

The SKYHOOK



HOLIDAY CITY AMATEUR RADIO CLUB

www.hcarc.us

July 2021

Toms River, NJ

President's Corner



As I write this, Field Day is just over a week away. I will be driving most, if not all, weekend, and even I'm not nuts enough to attempt to operate, log, and drive at the same time. I may bring my portable station and try something on breaks. If you hear a 2 station transmitting from 4 land, it might be me.

I wish all of you who participate good propagation, and many completed QSOs. For those that aren't, what's stopping you? Perhaps that is a topic for July, if anyone is looking for suggestions on how to make it happen.

We're always looking for program ideas - as a reminder, you don't need to be an expert, just have an idea. I'm amazed at how much I learn while pulling together some slides and a short talk.

73,

Mike KC2OQF

Joe Taylor K1JT's Latest Mode

Re: WSJT-X 2.4.0 General Availability release, and 2.5.0 Beta

Joe Taylor (K1JT), and the rest of the WSJT-X development team, announced the general availability of version 2.4.0 of the software on 2021-05-24. The standout feature is a **new mode, Q65**. This new mode uses 65-tone FSK, and the same messages and sequencing as other modes, like FT4 and FT8. According to the quick-start guide, the new mode is effective for "tropospheric scatter, rain scatter, ionospheric scatter, TEP, and EME on VHF and higher bands, as well as other types of fast-fading signals."

The beta version, WSJT-X 2.5.0-rc1, has additional improvements to the JT65 decoder, which is "enhanced to measure and compensate for linear frequency drift in Q65 signals," per the release notes (https://physics.princeton.edu/pulsar/k1jt/Release_No tes.txt).

According to the ARRL Letter on 2021-06-11, "Testing showed that Q65 will enable stations with a modest Yagi and 100 W or more .. to work one another on 6 meters at distances up to around 2,000 kilometers on most days of the year, in dead band conditions." Wow!

More information can be found on the WSJT-X main page:
<https://physics.princeton.edu/pulsar/k1jt/wsjsx.html>

NEXT REGULAR MEETING:

Meetings are held on Zoom the first Thursday of each month. Mike will send members an e-mail with the Zoom address before the meeting.

Sandy Ottenberg

It is with sad regrets that we notify the club members of the passing of Sandy Ottenberg.

Sandy was the wife of club member Dave Ottenberg WA2DJN.

Sympathy cards may be sent to Dave Ottenberg at:

Lions Gate

Retirement Home

1100 Oak Rd.

Voorhees, NJ 08043

What's My Grid Square?

Well, Silver Ridge Park East is in FM29vx, and Holiday Heights is in FM29vw. Holiday City West, Silver Ridge Park North and Cardfree Community of Holiday City are in FM29ux. If you're anywhere else, look up your call at QRZ.com and select **Explore**.

Keeping A Station Log

A station log used to be a requirement, and some hams still prefer to use a formal log book to record every transmission. One advantage to keeping a complete detailed record of every transmission, even brief tests, is that when someone complains about interference, you may be able to show legal proof that your transmitter wasn't even running.

I once saved the company I was working for from a patent suit, because I was able to show, in my engineering logbooks, that the "invention" was obvious, at least to me, three years earlier.

Most hams that are active DXers prefer to use electronic logs and upload them to the ARRL's Log Book of the World. Getting started in LoTW requires first getting a digital "signature", then setting up your callsign information, including your name, address, and other information of special interest to DX contesters.

Your log is proof of what you can do with your radio. EBAY even has vintage ham radio logbooks for sale.

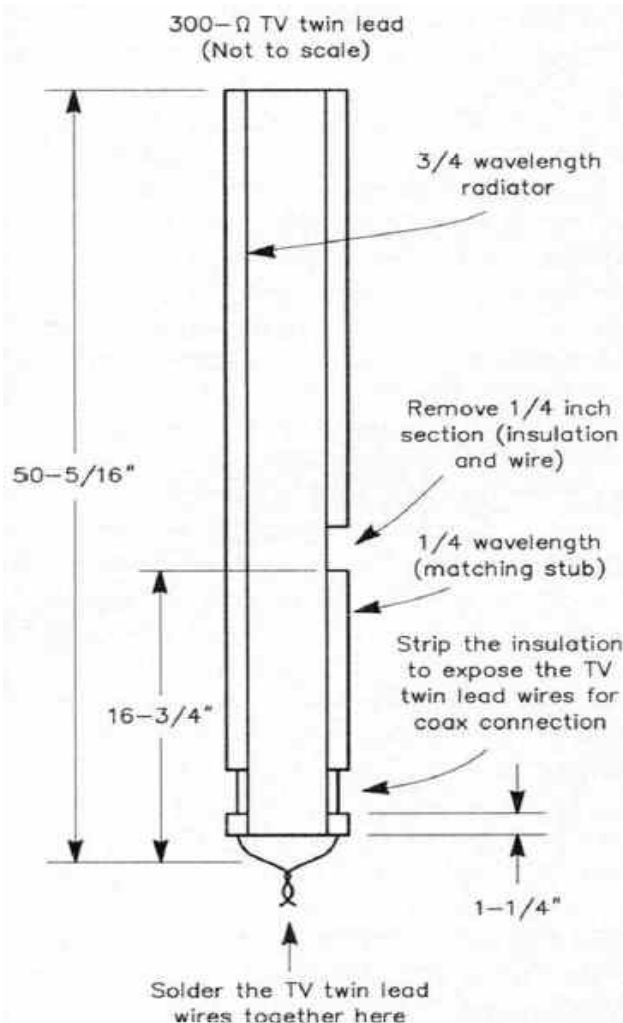
Ocean County ARES® News

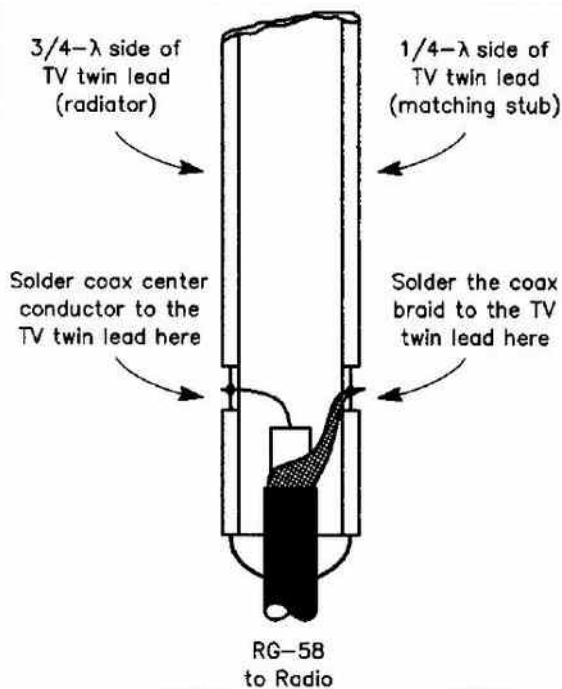
July 2021

The next VE session of Ocean County ARES will be on July 20th at 7:00 PM at the Ocean County EOC. Appointments are required. Contact Lead VE, John - N2LD, for an appointment.

Starting in August, Ocean County ARES will begin having meetings back in the Ocean County EOC (small room) as long as conditions do not change. It will be good to see everyone in person again!

I recently posted a picture of an emergency antenna on groups.io using 300 ohm twin lead. There is even an easier project posted on the ARRL website from 2004. The pdf for the project is available at: <http://www.wa2res.com/jpole-dual-band.pdf>





It can be used on 2 meters and 70 cm with fairly low SWR. Twenty-five foot sections of inexpensive 300 ohm twin lead can be obtained on eBay. Just get the cheap stuff. No foam or thick versions. The antenna is a great alternative to an HT antenna, especially if you are on the fringe of a repeater.

Near the top of the antenna, punch a small hole and insert a small ty-wrap or piece of fishing line. The antenna can be hung from a tree branch or a tack in the overhead. Keep the feed line short to avoid loss. Six to eight feet should give you enough line to reach your HT. Cover the section where you attach the coax with a length of heat shrink to keep your solder joints from getting damaged. This is an excellent antenna to roll up and keep in your ARES go kit.

Want to become proficient with Winlink? Participate in Winlink Wednesday.

73 de WX2NJ

Bob Murdock

Ocean County Amateur Radio Emergency Service® EC

Happy Birthday To:



Richard Costanza KD2VVG, John Hann K2JWH, Carl Lee W2PTZ, Stan Stafiej KB2PD, Lucille Hann, and Florence Schwab.

And Happy Anniversary To:



John & Lucille Hann and
Larry & Grace Puccio

Holiday City Amateur Radio Club

Toms River, New Jersey

Web Site www.hcarc.us

President	Mike Carson	KC2OQF	917-830-4225
Vice President	Carl Lee	W2PTZ	732-575-7558
Secretary	John Perry	KD2NDY	732-349-2705
Treasurer	Larry Puccio	K2QDY	732-349-2950
Executive Board	Doug Poray	KC2TZC	732-928-2316
Executive Board	John Roberts	KQ4WR	732-350-1162
W2HC Trustee	Larry Puccio	K2QDY	732-349-2950

CLUB COMMITTEES

<i>Refreshments:</i>	Marge KD2LNT	pearl1122@comcast.net
<i>Webmaster:</i>	Steve N2WLH	N2WLH@yahoo.com
<i>Programs:</i>	(open)	
<i>Sunshine:</i>	(open)	
<i>Field Day:</i>	Larry K2QDY	732-349-2950
<i>VE Sessions:</i>	Larry K2QDY	732-349-2950
<i>Membership:</i>	Doug KC2TZC	732-928-2316

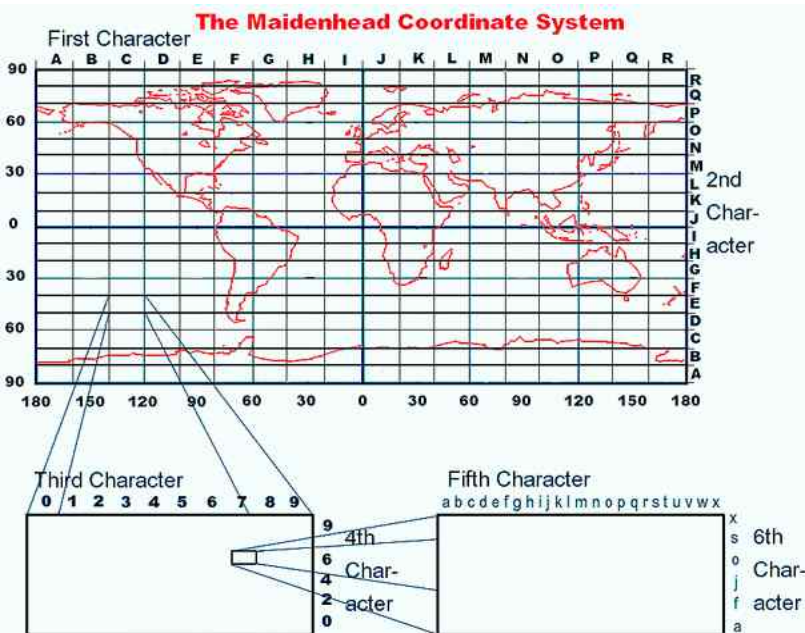
Membership is open to all interested persons. Ham license is not required. Dues are \$25.00 per year, payable Jan 1st. Members joining during the year will have the dues prorated. Family membership \$30.00 per family. Meetings are normally held on the first Thursday of every month, at 7:00 pm, except in December. Location: Meeting Room #1 in Holiday City South Clubhouse A. Directions: From either Route 37 W or Davenport Road, take Mule Road to Santiago Drive. Turn into the parking lot from Santiago Drive and park near the pool. Enter the building nearest the street corner.

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Larry Puccio K2QDY Worked:

DATE & TIME	FREQ	MODE	CALL	LOCATION	GRID	MILES	DIR	
5/07/2021	00:33	7.017	CW	9K2HS	Kuwait	LL49	6406	NE
5/08/2021	18:01	14.015	CW	YT5A	Serbia	KN04	4557	NE
5/08/2021	18:04	14.011	CW	M2G	England	I091	3506	NE
5/21/2021	21:19	14.014	CW	LZ1MS	Bulgaria	KN12	4757	NE
5/21/2021	21:36	14.015	CW	OM8CW	Slovak Republic	J080	4192	NE
5/21/2021	21:40	14.015	CW	LZ1PM	Bulgaria	KN12	4757	NE
5/30/2021	18:24	28.035	CW	PT5T	Brazil	GG52rj	4956	SSE
6/07/2021	20:50	14.009	CW	DK1NO	Fed Rep of Germany	J031	3768	NE
6/07/2021	20:56	14.01	CW	E71A	Bosnia-Herzegovina	JN94	4485	NE
6/07/2021	21:05	14.01	CW	SX200ME	Greece	KM18	4965	NE
6/08/2021	00:23	14.025	CW	HB9CVQ	Switzerland	JN37	3920	NE
6/08/2021	21:38	14.013	CW	DP7D	Fed Rep of Germany	J031	3768	NE
6/08/2021	21:43	14.014	CW	UA5D	European Russia	K085sh	4738	NE
6/08/2021	22:01	14.017	CW	5J85FJR	Colombia	FJ35	2415	S
6/08/2021	22:08	14.012	CW	LZ308WK	Bulgaria	KN12	4757	NE
6/08/2021	22:15	14.025	CW	HB9CVQ	Switzerland	JN37	3920	NE
6/09/2021	00:28	14.027	CW	KL7IDA	WASILLA, AK	BP83ck	3181	NW
6/10/2021	22:42	14.018	CW	OR40NOL	Belgium	J020	3704	NE
6/10/2021	22:50	14.014	CW	LZ3FA	Bulgaria	KN12	4757	NE
6/10/2021	22:55	14.021	CW	IQ2CJ	Italy	JN45on	4059	NE
6/11/2021	00:27	14.021	CW	JT1CO	Mongolia	ON38	6361	N
6/11/2021	00:36	14.02	CW	XE2I	Mexico	DL44ud	2354	WSW
6/11/2021	00:59	14.012	CW	SQ5LNU	Poland	K000	4349	NE
6/11/2021	01:06	14.028	CW	RW4K	European Russia	K085ss	4718	NE
6/14/2021	21:04	14.014	CW	LZ308WK	Bulgaria	KN12	4757	NE
6/14/2021	21:08	14.027	CW	LA3BO	Norway	JP50	3722	NE
6/14/2021	21:38	14.012	CW	M0UNN	England	I091	3506	NE
6/14/2021	21:43	14.012	CW	LW1EUD	Argentina	GF05uf	5266	SSE
6/19/2021	15:05	14.04	CW	JH7XGN	Japan	QM09fe	6549	NNW
6/19/2021	15:15	14.037	CW	JH2GEX	Japan	PM95	6783	NNW



RF Exposure Calculations

First, there's the easy way. the Lake Washington Ham Club has a calculator on line programmed to do the calculations for you. You need to know the Peak Envelope Power (PEP), in Watts that your transmitter sends to the antenna, the Mode of modulation you're using, the typical Length of your Transmissions, and the typical amount of time Between transmissions in a contact, and either the type of Antenna you are using or its dBi rating.

You need to run two calculations for each band of each station you have. One set for yourself and others in the shack, and another set for the general public.

Each report should show the station callsign, control operator, date of report, antenna location, antenna type, transmitter power (PEP), modulation mode, frequency band, calculated safe distance for general population, calculated safe distance for control operator, a reference to the method of calculation, and the control operator's signature.

The Website is www.lakewashingtonhamclub.org

To do the calculations yourself, look up the Antenna Gain Factor in Table 2. If you know the gain in dBi, it's $10^{(G/10)}$, where G is the gain in dBi.

Estimate the Duty Factor. That depends on the duty factor of your modulation mode, times how long your actually transmitting divided by how long you're engaged in the contact. For normal SSB contacts, SSB is 20% power, but only half the time, so the duty factor is 0.1. For CW it's 40% power, so the duty factor would be 0.2. For an FM contact, it's full power when transmitting, so the duty factor is about 0.5 unless it's a repeater.

The exposure limit (S) depends on the frequency (f). See Table 1A for exposure limits in the shack, and Table 1B for the limits for the general public.

Multiply the PEP Power by the Duty Factor, then by the Antenna Factor, then divide by the Exposure Limit.

Table 1 from FCC OST/OET Bulletin 65

(A) Limits for Controlled Environment

Freq Range MHz	Pwr Density mW/cm ²	Averaging Time Minutes
0.3 - 3.0	100	6
3.0 - 30	900 / F ²	6
30 - 300	1	6
300 - 1500	F / 300	6
1500 - 100,000	5	6

(B) Limits for Uncontrolled Environment

Freq Range MHz	Pwr Density mW/cm ²	Averaging Time Minutes
0.3 - 1.34	100	30
1.34 - 30	180 / F ²	30
30 - 300	0.2	30
300 - 1500	F / 1500	30
1500 - 100,000	1	30

Table 2. Antenna Gain Factors

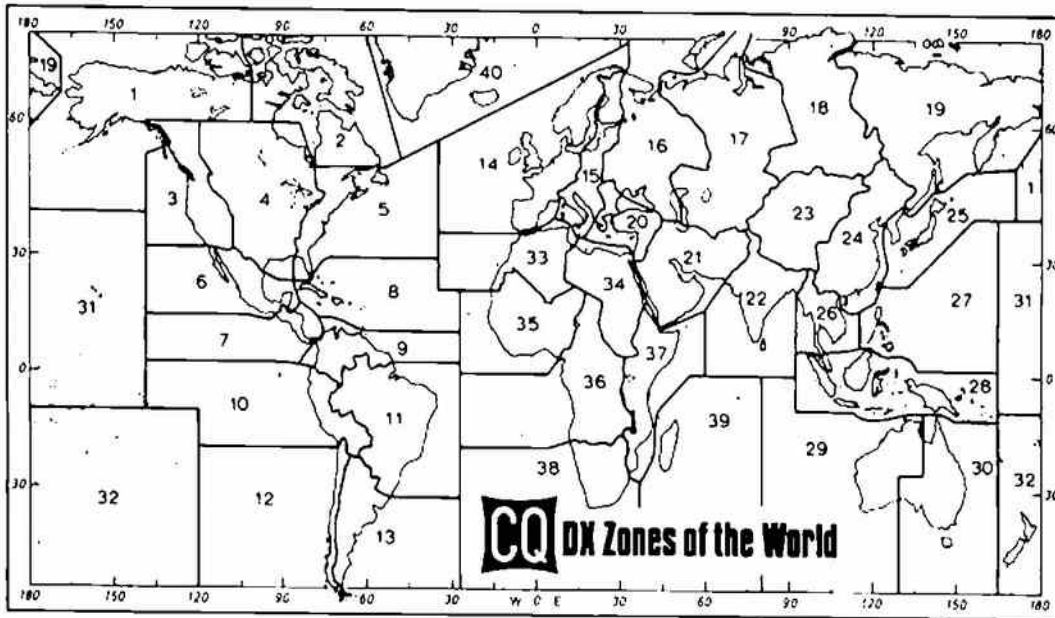
Antenna Type	AntGainFactor (power ratio, not dB)
1/4 Wave Vertical (1 dBi)	1.3
1/2 Wave Horizontal (2.15 dBi)	1.6
5/8 Wave Vertical (4 dBi)	2.5
2 Wave Horizontal (6.5 dBi)	4.5
4 Wave Horizontal (7.5 dBi)	5.6
2 Element Yagi (6 dBi)	4.0
3 Element Yagi (7.2 dBi)	5.2
4 Element Yagi (8.3 dBi)	6.8
5 Element Yagi (9.4 dBi)	8.7
8 Element Yagi (13.2 dBi)	21
10 Element Yagi (14.8 dBi)	30
17 Element Yagi (16.8 dBi)	48
Compact Tuned Loop (2.15 dBi)	1.6, but see note 1
1/4 Wave Square Loop (3.3 dBi)	2.1
1/4 x 1/2 Wave Loop (4.3 dBi)	2.7

See Note 1.

Then multiply by 0.21928, to include the 2.56 EPA ground reflection, and to change milliwatts to watts and square centimeters to square feet. Finally, the "safe distance", in feet, is the square root of that.

Note 1: Very compact antennas also emit strong but very local RF electric and magnetic fields, which can be harmful.

Note 2: $2.56 * 1000 / ((2.54 * 12)^2) * 4 * \pi$



July						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 HCARC ZOOM Mtg 7:00 PM	2	3
4 Indepen- dence Day	5	6	7 8:30PM ARES 449.825 voice net PL131.8	8	9	10
11	12	13	14 8:30PM ARES 145.170 voice net PL131.8	15	16	17
18	19	20 7:00 License Exams, for appoint email N2LD@arrl.net	21 8:30PM ARES 449.825 voice net PL131.8	22	23	24
25	26	27	28 8:30PM ARES 145.170 voice net PL131.8	29	30	31

Some DX Opportunities

In alphanumeric order of Callsign

Mode codes: 8 = JT8, 9 = JT9, A = AM, C = CW, D = Digital, E = EME, J = JP4, P = PSK31, R = RTTY, S = SSB, T = SSTV.

Bands: "Low" usually means 160, 80 & 40m. HF means 3 to 30 MHz (includes 80 to 10 meters).

Many thanks to NG3K, Wikipedia, Google Maps, the ARRL, the RSGB, DXWorld, DXNews & QRZ.com for the data.

FINISH	ENTITY		CALLSIGN	IOTA	BANDS	MODES	QSL via	LOC	Miles	Dir	Info ARLB-	
20211231	Georgia	4L	4L1PJ		80-10m	S	N4GNR	LN04vp	5376	NE	001	
20210901	Nigeria	5N	5N7MSF		20-15m	S	per opr	JJ16mm	5260	E	020	
20210915	Nigeria	5N	5N9JLH		20-15m	S	ZS6AAG	JJ39qb	5380	E	022	
20220331	Japan	JA	8J100CB	AS-007			bureau	QM05bo	6781	NNW	014	
20211231	Antarctica	00	8J1RL	AN-015			bureau	KC90sx	9352	SSE	004	
20220430	Japan	JA	8N0J	AS-007			bureau	PM97cd	6729	NNW	005	
20221231	Japan	JA	8N1MORSE	AS-007		C	bureau	PM86tf	6794	NNW	016	
20211031	Japan	JA	8N7SPORT				bureau	QM08lh	6591	NNW	026	
20210905	Japan	JA	8NnOLP	AS-007			bureau	PM86tf	6794	NNW	018	
20211231	Croatia	9A	9A10FF				9A2MF	JN85et	4355	NE	007	
20220315	Zambia	9J	9J2BG		20m		HB9EWU	KI40iq	7322	E	010	
20211231	Uruguay	CX	CW60ATS					GF16wv	5183	SSE	026	
20210901	Angola	D2	D2FJZ		80-10m	S	CT1FJZ	JH87sx	6850	E	001	
20211231	Germany	DA	D8100AVUS				D02PZ	J062rk	6019	NE	001	
20211017	Rep of Korea	HL	D90EXPO				DS3BBC	PM36ns	6962	NNW	007	
20211231	Germany	DA	DL65ESSEN				bureau	J031lj	3798	NE	018	
20220131	Rep of Korea	HL	DS4DRE/4	AS-060	80-10m	C S	DS4DRE	PM34ig	7114	NNW	005	
20211231	S. Shetland Is	00	DT8A	AN-010		C S 8	DS5TOS	GC08uc	7098	S	014	
20211231	Ukraine	UR	EM60KTS				IK2DUW	KN59rb	4810	NE	026	
20210805	St Barthelemy	FJ	FJ/K2LIO	NA-146	80-10m		K2LIO	FK88ma	1660	SSE	021	
20211231	England	G	GB75ISWL		most hf	most	bureau	J001pu	3560	NE	004	
20211231	Poland	SP	HF100LEM				SP9PKZ	J090xb	4347	NE	004	
20240501	Haiti	HH	HH2JA	NA-096	80-6m	C S 8	LoTW	FK38um	1487	S	021	
20211130	Panama	HP	HP200I		80-10m	S D	HP1DAV	FJ08fw	2169	S	021	
20211231	Italy	I	II0LXXV				bureau	JN62ks	4311	NE	026	
20211001	Antarctica	00	KC4USV	AN-011	20m	S 8	K7MT	RB32id	9328	SSW	015	
20211231	Argentina*	LU	L21RCA					FF75qq	5170	S	004	
20211231	Bulgaria	LZ	LZ190FT					KN22dg	4801	NE	003	
20211231	Peru	OA	OC4B		40-15m	S 8	LoTW	FH19na	3525	S	023	
20211231	Peru	OA	OC6B		40-15m	S 8	LoTW	FH19na	3525	S	023	
20211231	Peru	OA	OC7B		40-15m	S 8	LoTW	FH19na	3525	S	023	
20220301	Finland	OH	OF60RR				OH8DR	KP20np	4156	NE	010	
20211231	Finland	OH	OH100SRAL					KP20np	4156	NE	005	
20211231	Czech Republic	OL	OL75KCR				ClubLog	JN79vw	4130	NE	013	
20211231	Belgium	ON	OR40NOL					J021pf	3736	NE	018	
20210930	European Russia	UA	R100KOMI				per op	LP51jp	4780	NNE	026	
20220205	Poland	SP	SN0ZOSP				SP90DM	K002mg	4310	NE	009	
20220205	Poland	SP	SN100ZOSP				SP9PJ	K002mg	4310	NE	009	
20211231	Greece	SV	SZ200P				LoTW	KM18te	4958	NE	016	
20211231	Australia	VK	VI50SG				bureau	QF56na	9922	W	019	
20211101	Antarctica	00	VK0PD	AN-016	40,20m			EB7DX	AA00aa	8985	S	013
20210831	Australia	VK	VK100AF					M0URX	PG66pa	10489	WNW	007
20211001	Turks and Caicos	VP5	VP5MA	NA-002	20-15m	8	W4HBW	FL31wt	1261	S	025	
20211231	Serbia	YT	YT165TESLA					YU1MM	KN04gv	4557	NE	005
20211231	Venezuela	YV	YW200BC		80-10m	C S D	YV4KW	FK60ad	2096	SSE	019	
20210906	St Helena Is	ZD7	ZD7GB	AF-022	40-10m	S 8 4	per op	IH74dB	5853	ESE	026	
20211231	Ascension Island	ZD8	ZD8HZ	AF-003				TA1HZ	II22tb	ESE	012	