

Introduction to Logging

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Note: As with all documents I create,
underlined text is an active link

W:\My-Ham Radio\DCARC\019 - Presentations\2020-09-01 Introduction to Logging\Introduction to Logging V1.1.ppt



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Agenda

- ❑ What logging is
- ❑ Why we log
- ❑ Types of logs
 - Paper
 - Computer
 - General
 - Contest
- ❑ Types of logging programs
 - Single purpose
 - Suites
 - On-Line
- ❑ Examples of logging programs
- ❑ Comparison N1MM+ vs N3FJP

What logging is

A log is a record of your contacts, it can be kept either on paper or on a computer

❑ A log must contain

- Date of the contact
- Time of start & end in UTC
- Call sign of station contacted
- Frequency
- Mode
- Your power output

❑ A log should also contain

- Signal reports
- Contact's location
 - Country, continent, state, providence
- Contact's name
- If you sent a QSL
- If you received a QSL
- Other interesting information

[Link to ARRL article on logging](#)

Why we log

A log is a record of your contacts, it can be kept either on paper or on a computer

- ❑ In the old days the FCC **required** that we maintain a log of every transmission.
 - Our equipment was primitive compared to today
 - We might interfere with other services
 - We might have harmonics that caused interference
- ❑ If you are operating contexts or chasing DX you need a record of the contact to apply for awards
 - DXCC: Rich in history, DXCC is the most **prestigious award** in Amateur Radio
 - WAS: Worked All States
 - WAC: Worked all Continents

Paper logs

- ❑ Before computers we had no choice but to log on paper
 - Applying for awards was harder than now since it was all done by hand

STATION CALLSIGN: _____ **HF Log Sheet** PAGE ___ OF ___

DATE	UTC		FREQ	MODE	POWER	CALLSIGN	QTH	RST		COMMENTS	
	ON	OFF						SENT	RCVD		
											1
											2
											3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25

[Link to a paper log](#)

Computerized logs

- ❑ Computerized logging programs were among the first created when personal computers became available
 - Since there were a number of computer brands, each with its own operating system, there was no one popularly accepted logging program or data storage format
 - That changed with the popularization of Microsoft and Apple computers
 - Today there are a large number of logging programs for [Windows](#), fewer for [MAC OS](#) and [Linux](#) (some Windows loggers will run under Linux)
 - The Amateur Data Interchange Format ([ADIF](#)) is the most commonly used format for transferring logs from one program to another and for up load to many on-line logging sites
 - I keep frequent ADIF exports of my logs

Computerized logs

- Computer logs can be uploaded to on-line logbooks (these have many benefits)
 - [QRZ.com](#)
 - [HRDLog](#)
 - [HamQTH](#)
 - [eQSL](#) (another award provider, also exchange electronic QSL cards)
 - [Club Log](#) (GREAT for analyzing DX contacts)

- On-Line Call Books can be used to find the name, address, etc. of a contact and add it to your log entry (some require a subscription)
 - [QRZ.com](#) (I wrote a program that looks up calls in QRZ and provides the information in a succinct form, it is free for my friends but needs a QRZ XML subscription)
 - The QRZ web site itself is a full presentation. You have a free web page there if you want it.
 - The basic account is free, just register. Ask at a club event and I will show it to you.
 - [HamQTH](#)
 - [HamCall](#)

- Logs can be uploaded to apply for awards, QSL cards and submit contest scores
 - [ARRL's LoTW](#) (it is NOT a general logger, it is only for matching contacts to apply for awards)
 - [eQSL](#)

General logger

- ❑ A general logger:
 - Contains at a minimum the information already discussed, usually much more
 - It can look up additional information about the contact in on-line databases
 - [QRZ](#)
 - [Ham Call](#)
 - [HamQTH](#)
 - It can upload contact information to processing web sites for awards, etc.
 - [LoTW](#)
 - [eQSL](#)
 - [Club Log](#)
 - [HRDLog](#)
 - It is used for your general contacts, DX contacts and special event contacts
 - It does NOT contain the information needed for contests
 - It does NOT generate the [Cabrillo](#) file for upload to contest sponsors
 - It does NOT warn you that you have already worked this station on this band and in this mode, called a “Dup”

General logger

- There are too many general loggers to list and discuss each
- To add complication, some general loggers are stand-alone and some are part of suite of programs
 - [Link to a list of loggers](#)
- I am going to mention just a few here that I have some knowledge of
 - [Ham Radio Deluxe](#) (HRD):
 - My main logger (I don't recommend for new hams, steep learning curve)
 - Active development, \$100 for initial purchase, \$50 per year maintenance
 - Contains a suite of programs
 - Excellent rig control
 - **Supported by WSJT itself and by [JTAlert](#)**
 - [Logger 32](#)
 - Very popular
 - Free
 - Very powerful

General logger

- [DXKeeper](#)
 - Part of the DX Lab Suite, a nice suite like HRD, can be over whelming
 - Good rig control
 - Popular
 - Supported by [JTAlert](#) (WSJT)
- [Log4OM](#):
 - I tried it, seems nice (it's on the club's Laptop #2 if you want to see it)
 - Has some additional features, I think this is the best of the free loggers for new hams
 - Supported by [JTAlert](#) (WSJT)
- [N3FJP Amateur Contact Log \(ACL\)](#)
 - I use it as my FT8 logger
 - Simple to learn, simple to use
 - \$35 or part of a package of 120 contest log pgms for \$60 (prices updated 2023-02-15)
 - Lifetime of free updates and upgrades, constantly adding abilities
 - Works well, developer is responsive and is on the air during contests
 - Supported by [JTAlert](#) (WSJT)

General logger

- My recommendation
 - You may think now that you will not use any of the WSJT modes like FT8
 - You are probably wrong, it is the most popular mode currently in use
 - It is fantastic for hams with low power and/or minimal antennas.
 - I strongly suggest that you chose a logger supported by WSJT
 - I also strongly suggest that you chose a logger that is in use by hams you know. You will have questions and need help.
 - When I got active again on HF in 2012 I knew 1 active ham and he used Ham Radio Deluxe so I bought that. It's nice, does everything but it did so much that it took a long time to learn. And I pay a \$50 a year maintenance fee
 - And now I use the N3FJP ACL logger daily because they are simpler and use less computer resources

N3FJP General Logger (ACL)

N3FJP's Amateur Contact Log 6.6 www.n3fjp.com

File Edit Settings Clear CallBook List Search Awards eLogs Recall Net View Help

Find Recent Contacts Last 50 All

Rec#	Call	Date / Time	Fre...	M...	Country	ST	Name	Snt	Rec	Comments	Cont	DXCC	CQz	ITUz	Pfx
1619	PY5EJ	2020/08/21 19:36	14.075	FT8	Brazil		Aldenor Pavanatti	-02	-14	FT8 Sent:...	SA	108	11	15	PY5
1618	K4EWR	2020/08/21 19:17	14.075	FT8	USA	VA	Eugene W Rosenbluth	-01	-07	EUGENE W R...	NA	291	05	08	K4
1617	N9KT	2020/08/15 16:47	50.315	FT8	USA	IN	David A Spoelstra	-14	+12	DAVID A SP...	NA	291	04	08	N9
1616	K8TB	2020/08/15 16:40	50.315	FT8	USA	MI	Thomas L Bosscher	-15	-03	Thomas L B...	NA	291	04	08	K8
1615	VA3HP	2020/08/15 16:36	50.315	FT8	Canada	ON	Gary Chase	-17	+02	CQ WW VHF ...	NA	1	04	09	VA3
1614	N8LRG	2020/08/15 16:34	50.315	FT8	USA	OH	PHILLIP A HUMPHRIES	-01	+18	ARRL Janua...	NA	291	04	08	N8
1613	NK9O	2020/08/15 16:33	50.315	FT8	USA	WI	Arnold J Lausevich	-10	-12	ARNOLD J L...	NA	291	04	08	NK9
1612	K8BL	2020/08/15 23:07	50.314	FT8	USA	OH	Bob Liddy	-16	-08	FT8 Sent:...	NA	291	04	08	K8
1611	KB9RUG	2020/08/15 23:00	50.314	FT8	USA	IL	Nigel S Haynes	-16	-14	FT8 Sent:...	NA	291	04	07	KB9
1610	KC5GOI	2020/08/15 20:56	50.314	FT8	USA	TX	Guy J Story	-19	-11	FT8 Sent:...	NA	291	04	07	KC5
1609	KF2T	2020/08/15 20:51	50.314	FT8	USA	VA	George J Molnar	-13	-11	FT8 Sent:...	NA	291	03	06	KF2
1608	VE3EK	2020/08/15 20:47	50.314	FT8	Canada	ON	Petar Sic	-18	-10	FT8 Sent:...	NA	1	04	04	VE3
1607	W5JMW	2020/08/15 20:35	50.314	FT8	USA	TX	John M Webb	-09	-03	FT8 Sent:...	NA	291	04	07	W5
1606	WN3A	2020/08/15 16:29	50.314	FT8	USA	PA	Jeffrey J De Polo	-10	+06	FT8 Sent:...	NA	291	05	08	WN3
1605	KC3MLC	2020/08/15 16:24	50.314	FT8	USA	PA	Grant T Olson	-21	-02	FT8 Sent:...	NA	291	05	08	KC3
1604	K1LO	2020/08/05 14:55	50.314	FT8	USA	NH	Lawrence H Olsen	-19	-11	FT8 Sent:...	NA	291	05	08	K1
1603	WA1EAZ	2020/08/05 14:43	50.314	FT8	USA	MA	John M Stengrevics	-19	+01	FT8 Sent:...	NA	291	05	08	WA1
1602	KA2UQW	2020/07/25 21:13	50.314	FT8	USA	NJ	Andrew J Neumeier	-12	-01	FT8 Sent:...	NA	291	05	08	KA2
1601	W1OP	2020/07/25 21:07	50.314	FT8	USA	RI	Providence Radio Ass	-21	-08	FT8 Sent:...	NA	291	05	08	W1

Call	Date	Band	Mode	Power	Time On	Sent	Rec
PY5EJ	2020/08/21	20	FT8		19:36	-02	-14

Name	State	County	Frequency	Other
Aldenor Pavanatti			14.075303	

QSL Sent 3:58:01
 QSL Rcvd 15:58:01 UTC

N3FJP Setup

- This is the setup window for ACL
- This info is applied to the other programs

Setup (Ctrl S)

Common Fields

Call: WB4EHG

Country: USA

Continent: NA

Latitude: 26.084212

Longitude: West is negative -80.354883

Optional

Operator: WB4EHG

Initials: RBJ

Always display this form on startup (you can display it from the Settings menu at any time).

Help Done

- As you can see here in the NA QSO Party log.
- Note the extra info needed by NA QSO party

Setup (Ctrl S)

Common Fields

Call: WB4EHG

Country: USA

Continent: NA

Latitude: 28.084122

Longitude: West is negative -80.35488

CQ Zone: 5

ITU Zone: 8

Required for NAQP

St / Prov Cntry: FL

Name Sent: Rich

Transmitter ID #: 0

If multi transmitter, be sure each has a unique number!

Contest: CW SSB RTTY

Optional

Operator: WB4EHG

Initials: RBJ

Always display this form on startup (you can display it from the Settings menu at any time).



N3FJP General Logger

➤ This is the ACL Awards window

Enter any limiting criteria, then calculate. Reset
Use DIG for all digital modes.

Band	Mode	Power

From Rec	To Rec
1	1619

QSL Received
 List only valid

Conf By: Power < = >

LOTW Calculate

Click the top label for more detail. Click the Worked or Remaining headers to copy the list to your Windows clipboard.

States	
Worked	Rem
50	0
AK	
AL	
AR	
AZ	
CA	
CO	
CT	
DE	

Cont	
Worked	
6	
AF	
AS	
EU	
NA	
OC	
SA	

CQ Zns	
Worked	
37	
01	
02	
03	
04	
05	
06	
07	
08	

Other	
Worked	
0	

Counties	
Worked	Remaining
404	2673
AL CLARKE	AK 1st (SE)
AL Coosa	AK 2nd (NW)
AL Elmore	AK 3rd (SC)
AL Jefferson	AK 4th (C)
AL Lauderdale	AL Autauga
AL MADISON	AL Baldwin
AL Mobile	AL Barbour
AL MONTGOMERY	AL Bibb
AL MORGAN	AL Blount
AL Shelby	AL Bullock
AR Arkansas	AL Butler
AR Benton	AL Calhoun
AR Crittenden	AL Chambers
AR FAULKNER	AL Cherokee

Countries	
Worked	Remaining
118	222
Alaska	Afghanistan
Albania	Agalega & St. Brandon Is.
Andorra	Aland Is.
Anguilla	Algeria
Antarctica	American Samoa
Argentina	Amsterdam & St. Paul Is.
Aruba	Andaman & Nicobar Is.
Asiatic Russia	Angola
Australia	Annobon I.
Azores	Antigua & Barbuda
Balearic Is.	Armenia
Barbados	Ascension I.
Belgium	Austral Is.
Belize	Austria

Select Rig:

- None
- Client API
- Elecraft
- Flex API
- FlexRadio
- Icom
- Icom2**
- Icom 735
- Kenwood
- Kenwood2
- N3FJP API
- Ten Tec Argonaut VI
- Ten Tec Eagle
- Ten Tec Fnt Pnl
- Ten Tec Omni VI
- Ten Tec Omni VII
- Ten Tec Orion
- Ten Tec Pegasus
- Yaesu - Older
- Yaesu 100D
- Yaesu 757 GX II
- Yaesu 890
- Yaesu 891
- Yaesu 900
- Yaesu 920
- Yaesu 920A
- Yaesu 990

Com Port:

- COM1
- COM11**
- COM10

Baud Rate:

1.2 2.4 4.8 9.6 11.5 14.4 19.2 28.8 38.4 56

Parity:

Odd None Even

Connection Power:

None RTS DTR Both

Mode Determined By:

Rig Frequency Don't Use

Mode by Frequency: Return All Mapped Modes

Icom users change the 00 in the string to the ID of your rig.

Command to Read Frequency:

Command to Read Mode (if required):

Frequency: **14.07400**

Mode: **SSB**

Use Frequency on Main Form Convert Command to Hex

Return LSB / USB Immediately Execute Commands

Show Frequency Change Form on Startup

Don't Send CW Mode Change if on CW (so CW filters won't reset)

Don't Send Mode Change with Freq (useful when operating digital)

Add Offset to Frequency Change (CW & DIG) Offset in Hertz

Radio Polling Rate:

100 ms 500 ms 2 sec 10 sec

Data Bits:

7 8

Stop Bits:

1 2

Description:

To use the Rig Control interface, select the appropriate parameters for your radio and click test.

Be sure to select the RTS or DTR connection power option if your interface requires it. Many interfaces require RTS.

Icom users, after selecting Icom, don't forget to enter your rig ID into the command strings, which you will find in your rig's manual under CAT control.

I have the detailed successful settings users have sent along for many rigs here:

<http://www.n3fjp.com/help/righelp.html>

[For more information on rig interface cables, please click here!](#)

Unprocessed data returned:

bb

Converted from hex:

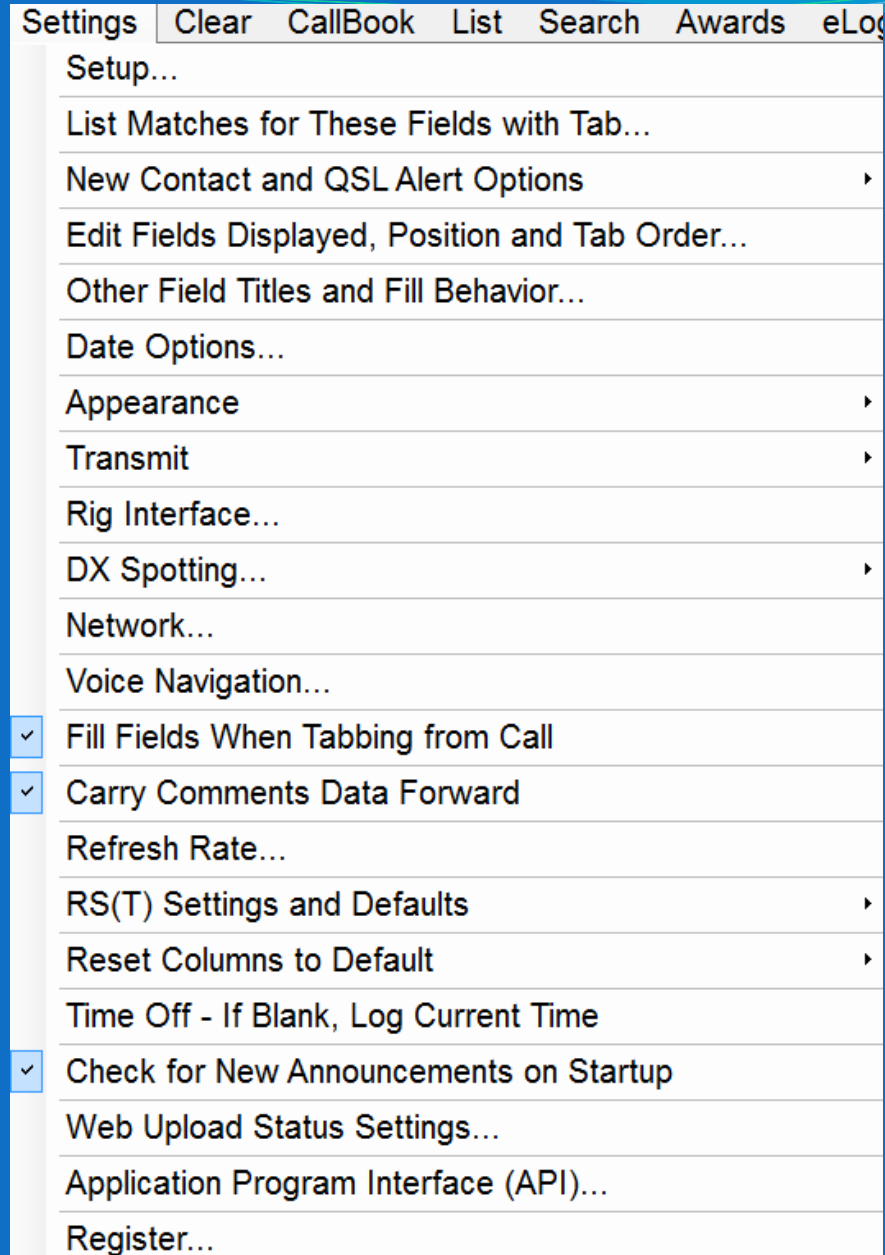
FE FE 00 E0 04 FD FE FE E0 98 04 01 01 FD**Multi Radio Configuration: (Main Form Ctrl + X)**Rig 1: Rig 2:

To test the change frequency command, enter a frequency in MHz and click Send. The mode should change to SSB or CW as well, depending on the frequency you enter. Test changing modes by clicking on the mode buttons:

Frequency:

N3FJP General Logger

- These are the items that can be configured
- Where possible, they are the same in each program



This next section concentrates on contest loggers

- This presentation was originally created to influence DCARC into buying the N3FJP suite of loggers because they are simpler than the n1mm+ logger that we were using.
- We are not a contesting club, we don't need the hard-core contesting capabilities built into n1mm+
- DCARC did buy and does use the N3FJP suite
- We maintain a MASTER log in ACL, after an event I add all of the contacts to the Master

Contest logger

- Ham radio has a number of contest events. I list some every month on the web site.
- The goal is to make as many contacts as you can in a set time period and “exchange: some simple but specific information.
 - Examples:
 - ✓ ARRL section and class
 - ✓ Grid Square
 - ✓ RS(T) and state or province
 - ✓ Serial number, type of entry, last 2 digits of year you were licensed, ARRL section
- General purpose loggers do not:
 - Know what exchange is needed for each contest
 - Know the contest’s operating rules
 - Dup check
 - Generate Cabrillo format files for score submission

Contest logger

➤ Here's a partial Cabrillo file:

```
START-OF-LOG: 3.0
CREATED-BY: N3FJP's NAQP Contest Log 5.1
CONTEST: NAQP-SSB
CALLSIGN: WB4EHG
LOCATION: EL96TC
CATEGORY-OPERATOR: SINGLE-OP
CATEGORY-STATION: FIXED
CATEGORY-TRANSMITTER: ONE
CATEGORY-POWER: LOW
CATEGORY-ASSISTED: NON-ASSISTED
CATEGORY-BAND: ALL
CATEGORY-MODE: SSB
CATEGORY-TIME: 24-HOURS
CLAIMED-SCORE: 2035
OPERATORS: WB4EHG
NAME: Richard B. Joerger
ADDRESS: 2900 SW 154th LN
ADDRESS-CITY: Davie
ADDRESS-STATE-PROVINCE: FL
ADDRESS-POSTALCODE: 33331
ADDRESS-COUNTRY:
EMAIL: wb4ehg@rjoerger.com
QSO: 14263 PH 2020-08-15 2036 WB4EHG Rich FL N0AT Ron MN 0
QSO: 14175 PH 2020-08-15 2037 WB4EHG Rich FL K7RL Mitch WA 0
QSO: 14178 PH 2020-08-15 2038 WB4EHG Rich FL NI0K Mitch MN 0
QSO: 14181 PH 2020-08-15 2039 WB4EHG Rich FL KI3IE Hunter TN 0
QSO: 14183 PH 2020-08-15 2039 WB4EHG Rich FL KD7RF Mike AL 0
QSO: 14187 PH 2020-08-15 2042 WB4EHG Rich FL K3DNE Ed SC 0
```

The n1mm+ Contest Logger

- DCARC has been using the [n1mm+ contest logger](#)
 - N1mm+ is very powerful, it supports all the contests and user's can add new ones
 - Networks with other computers at the same station
 - SSB, CW, digital support
 - Rover Support
 - VHF and up support
 - Automatic CW gen
 - Two VFO support
 - SO2R (single operator 2 radio) and S02V (single operator 2 VFOs)
 - Telnet cluster (spotting)
 - [Winkeyer](#)
 - AFSK, FSK, MMTTY
 - 4 parallel decoding windows
 - Stack incoming calls
 - On and on and on: [Link](#)
 - If you are a serious contester you are using n1mm+

The n1mm+ Contest Logger

- DCARC has been using the [n1mm+ contest logger](#)
 - All of that power brings complexity
 - Every Winter Field Day and ARRL Field Day we have a problem with n1mm+
 - The guys configuring the computers and radios are not experienced n1mm+ users. They fumble around trying to get it working. Yes, I'm pointing at me.
 - Our members are not hard-core contesters.
 - They are not experienced HF operators.
 - We want then to have a positive experience, to think that HF operating is not so hard and is satisfying (ok, maybe fun too).
 - **How many walk away from our events thinking we don't know what we are doing? That HF operating is not worth the trouble?**

N3FJP Contest Logger

- Let's look at the [contest suite from N3FJP](#)
 - The n3fjp suite consists of one unique program for every contest
 - They differ based on the rules of each contest
 - They all have the same look, same menu items, ...
 - They are easy to configure and share configuration
 - They connect to the radio to get band and mode info
 - They interface with the on-line call books and log sites (listed earlier)
 - They can network with other computers working the same contest
 - They upload/download from LoTW, eQSL
 - On-line support [link](#)
 - ACL is one of the 4 loggers that JTAlert supports
 - Import/Export ADIF (an absolute requirement for a logger)
 - Generates Cabrillo files when needed

N3FJP Contest Logger

➤ N3FJP supports these contests and QSO Parties (partial list)

ARRL Contest Logs

[10 Meter](#)
[160 Meter](#)
[Field Day](#)
[IARU HF](#)
[INTDX](#)
[Kids Day](#)
[November](#)
[Sweepstakes](#)
[RTTY Roundup](#)
[VHF/UHF](#)

CQ Contest Logs

[CQ 160 Meter](#)
[CQ VHF](#)
[CQ WPX](#)
[CQ WW DX](#)

Other Contest Logs

[10-10 QSO Party](#)
[FISTS Sprint](#)
[Kids Roundup](#)
[NAQP](#)
[NA Sprint](#)
[QRP ARCI](#)
[RAC](#)
[SPAR Winter Field Day](#)
[Stew Perry](#)

[State QSO Party Logs](#)

N3FJP Contest Logger

Recent Contacts									
Rec	Call	Name R	St / Prv / Cnt	Cont	Date / Time	Name S	Bnd	TrnID	
55	K1AR	John	NH	NA	08/16 02:31	Rich	40	0	
54	KM4VI	Matt	TX	NA	08/16 02:27	Rich	40	0	
53	VE3PJ	Greg	ON	NA	08/16 02:24	Rich	40	0	
52	KE3GK	Tom	MD	NA	08/15 23:04	Rich	40	0	
51	WB5BHS	John	AR	NA	08/15 23:01	Rich	40	0	
50	W0AAE	Bob	NY	NA	08/15 22:58	Rich	40	0	
49	W4AQU	Paul	GA	NA	08/15 22:57	Rich	40	0	
48	NC4KW	Bob	NC	NA	08/15 22:55	Rich	40	0	

Score Statistics	
Total Contacts	55
Total Multipliers	37
Multipliers on This Band	25
Total QSO Points	2,035
QSOs / Hr (Last 20 min)	0
QSOs / Hr (Last 60 min)	0

Multipliers on current band (current band also displayed on map).

Call	Name	St / Prv / Cnt
Ready to begin!		
Please select your band from the menu options!		
Clear		Spot Last
Possible Duplicates		<input type="checkbox"/> Any Portion
Massachusetts	Total = 0	

NA DX 20 - 0	1	4	7	0
	CT NH MA RI ME VT	AL NC FL SC GA TN KY VA	AK OR AZ UT ID WA MT WY NV	CO MO IA ND KS NE MN SD
	2	5	8	Canada
	NY NJ	AR NM LA OK MS TX	MI WV OH	NB BC NS NWT QC YT ON NL MB PE SK NU AB
	3	6	9	
	DE MD PA DC	CA HI	IL WI	

Bearing: Miles: Cont: 05:52:45

Start tracking op time

Band: 20 Mode: PH

WB4EHG Rich FL

4:05:01
16:05:01 UTC



N3FJP Contest Logger

- A cool feature of many loggers is called partial call sign check
- This can help you figure out what the station's call is when you are only copying part of the call

Start entering a call **K1**

The logger searches a file of calls known to operate contests

As you enter more characters the search reduces to fewer calls

Call	Name	St / Prv / Cnt
K1		

Clear Spot Last

Super Check Partial Any Portion

**7K1CPT 7K1EQG 7K1III 7K1JFM 7K1PYG 7K1VKU AK1K
AK1MD AK1N AK1W AK1WM CK1RSM CU3/OK1DX DK1A
DK1AG DK1AQ DK1AIP DK1AX DK1BN DK1CF DK1FI**

N3FJP Contest Logger

Call	Name	St / Prv / Cnt
K1AR		
Clear		Spot Last
Super Check Partial		<input checked="" type="checkbox"/> Any Portion
K1AR	K1ARO K1ARR OK1ARO	

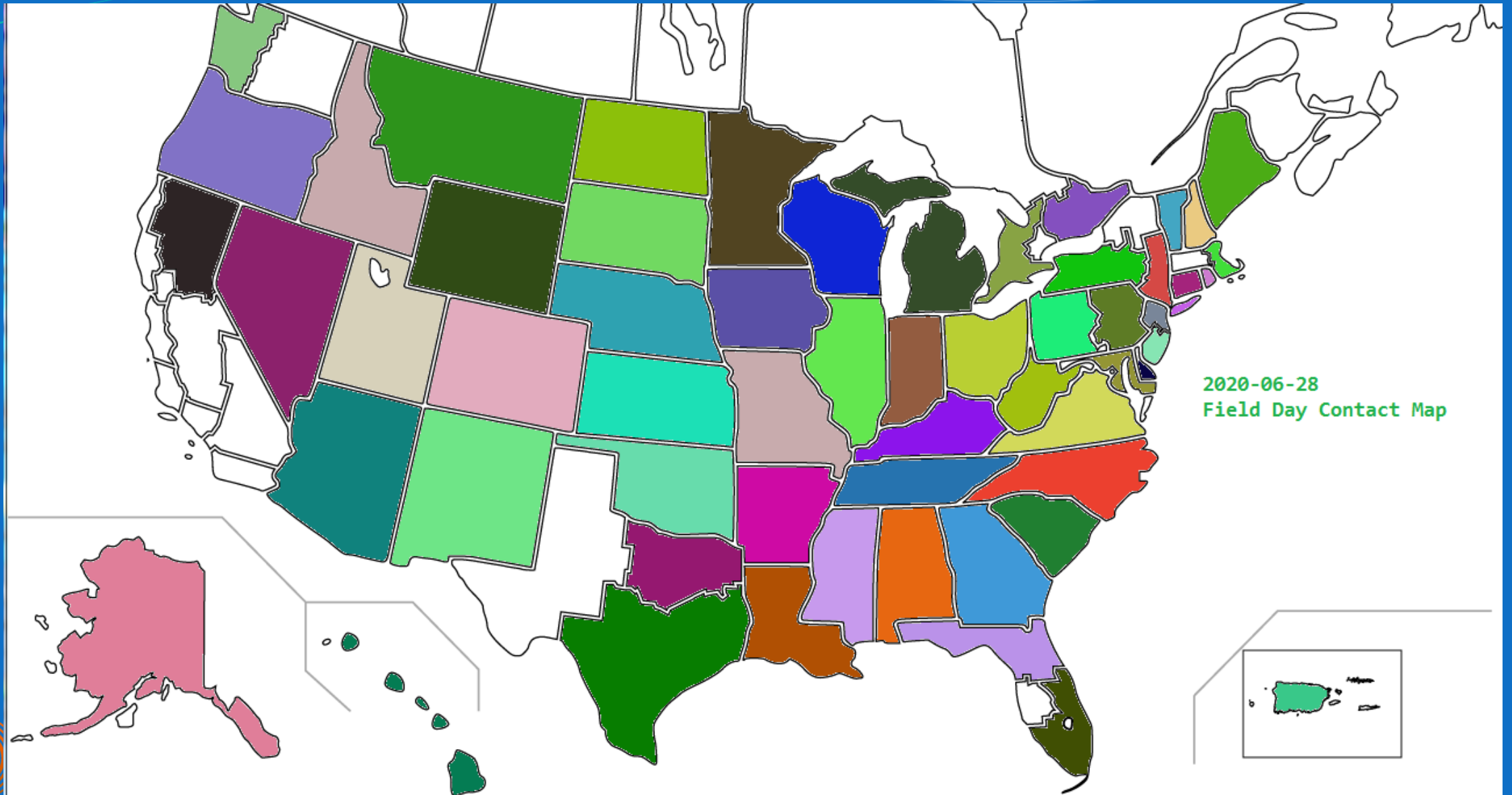
If the call is in the file it finds it

N3FJP Contest Logger

- We have had instances where we worked the same station on the same band with the same mode.
- Apparently n1mm+'s warning is too subtle.
- I don't think anyone is going to miss this alert:

Call	Name	St / Prv / Cnt
<p style="text-align: center;">Duplicate! K1AR at 8-16 2:31 on 40 PH Rec# 55</p>		

N3FJP Contest Logger (ARRL Field Day map of contacts)



N3FJP Contest Logger

Questions?