

# MRAC FM SIMPLEX CONTEST

The Milwaukee Radio Amateurs' Club (MRAC), one of the oldest, continuously operating amateur radio clubs in the world, invites you to join us for our annual MRAC FM Simplex Contest.

This year's contest takes place on the afternoon of  
**Sunday, February 26, 2023.**

This contest aims to encourage amateurs to learn the basics of contesting and simplex operations and expand the scope of their VHF-UHF operating techniques beyond what's needed for standard repeater operation.

## 1. Contest Information:

- a. This event is a sprint, lasting 3 hours from 1:00 pm until 4:00 pm CST.
- b. Contacts are limited to **FM Simplex** on the following amateur bands:
  - i. 2 meter: 1:00 pm – 2:00 pm
  - ii. 70 centimeter: 2:00 pm – 2:30 pm
  - iii. 6 meter: 2:30 pm – 3:00 pm
  - iv. 1.25 meter: 3:00 pm – 3:30 pm
  - v. Digital voice QSOs (using D-Star or Fusion modes): 3:30 pm – 4:00 pm
    1. Any band may be used for these contacts, though 2m and 70cm primary frequencies are recommended (see below).

## 2. Contest Frequencies:

- a. Contest frequencies fall within the [Wisconsin Association of Repeaters band plan](#).
  - i. 2 meters:
    1. Primary: 146.550, 146.565, 146.580, and 146.595 MHz
    2. Secondary: 147.540, 147.555, 147.570, and 147.585 MHz
    3. Digital Modes:
      - a. D-Star: 145.670 MHz
      - b. Fusion: 146.56525 MHz
  - ii. 70 centimeters:
    1. Primary: 446.025, 446.050, 446.075, and 446.100 MHz
    2. Secondary: 446.125, 446.150, 446.175, 446.200 MHz
    3. Digital Modes:
      - a. D-Star: 446.100 MHz
      - b. Fusion: 446.150 MHz
  - iii. 6 meters:
    1. Primary: 52.550, 52.570, and 52.590 MHz
  - iv. 1.25 meters
    1. 223.520, 223.540, 223.560, and 223.580 MHz

- b. Frequencies essentially follow the ARRL VHF Contest rules and Wisconsin Association of Repeaters' band plans:
  - i. On 2 meters:
    - 1. No contacts on the 146.520 MHz calling frequency or the guard channels 15 kHz above and below 146.520MHz.
    - 2. Any entry from a station heard making QSOs on these frequencies will be disqualified.
      - a. Try to limit activity to the primary and secondary frequencies.
  - ii. As a matter of courtesy and good amateur practice, contacts on other calling frequencies of 52.525, 223.500, and 446.000 MHz are not allowed.
  - iii. Solicitation for simplex contacts on repeaters is allowed.

### 3. Exchange:

- a. Call Sign and [four-character Maidenhead Grid square](#).  
For example, W9RH EN53

### 4. Scoring:

- a. Point Values
  - i. 2 meter QSOs are worth one (1) point.
  - ii. 70 centimeter and 6 meters QSOs are worth two (2) points.
  - iii. 1.25 meter QSOs are worth three (3) points.
  - iv. Digital mode contacts are worth three (3) points.
- b. Working the Bands
  - i. A station can be worked once per band.
  - ii. A mobile or HT station may be worked more than once per band if it moves to a different grid square.
  - iii. When operating Digital voice, you can work a station in Fusion and DStar. Please indicate the digital mode used for each contact.
- c. Multiplier - Grid Squares
  - i. Each unique grid square can be used once per **band** as a multiplier.
  - ii. You cannot count grids already worked in FM while operating digital. Only a new grid worked while in a digital mode.
- d. Calculating Points
  - i. The score is calculated by multiplying total QSO points by total multipliers.
  - ii. Technicians may multiply their final score by 1.5 for a bonus.
  - iii. A bonus of 100 points is added to the final score for working club station W9RH once on any band.

### 5. Entry Classifications:

- a. There are four (4) entry classifications:
  - i. **BASE**
    - 1. Less than 150 watts on 6m and 2m and less than 100 watts on 1.25m and 70cm.
  - ii. **MOBILE**
    - 1. Must work from a minimum of two (2) grid squares on any of the bands and power levels the same as those specified for the BASE station classification.
  - iii. **HT** (not a mobile radio run at reduced power)

1. Non-amplified, using any type of antenna, mobile, or fixed operation (This is to encourage innovation and creativity. For example, you could operate from a tall building or observation tower).

iv. **CLUBS**

1. Compete by having their members note their affiliation when they send in an entry.

6. **Awards:**

- a. First Place awards are given in each of the four entry classifications: Base, Mobile, HT, and Club.
- b. Additional First Place awards are given to individuals with the highest score for an individual band and in each classification where *significant* logged activity exists: 2m, 70cm, 6m, 1.25m, and Digital
  - i. So a total of nine (9) First Place awards are possible for each year's contest.
- c. Second and Third Place awards are at the committee's discretion.
- d. Awards will be published on the MRAC website (<https://www.w9rh.org/>) no later than May 1 of the contest year.

7. **Contest Entry Submission:**

- a. All entries must include a copy of the contest log showing the following data for each QSO:
  - i. **Band - Time - Call Sign of Station Worked - Grid Square**
- b. An entry must state:
  - i. The number of QSOs
  - ii. QSO points
  - iii. Grid square multipliers by band
  - iv. Claimed total score
  - v. A copy of the contest log.
    1. Club affiliation is limited to only one club.
- c. **Entries should be sent in by March 18th, 2023.**

# HINTS FOR THE NON-CONTESTER - NEW CONTESTER

## Before the contest starts

1. Program memory channel with suggested simplex frequencies. Make sure to program these memories with CTCSS and Tone Squelch (Encode – Decode) and repeater offset off. Some Yaesu radios may apply a repeater offset while using the radio in VFO mode.
2. Take advantage of the rule that permits the solicitation of contacts on a repeater.
  - a. Find an open simplex frequency from the secondary frequencies.
  - b. Listen for 60 seconds to make sure it is clear.
  - c. Provide this frequency to the stations on the repeater.
3. The Maidenhead Grid Square is the most common multiplier in VHF/UHF contests and is more important than states.
  - a. Stations can also look up their grid square at:  
<https://dxcluster.ha8tk.su/hamgeocoding/>
  - b. In the Milwaukee area, four grid squares intersect near the intersection of Beloit and 70<sup>th</sup> Street. The location is N 43 00' 00" W 88 00' 00".
    - i. In relation to that intersection:
      1. Northwest quadrant is: EN53
      2. Southwest quadrant is: EN52
      3. Northeast quadrant is: EN63
      4. Southeast quadrant is: EN62

Logging can be done by hand or by PC logging. [N3FJP has a VHF Contest log](#) program. It will not calculate our scoring system however, we will accept the Cabrillo file format for log submission along with our summary sheet. Here is an example of a satisfactory format for logging and scoring . . . Remember if you are mobile to indicate the Grid you are operating from.

Freq/Band	Time	Station Worked	New Grid	QSO Grid	Grid Multiplier	QSO Points
2m	1:08	N9AUI	EN53	EN53	1	1
	1:10	KA9DNU/M	EN53			1
	1:17	KA9DNU/M	EN63	EN63	1	1
70cm	2:15	N9AUI	EN53	EN53	1	2
	2:25	KB9Q	EN52	EN52	1	2
6m	2:35	N9AUI	EN53	EN53	1	2

	2:45	KB9Q	EN52	EN52	1	2
	2:50	KA9DNU	EN53			2
1.25m	3:10	KA9DNU	EN53	EN53	1	3
	3:15	N9AUI	EN53			3
	3:20	KB9Q	EN52	EN52	1	3
Digital 2m	3:31	N9AUI		EN53		3
	3:35	W9RH	EN62	EN62	1	3
				TOTALS	9	28

EXAMPLE SCORE = 9 x 28 = **252**

In this example, an entry from a Technician Class operator would be multiplied by 1.5 for a score of 378.

**Add 100 bonus points to the final score if worked W9RH club station: 378+100=478**

**THE MILWAUKEE RADIO AMATEURS' CLUB  
FM SIMPLEX CONTEST ENTRY FORM**

**SUBMIT WITH LOG BY MARCH 18, 2023** TO  
MRAC, P.O. BOX 26938, MILWAUKEE, WI 53226  
Or send an electronic copy to: [contest@w9rh.org](mailto:contest@w9rh.org)

**CLAIMED SCORE** \_\_\_\_\_

NAME \_\_\_\_\_

CLASSIFICATION (Check only one) :    BASE \_\_\_\_\_ MOBILE \_\_\_\_\_ HT \_\_\_\_\_

CALL SIGN \_\_\_\_\_ LICENSE CLASS \_\_\_\_\_ GRID SQUARE(S) \_\_\_\_\_

(MOBILES, LIST ALL GRIDS ACTIVATED – A STATION CAN BE WORKED MORE THAN ONCE IF YOU/THEY ARE IN A DIFFERENT GRID SQUARE EACH TIME)

ADDRESS \_\_\_\_\_

EMAIL \_\_\_\_\_ PHONE \_\_\_\_\_

CLUB AFFILIATION (Limit one) \_\_\_\_\_

**CONTACTS**

BAND	QSO'S	Q-PTS	POINTS	NUMBER OF GRID SQUARES
2 m	_____	x 1 =	_____	_____
70 cm	_____	x 2 =	_____	_____
6 m	_____	x 2 =	_____	_____
1.25 m	_____	x 3 =	_____	_____
Digital	_____	x 3 =	_____	_____
		TOTALS	_____	x _____

SCORE EQUALS TOTAL POINTS TIMES TOTAL GRIDS \_\_\_\_\_

TECHNICIANS, MULTIPLY SCORE BY 1.5. \_\_\_\_\_

ADD 100 POINTS FOR CONTACT WITH W9RH \_\_\_\_\_

**TRANSFER FINAL TOTAL TO 'CLAIMED SCORE' BLANK AT TOP OF PAGE.**

I HAVE READ, UNDERSTOOD, AND FOLLOWED THE PUBLISHED RULES FOR THIS CONTEST. I HAVE OPERATED WITHIN THE LEGAL LIMITS OF MY AMATEUR RADIO LICENSE.

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

