

ZyXEL Prestige 1.4 Release Note/Manual Supplement

Date: September 17, 1997

This release note describes the enhancements in ZyXEL Prestige since the last manual printing. The bug fixes section describes bug fixed for version 1.4.

Please read through the following **New Features** section to see what features may apply to your application, and go to **Enhancement Details** section for more details on how to setup each feature.

Prestige technical discussion, and announcements are assisted through the use of a mailing list. The mailing list is handled by ZyXEL USA. You can be added to this list through two methods:

1. ZyXEL web page: <http://www.zyxel.com/html/tech/router/tech-pmail.html> has a form for the automatic addition to this list.
2. Email Request: Send an email to **Majordomo@zyxel.com** with NO subject, and the following text in the body `unsubscribe prestige-users <your email>` For example:
unsubscribe prestige-usersabc@xyz.com

To send an email to the list that will be distributed to all members, use the address of **prestige-users@zyxel.com**. Rules for the list are all discussions must be Prestige related, they must be in English, and three consecutive bounced mails will result in being dropped from the list.

New Features:

ISDN Lease Line support

In this release, Prestige starts to support ISDN lease line besides dial-up line.

MS (Microsoft) CHAP support

Prestige and MS Win95/NT system can authenticate each other by using Microsoft proprietary CHAP algorithm.

RIP-2 support

RIP-2 is added to the Prestige routing protocols in addition to the original RIP-1.

Call History support

Prestige provides user the information about the incoming and outgoing calls.

Length of Outgoing User Name and Password have been Increased to 31 Characters

The length of outgoing user name and password (in Menu 4 and 11.1) have been increased to 31 characters.

Spaces are allowed in Password

Spaces are allowed in the character string for password field in Menu 4, 11.1, and 14.1.

A new field, Multilink, added to Menu 4

A new field, Multilink, is added to Menu 4. So there are no needs to take another step to enter Menu 11.2 for activating MLP after configuring Menu 4.

A new command, Drop All, added to Menu 24.1

A new command, Drop All (4), is added to Menu 24.1. So it is easier to user to drop both of the ISDN logical channels.

Supported Platforms:

ZyXEL Prestige 14(x.00) supports the following router series:

Prestige 1xx series - Prestige 100, Prestige 128

Prestige 2864I

Feature Support

Table 1 Feature sets vs. Prestige models:

Feature:	Prestige 100	Prestige 128	Prestige 2864I
IP Routing	x	x	x
IPX Routing		x	x
Transparent Bridging		x	x
ISDN Lease Line	x	x	x
MS CHAP	x	x	x
RIP-2	x	x	x
Call History	x	x	x
Length of Outgoing User name and Password has been Increased to 31 Characters	x	x	x
Spaces are allowed in Password	x	x	x
A new field, Multilink, added to Menu	x	x	x
A new command, Drop All, added to Menu 24.1	x	x	x

Enhancement Details

ISDN Lease Line support

A new field, Leased B Channel Protocol is added to Menu 2 only if the model is Prestige 2864I and its Switch Type is DSS-1 or 1TR6. And this new field is applicable only if the selection of B Channel Usage is one of the choices for lease line (will be discussed later). The available choices for Leased B Channel Protocol are *HDLC/64K, V.120, and X.75*. The protocol used between Prestige and remote device on the lease line will base on this selection.

For other Prestige models and switch types, there are no changes to the layout of Menu 2 and the underlying leased B channel protocol is HDLC/64K (clear channel).

Table 2 Additional Field in Menu 2 vs. Prestige Model and Switch Type

Switch Type	Prestige 100	Prestige 128	Prestige 2864I
Northern American			
DSS-1			x
1TR6			x

New Menu 2 for switch type DSS-1 of Prestige 2864I:

<p style="text-align: center;">Menu 2 - ISDN Setup</p> <p>Switch Type: DSS-1 B Channel Usage= Leased/Leased Leased B Channel Protocol= HDLC/64K</p> <table><tr><td>ISDN Data = N/A</td><td>Subaddress= N/A</td></tr><tr><td>Modem = N/A</td><td>Subaddress= N/A</td></tr><tr><td>A/B Adapter = N/A</td><td>Subaddress= N/A</td></tr></table> <p>Dial Prefix to Access Outside Line= N/A PABX Number (Include S/T Bus Number)= N/A Incoming Phone Number Matching= N/A Analog Call Routing= N/A Global Analog Call= N/A</p>	ISDN Data = N/A	Subaddress= N/A	Modem = N/A	Subaddress= N/A	A/B Adapter = N/A	Subaddress= N/A
ISDN Data = N/A	Subaddress= N/A					
Modem = N/A	Subaddress= N/A					
A/B Adapter = N/A	Subaddress= N/A					

New Menu 2 for switch type 1TR6 of Prestige 2864I:

Menu 2 - ISDN Setup

Switch Type: 1TR6
B Channel Usage= Leased/Leased
Leased B Channel Protocol= HDLC/64K

ISDN Data = N/A
Modem = N/A
A/B Adapter = N/A

Dial Prefix to Access Outside Line= N/A
PABX Number (Include S/T Bus Number)= N/A
Incoming Phone Number Matching= N/A
Analog Call Routing= N/A

Extra five options are added to the choices for *B Channel Usage* field in addition to the original two choices: *Switch/Switch* and *Switch/Unused*. The new options are: *Switch/Leased*, *Leased/Switch*, *Leased/Unused*, *Unused/Leased*, and *Leased/Leased*. Press space bar for glancing the choices, and press Enter to select the choice shown in this field. The next table shows the relationship between selection of this field and two ISDN B channels (B1 and B2).

Table 3 Relationship between B Channel Usage and ISDN B Channels

B Channel Usage	B1	B2
Switch/Switch	switch	switch
Switch/Unused	switch	N/A
Switch/Leased	switch	leased
Leased/Switch	leased	switch
Leased/Unused	leased	N/A
Unused/Leased	N/A	leased
Leased/Leased	leased	leased

Prestige has two logical channels mapping into two ISDN physical channels (B1 and B2). But unfortunately, logical channel 1 does not always map to ISDN B1, and logical channel 2 does not always map to ISDN B2 either. It may get very confusing when you take a look of Menu 24.1 and find out that the status of the channels is different from what you expect. This phenomenon is due to Menu 24.1 shows the status of the logical channels and the selection of B channel usage in Menu 2 is for physical channels.

For a leased channel, **Nailed** will be shown under Type in Menu 24.1 if it is up; otherwise, it is shown **Down**.

Menu 24.1 -- System Maintenance - Status								
CHAN	Link	Type	TXPkt	RXPkt	Error	CLU	ALU	Up Time
1	Idle	0Kbps	0	0	0	0%	0%	0:00:00
2	p128i	Nailed	22	10	0	0%	0%	0:01:00
Total Outcall Time:				0:00:00				
Ethernet						Name: P128a04		
Status: 10M/Half Duplex						RAS S/W Version: V1.4(B.00) 9/17/97		
TX Pkt: 6						ISDN F/W Version: V 066		
RX Pkt: 11						Ethernet Address: 00:a0:c5:00:43:23		
Collision: 0						Country Code: 255		
LAN Packet Which Triggered Last Call:								
COMMANDS: 1-Drop Ch1 2-Drop Ch2 3-Reset Counters 4-Drop All ESC-Exit								

If one of the new leased options is selected in Menu 2 and the Transfer Type field in Menu 4 or Menu 11.1 is configured as *Leased*, Prestige will start to initiate the lease line connection after Prestige being powered on, or saving Menu 2, 4, or 11.1.

Prestige has implemented the **PPP echo** mechanism for verifying the ISDN lease line condition. The value of Idle Timeout field in Menu 11.1 will be used as the interval between two LCP_Echo_Req messages. It is supposed that there exists an echo reply corresponding to an echo request. Whenever an echo request is sent, the send counter will be incremented by one. The send counter be reset to zero after receiving the echo response. Lease line error recovery mechanism will be triggered after the send counter reaches 4. If the value of Idle Timeout is 0, this ppp echo mechanism is off.

MS (Microsoft) CHAP support

Prestige and MS Win95/NT system can authenticate each other by using Microsoft proprietary CHAP algorithm. There is no special configuration needed for supporting MS CHAP. Everything is done through PPP negotiation between Prestige and Win95/NT automatically.

RIP-2 support

RIP-2 is added to the Prestige routing protocols in addition to the original RIP-1. Menu 3.2 and Menu 11.3 have been modified in order to configuring the exchange of routing information by using RIP-2. A new field, Version, is added to both Menu 3.2 and Menu 11.3.

New Menu 3.2:

<p style="text-align: center;">Menu 3.2 - TCP/IP and DHCP Ethernet Setup</p> <p>DHCP Setup: DHCP= None Client IP Pool Starting Address= N/A Size of Client IP Pool= N/A Primary DNS Server= N/A Secondary DNS Server= N/A</p> <p>TCP/IP Setup: IP Address= 204.247.203.20 IP Subnet Mask= 255.255.255.192 RIP Direction= Both Version= RIP-1</p>
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New Menu 11.3:

Menu 11.3 - Remote Node Network Layer Options	
<p>IP Options:</p> <p>Rem IP Addr= 0.0.0.0 Rem Subnet Mask= 0.0.0.0 My WAN Addr= 0.0.0.0 Single User Account= Yes Server IP Addr= 0.0.0.0 Metric= 2 Private= No RIP Direction= Both Version= RIP-2B</p>	<p>IPX Options:</p> <p>Dial-On-Query= N/A Rem LAN Net #= N/A My WAN Net #= N/A Hop Count= N/A Tick Count= N/A W/D Spoofing(min)= N/A SAP/RIP Timeout(min)= N/A</p> <p>Bridge Options: Dial-On-Broadcast= N/A Ethernet Addr Timeout(min)= N/A</p>

The choices for Version are *RIP-1*, *RIP-2B*, and *RIP-2M*. The value for Version is *RIP-1* in Menu 3.2 and Menu 11.3 if they have been configured before due to RIP-2 never being supported in the previous versions. Here is a brief description about the choices:

- RIP-1: Accept and send RIP-1 messages only.
- RIP-2B: accept RIP-1 and RIP-2 messages (both broadcast and multicast), and send RIP-2 messages in broadcast format.
- RIP-2M: accept RIP-1 and RIP-2 messages (both broadcast and multicast), and send RIP-2 messages in multicast format.

The suggested choice for Version field is *RIP-2B* to both Menu 3.2 and Menu 11.3. Select RIP-1 if the Prestige is in an environment having other routers or workstations which have problems with RIP-2 broadcast packets. Select RIP-2M only if it is in a pure RIP-2 environment.

The broadcast format for RIP-1 and RIP-2 is:

MAC address is 0xff:ff:ff:ff:ff:ff

host ID of IP destination address are all ones

The multicast format for RIP-2 is:

MAC address is 0x01:00:5e:00:00:09

IP destination address 224.0.0.9

Call History support

A new menu, Menu 24.9.4, has been added to show the Prestige's call history. The call history will be erased after resetting Prestige. Prestige only keeps track of the first ten phone calls, the rest won't be recorded.

Menu 24.9.4 - Call History						
Phone Number	Dir	Rate	#call	Max	Min	Total
1. 4151234567	IN	64K	8	0:14:58	0:02:27	0:48:20
2. 4151234567	OUT	64K	3	39:35:37	14:26:07	93:37:06
3. 2092527097	IN	64K	2	5:02:25	5:02:09	10:04:34
4. 2092527097	OUT	64K	3	1:08:33	0:02:31	1:13:47
5. 5102266611	IN	64K	7	0:10:04	0:02:26	0:33:14
6. 4082523966	IN	64K	7	9:04:34	0:02:26	9:34:31
7.						
8.						
9.						
10.						

A brief description of each column is:

Phone Number:	phone number which is up to 15 digits
Dir:	IN - incoming call OUT - outgoing call
Rate:	64K 56K DOVBS (possible for Northern American firmware and outgoing call only) X75 (possible for DSS-1 and 1TR6 firmware only) V120 (possible for DSS-1 and 1TR6 firmware only)
#call:	total number of the call for the specific entry
Max:	maximum up time of a call for the specific entry
Min:	minimum up time of a call for the specific entry
Total:	total up time of the calls for the specific entry

Length of Outgoing User Name and Password have been Increased to 31 Characters

The length of outgoing user name and password have been increased to 31 characters. So user can enter up to 31 characters in My Login and My Password fields of Menu 4 and Menu 11.1. Due to the space limitation in menu 11.1 (not menu 4), Prestige only displays the first 23 characters followed by "+" if the length of the 'My Login' field is longer than 24 characters, and it only displays the first 20 "*" followed by "+" if the length of the 'My Password' field is longer than 20 characters.

Spaces are allowed in Password

Allow space within Password string. Space is allowed in My Passwordfield in Menu 4 and 11.1, Rem Passwordfield in Menu 11.1, and Passwordfield in Menu 14.1.

A new field, Multilink, added to Menu 4

A new field, Multilink, is added to Menu 4. The choices for this new field are *Off*, *BOD*, *Always*. Here is a brief description about the choices:

Off: MLP is off. Internally, both of the Base Transfer Rate and Max Transfer Rate in Menu 11.2 are 64K/64K.

BOD: Bandwidth on demand. Internally, Base Transfer Rate is set to 64K and Max Transfer Rate in Menu 11.2 is 128K.

Always: MLP is always on. Internally, both of the Base Transfer Rate and Max Transfer Rate in Menu 11.2 are 128K/128K.

New Menu 4:

Menu 4 - Internet Access Setup

ISP's Name= ?
ISP IP Addr=
Pri Phone #= ?
Sec Phone #=
My Login=
My Password= *****
Single User Account= No
 IP Addr= N/A
 Server IP Addr= N/A
Telco Option:
 Transfer Type= 64K

Multilink= Off

A new command, Drop All, added to Menu 24.1

A new command, Drop All (4), is added to Menu 24.1. So it is easier to user to drop both of the ISDN logical channels.

And the Ethernet link information in Menu 24.1 has been replaced by Ethernet status information. *10M/Half Duplex* means that the speed of the Ethernet is 10M bps and it is in half duplex mode.

New look of Menu 24.1:

Menu 24.1 -- System Maintenance - Status								
CHAN	Link	Type	TXPkt	RXPkt	Error	CLU	ALU	Up Time
1	Idle	0Kbps	0	0	0	0%	0%	0:00:00
2	Idle	0Kbps	0	0	0	0%	0%	0:00:00
Total Outcall Time:				0:00:00				
Ethernet						Name: P128a04		
Status: 10M/Half Duplex						RAS S/W Version: V1.4(B.00) 9/17/97		
TX Pkt: 6						ISDN F/W Version: V 066		
RX Pkt: 11						Ethernet Address: 00:a0:c5:00:43:23		
Collision: 0						Country Code: 255		
LAN Packet Which Triggered Last Call:								
COMMANDS: 1-Drop Ch1 2-Drop Ch2 3-Reset Counters 4-Drop All ESC-Exit								

Bug fixes

All Models:

1. Prestige used to leak memory if the Bridge was activated and a data filter was defined to discard broadcast packets. It has been fixed now.
2. Prestige used to discard the ICMP error message received from WAN if it is configured as SUA. The type of the ICMP error message are:

- 3 - destination unreachable
- 4 - source quench
- 11 - time exceeded
- 12 - parameter problem

Now, Prestige passes the ICMP error message from WAN to the workstation which causes this ICMP error message.

3. Prestige used to reject the LCP configure request packet if its MRU value is greater than 1524. Now, Prestige accepts it.
4. Callback to dial-in user will not be blocked any more even if it is out of its budget.
5. Now, LCP will not further negotiate CBCP if far-end NAK CBCP option.
6. Any IPX RIP request packet used to cause Prestige triggering the call. Now, only IPX RIP general request packet will cause Prestige triggering the call.
7. In some cases, UDP client might have problems to connect to the UDP server which is behind a SUA Prestige. It is fixed in this release.
8. User could not configure the Bridge static route in Menu 12.3. This bug was introduced in V1.3 and is fixed in this release.
9. Prestige used to send IP Routing information to far-end if RIP Direction field in Menu 11.3 was selected to "Out Only" or "Both" no matter whether it was SUA or not. Now, Prestige does not send IP Routing information to far-end if it is configured as SUA.

10. Prestige used to be unable to communicate with USR Total Control. In this release, we resolve part of the problem. Now, Prestige can communicate with USR Total Control if Prestige initiates the connection and the Base Transfer Rate and Max Transfer Rate of the remote node have to be 64K/64K. Prestige may be unable to communicate with USR Total Control if USR Total Control initiates the call.
11. A new CI command, **ppp delay <interval>**, is introduced to tune the delay time for sending the first LCP configure request after receiving ISDN call. The unit of the delay interval is in milli-seconds and this value will be saved in Flash memory so
12. Prestige might still call back even though Call Direction in Menu 11.1 is not *Both* in some cases. It has been fixed.
13. Now, Prestige works with Cisco L2F properly no matter what the authentication protocol is. Prestige used to have problems with Cisco L2F if the authentication protocol is PAP.

P100/P128 Only:

1. Prestige used to send busy tone after remote hang up. It does not send the busy tone now.
2. Prestige used to be unable to answer the incoming call if it was configured for CLID authentication (CLID Authen field is *Required* in Menu 13) and RS232 was not connected to a terminal emulator. It is fixed.

P2864I Only:

none

Known Problem List

1. Global digital call will still be answered if MSN selected as *incoming call matching* method.
2. A/B adapter dial tone may disappear if callbumping is attempted in rapid succession.
3. For ISDN Switch Type is *DSS-1* or *1TR6* and B Channel Usage is *Switch/Switch* in Menu 2, the ISDN Link status always shows *Idle* in Menu 24.1 even if the cable is unplugged.
4. In Menu 24.1, the value of Total Outcall Time is the sum of outcall time of both channels no matter whether the channel is switch or lease. It should be is the sum of outcall time of the channels which are switch only.
5. Sometimes, WinNT DUN client might report disconnected, Error 629: The data link was terminated by the remote machine even though the call back function is activated between WinNT and Prestige properly. It is a timing problem due to WinNT receiving the termination of connection request from Prestige too soon.

To Upgrade Prestige

Get the files from ZyXEL anonymous FTP server (ftp.zyxel.com). Upgrade your Prestige by following the instructions for your model:

P100

Versions:

RAS S/W Version -	V1.4(C.00) 9/17/97
ISDN F/W Version -	DSS1: V 066
	1TR6: V 066
	USA : V 066

RAS and ISDN firmware files:

p100a.bin (for Northern America)
p100e.bin (for DSS1)

p100g.bin (for 1TR6)

Commands:

ATBAx: Where x = baud rate
options available are:

- 1= 38.4K
- 2= 19.2K
- 3= 9.6K
- 4= 57.6K
- 5= 115.2K

ATUR: Upload Firmware file via XMODEM

Romfile: romfile.zip (romfile0)

ATUR3: Upload Romfile and clear all settings

Note: You don't need to upload this file if you are upgrading from release 1.2(c.01) unless you want to reset all configuration to factory default.

P128

Versions:

RAS S/W Version - V1.4(B.00) | 9/17/97
ISDN F/W Version - DSS1: V 066
1TR6: V 066
USA : V 066

RAS and ISDN firmware files:

p128a.bin (for Northern America)
p128e.bin (for DSS1)
p128g.bin (for 1TR6)

Commands:

ATBAx: Where x = baud rate
options available are:

- 1= 38.4K
- 2= 19.2K
- 3= 9.6K
- 4= 57.6K
- 5= 115.2K

ATUR: Upload Firmware file via XMODEM

Romfile: romfile.zip (romfile0)

ATUR3: Upload Romfile and clear all settings

Note: You don't need to upload this file if you are upgrading from release 1.2(b.01) unless you want to reset all configuration to factory default.

P2864I

Versions:

RAS S/W Version - V1.4(A.00) | 9/17/97
ISDN F/W Version - DSS1: V 4.13c
1TR6: V 4.13c
USA : V 4.13c

Files needed to be uploaded to Prestige 2864I:

RAS: p2r14_1.zip (ras.3-b)

Note: Beta hardware users please refer to Appendix A for special note.

ISDN firmware: p2864ia.zip (p2864ia4.13c- for Northern America)

p2864ie.zip (p2864ie4.13c - for DSS1)

p2864ig.zip (p2864ig4.13c - for 1TR6)

Commands:

ATBAx: Where x = baud rate

options available are:

1= 38.4K

2= 19.2K

3= 9.6K

ATUR: Upload RAS file via XMODEM

ATIS: Connect to ISDN Modem for firmware Upload

ATUPX: Upload ISDN firmware via XMODEM

Romfile: romfile.zip (romfile0)

ATUR3: Upload Romfile and clear all settings

Note: You don't need to upload this file if you are upgrading from release 1.2(a.01) unless you want to reset all configuration to factory default.

Appendix A. Upload procedure for Beta hardware

File: p2r14_2.zip (ras.3-6 ras.b-c For Beta hardware)

Commands: atux3,6 for ras.3-6

atux11,13 for ras.b-c (note: not atux11,12)

Note: if any beta system cannot use atux3,6 command, please try atur to load ras.3-b (same as production units), if this still fails, then send your bootmodule version and your MAC address to support@zyxel.com.

File: romfile.zip (romfile0)

Upgrade from 0.01f: This file must be loaded and then reconfigure the Prestige.

Upgrade from 1.10 or up: Don't have to reload this file.

Commands: atux1,2 for boot module 26 to 29 atur3 for boot module 30A or above.

Appendix B. Leased 128 support

Leased 128 is an extra option to *B Channel Usage* in Menu 2, in addition to the other switch and leased choices mentioned in the ISDN Lease Line support section, only if the underlying hardware is capable to support one 128K bps channel besides two 64K bps B channels.

Appendix C. Glossary of Abbreviation used in this Document

CHAP --	Challenge Handshake Authentication Protocol
MLP --	Multi-Link Protocol which is a protocol bundling multiple physical channels into one logical connection
LCP --	Link Control Protocol
RIP-1 --	Routing Information Protocol Version 1 defined in RFC 1058
RIP-2 --	Routing Information Protocol Version 2 defined in RFC 1388 which an extension of RIP-1