

# **KISSInterface User's Guide**

## **2.1b02**

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## Section 1 - Introduction

KISSInterface was written to provide a universal interface between javAPRSIGate and a TNC connected to a serial port.

The KISSInterface source code is published for use by other developers to work with the javAPRSIGate TNCInterface 2.0.

## Section 2 - Program Requirements and Description

KISSInterface is designed to run on any OS with any recent Java Virtual Machine. The interface requires the operating system and JVM to open the port in full duplex mode.

KISSInterface is comprised of a number of classes which Java looks at as objects. The main class is KISSInterface. This class is called at startup, sets parameters, and begins execution of the different support threads.

KISSInterface works in conjunction with the javAPRSIGate TNCInterface to provide full, bidirectional communication with the serial port. All IGate logic is handled at in javAPRSIGate which leaves the KISSInterface to concentrate on formatting and sending packets to the TNC log ports.

## Section 3 - Configuration Parameters

The configuration parameters reside in a configuration file which, by default, is called javaprssrvr.cfg. You can use any text file if you pass the name into javAPRSSrvr as a command line parameter.

The parameters are CASE SENSITIVE. Defaults are shown below.

**NOTE: UNLESS YOU REQUIRE A SETTING OTHER THAN THE DEFAULT, DO NOT INCLUDE ANY PARAMETERS WITH DEFAULT SETTINGS.**

**List parameters** may be defined on the line or may be defined in a text file. If defined on the line, each entry is separated by a semicolon. If defined in a file, each entry is put on a separate line. Do not put blank lines in the file. The file must have the extension .lst For instance, this would be the definition for hubs where you want to connect to first.aprs.net and second.aprs.net port 1313:

```
hubs=first.aprs.net:1313;second.aprs.net:1313
```

Or you could have the following 2 lines in hubs.lst:

```
first.aprs.net:1313
second.aprs.net:1313
```

You would then put the following line in your configuration file:

```
hubs=hubs.lst
```

**(R)** at the beginning of the parameter description means that the parameter can be changed on-the-fly from the console with either the S or R commands.

## ***javAPRSIGate Parameters***

### **TNCModule=**

This must be set to KISSInterface.  
Set to TNCModule=KISSInterface

### **TNCFieldMax=256**

This sets the maximum information field length for packets gated to RF.  
Modify this only if there is an absolute requirement. Some TNC's "break" if they send or receive packets with more than 256 octets in the information field.

## ***TNC General Parameters***

### **TNCSpeed=1200**

This sets pacing for the TNC interface.  
Set this to the RF speed of the TNC. This reduces the possibility of TNC overruns in KISS mode.

### **TNCMaxVias=7**

This sets the maximum number of digipeaters in the path.  
Modify this only if there is an absolute requirement. Some TNC's "break" if they send or receive packets with more than 7 digipeaters in the path.

### **TNCPortInit=**

This defines a command line to be run before opening the TNC port.  
This may be a single command or a batch/script file. In Linux, be sure to prefix a script file with ./ so the file is executed. Also be sure to have execute rights for the desired script and programs.

### **TNCPortInitWait=true**

This determines whether the interface should wait for the TNCPortInit command to complete before continuing.  
Set this to false if you are running a program which will remain operational after TNC initialization.

## ***Serial Port Parameters***

### **PortClassName=RAFIntf**

This is the name of the serial port class.

Use this parameter to specify the name of the serial port class. It defaults to the Random Access File interface.

### **SerialPortName=**

This is the name of the serial port.

This supersedes KISSPortName and is used by the serial port class. If not specified, it is set to KISSPortName.

## ***Serial-to-TCP Port Parameters***

### **SerialToTCPPorts=**

(R)(List)This is the list of TCP/IP port(s) that will be listened to for a direct connection to the serial port.

This is a bidirectional, unguarded (no security) port that allows a "direct" connection to the serial port. This is to be used with care as there is no flow control.

## **KISS General Parameters**

### **KISSPortName=**

(deprecated) This is the "file" name of the serial port.  
Most Linux/Unix derivatives use /dev/ttyS0 for the first serial port. Windows uses COM1 for the first serial port.

### **KISSTNCPortNumber=1**

This is the TNC port number that the IGate transmits on.  
TNC port 1 is translated to the first TNC port (KISS port 0).

### **KISSTXDelay=200**

This is the delay in milliseconds for the TNC to wait between keying and sending data.

### **KISSTXTail=100**

This is the delay in milliseconds for the TNC to wait after sending data before unkeying.

### **KISSPersist=255**

This is the value for persistence (0-255).  
Please reference <http://people.qualcomm.com/karn/papers/kiss.html> for a description of the persistence value. 255 is the recommended value for APRS digipeaters.

### **KISSSlotTime=0**

This is the timeslot (10 ms intervals) for transmission.  
Please reference <http://people.qualcomm.com/karn/papers/kiss.html> for a description of the time slot value (in the section about persistence). 0 is the recommended value for APRS digipeaters.

### **KISSFullDuplex=false**

This tells the TNC whether the RF channel is full duplex.  
Single frequency APRS RF operation, by definition, is half duplex.

## Section 4 - Recommended Configurations

The following is an example of using a Linux script to initialize the port and TNC if needed. Note that these processes require root permission unless the permissions for the serial port are changed. The script file must also have execute permissions.

### **javAPRSSrvr.cfg:**

```
<snip>
KISSPortName=/dev/ttyS0
TNCPortInit=./tncinit.bat
<snip>
```

### **tncinit.bat:**

```
stty -F /dev/ttyS0 9600 pass8 raw -iexten -echo -echoe -echok
cat setKISS.txt >/dev/ttyS0
```

### **setKISS.txt:**

```
KISS ON
RESTART
```

## Section 5 - Installation Instructions

KISSInterface is included in all of the combined jar and exe files. Simply add `TNCModule=KISSInterface` to activate it.

## Section 6 – Status Page

TNC Port Number	1	KISS port number + 1
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