

javAPRSDigi User's Guide
3.1b01

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Section 1 - Introduction

javAPRSDigi provide a generic AX.25 digipeater based on the AX.25 digipeater algorithm (www.ax25.net).

This application operates as an IGate adjunct to javAPRSIGate. It requires javAPRSIGate to provide the network interface and do the packet parsing.

Section 2 - Program Requirements and Description

javAPRSDigi is designed to run on any OS with any recent Java Virtual Machine. It has been successfully tested with the Microsoft JVM for Windows and with the Sun 1.1.8 JDK for Windows.

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

javAPRSDigi monitors the RF receive to determine if any packets meet the criteria for being digi'ed. It does dupe checking. It passes all packets received on to javAPRSIGate.

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.

javAPRSSrvr Parameters

IGateCall=

This is the callsign-SSID for the IGate.

It must conform to AX.25 standards and it must be different from javAPRSSrvr's userCall (the server's callsign-SSID).

javAPRSIGate Parameters

TNCModule=

Set this to javAPRSDigi to include the javAPRSDigi code.

Digi General Parameters

digiTNCInterface=

This is the class name for the TNC interface.

The TNC module must implement the TNCInterface. For instance, to use the KipSS interface, TNCModule=KipSSInterface

digiMaxHops=8

(R)This specifies the maximum digi hops allowed in the path to be eligible for digi'ing. javAPRSDigi does compensate for UIFlood digis, including digis with NOID turned off. If this is -1, then no hop check is done.

digiDupeTime=30

(R)Number of seconds that the digi considers recent. This is used for dupe checking.

digiExclude=

(R)(List Parameter)This is the list of all callsign-SSID's to be excluded from digi'ing. Do not include the IGateCall as that is automatically included.

digiBackups=

(R)(List parameter)This defines digipeaters which will be monitored for activity by javAPRSDigi.

If any station in this list is not heard for digiRecentTime minutes, javAPRSDigi will begin to digipeat.

digiRecentTime=30

(R)This is the time in minutes that javAPRSDigi will wait before assuming a station on the digiBackups list has gone away.

Source Routing Parameters

digiAliases=

(R)(List Parameter)This is the list of all standard aliases to be responded to. DISCVR is always recognized as an alias to support layer 2 discovery and does not need to be included in your alias list.

digiAllowLastDigi=

(R)(List parameter)This defines digipeaters which will be digipeated by javAPRSDigi. This is to enable other digipeaters to be considered part of the LAN. The idea is to support one or two other digipeaters as part of the LAN while filtering out remote LANs networks.

nsExcludeDigis=

(R)(List parameter)This defines digipeaters which will be cause javAPRSDigi to ignore a packet if the packet has already been digipeated. This allows the sysop to define where the LAN stops and allows for overlapping LANs.

useExcludeDigis=true

(R)This indicates whether the nsExcludeDigis list will be used. If set to false, only digis in the digiAllowLastDigi list will be allowed in the path.

nsDefaultPath=DISCVR

(R)(List parameter)This defines extra vias to be appended after this station's callsign. Do NOT include an * with any call.

Section 4 - Recommended Configurations

I recommend using default settings except where necessary for proper IGate operation.

If you want to disable all digipeater operations, do not set `TNCModule=javAPRSDigi`

A sample digipeater for WIDEn-n operation (also provides support for older RELAY and WIDE):

```
digAliases=WIDE1-1;WIDE2-2;WIDE2-1;RELAY;WIDE
nsDefaultPath=WIDE2-1
digiMaxHops=2
```

Use `digiAllowLastDigi` and `nsExcludeDigis` to define any surrounding digipeaters that either make up the local area network or that should be excluded from the local area.

A sample fill digipeater:

```
digAliases=WIDE1-1;RELAY
nsDefaultPath=WIDE2-1
digiMaxHops=2
```

Section 5 - Installation Instructions

javAPRSDigi is included in all of the combined jar and exe files. Simply add TNCModule=javAPRSDigi to activate it. Be sure to set digiTNCInterface as well.

Section 6 - TNC Interfaces

All TNC interfaces must implement the TNCInterface 3.0 to work with javAPRSDigi.

Section 7 – Status Page

Digipeating	true	Indicates whether it is able to digipeat packets.
Total Packets Seen	0	Total packets seen on RF
Long Paths Seen	0	Total packets with paths over digiMaxHops in length
Packets Digi'ed	0	Total packets repeated by this digipeater
Duplicate Digi'ed Packets Seen	0	Total packets repeated which are then seen repeated by another digipeater