

**RAFlntf User's Guide
(Random Access File Interface)
1.0b02**

RAFIntf is Copyright (c) 2005 - Pete Loveall AE5PL pete@ae5pl.net

Use of the software is acceptance of the agreement to not hold the author or anyone associated with the software liable for any damages that might occur from its use.

Table of Contents

Section 1 - Introduction	1
Section 2 - Program Requirements and Description.....	2
Section 3 - Configuration Parameters	3
TNCSerialInterface Parameters	4
PortClassName=RAFIntf	4
SerialPortName=.....	4
TNCInitFile=	4
Section 4 - Recommended Configurations	5
Section 5 - Installation Instructions	6

Section 1 - Introduction

RAFIntf was written to provide a universal interface between Java applications and a serial port. At the time of this document, IcomInterface and KISSInterface of javAPRSSrvr can make use of RAFIntf. RAFIntf uses the standard OS file interface to access the serial port and is therefore under the constraints of the operating system (cannot set serial port parameters).

The RAFIntf source code is published for use by other developers to work with the TNCSerialInterface.

Section 2 - Program Requirements and Description

RAFIntf 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. Windows does not meet this requirement. Linux, tested under gcj and Sun 1.5.0_01 JVM, does meet this requirement.

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

RAFIntf works in conjunction with the TNCSerialInterface to provide full, bidirectional communication with the serial port. All IGate and TNC logic is handled at in other classes which leaves the RAFIntf to concentrate on sending and receiving serial data.

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.

TNCSerialInterface 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 "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.

TNCInitFile=

This is the file name of the text file to send to the TNC.

This allows you to send the necessary commands to the TNC which switch it to KISS mode.

If there is no file name, nothing is sent to the TNC. The file is automatically cleansed of any zero bytes as would exist in a Unicode format file. File content might be:

```
KISS ON  
RESTART
```

Section 4 - Recommended Configurations

Because there is no universal method of setting the serial port parameters from Java, this must be done in a script or batch file run before RAFIntf attaches to the port. Examples are shown below

The following is an example of using a Linux script to initialize the port and TNC. 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>
SerialPortName=/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

RAFIntf is included in all of the combined jar and exe files. Simply add PortClassName=RAFIntf to activate it.