



NETGEAR RT328 and RH348 ISDN Routers

Version 1.50

9/3/98

This release note describes enhancements and bug fixes incorporated in the RT328 and RH348 RAS software version V1.50(C.00), dated 8/17/98. The enhancements and fixes are those added since the previous RAS software release V1.42(C.00).

dNAT+ Improvements

- Users may now redirect up to seven incoming port numbers to specific hosts in addition to the default server address.
- If no default port redirection is specified, incoming requests such as telnet and identd are directed to the router itself.
- Support is added for specific applications such as MS tracert, CuSeeMe, IRC, RealAudio, VDOLive, PPTP, and Quake.

Advanced Analog Call Handling Features

- Full ACO support is implemented, including voice call rollover. An incoming voice call can use any idle B channel to reach the dialed Phone port.
- Supplemental services are implemented. These include (for North America):
 - Call Waiting, Call Hold, Call Retrieve
 - Three Way Calling (Conference, Transfer, Drop)
 - Call Forwarding

Other Improvements, Fixes, and Changes

- Incoming Caller ID information is displayed in Menu 24.1.
- Dynamically-assigned IP addresses are displayed in Menu 24.1.
- The user may specify which directory number will be used first to place a data call (North America).
- When router initialization is complete, the TEST LED will turn off rather than continue blinking.
- When the serial cable is disconnected, any open serial Manager session is closed.
- In case of an ISDN sync loss or a general lock-up, the router will reboot.
- Version information has been moved from Menu 24.1 to a new Menu 24.2.1.

Known Problems

- Voice and data call rollover may not work on switches other than AT&T 5ESS NI-1.
- Advanced calling services may not work on rollover voice calls.
- If both phones are taken off-hook simultaneously while a bundled data call is active, both channels of the data call may be dropped.
- If the local switch does not provide in-band dial tone: If one phone port is ringing and the other phone port goes off-hook, the first phone port will change to dial tone.

Using dNAT+ Enhancements

For incoming port redirection, a new menu has been added. Menu 15 – SUA Server Setup allows for the specification of a default server and up to seven other IP addresses for redirection of specific ports. The previous method of declaring a default server (Server IP Addr) has been removed from Menus 4 and 11.3. If no default server is specified, the router itself becomes the default server and will respond to telnet, identd, and other incoming requests.

```
Menu 15 - Multiple Server Configuration

      Port #           IP Address
      -----          -
      1.Default       0.0.0.0
      2. 0             0.0.0.0
      3. 0             0.0.0.0
      4. 0             0.0.0.0
      5. 0             0.0.0.0
      6. 0             0.0.0.0
      7. 0             0.0.0.0
      8. 0             0.0.0.0

Press ENTER to Confirm or ESC to Cancel:
```

No configuration changes are required for the support of the specific applications (MS tracert, CuSeeMe, IRC, PPTP, RealAudio, VDOLive, and Quake).

Using Advanced Analog Calling Features

ISDN Supplementary Services (including Call Waiting, Call Hold, Conference Calling, and Call Transfer) are now supported for DSS-1 and North American ISDN lines in areas where these services are offered. In order to use Call Waiting and call rollover, your ISDN line must be provisioned for Additional Call Offering (ACO). In order to use Conference Calling and Call Transfer, your ISDN line must be provisioned for Flexible Calling. Check with your phone company to verify that these services are available on your line, and make sure the phone company enables these services for both directory numbers if you need the services on both lines.

Some parameters of these Advanced Calling Features are configured using a new menu, Menu 2.1 – ISDN Advanced Setup. This menu can be accessed by toggling Advanced Setup=Yes in Menu 2 as shown below:

```
Menu 2 - ISDN Setup

Switch Type= AT&T 5ESS NI-1

B Channel Usage= Switch/Switch
1st Phone #= ?
  SPID #= ?
  Incoming Analog Call= Phone 1
2nd Phone #=
  SPID #=
  Incoming Analog Call= Phone 2

Advanced Setup = Yes
```

North America Features

Menu 2.1 for North America is:

```
Menu 2.1 -- ISDN Advanced Setup

ISDN Features Access Code:
Conference Call= 60
Call Transfer= 61
Call Drop= 62
Call Forwarding= 57

Phone 1 Call Waiting= Enable/Disable
Phone 2 Call Waiting= Enable/Disable
Preferred Phone # for 1st Out Data Call= None/1st/2nd
```

IMPORTANT: In order for these features to work properly, you must set up Menu 2 as shown in the following example. Incoming Analog Calls to the 1st Phone number must be assigned to Phone 1, and Incoming Analog Calls to the 2nd Phone number must be assigned to Phone 2. Note that either directory number and its associated SPID may be entered as 1st Phone # or 2nd Phone #.

```
Menu 2 - ISDN Setup

Switch Type= AT&T 5ESS NI-1

B Channel Usage= Switch/Switch
1st Phone #=
  SPID #=
  Incoming Analog Call= Phone 1
2nd Phone #=
  SPID #=
  Incoming Analog Call= Phone 2

Advanced Setup = Yes
```

ISDN Features Access Codes

Although the router's default access codes are the values specified by the NI-1 standard, the actual access codes for these features may vary among regional phone companies. Contact your local phone company for the correct code for your area.

Call Waiting

The audible call waiting signaling for voice calls may be disabled independently for each phone port. This is useful if the port will be used primarily for modem or fax communications, where an audible interruption may cause a loss of data.

Channel for First Data Call

The user may select which directory number will be used first for placing a data call. This is useful when ACO is not available so that a user can specify which number will be most likely to be idle for incoming voice calls.

Call Rollover

Call Rollover allows any idle B channel to place or receive a call. For example, if the B1 channel is in use for a data call, an incoming voice call to Phone 1's directory number will be answered by B2. No selection is necessary to enable call rollover. This feature may not work with switch types other than AT&T 5ESS with NI-1. Also, the other advanced ISDN features will not work on an analog call that has been placed or received with call rollover.

DSS-1 Features

Menu 2.1 for DSS-1 is:

```
Menu 2.1 -- ISDN Advanced Setup

Phone 1 Call Waiting= Enable/Disable
Phone 2 Call Waiting= Enable/Disable
```

Call Waiting

The audible call waiting signaling for voice calls may be disabled independently for each phone port. This is useful if the port will be used primarily for modem or fax communications, where an audible interruption may cause a loss of data.

Using the Features

Many of these instructions ask the user to “flash” the call. On a phone with no Flash button, this means to press and immediately release the hook button of the telephone.

Call Waiting

When you hear the call waiting indicator signal, flash the current call to place it on hold and change to the new call.

To hang up the current call before taking the new call, hang up the phone and wait for the phone to ring with the new call.

To hang up the second call and switch back to the first call, hang up the phone and wait for the phone to ring.

Call Conference

Flash the current call to place it on hold. At the new dial tone, dial the third party. When the third party is on line, flash again to establish the three-way connection. If you wish to cancel the conference before the third party has been connected (for example, in case of busy or no answer) hang up the phone and wait for it to ring.

To drop the last party added, flash the phone.

If any of the three parties hangs up, the other two will remain connected.

Call Transfer

The previous procedure for Call Conference may be used, or you can do a blind transfer as follows. Flash the current call to place it on hold. At the new dial tone, dial the third party. Before the third party answers, hang up and the call will be transferred.

Call Forwarding

Call Forwarding is implemented by the phone company switch. If available, it can be activated through the Phone ports using dial codes provided by your local phone company. Contact your phone company for the codes and instructions.

When a call has been forwarded, your Phone port will emit a single short ring.