

# Macro Master Help File

## Introduction:

K4 MacroMaster is a program designed to allow the user to easily program, test, and implement, Macro commands into his/her, Elecraft K4, or K4D radio.

## Quick Start:

Make sure your Elecraft K4 is on, and on the same network as the computer you are installing MacroMaster on. If not, then the install will fail, and the configuration file will be erased.

Next download and place the install zip file on your desktop, and right click it, then select EXTRACT from the pop up menu. This will place a sub directory, (folder), on your desktop holding all the needed files to run MacroMaster. You can leave it there, or move it to where you want it to live. If you move it, remember to create a shortcut to where you want to launch it from. If you leave it in place, just double left click the MacroMaster.exe file to run the program.

## What is a macro:

A macro is a shortcut which allows control commands to be fed to the radio. An example is as follows:

Lets say you want to turn the AGC on your K4 from FAST, to SLOW. You could use the main screen-- tapping the AGC icon by hand, or you could initiate a command via telnet, (a computer protocol for communications), to select SLOW for your AGC. Either way will work. You might be asking your self why would I want a macro to do something I can do just as easily. Good question. Lets investigate...

## The scenario:

Lets say, you are running SSB on 75 meters, chatting with your friends. Suddenly your spotting software tells you there is a DX station you want, and that station is at 14.022, running CW. Your mission-- get from 75 Phone, to 20 CW, as fast as you can and start listening for him.

## The Manual way:

You first, tap the Band button on your K4 screen, then you tap 14, next, you tap MAIN RX to get to CW mode, and finally you tune to the right frequency. Next you check your CW keying speed, and maybe you adjust the speed up, or down... Now you are ready to get that P5 DX station. Unfortunately there are also five thousand other people there already, calling him...

## The Macro way:

You tap the 20 Meter button on K4 MacroMaster, this moves you directly to 20 meters, now you tune to the frequency of the DX station and start listening.

While listening, you tap SPLIT + 6, a built in macro for CW work. Next you look at the panadaptor, and find you are one of the first people there, and you see the DX on the left side of the Panadaptor, while at the same time, you see a few folks calling him to the right. You use the main tuning dial to find an empty spot, in the building pileup, and start calling your DX station by hitting the CALLSIGN button. He finally answers you, and you hit the 5NN TU button. Contact over, you just bagged a P5, and you watch as the pileup grows...

#### **Why this worked the way it did:**

When you tapped 20 you launched a macro that put you in CW mode, and moved you to 20 meters all at once. It also set your AGC to FAST. When you hit SPLIT + 6, you launched a MACRO that moved the DX to the left side of the Panadaptor, changed the total width of the Panadaptor to 6 KHz, changed the main tuning knob to be the transmit frequency control, and finally set your CW speed to 25 WPM. You did this in 3 seconds. By hand this would have taken far longer, and you would have had to remember each command to set up. When you used a macro, it was done for you, and you had to remember nothing.

#### **What K4 MacroMaster does:**

K4 MacroMaster allows you to automate complicated tasks, you would normally do by hand, in radio setup, by pressing just a single button. This results in more DX, and simpler radio operation.

#### **Detailed installation:**

After downloading K4 MacroMaster, place the zip file on the desktop. Right click the "MacroMaster.zip", file, and select EXTRACT ALL from the popup context menu, this will create a folder on your desktop containing all the needed files to run MacroMaster. Now, move the .zip file someplace safe, but out of the way.

Next open the new folder titled MacroMaster. In it you should see five files:

MacroMaster.exe  
MMReleaseNotes.txt  
MMusermacros1.csv  
MMHelp.rtf  
MMEULA.rtf

Double click MacroMaster.exe to run the program. Make sure your K4 is turned on, and on the same subnet as the computer you are installing MacroMaster on. After you first run MacroMaster, you can create a shortcut of the K4 MacroMaster .exe file on your desktop, and just run it from there if you would like.

#### **Possible Problems:**

Some routers will assign IP addresses using something called DHCP, (Dynamic Host Control Protocol). When you turn on your radio, the K4 is assigned an IP

number by the DHCP server in your router. That IP will not necessarily be the same each time you restart your radio, and/or router.

So unless you fix your IP number in your router, this can cause problems. Lets say today, your radio was assigned 192.168.1.72 when you turned it on.

Now you install K4 MacroMaster, which is IP based, and you enter, 192.168.1.72. All is well, and your work for days and days, with no issues. You have a power failure, or you turn off the radio, what happens next is your router might assign a different IP address to your K4, say, 192.168.1.34.

K4 MacroMaster, or any other program using a hard IP number setting will start up, look for something on the IP address set at install, (in this case 192.168.1.72), and fail to connect. Elecraft correctly saw this as a possible problem, early on and created a name for the radio in a protocol called mDNS. That name is:

```
K4-SNXXXXXX.local  
where XXXXX is your serial number.
```

So, K4 MacroMaster does not even ask you for your IP number, it asks for the serial number, and then using mDNS locates the radios IP address on the network. That way, if your router reassigns the K4 a different IP address, the radio takes care of things, and you don't have to change IP addresses...

If for some reason you just have to have an IP number, and not the mDNS, method, you can look at the file named, 'MMconfig.txt', and replace the line which looks like:

```
K4-SNXXXXXX.local
```

With your IP address, in the form:

```
WWW.XXX.YYY.ZZZ
```

K4 MacroMaster assumes you have your radio, and your computer running on the same network, and in the same subnet. K4 MacroMaster further assumes that whatever router, or switch you are using will pass the named protocol between ports. This is fairly normal, so if you are having issues, it probably won't be this, unless your network topology is somehow misconfigured.

### **Windows Firewall:**

Windows may or may not ask you if you want to allow this application access to your local network, you should answer yes, you want to allow the application access to your local network. This is because K4 MacroMaster, uses telnet to control the K4, and telnet, runs on a network.

Yes, you can run this application from anywhere on your local network, and control the K4. An example might be you want to set up a wireless laptop next to your operating position, you install K4 MacroMaster, on the laptop, and making sure the laptop is on the same subnet as the radio, (most will be), even via wireless you run K4 MacroMaster, and control your K4 via your wireless laptop. Open a port on your router, and port forward it, (never a good idea), and you can control your K4 from anywhere on the Internet.

### Use:

Lets start with how you begin using K4 MacroMaster. After you get it on your hard drive, (see above), you double click either the .exe icon, or the shortcut you created. This starts the program.

The first time you use the program, it will force you to enter your callsign, and the serial number of your K4. The serial number is used to build the mDNS address, described above.

Upon starting K4 MacroMaster, and after the initial setup where you supplied your radio serial number, or IP address, and callsign, K4 MacroMaster will present you with a screen full of buttons. Each button will fire a single, or group, of macros to the K4, via a telnet connection. Each button is labeled with the function it preforms.

In the lower right there is a cluster of ten user programable buttons. There are five clusters of ten buttons each. This gives you a total of fifty user programmable buttons.

Each button can be edited, without leaving MacroMaster, enabeling you to edit the button name, the button hint, (a hint is the text that pops up when you hover your mouse over an button), the macro, and the cluster name.

The macro tester allows you to test your macro. To test a macro, type in the macro to be tested, and hit "Send to Radio". This will send your macro to the K4, and you can observe the effect your macro has on the K4. Once it is as you want it, click the arrow button to move the tested macro to the save window. Next fill in the hint, and button name, and if you want, change the cluster name. Once you have everyuthing filled in, hit save, or cancel. If you hit save, you will be asked to verify you want to overwrite a macro, and if you say yes, the button will be overwtitten with your changes. If you hit cancel, nothing will happen, and MacroMaster will revert to normal operation.

### Changing IP addresses:

If for some reason you want to change IP addresses, pull doen the EDIT menu, and select

### Split + 6:

Split +6 is used primarily in DX pileups when in CW mode. Split + 6 will perform the

following steps:

1. Move the DX to the left side of the panadaptor.
2. Set the Panadaptor to 6 kHz wide.
3. Changes the function of the main tuning knob from receive to transmit frequency control.
4. Splits audio such that the inner audio control controls the audio for the transmitting VFO, and the outer ring controls the frequency for the receiving, (DX), VFO.

### **Split Clear:**

Split clear cleans things up, and returns the radio back to a known state, with VFO A again controlling both transmit, and receive frequencies.

### **CW and Memory:**

To use the CW send, you must have your radio in CW mode already. If you can hit the key and send CW, this will work. If you can not, then this will not work.

If you hit a memory button, whatever is in that memory will be sent, in whatever mode you are in. So if you are in RTTY, and hit memory 1, it will send whatever is in memory 1 as RTTY. If you are in CW and hit memory 1, it will send whatever is in memory 1 as CW. If you have recorded voice to a memory that will be sent if you are in phone mode.

### **Updates:**

You can always download the latest version by going to:

**<https://www.nk7z.net/macromaster>**

### **License:**

You may not sell, or include this program, in any packaging that you charge for, in any way, without written consent.