VarAC manual



Version 11.0.2

26 Mar 2025

Read this information.

This manual is not complete and may contain language errors and other errors. If you have such errors and/or other additional information, please send a message to my email address that is on QRZ.com.
This manual is for your personal use only. I am not responsible for any errors you may make whilst operating.

I am not responsible for any damage to you, your computer or transceiver. I am not liable for anything.

Content

Content *2*
VarAC Basic Architecture *11*
Introduction *11*
Who is the author of VarAC? **11**
What operating systems are supported by VarAC? 11
What is VarAC *11*
VarAC prerequisites *11*
Optional **11**
Installing the program: *12*
VARA… *12*
VARA-HF **12**
VARA-FM **12**
VARA-SAT **12**
VarAC **12**
VARA-HF install **12**
VARA HF Setup 14
VARA Monitoring 14
What do these patterns mean 15
Optional installation 16
OmniRig 16
OmniRig install 16
VARA-FM install **16**
VARA-FM Setup 18
VarAC & Vara-FM 19
VarAC configuration **19**
VARA-SAT install **19**
VARA-SAT Setup 21
VarAC *22*
VarAC install **22**
Installer version 22
ZIP version 23
Install of the Installer version 24
Files **25**
Ice Breaker 27
Note: 27
Customize VarAC window **28**
Simple mode 28
Advanced mode 28
EmComm mode 29
Resize to see all 29
New version indicator *30*
Main menu *30*
VarAC settings **30**
My Information *30*
Language setup **31**
Don't find your language **31**
How complex Callsigns work? **31**
RIG Control and VARA Configurations *31*

RIG **32**
PTT Configuration 32
CAT Configuration 32
CAT Port connecting 33
TCP connecting 33
Slow BAUD rate transceivers 33
Frequency Control 33
CAT Frequency Control 33
Offset HZ 33
Antenna tuner 34
Antenna selector 34
OmniRig Configuration 34
FLRig Configuration 34
DTR/RTS Configuration 34
Hamlib Configuration 34
CAT Test Error Log 35
I am having trouble with CAT control 35

Logging **35**
Log programs 35
Submode 36
Load history upon connection 36
IP and Port 36
Default log comment 36
Automatic callsign lookup 36
PSKReporter 36
Upload data to PSKReporter 36
Self report 37
Custom map 37
Note 37

Vara **37**
VARA Modem Configuration 37
Start modem upon startup 38
Remember VARA audio level per band 38
VARA Commands to 38
VARA monitor Path 38
Remark 38
VARA-HF Monitor ON or OFF 39
Monitor OFF 39
Monitor ON 39

QSO **39**
QSO Configuration 39
Call ID interval (min) 40
Auto Disconnect 40
Callsigns block list 40
I'm Away message 41
Auto away 41
Callsign dropdown 41
Suppress "is Typing" in low SNR 41
Allow last Heard peeking 41
Multi-band last heard peeking 41
Allow non ham Callsigns 41
Allow incoming pings 42
Allow info request 42
Auto QSY 42
Load broadcasts history 42
Load datastream history 42
Auto accept verbose SNR 42
Load chat history upon connection 42
Consider entire frequency list as CF 42
Disable leave VMail popup alert 43
File transfer 43
Incoming file size limit (bytes) 43
VMail 43
VMail Relay 43
Allow Parking 44

Path finder 44
Allow path finder 44
Show my path finders only 44

CQs/Beacon 45
Beacon type 45
Advanced Beacon 46
One-Time Beacon 46
Beacon interval (Minutes) 46
Digipeat 46
CQ Slot wait seconds 46
Skip CQ Slot 46
Load last heard history 47
Time different view 47
CQ time shown as time diff from UTC 47
CQ time shown as absolute UTC 47
Band (Bnd) 47
Legend of color 48
Slot size (Hz) 48
Show last know locator 48
Callsign tags 48
Start Beacon upon startup 49
Auto beacon/frequency scheduler start 49

DX Cluster 49
DX Cluster uploads 49

GPS 50
GPS integration 50
Enable GPS reading 50
Remember last position 50
Reconnect GPS Indefinitely 51
Show live coordinates 51
Write GPS data to file 51
Manual GPS data 51

HamPlay 51
Games 51

EmComm 52
Disable SNR report sending 52
Disable Call ID sending 52
Allow last connections peeking 52
Automatic incoming file approval 52
Disable Selector upon connection 53

Email 53
For Email gateway operator 53
For Email gateway users 54
Gmail account as a VarAC e-mail Gateway setup 54

Misc. 56
Backup 56
QSL Card 56
Misc. 57
Linux compatible mode 57
Linux using 57

Save and Exit 57

Appearance and Sounds 57

Appearance and Sounds settings 57
Tabuler view 58
Load Predefined themes 59
Narrator (Text-to-Speech) see Narrator 60
Font 60
Language interface 61
Don’t find your language 61
Narrator 61
Check Spelling 61

Date/Time format ... 61
Canned (predefined) messages ... *62*
Canned messages ... **62**
Shortcut F keys ... 62
Tags ... 63
Remark ... **63**
Welcome message ... **63**
Frequency schedule ... *63*
Edit Frequency Drop-down List ... *63*
Auto-QSY Allowed Frequency Ranges ... *64*
Switch profile ... *64*
VarAC_FT-991A.ini ... **65**
VarAC_Kenwood.ini ... **66**
Shortcut for VarAC and specific transceiver ... **66**
Alert tags configuration ... *67*
Applications launcher ... *69*
Download Latest CAT Commands File ... *69*
Tools ... *70*
Mailbox ... **70**
Inbox ... 70
Sent ... 70
Outbox ... 71
Parking ... 71
Drafts ... 71
VMail printing ... 71
Tags in Vmail ... 72
Callsign history ... **72**
QSO Log ... **72**
Alert center ... **73**
Incoming Alert ... 73
Sent Alert ... 74
Archived Alert ... 75
Image shrinker ... **75**
Offline Image shrinker ... 75
Statistics ... **76**
Received files/Images ... **77**
QSL Card ... *77*
QSL creating ... **77**
Quick Access to QSL Generator ... **78**
Logs ... *78*
Open Backup directory ... **78**
Resources ... *78*
About ... *79*
Bottom menu ... *79*
VarAC main screen ... *79*
Scroll down indicator ... **80**
Adjustable Beacons/CQ/Log size ... **80**
VarAC Commands ... **80**

Calling Frequency (CF) (USB dial) **81**
Slots ***81***
The problem **82**
The Solution **82**
Band plan: **82**
QSO-workflow **82**
New configurable parameters under settings 83
Additional notes 83
500Hz or 2300Hz **83**
VarAC cluster PTT lock **83**
CALL CQ ***84***
What are Slots? **84**
CQ Calling selector **84**
Send beacons **84**
CQ and beacons **85**
What should I use? ***85***
Tip **85**
What are the limitations of using VarAC beacons? ***85***
Log & VARA commands **85**
In QSO with **85**
See History **86**
Zie QRZ.com **86**
Last heard beacons **86**
Last heard CQ Calls **87**
Middle menu **88**
Graph **88**
Ignore DCD **88**
Unattendend links **89**
Inquire **89**
Inquire Window Control 90
Parked VMail Peeking 90
Last Connection Peek 90
Ham-Play **90**
See CQ Calling selector **91**
Send VMail **91**
Send Urgent VMails 91
Send EmComm VMail 92
VarAC templates **92**
Broadcasts **92**
Adaptive Broadcast speed **93**
SSID support **95**
Path Finder **95**
Logging QSO **95**
Data stream **96**
Previous chats 96
Datastream viewer 96
QSO log data 97

Data picker 97
QSO Log: Set as Name/QTH/Loc 97
Image viewer 97
Reply on message 97
Translate **97**
Outgoing chat message progress indication **98**
HAM is typing ***98***
Suppressing 'Is Typing' **98**
Log & messages ***98***
Currently sending 98
In Queue 98
Callsign, Report,etc… 98
Load a canned message **98**
New message **99**
QSY code of conduct ***99***
A quick QSY **99**
Maximum time on a Calling Frequency **99**
QSY back to default frequency **99**
Digipeater connection **99**
How do I contact someone? ***100***
Reports and Regulations ***100***
Gestures – Tags - QSO protocol ***100***
Tags & Gestures **101**
Emojis 101
Sounds 101
My data tags 101
His/her data tags 101
Request data tags 102
Trigger events 102
Message Tags 102
GPS tag 103
Composed 103
QSYR and QSYJ 103
Tags **104**
QSO protocol **104**
Tip **104**
Canned messages and VarAC tags ***104***
QSO ending ***104***
QSO ending and QSY ***104***
QRZ.COM uploaded **104**
Multiple configuration files 105
VarAC Cluster (Multiple instances) ***105***
Step #1 ..... **106**
Step #2 ..... **106**
Step #3 ..... **106**
Step #4 ..... **107**
Step #5 ..... **107**
Strange signals and noise. ***108***
VarAC.ini file ***108***
Additional Cluster configuration ***109***

Logbook programs *109*
AC Log (Amateur Contact Log) **109**
DXKeeper (DXLabSuite) **110**
Ham Radio Deluxe **111**
Settings 111
Ham Radio Deluxe 6 setup 112
OmniRig setup 112
VarAC setup 113
Log4OM **113**
Log4OM provides with UDP logging. 113
This is how you set the UDP logging with Log4OM: 113
This is how to configure LOG4OM2 to collect your VarAC QSOs automatically from the VarAC ADIF log file. 114
Automatic Callsign lookup 114
N1MM **115**
Swisslog **115**
UcxLog **116**
WinLog32 ..... **116**
Logger32 ..... **117**
Linux Installation *117*
Install WineLink **118**
Install WINE fonts that are needed by VarAC **118**
Download VarAC **118**
Launch VarAC **118**
Enable "Linux compatible mode" in VarAC settings **118**
OS/HW specific configuration *118*
Pi5 & Bookworm **119**
To manually install VARA and VarAC on a Pi: 119
EmComm with VarAC *119*
VarAC: A Lifeline in Emergency Situations **119**
Key Features and Their Value in Emergency Situations **119**
1. Reliable Communication Under Poor Conditions 119
2. Guaranteed Message Delivery 119
3. Realtime Alerts Triggered by Tags 119
4. Alert Center for Managed Communications 119
5. Constant Beaconing for Team Tracking 119
6. Fast File Transfers 119
7. GPS Integration for Location Updates 120
8. High Data Speeds with VARA Protocol 120
9. Efficient Broadcasting and Group Communication 120
10. Path Finder to Reach Unreachable Locations 120
11. High Concurrency with Multiple Channels 120
12. VMails and Relay Notifications 120
13. Pre-existing Forms and Templates 120
The complete EmComm Tactical scenarios guide V.1.2 ..... **120**
Tactical EmComm scenarios covered in this guide 120
Tactical need #1 ..... **121**
EmComm operators' check-ins 121
VarAC Features used: 121
Beacons 121
Tactical need #2 ..... **121**
Sending an emergency alert to all EmComm operators. 121
VarAC Features used: 121
Alert tags, Broadcast 121
Tactical need #3 ..... **121**

Send emergency VMail without direct link to your destination 121
VarAC Features used: 121
VMails, Parking, Relay notifications, Beacons 121

Tactical need #4 122
Sending a images of a missing Person 122
VarAC Features used: 122
Send file 122

Tactical need #5 122
Group chat/round-table/check-ins of all EmComm operators 122
VarAC Features used: 122
Broadcasts 122

Tactical need #6 122
Live chat between stations with no direct link 122
VarAC Features used: 122
Chat, Digipeater 122

Tactical need #7 122
Find a VMail path to an unreachable station – Way #1 122
VarAC Features used: 122
VMail, Path finder 122

Tactical need #8 123
Find a VMail path to an unreachable station – Way #2 123
VarAC Features used: 123
VMail, Last Heard (LHR) 123

VarAC Tactical drills checklist 123

Other information's 123

How to find other radio amateurs to chat with VarAC? 123

Which RIGs are supported by VarAC? 123

Are VarAC and Vara-Chat compatible? 124

My OmniRig has a delay in sending 124

What can I do if I encounter a bug in VarAC? 124

Where can I find VarAC manuals? 124

Do you have any questions? 124

GridTracker 124

Configure GridTracker to scan the VarAC ADIF file 124

Adding the VarAC ADIF mode name (DYNAMIC) to the GridTracker mode catalog 125

Annexes 125

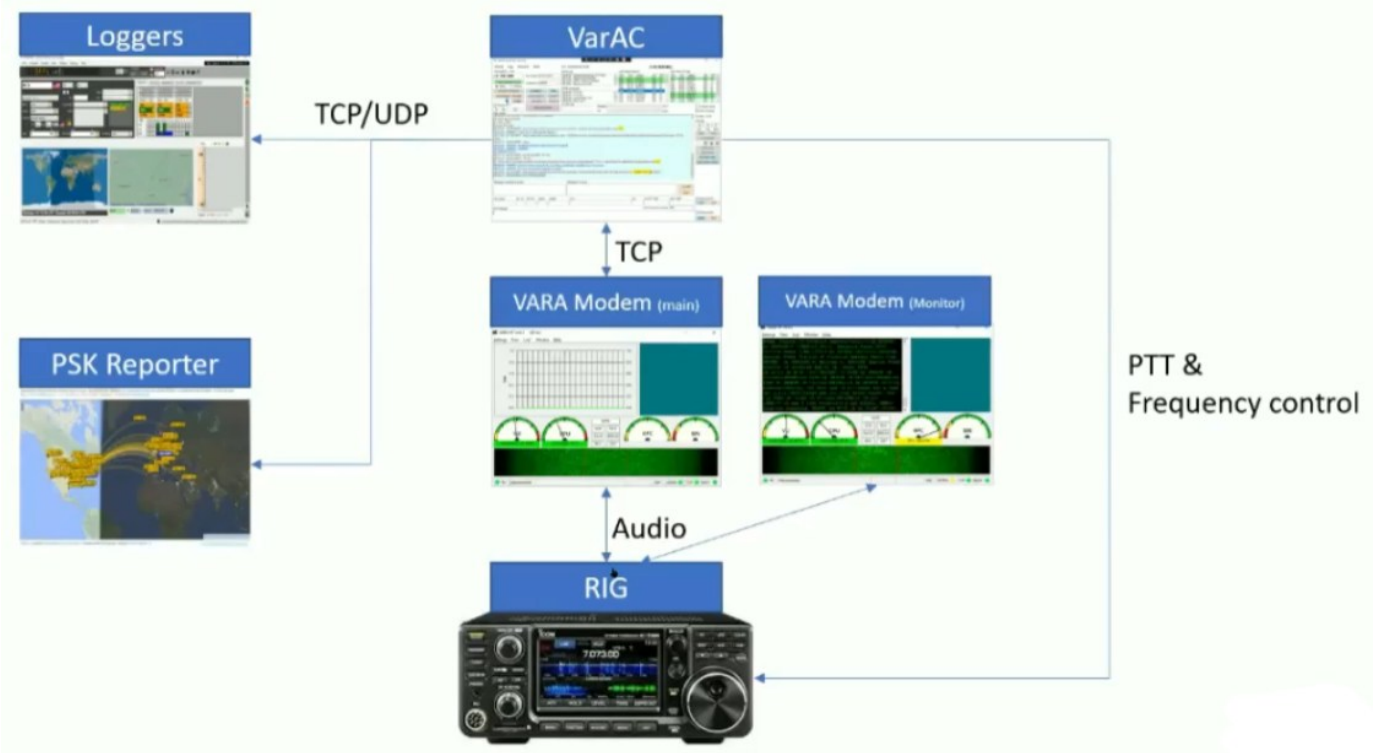
Introduction 125

CAT cable connected to the USB port 126
FT-991A with a USB cable 126
Installing the Communication Ports (COM) 126
FT-991A Setup for DATA-USB modus 126
FT-991A Setup for USB modus 126
FT-991A Setup for automatic USB or USB-D or DATA-U mode 126
FT-818 with a USB cable 126

Micro HAM-interfaces 127
Kenwood 127
TS-2000 with a USB Interface III 127
microHAM USB Device Router settings 127
VARA Setup 127
Yaesu 129
FT-991A with a micro KEYER II 129
FT-991A Setup for DATA-USB mode 129
FT-991A Setup for USB mode 129
FT-991A Setup for automatic USB or USB-D or DATA-U mode 129
VARA Soundcard settings 130
Soundcard settings 130

FT-897 connected with the micro KEYER II and OmniRig 130
Micro Keyer settings 130
Omni-Rig & VARA-HF & Log4OM 131
FT-897 Menu setup 131
Flex radio's 132
Flex 6400M 132
VarAC settings 132
SmartSDR +VARA Soundcard settings 132
Flex 6600 133
Icom 133
IC-7300 133
VarAC Configuration 133
VarAC_IC-7300.ini 133
Radio Configuration 134
IC-7610 connected with the micro KEYER II and in DATA-USB modus 135
RIG 135
VARA setup 135
Release updates 136
Only for developers 137
VarAC Sqlite database structure (for developers) 137
Acknowledgment 137

VarAC Basic Architecture



Introduction

Who is the author of VarAC?

Irad Deutsch, 4Z1AC is the author of VarAC.
He has been an amateur radio operator since the age of 13 (30 years now).
He has always been fascinated by digital modes such as PACKET RADIO, AMTOR, PACTOR, GTOR, CLOVER, FT8/4, PSK and others... and he likes to chat with these modes rather than just exchanging reports.

When VARA came into our lives, he adopted it because he believes it offers the protocol robustness of PACTOR coupled with the ability to handle challenging SNR levels like FT8. So he decided to create a chat application with lots of cool features to chat with his fellow HAMs.

But he is not the only one. There is a great team of supporters and testers who play a huge role in this project. You can read more about them here.

He has contacted the creator of VARA (EA5HVK) about feature requests and bug fixes, but has no business relationship with them. He does this purely for fun.

What operating systems are supported by VarAC?

VarAC is written in C#, which means it can only run on Windows for now. You can try using some C# emulators for Linux and if it works he will be happy to know and provide the community with a help book.

What is VarAC

VarAC is a FREE, modern HF P2P real-time chatting and emergency communication (EmComm) application for amateur radio operators, leveraging the VARA protocol.

VarAC prerequisites

VARA-HF 4.8.9 or higher.

YOU MUST UPGRADE your VARA modem to the latest version to enjoy new features in VarAC.

Optional

OmniRig V1.X (V2.0 is NOT supported currently)
1280 X 800 screen resolution or higher
Windows 8.1 and above (some hams reported that Win7 also works, but officially it is not supported)
.NET framework 4.X or above

10MB of disk space.

Installing the program:

Two programs need to be installed, namely

VARA….

VARA is a ARQ, error free protocol

Make a choice from the different protocols:

VARA-HF

(High Performance HF Modem) what this manual is about..
Up to 1.543 bps at 500 Hz BW / 7.050 bps at 2300 Hz BW

See VARA-HF install

VARA-FM

(for FM transceivers)
Up to 12.750 bps Narrow / 25.210 bps Wide

See VARA-FM install

VARA-SAT

(for QO-100 Geostationary SAT)
Like HF but with additional latency handling

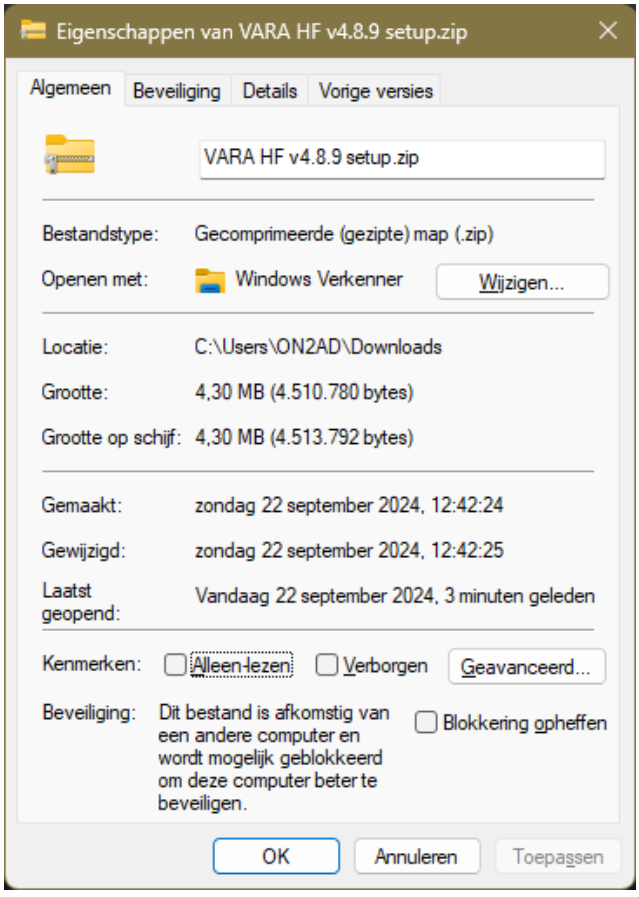
See VARA-SAT install

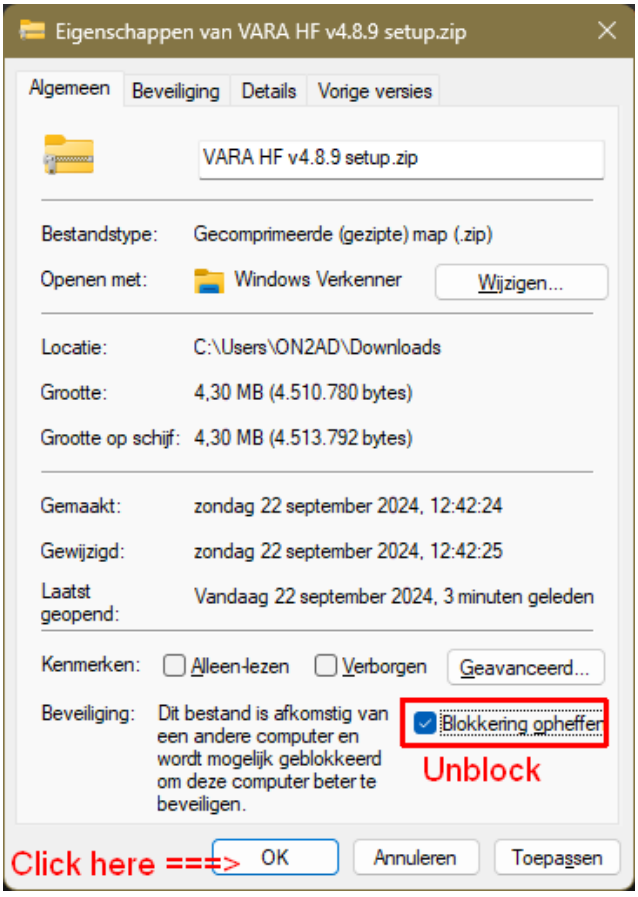
VarAC

The chat program itself

VARA-HF install

Download and install the VARA-HF version which can be found at:
EA5HVK | Weak signals Software (wordpress.com)





After these files are downloaded, they must be unblocked
Select the file with the right mouse button

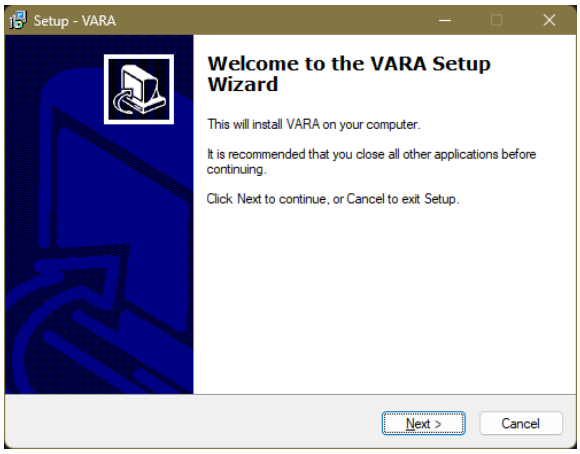
Now with the left mouse button, click Properties

Select properties from the drop-down menu.
If a button marked with Unblock is visible on the General menu, this file is blocked.

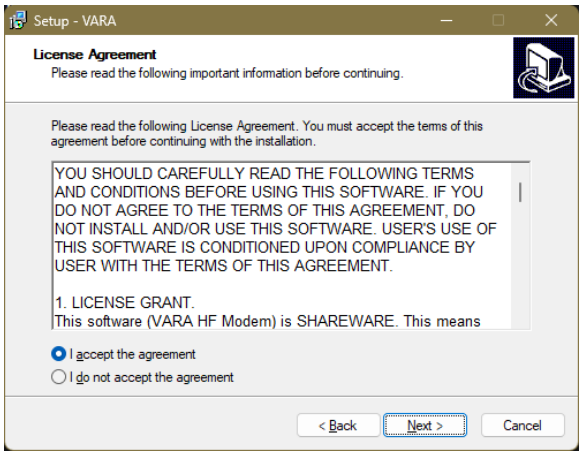
Click the Unblock button on the left mouse, and then click OK to unblock the file

Unzip VARA-HF version
Twice click on the VARA setup (run as Administrator).exe

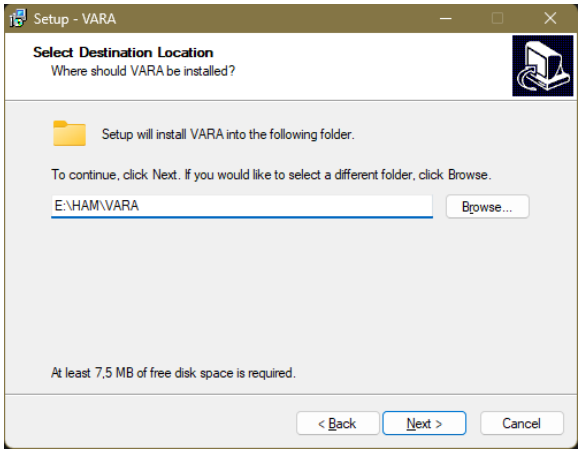
Click now on Next



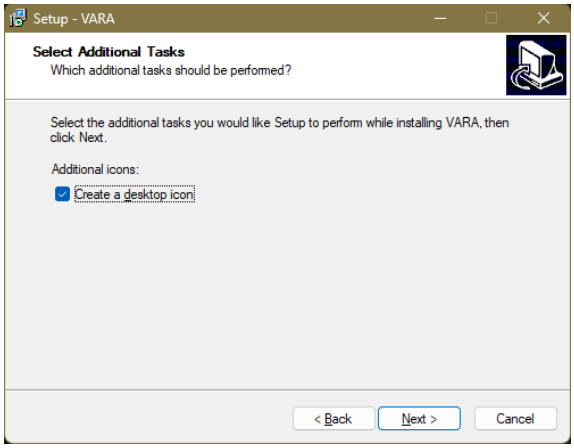
Select "I accept the agreement"
And click on Next



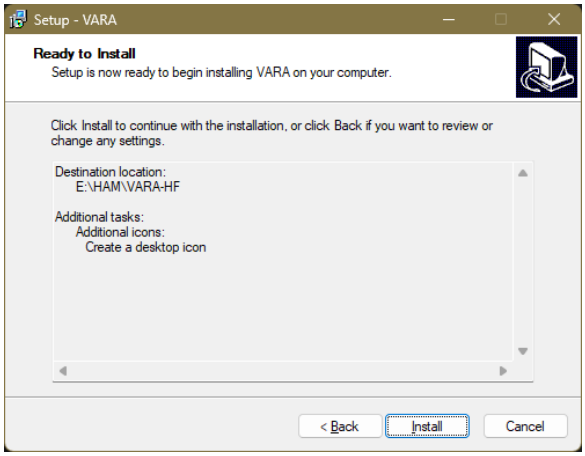
Click on Browse for select the folder who you will install VARA or use the default setting.
Click Next.



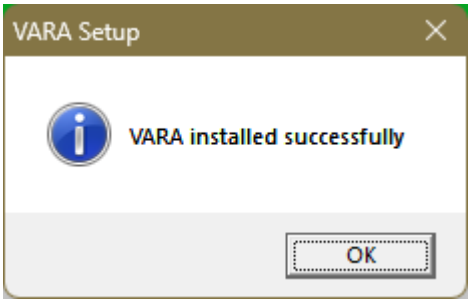
Enable the "Create a desktop icon" if you want a icon for VARA on your desktop.
Click Next.



Click "Install" for install VARA

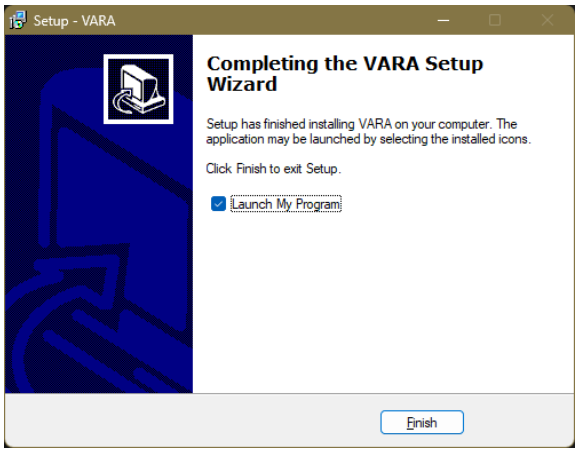


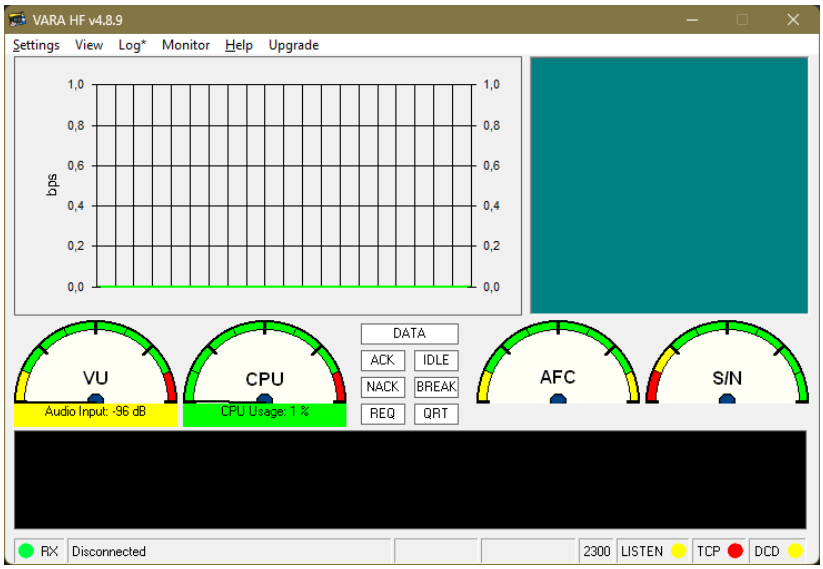
The result



After VARA is installed successfully screen you will have the next window. Press Finish to launch VARA

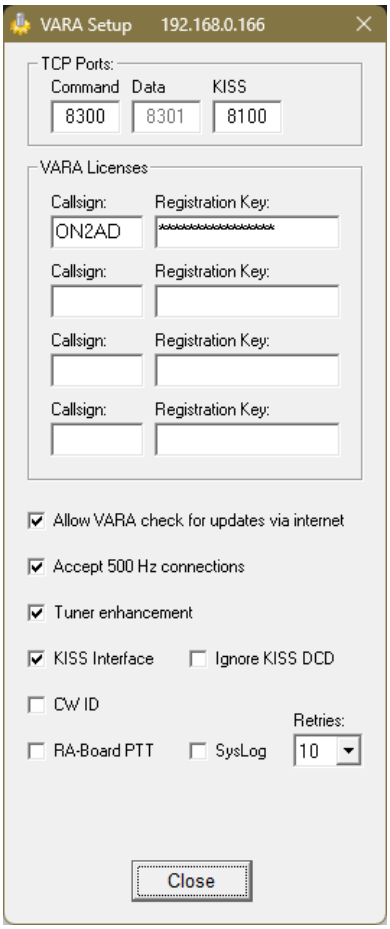
This can be your result.





VARA HF Setup

Click Settings and then on VARA setup…
Fill in the necessary data in the screen on the left and if you have a Key for this program, put your Callsign and your Key in it, if you do not have a Key then leave these fields empty.
Click Close

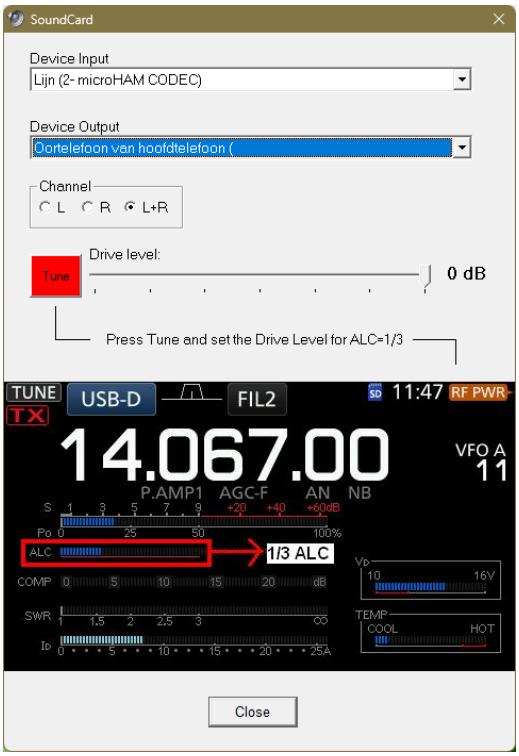


Click back on Settings and click on Soundcard…

Now select your Device Input and the Device Output of the sound card

Channel:
Choice the right channel.

Close with click on the "Close" button.



VARA Monitoring

VARA is an ARQ mode.
Which means that what you get is 100% accurate due to CRC correction, or you do not get it at all.
Very similar to Pactor and Packet.

Now, when 2 stations have a strong solid link between them (lets say +2 SNR for example) and they shift to **HIGH SPEED** (Level 5 for example) and I receive them -10 SNR, sure you can't decode much of it as out of the many bytes sent, You will miss too many due to noise so the CRC can't be used to correct the message.

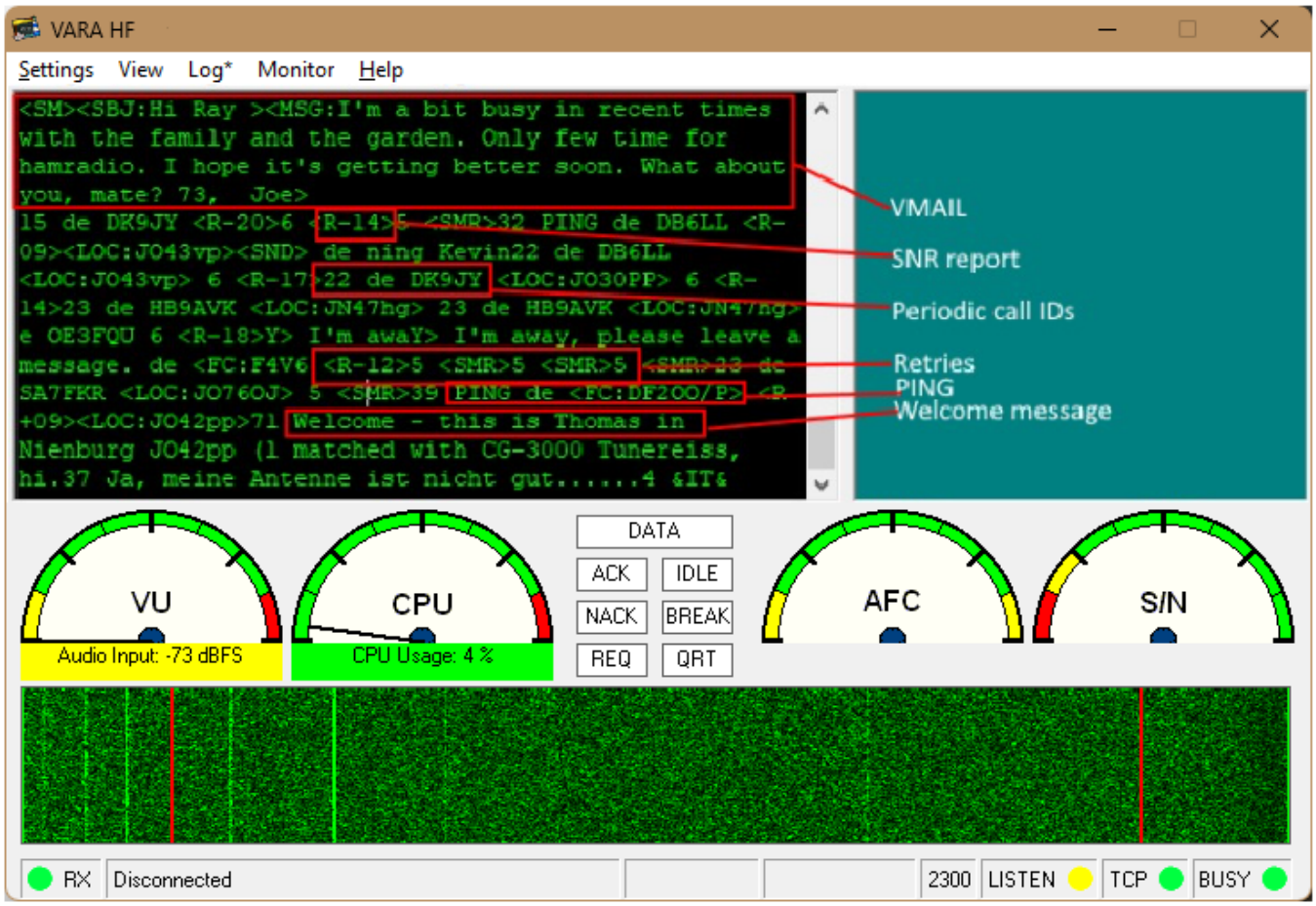
Same with hearing a high speed **Pactor 4** signal that may sound strong to your ear but too weak to decode the packet due to noise...

In **NON** ARQ modes like RTTY/PSK, if you missed a few letters you can still get the before and after of the message, with ARQ mode the whole set of bytes in a packet (up to a certain threshold) has to be received to decode the packet correctly.

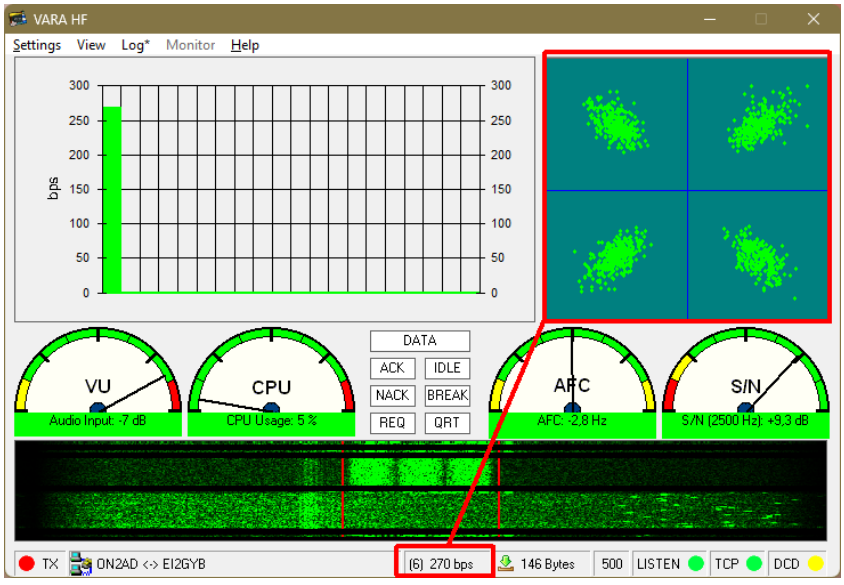
Otherwise it is dumped..

Therefore it is most likely you will decode more packets in low VARA speed then high... the fact that you hear a signal, (faint or not) doesn't mean your modem was able to decode all the encoded bytes in it.

Here is an example of a monitor screen on the Calling frequency.
You can notice quite a few elements in it.



What do these patterns mean

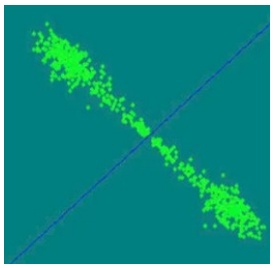
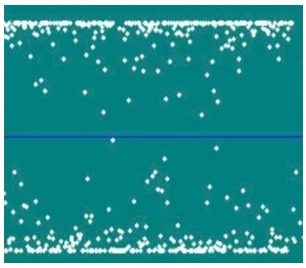
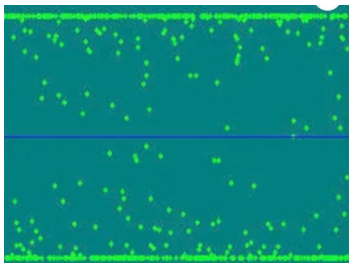
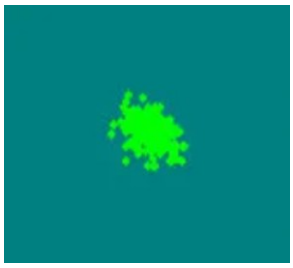


That is the Constellation pattern and shows the modulation type, quality and SNR in a simple display.

In terms of color:
Green is good, **white** and **red** SNRs are not so good.

There are many more Constellation patterns that will appear depending on the speed and as such the modulation type from FSK to BPSK to 4PSK to 8PSL to 32QAM (which will have 32 blocks above that).

See below:

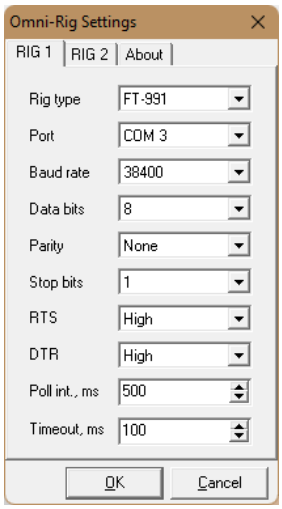
Optional installation

OmniRig

OmniRig install

Omni Rig-version 1.
Home page: http://www.dxatlas.com/omnirig
OmniRig can be downloaded from DX Atlas: Amateur Radio software
Download: http://www.dxatlas.com/OmniRig/Files/OmniRig.zip

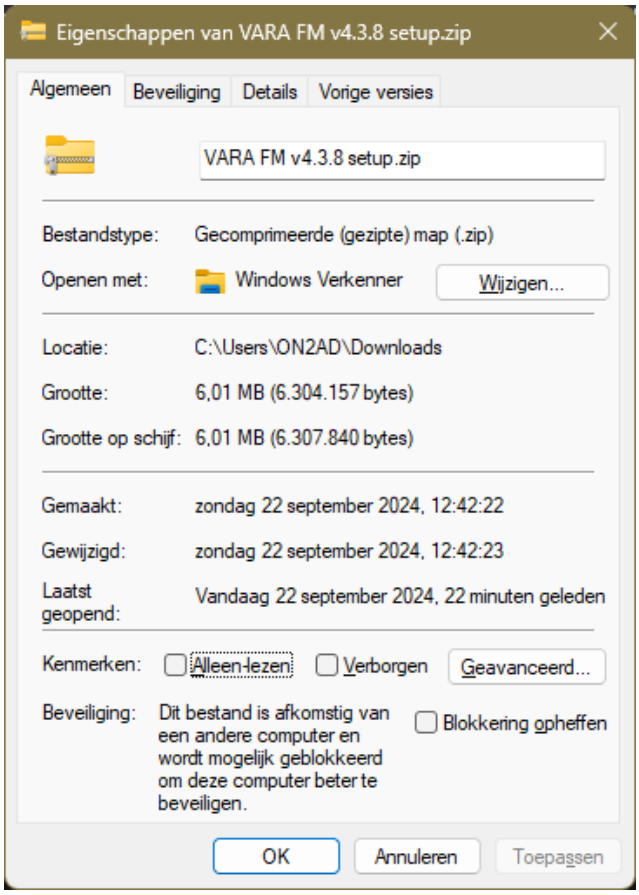
Select and adjust this information as prescribed in your manual.
This setting is for my Yaesu FT-991A

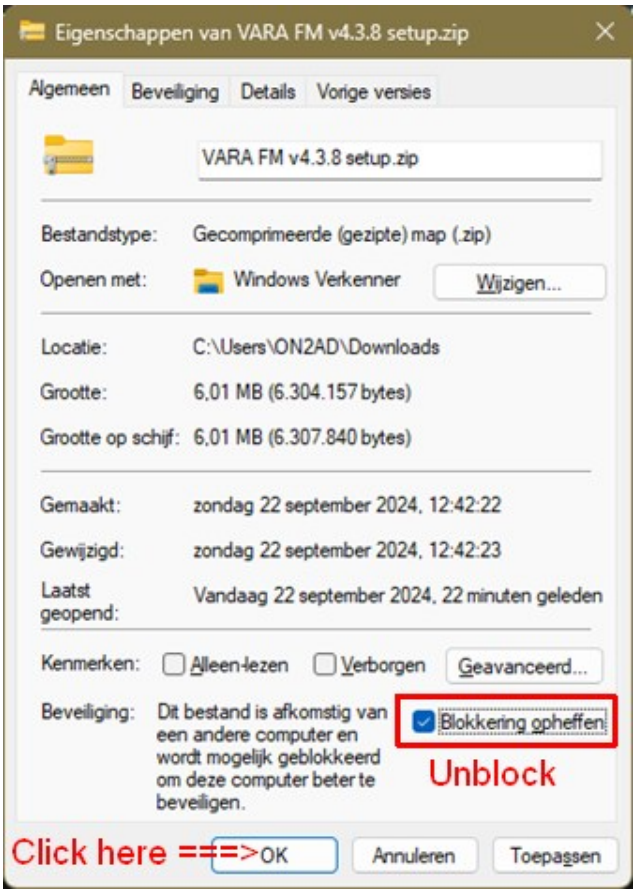


Rig Type: Select your Rig here.
Port: Select your COM port.
Baud rate: Select your baud rate
corresponding to that of your transceiver.
Data bits: Select your Data bits according to your
transceiver.
Parity: None, Odd, Even, Mark, Space (here on None).
Stop bits: 1, 1.5, 2 (here on 1).
RTS: High, Low, Handshake (here on High).
DTR: High, Low, (here on High).
Poll int. ms: is on here 500
Timeout, ms: is on here 100

VARA-FM install

Download and install the VARA-FM version which can be found at:
EA5HVK | Weak signals Software (wordpress.com)





After these files are downloaded, they must be unblocked
Select the file with the right mouse button

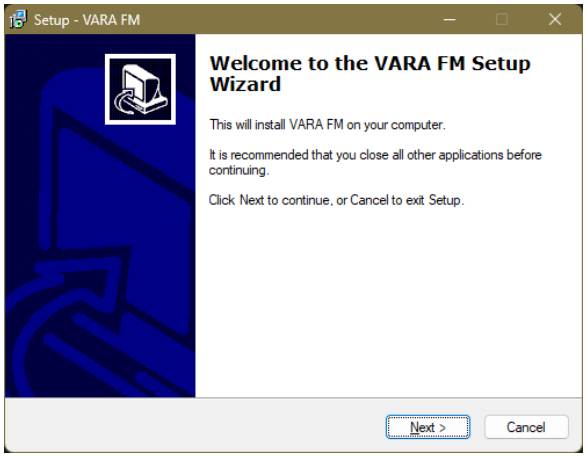
Now with the left mouse button, click Properties

Select properties from the drop-down menu.
If a button marked with Unblock is visible on the General menu, this file is blocked.

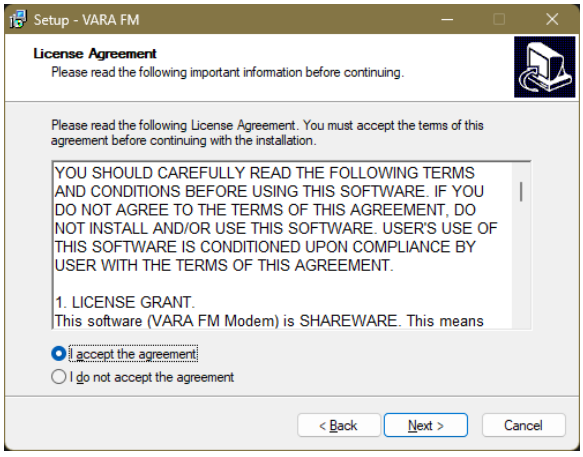
Click the Unblock button on the left mouse, and then click OK to unblock the file

Unzip VARA-FM version
Twice click on the VARA setup (run as Administrator).exe

Click now on Next

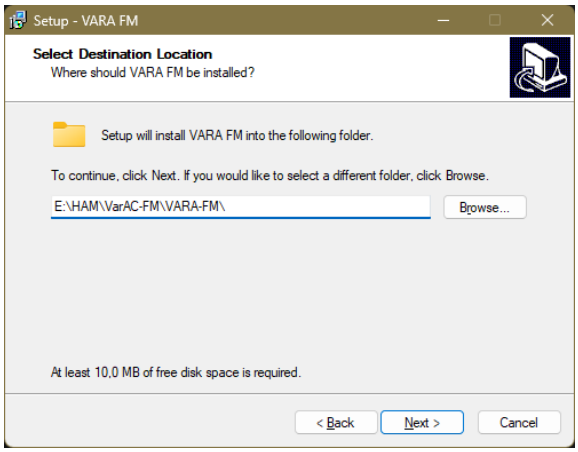


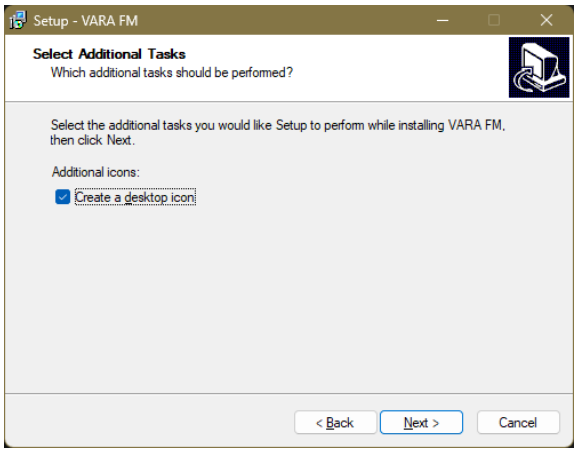
Select “I accept the agreement”
And click on Next



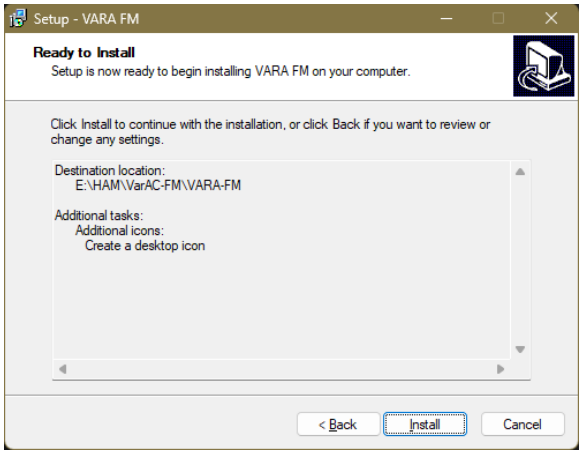
Click on Browse for select the folder who you will install VARA or use the default setting.
Click Next.

Enable the “Create a desktop icon” if you want a icon for VARA on your desktop.
Click Next.

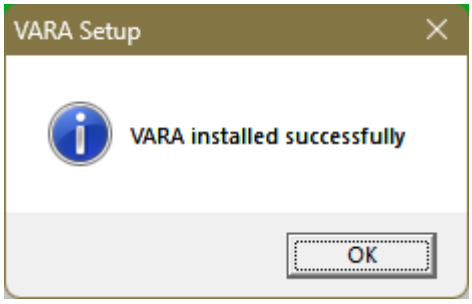




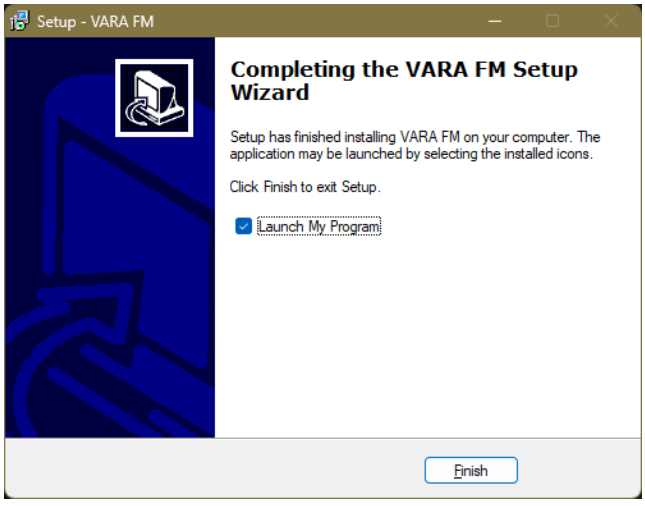
Click “Install” for install VARA



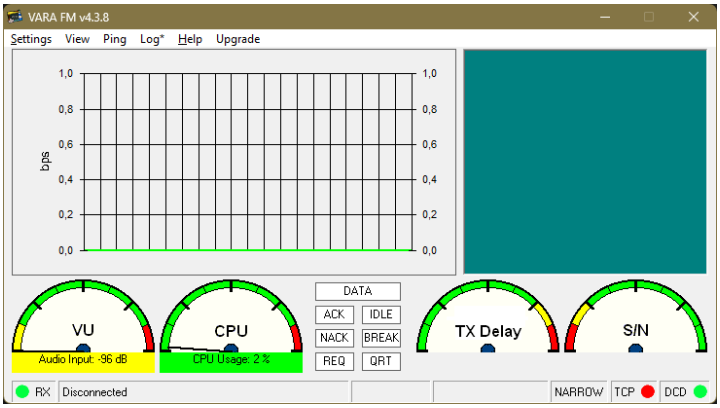
The result



After VARA is installed successfully screen you will have the next window. Press Finish to launch VARA

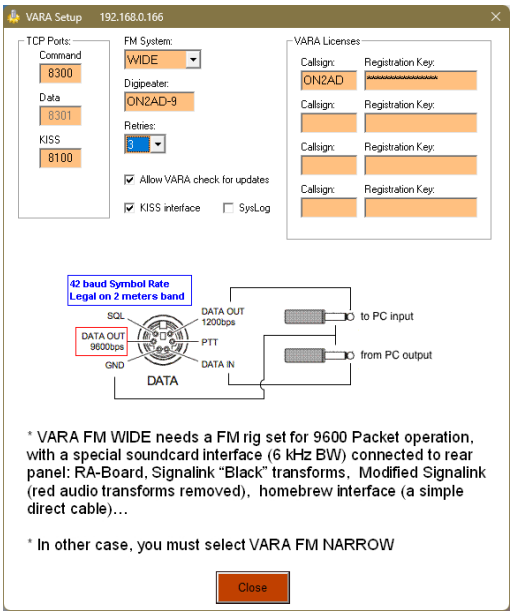


This can be your result.



VARA-FM Setup

Click Settings and then on VARA setup…
Fill in the necessary data in the screen on the left and if you have a Key for this program, put your Callsign and your Key in it, if you do not have a Key then leave these fields empty.
Click Close

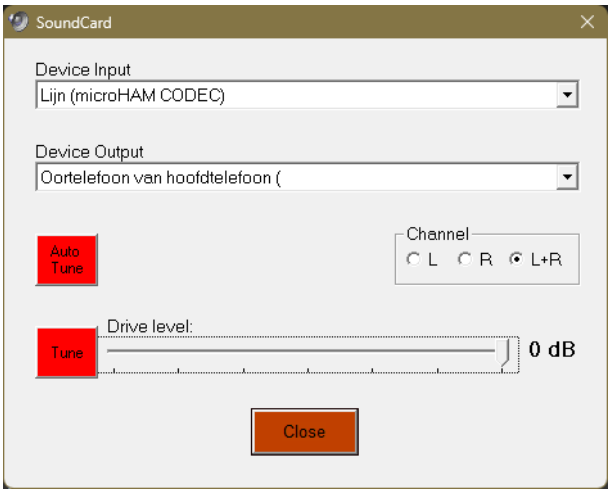


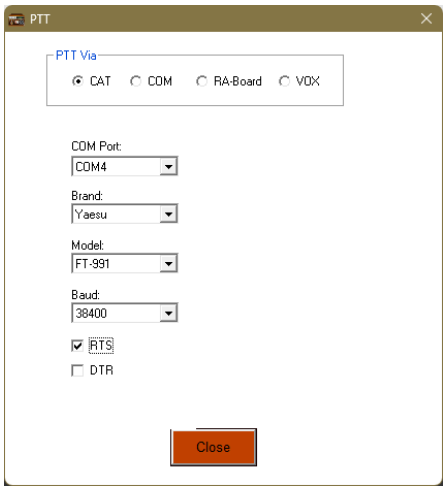
Click back on Settings and click on Soundcard…

Now select your Device Input
and the
Device Output of the sound card

Channel:
Choice your channel.

Close with click on the "Close" button.



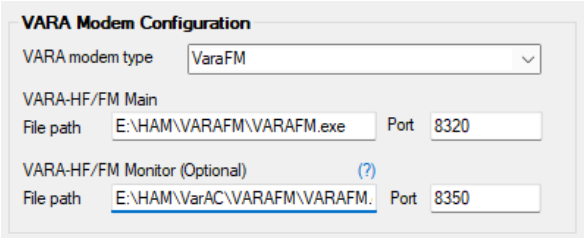


VarAC & Vara-FM

To use VaraFM you must first download and install the VaraFM modem, which you can find at:
EA5HVK | Weak signals Software (wordpress.com)

VarAC configuration

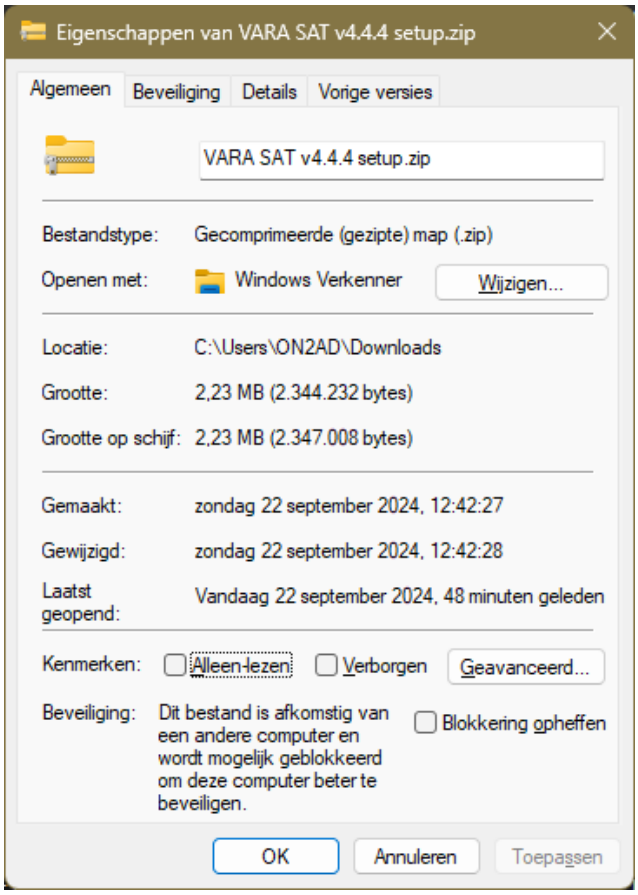
Go to the menu Settings press Rig control and VARA configurations.



Set the VARA modem type to "VaraFM".
Set the VaraFM modem path and port number.
Click "SAVE AND EXIT"

VARA-SAT install

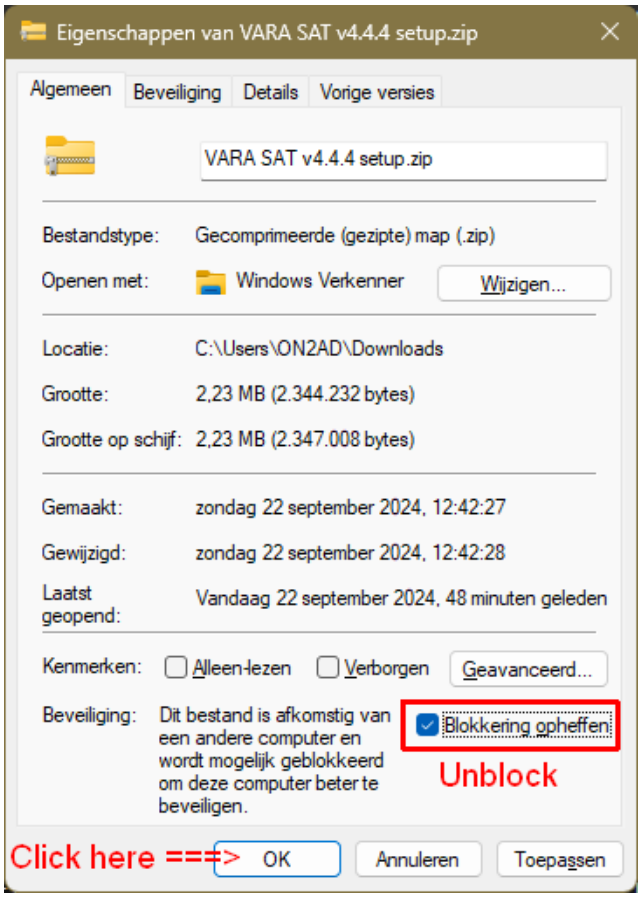
Download and install the VARA-FM version which can be found at:
EA5HVK | Weak signals Software (wordpress.com)



After these files are downloaded, they must be unblocked
Select the file with the right mouse button

Now with the left mouse button, click Properties

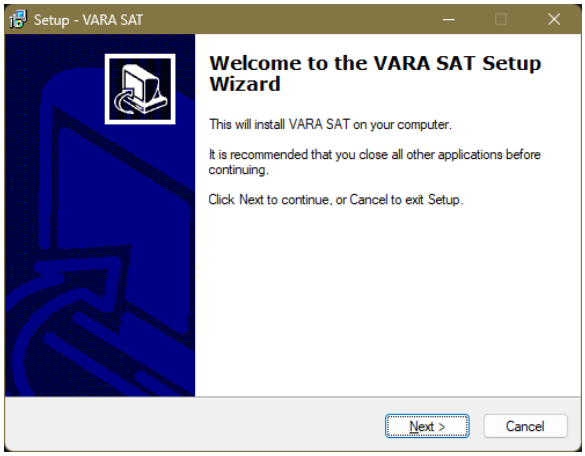
Select properties from the drop-down menu.
If a button marked with Unblock is visible on the General menu, this file is blocked.



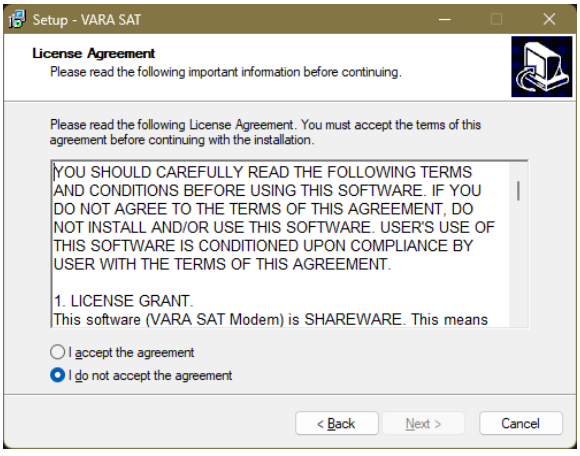
Click the Unblock button on the left mouse, and then click OK to unblock the file

Unzip VARA-FM version
Twice click on the VARA setup (run as Administrator).exe

Click now on Next

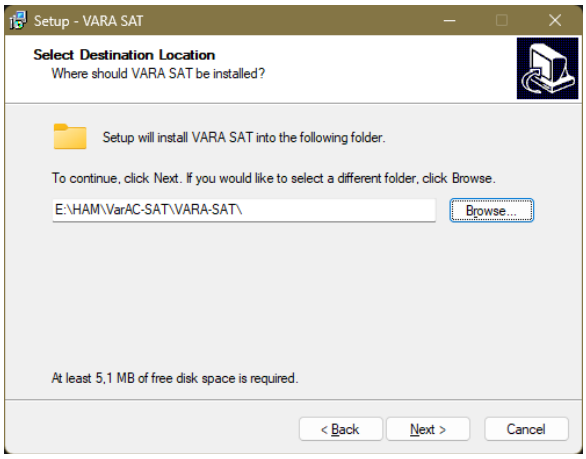


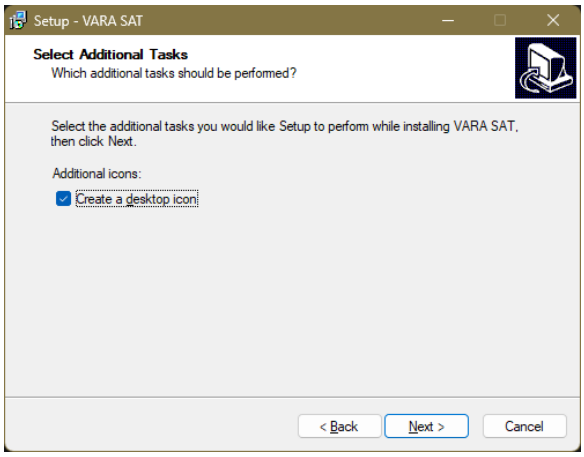
Select “I accept the agreement”
And click on Next



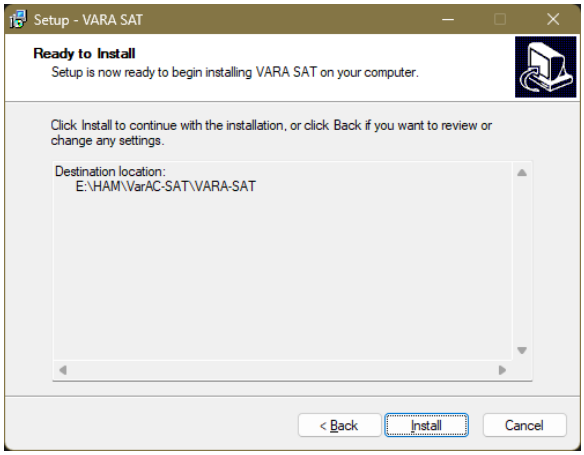
Click on Browse for select the folder who you will install VARA or use the default setting.
Click Next.

Enable the “Create a desktop icon” if you want a icon for VARA on your desktop.
Click Next.

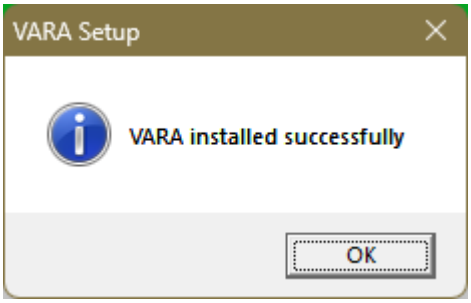




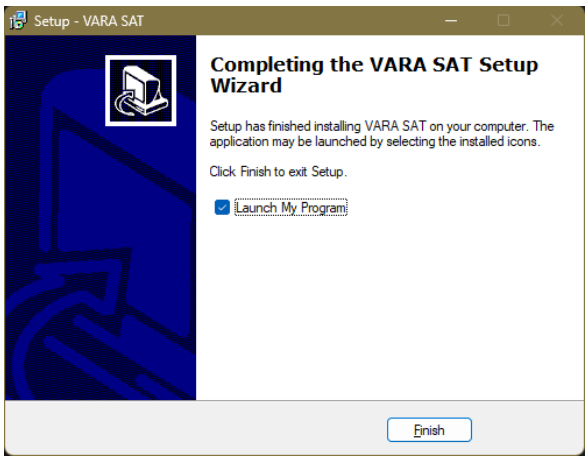
Click “Install” for install VARA



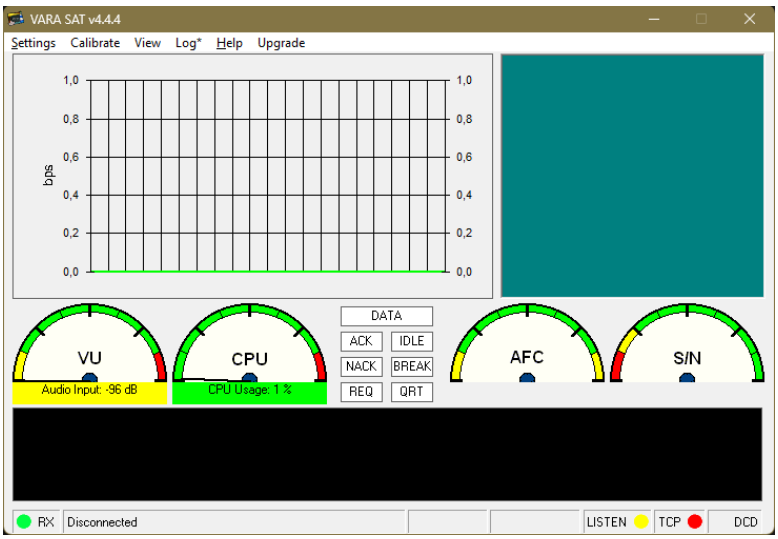
The result



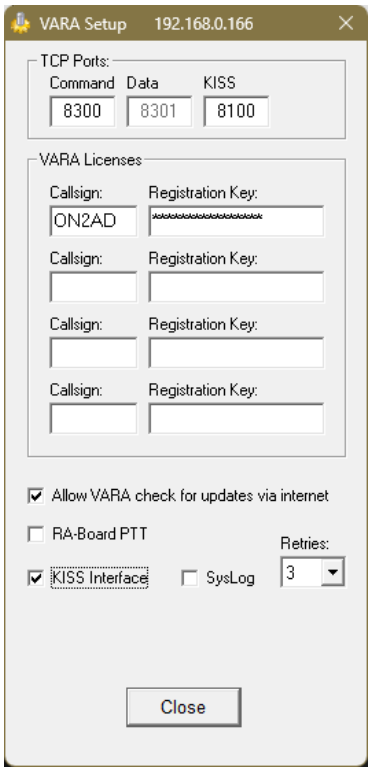
After VARA is installed successfully screen you will have the next window. Press Finish to launch VARA



This can be your result.



VARA-SAT Setup

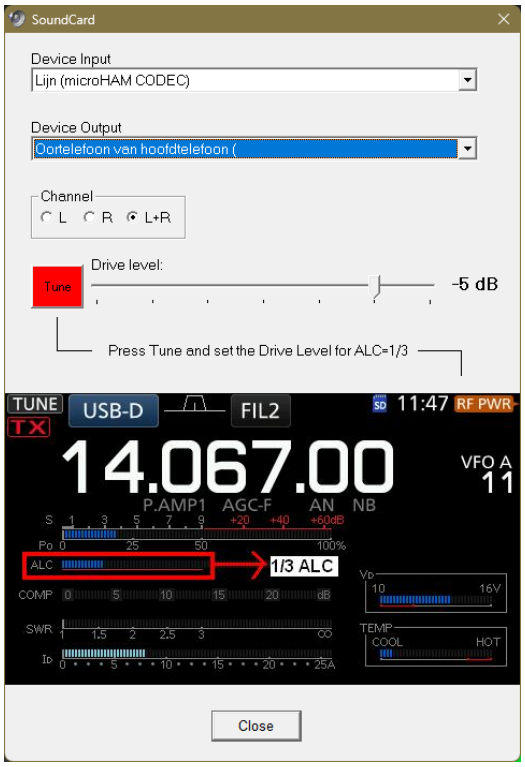


Click back on Settings and click on Soundcard…

Now select your Device Input
and the
Device Output of the sound card

Channel:
Choice your channel.

Close with click on the “Close” button.



VarAC

Download VarAC on https://www.varac-hamradio.com/download

After completing the form and answering the question, click Download to download VarAC.

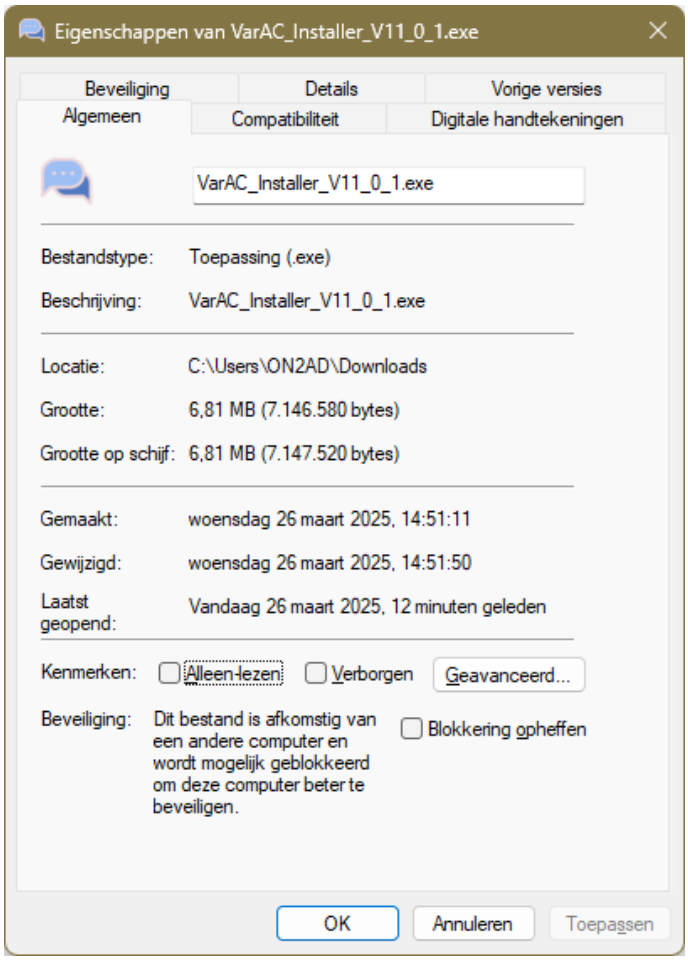
They are two versions to download.
A ZIP version and an Installer version.

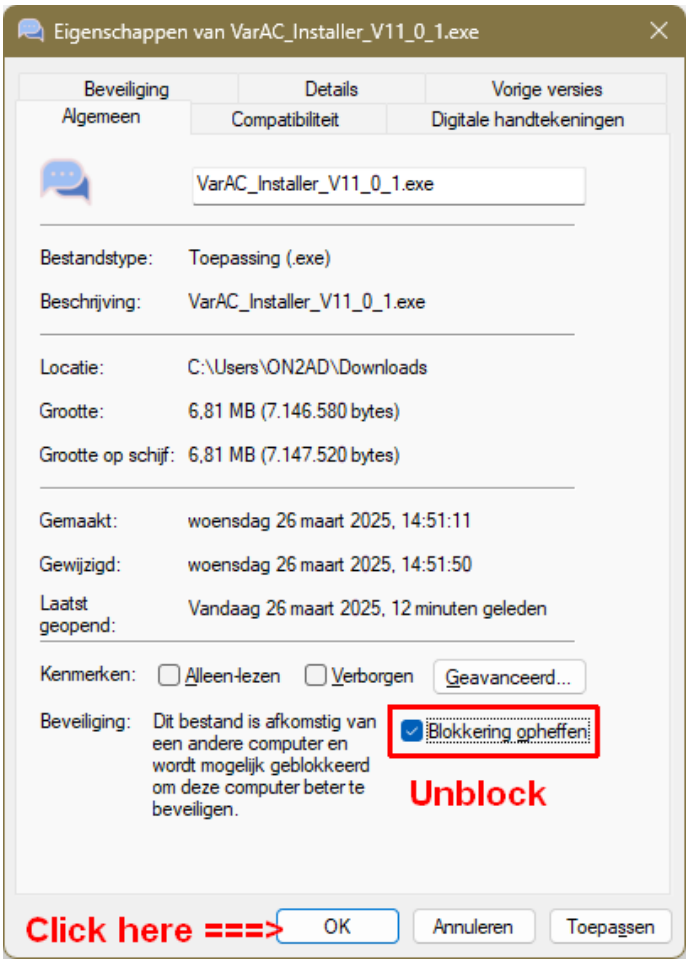
Please try also the installer.

On fresh installs it will now try to install in C:\VarAC as many people encountered issues with the installation under the "Program Files" directory.

VarAC install

Installer version





Click on the VarAC_Installer_V11_0_1.exe or higher for install this version.
After this following the instructions of the Installer version

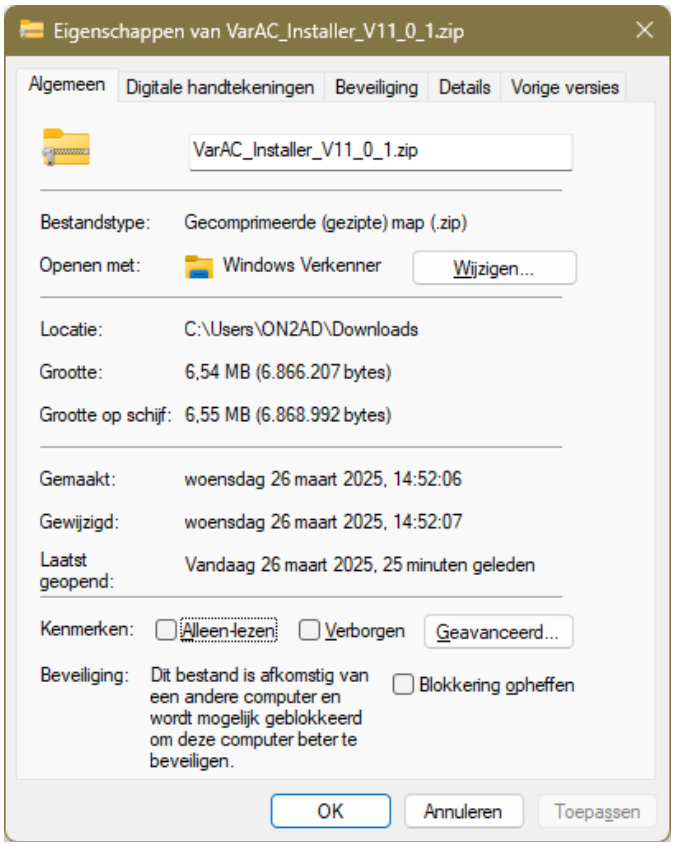
ZIP version

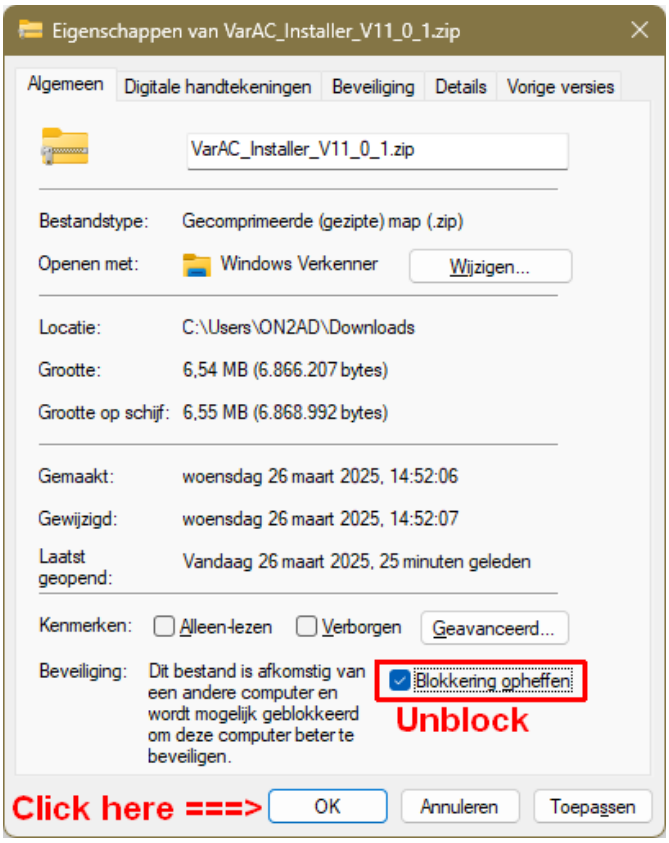
After these files are downloaded, they must be unblocked
Select the file with the right mouse button

Now with the left mouse button, click Properties

Select properties from the drop-down menu.
If a button marked with Unblock is visible on the General menu, this file is blocked.

Click the Click the Unblock checkbox, and then click OK to unblock the file

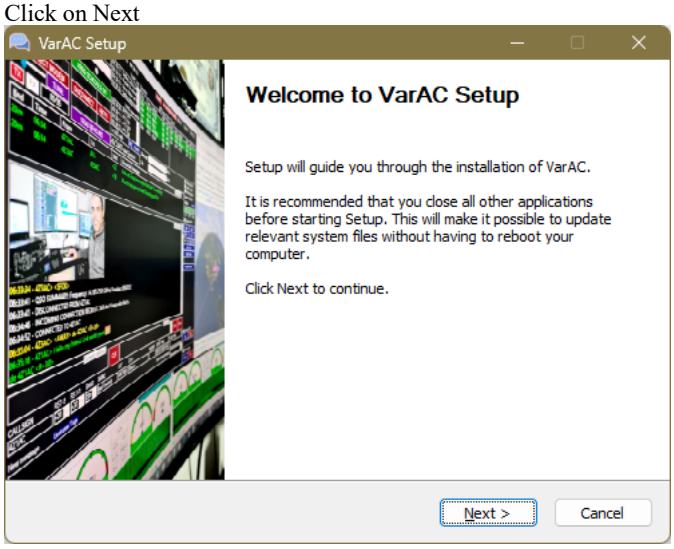




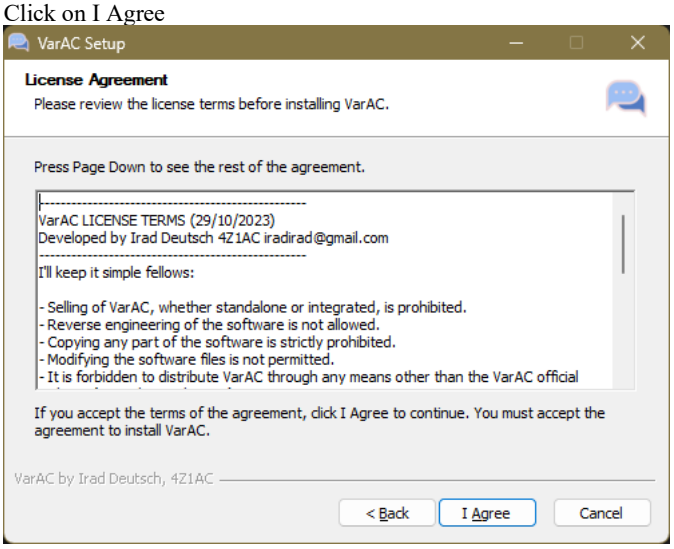
Install of the Installer version

Click on the VarAC_Installer_V11.0.1.exe or higher for install this version.

Click on Next

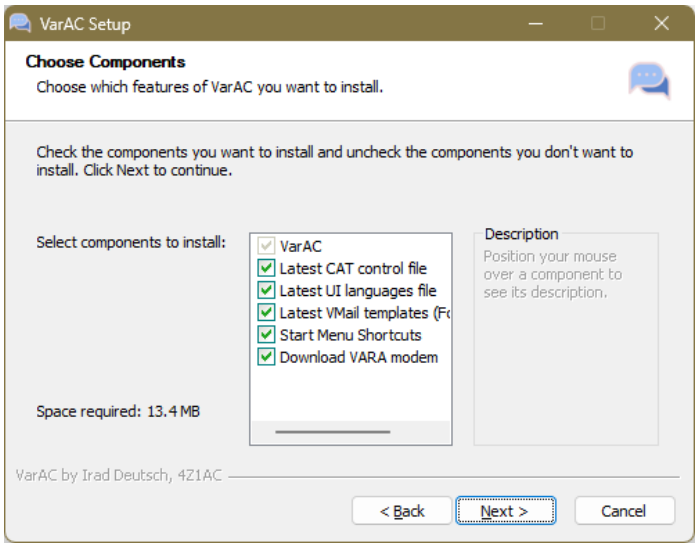


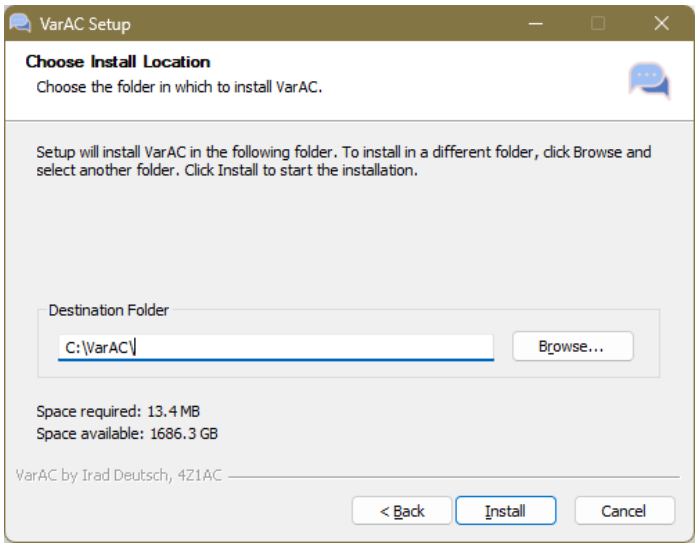
Click on I Agree

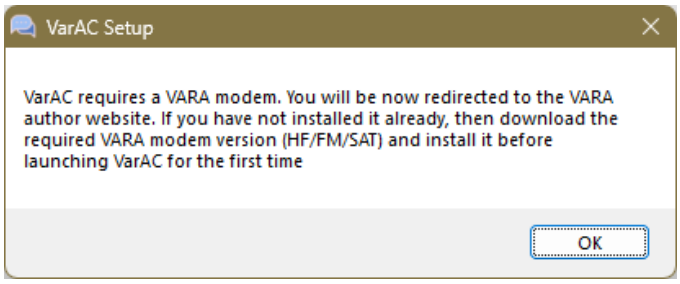


Latest CAT control file: Deploy the latest CAT control file with Rigs.
IF you already personalized your CAT file, do not deploy this.
Start Menu Shortcuts: Create a shortcut links on the desktop and start menu.
Download VARA modem: VarAC relies on the VARA modem to operate. Redirecting you to the VARA modem author website.

Now choose the destination folder where you want to install VarAC.
The default folder is:
C:\VarAC
but you can also install VarAC in another folder.
I install VarAC in:
E:\HAM\VarAC-HF\VarAC\
Now click Install.

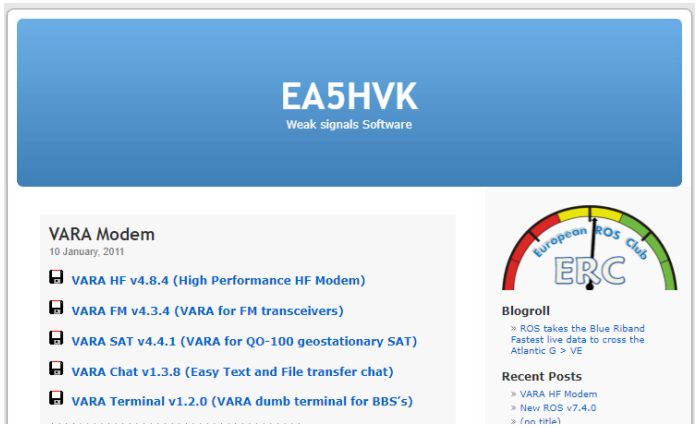






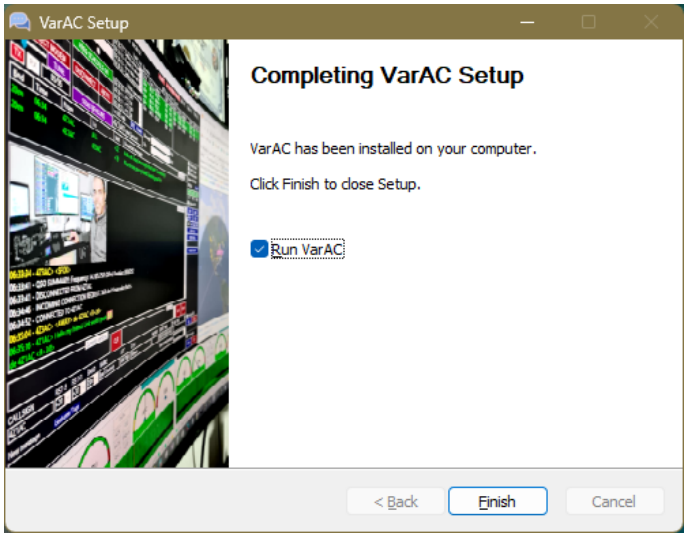
After you click on OK the website of the VARA author will open, and you can download and install the VARA modem.

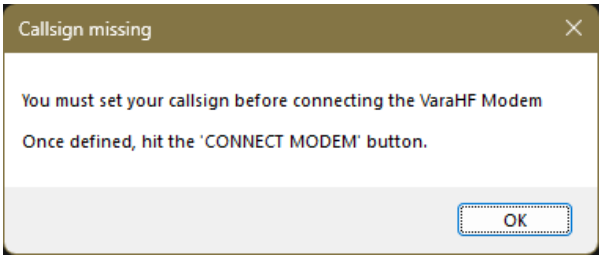
For install the VARA modem see VARA



Click on Finish

By the first start of VarAC you will see the next window.
Click on OK.





Files

After install you will find the following files:
Note: Files with a "*" are generated with the install version

	File	Info
	Backup	This folder will install after the first setup.
*	Licence.txt	License info
*	PSKReporter.dll	The PSKReporter dll file for the PSKReporter to function
*	Uninstall.exe	Uninstall VarAC
*	VarAC.exe	The VarAC program
*	VarAC.manifest	The manifest is a file that is used only during the install. allowing windows to set the right permissions on the VarAC.exe file to make it run as administrator by default as not running as administrator can cause issues
*	VarAC_cat_commands.ini	The VarAC CAT Commands
	VarAC_templates.ini	See VarAC templates
*	VarAC_UI_languages.ini	Select your languages

The following files are generated at the first start of the mailbox and traffic:

	File	Info
*	VarAC.db	Database for Broadcast, VMail, Beacons and CQ messages
*	VarAC.ini	The VarAC ini file
*	VarAC.log	Program events log
*	VarAC_alert_tags.conf	VarAC_alert_tags configuration
*	VarAC_auto_qsy_allowed_frequencies.conf	See Auto_QSY_Allowed_Frequency_Ranges
*	VarAC_frequencies.conf	The VarAC preset frequency which one can also adjust See Calling Freq.
*	VarAC_frequency_schedule.conf	The schedule list
	VarAC_mailbox.mbx	The mailbox
	VarAC_traffic.log	The RX and TX traffic log
*	VarAC_callsign_tag.conf	Callsign tags are brief texts displayed alongside a callsign in the Last Heard CQ or Beacon sections. They can serve as 'friendly identifiers for callsigns or represent role names in emergency communication(EMCOMM) operations, where each station is assigned a specific role(e.g., HQ).

The following files are generated if you setup a separate ini file like in the example one for the Kenwood and the FT-991A:

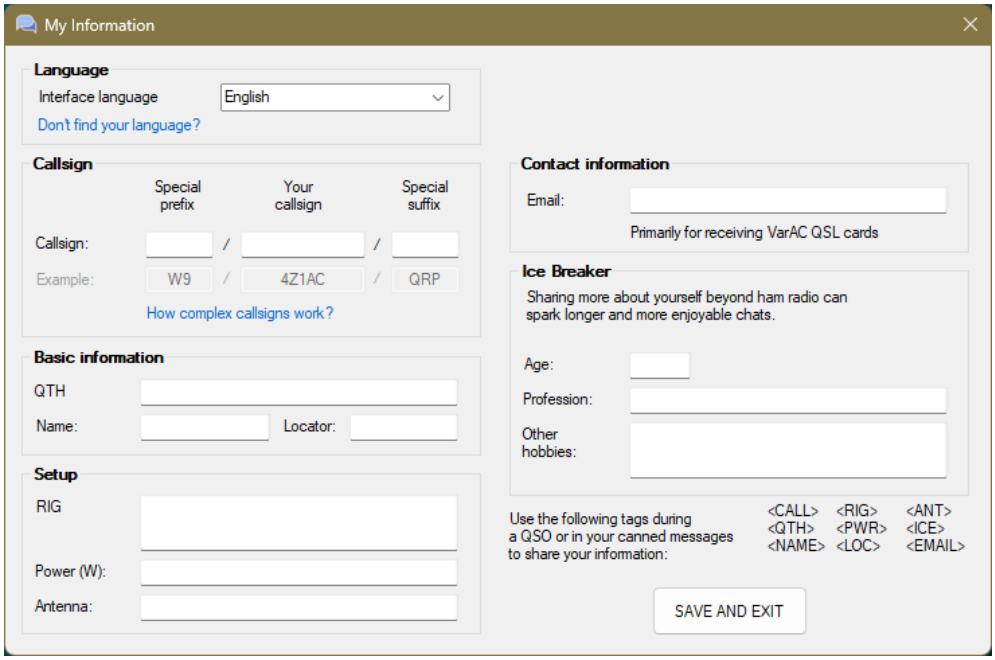
File	Info
VarAC-Kenwood	Ini file for the Kenwood
VarAC-FT991A	Ini file for the Yaesu FT-991A

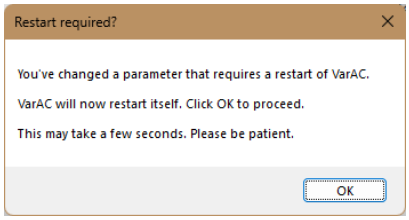
With a new installation of VarAC and starting it up, the following screen will appear where you can enter personal information.
See My Information

See How complex callsigns work?

When everything is filled in click on "SAVE AND EXIT" and another info screen will appear. Click OK.
See second image

When overwriting an older version of VarAC, this screen will no longer appear because this data already exists.





Change the language to yours

See My Information

Ice Breaker

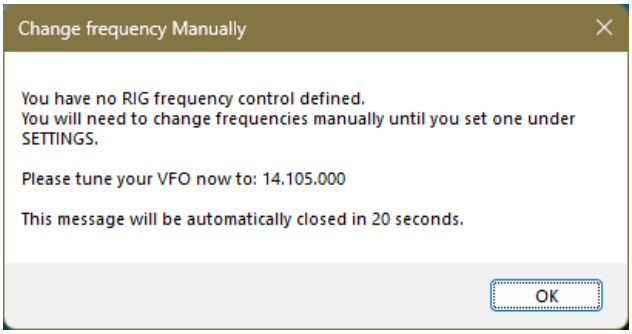
Sharing more about yourself beyond HAM radio can spark longer and more enjoyable chats.

After the restart, a new notification screen will appear.

You have no RIG frequency control defined.
You will need to change frequencies manually until you set one under SETTINGS.

Please tune your VFO now to: 14,105.000

This message will be automatically closed in 20 seconds.



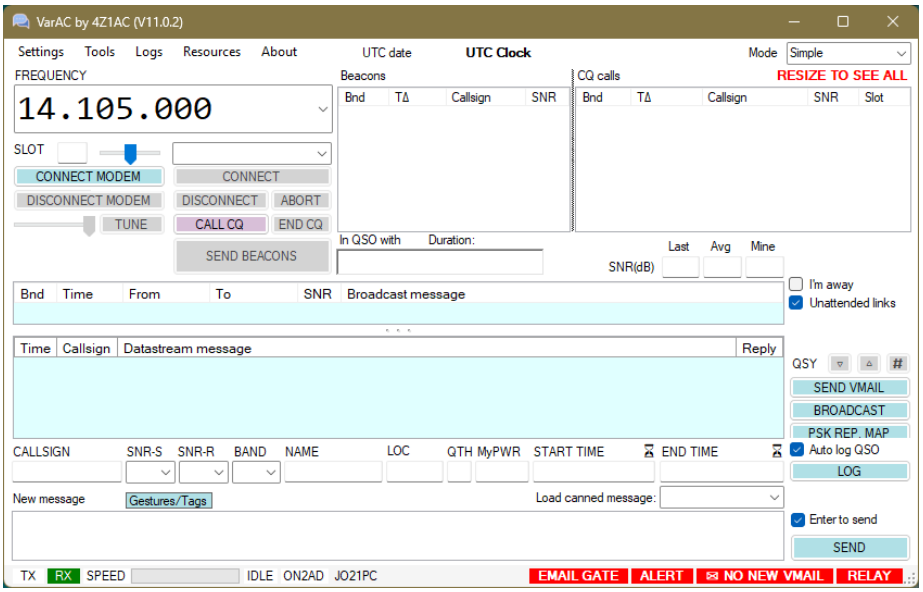
Note:

If you did not install VarAC in the default folder, don't forget to change this in the Menu – Settings – PTT and VARA Configurations by VARA-HF/FM main config path the same for the VARA-HF/FM monitor config (Optional)

Customize VarAC window

Simple mode

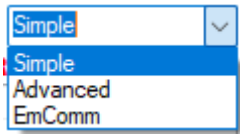
If everything is installed correctly then start VarAC in the Simple modus (Advanced mode not enabled) and this is the next screen.



After you have enabled the Simple mode and if for some reason you have resized the VarAC window size then a red warning will appear in the top right corner to adjust this window to see all elements

RESIZE TO SEE ALL

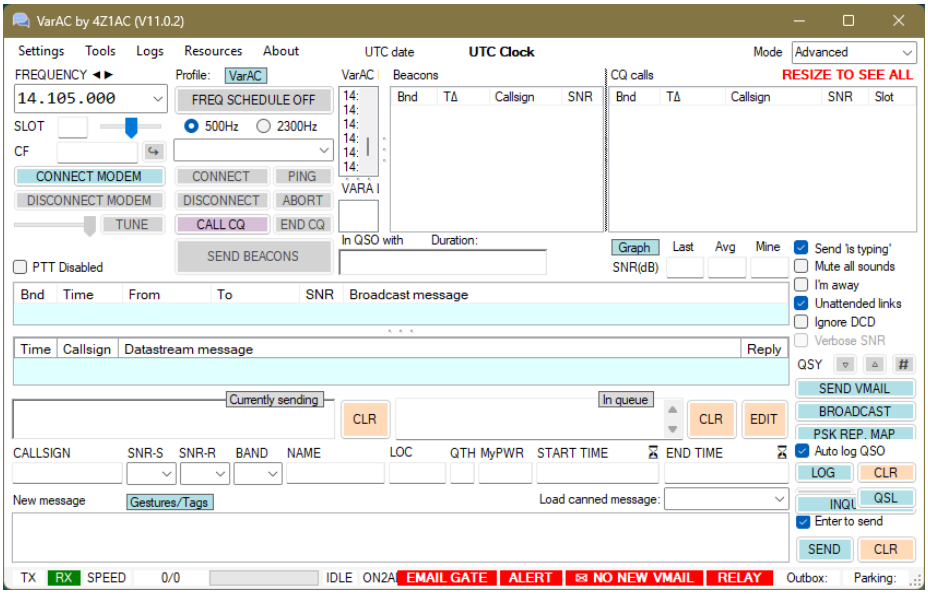
Select **Simple**



See UnattendedFiles IMPORTANT

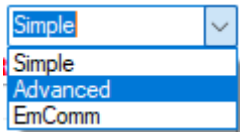
Advanced mode

After you have enabled the Advanced mode and if for some reason you have resized the VarAC window size then a red warning will appear in the top right corner to adjust this window to see all elements



RESIZE TO SEE ALL

Select **Advanced**



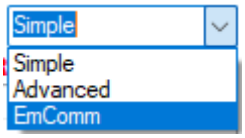
See UnattendedFiles IMPORTANT

EmComm mode

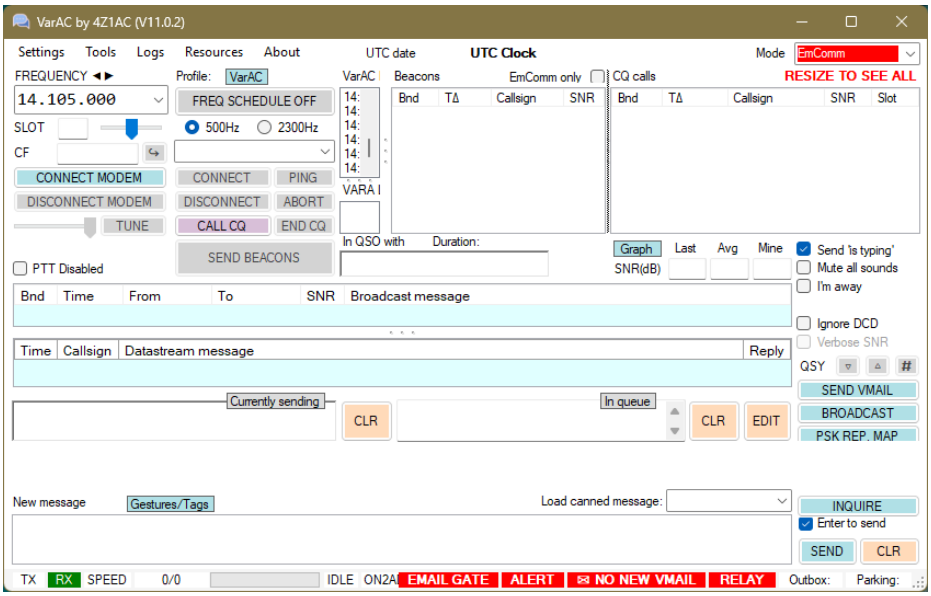
After you have enabled the EmComm mode and if for some reason you have resized the VarAC window size then a red warning will appear in the top right corner to adjust this window to see all elements

RESIZE TO SEE ALL

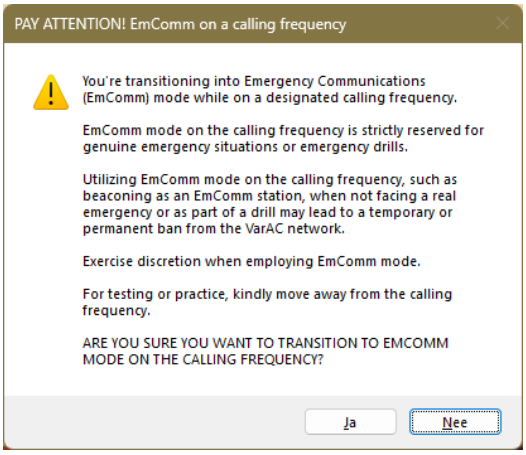
Select **EmComm**



See UnattendedFiles IMPORTANT



If you select the EmComm Mode then read this PAY ATTENTION message



You are switching to Emergency Communications (EmComm) mode while on a designated calling frequency.

EmComm mode on the calling frequency is strictly reserved for real emergencies or emergency drills.

Using EmComm mode on the calling frequency, such as beaconing as an EmComm station, when not in a real emergency or as part of a drill, may result in a temporary or permanent ban from the VarAC network.

Use caution when using EmComm mode.

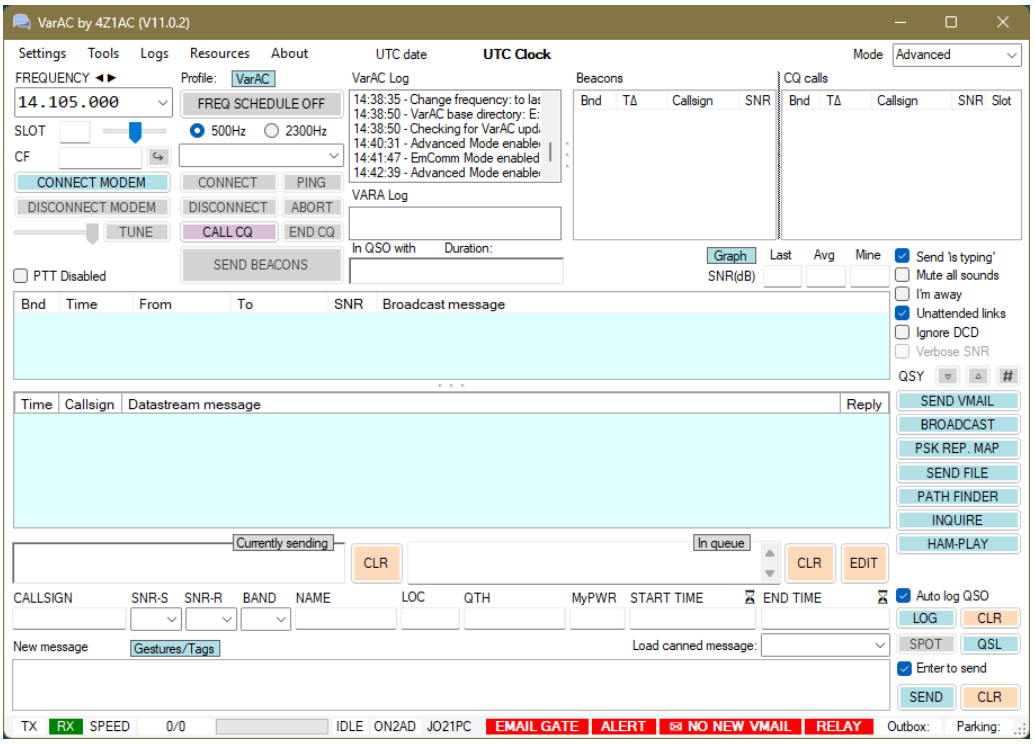
Move away from the calling frequency for testing or drills.

Are you sure you want to switch to EmComm mode on the calling frequency?

More info about EmComm are here
More info about EmComm VMails are here

Resize to see all

After adjusting to a larger size, the
RESIZE TO SEE ALL
text disappears for all the three modes:
Simple, Advanced and EmComm



New version indicator

VarAC will keep you informed about updates.
A new indicator in the top right corner will illuminate when a new version becomes available.
Clicking the link will direct you to the VarAC website, where you can download the latest version.

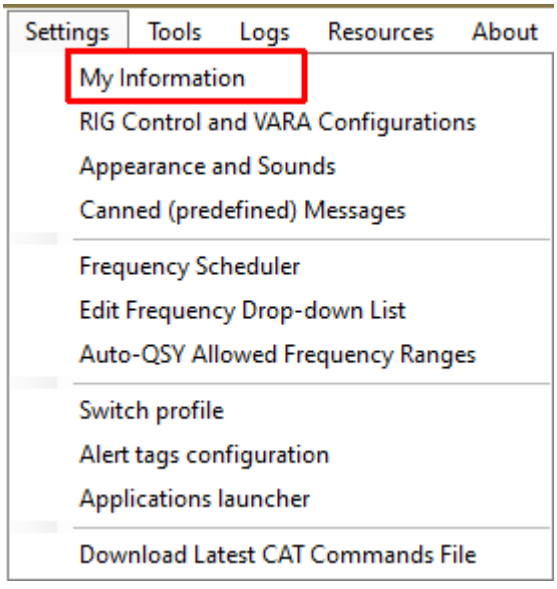


Main menu

VarAC settings

Start VarAC and fill in all the needed info in the “My Information” or go to the Settings/My Information menu

My Information

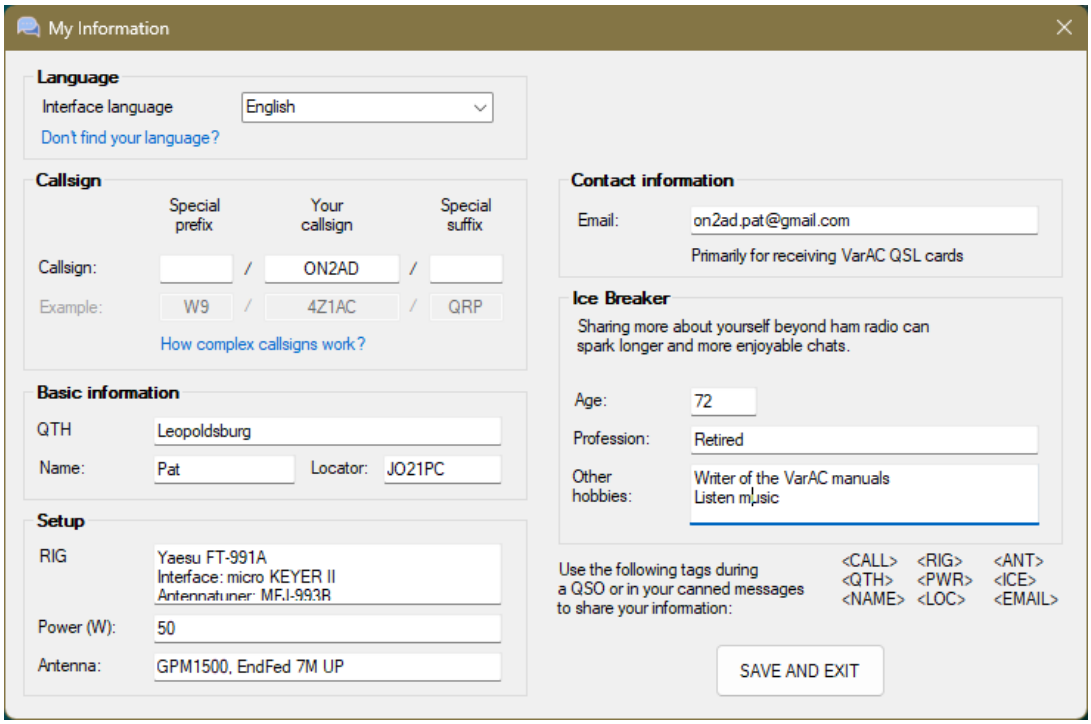


Click the Settings menu
And then on "My Information" and fill in the fields used in the "Canned messages".

The following tags can be used in canned messages:

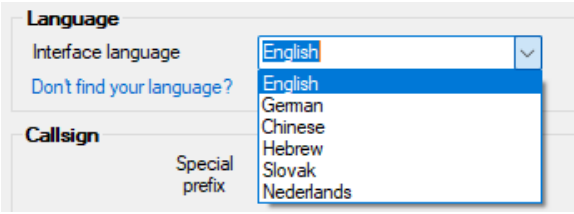
<CALL>	this will automatically fill in your own callsign.
<QTH>	this will automatically fill in your QTH.
<NAME>	this will automatically fill in your name or nickname.
<LOC>	this will automatically fill in your locator.
<RIG>	this will automatically fill in your equipment.
<PWR>	this will automatically fill in your power.
<ANT>	this will automatically fill in your antenna info’s.
<ICE>	this will automatically fill in your personal info’s.
<EMAIL>	this will automatically fill in your e-mail info.

Remark: Click SAVE AND EXIT to Save your settings



Language setup

Select your language by click on the Interface language selector, and the VarAC UI will change to your selected language.



Don't find your language

The VarAC UI translation are made possible by dedicated members of the VarAC community who generously contribute their time to translate the VarAC UI into their native languages.

This is an ongoing initiative, and additional VarAC screens will continue to be translated into various languages.

If your language is not currently listed, and you wish to contribute to the VarAC project, please send an email to iradirad@gmail.com , specifying the language you would like to translate.

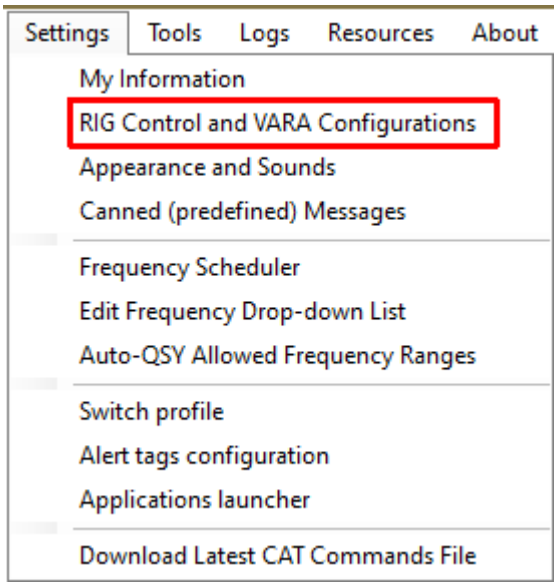
How complex Callsigns work?

VARA modem supports only plain callsigns.
However, with VarAC you can define a complex callsign such as W/4Z1AC/QRP.

VarAC will use your plain callsign during the connect phase, and if a complex callsign is defined, it will be sent right after the connection is established and will be reflected on the other console.

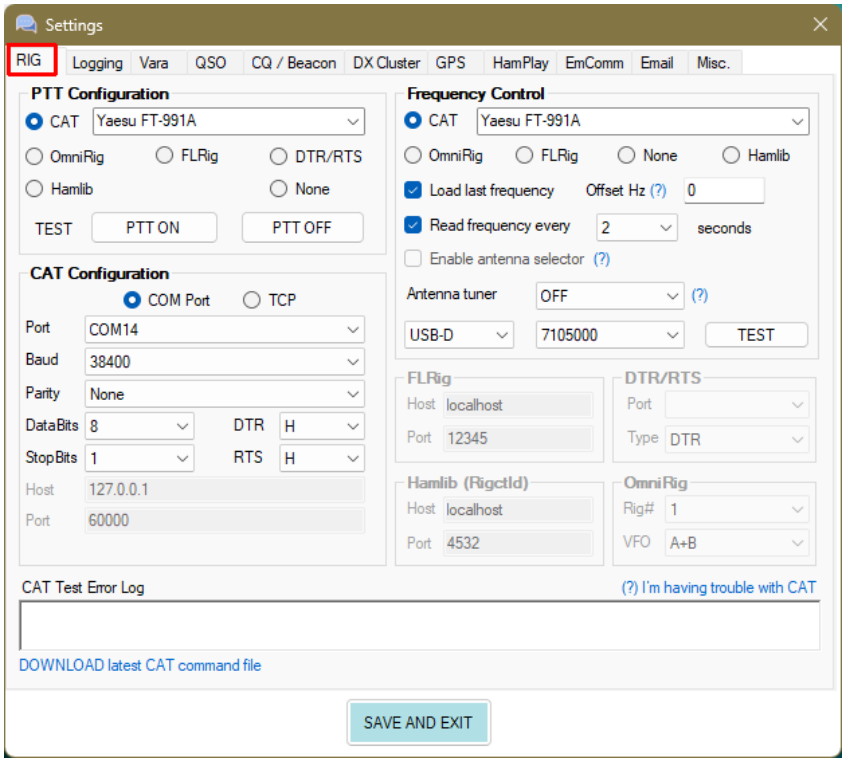
PLEASE NOTE:
CQ and BEACONS will show your plain callsign only.

RIG Control and VARA Configurations



Click on the settings menu.
RIG control and VARA Configurations
And a new window opens.

RIG



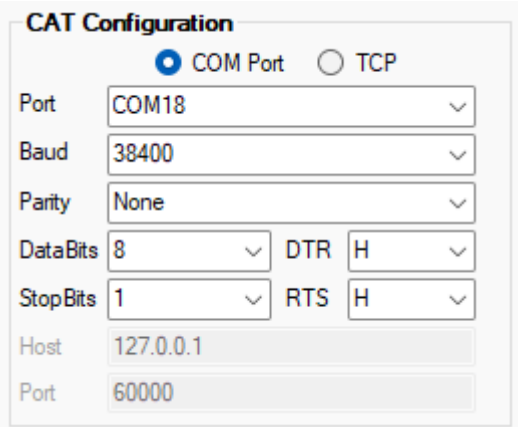
PTT Configuration

If you will use:

CAT	Select CAT and select your transceiver.
OmniRig	Select OmniRig see OmniRig
FLRig	Select Flrig if you will use the FLRig as your PTT interface.
DTR/RTS	Select DTR/RTS if you will use it.
Hamlib	Select Hamlib if you needed. VarAC now offers compatibility with Hamlib by using the rigctld TCP-based daemon.
None	None is not recommended.
Test PTT ON	To test whether the transceiver is transmitting.
Test PTT OFF	To stop transmitting.

CAT Configuration

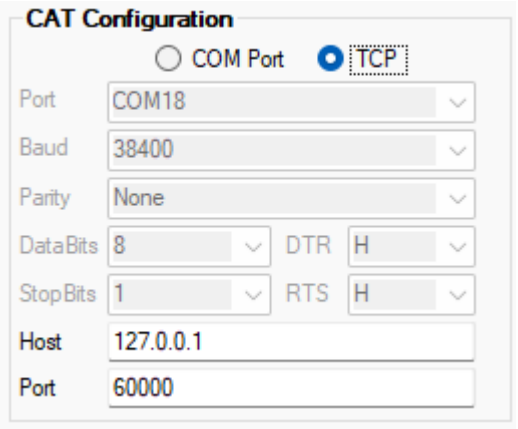
CAT Port connecting



COM Port: Connecting via the COM Port.
TCP: Connecting via TCP.

Port: Select your COM port.
Baud rate: Select your Baud rate.
Parity: Select your Parity
Data bits: Select your Data bits
Stop Bits: Select your Stop bits
DTR: Choice of **L** (LOW) and **H** (HIGH)
RTS: Choice of **L** (LOW) and **H** (HIGH)

TCP connecting



TCP: Connecting via TCP based CAT control (For all modern SDRs)

Host: 127.0.0.1
Port: 60000

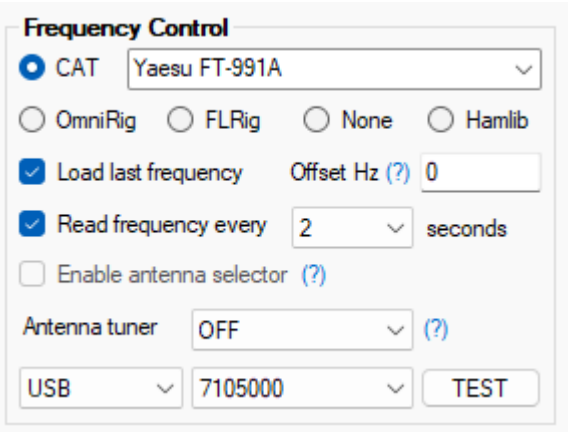
Slow BAUD rate transceivers

There is a parameter in the VarAC.ini file to set the amount of time to wait for a CAT command to complete. default is 100ms. you can increase where necessary in rare scenarios.

```
PortWaitTimeMs=100
```

Frequency Control

CAT Frequency Control



CAT	Select your transceiver
OmniRig	see OmniRig.
FLRig	Start the Flrig and select Flrig as your PTT interface see FLRig configuration
None	No setting
Hamlib	With this setup you will use Hamlib frequency control see Hamlib Configuration
Load last frequency	Your last used Frequency. will upon by startup
Offset Hz	see Offset Hz
Read Freq. Every xx sec	When selected, the frequency will be monitored at the set time
Antenna tuner	see Antenna tuner
Enable antenna selector	See Antenna selector
Mode	Select the transmitter mode, for the FT-991A, the choice is USB, USB-D (USB-DATA) or FM
TEST	Click on TEST and if everything is set correctly then the transceiver frequency will change.

Offset HZ

Some RIG's VFO's are not well calibrated and has a certain offset (drift) from the real frequency.
Set this offset in HZ (ex: 200 or -200) and every time VarAC will change your RIG frequency, it will adjust it according to your offset.
Set to "0" (zero) to disable these features.

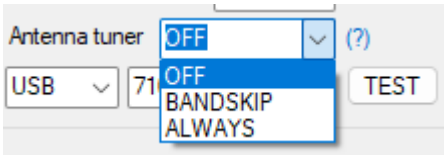
Please note:
If you enable this feature, disable the "Read frequency" checkbox so VarAC will not read your RIG offset frequency, which will mess with the VarAC ability to perform its asks.

Antenna tuner

VarAC can activate your antenna tuner option on your RIG when you change frequencies.
This option is available only to users who control their RIG using direct CAT control or through FLRig.
Omnirig does not provide with a tune option.
If your RIG supports this option through CAT command but VarAC does not provide you with this option, you can manually edit the "VarAC_Cat_commands.ini" and add a CAT command to the "AntennaTuner = " parameter under your Rig section.
Please notify us through the support forum so we can add it to all users.

You have three options:

OFF: Auto tuner OFF.
ALWAYS: Tune every time you change frequency.
BANDSKIP: Tune only if you change band.



Antenna selector

Some Rigs are capable of working with multiple antennas. For these rigs, you can enable a feature that automatically sends a command to switch to the appropriate antenna whenever you change bands in VarAC.

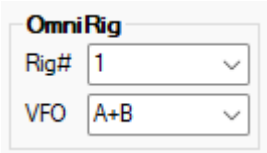
To enable this feature, you must manually edit the "VarAC_cat_command.ini" file and add a paremeter in the following format:
AntennaBand_XXXX=YYYY

For example:
AntennaBand_20m=AN1;

VarAC will execute this command each time you switch bands.

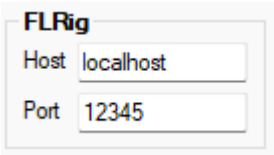
Please note:
This feature is available only when using direct CAT rig control.

OmniRig Configuration



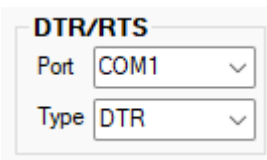
Select **OmniRig**
Select the right Rig see also info about the OmniRig
Select VFO: A+B, A, or B

FLRig Configuration



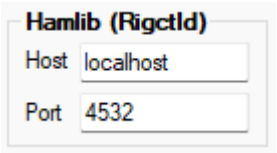
The **Flrig** setup are:
Host: 127.0.0.1 or localhost
Port: 12345

DTR/RTS Configuration



Select **DTR/RTS**
Select your **COM port**
Select **Type DTR** or **RTS**

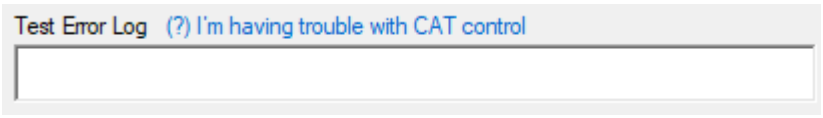
Hamlib Configuration



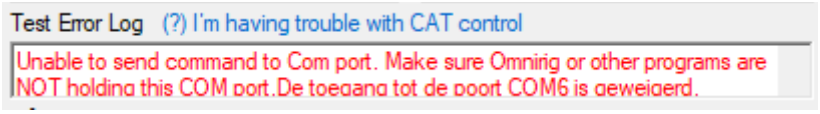
Select **HamLib (Rigctld)**
Select your **Host**
Select your **Port**

CAT Test Error Log

In normal circumstances if everything is configured correctly this window will remain empty



If there are conflicts, they will be displayed in the same window, see below.



I am having trouble with CAT control

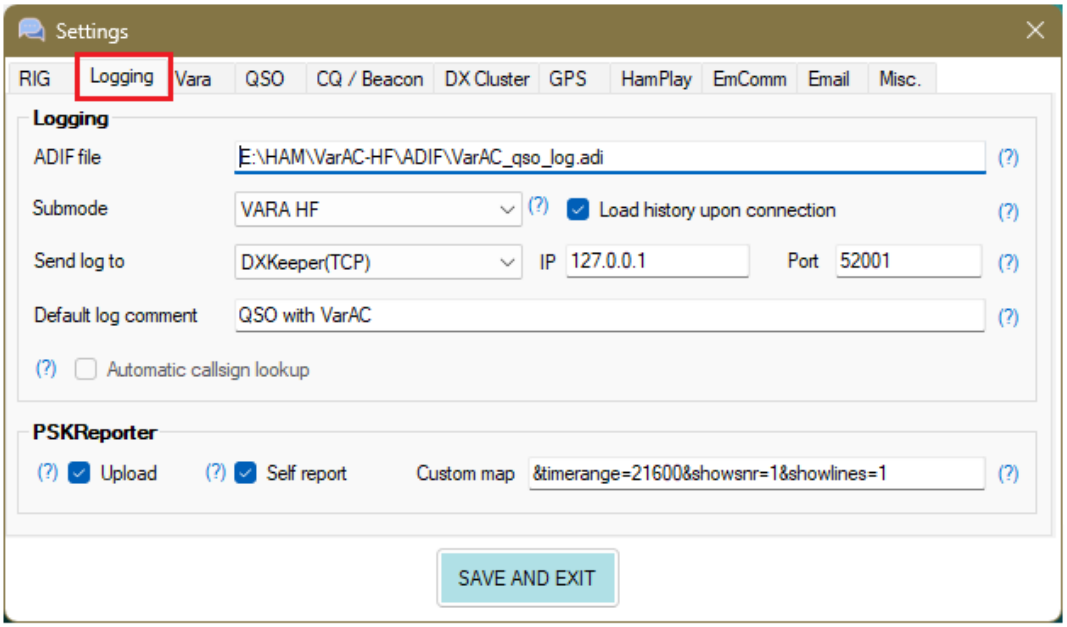
Please make sure you have the most recent CAT command file at
https://www.varac-hamradio.com/rig-control-file

As there are so many Rigs out there, it takes time to develop and validate against each one.
But no worries, if you cannot find your RIG here or if you fail to configure it with CAT control, you can always use OmniRig to control both of your PTT and frequency.

Logging

VarAC can send your QSO record in real-time to an external logger such as DXKeeper, N3FJP etc… using both TCP & UDP protocol.

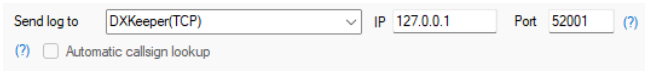
The default port number for your selected logger is automatically populated, however you can change it manually.



ADIF file path	VarAC stores all your QSO's in an ADIF format file. You can configure the ADIF file path according to your preferences.
Submode	See Submode
Send log to:	See Log programs
Load history upon connection	See Load history upon connection
Automatic callsign lookup	See Automatic Callsign lookup
IP	See IP and Port
Port	See IP and Port
Default log comment	See Default log comment

Log programs

Send log to	*Protocol*	*IP*	*Port*
NONE	-	-	-
DXKeeper	TCP	127.0.0.1	52001
HRD Logbook	UDP	127.0.0.1	2333
Log4OM	UDP	127.0.0.1	1200
N1MM	TCP	127.0.0.1	52001
N3FJP	TCP	127.0.0.1	1100
Swisslog	TCP	127.0.0.1	52001
UcxLog	UDP	127.0.0.1	2237
Winlog32	UDP	127.0.0.1	12060
Logger32	TCP	127.0.0.1	52001



Submode

The ADIF committee has decided to classify VARA as a set of sub mode's under a generic mode called "DYNAMIC".

The supported ADIF classifications are:
Mode: DYNAMIC
Submode: VARA HF
VARA FM 1200
VARA FM 9600
VARA SATELLITE

VarAC will write to the ADIF file the submode based on your modem type VARA HF / VARA SATELLITE /VARA FM 1200 / VARA FM 9600

Most of the QSO logging programs follow the ADIF guidelines so it is recommended to keep up with the ADIF standard.

Load history upon connection

When VarAC is linked to a station, it will query its database for any preexisting.
Information about that station, such as its Name, QTH, and Locator.
If such data is found, it will be automatically inserted into the LOG section.

IP and Port

VarAC can send your QSO record in real-time to an external logger using both TCP & UDP protocol.
The default port number for your selected logger is automatically populated. However, you can change it manually.

Do you want to read the VarAC-Logger integration guide? See also Logbook programs

Default log comment

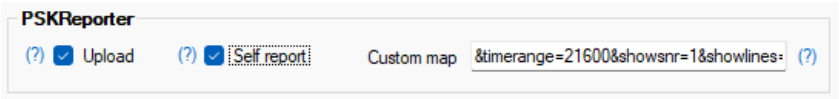
When logging a QSO, you can specify a default text to be automatically added as a comment to the QSO data.

Automatic callsign lookup

Some loggers support a real-time callsign lookup. Upon connection, VarAC will ask your logger application to Perform a callsign lookup and present in the logger application all the information about it including QRZ.com info, earlier QSO's etc.

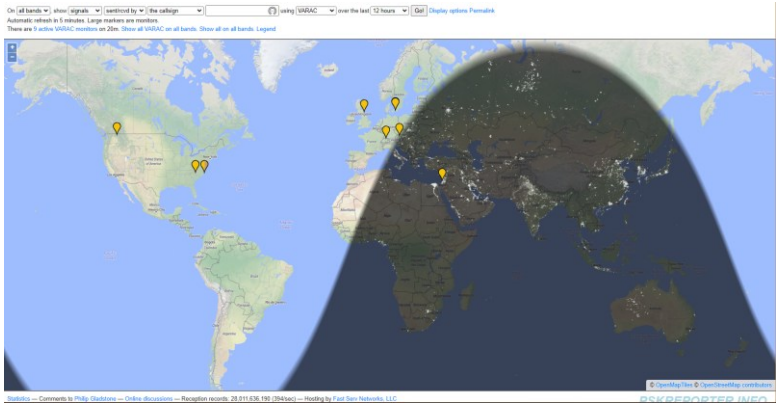
Please note that you need to enable this feature also on your QSO logger application.

PSKReporter



Upload See Upload to PSKReporter
Self report See Self report
Custom map See Custom map

Upload data to PSKReporter



If this function is checked, your data will be forwarded to the PSKReporter.
[Display Reception Reports (pskreporter.info)]

PSKReporter is a website that aggregates spots from various logging programs.

VarAC can upload all stations you spotted to PSKReporter.

Please note that spots are uploaded to PSKReporter will be visible under the mode name : “VARAC”

Self report

Let people know that you are active on a frequency without being noticed by sending a beacon or a CQ Call.
Every time you change the frequency, a self-report to PSKReporter will be sent.

PLEASE NOTE: Self report will only be sent after staying at least 60 seconds on the same frequency.
In addition, while on the same frequency, a self report will sent every 14400 seconds.

Custom map

PSKReporter offers a variety of options to customize the map.
The VarAC PSKReporter buttons is activating a link which is composed of two elements.

A static one:
Https://pskreporter.info/pskmap.html?preset&callsign=YOURCALL&mode=VARAC

And dynamic one that is concatenated to the static one which contains the customization options.
The VarAC default dynamic element is:
&timerange=21600&showsnr=1&showlines=1

Change your PSKReporter map preferences but changing this link.
So next time you click the button "PSKReporter MAP" it will open the way you want it to.

To find it more about PSKReporter customization options, open the PSKReporter map, click "Display options" at the top right, and set your preferences. Then click the "Permalink" to see the results.

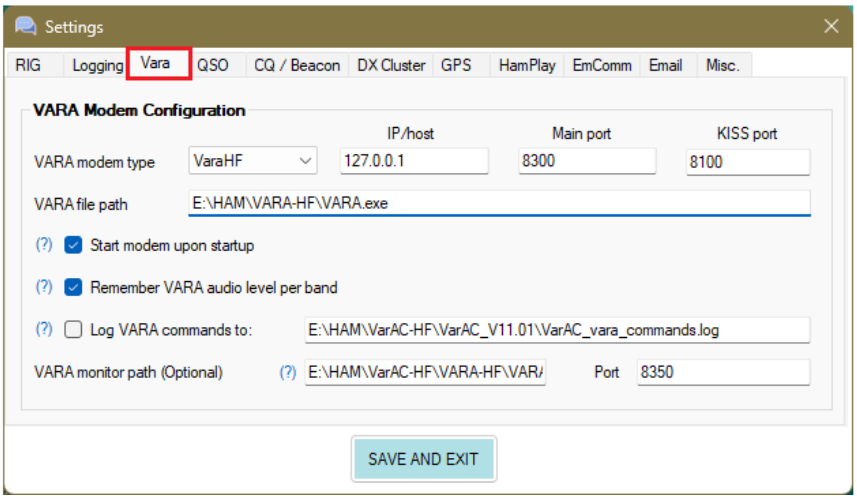
Once you are happy, copy the website URL aside and paste only what comes after the Mode = VARAC to this settings field.

Note

It is an part of the PSKReporter that you can see which version of VarAC some people are using (not only VarAC) see at:
https://pskreporter.info/cgi-bin/pskstats.pl and select VarAC V

Vara

VARA Modem Configuration



VARA modem type	Choice between, VaraHF, VaraFM or VaraSAT.
IP/host	IP address. Default: 127.0.0.1
Main Port	put the port number here
KISS port	see VARA setup
VARA file path	select where the VARA.exe is located
Start modem upon startup	Disable/Enable Vara modems launch upon VarAC startup see Start Modem upon startup
Remember VARA audio level per band	See Remember VARA audio level per band
VARA-Monitor Path (Optional)	see Vara Monitor Path
Log VARA Commands to	See VARA Commands to
Port	put the port number of the VARA monitor here

Start modem upon startup

By default, VarAC will start the VARA modem locally before trying to connect it.
But in case you run the VARA modem on a remote server, then you can disable this from happening by unchecking this box.

Remember VARA audio level per band

Different bands may need varying VARA modem audio levels.
By default, VarAC retains the last audio (TUNE) level associated with each operated band.

Enabling this feature enables VarAC to adjust the audio level when transitioning between bands.

VARA Commands to

VarAC communicates with the VARA modem through a dedicated interface that handles the exchange of commands.
You can log this commends to a file for analysis or debugging purposes.

However, keep in mind that the log can grow large, so it is not recommended to keep logging enabled continuously.

VARA monitor Path

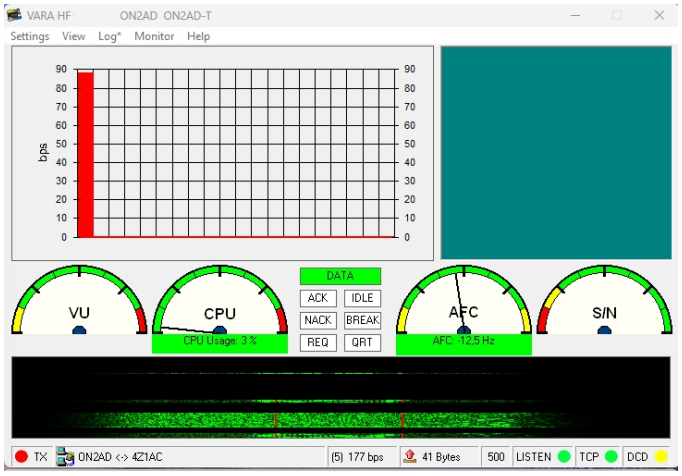
A VARA modem can be configured either in the Ready-To-Connect mode, or the Listening (Monitoring) mode.

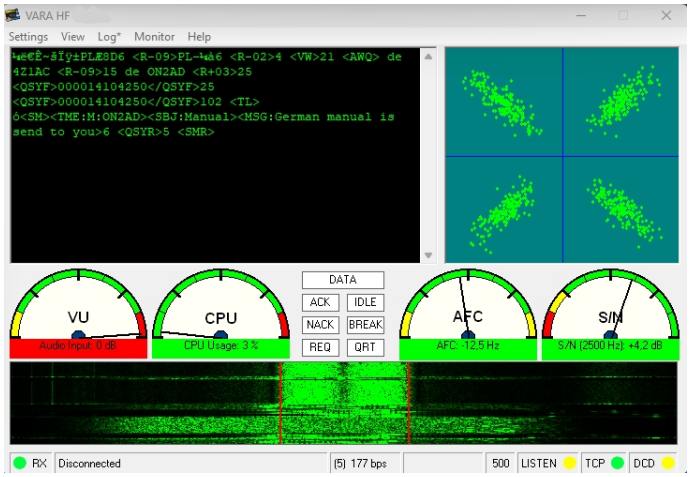
If you wish to be ready for incoming connections and at the same time monitor the frequency for VARA traffic such as ongoing VARA QSO, then you need to run a separate VARA modem instance in Monitor mode.

Simply duplicate your existing VARA modem directory into a new folder, set this path to the new VARA.exe file and VarAC will do the rest.
VarAC will configure the second VARA modem to Run in Monitoring mode upon startup.

If you do not wish you launch a Monitor VARA modem, simply leave this section empty.

Then you see the next:





Remark

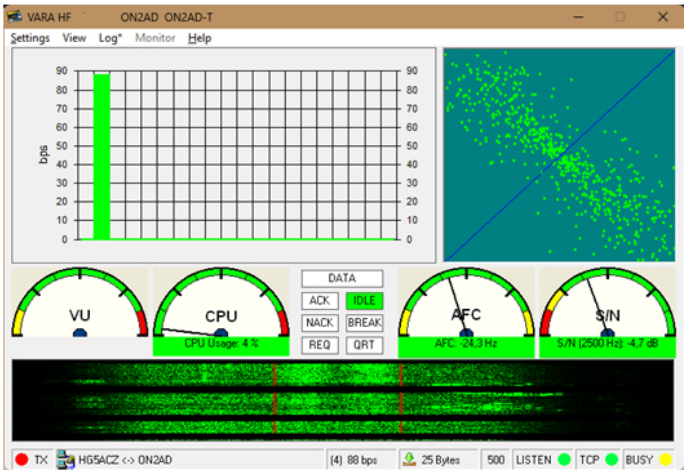
When selecting the VARA-HF/FM Main and the VARA-HF/FM Monitor (Optional) make sure not to select the VarAC.exe, otherwise the program will go in looping loop. I had to experience this myself.

VARA-HF Monitor ON or OFF

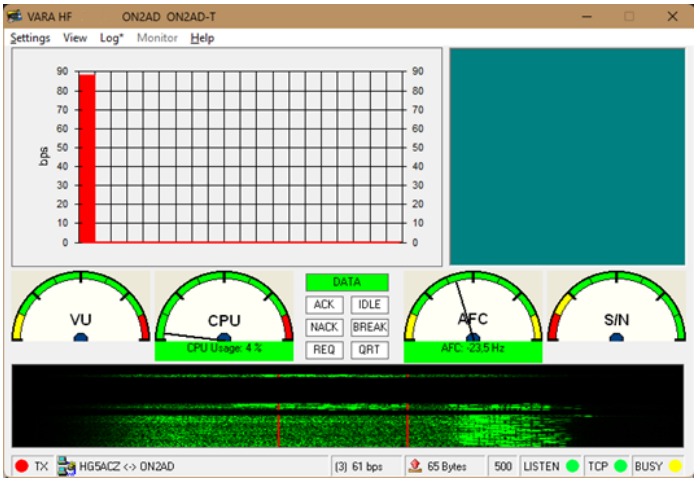
In the VARA-HF you also have the option to monitor the signals and display the received signals in text in the monitor section.

Monitor OFF

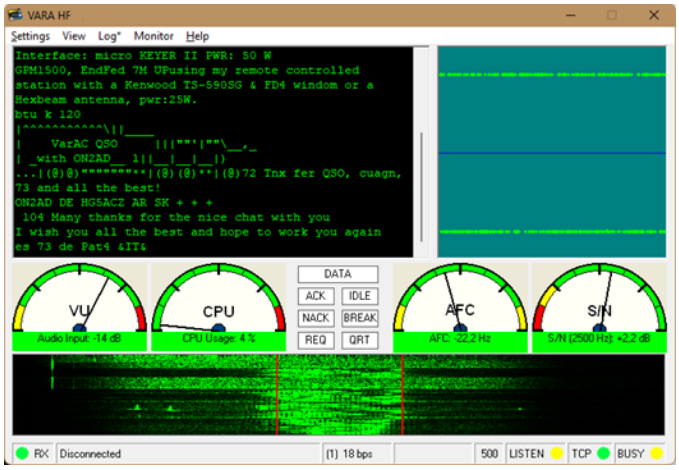
When the transceiver receives the signals, we see in the VARA-HF monitor a green bar that is an indication of the received DATA.



When the transceiver sent the signals, we see in the VARA-HF monitor a red bar that is an indication of the sent DATA



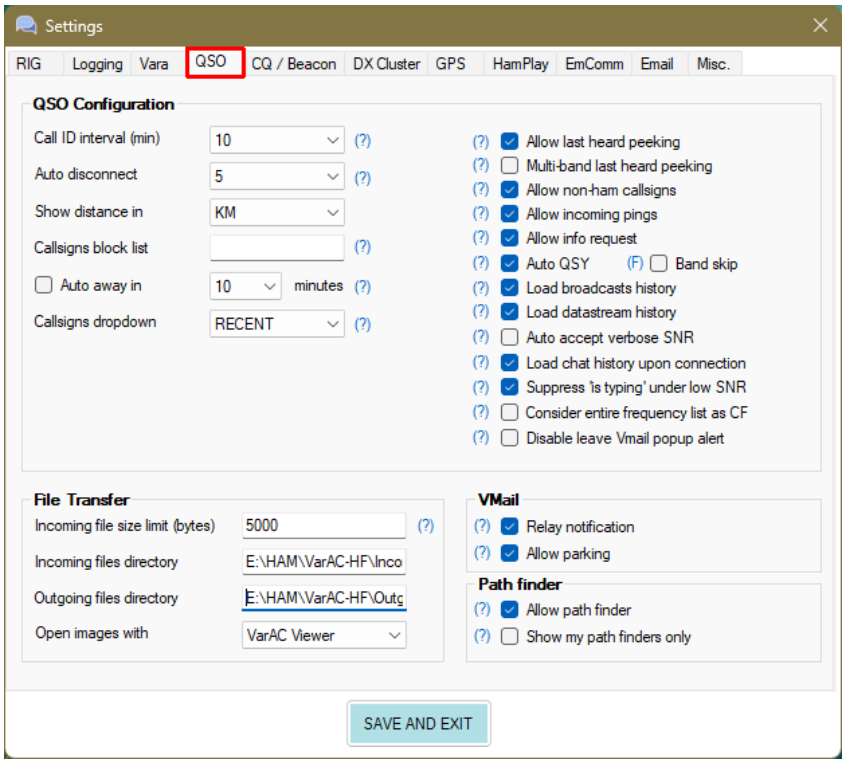
Monitor ON



When the transceiver receives the signals, we see the decoded data in text format in the Monitor screen of VARA-HF..

QSO

QSO Configuration



Call ID interval (min)	see Call ID interval
Auto disconnect	see Auto disconnect
Show distance in	show KM or MI (Kilometre or Miles)
Callsigns block list	see Callsigns block list
Auto away in	see I am Away message minutes: set the time for the Auto away
Callsign dropdown	see Callsign dropdown
Allow last heard peeking	see Allow last heard peeking
Multi-band last heard peeking	see Multi-band last heard peeking
Allow non ham Callsigns	see Allow non Ham Callsigns
Allow incoming pings	see Allow incoming pings
Allow info request	see Allow info request
Auto QSY	see Auto QSY and see Band skip
Band skip	see Band skip
Load broadcasts history	see Load broadcasts history
Load datastream history	see Load datastream history
Auto accept verbose SNR	see Auto accept verbose SNR
Load chat history upon connection	see Load chat history upon connection
Suppress "is Typing" in low SNR	see Suppress "is Typing" in low SNR
Consider entire frequency list as CF	see Consider entire frequency list as CF
Disable leave VMail popup alert	see Disable leave VMail popup alert

Call ID interval (min)

As HAMs, we are required to identify ourselves every few minutes during a QSO. The number of minutes depends on YOUR local regulations.

It also enables other HAMs monitoring frequency to know who is chatting, and once the QSO is over, they can connect to any of the chat parties.

This parameter affects the interval in which a "DE MyCallsign" message is sent over the chat.

Auto Disconnect

Set the time in minutes in which you want to end the inactive connection.

This is useful if you do not want someone to forward you and leave the link open for a long time without sending anything or if you forget that the link is open.

Set this parameter to 0 (zero) if you want to disable this function

Callsigns block list

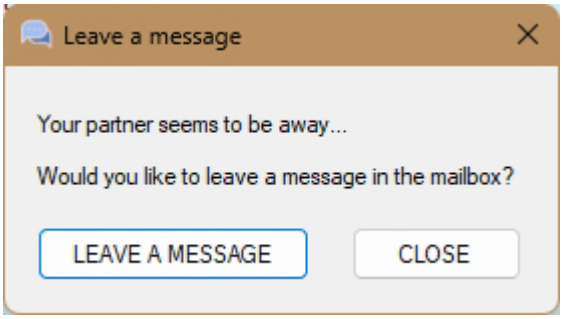
You can tell VarAC to block specific callsigns you do not want to see or connect to.

Type these Callsigns separated by commas.
Those callsigns cannot connect you and will not appear on your last heard lists.

I'm Away message

When you connect to a station that is in "I'm away" status, the following messages appear:
In the first image you see a summary of the connection and in the second image a question appears if you still want to send a message.

15:35:49 - CONNECTED TO KN4PRE
15:35:58 - KN4PRE> <AWAY> Busy taming tigers...Iv a msg? de <FC:Z6/KN4PRE>
15:36:07 - ON2AD> de ON2AD <R+01>
15:36:16 - QSO SUMMARY: Frequency: 14.105.000 (20m) Duration: 00:26
15:36:16 - DISCONNECTED FROM KN4PRE



The AWAY station will automatically send an "<AWAY>" message when it has enabled "Allow incoming pings" in the "Rig Control and VARA configurations" menu in the "QSO Configuration" panel.

Auto away

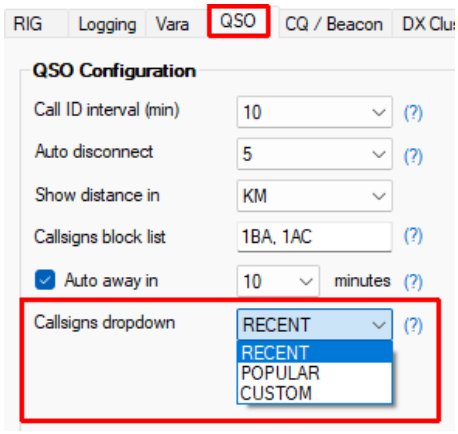
The automatic away mode automatically puts VarAC in the "I'm away" state, if there was not operation performed in the VarAC application for a given amount of minutes.

Callsign dropdown

RECENT:
Displays the callsigns you've recently connected with (excluding Pings), just like before.

POPULAR:
VarAC will populate the list with the callsigns you've linked with most frequently over the past 60 days—perfect for reconnecting with your regular contacts.

CUSTOM:
Allows you to set a fixed callsign list. This is ideal if you want quick access just to friends or, for EmComm teams, just your team's callsigns for streamlined communication.



Suppress "is Typing" in low SNR

"Is typing" events bring a live experience into the chat.
Yet it comes with a price of extra data to be sent.
In the other sides does not copy you well (low/red SNR level)
It may spend earlier QSO time sending this event. So VarAC will not send "Is Typing" events under low SNR levels.

Allow last Heard peeking

You can allow the other party to retrieve your last heard beacons/CQ lists.
It allows your partner to see who you see online.

Multi-band last heard peeking

By default, when a 'Last Heard' request is received, your station will report only the station on the band you are currently tuned to.

To include callsigns from all bands, enable this feature.

In cluster mode, it allows, reporting of stations heard across all active bands in your cluster.

Allow non ham Callsigns

By default VarAC ignores beacons, CQ calls and connection attempts from stations that do not use a valid radio callsign.

We recommend you leave this feature disabled to protect you from non-amateur radio connections attempts.

If you use VarAC for other purposes outside of the amateur radio bands with non-amateur callsigns, you must enable this feature.

Allow incoming pings

Pings are short QSO for the purpose of reports exchange only.
Pings are great to check the link between two stations.

By default, your VarAC will accept ping requests.
You can disable it by unchecking this box.

Allow info request

VarAC allows your QSO partner to retrieve your info, (Name, QTH, Locator)
If you wish to disable this option, then uncheck this box.

Auto QSY

When a QSY invitation is sent or received, VarAC will automatically QSY to the destination frequency.

To prevent an Auto-QSY outside of allowed ranges, VarAC incorporates an Auto-QSY allowed frequency list.
You can Access and edit it though the VarAC Settings" menu "Auto-QSY allowed frequency ranges".

VarAC will also automatically return QSY to the calling frequency when the QSO ends.

Enabling "Band skip" means you approve the band change in automatic QSY.

Note: This feature is enabled only if you configured frequency control.

Load broadcasts history

VarAC keeps all incoming and outgoing broadcasts in its database.

You can ask VarAC to populate the broadcasts section upon startup from the database so if you restart VarAC for any reason, you will still see on screen the previously captured broadcasts.

VarAC will load broadcasts from the past 24 hours.

Load datastream history

VarAC keeps all datastream data (chats and system messages) in its database.

When using tabular mode datastream (enabled by default), you can tell VarAC to populate the datastream section upon startup from its database.

VarAC will load datastream data from the past 24 hours.

Auto accept verbose SNR

Verbose SNR is a great tool to examine propagation during a QSO by sharing an SNR report every minute.

When your partner sends a verbose SNR invitation, your VarAC can automatically accept it.

This is useful if you want to allow stations to perform SNR tests while you are away.

Load chat history upon connection

If activated, upon linking to a station, the data stream will automatically display previous chats you have had with the connected station.

This allows you to conveniently refresh your memory with past correspondence and seamlessly resume the conversation from where you left off.

Consider entire frequency list as CF

VarAC restricts some actions (such as VMail forwarding) on official CF-Calling Frequencies (VarAC official frequencies such as 14.105 MHz) to keep these frequencies clear for Beacons, CQ's, Broadcasts, and Link establishments.

However, VarAC allows you to create custom Calling Frequencies by adding them to the frequency dropdown list.

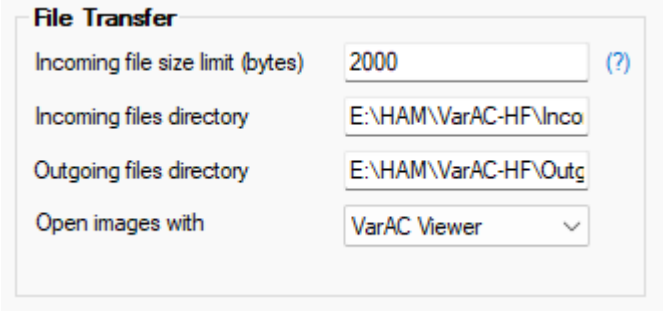
To have VarAC treat all frequencies in the list as calling frequencies and apply the associated limitations to each, enable this option.

Disable leave VMail popup alert

When connecting to an unattended station (in 'Away' status), VarAC will display a popup asking if you'd like to leave a VMail.

You have the option to disable this popup alert.

File transfer



Incoming file size limit (bytes): see incoming file size limit

Incoming file directory: Set the folder for the files to be received.

Outgoing files directory: Set the folder for the outgoing files

Open images with: You can select the VarAC Viewer or the Default OS Viewer.

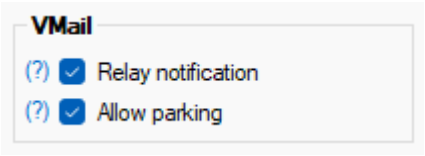
Incoming file size limit (bytes)

You can configure the maximum file size (in bytes) that you want to receive automatically without explicit permission.

While activity in QSO, if an incoming file transfer exceeds this limit, you will asked to approve or reject the file.

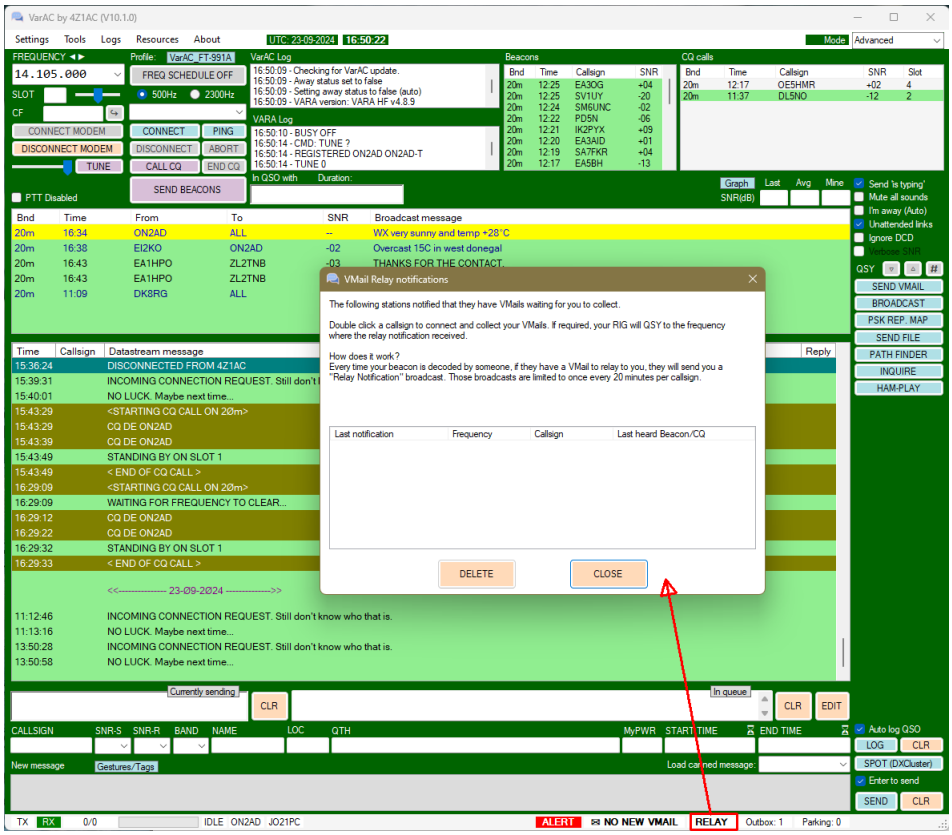
While you are away ("I'm away" status), if someone tries to send you a file that exceeds this limit, it will be automatically rejected.

VMail



Select **VMail**
Relay notification : See VMail Relay
Allow parking : See Allow parking

VMail Relay



When your VarAC hears a beacon of a station, it checks if it has parking VMails waiting for that station.

If there are, it will send a asynchronous packet (broadcast) letting that station know you hold VMails that waiting to be collected.

Your VarAC also receives relay notifications and show you in indication for VMails that are waiting to be collected.

You can enable or disabled this incoming & outgoing notification using this checkbox.

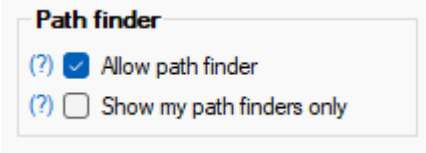
Allow Parking

VarAC allows you to store and forward VMails for third parties.

Users can connect you and leave VMails for third parties.
Your VarAC notifies users about parked (waiting) VMails through the "Relay notification" mechanism, and forward the VMail, once the destination station connects to you.

If you do not which users to park messages on your VarAC due to local regulations or other reasons, you can disable this feature here.

Path finder



Allow path finder : See Allow path finder.
Show my path finders only: See Show my path finders only

Allow path finder

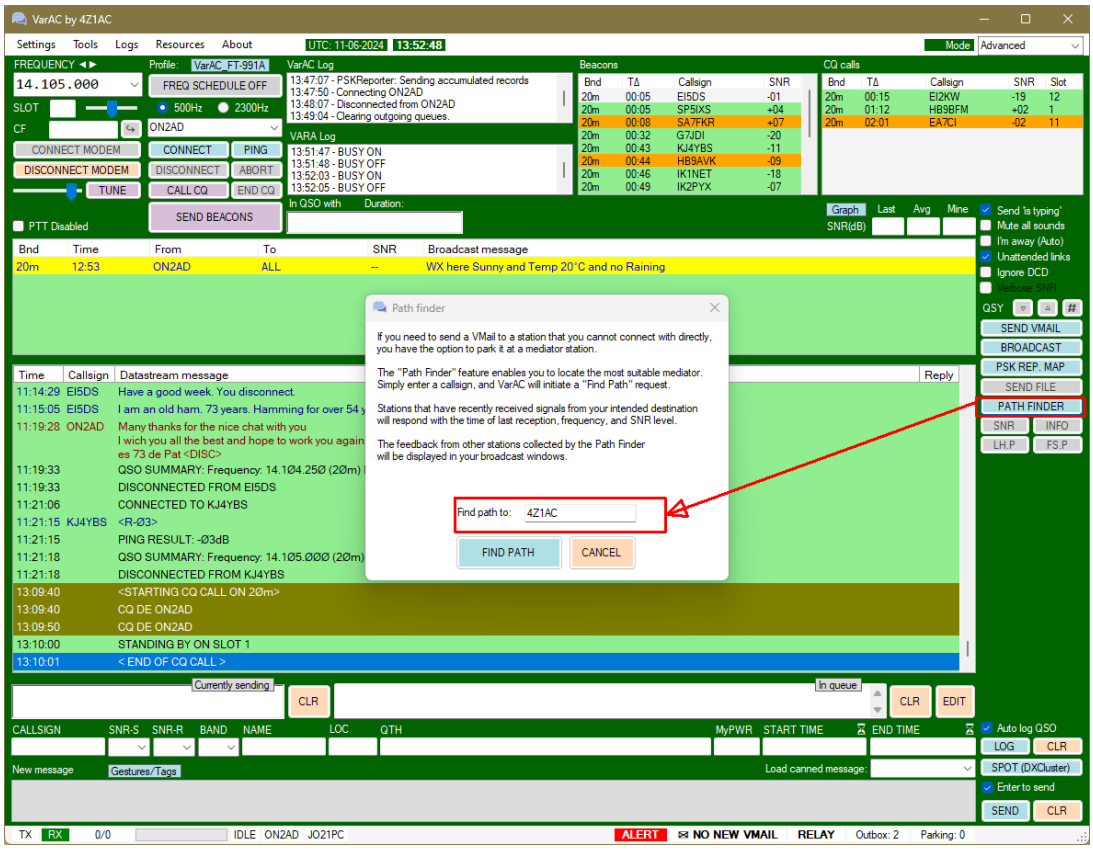
If a station needs to send a VMail to another station but cannot establish a direct connection, it can initiate a ‘Path Find’ call to check if any other stations have detected the target station and can serve as relay for the VMail.

By enabling this function ability, your VarAC will respond to ‘Path Find’ calls if it has detected the target station within the last 24 hours.

Show my path finders only

By default, all pathfinder broadcasts, including both yours and others, are displayed.
In certain instances, this may overwhelm the broadcast window.

Enable this option if you prefer to show only your pathfinder requests.



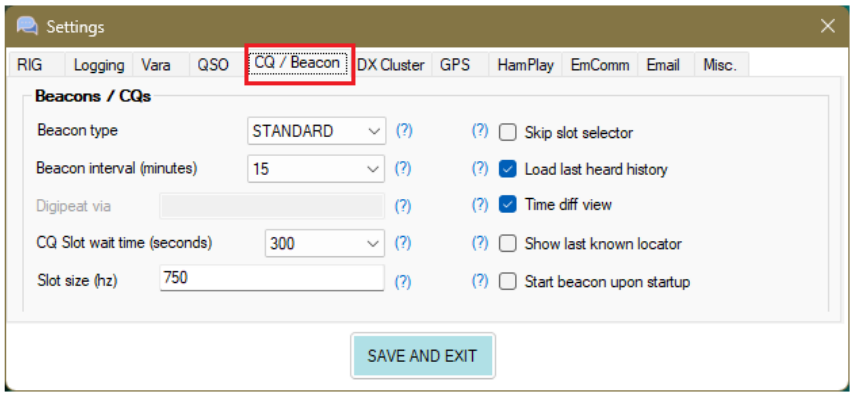
You can send a "Find Path To" query to the universe using the broadcast engine.

If another VarAC user decodes your query and has recently heard the target station you are interested in, they will respond with valuable information such as the frequency, the time it was last heard, and the SNR level.

This feature enables you to identify the optimal station through which you can relay your VMail to reach your final destination.

(Please note: Path finder is available under the advanced UI mode)

CQs/Beacon



Beacon type	see Beacon type
Beacon interval (minutes)	see Beacon interval (minutes)
Digipeat via	see Digipeat via
CQ Slot wait (seconds)	see CQ Slot wait
Skip CQ slot selector	see Skip CQ slot
Load last heard history	see last heard history
Time diff view	see Time diff view
Slot size (Hz)	see Slot size (Hz)
Show last know locator	see Show last know locator
Start Beacon upon startup	see Start Beacon upon startup

Beacon type

VarAC offers two types of beacons

Standard Beacon	A basic beacon transmitted at the lowest possible speed to ensure better reception even under challenging SNR conditions (-22 dB). It includes only your callsign, with an optional flag indicating whether it is an EmComm beacon
Advanced Beacon	Sent at a slightly higher speed (reception possible down to -18 dB). See Advanced Beacon

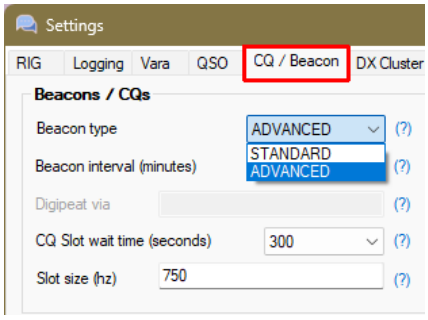
This beacon caries additional information such as your Grid locator, e-mail gateway indicator, and more.

Advanced Beacon

You now have the option to choose between a STANDARD or ADVANCED beacon.
What is an ADVANCED beacon?

✅ Uses the AX25-KISS protocol (similar to broadcasts).
✅ Operates at SL2 (Speed Level 2), allowing more data to be sent.
✅ Can still be decoded at -18/-19 dB (compared to -22 dB for standard beacons).
✅ Includes your Grid Locator.
✅ Carries additional data such as Email Gateway Announcements, EmComm station status, and more exciting features in the future.

⚠️ **Important: Only users who upgrade will be able to decode ADVANCED beacons.**



One-Time Beacon

Simply **RIGHT-CLICK** the Beacon button, and VarAC will fire a single beacon instantly! You can use this feature whether your beaconing is turned off or even between beacon cycles when it's on.



Now, Let's Talk About QSOs!
🎙️ You're already familiar with the Callsign History tool—it just got a bit of a facelift. But we always felt like something was missing... A central place where you can:

✅ See all your VarAC QSOs in one view
✅ Filter & sort your contacts easily
✅ Generate QSLs on the spot

Beacon interval (Minutes)

You can set VarAC to send beacons periodically to let other stations know you are on frequency.

If you check the "send beacons" checkbox, a beacon with your callsign will be broadcasted every few minutes based on your choice here.

A beacon will only be broadcast if the frequency is not busy for at least 1 minute to avoid running overactive QSOs or beacons.
Once you activate beacons, they will be sent for a period of up to 24 hours and then automatically disabled.

Digipeat

Applicable only for VARA-FM:
VaraFM allows you to digipeat your transmission through one or more parties.

If you wish to CQ/Beacon trough a digipeater, enter it is callsign here.

You can enter more than one callsign if you wish to relay your transmissions to a chain of digipeaters.
Use SPACE as a delimiter. Ex; "4Z1DIG 4Z2DIG"

CQ Slot wait seconds

When you Call CQ, you can wait for incoming connections on another frequency (Slot).

The amount of time VarAC will keep waiting for incoming connection on the Slot is determined by this parameter.

Skip CQ Slot

VarAC slot system allow you to call CQ on a shared calling frequency while encoding into the CQ call the frequency (slot) where you standing will be for an incoming call.

This checkbox disables this CQ mechanism.

Disable the slot - based mechanism **ONLY** if you use VarAC with VARA-FM or if you wish to run your own VarAC net on another frequency without slots.

Ignoring received CQ calls without a Slot ID (unless "skip CQ slot selector" is enabled)

IF YOU USE VarAC ON THE OFFICIAL HF CALLING FREQUENCIES, YOU MUST USE SLOTS
(Hence leave this checkbox un-checked)

Load last heard history

VarAC keeps a log of both CQ calls heard and the last beacons heard.

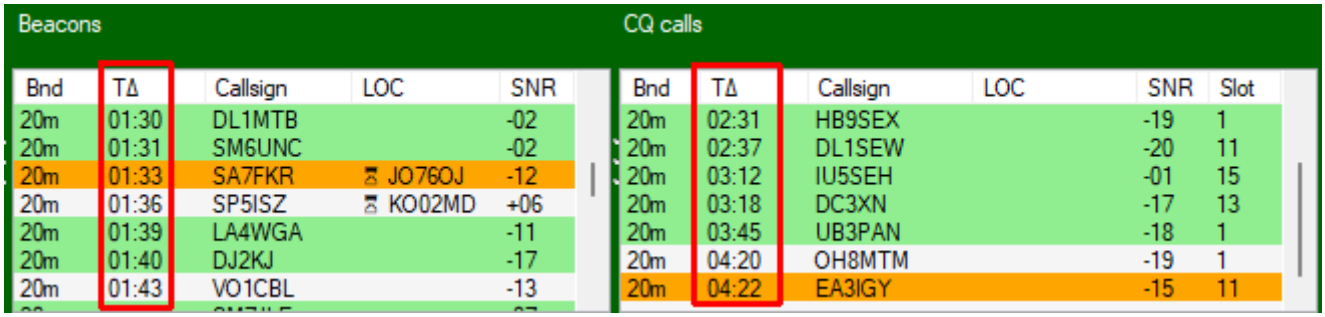
You can ask VarAC to populate the last heard lists upon startup from that log, so if you restart VarAC for any reason you will still see on screen the previous captured CQ calls and Beacons.

VarAC looks back only on the last one hundred rows of the last heard log file.
Please note that you may see less callsigns on the screen as VarAC only shows the last event per callsign.

Time different view

VarAC can show beacon/CQ times either as UTC time or as delta from UTC time.
For example, if a beacon was received at 12:00 and it now 12:02, it will be show as 00:00 in time diff view.

CQ time shown as time diff from UTC



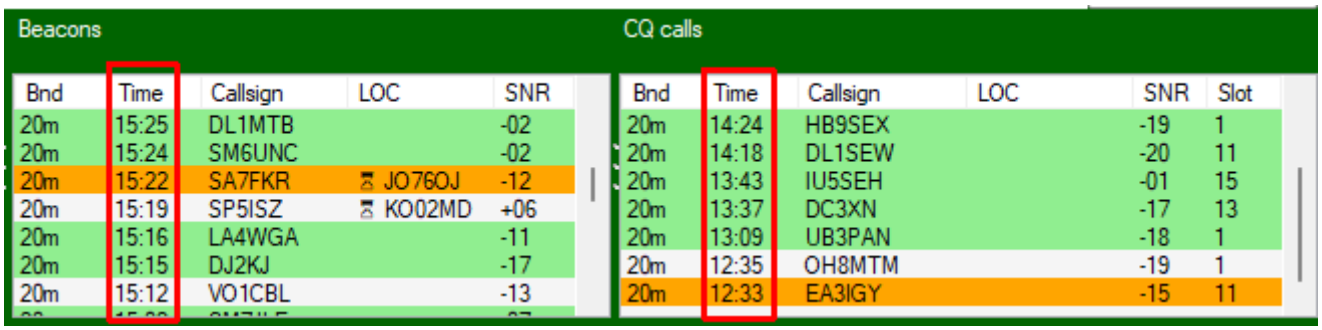
Beacons

Bnd	TΔ	Callsign	LOC	SNR
20m	01:30	DL1MTB		-02
20m	01:31	SM6UNC		-02
20m	01:33	SA7FKR	JO76OJ	-12
20m	01:36	SP5ISZ	KO02MD	+06
20m	01:39	LA4WGA		-11
20m	01:40	DJ2KJ		-17
20m	01:43	VO1CBL		-13

CQ calls

Bnd	TΔ	Callsign	LOC	SNR	Slot
20m	02:31	HB9SEX		-19	1
20m	02:37	DL1SEW		-20	11
20m	03:12	IU5SEH		-01	15
20m	03:18	DC3XN		-17	13
20m	03:45	UB3PAN		-18	1
20m	04:20	OH8MTM		-19	1
20m	04:22	EA3IGY		-15	11

CQ time shown as absolute UTC



Beacons

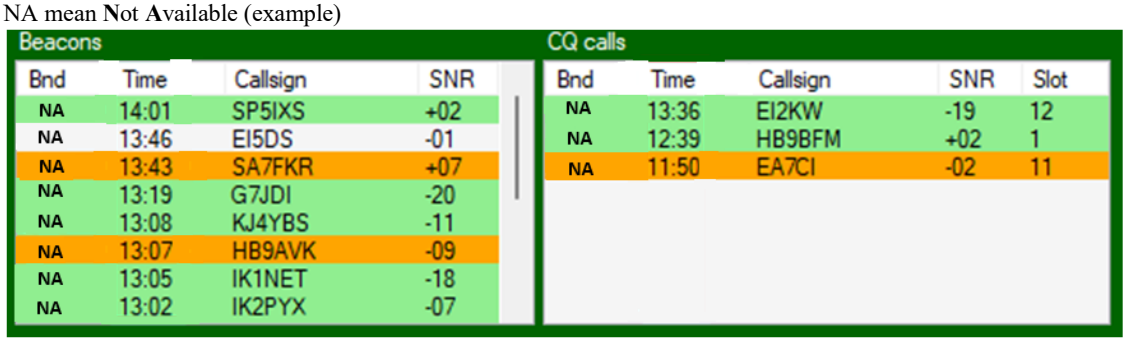
Bnd	Time	Callsign	LOC	SNR
20m	15:25	DL1MTB		-02
20m	15:24	SM6UNC		-02
20m	15:22	SA7FKR	JO76OJ	-12
20m	15:19	SP5ISZ	KO02MD	+06
20m	15:16	LA4WGA		-11
20m	15:15	DJ2KJ		-17
20m	15:12	VO1CBL		-13

CQ calls

Bnd	Time	Callsign	LOC	SNR	Slot
20m	14:24	HB9SEX		-19	1
20m	14:18	DL1SEW		-20	11
20m	13:43	IU5SEH		-01	15
20m	13:37	DC3XN		-17	13
20m	13:09	UB3PAN		-18	1
20m	12:35	OH8MTM		-19	1
20m	12:33	EA3IGY		-15	11

Band (Bnd)

NA mean **N**ot **A**vailable (example)



Beacons

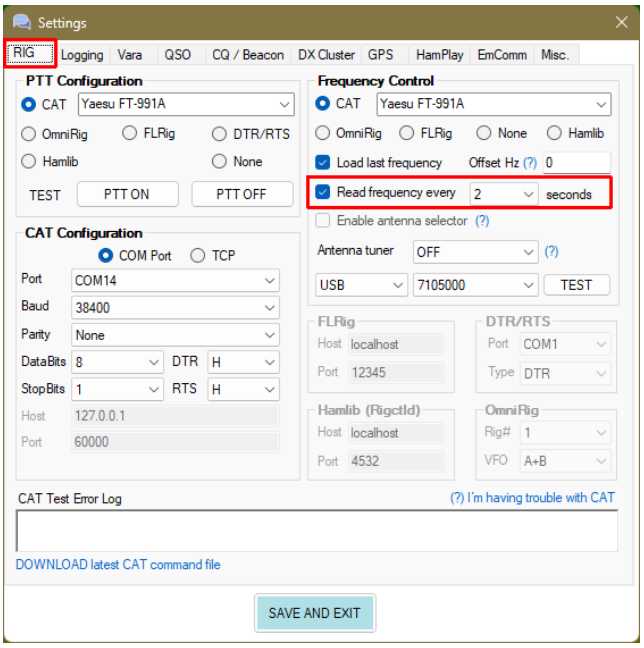
Bnd	Time	Callsign	SNR
NA	14:01	SP5IXS	+02
NA	13:46	EI5DS	-01
NA	13:43	SA7FKR	+07
NA	13:19	G7JDI	-20
NA	13:08	KJ4YBS	-11
NA	13:07	HB9AVK	-09
NA	13:05	IK1NET	-18
NA	13:02	IK2PYX	-07

CQ calls

Bnd	Time	Callsign	SNR	Slot
NA	13:36	EI2KW	-19	12
NA	12:39	HB9BFM	+02	1
NA	11:50	EA7CI	-02	11

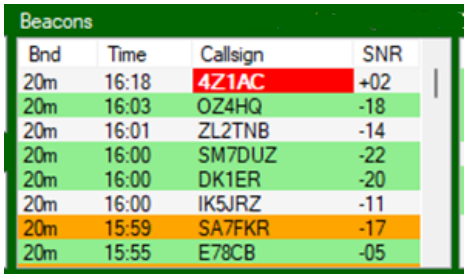
If VarAC doesn't know what Freq or Band is in use at the moment then you will see the "NA" in the Bnd column.

So if you have the CAT on your TRX installed, then enabled this function in the Menu RIG - Frequency Control



Legend of color

Green	-	new callsign (you did not worked)
Orange	-	New band for existing worked callsign
Red	-	This mean that a EmComm station is calling
No color	-	Worked before



Slot size (Hz)

Slots are like channels around the calling frequency, to allow multiple QSO's to take place simultaneously.

VARA HF default slots size is 750 Hz and VARA SAT is 2550 Hz.
However, you can set your own slot size, but keep in mind that your partners would need to use the same slot size on their end.

Show last know locator

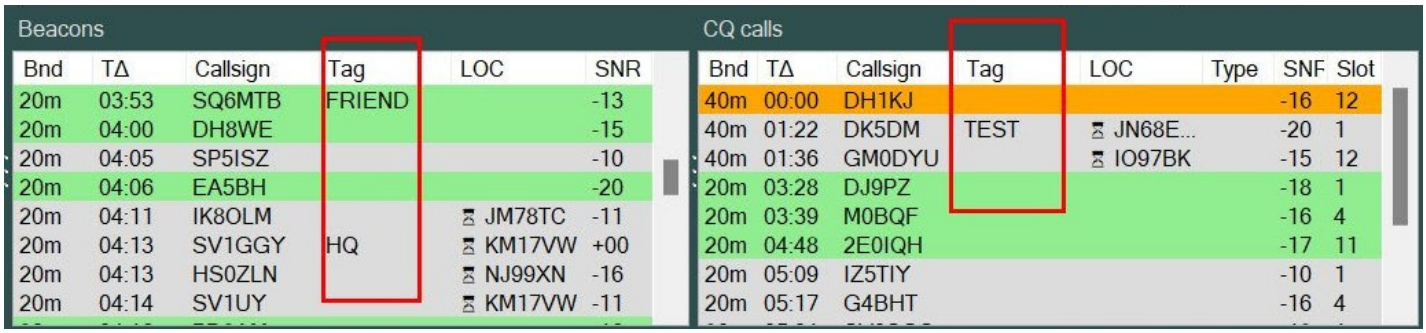
If a "Last Known Locator" is available for a CQ or Beacon, it will appear alongside it with a hourglass icon. If you prefer to disable this feature, you can easily do so in the settings menu.

Standard CQ/Beacon transmissions do not include locator data.

However when enabled, if you receive a CQ/Beacon from a station you have previously communicated with, VarAC will display that station's locator on the CQ/Beacon 'Last Heard' list using the last know locator information.



Callsign tags



Let's talk about locators.
You may have noticed that Beacons and Standard CQs don't include locators.
Why is that?
It's a limitation of the VARA protocol, which prioritizes using the lowest possible speed in these scenarios allowing only the callsign to be transmitted.
But here's the good news
What if you've already had a QSO with that station and have a "Last Known Locator" saved from a previous exchange?
Now, we can put that information to good use!

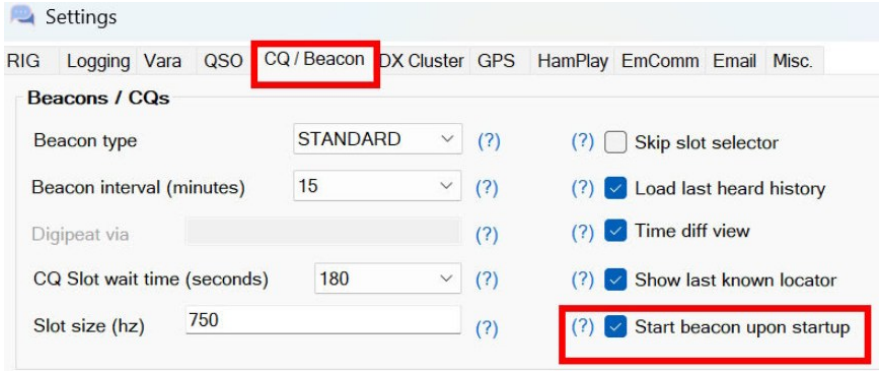
Start Beacon upon startup

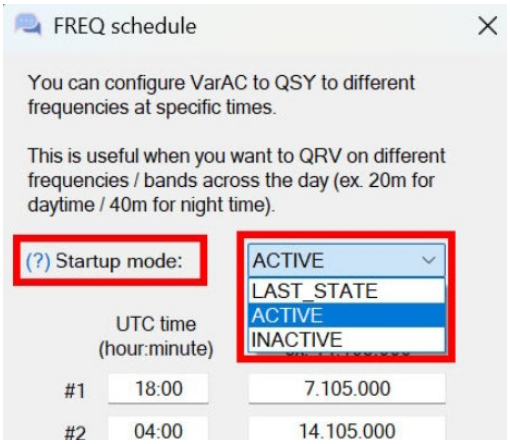
If you want VarAC to automatically start sending beacons after launch, enable this option.

Ensure you are on a valid frequency at startup to prevent beaconing on the wrong frequency.

The same goes for the frequency scheduler—just set it up, and VarAC will handle the rest!

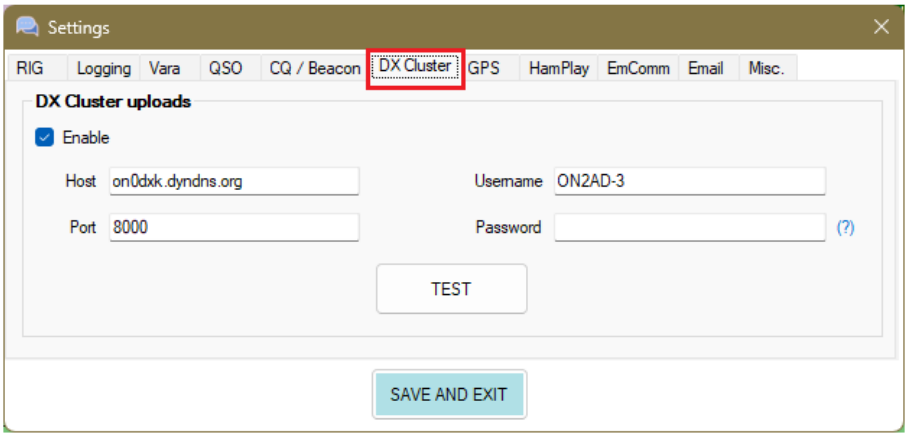
Auto beacon/frequency scheduler start





DX Cluster

DX Cluster uploads



see Additional Cluster configuration

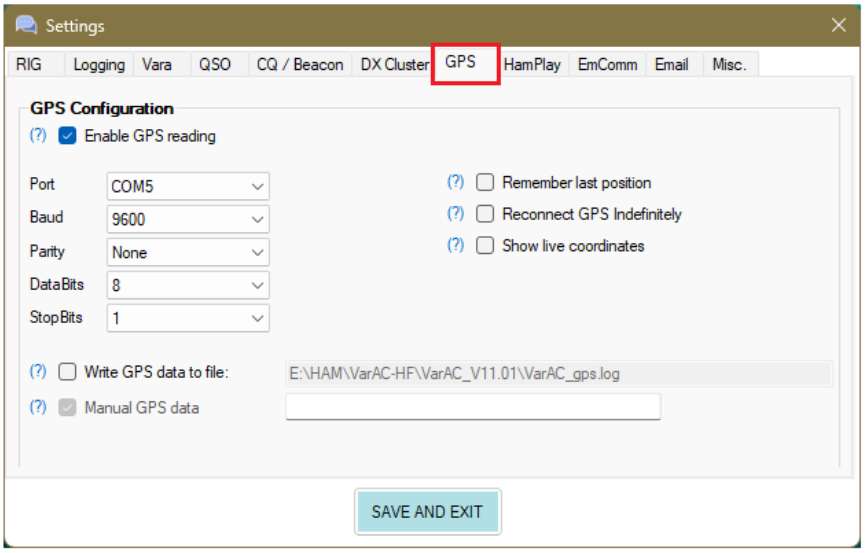
Enable	Check this to use the DX Cluster
Host	Fill in the Hostname
Host	ve7cc.net
Port	23

Username	Fill in your username
Password	Most DX Clusters do not require. Only a username that is your Callsign. If no password is required – leave this field empty.

GPS

GPS integration

- Read GPS data from NMEA GPS device and automatically updates your Locator.
- Support for GPS that sends GNGGA messages
- Adding also new tag <GPSLOC> to share your exact Long/Lat.
- Showing live GPS base grid locator on the bottom status strip.
- Hovering on it, shows the exact Lat/Long.
- Provide warning if no GPS data was received in 5 minutes.



Port	Select your COM port
Baud	Select your Baud rate
Parity	Select your Parity
DataBits	Select your DataBits
StopBits	Select your StopBits

Enable GPS reading	see Enable GPS reading
Remember last position	see Remember last position
Reconnect GPS Indefinitely	see Reconnect GPS Indefinitely
Show live coordinates	see Show live coordinates
Write GPS data to file	see Write GPS data to file
Manual GPS data	see Manual GPS data

Enable GPS reading

VarAC seamlessly integrates with NMEA-based devices via a COM port interface.

By leveraging this integration, VarAC is capable of efficiently reading GPS coordinates and swifty converting them into Grid locators.

This functionality proves invaluable for users engaged in activities such as outdoor activity or emergency communications operations (EmComm), ensuring that their Grid locator remains constantly updated and accurate, even while on the move.



Remember last position

Enabling this feature allows VarAC to store the last Grid locator from GPS.

Consequently, upon restarting VarAC, even in the absence of a connected GPS, it will retain and display your most recent Grid locator.

Reconnect GPS Indefinitely

If enabled, your latest GPS coordinates (latitude and longitude) will appear on the bottom strip of the main screen and update with each new GPS reading.

Show live coordinates

Each time GPS coordinates are received, VarAC will save them to a designated file.

This file can later be used for analysis with geo applications.

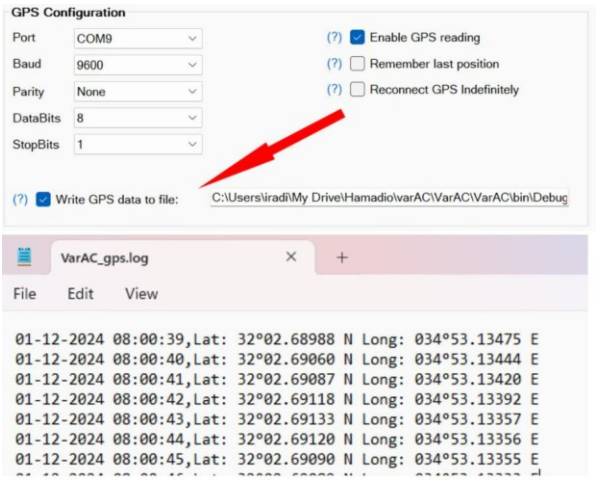
Write GPS data to file

Many of you use VarAC on the go, whether you're participating in POTA or on an EmComm mission.
Until now, VarAC only displayed your GPS position on the screen…

Now, you can also save those GPS readings to a file for logging and analysis purposes.

Just enable the feature in the settings menu, choose a log file name, and you're all set.

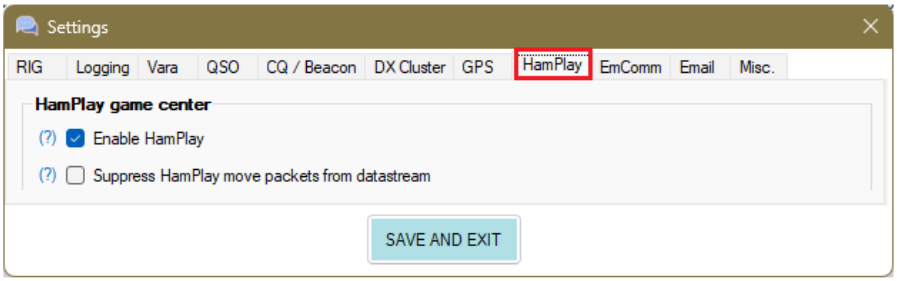
Your GPS data will be saved to disk automatically.



Manual GPS data

If you don't have a connected GPS or your GPS is temporarily unavailable, but you still want send GPS data (using the '<GPSLOC>' tag), you can set a static string containing your GPS coordinates.

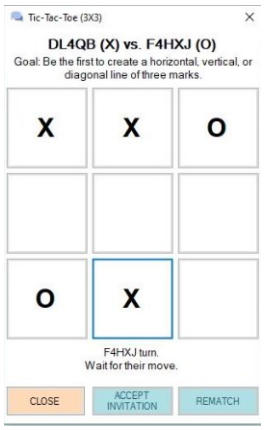
HamPlay

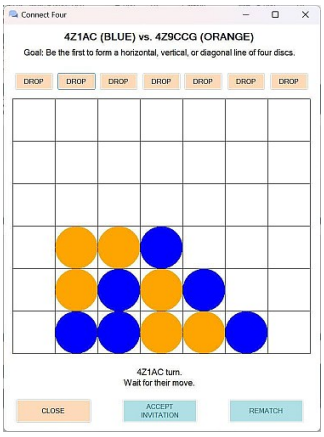


Enable HamPlay	HamPlay is VarAC's game center where you can play games with your QSO partner. If you disable this feature, VarAC will automatically decline any HamPlay invitation.
Supress HamPlay move packets from datastream	By default, all incoming and outgoing traffic is displayed in the Datastream. During a HamPlay game, the stream can become cluttered with numerous game move transmissions. Enable this option to hide those transmissions and keep the chat cleaner and clearer during a HamPlay game.

Games

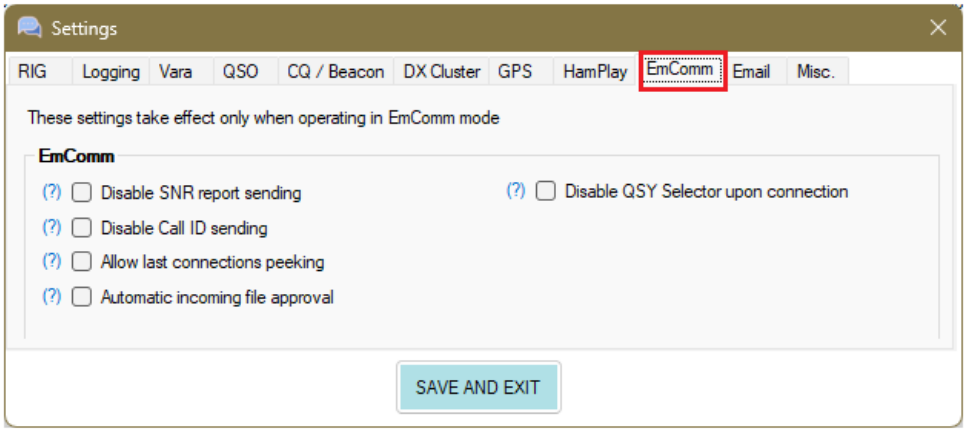
Tic-Tac-Toe Connect Four Battleship





Coming soon

EmComm



See Disable SNR report sending

See Disable Call ID sending

See Allow last connections peeking

See Automatic incoming file approval

See Disable Selector upon connection

See also EmComm with VarAC

See also Inquire

Disable SNR report sending

In EmComm mode during a crisis, exchanging SNR reports may be unnecessary and could consume valuable transmission time and power.

Disable SNR sending will prevent SNR reports from being sent both upon connection and during a QSO.

Even when disabled, SNR's will still sent under the following conditions:

- If you are pinged by another station.
- If you manually enable Verbose SNR.
- When an SNR is requested via an SNR inquiry.

Please be aware that if no SNR report is exchanged, the link may be recognized as a valid QSO for logging purposes.

Disable Call ID sending

Transmitting you callsign at the start of a QSO and periodically throughout is required by local regulations.

If you want to disable callsign transmission during an QSO while in EmComm mode (to conserve time and power), you can enable this feature.

Ensure compliance with local regulations before using this option!

Allow last connections peeking

In EmComm mode, it may sometimes be necessary to know what a fellow EmComm station was connected to previously.

By enabling this feature, a connected station will be able to query your last 5 connections (excluding pings) along with their start times.

Automatic incoming file approval

Incoming files exceeding a specified size (as defined in the QSO => File Transfer) require manual approval from the receiving side.

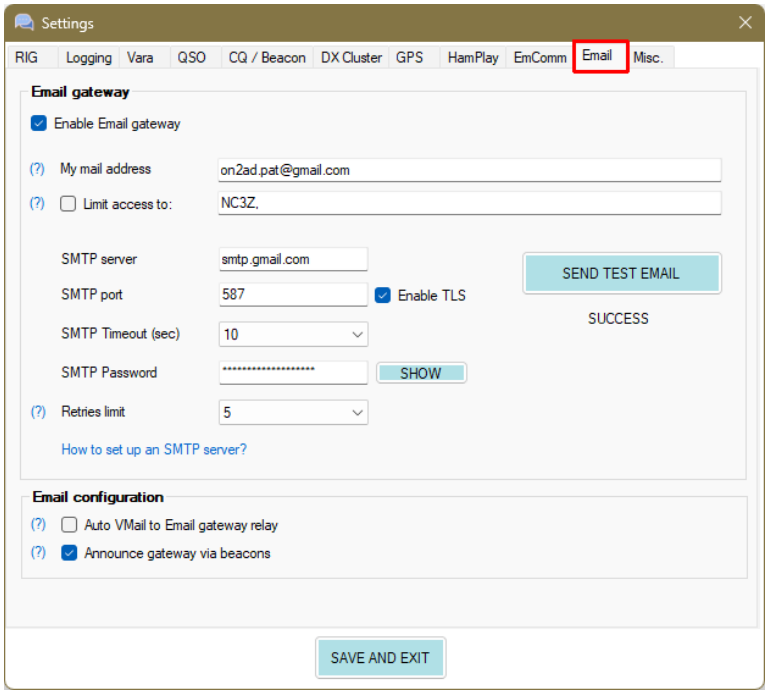
To automatically accept all incoming files, regardless of size, while EmComm mode, enable this feature.

Disable Selector upon connection

By default, when connecting to a station on the calling frequency, a QSY selector popup will appear, prompting you to perform a QSY.

In EmComm mode, you can disable this popup.

Email



Imagine this:

Your internet is down, but you need to send a critical email.

No problem!

You hop on the CF and—BAM!—you spot multiple stations broadcasting in their beacon that they operate an email gateway.

You compose a VMail, connect, relay, and receive a confirmation that your email has been delivered.

This is how it works:

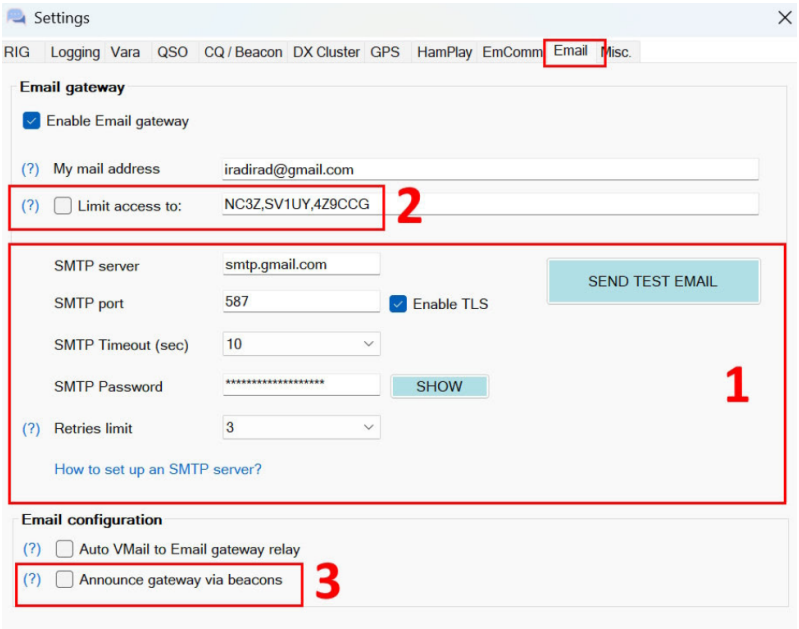
For Email gateway operator

If you want to run a VMail gateway, here's what you'll need to do:

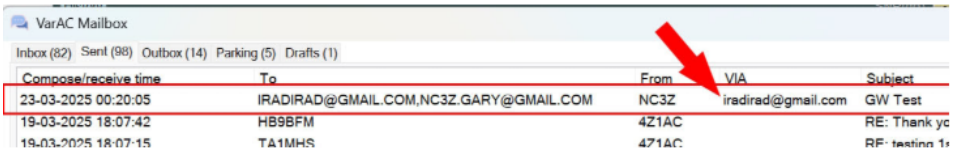
1. Set up an SMTP email account. You can use Gmail or any other provider. To keep things separate, consider creating a dedicated account just for SMTP forwarding. [See this guide for setup instructions.]

2. Choose whether to limit access by callsign or allow all users.

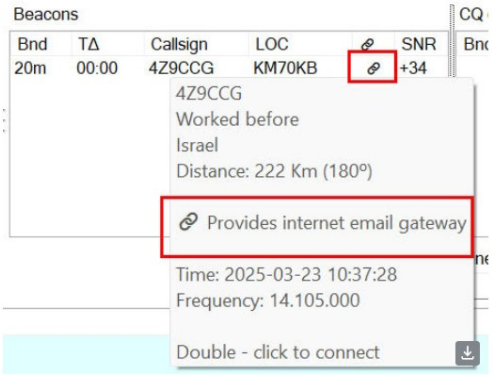
3. Decide if you want to announce your gateway via your beacon or keep it private.



When your gateway relays a message, it will appear under the "SENT" tab with the VIA field showing your own email address.



And this is how your email gateway announcements will appear to others in your beacon



For Email gateway users

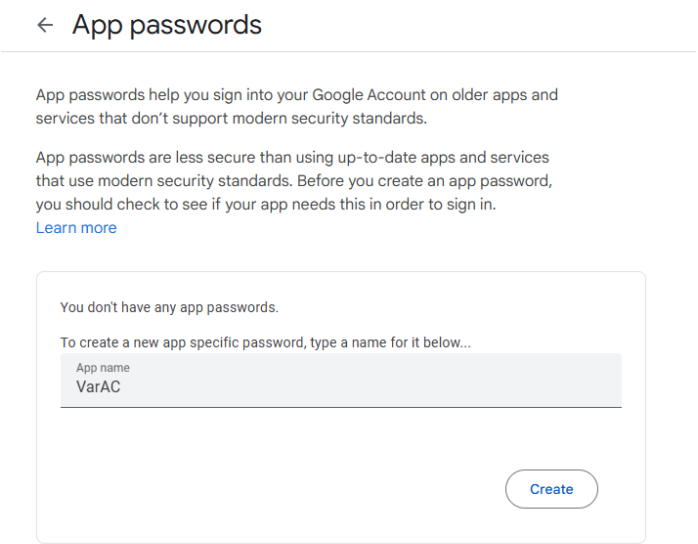
If you want to send a VMail to Email, here's what you need to know:

✅ In the email composing section, you'll see a new "Send to Email" button—just tick it!
✅ A new, user-friendly dropdown will show your recently contacted Emails/Callsigns for quick access.
✅ Under Settings, you can enable automatic email sending whenever VarAC connects to an Email gateway station.

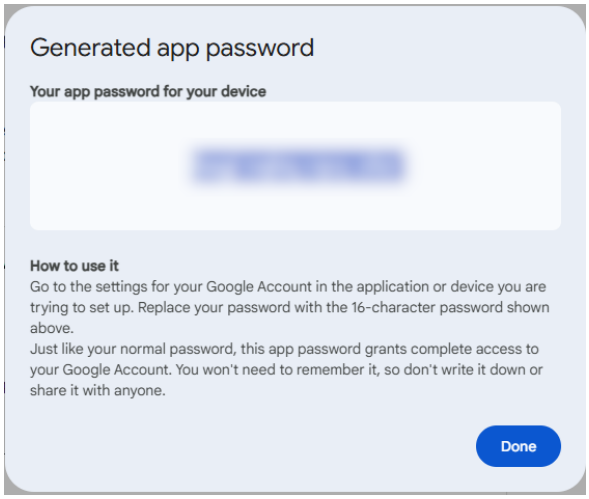


Gmail account as a VarAC e-mail Gateway setup

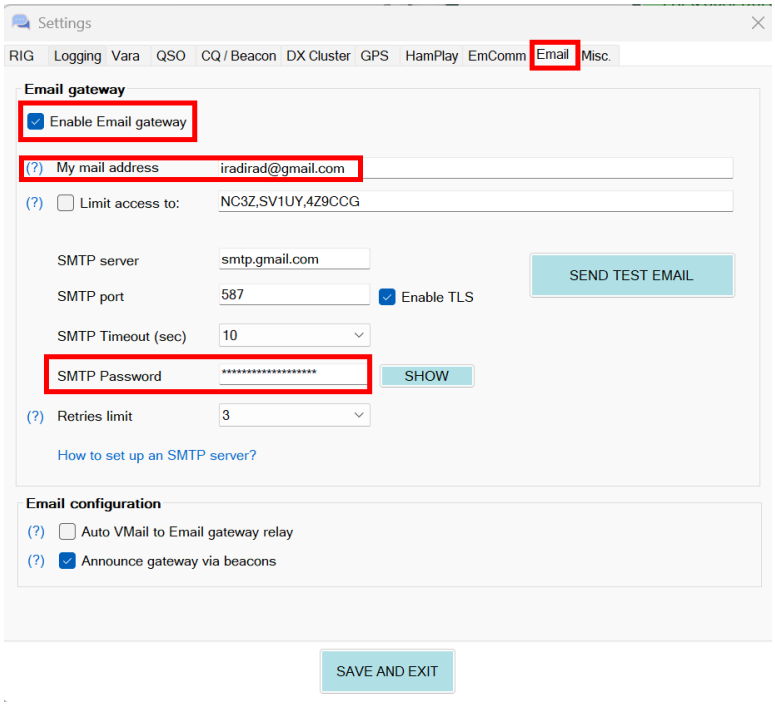
1. Go to : https://myaccount.google.com/apppasswords
2. Create a new app password. You can call it "VarAC"



3. Copy the password you got



4. Go to VarAC settings screen -> Email tab
5. On the top left – Check the "Enable Email gateway"
6. Enter your Gmail email address
7. Set the SMTP password to the **"App password"** you got from your Gmail account.
8. Make sure the following are configured:
   - **SMTP server:** smtp.gmail.com
   - **SMTP port:** 587
   - **Enable TLS** is checked

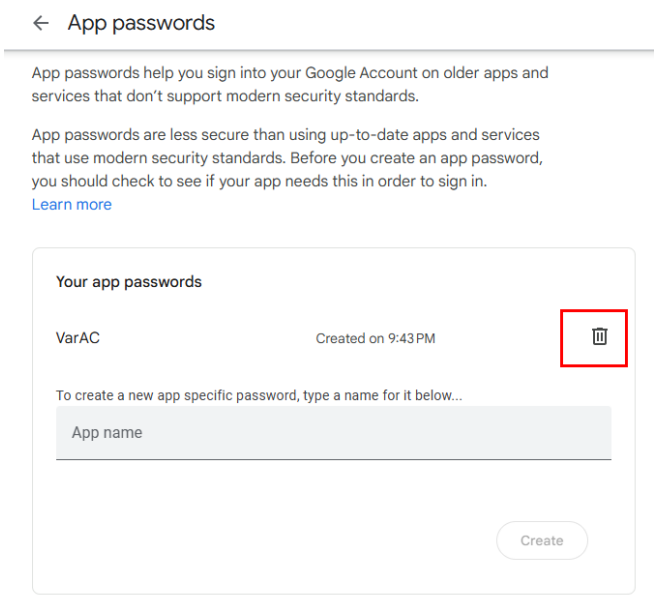


9. That's it. Click "SEND TEST EMAIL" and make sure you get a SUCCESS message. If it fails – inspect the VarAC.log file for details.

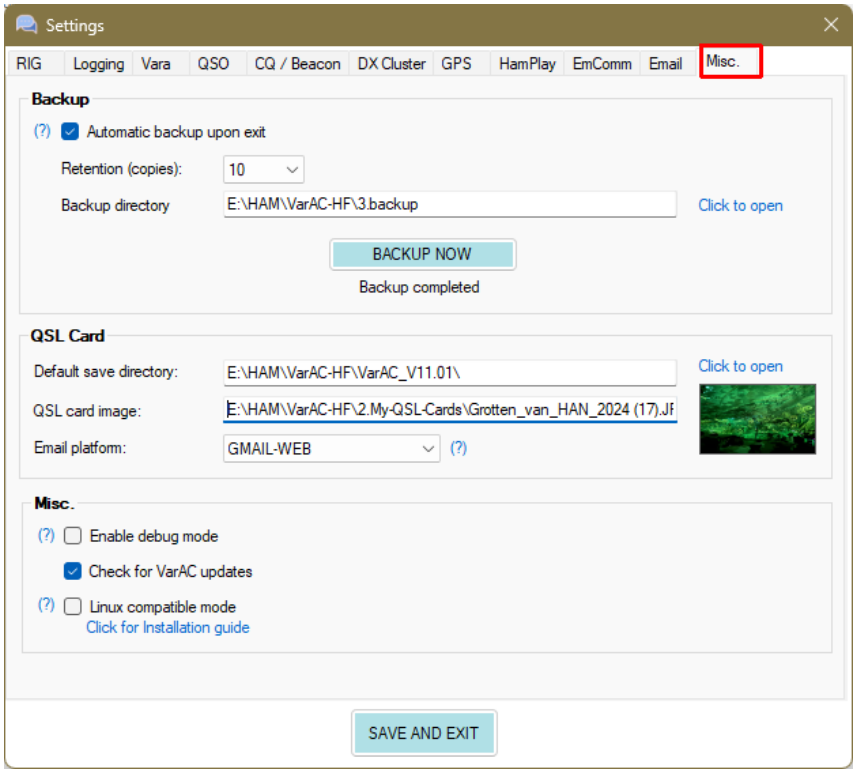
Appendix:

If you ever want to delete this app password – simply go again to:

https://myaccount.google.com/apppasswords and delete it:



Misc.



Retention (Copies:
select the copies you will have

Backup directory:
Type who you will backup your files

Backup

When enabled, closing VarAC will trigger a backup of all important files into a ZIP archive.
These backups can be used to restore VarAC, either locally or on another computer, preserving all data and configuration.

Please note that backups might take a few seconds to complete, depending on the size of your VarAC database and log files

QSL Card

Default save directory	Select here the folder wo you will save the received QSL Cards
QSL card image	Select here the folder of your QSL card Images that you will have on your QSO card

See also the "Callsign History" in the menu Tools
Or see QSL Card creating

Misc.

Enable debug mode	Once this is enabled VarAC creates a new file with all the information VarAC does etc… Enable this ONLY when instructed by the developers of VarAC. Enabling this way may slow down VarAC significantly and may affect / disable some of the VarAC functionalities as many log entries will be written to "one" disk.
Check for VarAC updates	VarAC will search for updates
Linux compatible mode	VarAC can be used on Linux/Pi/Mac using WINE. Some VarAC elements are managed differently on such a platform so mark this checkbox in case you are running on Linux/Pi/Mac. ■ --- Narrations – Completely disabled. ■ --- Speller – disabled. ■ ---PSKReporter uploads – You can enable manually & test to see if it works on your Linux flavour. see Linux compatible mode

Linux compatible mode

VarAC can be used on Linux based platform such as WINE.

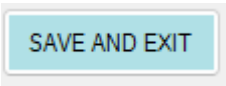
Some VarAC elements are managed differently on such a platform so check this checkbox in case you are running VarAC on Linux.

Please note: Linux compatibility mode disabled the speller feature.

Linux using

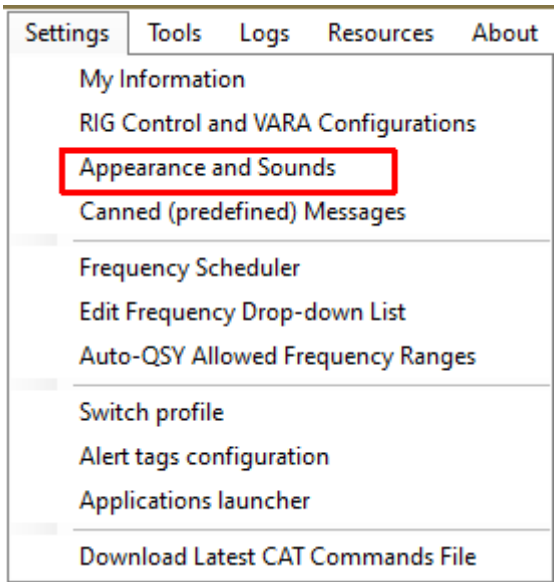
See Linux Installation

Save and Exit



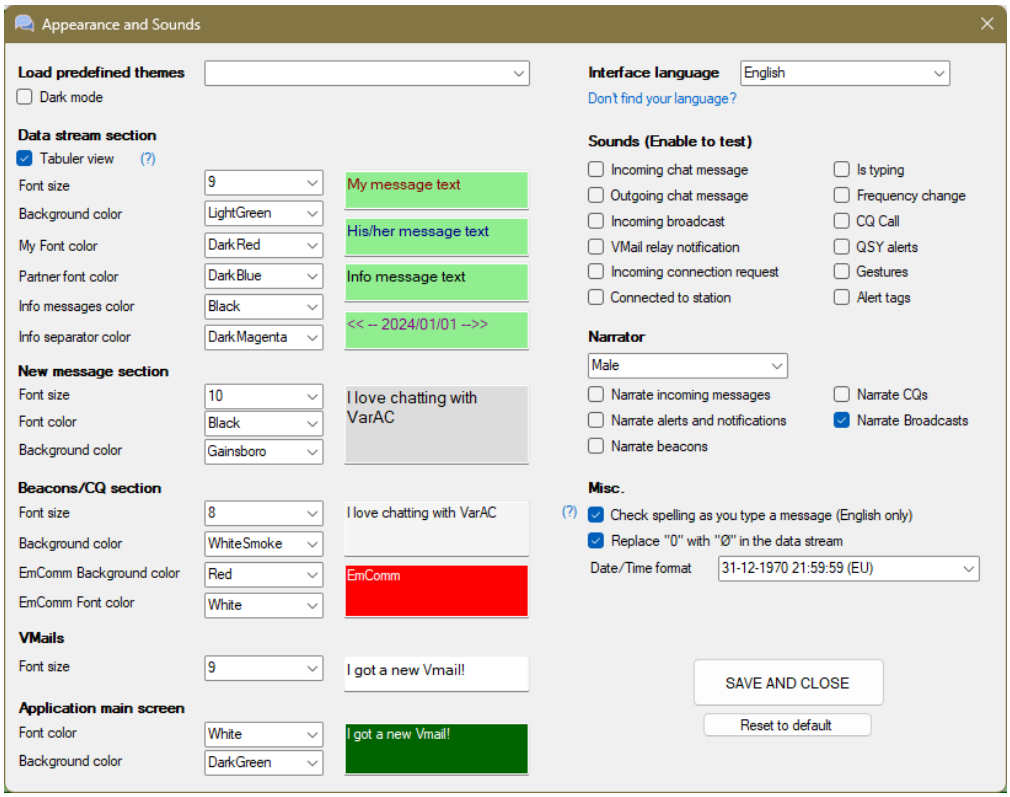
Do not forget to save your settings

Appearance and Sounds



Click on the Menu Settings and then on Appearance and Sounds and next screen is visible.

Appearance and Sounds settings



Tabuler view

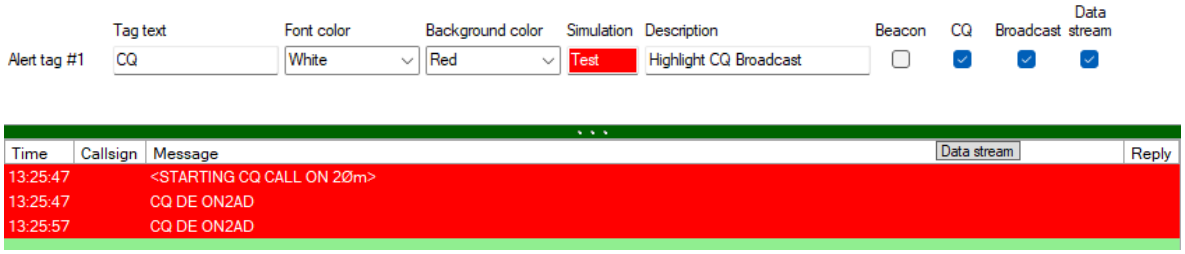
DataStream tabular view provides a more structured way of chatting.
It also includes additional capabilities as Chat Reply button, Chat history load upon startup.
If you want to return to the old-fashioned DataStream mode (non-tabular), then disable this checkbox.

Remark:

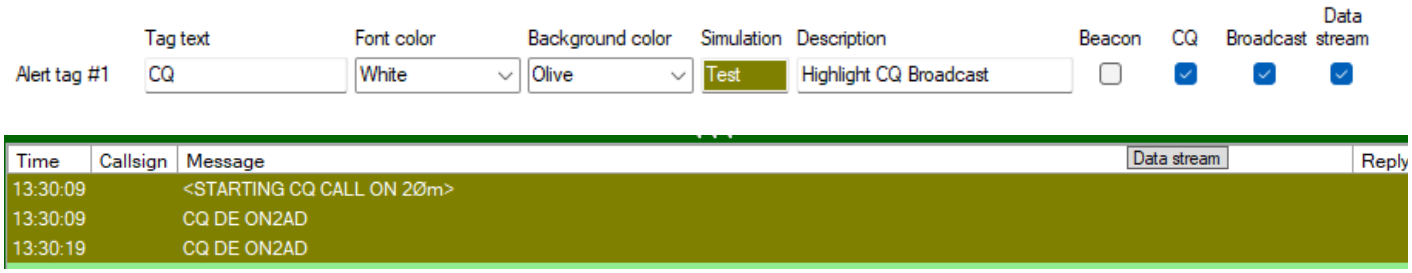
If the Tabuler view is enabled, the settings in the "Alert tags configuration" menu are also looked at.

Example:
In the Alert tags Configuration, you have an Alert tag with Tag text = **CQ** and the Background color is **Red,** and these are checked in CQ, Broadcast and Data stream
Then when you press Call CQ, this entire line in the Data stream will be completely Red, see example below.
If this color is too bright, change to another color of your choice.

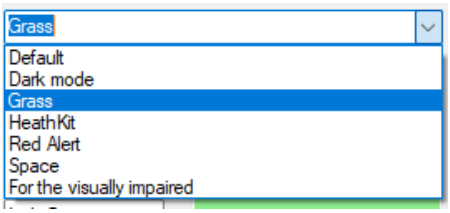
Or you can simply disable the Alert tag for the Data stream if you only look for CQ in your broadcasts.



I have change the color in Olive, and here the result.

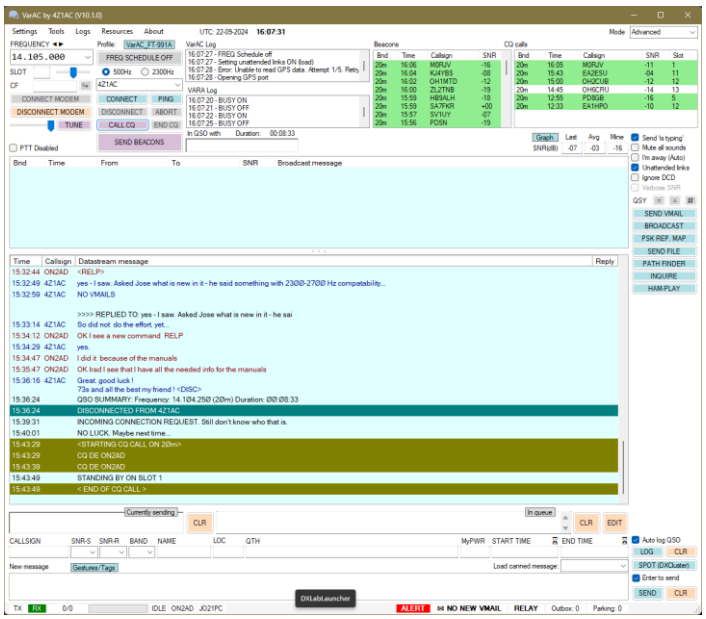


Load Predefined themes

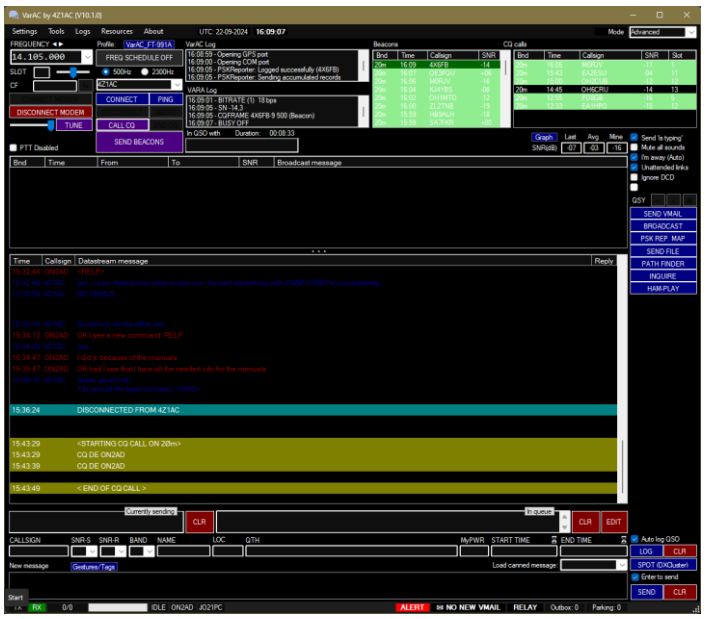


Default

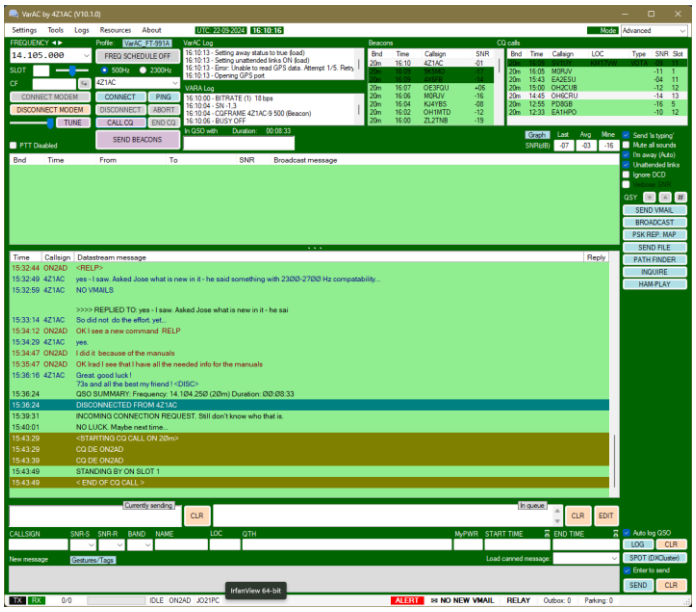
Dark mode



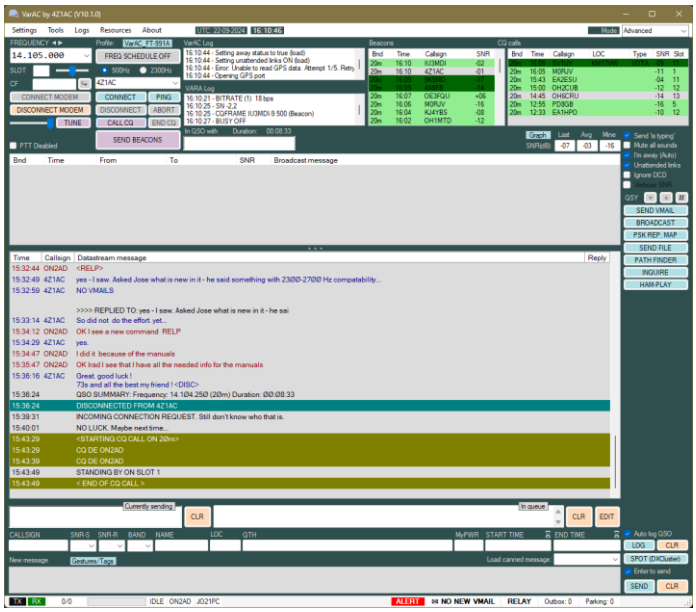
Grass



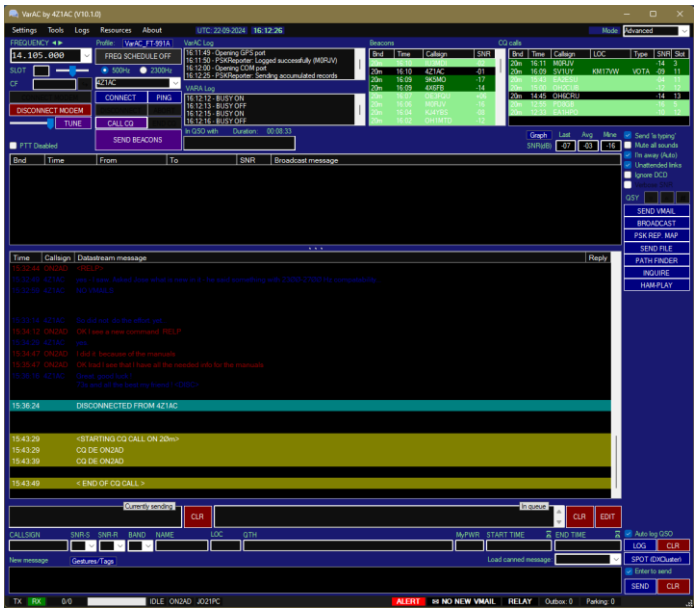
Heathkit

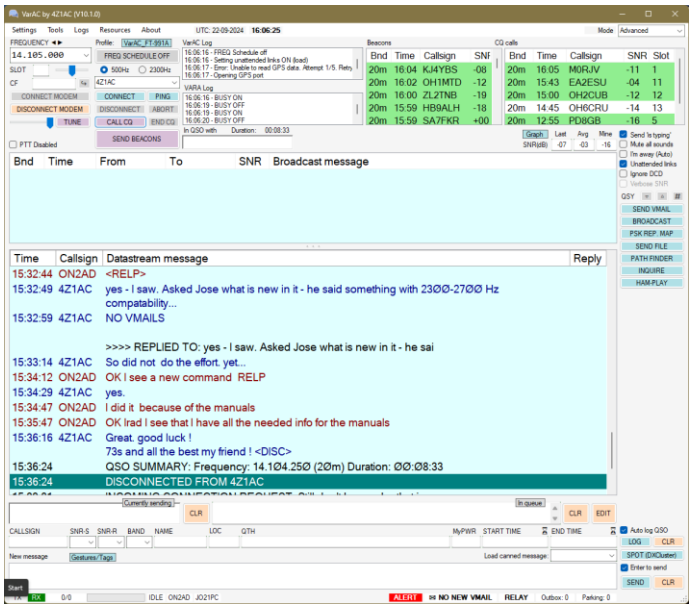


Space



For the visually impaired





Dark mode:
If enabled then VarAC goes in dark mode.
If disabled then VarAC goes in default modus.

Data stream section:
Here you can change the Font size, Background color, My Font color, and His/her Font color and Info messages color.

New messages section:
Here you can change the Font size, Font color and the Background color

Beacons/CQ section
Here you can change the Font size, Background color.

VMails.

Here you can change the Font size of the VMails.

Application main screen
Here you can change the Font size, Background color.

Interface language: see Interface language

Sounds (Enable to test)

When enabled then you will hear a lot of sounds for:

Incoming chat message	Is Typing
Outgoing chat message	Frequency change
Incoming broadcast	CQ Call
VMail relay notification	QSY alerts
Incoming connection request	Gestures
Connected to station	Alert tags

Narrator (Text-to-Speech) see Narrator
When enabled you will hear:

Narrate incoming messages.	Narrate CQ's
Narrate alerts and	Narrate Broadcasts
Narrate beacons	

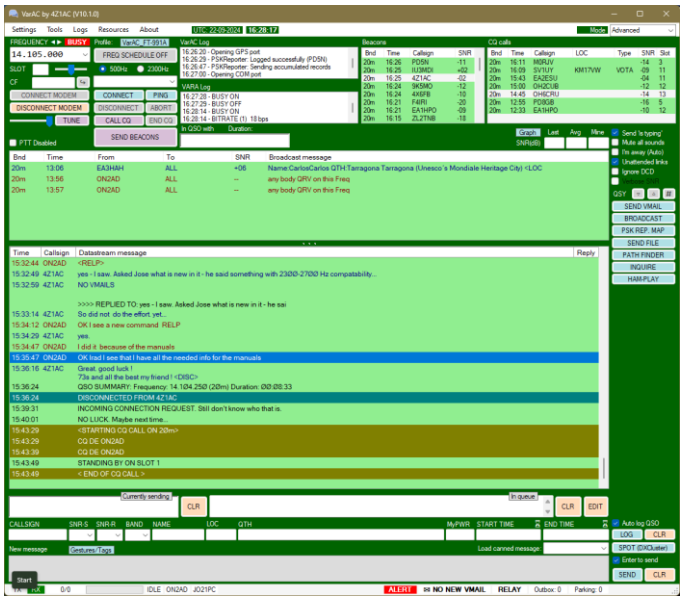
Misc.
Check spelling as you type a message (English only)
see Check spelling
Replace"0" with "ø"

Date/Time format see Date/Time format

Font

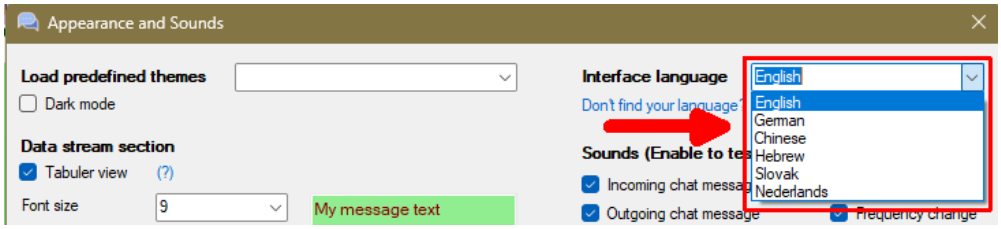
Normal font in the Data stream window with the Tabuler view enabled and in column format. Press the CTRL+Mouse scroll haven't effect.

Normal font in the Data stream window with the Tabuler view disabled and not in column format. By CTRL key and scroll with the mouse you become a bigger font





Language interface



Select here your preferred language.

See Do not find your language

Now you can choose between these languages

English	German	Espanol	Catalan	Nederlands	Chinese	Japanese	Slovak
Hebrew	Polish	Serbian Cyrillic	Français	Italian	Czech		

Don't find your language

The VarAC UI translations are made possible by dedicated members of the VarAC community who generously contribute their time to translate the VarAC UI into their native languages.

This is an ongoing initiative, and additional VarAC screens will continue to be translated into various languages.

If your language is not currently listed, and you wish to contribute to the VarAC project, please send an email to iradirad@gmail.com, specifying the language you would like to translate.

Narrator

Allowing a broader selection of narration voices.
Narration queue - if there are many things to narrate, VarAC will narrate one by one and not together.

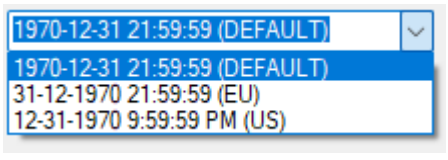
Check Spelling

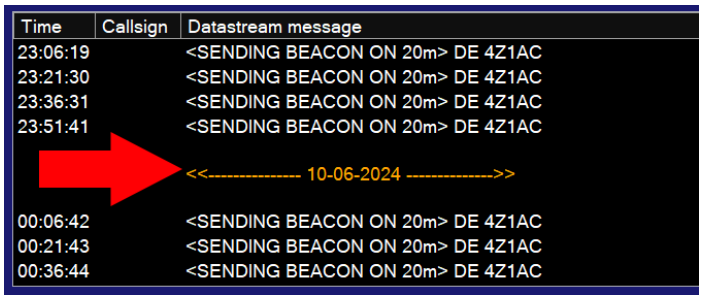
VarAC support speller in the English language only.

Please note: Speller is disabled under Linux compatibility mode.

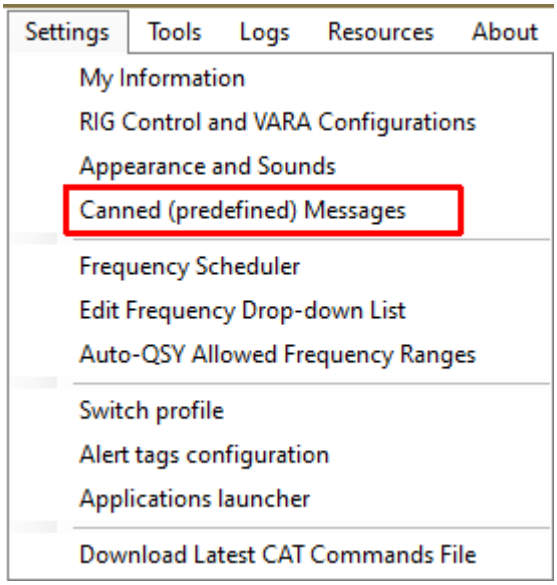
Date/Time format

Select your Date/Time format



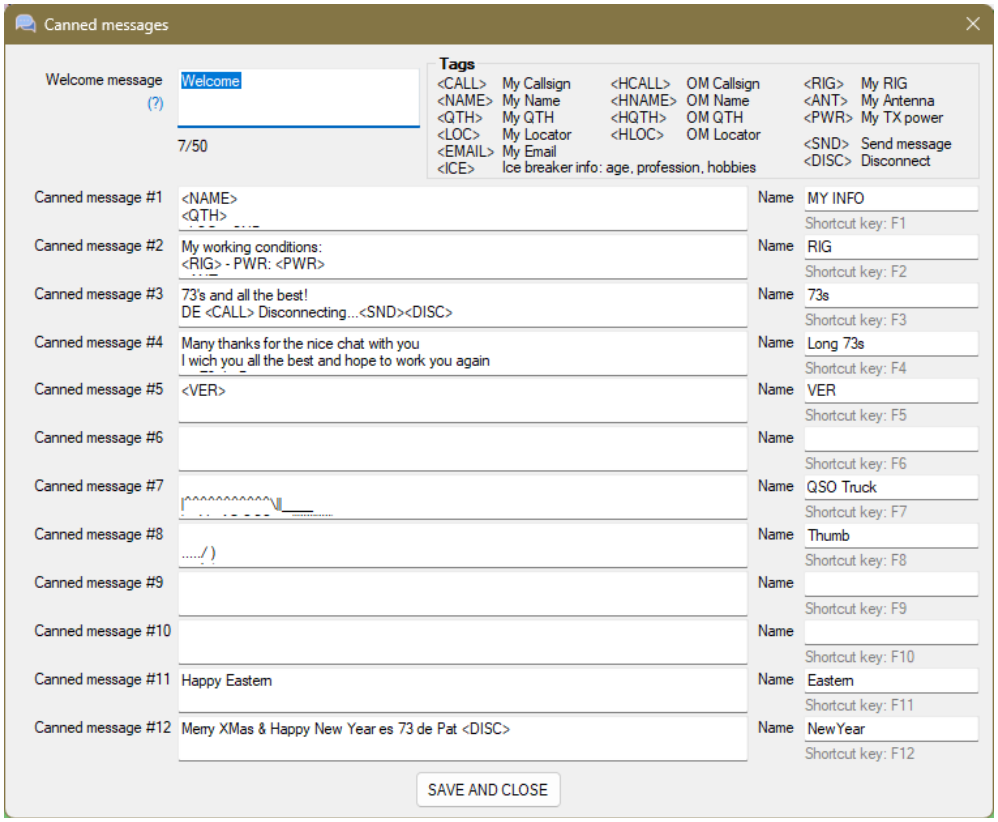


Canned (predefined) messages



Click on the Menu Settings and then Canned (predefined) messages and the following screen will be displayed.

Canned messages



Welcome message:
See Welcome message

Canned message #1 till #12:
Here you can write your info's.

Note: If all your info's are right do not forget to press the Save and Close button

Shortcut F keys

The Canned messages can easily be called up by pressing a Shortcut key.

This is how the Shortcut key is:
F1 for the Canned message #1
F2 for the Canned message #2
Etc…

Tags

See Tags & Gestures

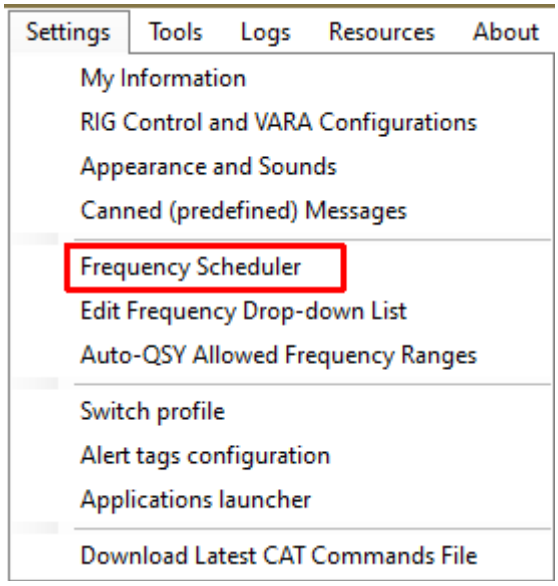
Remark

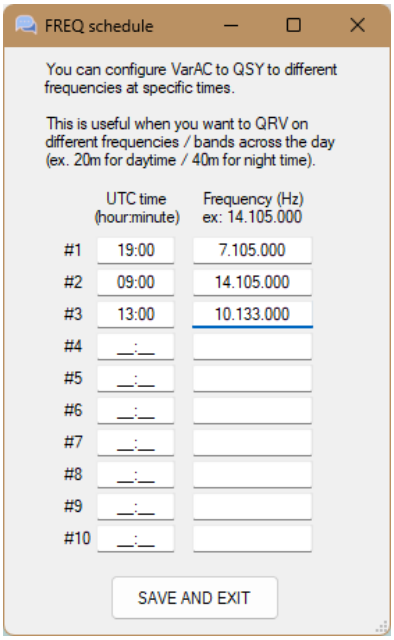
If you send the Canned message #1 as in the example above: (<NAME> <QTH> <LOC> and <SND>) to the other station, then this data will automatically be entered in the other station's Log.
This way you no longer have to pass on or enter everything manually, on both sides

Welcome message

This message will be automatically sent to anyone who connects you while you are not in "I'm away" status.
Leave it empty if you do not wish you send anything.
Please note: a 'de YOURCALL" will assed at the end of your welcome message.

Frequency schedule





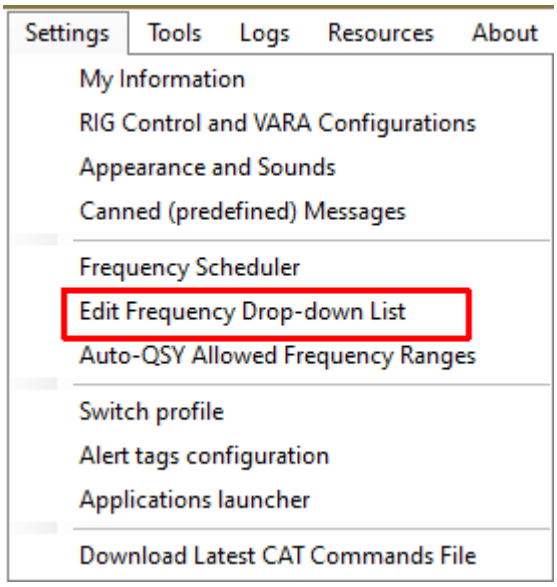
You can configure VarAC to QSY to different frequencies at specific times.

This is useful when you want to QRV on different frequencies / bands across the day.

(ex. 20 meter for daytime / 40 meter for night time)

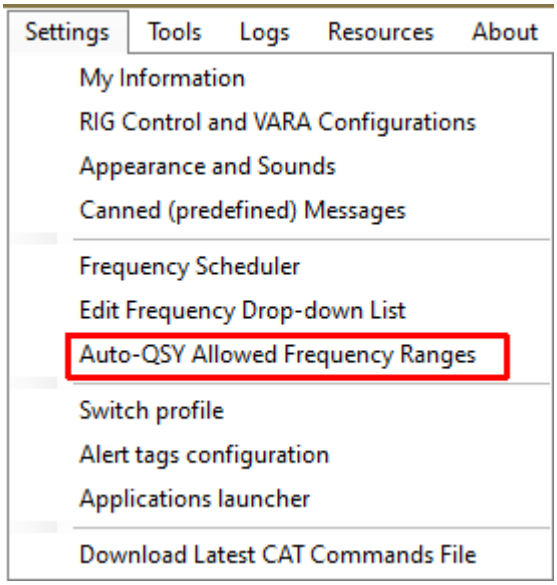
In the column: UTC time you set the UTC time as hours: minutes
Frequency (Hz) you enter the frequency as Hz.

Edit Frequency Drop-down List



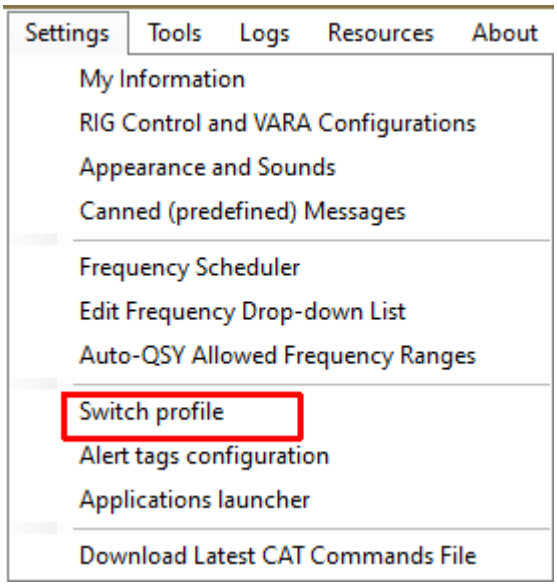
This are the default frequencies for CQ Calling.		
If needed, you can add some other frequencies		
14.105.000	**20m**	**Main**
7.105.000	**40m**	**Main**
1.995.000	**160m**	
3.595.000	**80m**	
5.355.000	**60m**	**Non US**
10.133.000	**30m**	
18.107.000	**17m**	
21.105.000	**15m**	
24.927.000	**12m**	
28.105.000	**10m**	
50.330.000	**6m**	
144.170.000	**2m**	**SSB**
144.950.00	**2m**	**FM**
432.550.00	**70cm**	**SSB**
439.600.00	**70cm**	**FM**

Auto-QSY Allowed Frequency Ranges



Info	From	-	To
This file contains ranges of frequencies that you allow to auto-QSY to without your intervention. When a QSY invitation is received, and you are in 'allow auto-qsy' mode, VarAC will make sure the target QSY frequency is within the allowed range. Otherwise, the QSY invitation will be rejected These are 'Dial' frequencies. VARA will occupy an additional 1.75KHz from the dial freq. **It is your responsibility to know what your band limits are.**	14.101.250	-	14.108.750
	7.101.250	-	7.108.750
	1.991.250	-	1.998.000
	3.591.250	-	3.598.000
	10.129.250	-	10.136.750
	18.103.250	-	18.110.750
	21.101.250	-	21.108.750
	24.923.250	-	24.930.750
	28.101.250	-	28.108.750
	50.326.250	-	50.333.750
	144.000.000	-	146.000.000
	430.000.000	-	434.000.000

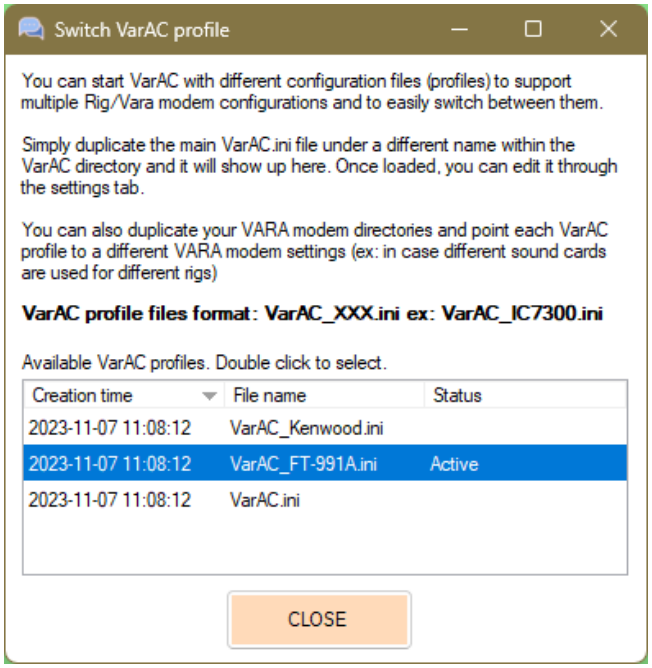
Switch profile



Select Switch profile to switch to another profile or setting

IMPORTANT

If you change profiles, all adjustments will be made in this profile and NOT in the Default VarAC.ini.
In the example below, the profile has been changed to VarAC_FT-991A.ini with all necessary adjustments for using the FT-991A. These adjustments are NOT included in the VarAC.ini.



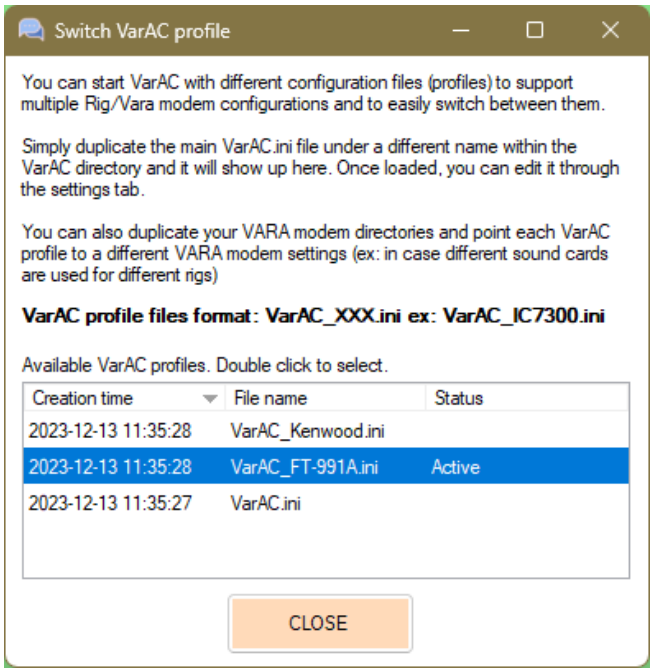
You can start VarAC with different configuration files (profiles) to support multiple Rig/VARA modem configurations and easily switch between them.

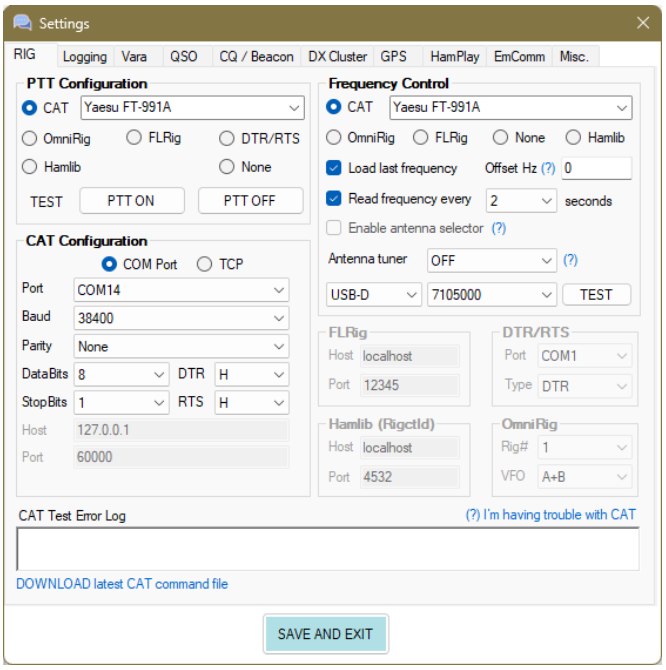
Simple duplicate the main VarAC.ini file under a different name within the VarAC directory and it will show up here. Once loaded, you can edit it through the settings tab.

You can also duplicate your VARA modem directories and point each VarAC profile to a different VARA modem settings (ex: in case different sound cards are used for different Rigs)

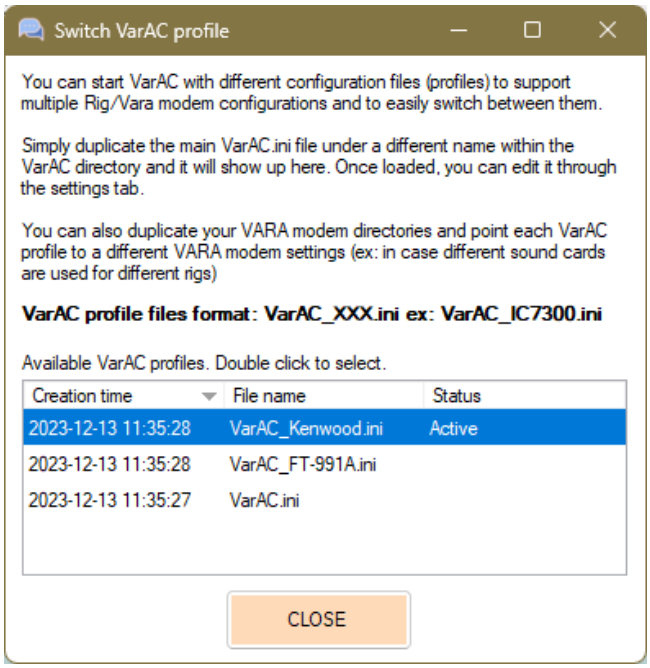
VarAC profile files format:
VarAC_XXX.ini
Ex:
VarAC_Kenwood.ini
VarAC.ini

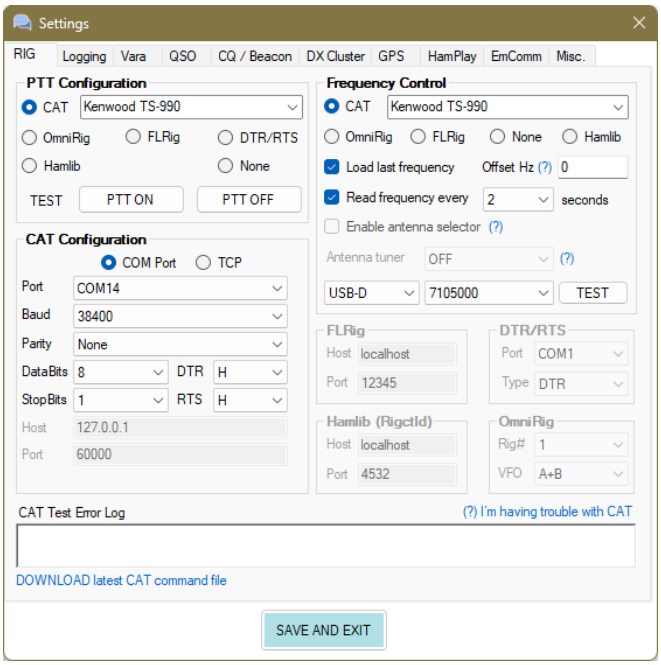
VarAC_FT-991A.ini





VarAC_Kenwood.ini

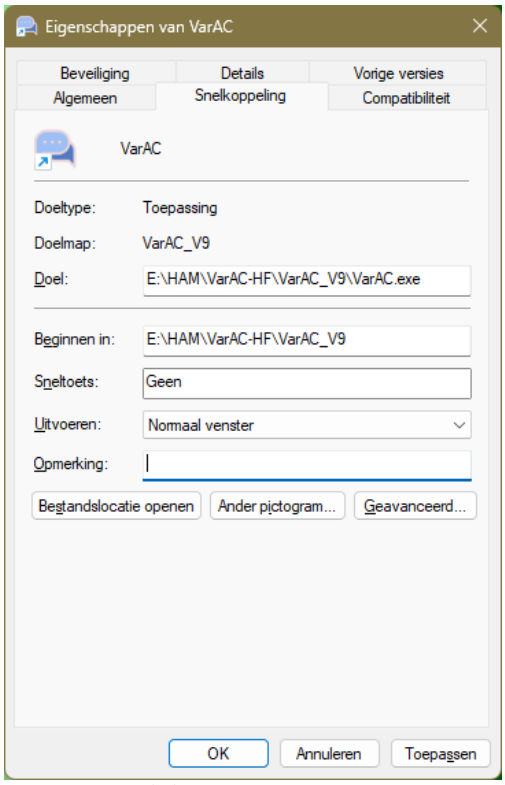




Shortcut for VarAC and specific transceiver

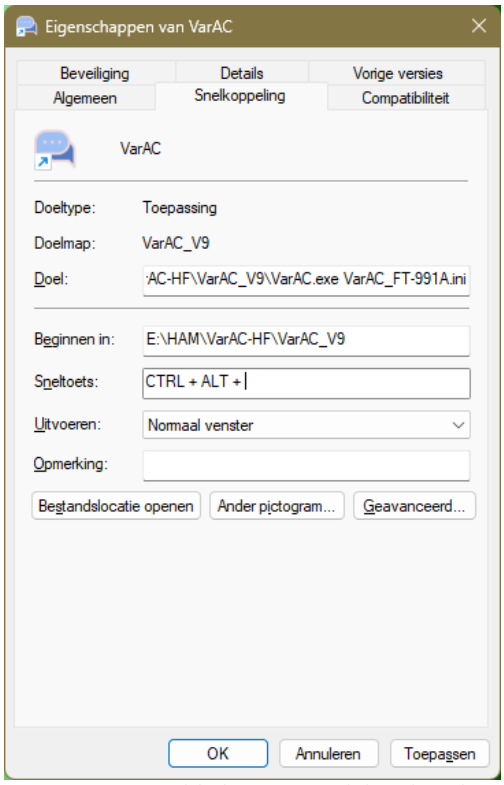
If you always want to start VarAC with the same configuration, you can change this in the shortcut

Normal shortcut FT-991A shortcut



Here's a normal shortcut

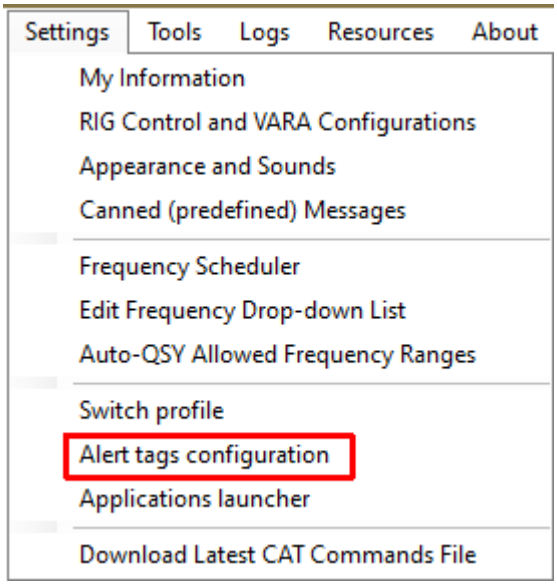
E:\HAM\VarAC\VarAC_V9.2.0\VarAC.exe



To open VarAC with the FT-991A.ini setting, the same setting is used as for a normal shortcut, but with the appendix of the FT-991A.ini file. See below.

E:\HAM\VarAC\VarAC_ V9.2.0\VarAC.exe
VarAC_FT-991A.ini

Alert tags configuration



Alerts tags are strings that trigger alerts if received.

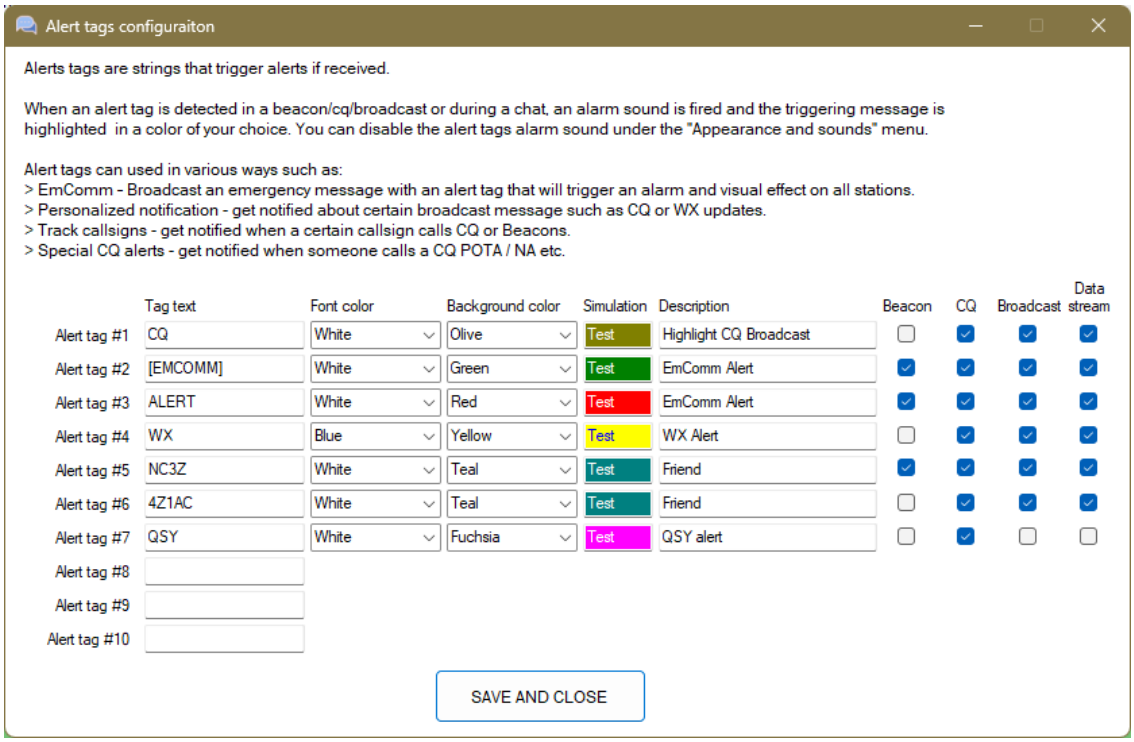
When an alert tag is detected in a beacon or during a chat, an alarm sound is fired, and the triggering message is highlighted in a color of your choice. You can disable the alert tags alarm sound under the "Appearance and sounds" settings menu.

Alert tags can used in various ways such as:

>EmComm -Broadcast an emergency with an alert tag that will trigger an alarm and visual effect on all stations.

>Personalized notification – get notified about certain broadcast message as CQ or WX update.

>Track callsigns – get notified when a certain callsign calls CQ or Beacons.

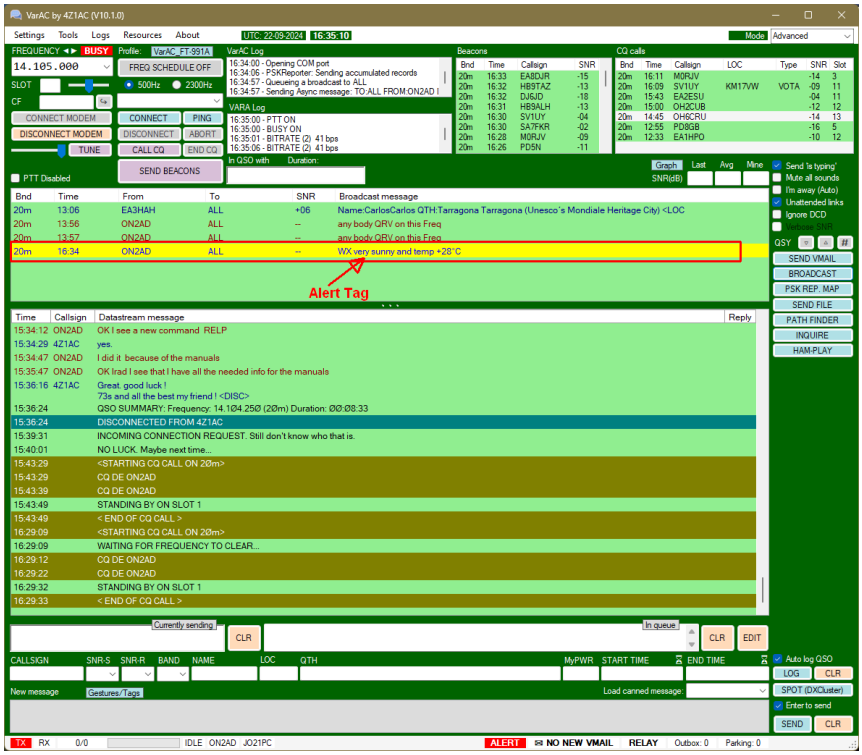


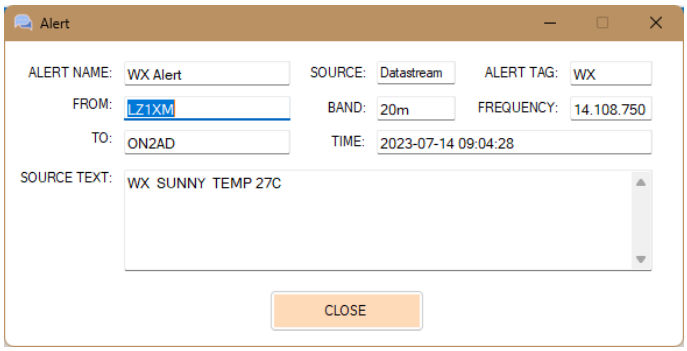
Alert tag #1 CQ will highlight a CQ broadcast.
Alert tag #2 [EMCOMM] will alert a EMCOMM
Alert tag #3 [ALERT] is a general alert.
Alert tag #4 when sending (or decoding) WX you will be alerted.
Alert tag #5 any time you decode a broadcast from NC3Z it will alert.
Alert tag #6 any time you decode a broadcast from 4Z1AC it will alert.
Alert tag #7 sending (or decoding) QSY will alert if you did not enter it with **[ ]** you do not need to use them.

The Alert keyword must be exactly sent as to how it is setup. As this example here of [ALERT] you must sent with the [ ] If you set one up as say just Test it must be sent as Test . Here are using the [ ] just to highlight it a bit more and not trigger a false alert. So must be exact (which is a good thing to prevent falsing).

Alert tags now searched in all broadcasts elements (FROM/TO/MSG), CQs and Beacons.
You can now get alert for specific prefixes calling CQ/Beacon, set a Broadcast alert group etc.

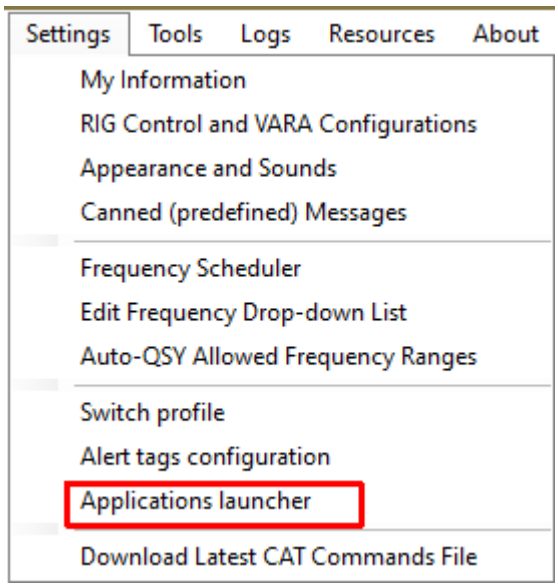
In this example here to trigger the first alert tag you must sent it exactly as typed [ALERT] sending is as just ALERT will not trigger it.

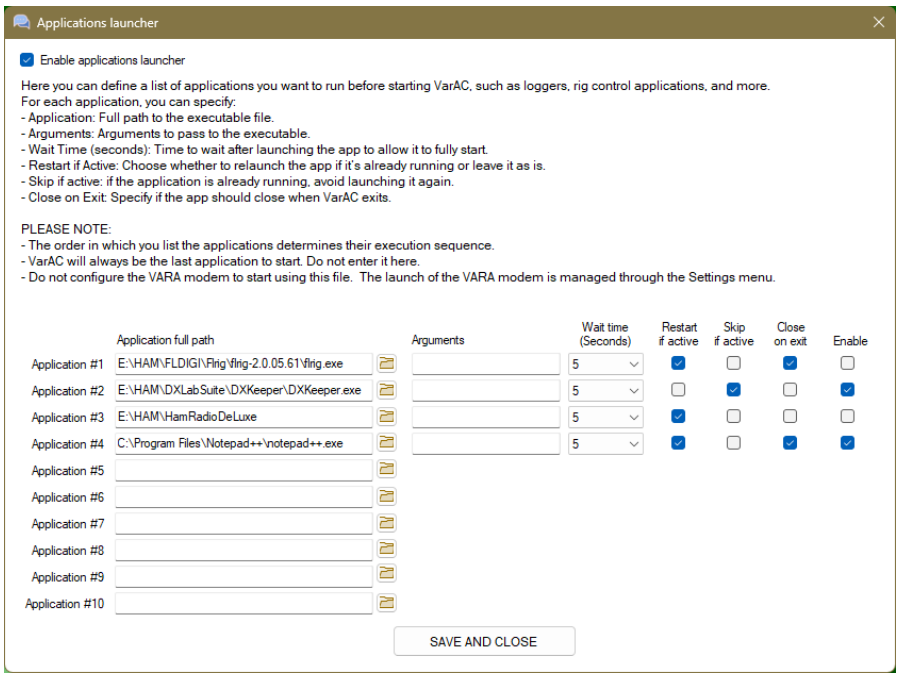




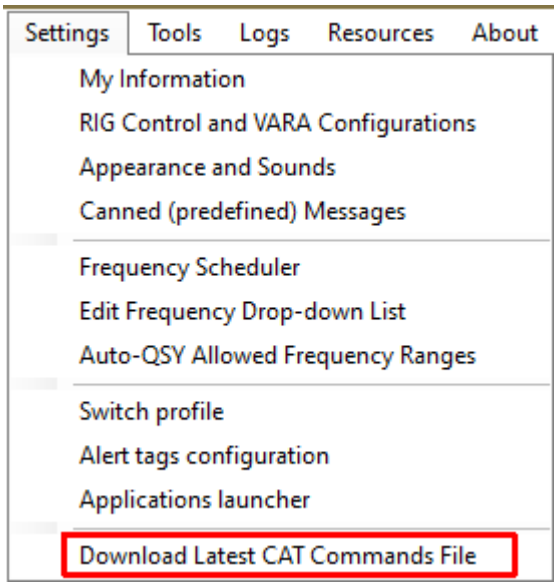
This screen will open after double clicking on the ALERT tag so you can read the full message.

Applications launcher



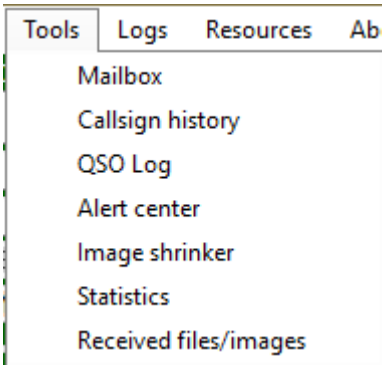


Download Latest CAT Commands File



When click on DOWNLOAD latest CAT command file will open the [RIG control file | VarAC (varac-hamradio.com)](#) website who you can download the latest CAT command file.

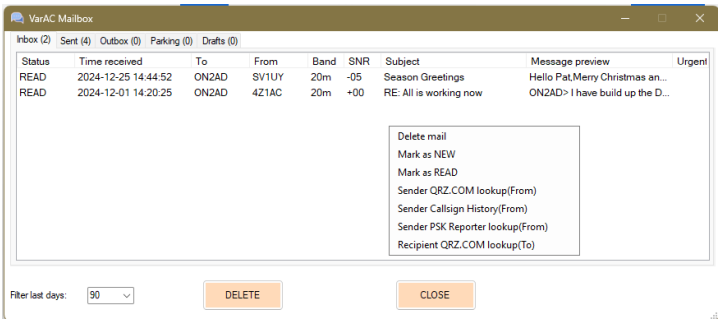
Tools



MailBox	see Mailbox
Callsign history	see Call history
QSO Log	see QSO Log
Alert center	see Alert center
Image shrinker	see Image shrinker
Statistics	see Statistics

Mailbox

Inbox

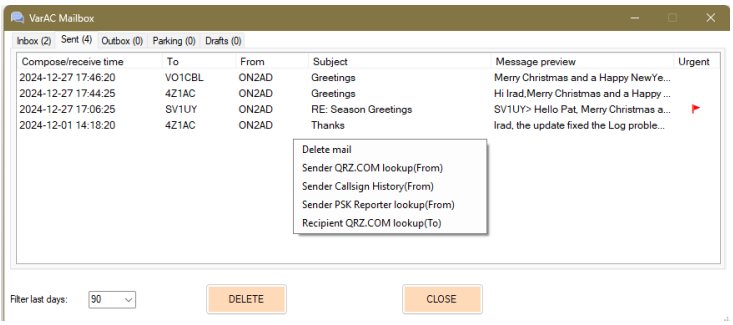


Inbox: This contains the already received VMails.

Here you have the choice of:

Delete mail
Mark as NEW
Mark as READ
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)
Filter last days: Select the filter of the **Inbox** messages

Sent



Sent: Here the VMails to be sent are set when sending the VMails

You have the choice of:

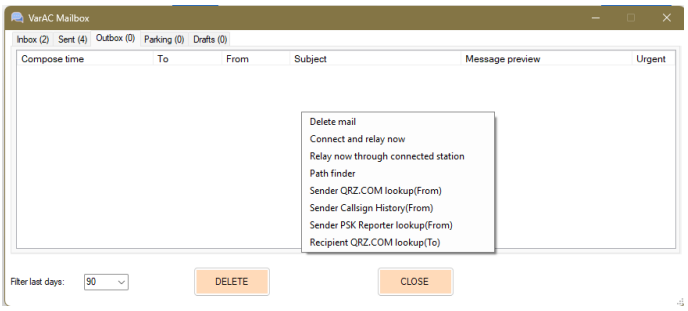
Delete mail
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)
Filter last days: Select the filter of the **Sent** messages

Example:
Sent message to 4Z1AC

After sending a VMAIL, you will receive a confirmation that the VMAIL has been delivered successfully.

```
14:31:25 - 4Z1AC> <R-15>
14:32:48 - ON2AD> <SM><TO:4Z1AC><FRM:ON2AD><SBJ:Test><MSG:Test for new Manual>
14:33:02 - 4Z1AC> <SMR>
14:33:02 - VMAIL DELIVERED SUCCESSFULLY
14:34:10 - QSO SUMMARY: Frequency: 14.105.000 (20m) Duration: 03:43
14:34:10 - DISCONNECTED FROM 4Z1AC
```

Outbox



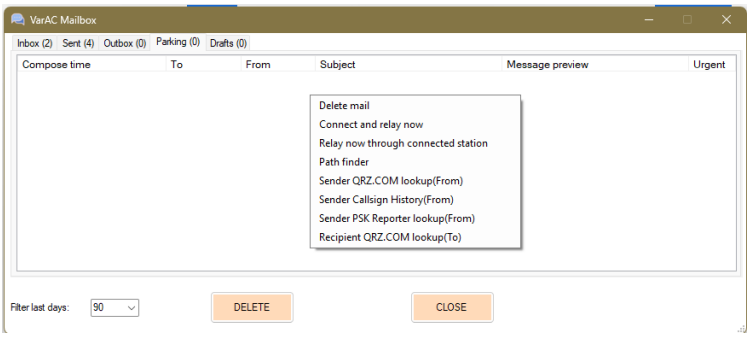
Outbox: The VMails to be sent are placed here, and they are only sent when there is a connection with the counterpart station.

Here you have the choice of:

Delete the mail
Connect and relay now
Relay now through connected station
Path finder
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)

Filter last days: Select the filter of the **Outbox** messages

Parking



Parking: This is where the VMails are parked

Whenever your station decodes a beacon, it will check if you are holding VMails for that station (either VMails you have written or VMails written by others that park in your mailbox).
Here you have the choice of:

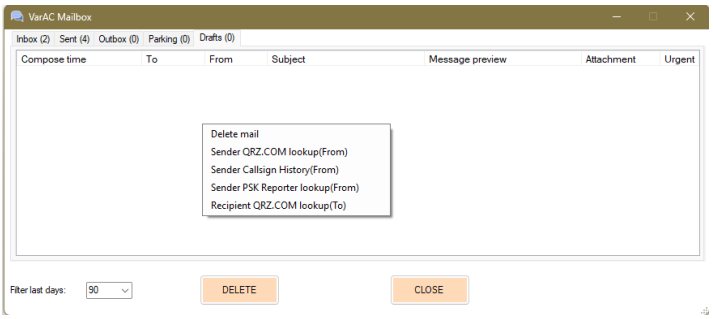
Delete the mail
Connect and relay now
Relay now through connected station
Path finder
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)

Filter last days: Select the filter of the **Parking** messages

Remark:

The VMAIL will not auto connect, only if you connect with the destination station (or vice versa) will your message relay.

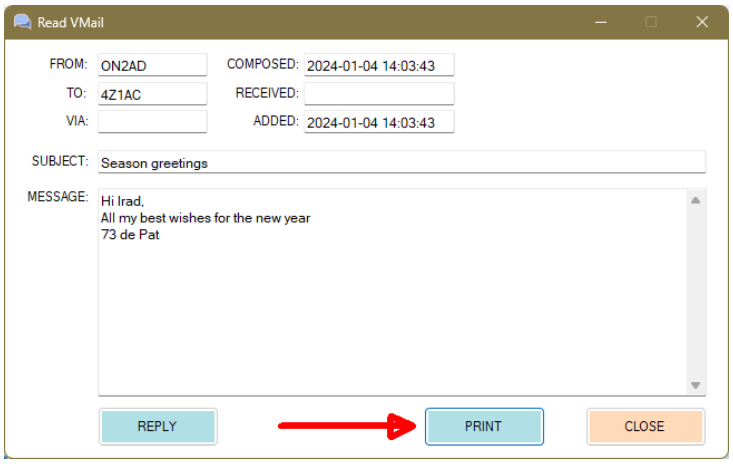
Drafts



Delete the mail
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)

Filter last days: Select the filter of the **Parking** messages

VMail printing




```
--------------------------- VARAC VMAIL ----------

COMPOSED: 2024-01-04 14:03:43
    FROM: ON2AD
    NAME:

RECEIVED:
      TO: 4Z1AC
RCVD SNR:
    BAND:

------------------------------------------------

SUBJECT: Season greetings

MESSAGE:

Hi Irad,
All my best wishes for the new year
73 de Pat
```

Tags in Vmail

Tags now function in VMails, allowing easy incorporation of data using <INFO>, <NAME>, <LOC>, <GPSLOC>, etc...

Callsign history

Once you are connected to that counterpart station, you can click on “See History” to view the complete “Previous QSO’s” the “Chat History” and the “Broadcast history” with this counterpart station.

The menu bar is the same as the main VarAC screen.

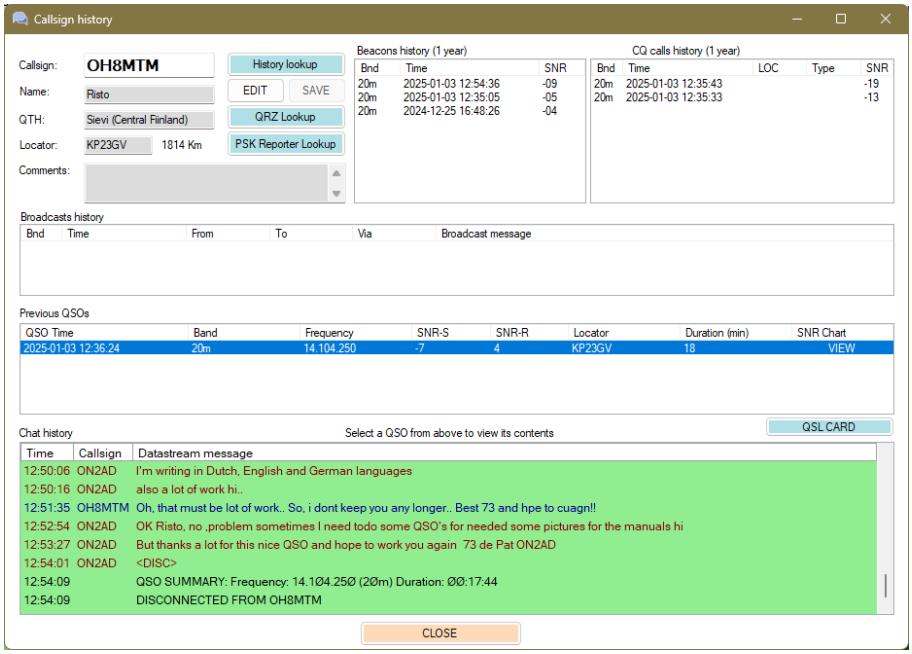
When clicking QRZ lookup a new QRZ.com window opens

There is also an option to activate the PSKReporter by clicking on the PSKReporter Lookup.

Callsign-history allows contact details edits and adding comments.

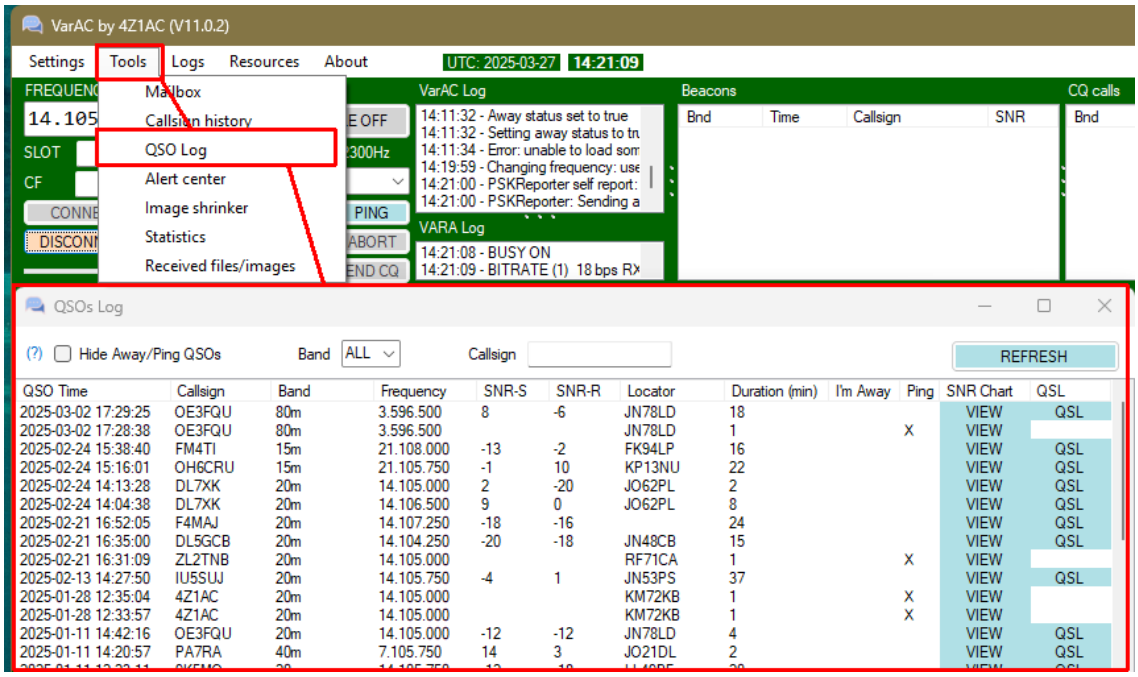
Click on “Close” to close this window

QSL CARD see QSL CARD

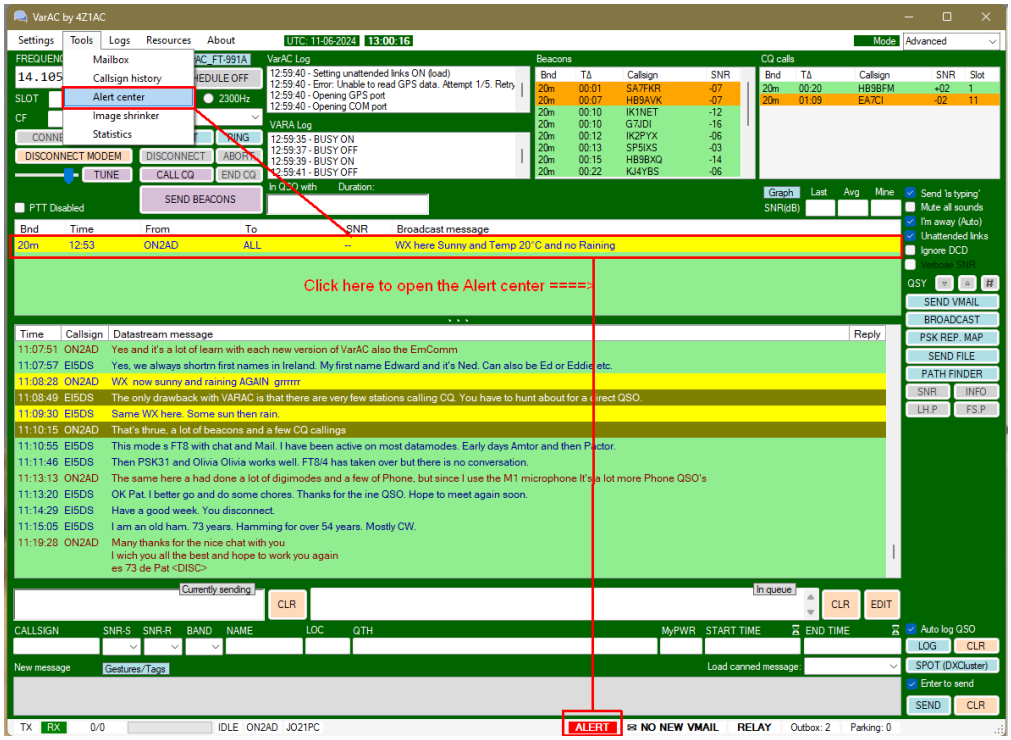


QSO Log

Words are not needed, this picture says it all!

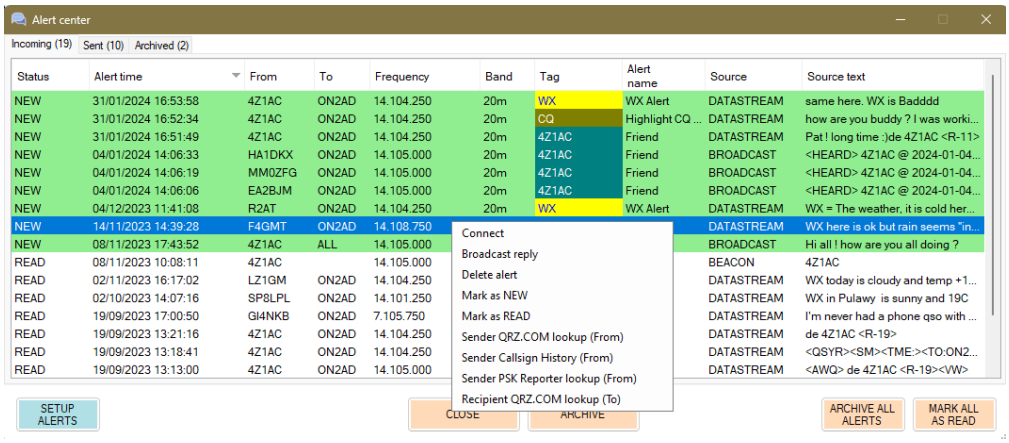


Alert center



Clicking on the **ALERT** or on the Alert center will open the Alert screen.

Incoming Alert



Incoming: This is where the Incoming ALERTS are placed
See Alert tags configuration

Here you have the choice of:

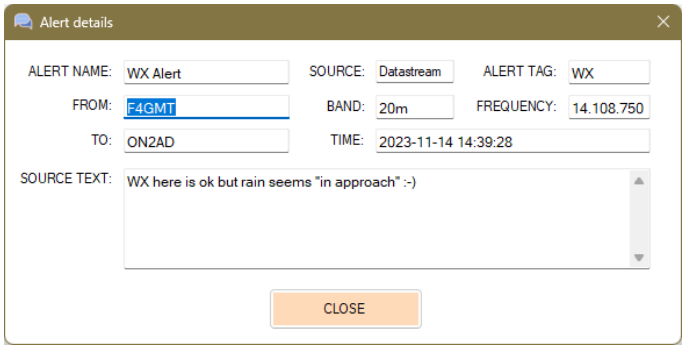
Connect
Broadcast reply
Delete alert
Mark as NEW
Mark as READ
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)

Setup Alerts: See Alert tags configuration
Archive All Alerts: Archive all the Alerts

Close: Close this window
Mark All as Read: Mark all as read

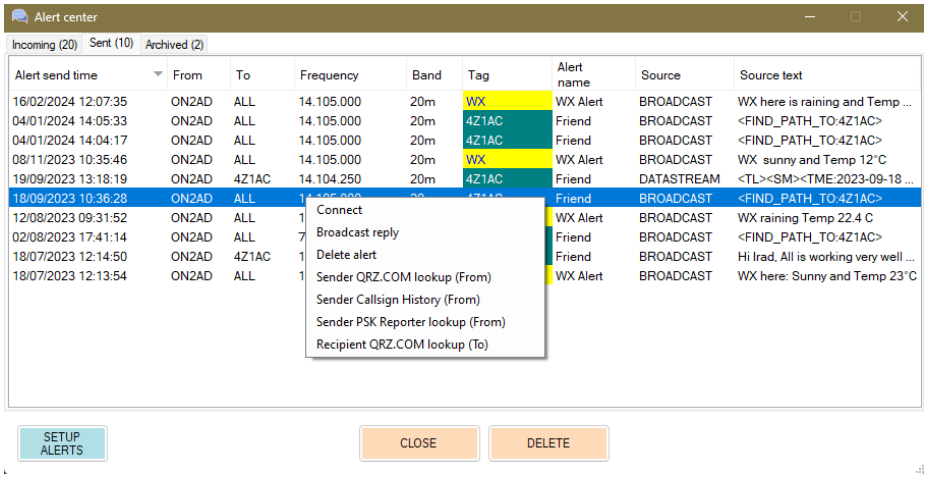
Archive: Archive this Alert

Twice clicking on an Alert tag will open a new window



This screen open after twice clicking on the ALERT tag, so you can read the full message

Sent Alert



Sent: This is where the Sent ALERTS are placed.
See Alert tags configuration

Here you have the choice of:

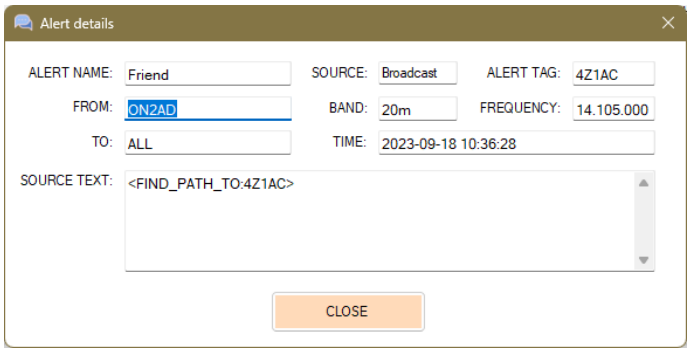
Connect
Broadcast reply
Delete alert
Mark as NEW
Mark as READ
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)

Setup Alerts: See Alert tags configuration
Archive All Alerts: Archive all the Alerts

Close: Close this window
Mark All as Read: Mark all as read

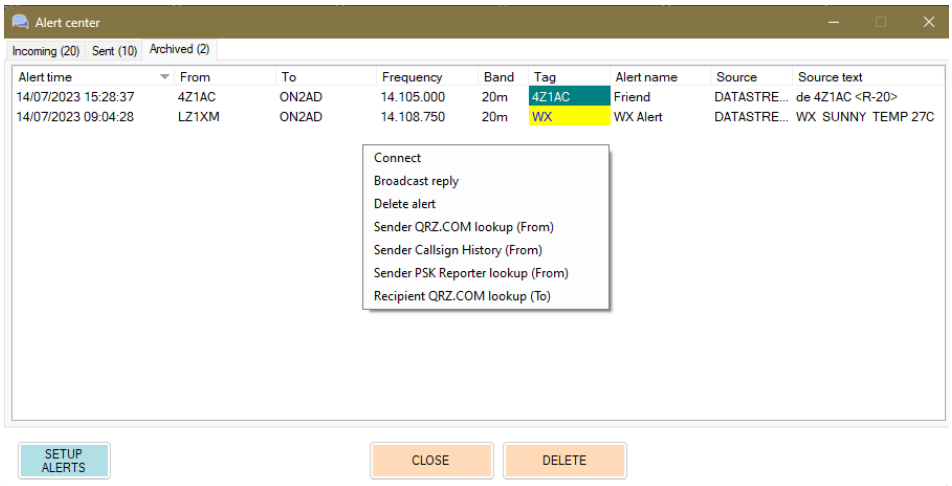
Archive: Archive this Alert

Twice clicking on the Alert tag will open a new window



This screen open after twice clicking on the ALERT tag, so you can read the full message.

Archived Alert



Archived: This is where the Archived ALERTS are placed.
See Alert tags configuration

Here you have the choice of:

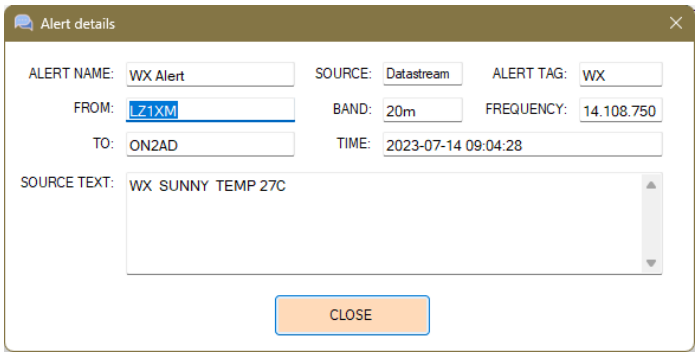
Connect
Broadcast reply
Delete alert
Sender QRZ.cm lookup (From)
Sender Callsign History (From)
Sender PSKReporter (From)
Recipient QRZ.com lookup (To)

Setup Alerts: See Alert tags configuration
Archive All Alerts: Archive all the Alerts

Close: Close this window
Mark All as Read: Mark all as read

Archive: Archive this Alert

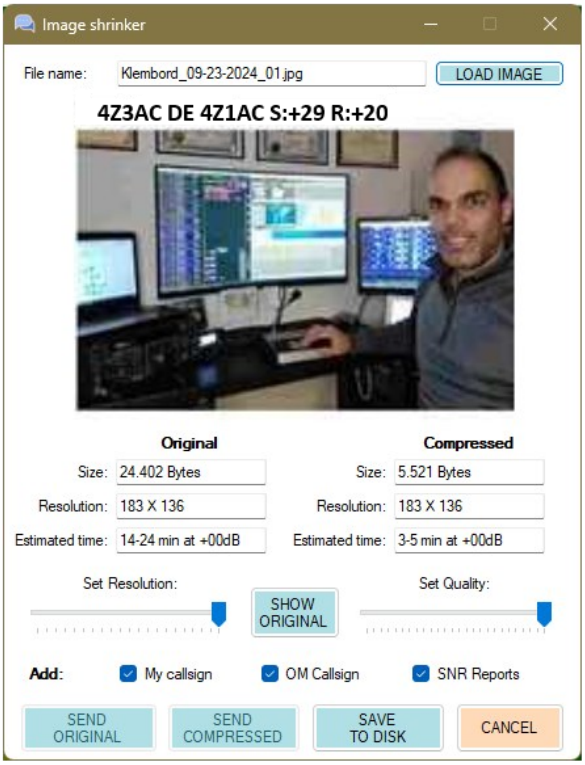
Twice clicking on the Alert tag will open a new window



This screen open after twice clicking on the ALERT tag, so you can read the full message

Image shrinker

Offline Image shrinker



Let us delve into the realm of images.

It was a tedious process sending an image of 100,000, only to find out that it takes forever. Plus, compressing an image can be a daunting task, especially if you are not well-versed in graphics editing software.

But VarAC now offers a handy offline image compression tool with a unique twist. Taking inspiration from SSTV (Slow Scan Television), you have the option to incorporate your own callsign and SNR (Signal-to-Noise Ratio) reports directly into the image.

Now it becomes easy to send large images by compressing them first.
In the example you see a file of 495,000 Bytes with a resolution of 2930 x 2084 that is compressed to 19,725 Bytes and only has a resolution of 703 x 500.

This distinctive feature sets it apart, ensuring a personalized touch to your compressed images.

Let us shift the focus from images and turn our attention to Alerts.

Alerts have become the cornerstone of VarAC EmComm operations, serving as a vital tool for monitoring critical messages and stations on a daily basis.

However, the challenge lies in keeping track of alerts originating from various sources such as Beacons, Broadcasts, and CQs.

Statistics

You have thought about the following questions:

How many VarAC QSOs have I already done?

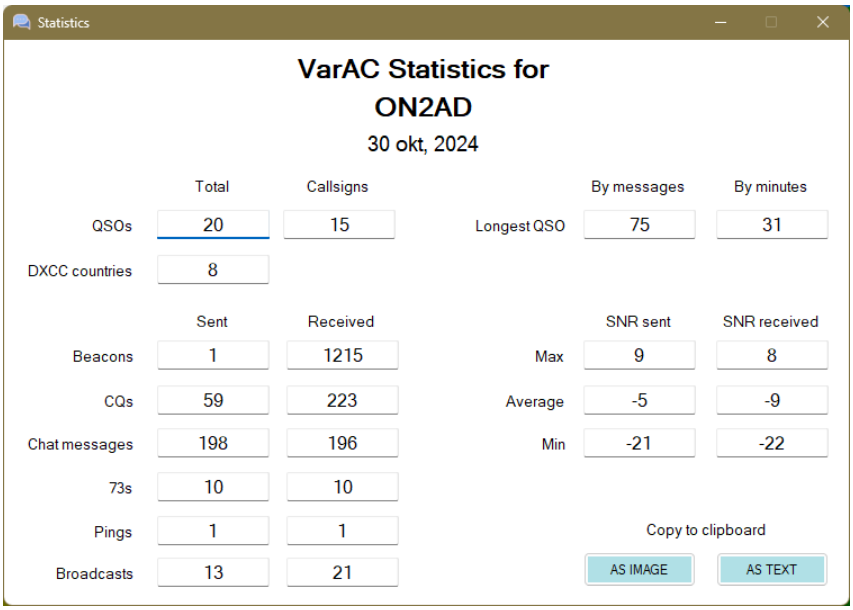
What was the highest SNR report I have ever received?

etc...

To access your individual statistics dashboard, simply navigate to Tools -> Statistics.

There is also an option to save this information as a text or image.

You can save this as an Image or as Text



As Text **As Image**

QSO (Total): 20
QSO (Distinct callsigns): 15
DXCC Countries: 8

Longest QSO:
By minutes: 31
By messages: 75

Beacons Sent: 1
Beacons received: 1215

CQs Sent: 59
CQs received: 223

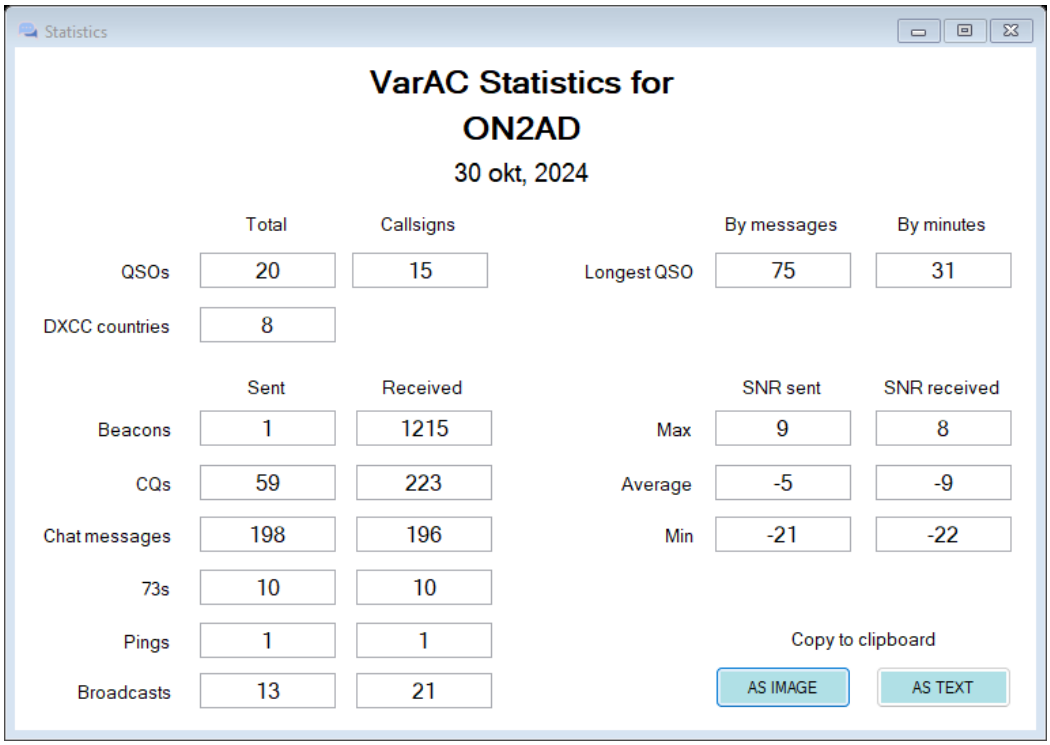
Chat messages Sent: 198
Chat messages Received: 196

73s Sent: 10
73s Received 10

Pings Sent: 1
Pings Received: 1

Broadcasts Sent: 13
Broadcasts Received: 21

SNRs Sent:
Max : 9
Avg : -5
Min -21
SNRs Received:
Max : 8
Avg : -9
Min -22

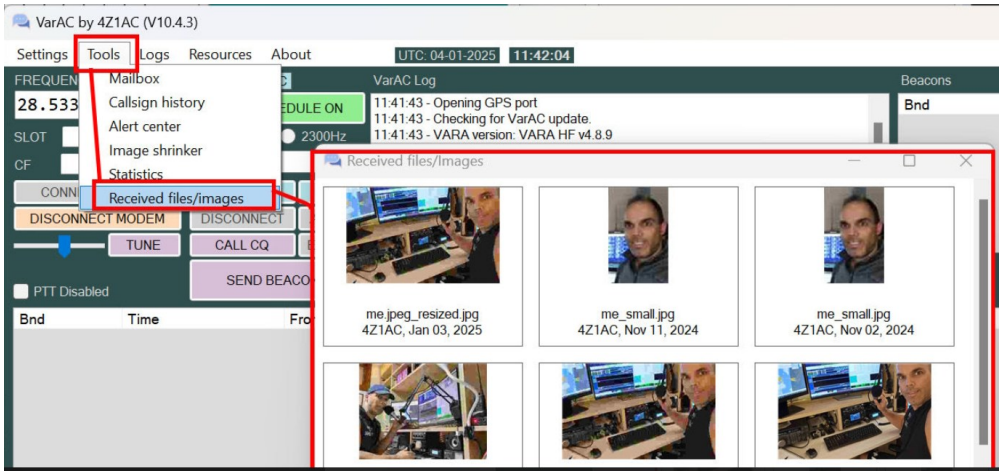


Received files/Images

Over time, you've received countless files and images during your QSO so now they are access in one place?

Simply navigate to Tools → Received Files/Images, and you'll enter the File & Image Gallery, where all your incoming files are neatly organized with: File Name, Callsign of the sender and Received Date.

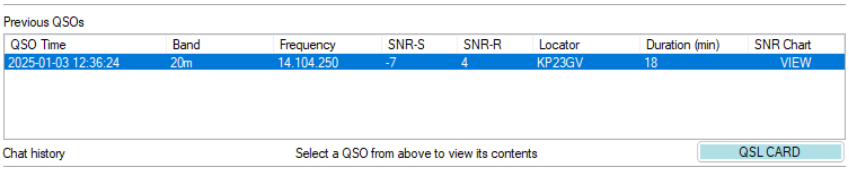
Click on any file to open it instantly—or, if it's an image, enlarge it for a better view!



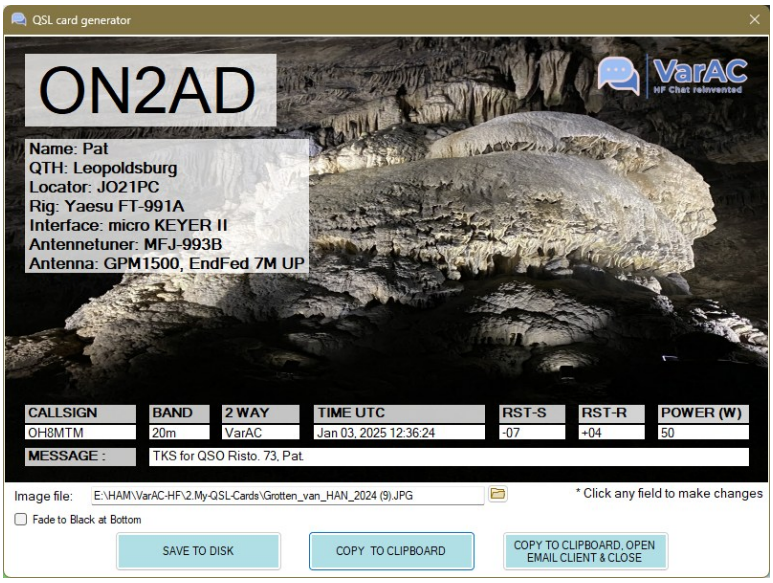
QSL Card

QSL creating

When open the Callsign history in the menu Tools and you fill in the callsign you worked and will send a QSL card and you press the "QSL CARD" button.
You will see the result as below, but with you info and image.



1. Open the "Callsign History" tool.
2. Enter a callsign you've had a QSO with.
3. Select any QSO from the list.
4. Click the "QSL Card" button.



You can customize your QSL with a personalized touch:

- Change the background image.
- Adjust the bottom color for better text visibility.

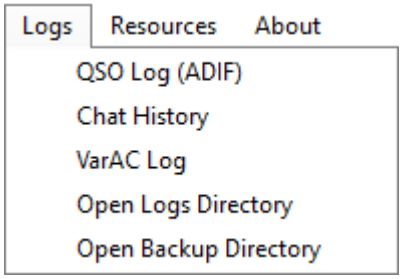
Once your QSL is ready, use the Copy to Clipboard option to paste it into an email and send it effortlessly.

Quick Access to QSL Generator

- On the main screen, you'll now find a brand-new "QSL" button in the bottom right corner.
  During a QSO → Clicking it will open the QSL generator preloaded with your current QSO data.
- After disconnecting → It will automatically load details from your most recent QSO, ready for you to generate and send your QSL instantly.



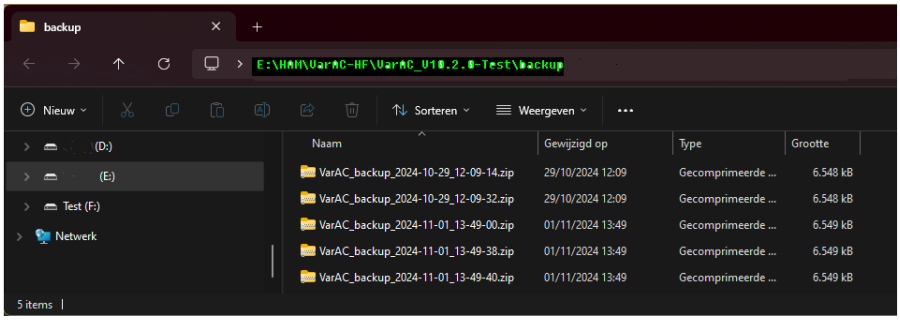
Logs



Easy access to all VarAC logs like:

QSO log (ADIF): here are your log in ADIF format(xxx.adi).
Chat history: Your chat history.
VarAC Log: Here are the whole VarAC log (not the logbook).
Open log directory: This open the VarAC folder.
Open Backup Directory: see Open backup directory

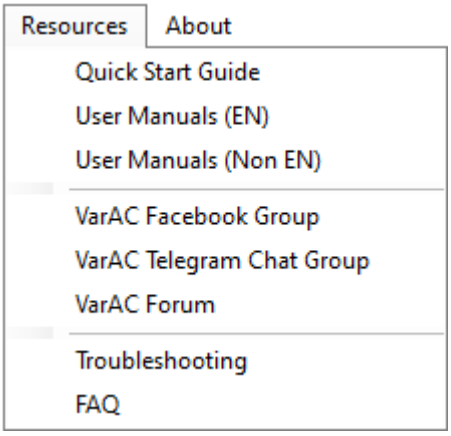
Open Backup directory



Here you can find your backup files in the directory which are selected in the menu

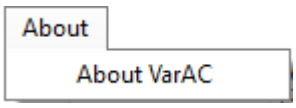
Rig Control and VARA Configurations / Misc.

Resources



Quick Start Guide	Opens the VarAC Quick Start Guide page.
User Manuals (EN)	Opens the English manual page.
User Manuals (Non EN)	Opens the manuals in the non-English language such as: Dutch, German, Spanish etc…
VarAC Facebook Group	Opens the Facebook page of VarAC
VarAC Telegram Chat group	Opens the Telegrams Chat group
VarAC Forum	Opens the VarAC Forum page
Troubleshooting	Opens the troubleshooting page.
FAQ	Opens the most Frequently Asked Questions page

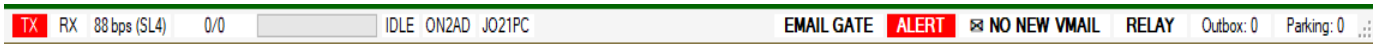
About



About:
About VarAC: with info about the version and Author of VarAC

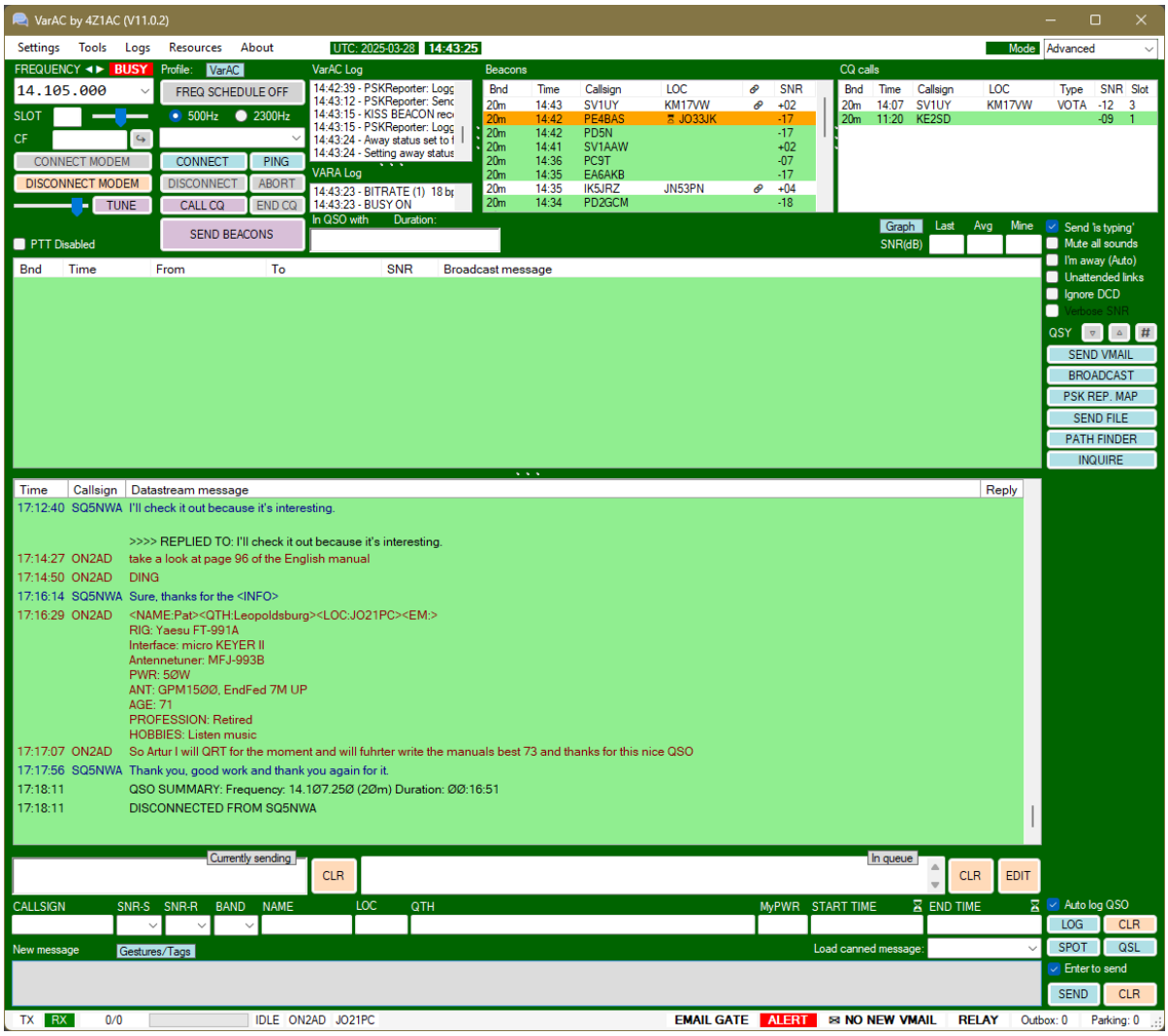
Bottom menu

0



TX RX	Receive modus
TX RX	Transmit modus
88bps (SL4)	Link speed indicator
0/0 IDLE	Idle Sent/Receive indicator
0/0 SENDING (15/23)	Sent indicator
474/476 RECEIVING (79/151)	Receive indicator
ON2AD	Your Callsign like setup in the Menu My Informations
JO21PC	Your locator
EMAIL GATE	The e-mail Gateway is deactivate
EMAIL GATE	The e-mail Gateway is active
ALERT	ALERT center
NO NEW VMAIL	No new VMails
1 NEW VMAILS	1 New VMail
RELAY	VMail_Relay
Outbox: 2	Outbox
Parking: 0	Parking

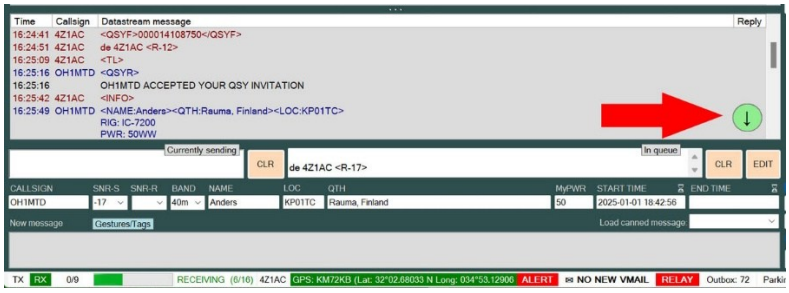
VarAC main screen



Scroll down indicator

When you scroll up, VarAC will automatically display a "quick scroll down" button.

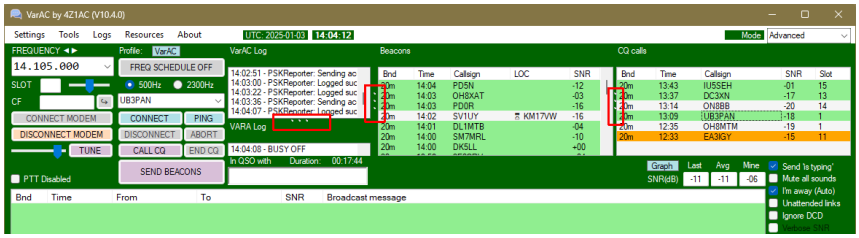
However, if a new message arrives while you're focused on an earlier part of the QSO, the icon will flash green, alerting you to a new message waiting further down.



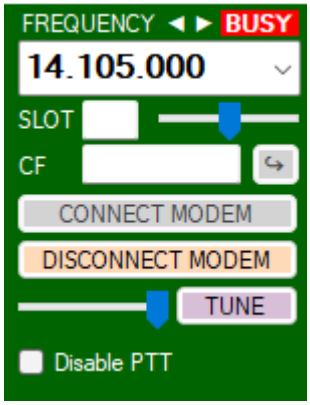
Adjustable Beacons/CQ/Log size

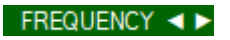
You can now easily resize those sections by dragging and dropping the separators (the 3 dots) between them.

Don't worry VarAC will remember your settings, so when you launch it again, everything will be just the way you left it.

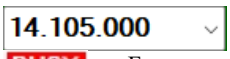


VarAC Commands





Increase or decrease the frequency by 750 Hz



Select a frequency with a drop-down button. See



Frequency BUSY indicator.

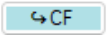


Here you see the SLOT number

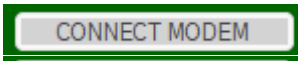

Slot slider



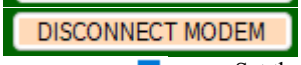
CALL Frequency



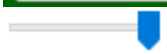
Returns to the **C**all **F**requency

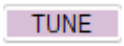


Connecting to the VARA modem



Disconnect the VARA modem


Set the VARA modem ALC level and keys the PTT to test it.

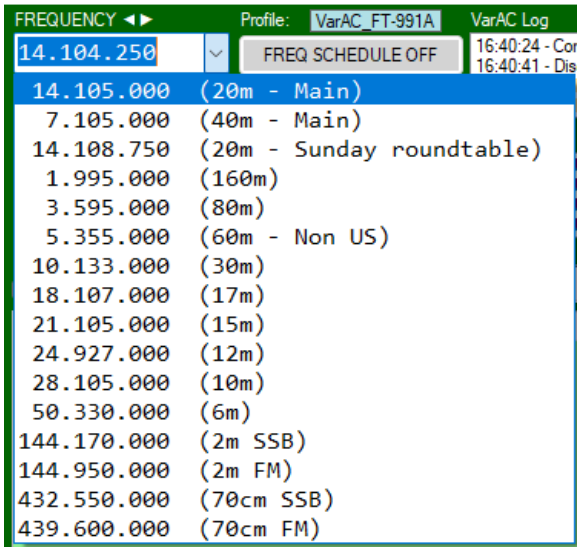


Tune signal. Note: only works with the paid VARA version
Safety mechanism for stuck PTT: Auto turning PTT off every minute while in active transmission



Switching the PTT on and off see VarAC cluster PTT lock

Calling Frequency (CF) (USB dial)



Band	-	Freq	MHz	
20M	-	14.105.000	MHz	Primary – day time
40M	-	7.105.000	MHz	Primary – night time
20M	-	14.108.750	MHz	Sunday roundtable
160M		1.995.000		
80M	-	3.595.000	MHz	
60M		5.355.000	MHz	Non US
30M	-	10.133.000	MHz	
17M	-	18.107.000	MHz	
15M	-	21.105.000	MHz	
12M	-	24.927.000	MHz	
10M	-	28.105.000	MHz	
6M	-	50.330.000	MHz	
2M	-	144.170.000	MHz	SSB
2M	-	144.950.000	MHz	FM
70CM	-	432.550.000	MHz	SSB
70CM	-	439.600.000	MHz	FM

Important note:

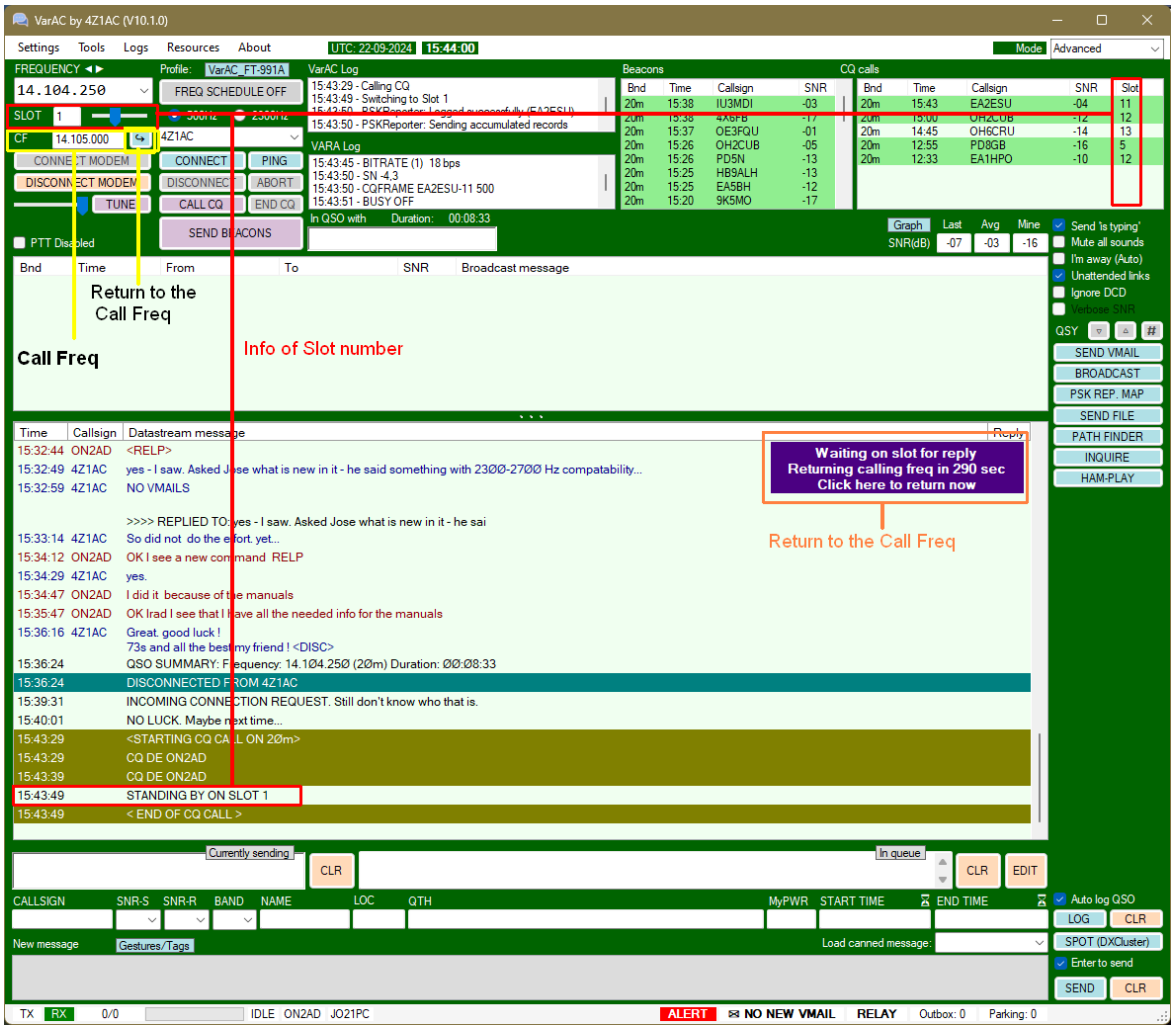
Some Emcomm groups start their own frequencies for their operations. This means that they add additional frequencies to the dropdown and use the other frequency as their CF for their EmComm operations.

What they have found is that Vmails are being forwarded on the CF, while they also want their team members to QSY to a slot around their CF. Thus there is a VarAC CF restriction on other frequencies.

This means - any frequency listed in the dropdown is considered a CF and therefore has restrictions.

Your VarAC will not forward Vmail or send a file while tuned to a frequency listed in the dropdown.

Slots



The problem

VarAC QRGs becomes highly busy. The QSY UP/DOWN frequencies are sometimes also in use simultaneously. This leaves no room for people to CALL CQs or conduct long QSOs.

The Solution

Creating a SLOT-based mechanism. Here are the main principles of this model:

Band plan:

1. A single calling QRG (ex. 14.105.000) per band.
2. 10 slots around the main QRG with +-750Hz steps. Ex.:
   a. Above QRG : 14.105.750, 14.106.500, 14.107.250, 14.108.000, 14.108.750
   b. Below QRG: 14.104.250, 14.103.500, 14.102.750, 14.102.000, 14.101.250
3. Each slot will be given a number – AKA SLOT-ID: Ex. SLOT-ID 1,2,3…

QSO-workflow

4. User clicks "Call CQ"
5. User A chooses a SLOT
6. Checks that the SLOT is not occupied :
   A SLOT SNIFFER button – this button will allow the user to temporarily QSY to the SLOT and listen if it is free.
   Holding the button down will listen on the SLOT.
   Releasing it will jump back to the calling QRG.
7. User A calls CQ on the main QRG with an SSID that points to the SLOT-ID that the user desires to have a QSO on.
   Example: CQ DE 4Z1AC-4 which stands for: "I standby on Slot #4"
8. After the CQ, User A will automatically QSY to the relevant SLOT waiting for an incoming connection request.
9. The CQ call will appear on Last-Heard-CQ with the SLOT-ID indication for users that monitors the calling QRG.
10. User B double click User A callsign on the LH CQ list.
11. User B automatically QSY to the identified SLOT and makes a connection attempt.
12. User A and User B connect on the SLOT and conduct a QSO.

13. Once the QSO ends, Both users will remain on the slot. A “Back to Calling frequency” button will be enabled to allow them an easy skip back.

New configurable parameters under settings

CQ SLOT WAIT TIME = from 60 till 3600 seconds (1 to 60 minutes): how much time a station will park on the SLOT for incoming calls following a CQ call. See CQs/Beacons

Additional notes

If a QSO takes place on the main QRG for any reason, CQ calls can still be decoded quite well by others so it will have some, yet minimal effect on the model.

The model is relative. Meaning that SLOT ID frequencies will be calculated based on the parking QRG. Users can create their own SLOT plans on other frequencies just be deciding on an agreed calling QRG.

The QSY UP/DOWN/# will remain as is. People can still move around in case of QRM.

500Hz or 2300Hz

Well, we want to be efficient. So by default all VarAC QSOs are made in 500Hz. if you want to test a wider bandwidth, feel free to do so, but choose another frequency not listed in the VarAC QRGs and try it out. Just be respectful to other HAMs on the band.

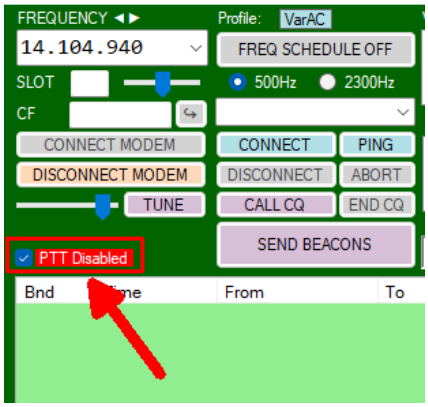
Note: On the VarAC CQ frequency, the 2300 Hz is locked

VarAC cluster PTT lock

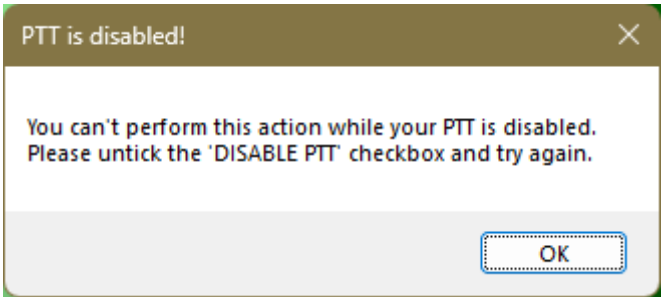
see Additional Cluster configuration

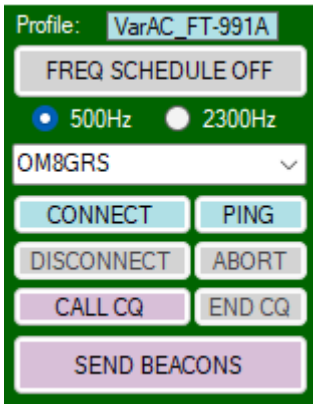


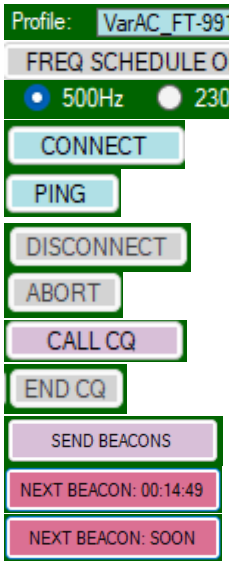
If “Disabled PTT” is enabled and you try to connect, a window will appear reminding you to disable it first.



This feature to ensure that when one VarAC is active, whether in a QSO or relaying VMailVMails, it will now automatically lock the PTT for all other VarACs, preventing the attempt of simultaneous transmissions.







This is your selected Profile **see Switch profile**

FREQ SCHEDULE ON **See Frequency schedule**

The selected bandwidth see 500Hz or 2300Hz

Make your connection

Connect only to get a report followed by a disconnect.
Limiting Ping time to 80 seconds on the CF
Disconnect from…..

Abort

Click this button to send your CQ

Click this button to end the CQ call

send your beacon see CQ/Beacons

Time for the next Beacon transmit see CQ/Beacons

Next beacon wild send soon



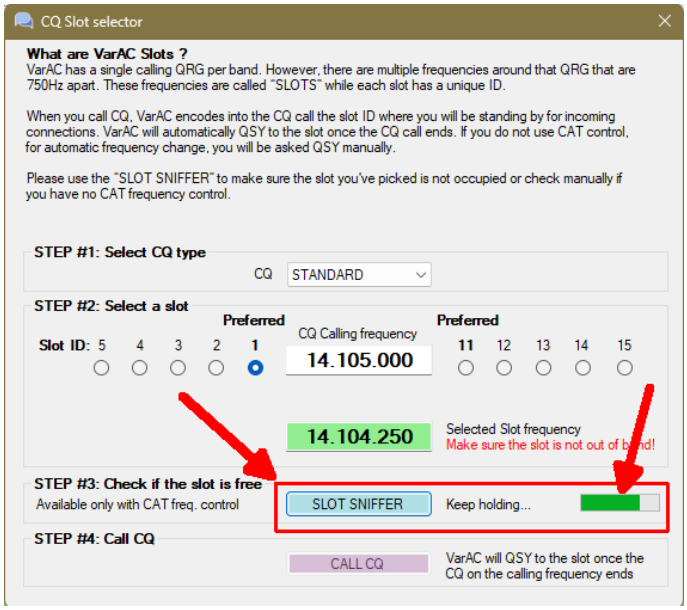
If your are in Beacon modus and disabled the PTT then you become this paused message

CALL CQ

See also Slots

What are Slots?

VarAC has a single calling QRG per band. However, there are multiple manual frequencies around that QRG that are 750 Hz apart. These frequencies are called "SLOTS" while each slot has a unique ID.



When clicking the CALL CQ button, the following window will appear.
Here you can choose from different “Slots”.

When you call CQ, VarAC encodes into the CQ call the slot ID where you will be standing by incoming connections.

VarAC will automatically QSY to the slot once the CQ Call ends. If you do not use CAT control, for automatic frequency change, you will be asked QSY manually.

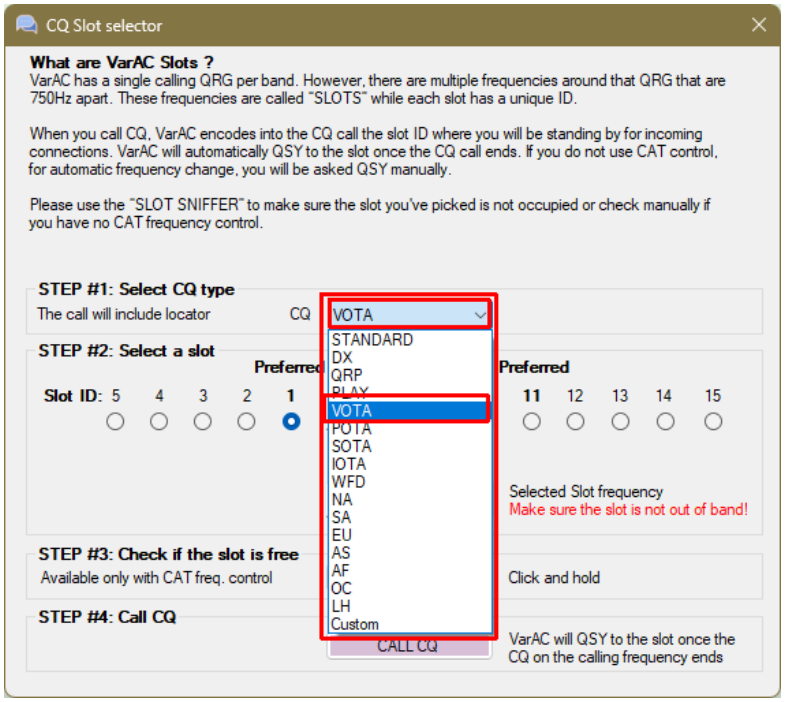
Please use the "SLOT SNIFFER" to make sure the slot is not occupied or check manually if you have no CAT frequency control.

If no answer, your Rig will QSY back to the CF (Call Frequency)



To incentivize users to invest more time in QSY sniffing before sending a QSY invitation, a small countdown progress bar will now appear upon sniffing the QSY frequency.

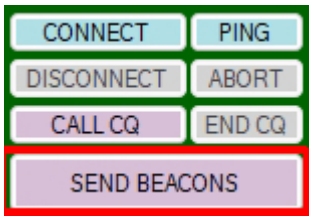
CQ Calling selector



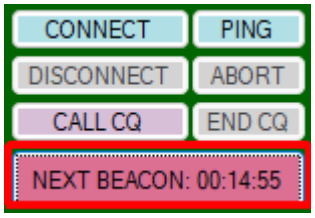
Here you have the option to choose how you wish to send CQ.
Standard
DX
QRP
PLAY
VOTA
POTA
SOTA
IOTA
WFD
NA
SA
EU
AS
AFR
OC
LH
FF
or your own choice that you select via Custom, such as CQ TEST

Note: If you do not have CAT control or wish to do a QSO on the call frequency then you must check the “Skip CQ slot selector” in the menu “Settings/Rig Control and VARA Configurations”.
Please note this method is NOT recommended.

Send beacons



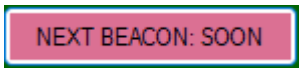
See Beacon interval (minutes)



In the box NEXT BEACON: xx:xx min you can see when the next beacon will be broadcast.

To stop broadcasting the beacons just click:
NEXT BEACON: xx:xx:xx

Remark
xx:xx:xx indicates the duration



It's mean that the Frequency is busy, and when the Freq is free , the beacon will send

CQ and beacons

VarAC offers two different ways to let other VarAC users know that you are online.

What should I use?

- Looking for someone to chat with NOW? Press the CQ button.
  Did not get an answer? try it a few more times.
- Want to leave your RIG open and accept incoming connections while you are with other business - press the BEACON button.

Tip

Leaving your RIG on the QRG with VarAC open will intercept other users' beacons.
Right click a beacon to connect.

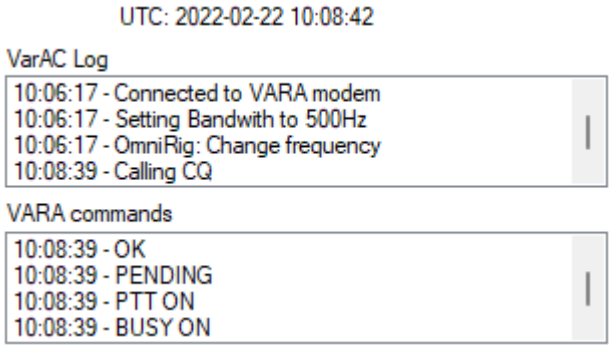
What are the limitations of using VarAC beacons?

Beacons are great. But they can also become a nightmare for your fellow HAMs. Therefore, some limits are built in:
Beacons turn off automatically after 24 hours.
Minimum beacon period is 15 minutes.

Beacons will not activate if the frequency is identified as BUSY with a pending VARA QSO or other beacons/CQ calls. It waits 60 seconds from the time the frequency is cleared before sending a beacon.

Beacons will not activate while in the middle of a QSO/CQ, even if it is enabled. In other words, you do not have to turn off beacons while chatting or CQing. It stays lit once you end your CQ/Chat.

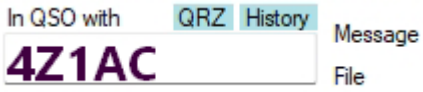
Log & VARA commands



Clock and the UTC time.
as YYYY-MM-DD hh:mm:ss
VarAC Log:
Here you can see all the info like Connected to VARA modem.
That the band with is 500 Hz
That OmniRig change the frequency

That you Call CQ
Or the you call via the Beacon
That you are connected to station XXXXX etc…
VARA commands:
Vara OK or ….
Is Pending
Your PTT is ON or OFF
Frequency is busy
The SN is visible etc…

In QSO with

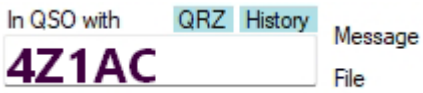


If you are connected to a counterpart station, the callsign of the counterpart station will be displayed and you can see the History and QRZ.com page

See History

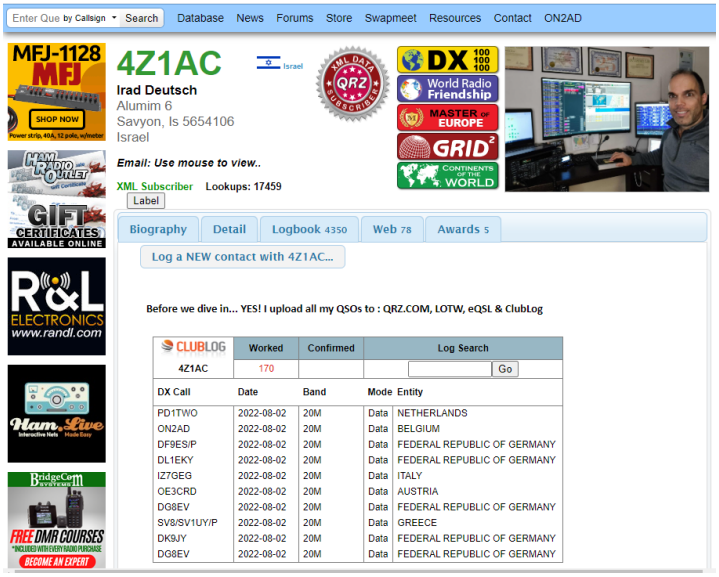


Zie QRZ.com



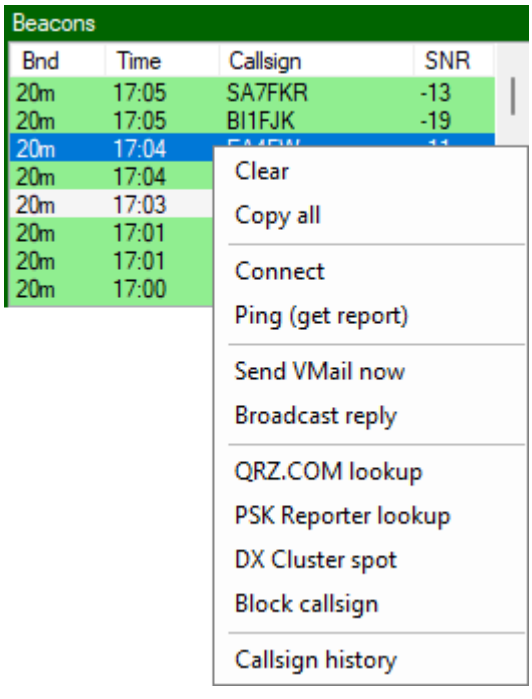
If you are connected to a counterpart, the counterpart's callsign will be displayed

QRZ Clicking on the QRZ opens the QRZ.com page of your chat partner



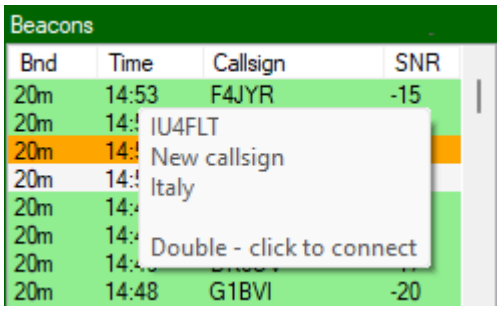
Last heard beacons

Here you find a list of stations that have access the beacon function.
When you hoover with your mouse in a green/orange/non-coloured line you will get a tooltip explaining the coloured lines.



By select a Call and press on the right mouse button on that Callsign a new window open for the next info:

Clear	Select that Call and then left mouse click for clear this Callsign.
Copy all	Copy it all.
Connect	Connect this Callsign.
Ping (get report)	Select that Call and then left mouse click for get your report.
Send VMail now	Send your VMail.
Broadcast reply	Replay of a broadcast.
QRZ.COM lookup	Select that Call and then left mouse click for lookup QRZ.com.
PSK Reporter Lookup	see their PSKReporter spots.
DX Cluster spot	see Additional Cluster configuration
Block callsign	Right-click on a callsign in the main screen to block it instantly.
Callsign history	Go to the Callsign history.



Move your mouse over a Callsign and you will see some info.

As:
His callsign
Worked before or new Callsign
Country
Showing VMail relay notification in the beacons list
And…

See Legends of color

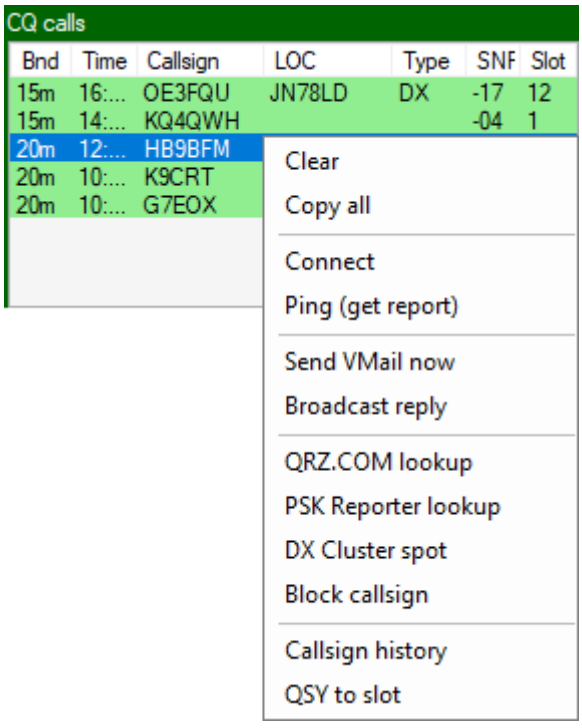


The relay notification mechanism has been enhanced. In addition to the RELAY alerts displayed at the bottom strip, they will now also be highlighted in a more prominent manner within the Beacons sections. If you notice a small envelope icon, it indicates that this station has a VMail waiting for you.

See Legends of color

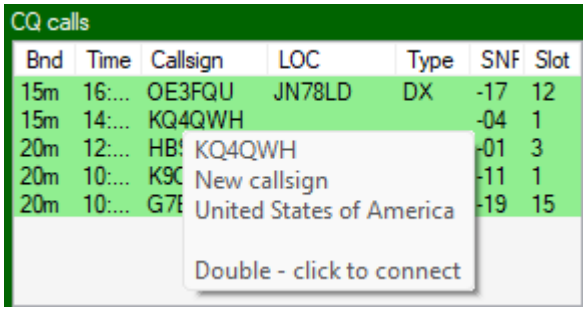
Last heard CQ Calls

Here you find a list of stations that have calling CQ.



By select a Call and press on the right mouse button on that Callsign a new window open for the next info:

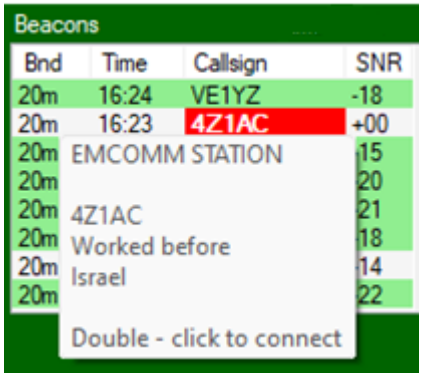
Clear	Select that Call and then left mouse click for clear this Callsign.
Copy all	Copy it all.
Connect	Connect this Callsign.
Ping (get report)	Select that Call and then left mouse click for get your report.
Send VMail now	Send your VMail.
Broadcast reply	Replay of a broadcast.
QRZ.COM lookup	Select that Call and then left mouse click for lookup QRZ.com.
PSK Reporter Lookup	see their PSKReporter spots.
DX Cluster spot	see Additional Cluster configuration
Block callsign	Right-click on a callsign in the main screen to block it instantly.
Callsign history	Go to the Callsign history.
QSY to Slot	QSY to slot



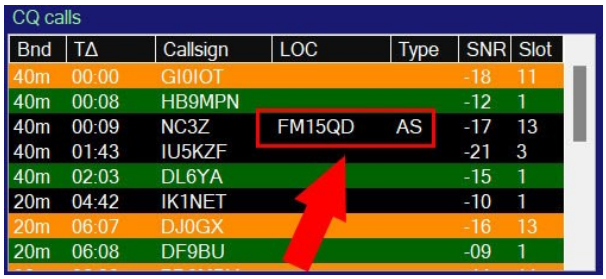
Move your mouse over a Callsign and you will see some info.

As:
His callsign
Worked before or new Callsign.
Country
Locator in special CQs
And…

See Legends of color



Here you will see that an EmComm station is calling a beacon

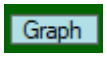


The revolution in VARA broadcasts now enables VarAC to utilize the new VARA un-proto packets for enhanced functionalities.
In addition to the standard CQ, users can now initiate a special CQ, comprising two additional elements:
CQ type (selectable from a dropdown list or enter your own)
Grid Locator
This new CQ is transmitted in SL2, which is nearly as efficient as SL1, the speed of standard CQ transmissions.
The CQ wizard has been updated to accommodate these new CQ options.

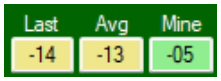
Please note that the additional Type & Locator fields will only appear if you have received at least one special type of CQ.

Middle menu



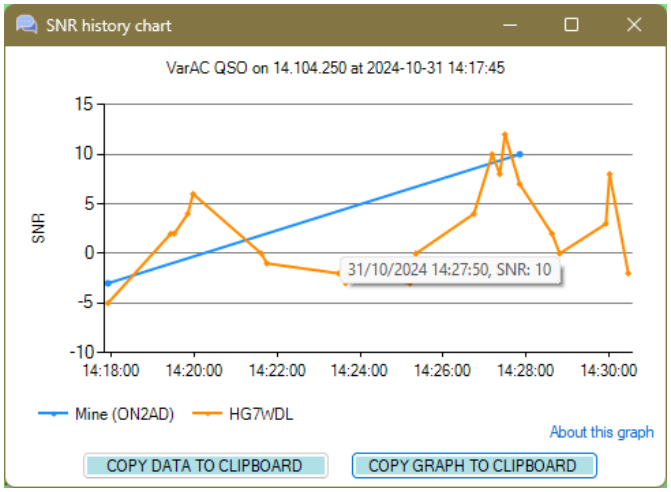


see Graph



SNR (dB):
Last: His signal in dB
Avg: signal in dB
Mine: My received signal in dB

Graph

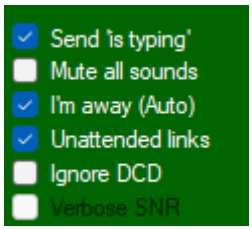


Here you can track the SNR reports during the QSO.

There are more reports of your partner as VarAC tracks the SNR every time a message is received while your SNR is reported by your QSO partner only occasionally.

Use the SNR button on the main screen if you wish to get an updated SNR report.

Hovering over points on the SNR graph shows tooltips with data values.



Send is typing	see send is typing
Mute all sounds	see also Appearance and sounds settings
I am away (auto)	see Auto away
Unattendend links	see Unattended links
Ignore DCD	see Ignore DCD
Verbose SNR	see Verbose SNR

Ignore DCD

When persistent noise triggers the BUSY indicator, instruct VarAC to temporarily disregard it during tasks such as Beaconing, Calling CQ, Tuning, or Broadcasting.

PLEASE NOTE: Use this feature sparingly activating it only when needed.

Note that this setting resets itself to ‘Inactive’ within 2 hours or upon VarAC startup.

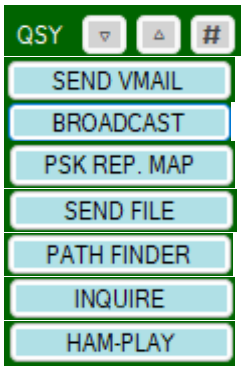
Unattendend links

Certain regulations, like FCC Part 97.221, authorize unattended links on specific frequencies, with beaconing remaining a permissible operation. If you want to maintain beaconing functionality while, for any reason, you need to disable incoming connections, you can now find a new checkbox on the primary VarAC console to achieve this.

More Information

Unattended link works in parallel with your away status.
So let’s say you don’t want unattended links.
So you uncheck it.
Now it is all down to your away status.
If you want manual control, simply disable the "auto away" feature under settings.
Otherwise leave it there and once you do not touch VarAC, you away status will automatically kick in and no unattended links will be made.

IMPORTANT:
By change to the EmComm mode UI will the Unattended links and the Auto log QSO reset, and they are hidden, you can not change this.
So if you go after the EmComm UI to the Normal or Advanced UI, disable the Unattended links, if you for some reasons not will have Unattended links.



see QSY code of conduct

See Send VMail

See Broadcast

See PSK report map

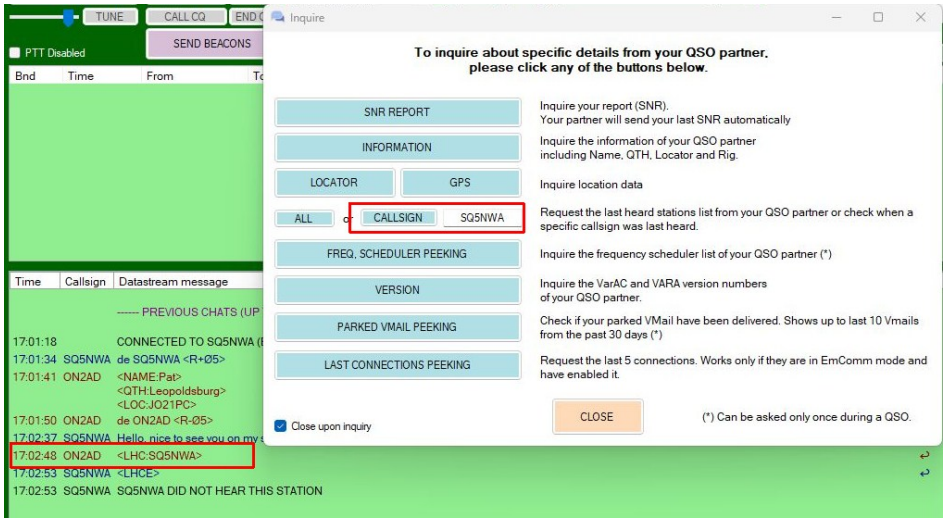
Click this button and select the file you wish to send.

See Path Finder

See Inquire

See Ham-Play

Inquire



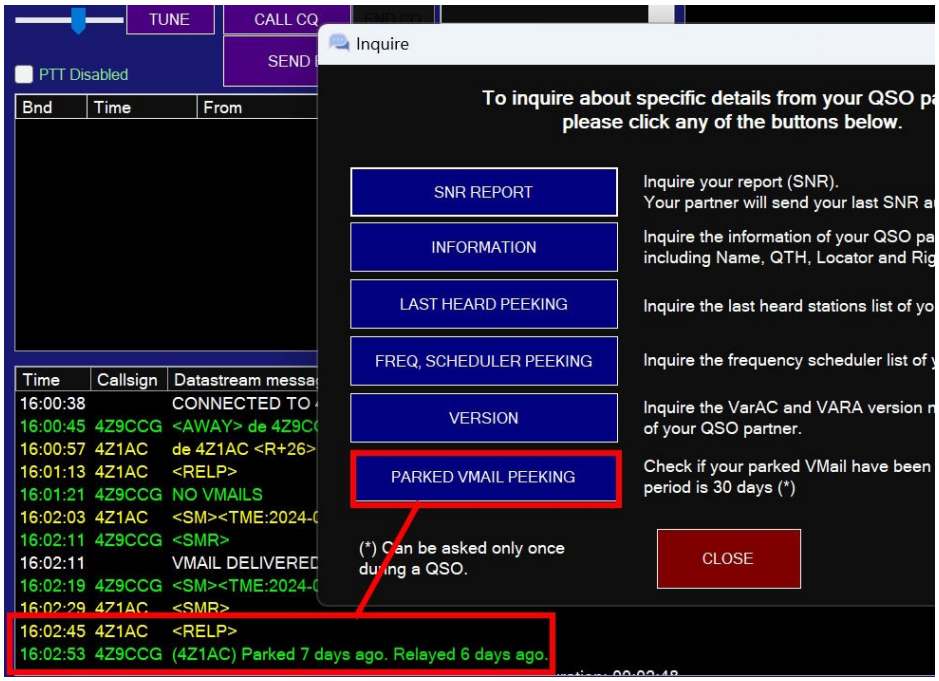
SNR Report	As command **<SNR>**	
Information	As command **<INFO>**	
Locator	Inquire only the locator of you QSO partner	
GPS	You can now request the exact GPS location of your QSO partner using the Inquire module!	See Request data tags
All or Callsign	Request the last heard stations list from your QSO partner or check when a specific callsign was last heard see Command **<LHC>**	
Freq. scheduler peeking	As command **<FSP>**	
Version	As command **<VER>**	
Parked VMail peeking	As command **<RELP>**	See Parked VMail Peeking

Last Connections Peeking	As command **<LCR>** and **<LCJ>**	See Last connection peek

Inquire Window Control

Option to close the Inquire window after each inquiry or keep it open for additional inquiries.

Parked VMail Peeking



Have you ever parked a VMail at a mediator station, hoping it would reach its destination but never got confirmation of delivery?
Not anymore.

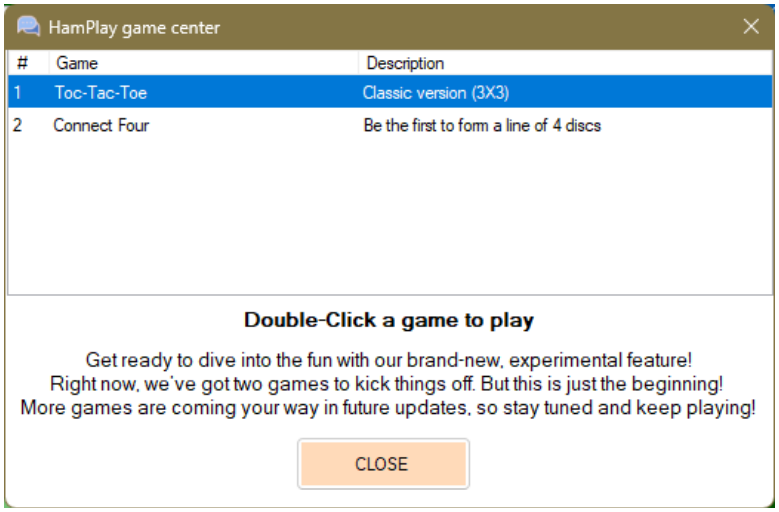
With V10, when you connect with someone, simply use the new 'Inquire' feature, 'Parked VMail Peeking.

You'll receive a report from the mediator, letting you know if and when your messages were delivered.

Last Connection Peek

Request the last 5 connections. Works only if they are in EmComm mode and have enabled it.

Ham-Play



To play a game, you must connect to someone first to invite them to a game.

Once you've connected with someone and moved off the calling frequency, you can send your QSO partner a HamPlay invitation. They can choose to accept or decline, and if accepted, the fun begins! VarAC will guide you through the game, complete with real-time updates and cool sound effects.

Not into games on the radio? No problem! You can easily disable HamPlay in the new settings section, and your VarAC will automatically reject any HamPlay invitations.

You can chat while playing! but be aware that your Datastream may get cluttered with game-related packets.
If you'd like to minimize those, just enable 'Suppress HamPlay Move Packets' in the settings menu under the new HamPlay tab.

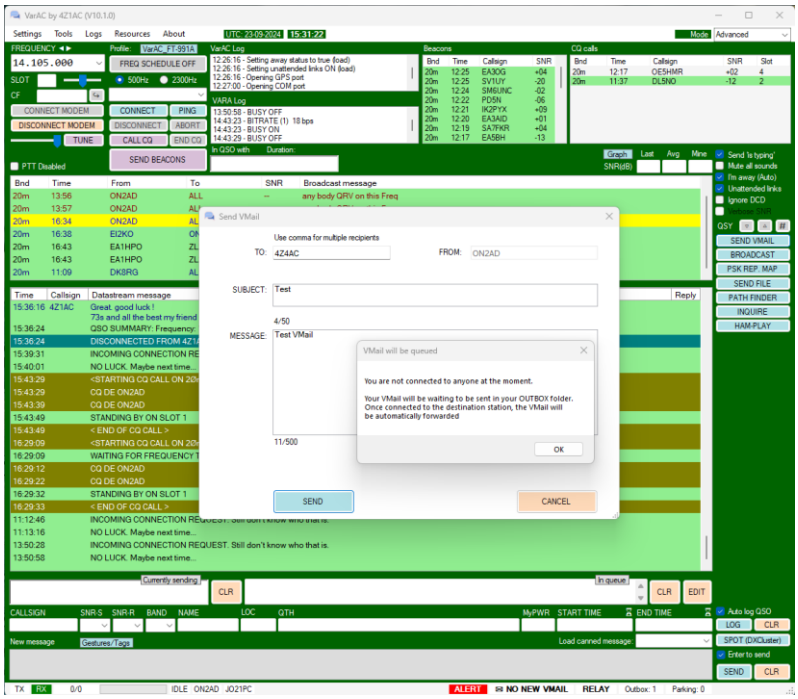
Alright, moving on. Until now, your VarAC console was cluttered with numerous buttons for data inquiries—SNR, LHP, FSP, and more. Aside from the fact that some of these weren't exactly self-explanatory (What on earth is FSP?!), they also took up a lot of valuable screen space...

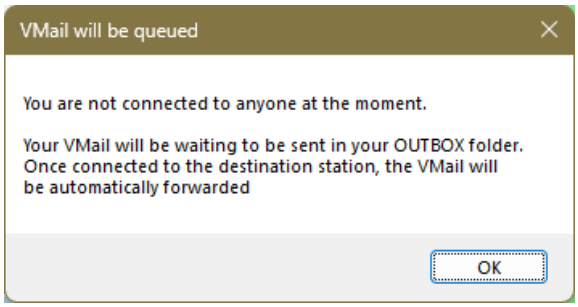
Tip:

You can use the CQ "Play" option to signal people that you are seeking a game play QSO.

See CQ Calling selector

Send VMail



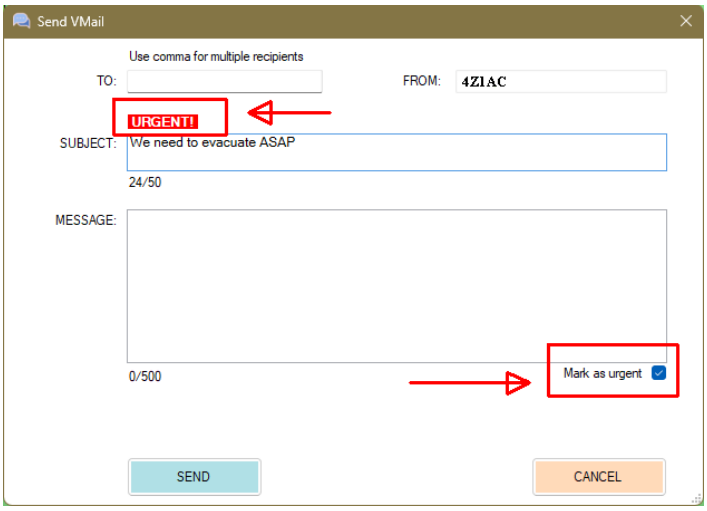


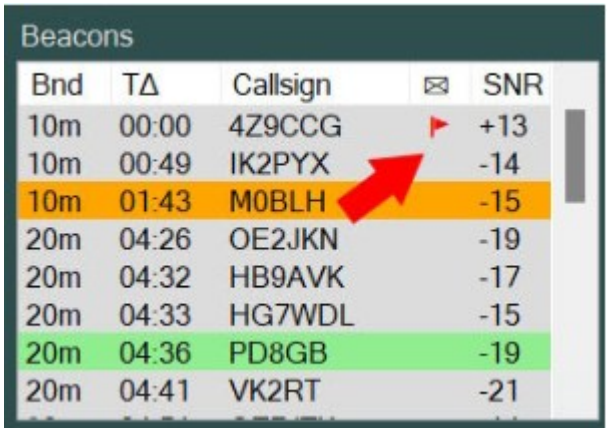
Send Urgent VMails

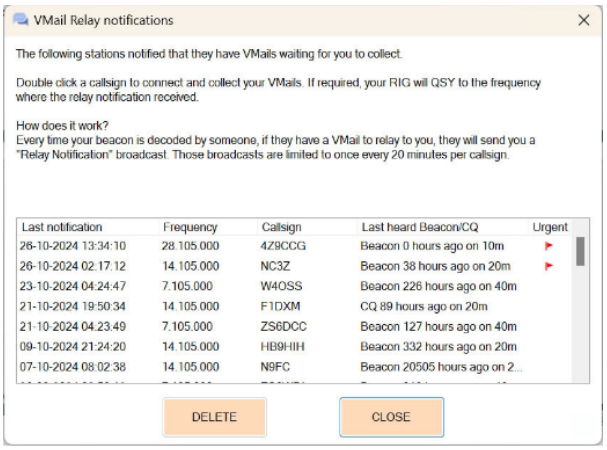
A relay notification will appear as "Urgent" on the recipient's end, marked with a small red icon in both the Relay Center and Beacon list. In the Mailbox, Urgent VMails will also be flagged with a red symbol for visibility.

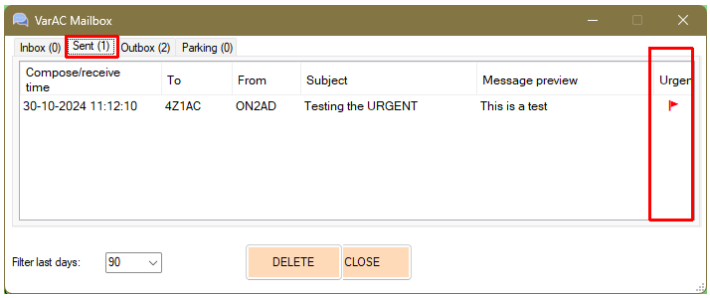
By default, any VMails composed while in EmComm mode will automatically be marked as Urgent, unless the operator chooses otherwise.

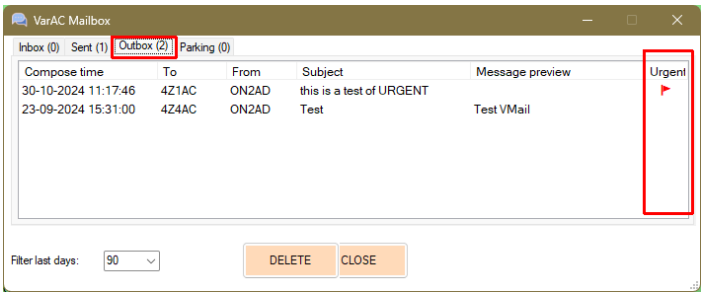
Note: Urgent relay notifications work only if both users are on V10.2. or higher





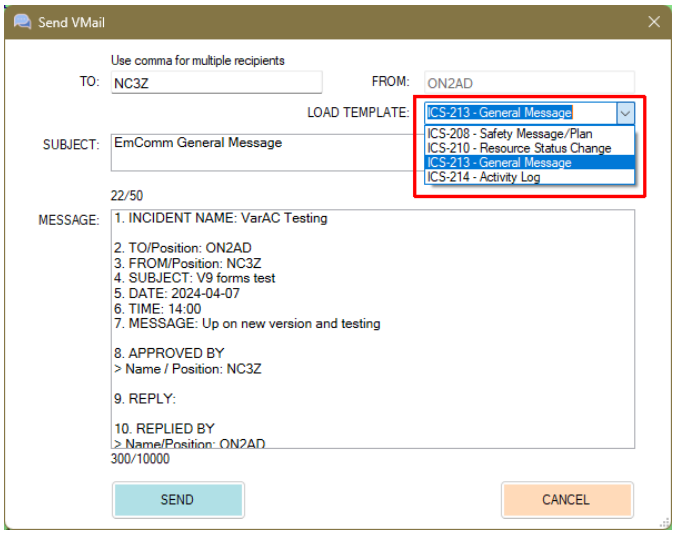


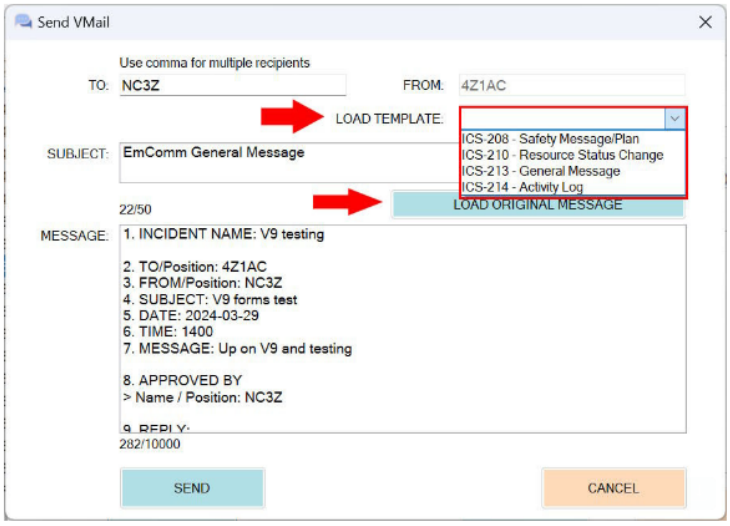




Your VarAC stores a significant amount of data: QSO logs, chat history, SNR readings, beacons, CQs, and more.
Losing this information due to a malfunction can be both frustrating and costly.

Send EmComm VMail





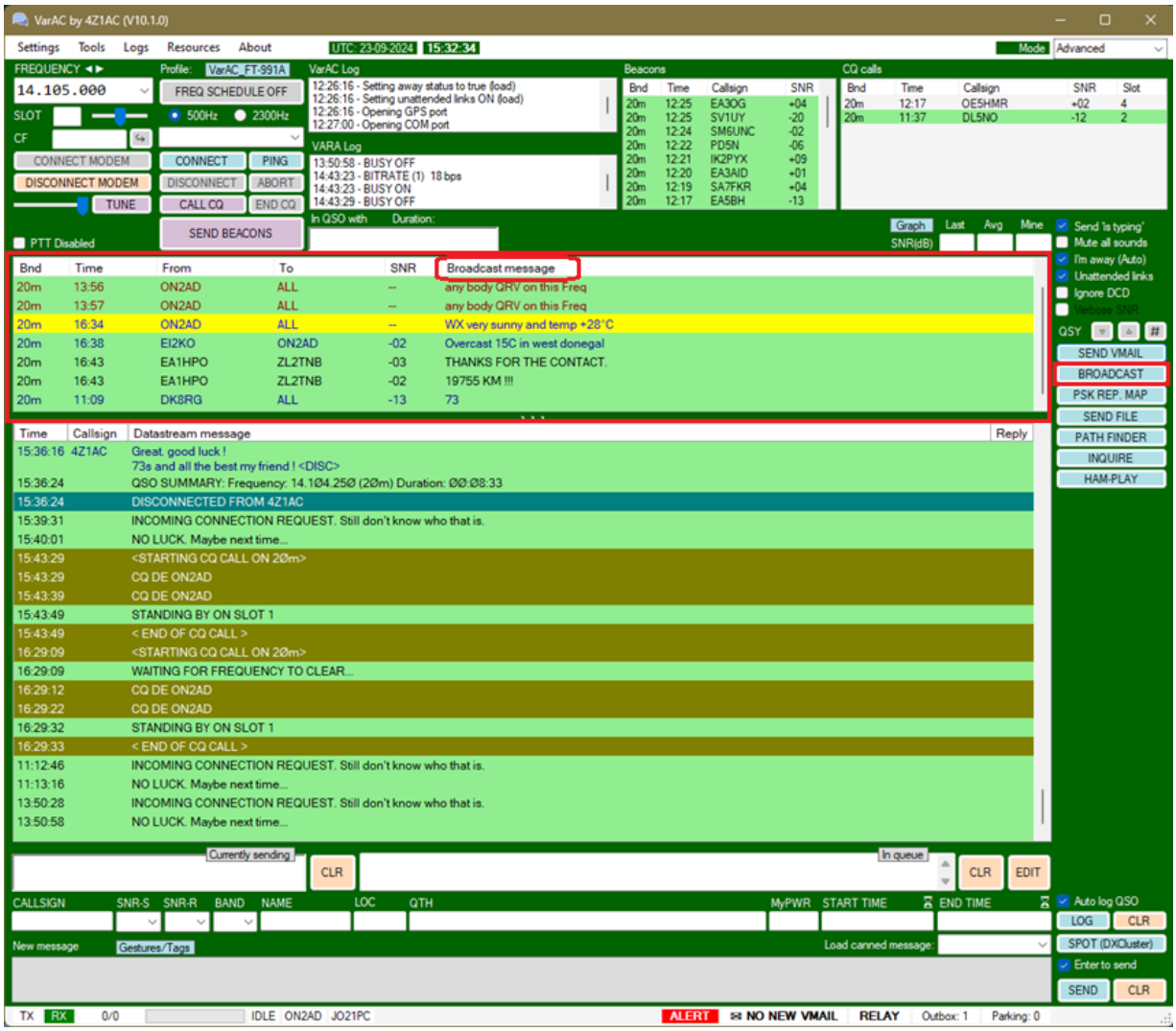
VarAC templates

NOTE :

To use EmComm templates you must select the EmComm mode.

This document includes VarAC VMail templates and forms, which are utilized for composing messages following specific structures, like the EmComm ICS form.
To add templates, simply insert a line in the following format:
Template_name=Subject_test|Message_text
You can also generate a template containing only message text without a subject by omitting the "|" sign.
To insert a new line, simply use this string within the message text: "[NL]".

Broadcasts



Adaptive Broadcast speed

VARA and VarAC now offers three Speed Levels (SL) for broadcasts:

SL1	-	**18bps**	-	the lowest speed capable of reliable decoding even at -21dB
SL2	-	**41bps**	-	can be decoded at -18dB
SL4	-	**88bps**	-	can be decoded at -14dB

The previously available **SL5** level has been deprecated in this version due to inefficiency for our needs.
To ensure a seamless experience, VARA speed will now be selected based on the message length. In essence, shorter messages that can fit into one or two VARA packets will be sent at the lowest possible speed. While there is not a definitive line for message lengths, your callsign length and destination callsign also play a role. In summary:

SL1	-	**Up to 3 characters**	Stretching to 5-6 for messages sent to "ALL" with a short sender callsign. Ideal for simple greetings like "HI" or "GE"
SL2	-	**3-33 characters**	
SL4	-	**33-81 characters**	

In the next version of VarAC, we will enforce an 81-character limit (currently 91).

This feature marks a significant improvement in our ability to conduct round-table discussions using broadcasts. I have personally seen decoding at -21dB recently, a notable improvement from the typical -12dB using SL5.

Additionally, the next VarAC version will leverage this capability by sending Pathfinder requests and VMail relay notifications at the lowest speed possible, extending their reach to greater distances.

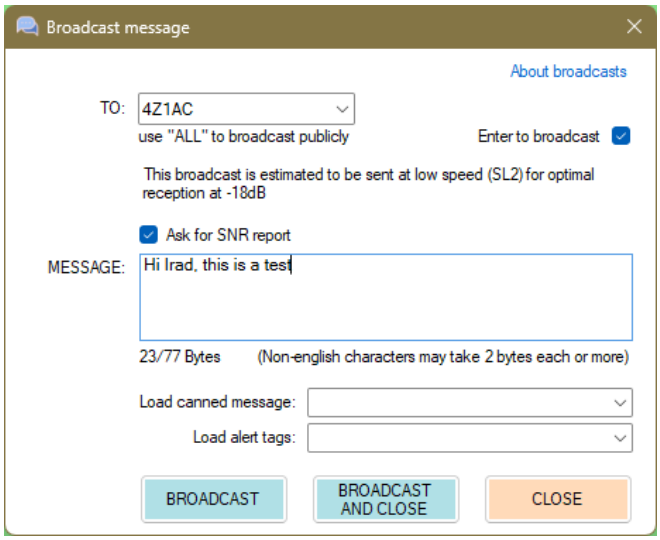
VarAC broadcasts are async messages that are sent in AX25 protocol (like APRS).

Broadcasts do not have a “delivery guaranteed” mechanism like a VARA link and they may not be received (it depends on received signal strength)

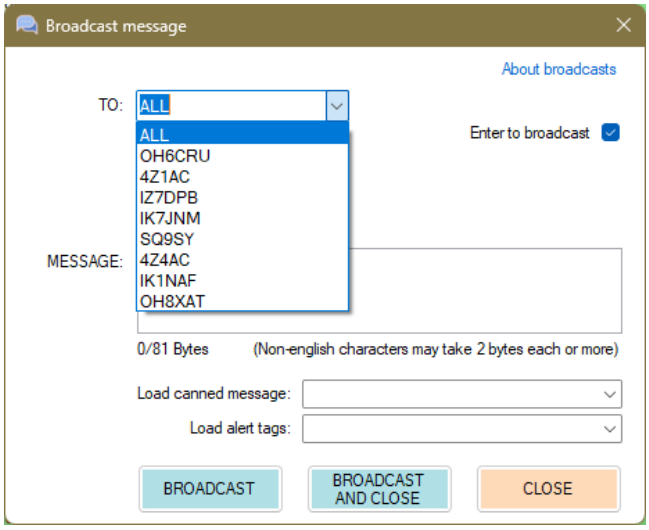
You can send a broadcast to a specific callsign or to all.

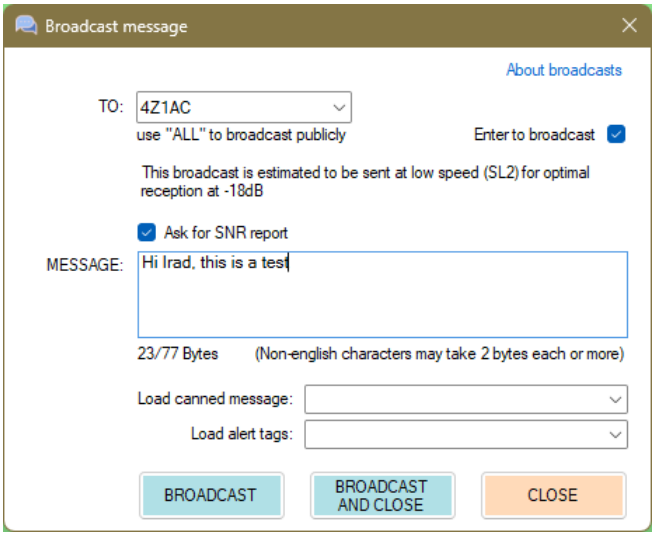
With VARA-FM you can also use digipeaters:

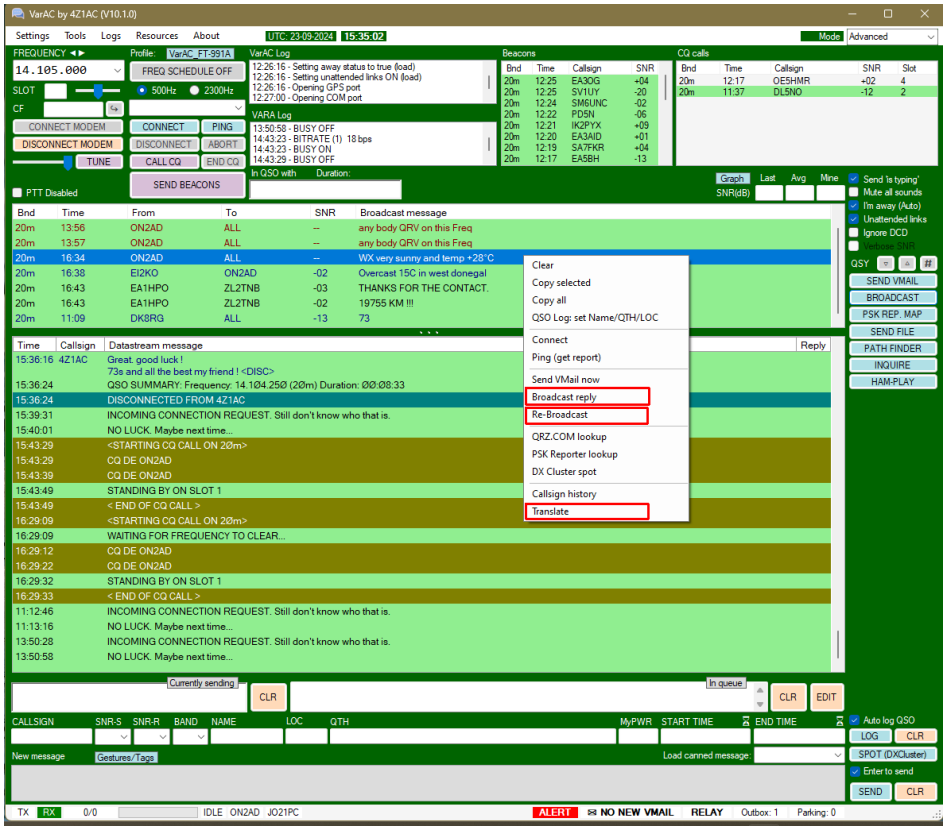
- Up to 2 digipeaters are allowed.
- Use SPACE between digipeater callsigns.
- SSID’s are not allowed for digipeater callsigns.
- Number of digipeaters affect the message size limit.



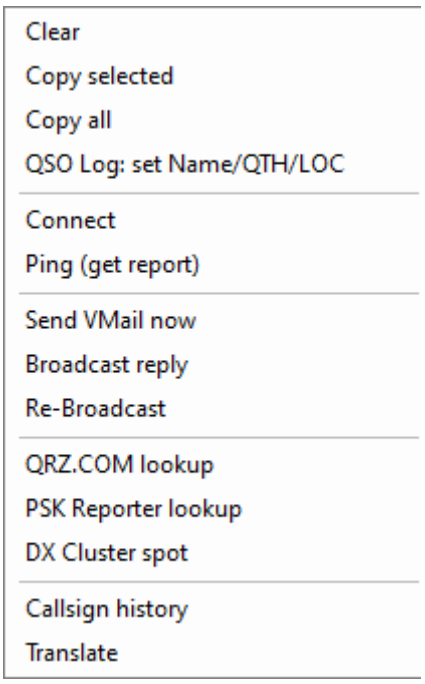
You can now select your destination callsign from a drop down populated with stations you previously sent broadcasts to the send broadcast form includes a checkbox to request an SNR report in your broadcast.
This signals the recipient to send you a report back automatically.
Please note that this feature is only available when sending a broadcast to a specific station.
You can't request a report from "ALL".







Right mouse click in the Broadcast screen open another window with next info

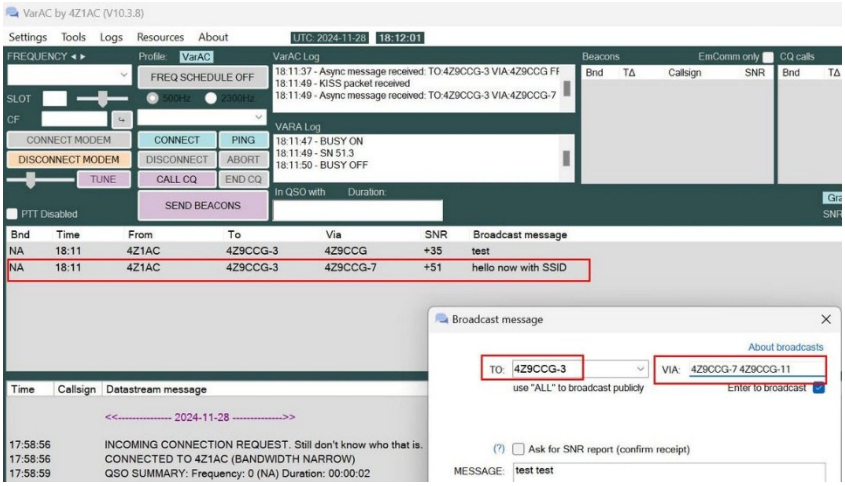


SSID support

SSIDs are now supported across most VarAC features, including CQs, Broadcasts, and even with digipeaters.

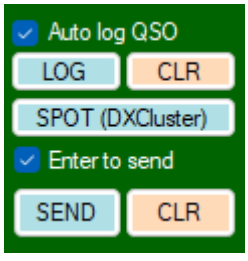
However, please note that there are some limitations if you set an SSID for your own VarAC callsign.

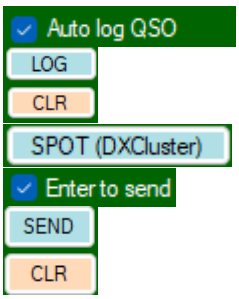
Don't worry—VarAC will inform you of these limitations when you make the change.



Path Finder

See Path Finder





QSO is logged automatically when enabled

See Logging QSO

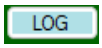
Clear the log input

Send your text by clicking Enter

Send your message

Clear the New message info's

Logging QSO

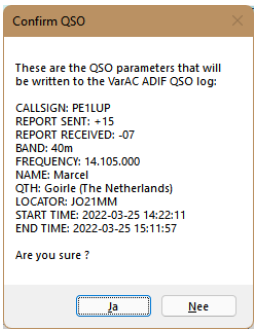


If Auto log QSO is not checked and you wish to save a QSO, the following window will appear.

Where then all the data of the counterpart station is stored and you are asked if you are sure to save this QSO

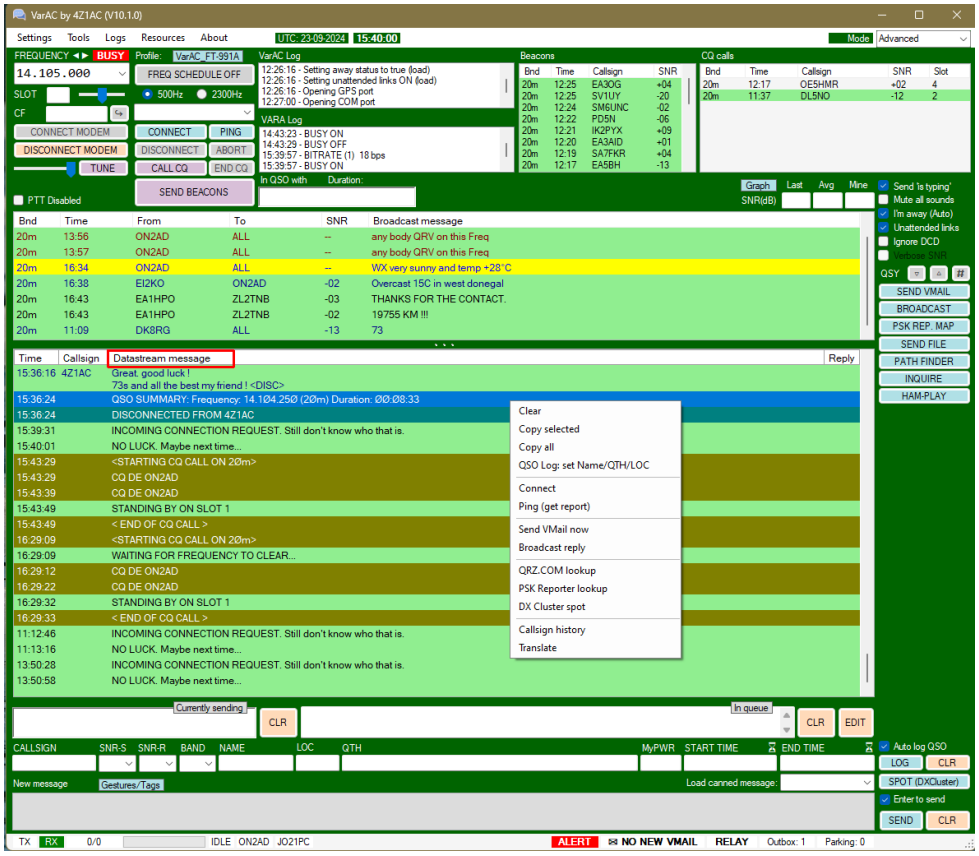
VarAC logs QSOs in an ADIF file in the VarAC installation directory under the name VarAC_qso_log.adi.

You can set VarAC to log your QSO automatically when disconnected, or you can log it manually by clicking the "LOG" button.

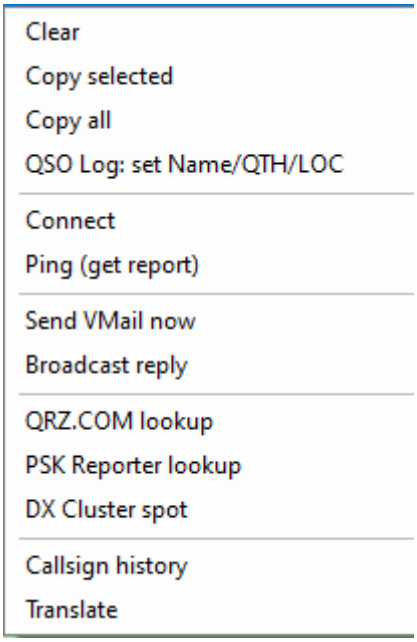


Data stream

VarAC loads automatically within 24 hours of DataStream activity when it is started, so that the data will be sent back and forth.



If you right click on a Callsign, name, QTH or Locator, this window will open which explains itself.

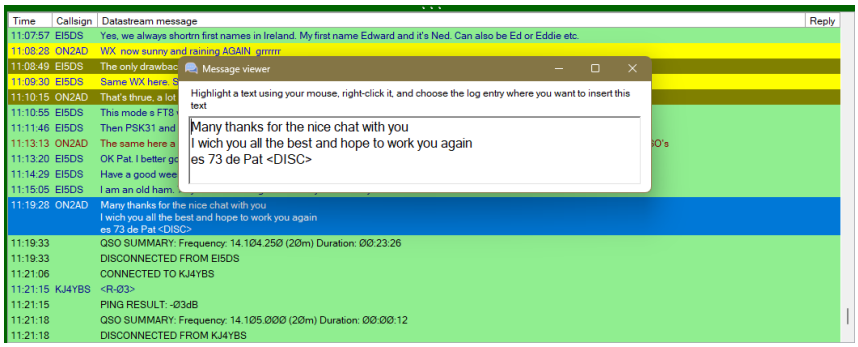


Previous chats



Previous chats
Up to 300 rows

Datastream viewer



Twice clicking on info open a Message viewer.

See the picture who I twice clicked on:

Many thanks for the nice chat with you
I wich you all the best and hope to work you again
es 73 de Pat <DISC>

QSO log data

When you connect to a station, it will now automatically populate your QSO log information based on your previous QSOs. However, should new data be received during the ongoing QSO, the preloaded information will be seamlessly overwritten.

Data picker

QSO Log: Set as Name/QTH/Loc

Previously, it could be challenging to choose specific segments of your chat as the DataStream continually filled with new messages, causing everything to shift. Now, however, you can effortlessly right-click on a row and choose "QSO Log – Set Name/QTH/Loc," which will open the message in a separate window so you can easily copy or tag specific parts of it.

Highlight a text using your mouse, right-click it and choose the Log entry where you want insert this text

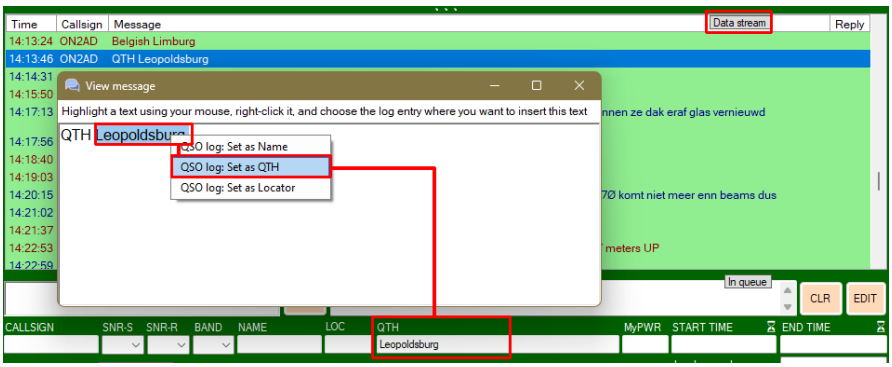
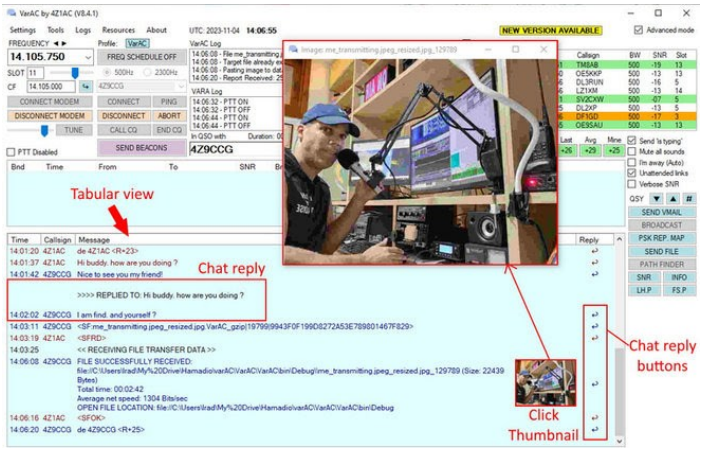


Image viewer

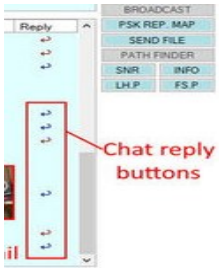
Upon receiving an image, it will now be displayed as a compact thumbnail within its designated column in your DataStream.
Clicking on this thumbnail will open the image in a separate window, allowing you to expand it for better visibility, making resizing a breeze.



Reply on message

We've all experienced this situation during a leisurely QSO, where your response to a message/question can be delayed and, and seems disconnected from the ongoing conversation.

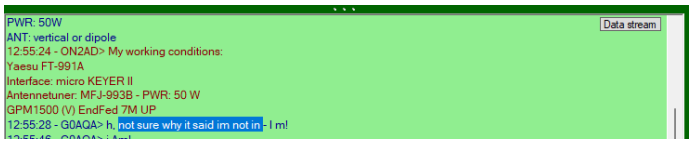
Following the convention of contemporary chat applications, you can now utilize the "Reply" icon located on the right. When used, your reply will be neatly linked to the corresponding message, ensuring context is maintained.



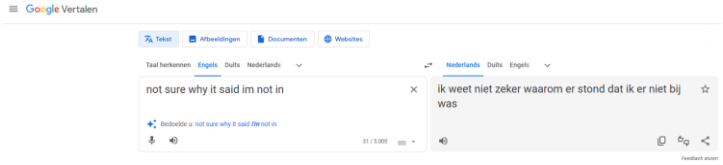
Translate

Select the text you will have translated and click on the right mouse I have selected:

button. Click on Translate and the Google translater will open.
This work also for the “Translate broadcast” function.



not sure why it said im not in (English) and I will translate it in the Nederlands (Dutch) language.
Result: ik weet niet zeker waarom er stond dat ik er niet bij was



Outgoing chat message progress indication



This is subtle yet highly impactful improvement for your chat experience:

You can now easily discern which part of your message has already been received by the other party.

The part that has been sent and acknowledged will be highlighted in green.

HAM is typing

G4HLP is aan het typen

This appears when the opposite station is typing

Suppressing 'Is Typing'

Now activates in low SNR conditions, even when the other station’s signal is weak.

Log & messages



See Gestures/Tags

Currently sending



Messages in this window are sent.

CLR

Messages that are not send will delete.

In Queue



These are the messages that are in the waiting area, ready to go to the “Message Currently being sent” to be sent.

CLR

Messages that are not send will delete.

EDIT

Edit the unsent text in the “Message currently being sent” and put it in the “New Message” window to edit your text.

Callsign, Report,etc…

In a normal QSO the fields like Callsign RST-s etc… will automatically filled with the received info from the other station.
But you can also fill manual enter some broken info in this fields.

Load a canned message

This is a drop-down menu with some info’s to sent see Canned messages

New message

By select a canned message you will see this message in this screen, press SEND, this message goes to Messages in queue and then to Message currently being sent.
But you can also type manual some enter info in this New Message field.

QSY code of conduct

The collection frequencies are only used for finding QSO partners and for short QSOs.
If you enjoy your QSO and want to continue chatting with your partner, ask your partner for QSY after about 5-10 minutes.

You do this by clicking on the following in the chat:

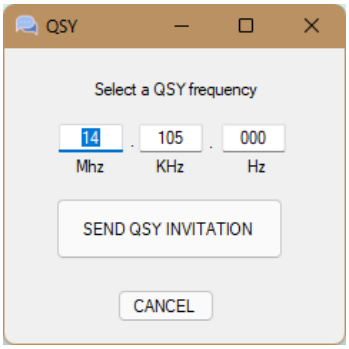


QSY 750Hz down - Right mouse click and hold while connected for QSY sniffer

QSY 750Hz up - Right mouse click and hold while connected for QSY sniffer



By clicking on this button the follow window will open where you can setup the frequency
When this is done press SEND QSY INVITATION

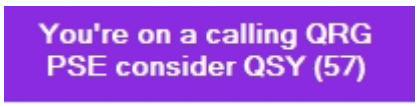


These tags initiate a QSY request that instructs both parties to change the frequency while chatting.
There is no need to disconnect before or during QSY.

A quick QSY

To make a quick QSY when using OmniRig CAT Control, pre-populate the VarAC_frequencies.conf file with +/- 750Hz frequencies and simply select the desired QSY frequency from the frequency drop-down menu.

An automatic message will appear to warn you to do a QSYD to keep the calling frequency free.



Maximum time on a Calling Frequency

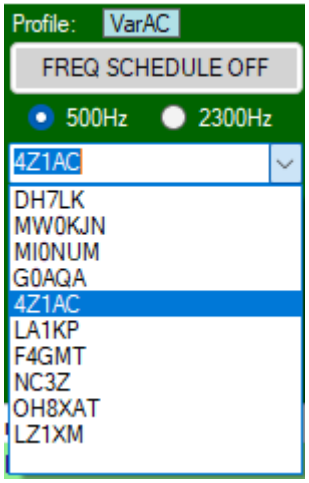
The Connection on a **C**alling **F**requency (**CF**) is limited to (36Ø Seconds (6 Minutes)) after this you will Disconnected from the CF.

QSY back to default frequency



When you have done a QSY and the QSO is done, you will automatically be asked if you want to go back to the default frequency

Digipeater connection



You can connect through one or two digipeaters.
Simply type the following in the
"CONNECT TO" field:
DESTCALL VIA DIGICALL1 DIGICALL2

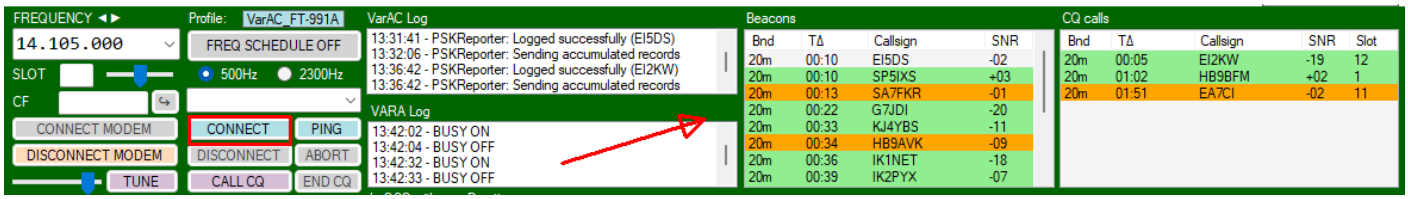
Examples:

To connect to 4Z1AC through NC3Z type:
4Z1AC VIA NC3Z

To connect to 4Z1AC through NC3Z and W1IZZ type:
4Z1AC VIA NC3Z W1IZZ

How do I contact someone?

There are 3 easy ways to start a QSO:
1. Double click on a callsign in the section “Last heard CQ calls”.
2. Double click on a callsign in the section “Last heard beacons”.
3. Type the callsign you want to connect to in the text box “Connect to” and press on “Connect station”.



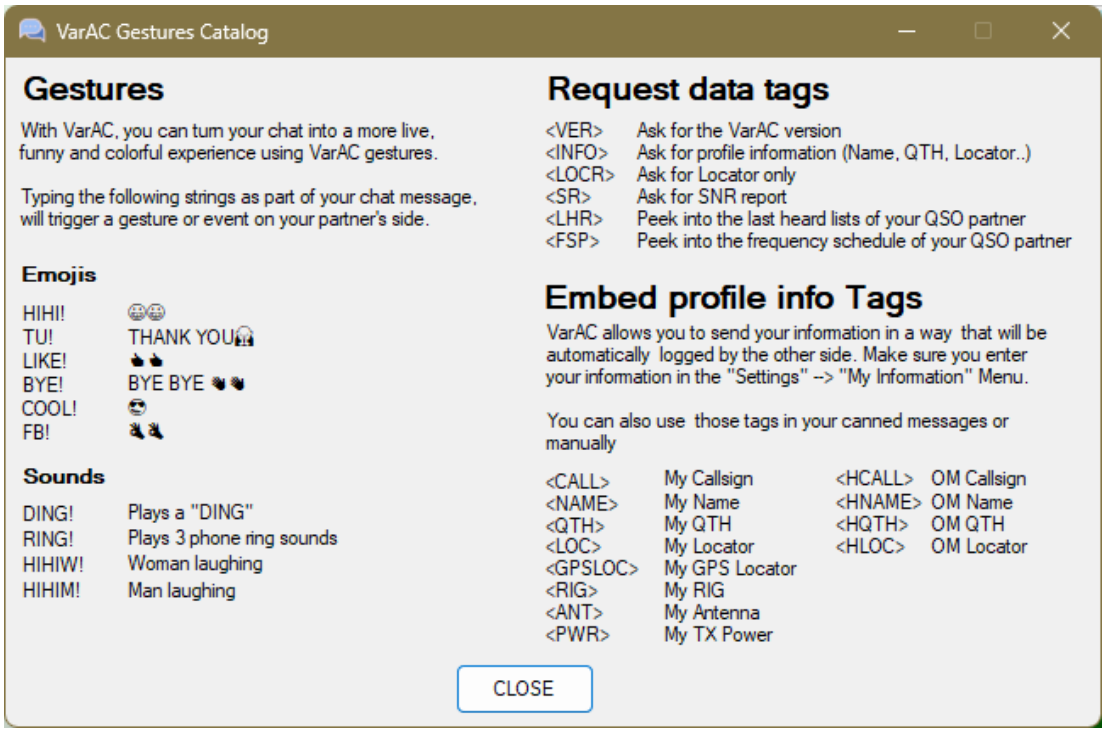
Reports and Regulations

What are all these lyrics and songs that I see when I am connected with someone?
At connections you see texts like "<R-10>" or "de YOURCALL"
• As in FT8, VarAC exchanges SNR reports with the other side so you know how you are being listened to and for logging purposes.
• VarAC periodically transmits your callsign to follow "self-identification" regulations.

Gestures – Tags - QSO protocol

Click on the “Gestures/Tags” button and the VarAC Gestures Catalog will appear.

Tags are text codes that, when typed as part of your chat message, will trigger an event on the other side, such as:
More info on Canned Messages / Tags



Tags & Gestures

With VarAC you can make your chat a more lively, funny and colourful experience with VarAC gestures.

Emojis

Tag	Operation
HIHI!	makes a smiley emoji
TU!	"Thank You "
LIKE!	makes a thumbs up emoji
BYE!	
COOL!	
FB!	

Sounds

Tag	Operation
DING	Play a “DING” sound.
RING	Play 3 “RING” sounds.
HIHIW!	Woman laughing.
HIHIM!	Man Laughing

My data tags

Tag	Operation
<CALL>	My Callsign
<QTH>	My QTH
<NAME>	My name
<LOC>	My Locator
<RIG>	My equipment
<ANT>	Antenna info
<PWR>	My TX Power
<ICE>	Ice Breaker (more personal info)

VarAC allows you to send your information in a way that will be automatically logged by the other side. Make sure you enter your information in the "Settings"
==> "My Information" Menu
You can also use those tags in your canned messages on manually type them in a QSO..

His/her data tags

Tag	Operation
<HCALL>	His/her Callsign

<HLOC>	HLOC is a tag used to embed your partner QSO locator into a canned message
<LOCR>	LOCR ask for the locator of your partner to be sent to you.
<HNAME>	His/her Name
<HQTH>	His/her QTH

Request data tags

Tag	Operation
<FS>	to send your own frequency scheduler plan
<FSP>	Ask for the profile information (Name, QTH, Locator)
<FSR>	Frequency schedule peeking – know where your partner parks along the day
<INFO>	Ask for profile information (Name, QTH, Locator) this can be set to block <INFO> requests if you do not want your data to be retrieved automatically. See Rig Control and VARA Configurations
<INFOJ>	Deny request for profile information (Name, QTH, Locator).
<LHC>	Last heard Call
<LCJ>	Last Connection Peek: is rejection from the other side if not enabled or not in EmComm mode.
<LCR>	Last Connection Peek: is the requestion.
<LHP>	Check your QSO partner's last heard list
<LHR>	Last heard peeking request - List of stations your partner has recently seen on this tape
<LHE>	Last heard peeking is empty
<LHJ>	Last heard peeking is refuse
<QJO>	If Auto QSY is declined due to an out-of-range frequency, this tag indicates the reason.
<QSYA>	QSY automatically
<QSYJ>	Signals that it has rejected. You will usually get this after a "QSY recovery" where your VarAC will wait for a <QSYR> on the QSY frequency, it will not happen in 25 seconds so it will QSY back to the CF where it will be given with a <QSYJ> from the other side. See QSYR and QSYJ
<QSYR>	Signals the other side that you have accepted how QSY invitation. See QSYR and QSYJ
<QSYS>	QSY lock
<QSYU>	Invite your partner to QSY UP 750Hz
<QSYD>	Invite your partner to QSY DOWN 750 Hz
<QSF>XXXXX</QSYF>	Free form QSO invitation. Example: <QSF>14105000</QSYF>
</QSYF>	See <QSF>XXXXX</QSYF>
<RELP>	Parked VMail Peeking See Parked VMail Peeking
<SR>	Request SNR report
<TL>	Shortcut for **T**est **L**ink. After a QSY, VarAC will try to send a test to see if the other side is there. If the test fails in 25 seconds, it will assume the QSY failed and will QSY back to the original frequency.
<VER>	Download the VarAC version from your QSO partner
<VRP>	Filters last 10 VMails from 30 days.

Trigger events

Tag	Operation
<AWAY>	Triggers “send message” at your partner’s side.
<AWQ>	If enabled Auto-QSY, when you are away a new tag will be sent: <AWQ> This signals the other side that you are open for auto-QSY. This will popup on their end a QSY frequency selector.
<DISC>	Disconnect
<SND>	Send the message automatically

Message Tags

Those tags are used "ONLY" for sending a message (VMail) .

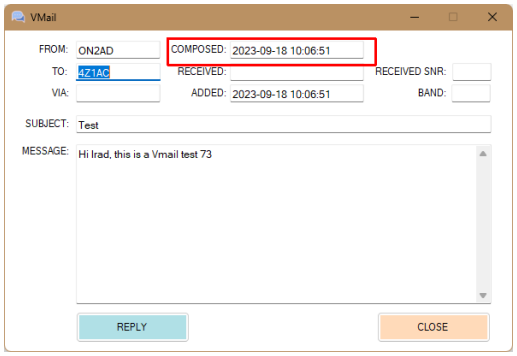
Tag	Operation	Info
<AE>	Away time exceeded	There is a limit to a connection to a station in the AWAIT state. The AWAY station will terminate the link when this limit is reached and will indicate the reason to the other end by sending an <AE> before disconnecting. This shows a message on the other end: "Connection to a station in Away status on a Calling Frequency has reached to its time limit"..
<IE>	Time exceeded	Time exceeded
<SBJ>	Send subject	Send subject
<MSG>	Message	Message
<MYTIME>	Message	to include the local time in your automated messages.
<SM>	Send Message	Header of the message signalling the other VarAC that a message frame is coming next.
<SMP>	Send Message Parking	Send a parking message
<SMFP>	Parking not allowed	Parking not allowed
<SMR>	Send message received	It is the target VarAC that signal the sender that the VMail message has been successfully decrypted

TO	To	This is part of the VMail package itself.
FRM	From	This is part of the VMail package itself.
SBJ	Subject message	This is part of the VMail package itself.
MSG	Body message	This is part of the VMail package itself.
<SF:xxx>	SendFile	The XXX contain the file name and checksum.
<SFRD>	I am ready to receive a file	Comes after receiving a <SF:....> tag with the incoming file info
<SFAB>	Reject file	When the other party rejects your send request (for example, if the file is too large)
<SFB>	Send file packet	Send the file package
<SFFA>	Sending file failed	Sending the file failed
<SFOK>	Send file OK	The file has been sent successfully
<TME>	VMail time include	In the VMail delivery system now also time in included. so you know when the message was originally written. Until now - only the delivery time was recorded. Its the composed time in this screenshot.
<UTCTIME>	Message	to include the UTC time in your automated messages.
<VW>	VMail and QSY	When connected to a station that has VMails waiting and a QSY is required to pull them
<VSI>	Extended SNR	Send a request for a comprehensive SNR
<VSIR>	Accept extended SNR	Accept extended SNR invite (sent after receiving <VSI>)
<VSIJ>	Reject extended SNR	Deny extended SNR invite (sent after receiving <VSI>)

GPS tag

Tag	Operation
<GPSLOC>	This tag is to share your exact Long/Lat.

Composed



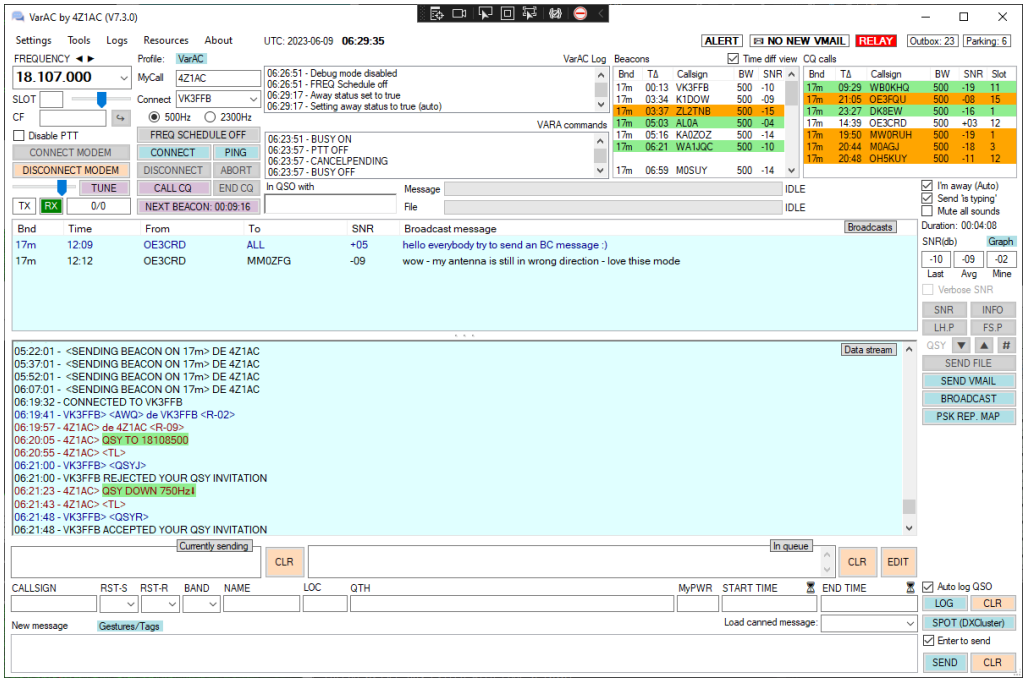
It is a tag that is used in the VMail delivery system. it is not a tag for use during a QSO.

QSYR and QSYJ

I tried to QSY VK3FBB to SLOT 12 on 17m and its the Slot where CW beacons are so his station refused.

My station did a QSY recovery and after it went back to the CF, I was given the QSYJ from him.

I then tried to shift to another freq and it was ok with a <QSYR>

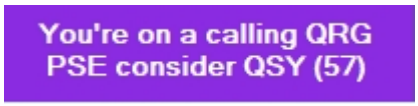


Tags

With VarAC you can send your information in a way that is automatically registered by the other side.
You can set those tags in your template messages or type them manually while in QSO.
More info on Canned Messages / Tags

QSO protocol

An automatic message will appear to warn you to possibly do a QSYD to keep the call frequency free.



Tip

Connected to someone, but they are not there?
Write "RING" to make some noise on their side to alert them of your call.

Canned messages and VarAC tags

Canned messages are predefined texts like your information, 73, greetings, ASCII art etc…
In most manuals for HAM's, you will mainly find "Macro" messages as names instead of "Canned Messages"
You can configure your canned messages in the settings menu.

You can then add one to your message by selecting it from the 'Load a standard message' drop-down menu.

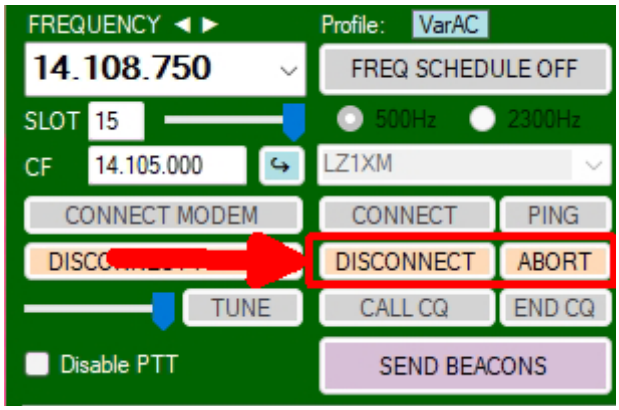
VarAC tags are used manually or in template messages to send information decoded by the other side and automatically populate the QSO log with your name, QTH and locator.

you can read more about VarAC tags in this document.

QSO ending

Be courteous, say 73's (or use one of the configurable default messages) and press the "DISCONNECT" button.

Quick ejection? Press the "ABORT" button".

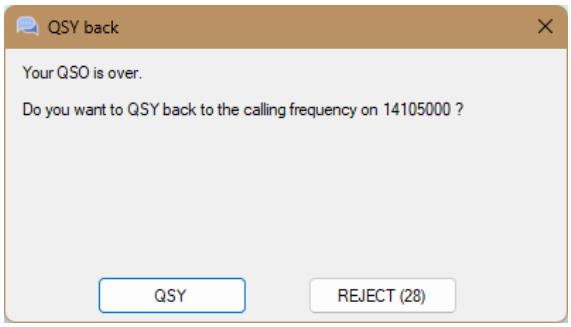


QSO ending and QSY

By end a normal QSO you will see the next window

Now you can press on:

QSY
Reject



QRZ.COM uploaded

You can have your QSO automatically uploaded to QRZ.COM and other logging systems. See Logbook programs

Multiple configuration files

Load VarAC with different config files to support various rigs or settings.
Example: "VarAC.exe MyVarAC.ini"

VarAC Cluster (Multiple instances)

By NC3Z, Gary Mitchelson

VarAC will allow you to run multiple and separate instances of VarAC. Depending on your radio or radios you will be able to operate VarAC on multiple bands at once using a single install of VarAC.

Running multiple VarAC in a cluster format allow all VarAC instances to share the same resource such as log files, ADIF file as well as, mailbox.

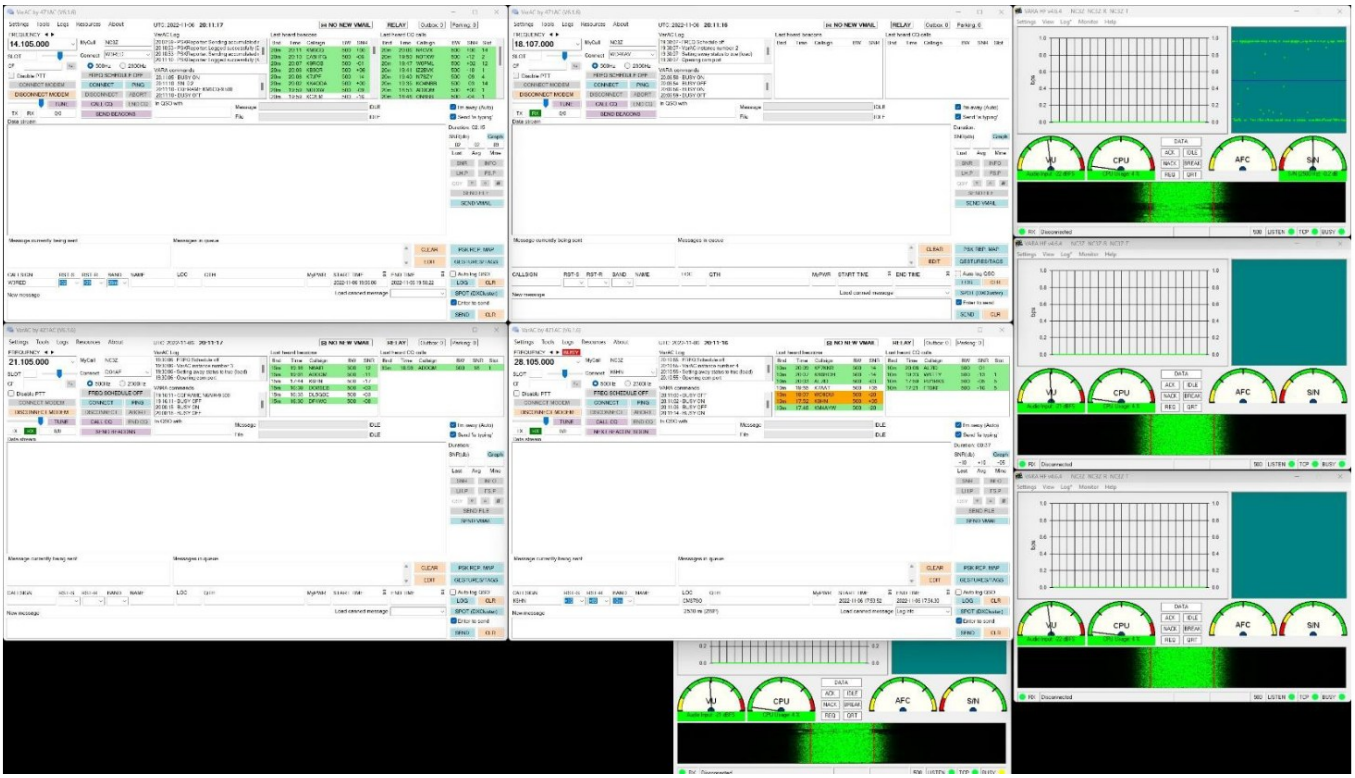
This allows you for example to function as a cross-band mailbox while VMails that are parked on Band A will be forwarded on Band B.

To form a VarAC cluster, all that is needed is:

- Separate .ini file for each instance in your one VarAC folder, each properly configured.
- Each .ini file will need to be configured with a unique “Instance Number”.
- Separate VARA HF (modem) folders for each instance.

In the example below here are four instances running on the same PC. The radio is a Flex 6500 which can operate as 4 radios at once.
But you could easily be using any number of separate radios.

Multiple VarAC instances working as a cluster sharing the same VMail Mailbox





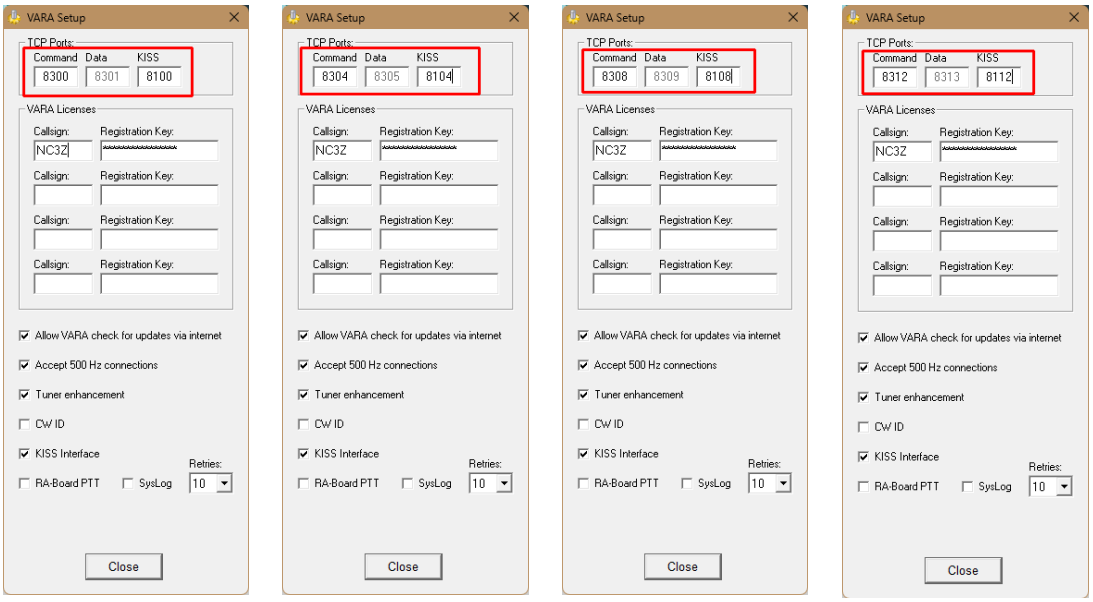
Step #1

Separate VARA HF folders for each instance. Just make copies of each VARA HF folder:



Step #2

Configure each VARA HF
with its own unique ports (COMMAND, DATA and KISS)
that do not conflict

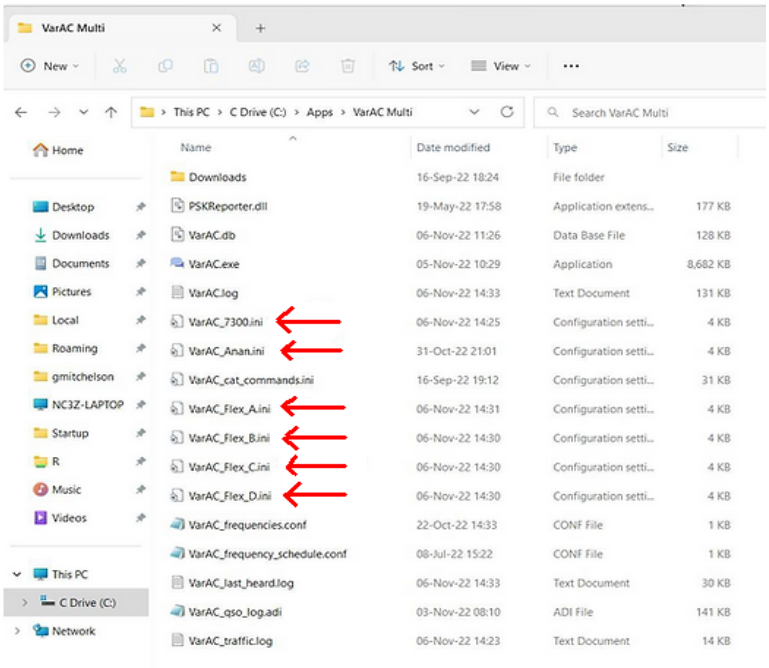


Step #3

Configure different VarAC.ini files with different names.

Use a meaningful name - like your RIG type you intend to use for each VarAC instance.

Each .ini file will need to be configured with a unique “Instance Number”.



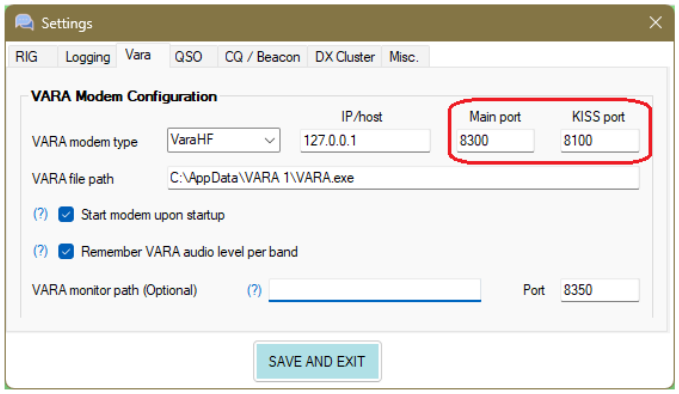
[VMAIL]
SendRelayNotifications=ON
AllowParking=OFF

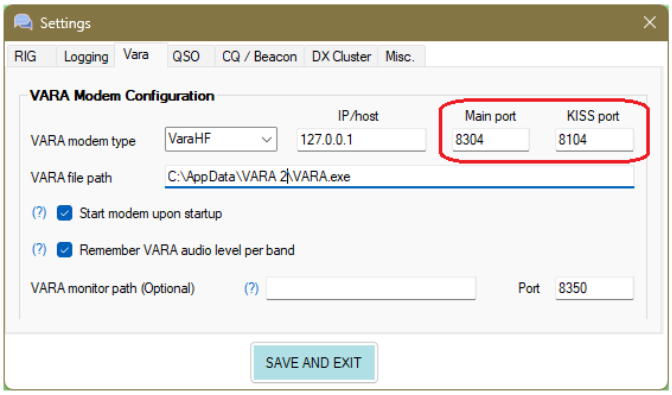
[VARAC_CLUSTER]
ClusterEnabled=ON
InstanceNumber=1
MailboxRefreshRateSec=60

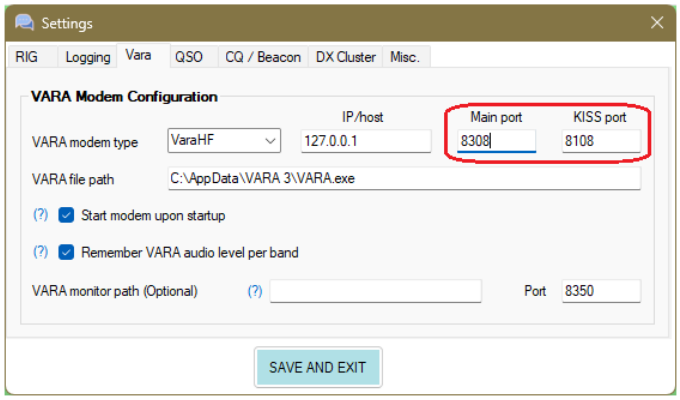
[OTHER]
LinuxCompatibleMode=OFF

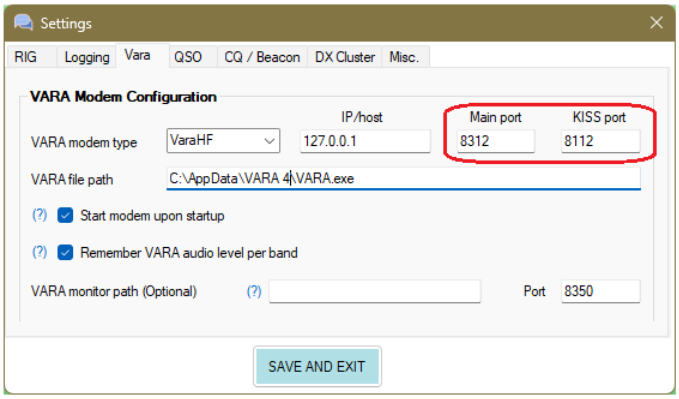
Step #4

For each VarAC settings, set the relevant VARA ports and path
If you use Monitor you will need to do the same and take the same precautions.







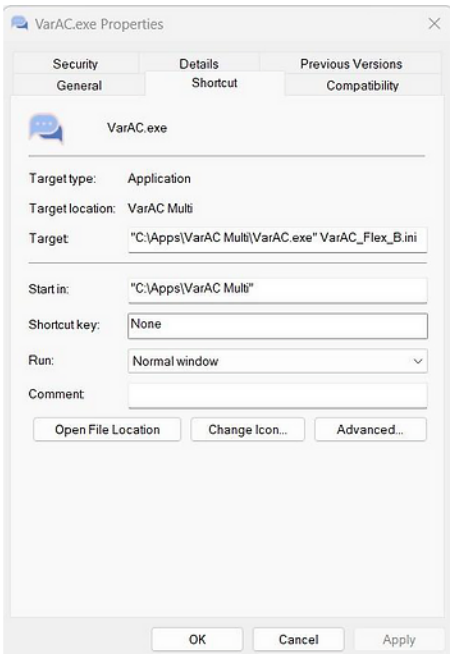


Step #5

Example of shortcut for one of the instances

Once all that is set, you will need to tell each VarAC instance which .ini file to use.
That is simply done with a command line switch in the shortcut.
If you want to run instances from separate PC’s

you will need to do this using a “Shared” drive for SQLite (main VarAC DB) to work properly in s shared environment.



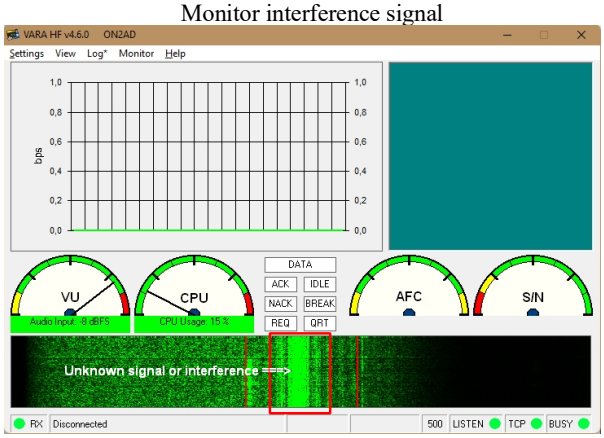
Strange signals and noise.

I use two 23 Inch IPS LED monitors from LG and on some frequencies, I see a strange signal in the waterfall, and I hear a monotonous noise (sound) in my speakers.

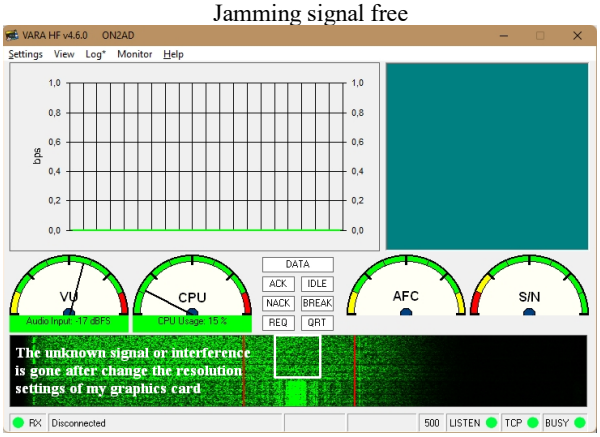
Further research shows me that if I turn off the monitors, the noise is gone.

So, open the advanced display settings in Windows or open the resolution settings of the graphics card and adjust the refresh rate for 1 or more screens until the interference is gone.

Monitor interference signal



Jamming signal free



VarAC.ini file

New VarAC.ini parameters (Only available by manually editing the file)

ShowNoCatQSYPopup	Suppress QSY popups when no CAT control is available
FrequencyListCustomFilePath	Set a custom frequency list file using a new VarAC.ini parameter
SafetyPTTOffEveryMinute	enable/disable the safety mechanism of PTT OFF every minute while idle
VarACLogFileRetentionDays	How many days to keep entries in the VarAC.log file (default 30 days)
PTTDisableAfterFreqChangeSeconds	Temporarily disable PTT for X seconds after frequency change (for those antennas that need a long tune cycle before TX)
SlotStepHz	Custom Slot size - to set up your own slot-system gaps
VarACStartCmd	You can place any CAT commands (separated by Comma if you want more than 2) Like settings a specific filter, ACC, notch, NB....
BeaconGraceTimeSeconds	Wait time from when you switch frequency until the beacon is fired (default 10)
FrequenciesCustomFilePath=	If you manage multiple VarAC profiles, you can now have a separate frequency file (Frequency dropdown list) for each profile! Simply update this parameter in your VarAC.ini profile file

Additional Cluster configuration

In the VarAC.ini file there is a section with VarAC cluster parameters. Here is an example:

[VARAC_CLUSTER]
ClusterEnabled=ON
InstanceNumber=1
CountersRefreshRateSec=60
PTTLock=OFF

Lets delve into each:
ClusterEnabled=
Possible values: ON/OFF
This set the instance as part of a cluster.
This means that cluster will report to the shared database about its status so all other cluster member will be aware of its existence.

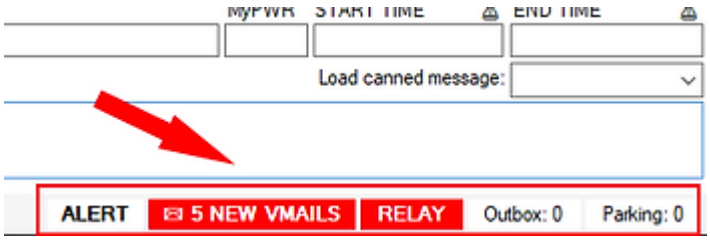
InstanceNumber=
Possible values: number (a unique identifier)
This is a unique identified of a cluster instance.
Every instance should have its' own dedicated number (ex: 1,2,3...)

CountersRefreshRateSec=

Possible values: Number of seconds (default 60)

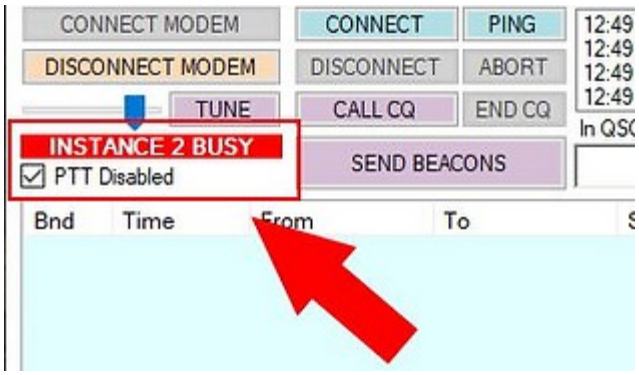
A VarAC cluster can be used to forward VMails between different bands as all instances share the same VarAC.db file.

All instances refreshes their VMail counters every minute. Once a VMail is received in one instance inbox, it will show up on the other instance inbox counters in up to 60 seconds.
You can change this refresh time using this parameter.



PTTLock=

Possible values: ON/OFF
This parameter defines what happens if one of the instances is currently transmitting. If set to ON, then when an instance is currently transmission (in QSO/Beacon/Broadcast/CQ/TUNE...), then all other instances will disable their PTT to avoid multiple instances transmitting at once.
This is useful in case some of your cluster members are using a shared transceiver (such as SDR) that can listen on many frequencies but can only transmit on one at any given moment.
When an instance is busy transmitting, all other instances will show a "Instance Busy" alert and their PTT will be disabled until the transmitting instance finishes.



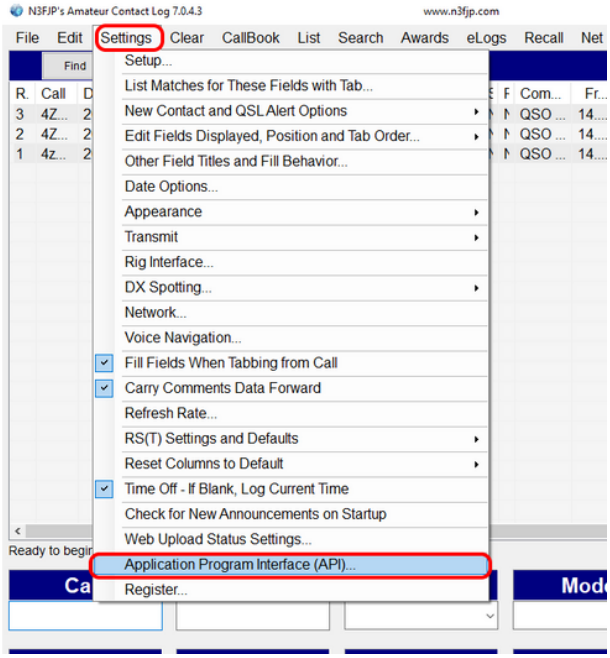
Logbook programs

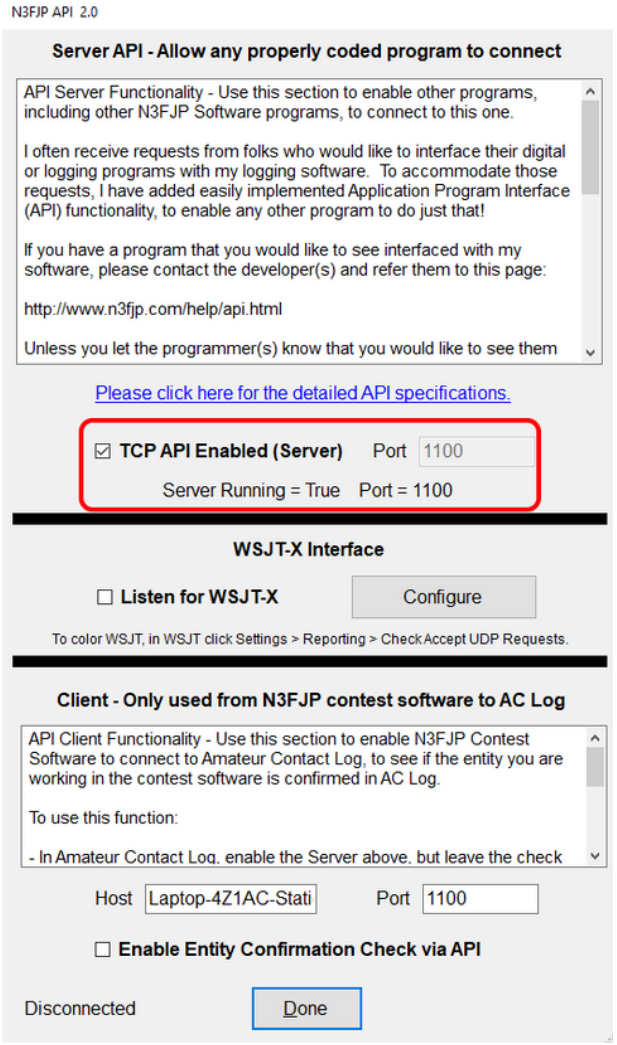
AC Log (Amateur Contact Log)

Please note - Logging QSO to AC Log works only with AC Log version 7.0.5 and above.

AC Log provides with TCP support for external logging:

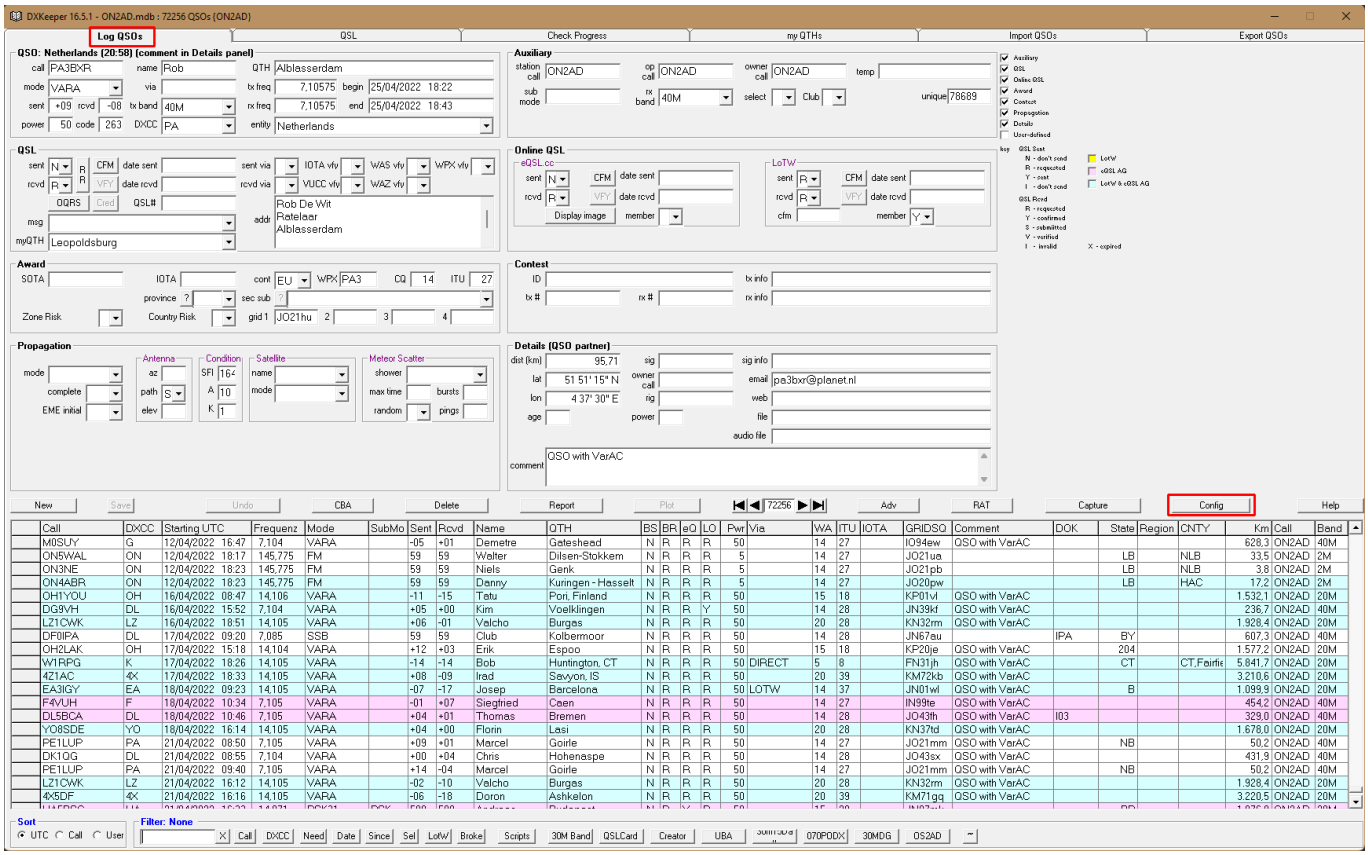
1. Go to Settings --> Application Program interface (API)
2. Enable the "TCP API Enabled (server)
3. If you change the port - make sure it is aligned with the port you have selected in VarAC.
4. Click DONE

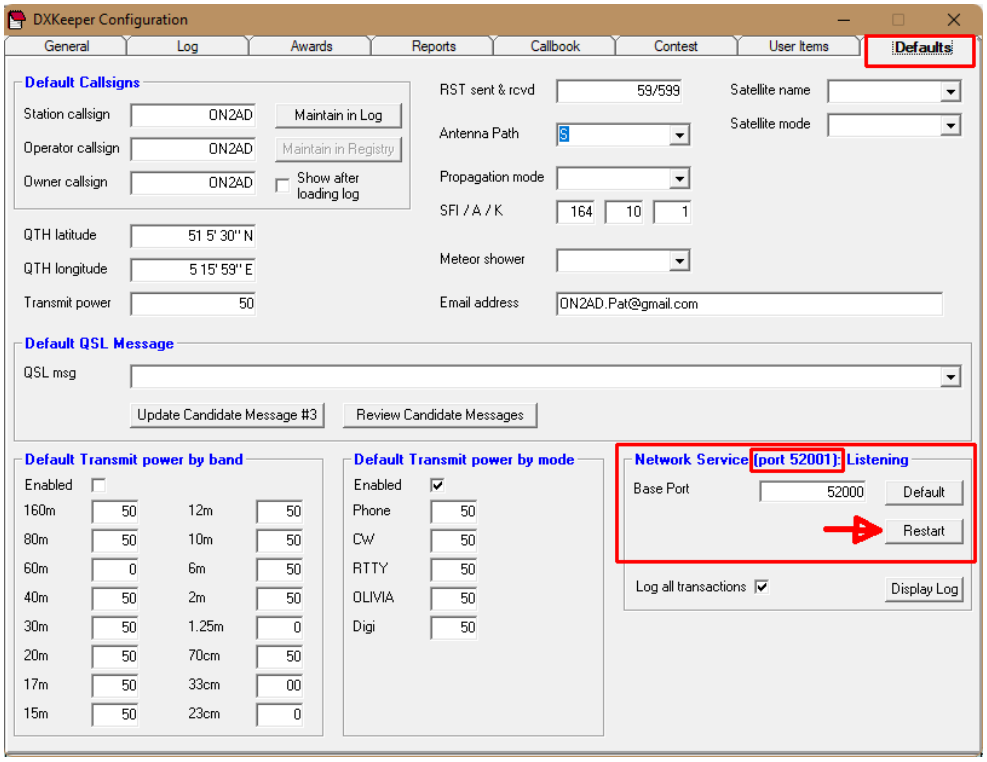




DXKeeper (DXLabSuite)

1. Go to the panel Log QSOs click on Config.
2. Select the "Defaults" panel.
3. Under network service - set the Base port. **Important - 52000 means that DXKeeper is listening on 52001.**
4. If you change the port - make sure it is aligned with the port you have selected in VarAC.
5. Click "Restart".



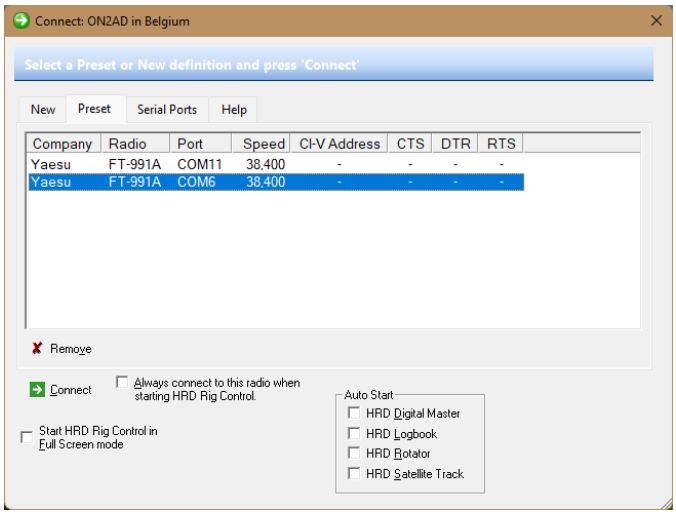


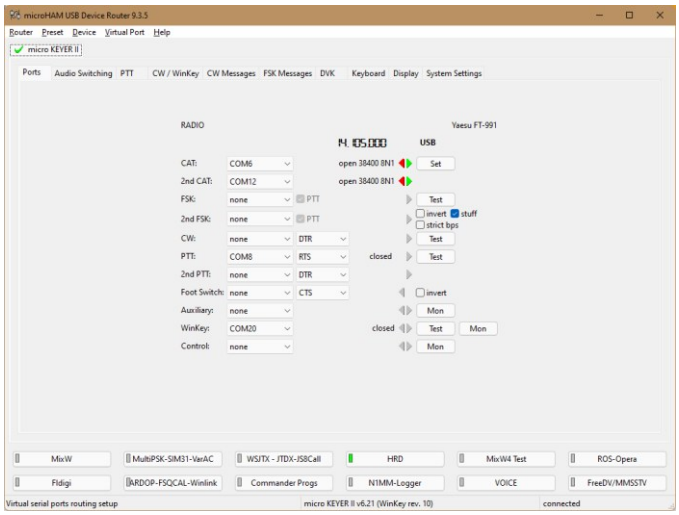
Ham Radio Deluxe

Settings

Ham Radio Deluxe 6

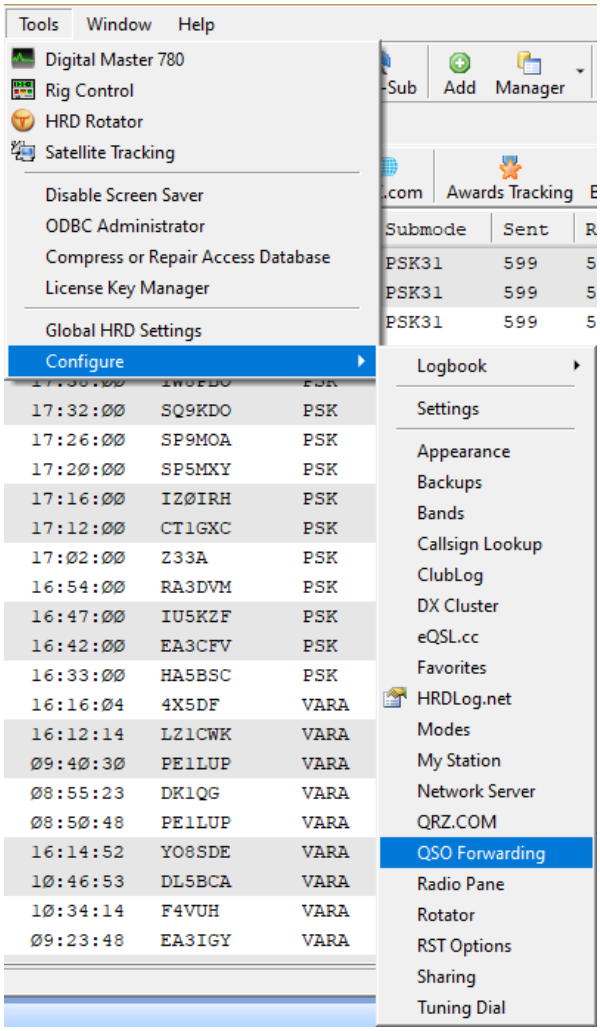
microHAM USB Device Router

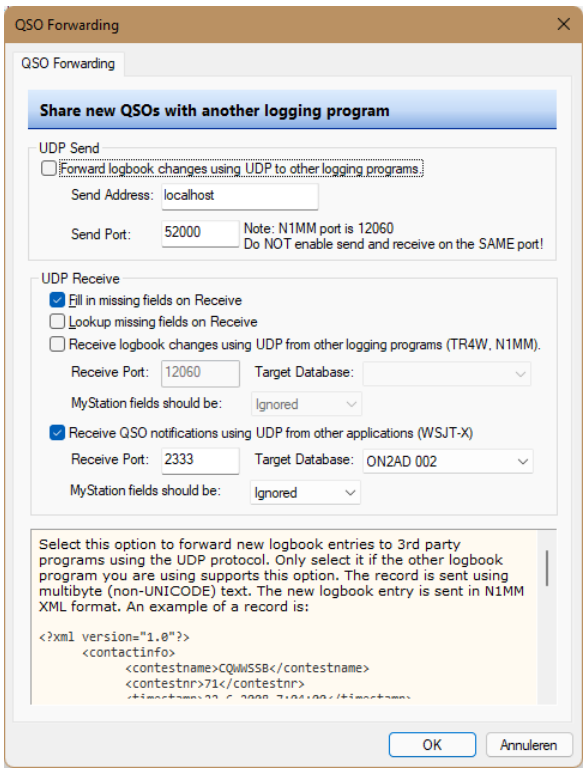




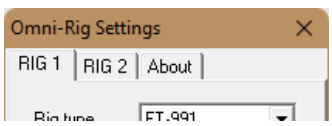
Ham Radio Deluxe 6 setup

1. Go to Tools --> Configure --> QSO Forwarding
2. Enable the "Receive QSO notifications using UDP from other applications (WSJT-X)
3. Selected the desired target database.
4. If you change the Port - make sure it is aligned with the Port you have selected in VarAC.
5. Click OK

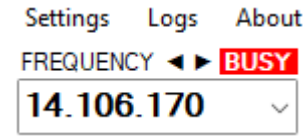




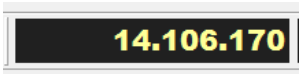
OmniRig setup



With the micro KEYER II interface and the USB cable connected, both connected from the FT-991A to the computer, the frequency in the main screen of VarAC and the frequency in Ham Radio Deluxe (Logbook and DM-780) are adjusted along with it, when I adjust to the VFO turn.



Frequency in VarAC

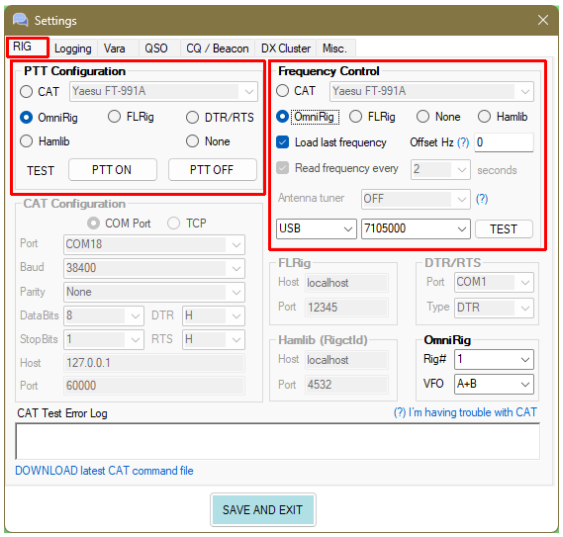


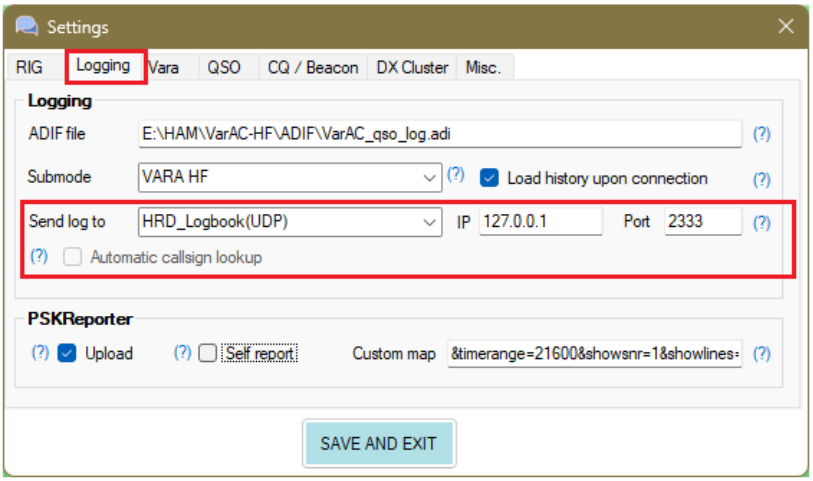
Frequency in the HRD logbook



Frequency in DM-780

VarAC setup





Log4OM

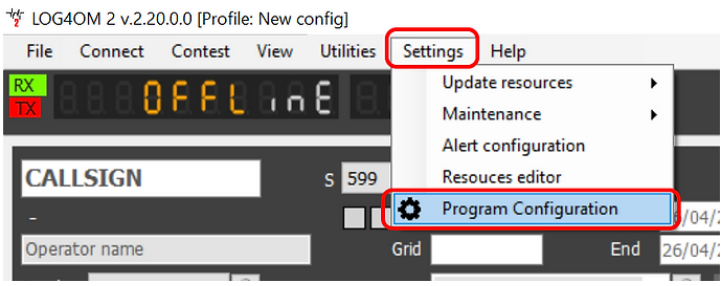
Log4OM provides with UDP logging.

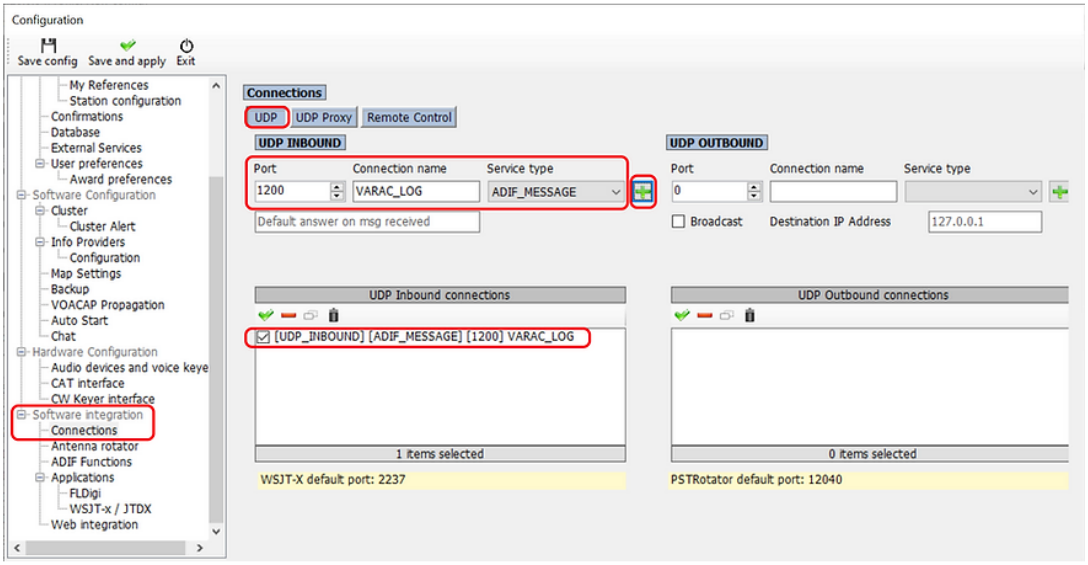
However, Log4OM2 also provides with a unique Logging option - tapping directly to VarAC log ADIF file.
This option is preferred as Log4OM will never miss a log entry if it was not running at the time the QSO was logged.

Both options are show below:

This is how you set the UDP logging with Log4OM:

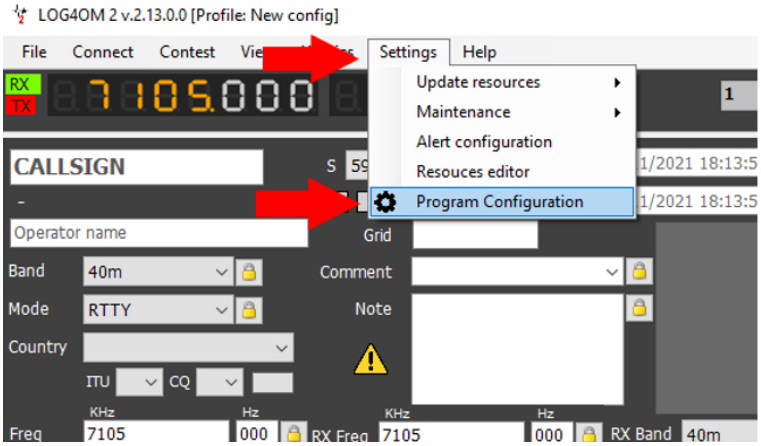
1. Go to Settings --> Program Configuration
2. On the left menu - select Software integration --> Connections
3. Click UDP and go to UDP INBOUND
4. Enter a port number (ex: 1200)
5. Give it a meaningful name (ex. VARAC_LOG)
6. Select Service Type: "ADIF_MESSAGE"
7. Click the "+" button.
8. Make sure the new recorded is there and marked with a "V" sign.
9. Click "Save and Apply"

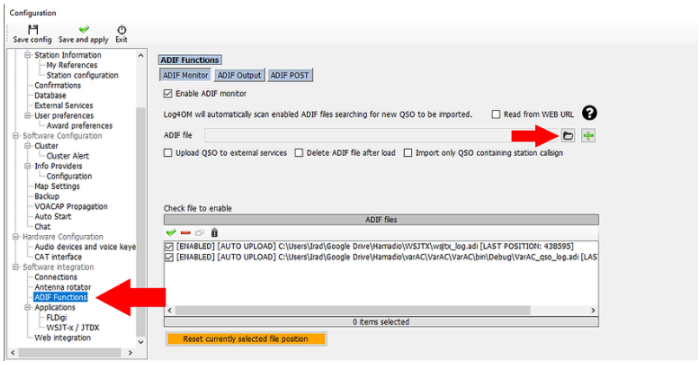




This is how to configure LOG4OM2 to collect your VarAC QSOs automatically from the VarAC ADIF log file.

1. Open Log4OM 2 and click **Settings --> Program configuration.**
2. On the left, Click **ADIF Functions** and click the **folder** icon to select a file.
3. Go to the VarAC installation directory (or where you placed your ADIF file) and select the **VarAC_qso_log.adi** file.
4. Now click the **"+"** icon to add the file for Realtime ADIF file monitoring.
5. Make sure the VarAC ADIF file appears here and set as ENABLED and marked with a "V" sign.
6. "Save and apply"





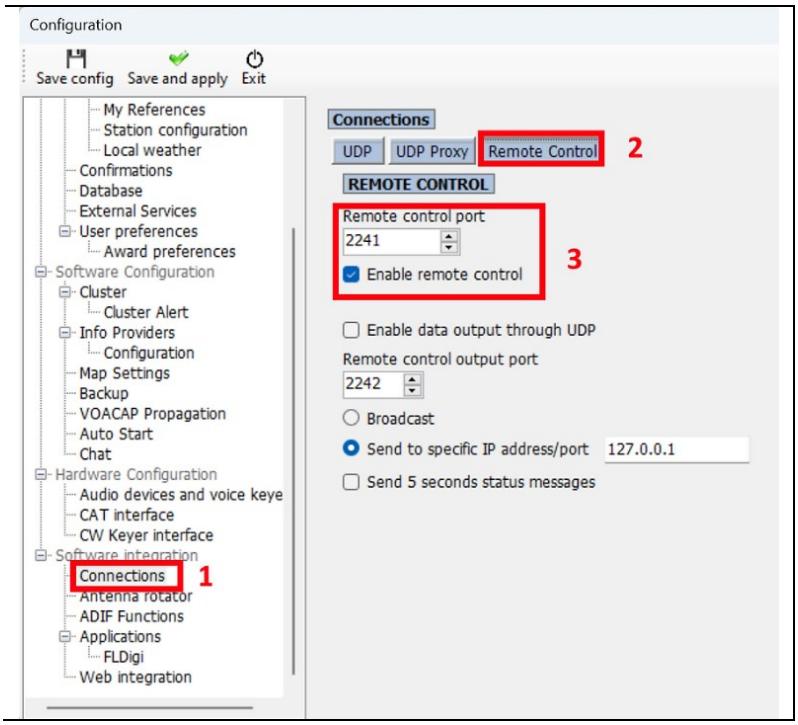


Automatic Callsign lookup

Starting VarAC 8.7, VarAC offers the capability to initiate a callsign lookup on Log4OM once a connection to a station is established. To enable this feature, navigate to the VarAC settings.
However, it's essential to confirm that Log4OM has "Remote control" enabled as well.

Here is how:

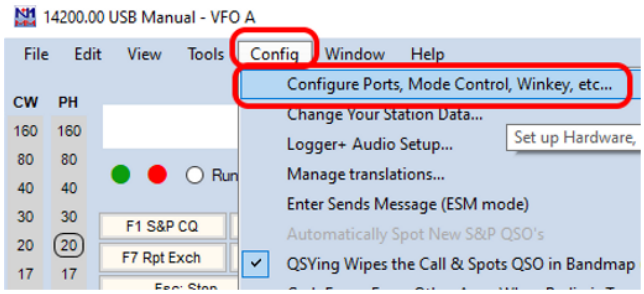
Please note - once disconnected, VarAC will call Log4OM to clear the callsign lookup.

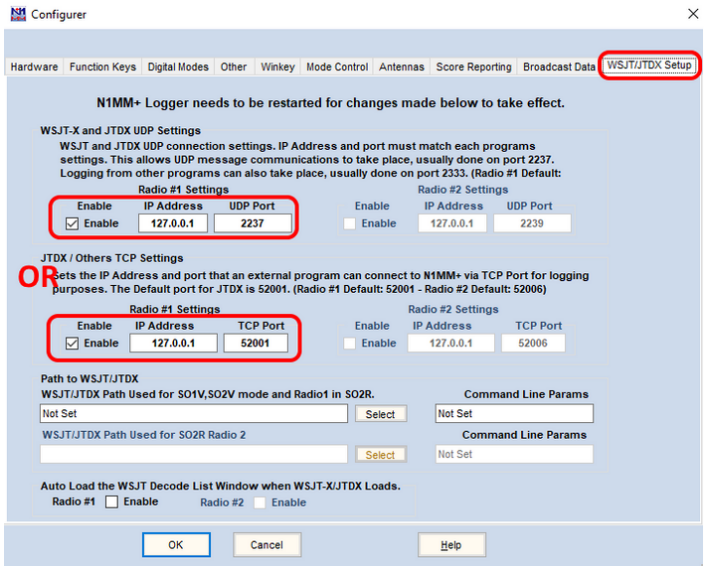


N1MM

N1MM provides with two options for Loggins. TCP or UDP. VarAC support both.

1. Go to Config --> Configure Ports, Mode control, Winkey etc...
2. Go to the WSJT/JTDX Setup
3. Enable either the UDP or TCP options as show on the screenshot below.
4. If you change the port - make sure it is aligned with the port & method (UDP/TCP) you have selected in VarAC.
5. Click OK





Swisslog

Swisslog started to provide TCP logging support from V5.104. Make sure you upgrade to this version or later before trying to integrate with VarAC.

This is how you set the UDP logging with Log4OM:

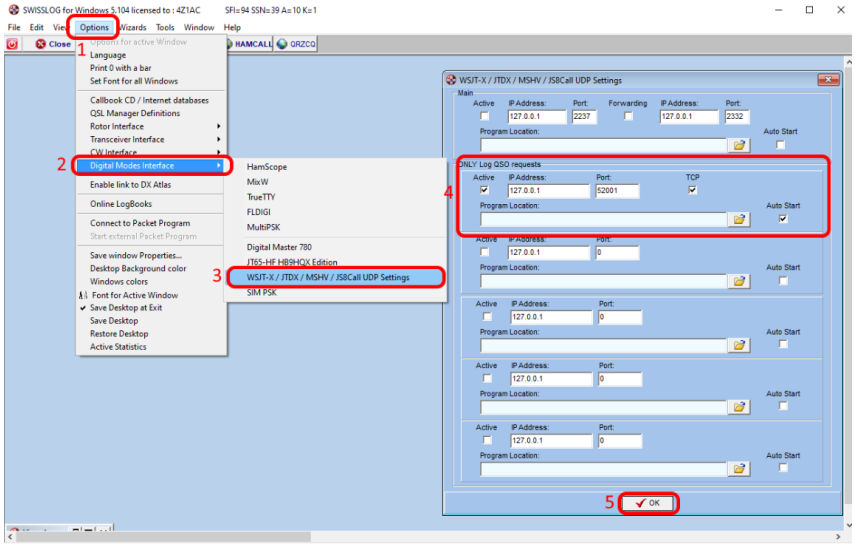
Go to Options --> Digital modes interface --> "WSJT-X / JTDX / MSHC / JS8Call UDP settings".

Under "Only Log QSO requests" locate the first line.

Check the "Active", "TCP" & "Auto start" checkboxes.

Set the IP address to 127.0.0.1 and Port to 52001.

Click OK



UcxLog

UcxLog provides with UDP logging.
No special configuration is required on UCX log.

WinLog32

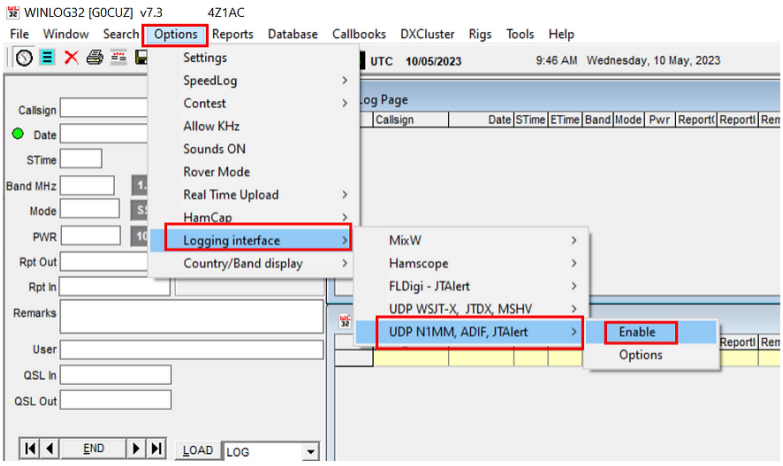
Winlog32 provides with UDP logging.

Logging to Winlog32 is available in VarAC V7.2 or higher. For previous VarAC versions simply select "Log4OM(UDP)"

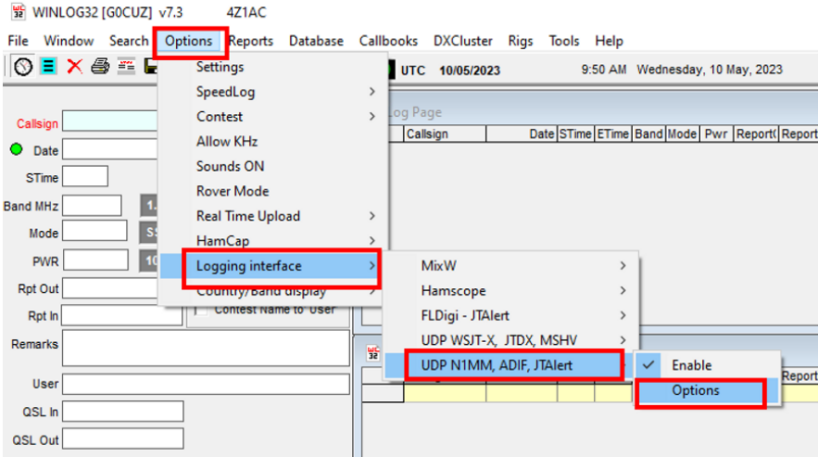
You must use Winlog32 Version v7.3.47 or higher.

Here is how to configure it on Winlog32:

1. Go to "Menu/Options/logging Interface/UDP" --> "N1MM, ADIF, JTAlert" --> "Enable"



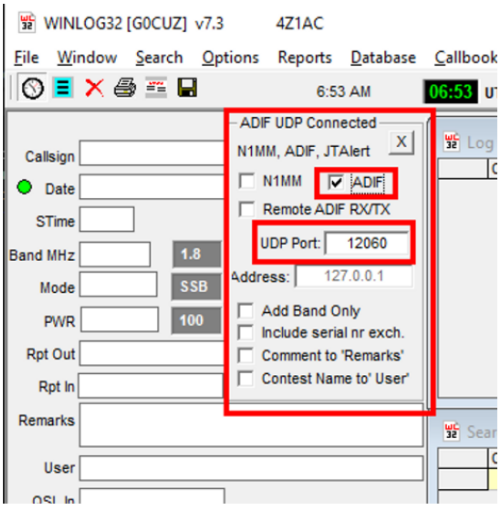
2. Go to "Menu/Options/logging Interface/UDP" --> "N1MM, ADIF, JTAlert" --> "Options"



3. Enable option 'ADIF' (to work with VarAC or other software sending ADIF via UDP from local machine.

4. Make sure the UDP port number matches on both VarAC and Winlog32 (default 12060)

5. Restart Winlog32



Logger32

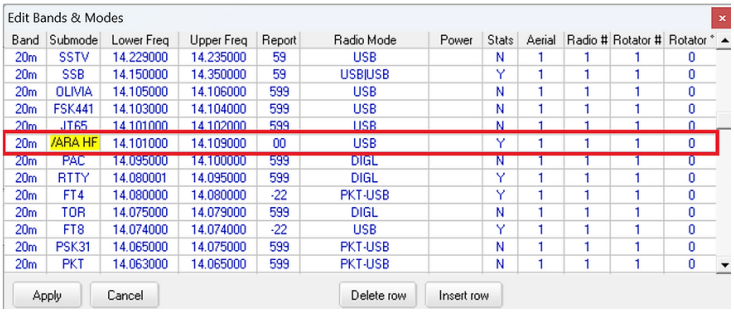
Logger32 provides with TCP based logging which is similar to DXKeeper. If you are using an old version of VarAC without native Logger32 support, you can select DXKeeper as your logger program.

Here is how to configure it on Logger32:

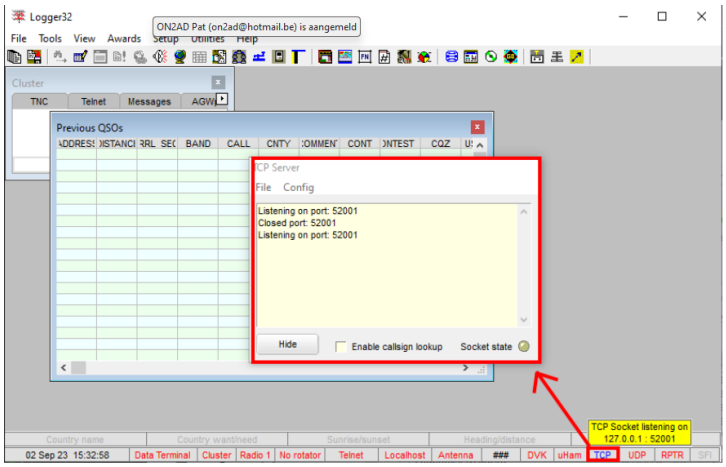
Edit the C:\Logger32\ADIFModes.txt file using notepad and add the DYNAMIC submode on all bands. Here are the lines you should add in the end of the file.

.
.
DOMINO =DOMINOEX,DOMINOF
DSTAR
DYNAMIC =VARA HF,VARA FM, VARA SAT
FAX
FM
.

Go to Tools --> Setup Bands & Modes, and add the following line



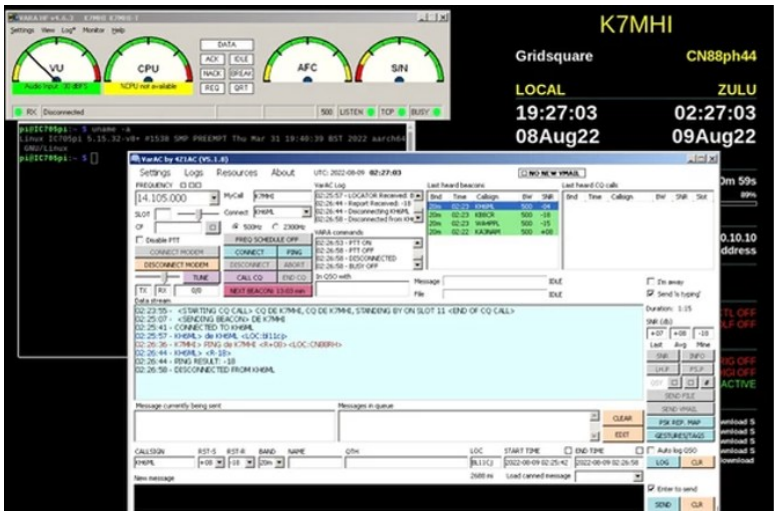
Click Apply
Right-click the "TCP" button on the bottom right side of Logger32.
Select "Click to open socket"



Linux Installation

This manual was based on the documentation of K7MHI @kellykeeton

This is how it looks...



I assume this will work on 32bit Debian (had a report of no)
I do run in 64bit mode bullseye RPi4 fully updated to the day of this post.
The nice Build-A-Pi project is also used to load ham software.

There are some nice tools for ham radio included in this project.

https://github.com/km4ack/pi-build

Install WineLink

WineLink deploys WINE with a full Winlink RMS version and VARA using this following project script. We only need the WINE and the VARA modem part of it but this installer simplifies the installation.
https://github.com/WheezyE/Winelink

Install WINE fonts that are needed by VarAC

sudo apt install *ttf-mscorefonts-installer*
Also follow the instructions here to install "Segoe UI Emoji" font which is also required by VarAC.

Download VarAC

Download, unzip and place the files in the **~/.wine/drive_c/VarAC** directory

Launch VarAC

Using the following command. You can use in a menu. desktop object:
env WINEDEBUG=-all wine /home/pi/.wine/drive_c/VarAC/VarAC.exe

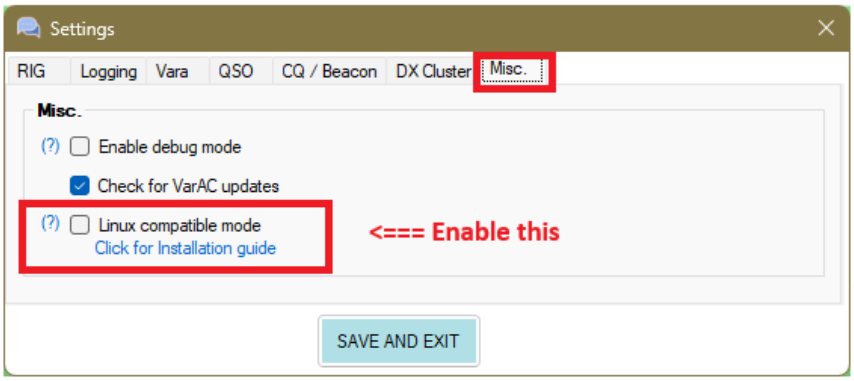
I had to launch a few times and get the settings saved and working but it did work with no major issues! using an IC-705.

Enable "Linux compatible mode" in VarAC settings

Go to Settings --> Rig control & Vara configuration.
Check the "Linux compatible mode" checkbox:
Click Save & Exit

You can do it by directly editing the VarAC.ini file using the following command:

sed -i 's/LinuxCompatibleMode=OFF/LinuxCompatibleMode=ON/' ~/.wine/drive_c/VarAC/VarAC.ini



OS/HW specific configuration

Pi5 & Bookworm

Pi5 only bookworm 16K pagesize is incompatible with wine/box (Dec42023)

- Switch to 4k-page by adding 'kernel=kernel8.img' to /boot/config.txt
- Reboot

To manually install VARA and VarAC on a Pi:

- Load up Pi-Apps via http://pi-apps.io
- run: wget -qO- https://raw.githubusercontent.com/Botspot/pi-apps/master/install | bash
- Use the Pi-Apps GUI navigate to Tools->Emulation
- Install Box86 (also installs wine)
- Install DLL with winetricks by running "winetricks" from CLI
- Press OK for 'default prefix'
- Choose install a DLL or component
- Select some needed DLL and press OK to install
- comdlg32ocx, pdh-nt4, vb6run
- Download Vara, VarAC
- Install them all, if you install VarAC first it will open the Vara Modem download page
- from CLI you can run setup's with "wine setup.exe"
- copy all the OCX files in VARA rather then set paths or register
- cp ~/.wine/drive_c/VARA/OCX/* ~/.wine/drive_c/VARA/

EmComm with VarAC

by Irad Deutsch, 4Z1AC

VarAC: A Lifeline in Emergency Situations

In the realm of emergency communications, reliability and speed are paramount. VarAC, delivers on both fronts, providing an unparalleled solution for individuals and organizations to stay connected even when traditional communication channels fail.
Utilizing HF/VHF/UHF radio frequencies, VarAC ensures constant, grid-independent data exchange, making it an indispensable tool during crises.

Key Features and Their Value in Emergency Situations

1. Reliable Communication Under Poor Conditions

VarAC excels in challenging environments where low power, small antennas, and tough locations typically hinder communication.
It maintains reliable links at -22dB SNR (Thanks to the VARA protocol), ensuring that critical messages get through regardless of the conditions.
This feature is crucial during emergencies when standard communication infrastructure is often compromised.

2. Guaranteed Message Delivery

Utilizing VARA ARQ mode, VarAC guarantees 100% message delivery despite changing propagation conditions and noise.
This rock-solid reliability is vital for emergency responders who need to ensure their messages are received and acted upon without fail.

3. Realtime Alerts Triggered by Tags

In emergency scenarios, timely information dissemination is critical.
VarAC allows users to send agreed-upon keywords that trigger visual and sound alerts throughout the EmComm chain.
This feature ensures widespread awareness of incidents with just one transmission, enhancing the response time and coordination among emergency teams.

4. Alert Center for Managed Communications

VarAC's Alert Center helps manage important messages without a direct connection by locating appropriate intermediaries.
This feature is particularly valuable in scenarios where direct communication links are unavailable, ensuring messages still reach their intended recipients.

5. Constant Beaconing for Team Tracking

To ensure continuous availability and presence of EmComm teams, VarAC uses beacons as keepalive signals.
This constant beaconing helps track the propagation of team members, providing real-time updates on their locations and ensuring that teams remain informed and coordinated during a crisis.

6. Fast File Transfers

VarAC facilitates rapid transfer of forms, images, and documents, even with unattended EmComm stations.
This capability is essential for sharing critical information swiftly, such as medical forms, maps, or photographic evidence, which can significantly aid in rescue and relief operations.

7. GPS Integration for Location Updates

Real-time updates of team locations are crucial during emergencies.
VarAC's GPS integration allows for effortless reflection of current locations, ensuring all team members are informed of each other's precise whereabouts, which aids in strategic planning and execution of rescue missions.

8. High Data Speeds with VARA Protocol

The VARA protocol used by VarAC boasts unmatched data speeds, with HF speeds up to 7,050 Bps and V/UHF FM speeds up to 25,000 Bps.
This rapid data transfer is essential for sending large amounts of data quickly, a common requirement during emergency situations.

9. Efficient Broadcasting and Group Communication

VarAC allows for individual or group message broadcasts, extending coverage via digipeater chains and facilitating group chats for EmComm operators.
This capability ensures that important information is disseminated quickly and efficiently to all relevant parties, enhancing coordination and response efforts.

10. Path Finder to Reach Unreachable Locations

In scenarios where direct communication is not possible, VarAC assists in finding appropriate intermediaries to deliver messages.
This path-finding feature ensures that even the most remote or inaccessible locations receive critical communications.

11. High Concurrency with Multiple Channels

VarAC's slot-based technology allows multiple EmComm operators to tune to a single frequency and QSY to a slot upon connecting, managing multiple links simultaneously without the need for extensive frequency lists.
This high concurrency is particularly beneficial in large-scale emergencies where numerous teams need to communicate concurrently.

12. VMails and Relay Notifications

VarAC simplifies the process of sending mails to individuals or groups, with smart relay notifications alerting operators of pending messages.
This feature ensures that important messages are promptly retrieved and acted upon, maintaining efficient communication flow during emergencies.

13. Pre-existing Forms and Templates

VarAC offers a variety of pre-existing ICS message templates tailored to various emergency scenarios, along with the ability to customize templates to specific needs.
These ready-to-use forms facilitate quick and accurate information exchange, streamlining the communication process during critical situations.

VarAC stands as a robust, versatile, and indispensable tool for emergency communications.
Its array of features, from guaranteed message delivery to real-time alerts and high-speed data transfers, ensures that emergency responders can focus on managing crises effectively, confident in their ability to communicate reliably and efficiently.
When traditional communication networks fail, VarAC delivers, making it the ultimate solution for emergency communications.

The complete EmComm Tactical scenarios guide V.1.2

Tactical EmComm scenarios covered in this guide

This guide provide examples to real-life EmComm tactical need and how VarAC can be leveraged to address them.

1. EmComm operators' “Check-ins”
2. Sending an emergency alert to all EmComm operators.
3. Send emergency VMail without direct link to your destination.
4. Sending an images of a missing person
5. Group chat/check-ins of all EmComm operators.
6. Live chat between stations with no direct link (through digipeater)
7. Find a path to an unreachable station.

* Please note: When showcasing digipeaters use cases – these are available with VaraFM only.

Tactical need #1

EmComm operators' check-ins

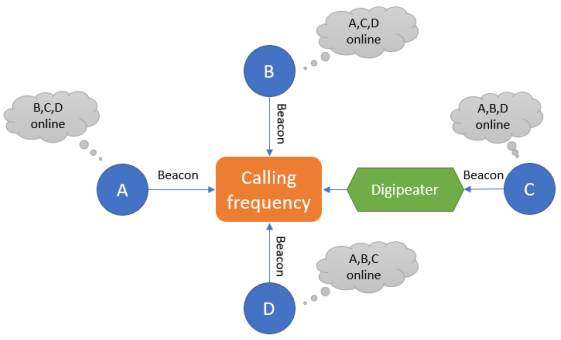
VarAC Features used:

Beacons

VarAC Beacons are a great tool to notify your EmComm network that you are online and available for any type of communication.

How ?

1. All operates set a beacon to fire every X minutes on an agreed calling frequency.
2. All Operators can see each other on the “Last heard beacons” with the latest timestamp.
3. Digipeaters can be used to extend reach.



Tactical need #2

Sending an emergency alert to all EmComm operators.

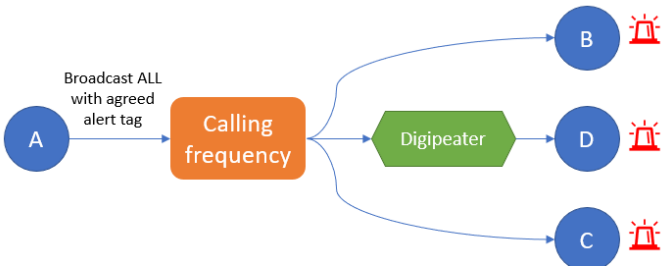
VarAC Features used:

Alert tags, Broadcast

Broadcast can be used as s one-to-many transmission that can also propagate through VaraFM digipeaters. Coupled with a pre-defined alert tag, it is a great way to quickly distribute a critical message through the entire EmComm network in seconds.

How ?

1. Define an alert tag and share among all your EmComm networks. (Alert tags definition is stored in a file you can easily distribute prior to the operation.)
2. If VaraFM digipeater is available, configure it under settings.
3. Send a Broadcast to “ALL” with the alert tag as part of the text.
4. A visual and vocal alert will be triggered on all EmComm stations.



Tactical need #3

Send emergency VMail without direct link to your destination

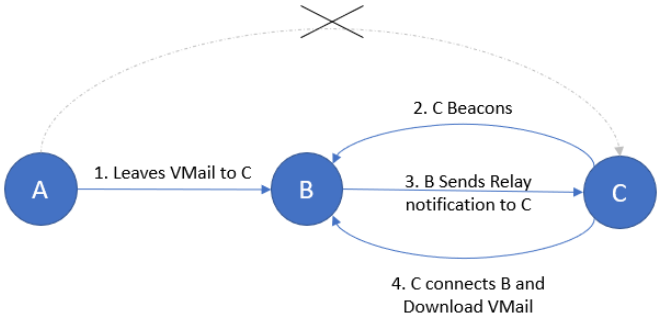
VarAC Features used:

VMails, Parking, Relay notifications, Beacons

VarAC allows you to send VMail through third parties. VMails can be temporarily parked at a third-party station. Once the destinations beacons, the third party notifies it that there is a parked VMail waiting to be collected.

How ?

1. A connects B and leave a VMail for C
2. C Beacons
3. When B decodes the beacons, it sends C a “relay notification alert”
4. C Connects B.
5. B relays the message to C



Tactical need #4

Sending a images of a missing Person

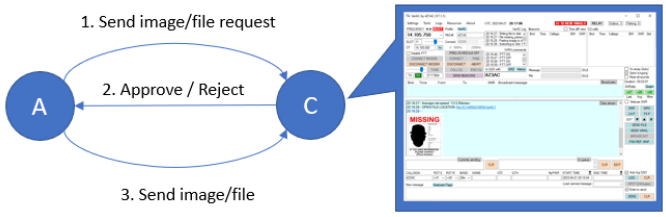
VarAC Features used:

Send file

VarAC provides lightening fast file transfer including images. Received images appear on screen in the conversation windows (Like in instant messaging apps). The destination can set the file size under which files will be received without manual approval.

How ?

1. A connects B
2. A sends a “send file request”.
3. B approves automatically/manually
4. A sends the image.
5. Image appears on B screen.
6. Digipeaters can be used.



Tactical need #5

Group chat/round-table/check-ins of all EmComm operators

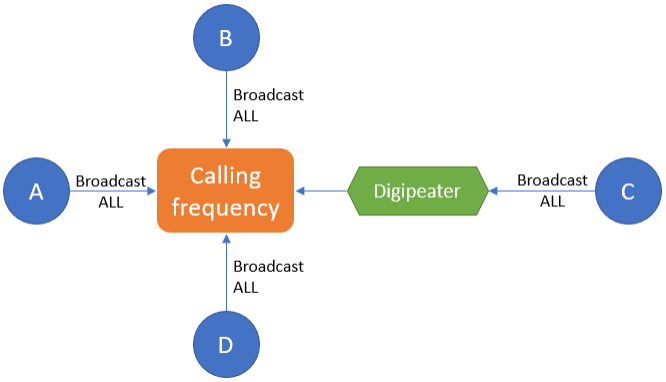
VarAC Features used:

Broadcasts

VarAC broadcasts allows multiple operators to conduct a roundtable chat in a many-to-many fashion. Broadcasts can also be distributed through digipeaters to reach a longer distance while allowing more operators to participate in the roundtable.

How ?

1. All EmComm operators are tuned on the same frequency.
2. Each station sends a broadcast to “ALL”
3. VaraFM Digipeaters can also be used.



Tactical need #6

Live chat between stations with no direct link

VarAC Features used:

Chat, Digipeater

Chatting with VarAC is possible either direct or through VaraFM digipeaters. Up to two digipeaters are allowed. This allows a live chatting over 2 hops.

How ?

1. Set a digipeater under settings.
2. Type in the destination callsign.
3. Connect



Tactical need #7

Find a VMail path to an unreachable station – Way #1

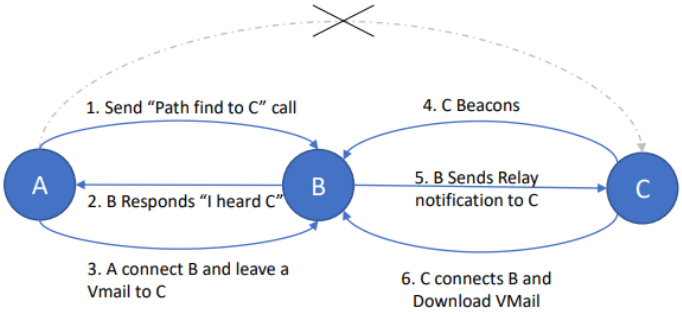
VarAC Features used:

VMail, Path finder

VarAC provides you with ways to find a path for VMAIL relay to a station you can not access directly.

How ?

1. A send a “Path find to C” call.
2. B respond that it heard C
3. A connects B.
4. A leave a VMail to C at B.
5. B will notify C about a parking VMail
6. C connects B to collect the VMail



Tactical need #8

Find a VMail path to an unreachable station – Way #2

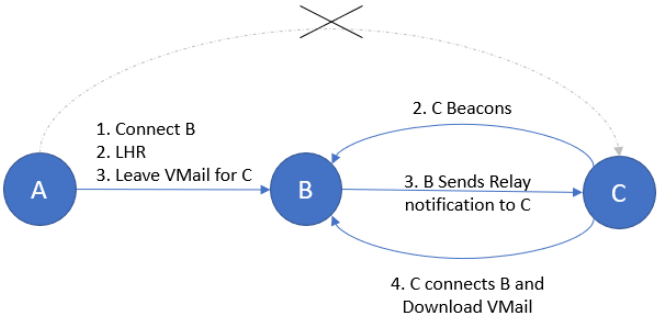
VarAC Features used:

VMail, Last Heard (LHR)

VarAC provides you with ways to find a path for VMAIL relay to a station you can not access directly.

How ?

1. An intercepted a beacon from B.
2. A Connect B and pull last heard stations list using the LHR button.
3. If your destination station C is on that list, A leave a VMail to C at B.
4. B will notify C about a parking VMail.
5. C connects B to collect the VMail.



VarAC Tactical drills checklist

#	Tactical scenario	Status	Comments
1	EmComm operators' “Check-ins”	□ Success □ Fail □ Skip	
2	Sending an emergency alert to all EmComm operators.	□ Success □ Fail □ Skip	
3	Send emergency VMail without direct link to your destination.	□ Success □ Fail □ Skip	
4	Sending an images of a missing person	□ Success □ Fail □ Skip	
5	Group chat/check-ins of all EmComm operators	□ Success □ Fail □ Skip	
6	Live chat between stations with no direct link (through digipeater)	□ Success □ Fail □ Skip	
7	Find a path to an unreachable station (Way #1)	□ Success □ Fail □ Skip	
8	Find a path to an unreachable station (Way #2)	□ Success □ Fail □ Skip	

Other information’s

How to find other radio amateurs to chat with VarAC?

EASY :) our main QRG is 14.105.00 USB watch face. Simply tune your transceiver and press the "CALL CQ" button. If someone is watching the frequency, they will see you on the screen and even hear a THING sound.

If you want to make yourself visible to others, you can also activate a beacon by clicking the "SEND BEACON" checkbox so that once someone tunes in, they can see and connect with you.

You can also join our vibrant Facebook community and schedule a QSO by posting there. There are plenty of people willing to help you.

Which RIGs are supported by VarAC?

VarAC needs to manage your PTT.

Therefore, it requires some form of CAT checking (unless you choose to use VOX, which is not recommended).

So you can set up your own CAT control commands if you know them, but I've made your life easier by integrating with OmniRig, which covers every transceiver. Therefore, it is recommended to install and configure the OmniRig before installing VarAC.

Are VarAC and Vara-Chat compatible?

Yes, but up to a certain level.
VarAC can connect Vara-Chat and perform normal QSO. However, VarAC has some features of its own which cannot be decoded in Vara chat like Emojis, Sounds, typing something etc...

My OmniRig has a delay in sending

In OmniRig - set the menu item "Timeout, ms" to "100" and you are good to go.

What can I do if I encounter a bug in VarAC?

Yes, Bugs and crashes can occur. And they are willing to solve them quickly, but they need your help by providing the following details.

Just log in to the VarAC community and submit your bug here. Provide as much information as possible, including:

A bug description and how to reproduce.

A screenshot

The VarAC.ini file

The VarAC.log file

The relevant section of the VarAC_traffic.log file

Where can I find VarAC manuals?

There are still no official manuals because everything is very new. But some VarAC users decided to invest their precious time and write tutorials.
You will find them all Here.

Do you have any questions?

We are happy to help you. Ask your question on the forum on or Facebook-group page.

You do not wait long for an answer :)

Here you will also find more VarAC -manuals.

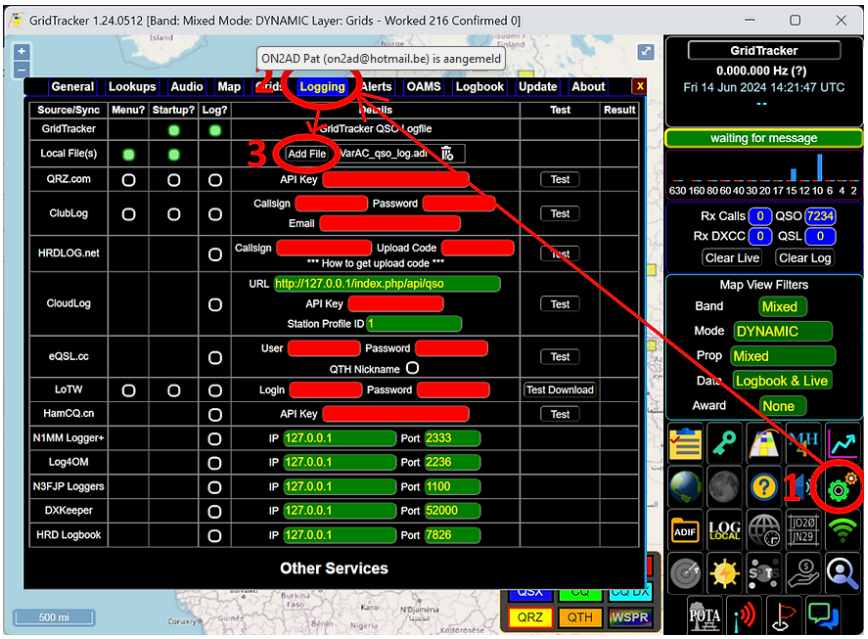
We wish you the best of luck in taking your first steps at VarAC and hope you enjoy it.

GridTracker

GridTracker is mostly used to show worked grids on a map and not as a primary logging QSO software.
It can be configured to track your VarAC QSOs and show them on the grid map.
There are 2 things you need to configure to make it work:

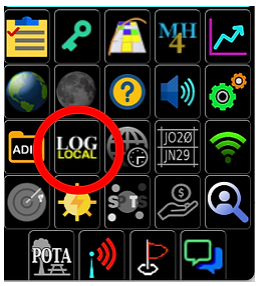
1. Configure GridTracker to scan the VarAC ADIF log file.
2. Add the VarAC ADIF mode name (DYNAMIC) to the GridTracker mode catalog.

Configure GridTracker to scan the VarAC ADIF file



Launch GridTracker
Click the settings icon on the bottom left
Click the "Logging" tab
On the "Local File(s)" row, click "Add File"
Navigate to the VarAC installation directory and select the file **"VarAC_qso_log.adi"** and click Open.

Now GridTracker knows where to find your VarAC ADIF file, and will scan it every time you start GridTracker, or when you click the "Log Local" icon



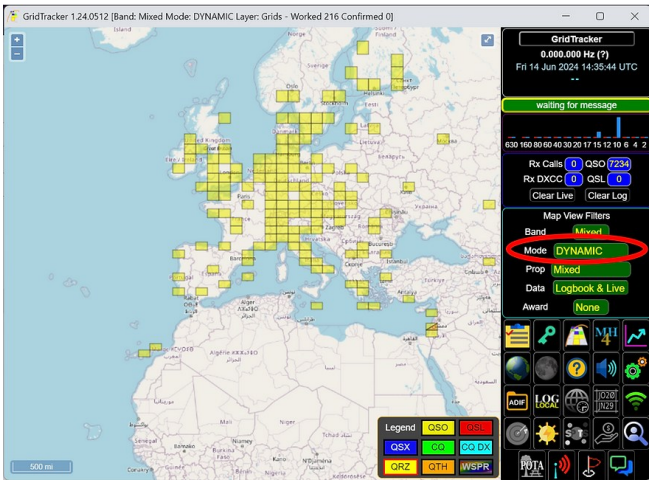
Adding the VarAC ADIF mode name (DYNAMIC) to the GridTracker mode catalog

Navigate to the GridTracker installation directory and go to the **"data"** directory. By default this should be in "**C:\Program Files (x86)\GridTracker\data**"
Open the files **"modes.json"** using a **notepad**.
Add the mode "**DYNAMIC**" like shown here

```
...
"DSTAR": false,
"DSSTV": true,
"DYNAMIC": true,          <------
"FAX": false,
"FM": false,
...
```

Save the file. And relaunch Grid Tracker.

That's it. Now to see all your VarAC QSOs on the map simply select the mode **"DYNAMIC"** from the dropdown list



Annexes

Introduction

The purpose of these appendices is to offer a better insight into how certain settings are made and this with the different transceiver devices.

Also discussed are the CAT settings of some Interfaces and the use of a CAT cable.
If you have a properly working VarAC with an Interface or transceiver not yet listed, please send it to us so that we can complete these manuals. They are an immense help to other HAMs.

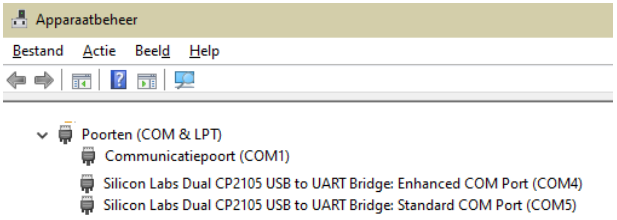
CAT cable connected to the USB port

FT-991A with a USB cable

(by Pat, ON2AD)

Installing the Communication Ports (COM)

Go to YAESU's website select the FT-991A click Files and download the FT-991A / SCU-17 USB driver (virtual com port driver)



After installing these drivers, two com ports are created.

The Enhanced COM Port is used for CAT control.
The Standard COM Port is used for the TX.

(the COM ports may be different from those in the example)

You can view the installed COM ports in device manager

FT-991A Setup for DATA-USB modus

If you are using DATA-USB instead of USB mode, set up your FT-991A with the next settings.
Set menu.

NR	=	Modus	Remark:
060	=	RTS	**Don't forget to change the mode to USB-D or DATA-U in the VarAC settings in the RIG Submenu, and select the right COM port.**
071	=	DAKY	
072	=	**USB**	**And also make the correct sound card settings in VARA (NOT VarAC).**
109	=	**DATA**	

FT-991A Setup for USB modus

If you are using USB instead of DATA USB mode, set up your FT-991A with the next settings.
Set menu.

NR	=	Modus	Remark:
060	=	RTS	**Don't forget to change the mode to USB in the VarAC settings in the RIG Submenu, and select the right COM port.**
071	=	DAKY	
072	=	**USB**	**And also make the correct sound card settings in VARA (NOT VarAC).**
109	=	**DATA**	

FT-991A Setup for automatic USB or USB-D or DATA-U mode

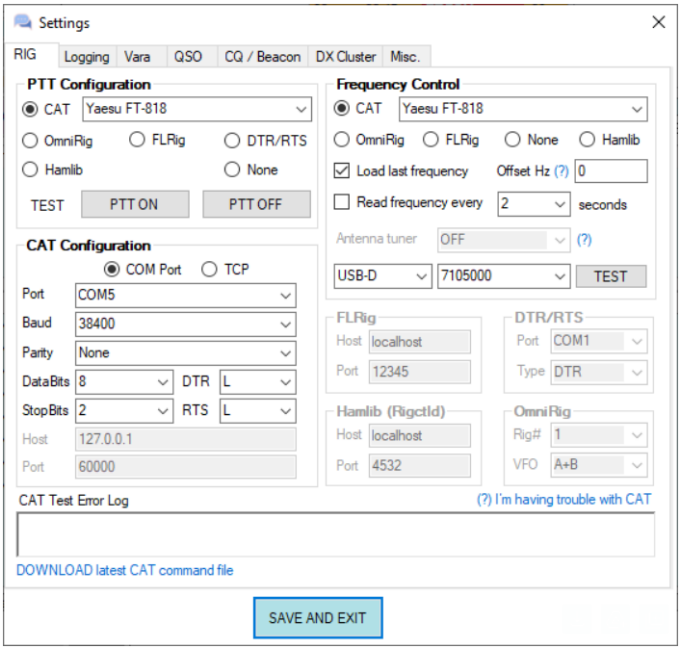
This setup only applies if you are in:
Menu Settings/Rig Control and VARA Configurations and submenu RIG, in the Frequency panel set USB or DATA-U or USB-D as mode

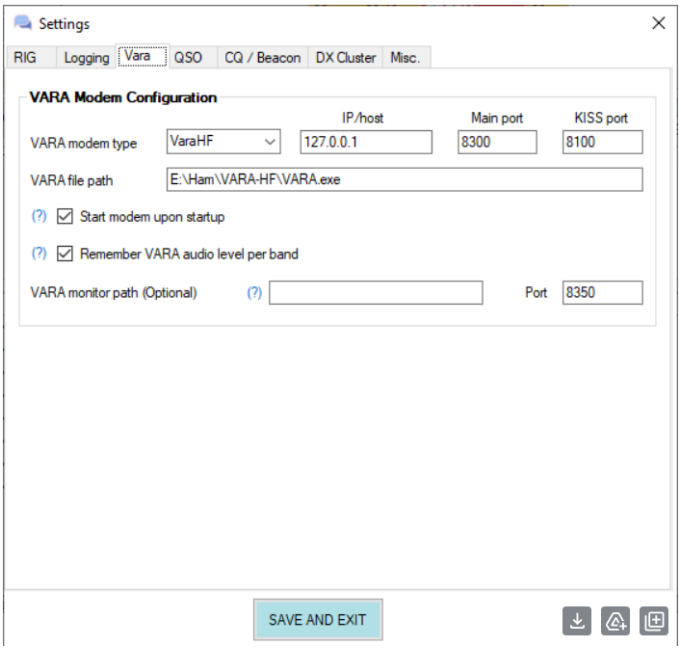
Setup your FT-991A with the next settings.

NR	=	Modus	Remark:
060	=	RTS	**Select the right COM port settings, and also the correct sound card settings in VARA (NOT VarAC).**
071	=	DAKY	
072	=	**USB**	
109	=	**USB**	

FT-818 with a USB cable

Tnx Pietro, I2OIM





Micro HAM-interfaces

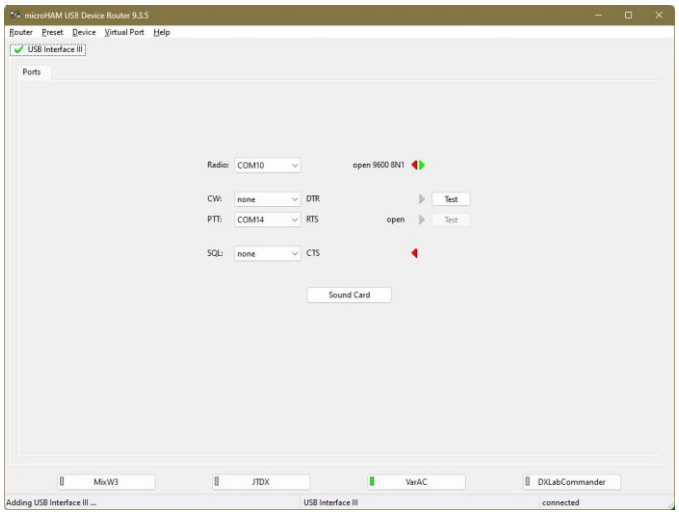
The microHAM interfaces use the Eltima Virtual Serial Port drivers, which are installed when installing the microHAM USB Device Router. To do this, go to the Virtual Port menu and select the necessary COM ports that you think you will use. Personally, I have selected 13 COM ports.

Kenwood

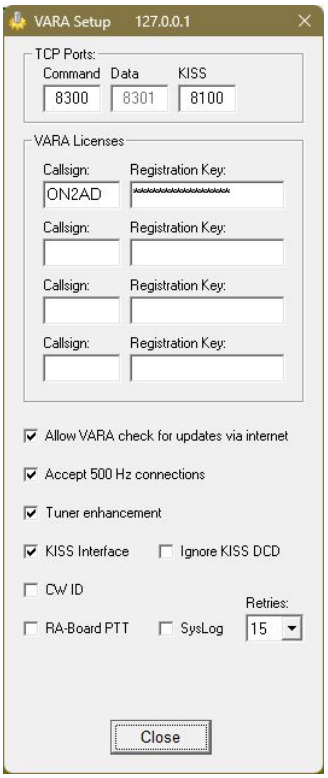
(By Pat, ON2AD)

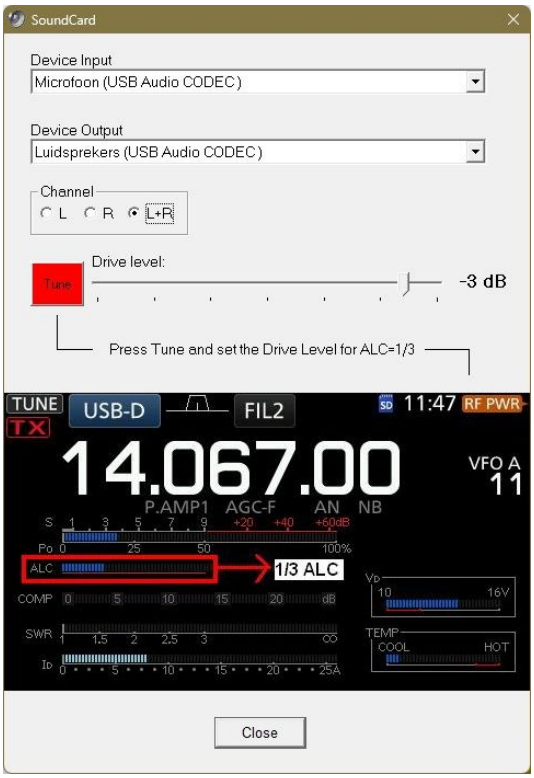
TS-2000 with a USB Interface III

microHAM USB Device Router settings

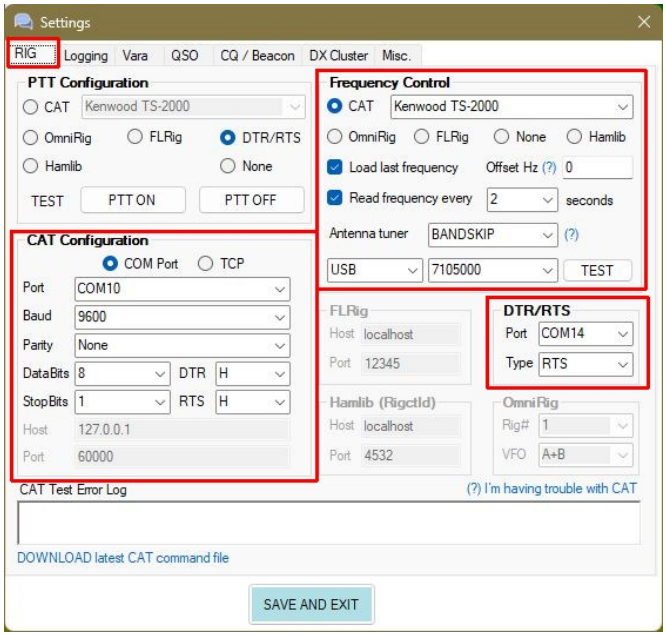


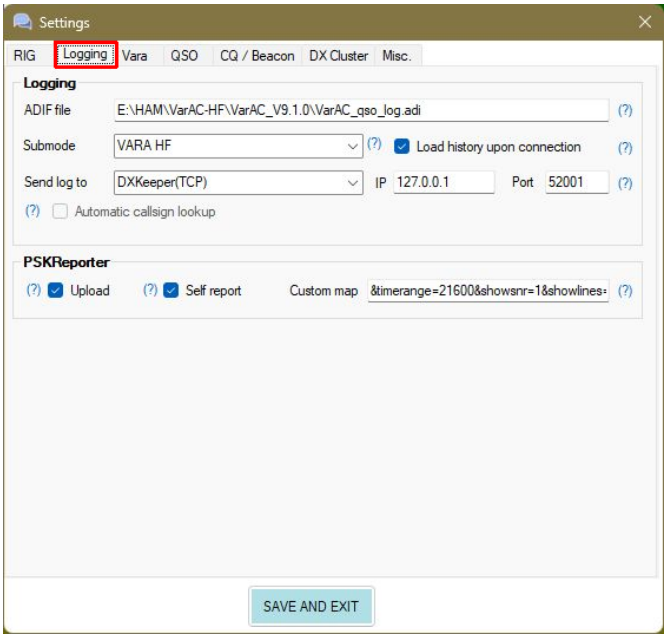
VARA Setup

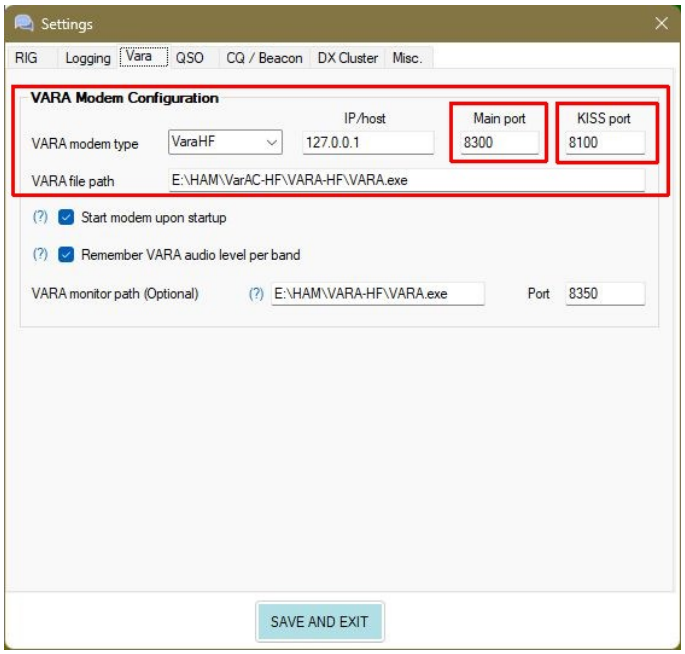

VARA Setup 127.0.0.1
TCP Ports:
Command Data KISS
8300 8301 8100
VARA Licenses
Callsign: Registration Key:
ON2AD
Callsign: Registration Key:
Callsign: Registration Key:
Callsign: Registration Key:
Allow VARA check for updates via internet
Accept 500 Hz connections
Tuner enhancement
KISS Interface
Ignore KISS DCD
CW ID
Retries:
RA-Board PTT
SysLog
15
Close


SoundCard
Device Input
Microfoon (USB Audio CODEC)
Device Output
Luidsprekers (USB Audio CODEC)
Channel
L R L+R
Tune
Drive level:
-3 dB
Press Tune and set the Drive Level for ALC=1/3
TUNE
TX
USB-D
FIL2
11:47
RF PWR
14.067.00
VFO A
11
P.AMP1 AGC-F AN NB
ALC
1/3 ALC
COMP
SWR
TEMP
COOL
HOT
Close

VarAC Setup


Settings
RIG
Logging
Vara
QSO
CQ / Beacon
DX Cluster
Misc.
PTT Configuration
CAT
Kenwood TS-2000
OmniRig
FLRig
DTR/RTS
Hamlib
None
TEST
PTT ON
PTT OFF
Frequency Control
Load last frequency
Offset Hz
Read frequency every
seconds
Antenna tuner
BANDSKIP
USB
7105000
TEST
CAT Configuration
COM Port
TCP
Port
COM10
Baud
9600
Parity
None
DataBits
StopBits
DTR
RTS
Host
127.0.0.1
60000
FLRig
localhost
12345
Hamlib (RigctId)
OmniRig
Rig#
VFO
A+B
DTR/RTS
COM14
Type
RTS
CAT Test Error Log
(?) I'm having trouble with CAT
DOWNLOAD latest CAT command file
SAVE AND EXIT


Settings
RIG
Logging
Vara
QSO
CQ / Beacon
DX Cluster
Misc.
Logging
ADIF file
E:\HAM\VarAC-HF\VarAC_V9.1.0\VarAC_qso_log.adi
Submode
VARA HF
Load history upon connection
Send log to
DXKeeper(TCP)
IP
127.0.0.1
Port
52001
Automatic callsign lookup
PSKReporter
Upload
Self report
Custom map
&timerange=21600&showsnr=1&showlines=
SAVE AND EXIT



Yaesu

FT-991A with a micro KEYER II

(By Pat, ON2AD)

FT-991A Setup for DATA-USB mode

If you are using DATA-USB instead of USB mode, set up your FT-991A with the next settings.
Set menu.

This setup only applies if you are in:
menu Settings/Rig Control and VARA Configurations and submenu RIG, in the Frequency panel set DATA-U or USB-D as mode

NR	=	Modus	Remark:
060	=	RTS	**Don't forget to change the mode to USB-D or DATA-U in the VarAC settings in the RIG Submenu, and select the right COM port.**
071	=	DAKY	**And also make the correct sound card settings in VARA (NOT VarAC).**
072	=	**DATA**	
109	=	**USB**	

FT-991A Setup for USB mode

If you are using USB instead of DATA USB mode, set up your FT-991A with the next settings.
Set menu

This setup only applies if you are in:
menu Settings/Rig Control and VARA Configurations and submenu RIG, in the Frequency panel set USB as mode

NR	=	Modus	Remark:
060	=	RTS	**Don't forget to change the mode to USB in the VarAC settings in the RIG Submenu, and select the right COM port.**
071	=	DAKY	**And also make the correct sound card settings in VARA (NOT VarAC).**
072	=	**USB**	
109	=	**DATA**	

FT-991A Setup for automatic USB or USB-D or DATA-U mode

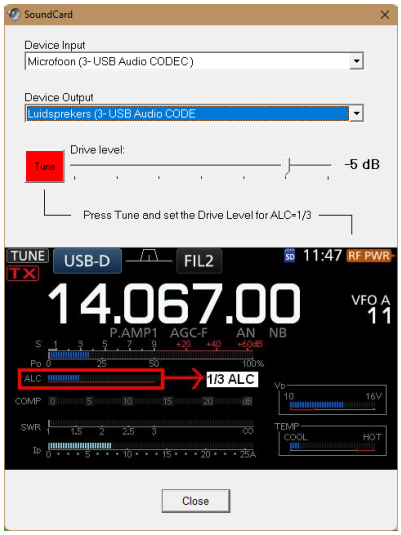
This setup only applies if you are in:
Menu Settings/Rig Control and VARA Configurations and submenu RIG, in the Frequency panel set USB or DATA-U or USB-D as mode

Setup your FT-991A with the next settings.

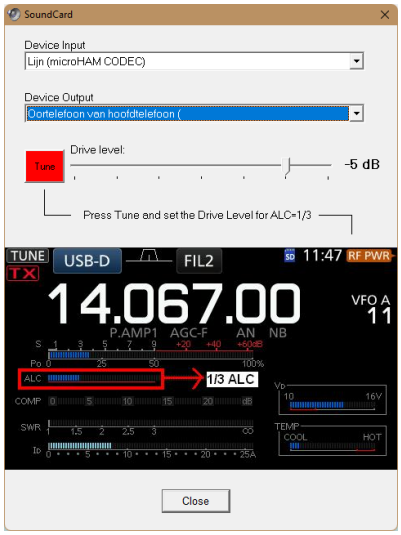
NR	=	Modus	Remark:
060	=	RTS	**Select the right COM port settings, and also the correct sound card settings in VARA (NOT VarAC).**
071	=	DAKY	
072	=	**DATA**	
109	=	**DATA**	

VARA Soundcard settings

With use of the USB cable

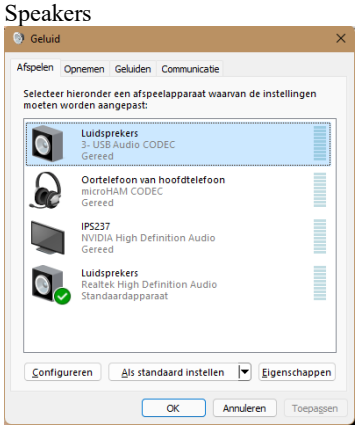


For use with the microHAM interface

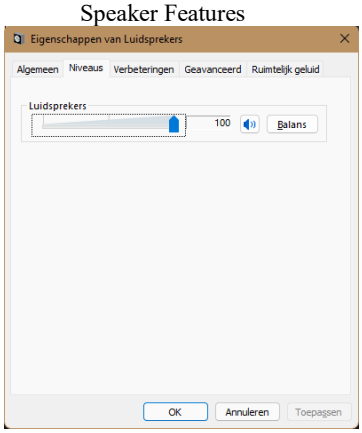


Soundcard settings

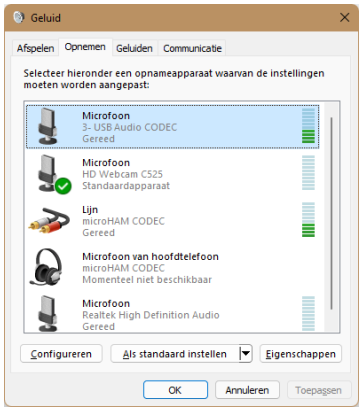
Speakers



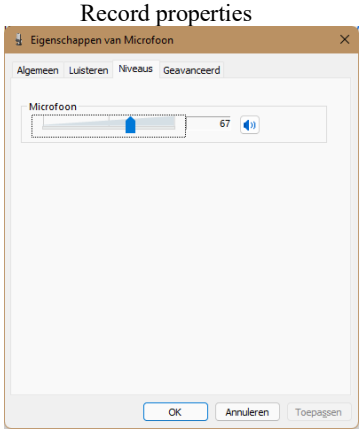
Speaker Features



Record



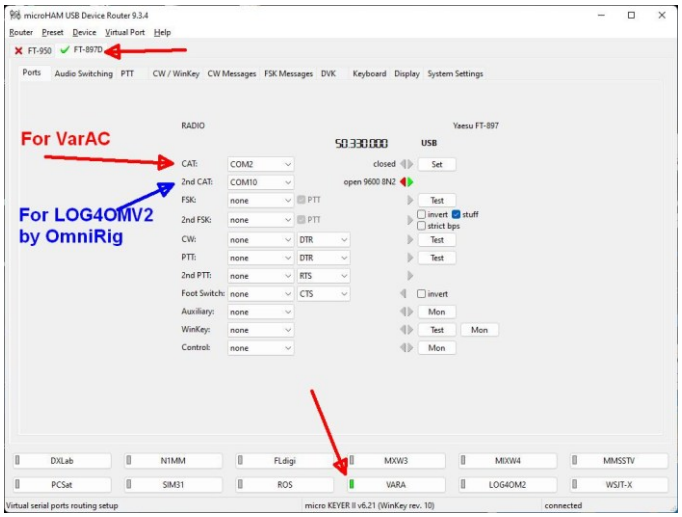
Record properties

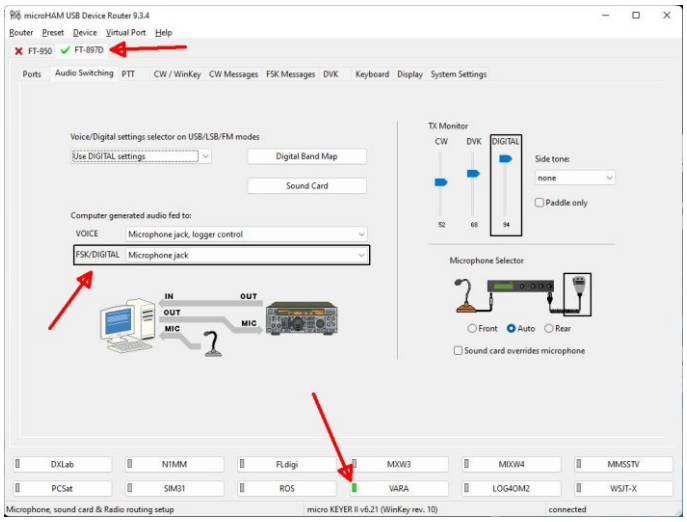


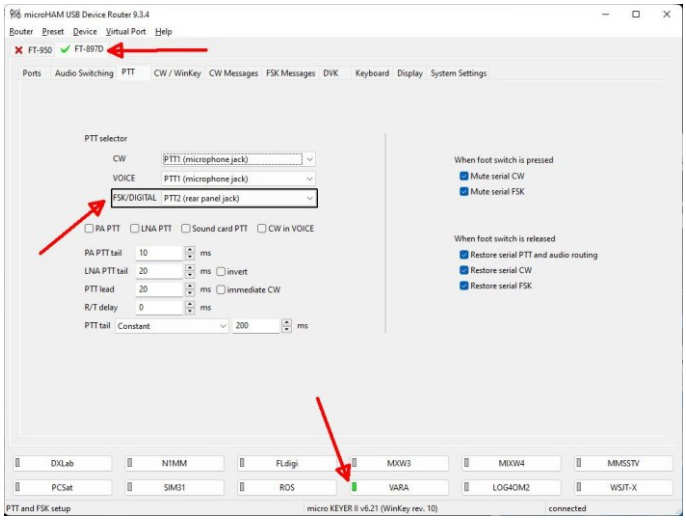
FT-897 connected with the micro KEYER II and OmniRig

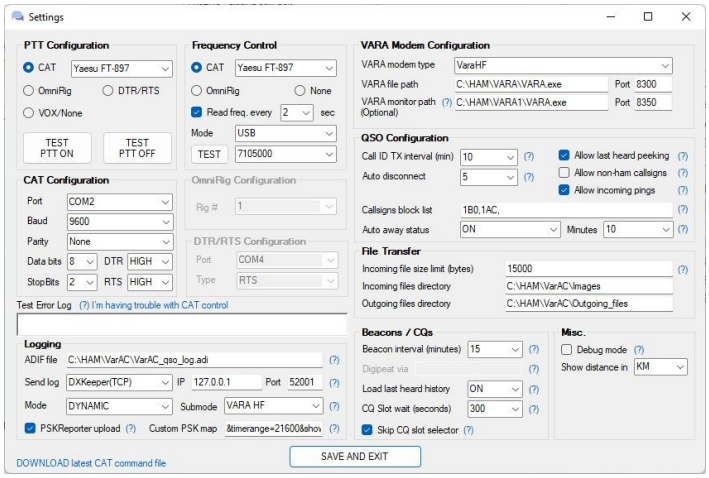
Info ON6AT, Patrick

Micro Keyer settings

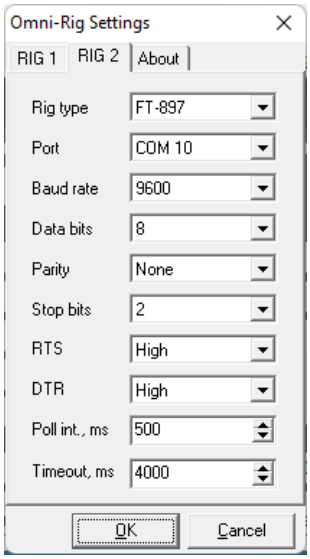


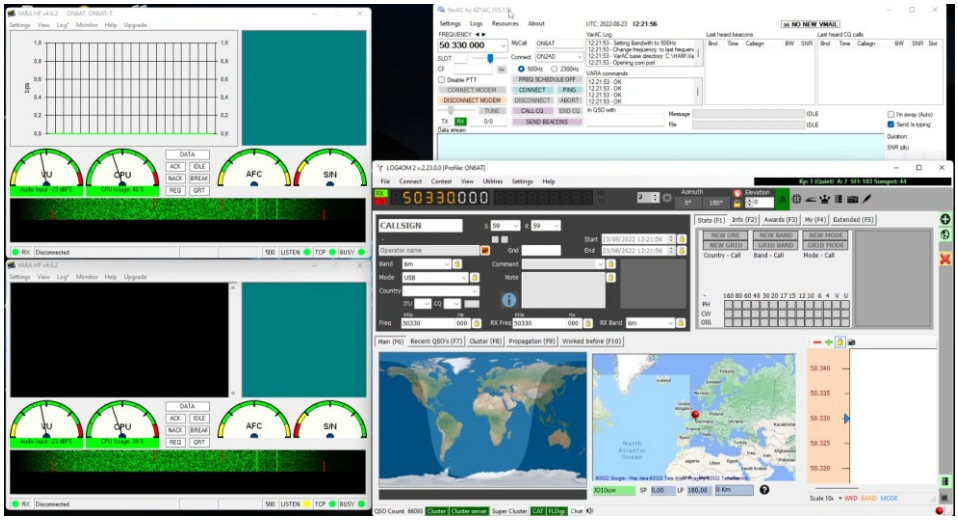






Omni-Rig & VARA-HF & Log4OM





FT-897 Menu setup

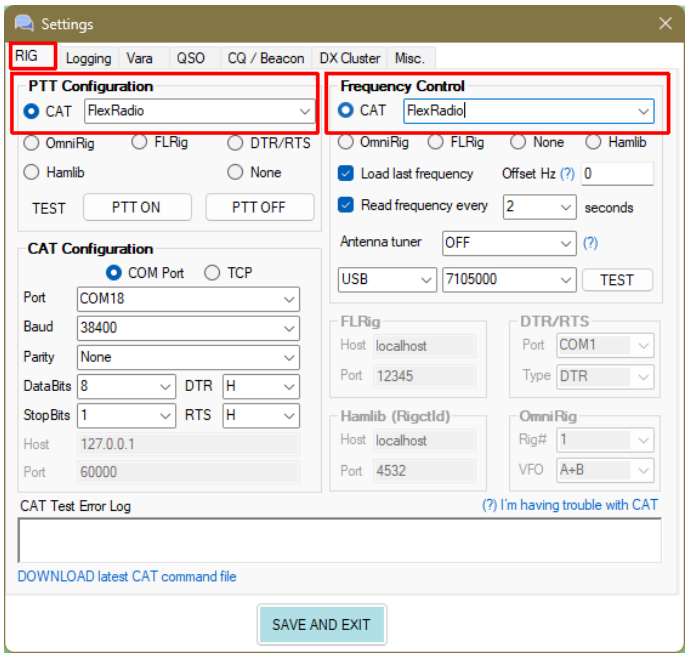
Menu	CAT mode	Setup
019	CAT Rate	9600bps or select another, but change also the MKII baudrate
020	CAT/LIN/TUN	CAT
037	DIG GAIN	10
038	DIG MODE	USER-U or USER-L
039	DIG SHIFT	0 Hz
040	DIG VOX	0

Flex radio's

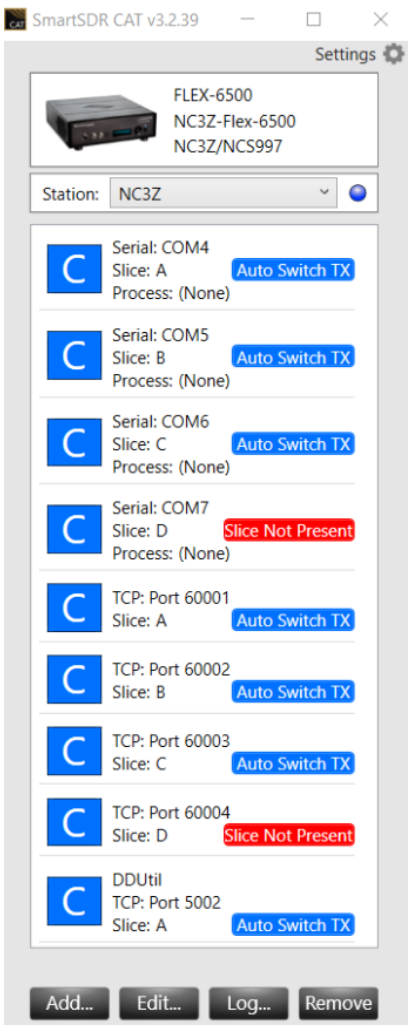
Flex 6400M

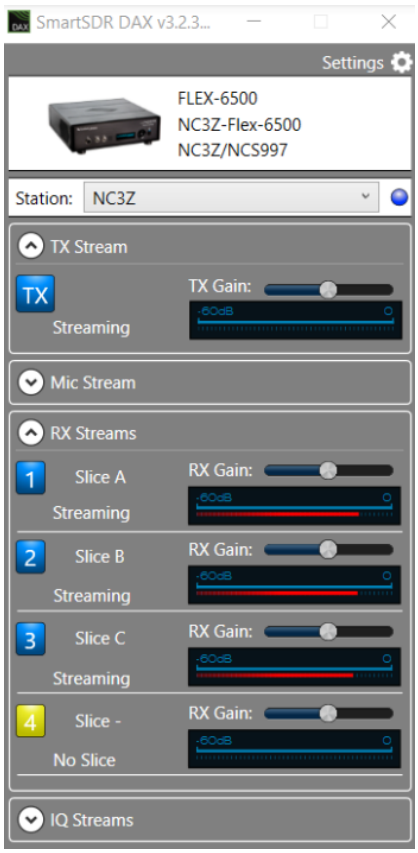
Info from VarAC-Forum

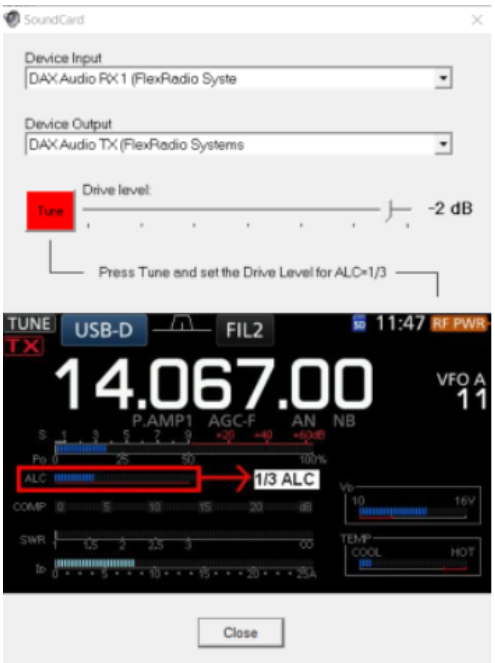
VarAC settings



SmartSDR +VARA Soundcard settings

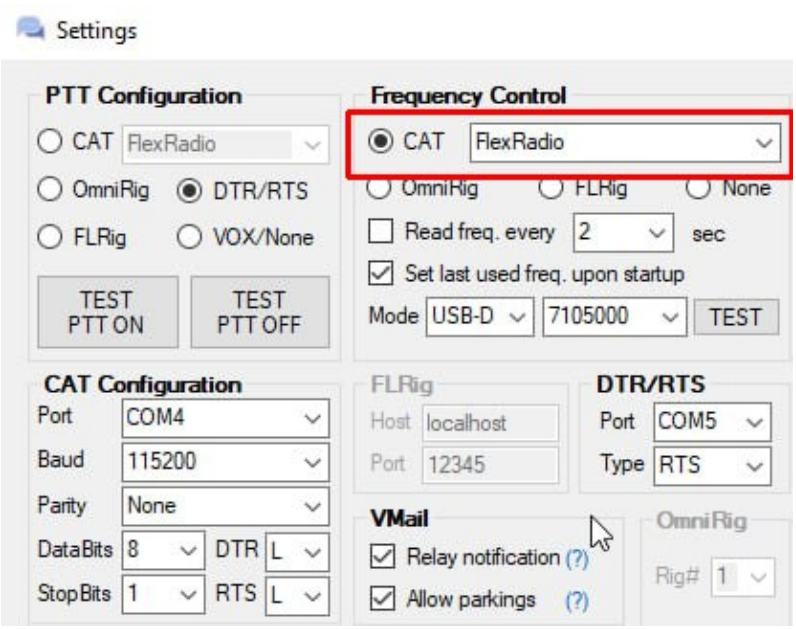


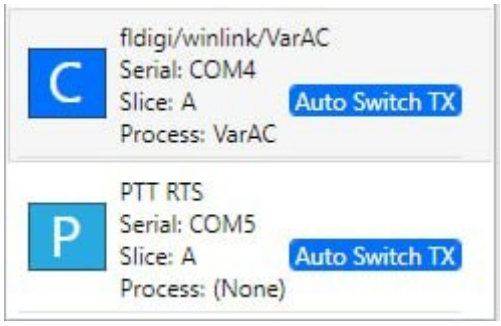




Flex 6600

Tnx, K5CG, Danny

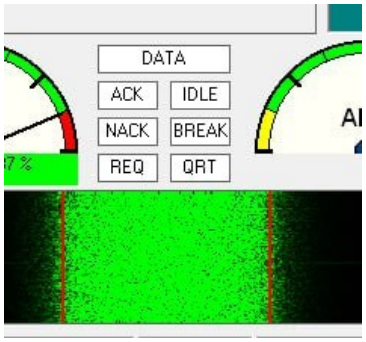




The Big C in the blue box indicates it is a CAT port

The Big P in the other indicates PTT use





Icom

IC-7300

VarAC Configuration

(by K5CG, Danny)

Duplicate your VarAC.ini file to a file with a name like VarAC_IC-7300.ini (VarAC_ prefix required).
Replace the following sections of the new file with the following sections - setting COM? to the USB COM port number in Windows where your IC-7300 is connected.

VarAC_IC-7300.ini

```
[RIG_COM_CONFIGS]
ComPort=COM?
BaudRate=115200
DataBits=8
StopBits=1
Parity=None
DTR=L
RTS=L
PortWaitTimeMs=100
RigPTT=Icom IC-7000
RigFreqControl=Icom IC-7300
ControlMethod=COMPORT
TCPHost=127.0.0.1
TCPPort=60000

[RIG_CONTROL]
RigPTTControlType=DTR_RTS
RigFreqControlType=CAT
RigCatFreqRead=ON
RigCatFreqReadIntervalSeconds=2
```

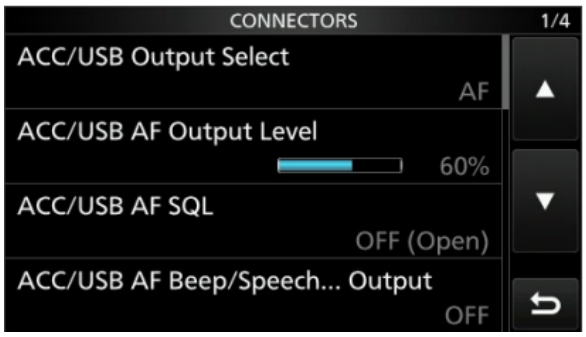
UsbMode=USB-D
FrequencySchedule=ON
LastFrequency=14.256.000
LastFrequencyLoadUponStartup=ON
SafetyPTTOffEveryMinute=ON
PTTDisableAfterFreqChangeSeconds=0
FrequencyOffsetHZ=0
ActiveAntennaTunerFreqChange=ALWAYS
FrequencyListCustomFilePath=
FrequencyScheduleCustomFilePath=

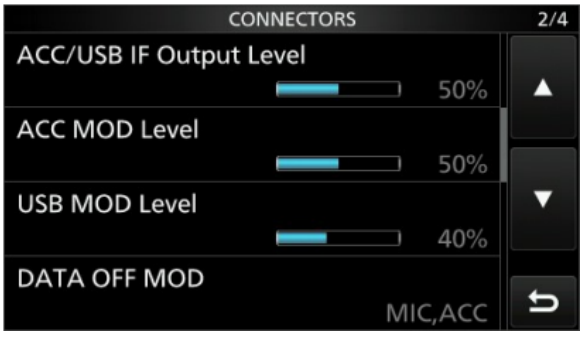
[DTR_RTS]
ComPort=COM?
Type=RTS

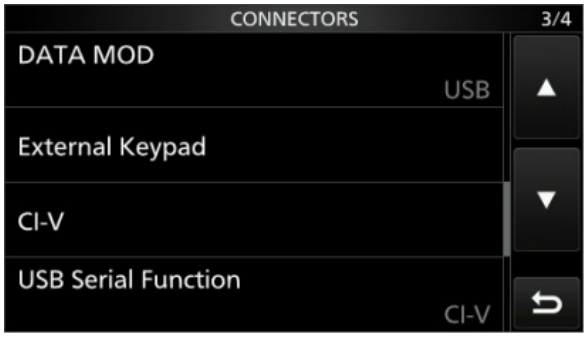
Create a Windows Shortcut to VarAC.exe on your Desktop, passing this new file name as argument to specify the startup profile. The command should look something like... C:\\VarAC.exe VarAC_7300_Direct.ini

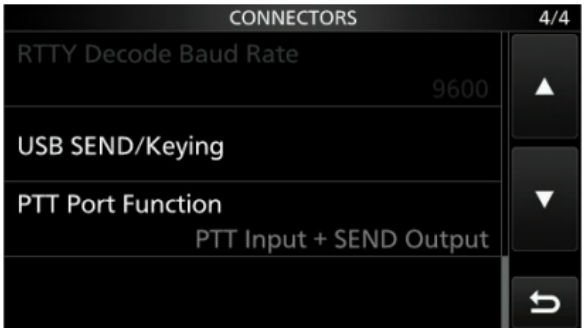
Radio Configuration

From the front of the Radio push Menu → Set, then tap “Connections” on the screen. There are four pages of options in the Connections menu, shown below.

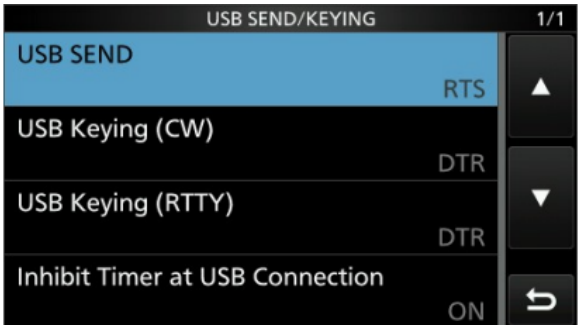








click “USB SEND/Keying”



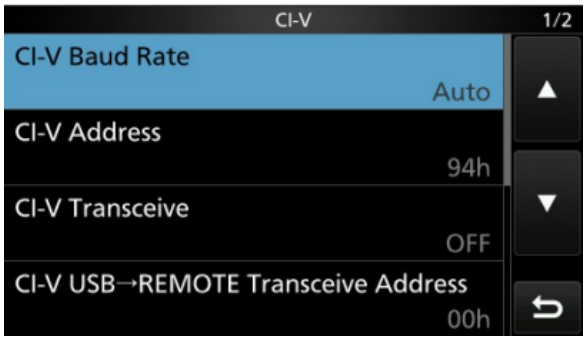
Set “USB SEND” to RTS (for PTT). For “USB Keying (CW)” and “USB Keying (RTTY)”, I set both to DTR for later use with other applications.

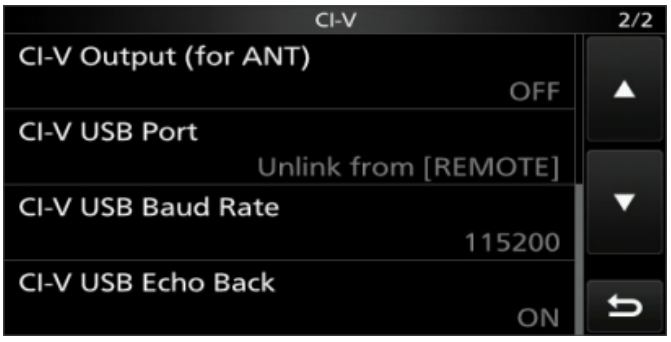
Click the Back arrow to go back to the Connections pages.

On Page 3 select “CI-V”.

In “CI-V” settings on page 1, set as below.

Then, the same on page 2.



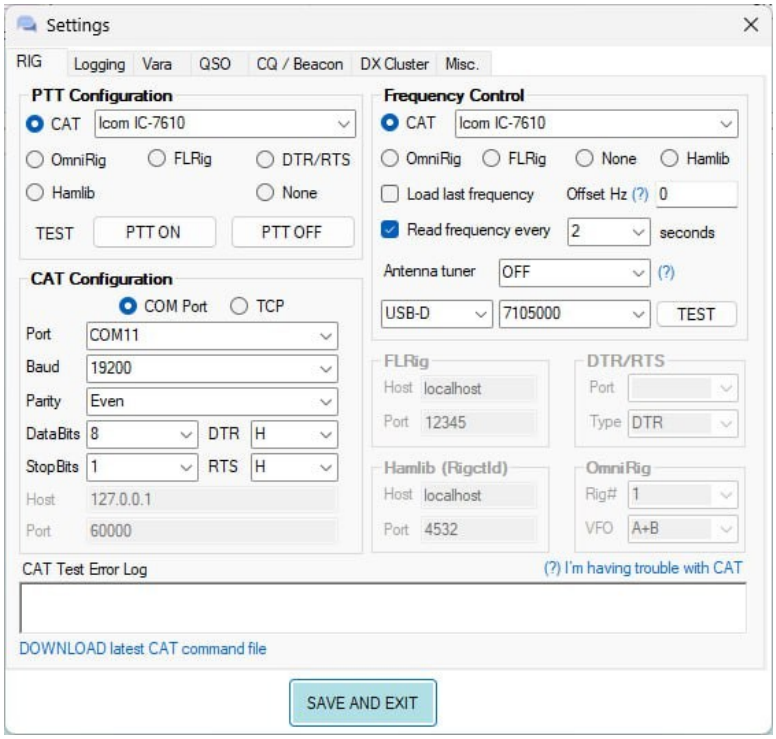


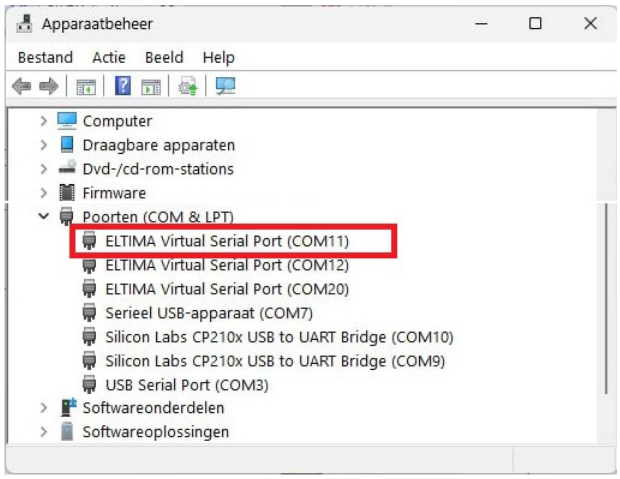
Click the Back arrow until you are at the main screen of the radio.
Start VarAC with the Desktop shortcut created earlier (selects the correct ini file), and your radio should be good to go on VarAC.

IC-7610 connected with the micro KEYER II and in DATA-USB modus

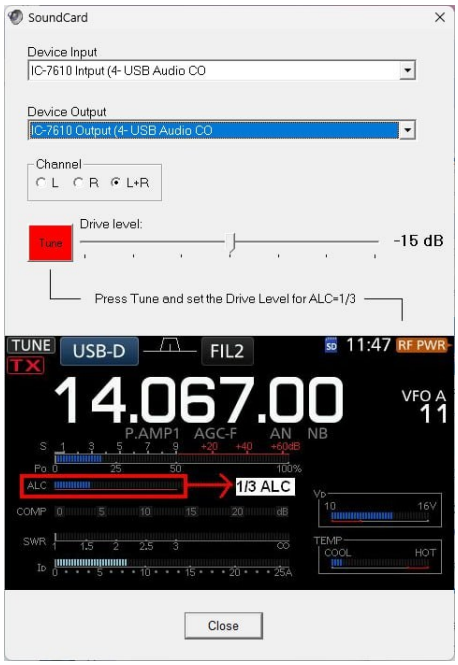
Tnx Rien, PA7RA

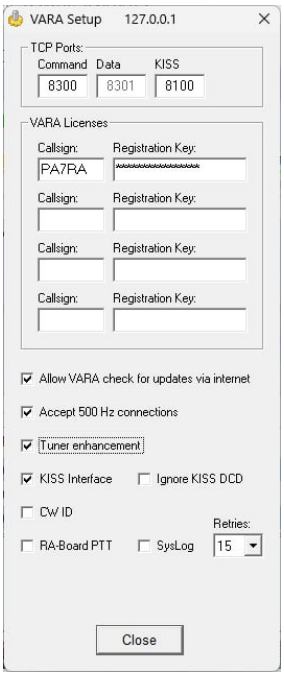
RIG





VARA setup





Release updates

You can find all the “New features”, “Enhancements/Changes” and “Bug fixes” at:

https://www.varac-hamradio.com/forum/manuals/varac-releases-list/

Only for developers
VarAC Sqlite database structure (for developers)

Since VarAC V5, VarAC has a SQLite database as its main data engine.
This allows developers to integrate in a super flexible, SQL based way to the VarAC traffic for various types of integrations.

Unlike APIs that are limited to a particular use case, accessing directly the VarAC database provides unlimited options for integrations.

To allow "track changes" data reading, each table has two identifiers for every row that you can use:

1. **A sequential ID** – which can be used as a high watermark.
2. **A unique UUID** based identifier.

The VarAC SQLite DB can be found in the VarAC directory under the name: **VarAC.db**

By design, the VarAC SQLite database **is not** protected by a password or encryption to allow anyone to integrate with its content.

The tables in the VarAC SQLite database can be found on:

VarAC Sqlite database structure (for developers) | VarAC

Acknowledgment

Thanks to all those who have already written a manual in one language or another.

With name.

1. Irad Deutsch, 4Z1AC auteur van VarAC.
2. Ivan Valentin, K3IV
3. Gary Mitchelson, NC3Z
4. Rick Lanford, N8SDR
5. Roy Beiser 4X5BR
6. Pat, ON2AD (Dutch - English & German manuals)
7. Michael, HB9FGU / DF8WI, correction of any spelling errors in the German language
8. And all those we forgot to mention.