC-5 Element

Yaesu FT-1000mp TX Audio Settings

- Transmit bandwidth 6khz
- EDSP ON
- NO EDSP equalization
- Menu 8-9 Proc/LSB, Proc USB between 0.050 and 0.100
- Liberal use of speech processor and Heil HC4 Microphone
- DSP settings at 100-3100

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Yaesu FTDX-5000 & FTDX-101
TX Audio Settings

- Tested with Heil HC4, HC5, Pro-7 and HC-74 mic elements
- Note that these numbers may be off by one due to firmware updates….however the menu descriptions are correct
- NOTE: the FTDX-101 handles these adjustments in different menu references, however the menus setting choices are the same as the 5000 settings.
- 101 A3J (SSB) High Cutoff = 4000
- 104 A3J (SSB) TX BPF = 50 - 3000
- 160 PE1 FRQ: 100
- 161 PE1 LVL: 0
- 162 PE1 BW: 1
- 163 PE2 FRQ: 800
- 164 PE2 LVL: 0
- 165 PE2 BW: 1
- 166 PE3 FREQ   3200
- 167 PE3 LVL   10
- 168 PE3 BW   1

Icom IC-7300 and IC-7610 settings

- Varies by Mic used
- In General: TX bandwidth 100 – 2900 (Maximum bandwidth)
- Processor ON (wide)
- Processor gain about 50%
- Microphone Gain about 50%
- Drive Gain (7610) about 50%
- Treble: +5
- Bass: -3 to -5 depending upon mic and voice.
- These are approximate settings for Heil Proset IC, Yamaha CM-500, etc., hand mic, and likely the Antlion Mod-Mic (untested)
- If you are using the legacy Heil HC4or HC5 elements, prepare to turn everything to 100% to get sufficient drive and compression.

Elecraft K4

- Heil / Icom specific electret Mic
  - 14 dB Preamp On, Mic gain 58, Compression 20, EQ is flat
- RadioSport headset with an electret element connected to the front panel of the K4
  - 10 dB Preamp On, Mic gain 40, Compression 20, EQ is flat

- Tx filter bandwidth of 2.8 kHz - always

- Rick's Note: I may need to boost things in the 2.5 kHz range -

  Thanks to Rick N1RM for these suggested starting points

FlexRadio 6600 (complex SSB)

- Antlion Modmic Uni (electret requiring bias)*
  - fed through an inline battery bias box
  - Using a Behringer Q502USB preamp/mixer**
  - plugged into the Flex 6600 Mic input jack directly or split through a hybrid transformer if needed for a second radio, etc.

- Behringer Preamp settings:
- 80 hz Eq set to -7db, Compression on 2
- You can use the Main Mix output to fine tune the balance of your live vs. recorded voice

- Menu: Transmit
- Flex radio settings:
- TX EQ: Enabled (optional to taste)
- hz   db
- 63   -10
- 125   -6
- 250   -3
- 500   1
- 1k   2
- 2k   1
- 4k   1
- 8k   0

FlexRadio 6600
(much simpler, works well)

- Antlion Modmic USB (electret requiring bias)
- Plugged into computer USB
- Uses computer Line Out through hybrid transformer for split if needed and isolation
- Uses radio TX equalizer (nothing outboard)
- Set levels between live and recorded though N1MM audio settings

- Menu: Transmit
- Flex radio EQ settings:
- TX EQ: Enabled (optional to taste)
- hz   db
- 63   -10
- 125   -6
- 250   -3
- 500   1
- 1k   2
- 2k   4
- 4k   4
- 8k   4

FlexRadio 6600 (common)

- Menu: Phone/CW
- Radio Bias Off and +20db off
- Level Meter During Receive Enabled - Use to set TX audio gains without transmitting. - you want this just touching the red on the loudest voice peaks.

- TX Front panel settings:
- Processor: DX (not DX+)
- Mic Level: 50 nominal
- TX Filter: Low = 100, High = 2950

- Do not use the Flex Monitor audio to judge your TX audio. Either use another slice or another radio to tweak things. The panoramic display is quite useful to see the where your power is going.

- From Ty K3MM: The complicated hardware setup works great. However, I'm currently using the (much simpler) Antlion MOD mic USB into my PC with radio providing the TX EQ. Another option is the USB input and computer-based Voicemeeter mixer and EQ software from the Antlion website and no TX EQ in the radio. Its been argued that the radio TX Eq gobbles up some processing time. Processing delays are a big enemy, both TX and RX with this SDR radio. Contact me if you want more details. DO NOT push the ALC into the red if you can help it, but do keep an eye on it. I and others have had problems with the output amplitude drifting it seems…even though Flex denies there is a problem.