# ZyXEL Prestige 153X
# ZyNOS v2.60(E.00) | 06/16/2000
# Release Notes

**Date: June 16, 2000**

## Supported Platforms:

ZyXEL Prestige 153X

## Versions:

ZyNOS F/W Version : V2.60(E.00) | 6/16/2000

## Notes:

1.  Please pay attention to menu 24.1 when conducting the test and see if there's any incorrect information.

## Known Bugs:

1.  On FR network side, when a remote node (menu 11) is deleted or activated, all PVCs on the same line as the added/deleted remote node will be reset. This causes all channels in a particular line to be dropped and reconnected again whenever a remote node is changed.

## Bug Fix Log:

V2.60(E.00) and V2.60(E.00)b11

1.  Does not drop call backup line when FR connection is re-established. This bug occurs only when FR encapsulation is configured as RFC-1490 in menu 11.4.
2.  Incorrect Allocated Budget field displayed in menu 11.1 when connection type is Switch-Async.

V2.60(E.00)b10

3.  Incorrect date for RAS S/W Version in menu 24.2.1.
4.  Cannot configure Allocated Budget field in menu 11.1 when connection type is Switch-Async.

V2.60(E.00)b09

1.  P153X crashes when physical line is disconnected and during active FR communication. This happens only in multiple-PVC environment and when DSU/CSU does not report correct DCD/DSR settings when cable is disconnected.

V2.60(E.00)b08

1.  On FR network side, system hung temporarily when dropping all channels (by pressing 8) in menu 24.1.

V2.60(E.00)b07

1.  When switched from FR to non-FR in menu 2, the PPP iface function plug-in still uses the one assigned for FR and thus requires a reboot to get non-FR connection established.
2.  PPP over FR (RFC-1973) only works for single PVC configuration.

3. In menu 2.1.2, the wording for link management for ANSI should be T1.617 instead of T1.618.
4. On FR network side, when a remote node (menu 11) is deleted or de-activated, menu 24.1 displays incorrect status unless P153X is rebooted.
5. When saving menu 24.9.2 (budget management), system crashed.

V2.60(E.00)b06

1. On FR network side, when SUA is turned off in remote node, system crashes. This happens when there is at least one non-FR remote node.
2. When FR WAN profile in menu 2 is de-activated or deleted, system crashes.
3. In menu 4, when internet configuration for non-FR connection is saved or deleted, system crashes.

V2.60(E.00)b05

1. When delete or de-activate remote node and if remote node is setup for FR network side, system crashes.
2. When a remote node is added or deleted on FR network side, PVC is not added or removed.
3. When SUA is turned on in remote node (menu 11), FR does not establish communication.

V2.60(E.00)b04

1. P153X needs reboot to work after changing line type from user to network or network to user and link management from ANSI to Q.933 or Q.933 to ANSI.
2. Menu 24.1 does not display WAN IP properly for multiple-PVC configuration.
3. Menu 24.2.1 date display is incorrect.
4. RIP is not functional.

# Modification Log:

1. N391/N392/N393/T391/T392 are removed from menu 2.1.2 to prevent users from entering incorrect information. To change these parameters, use CI command, fr rn set. (V2.60(E.00)b05)

# Features:

Both network side and user side of the UNI interface are supported. Up to 6 simultaneous frame relay connections are supported – 3 PVCs on each WAN port. Each PVC has its own encapsulation type, DLCI, CIR (committed information rate) and EIR (excess information rate). When frame relay is not used, the WAN port can also be configured to run PPP over HDLC on a leased-sync line.

**Connection Type:**

Frame Relay is available only when connection type, "**Leased-Sync**", is selected.  Under this situation, each WAN port on P153X can be configured as either network side or user side of the UNI interface.

- **Network:** Frame relay is configured as network side of the UNI interface.
- **User:** Frame relay is configured as user side of the UNI interface.
- **None:** runs PPP over HDLC without frame relay on a leased-sync line.

**Link Management Protocol Support:**

- ITU-T (Q.933A)
- ANSI (T1.617D)

**Frame Relay Encapsulation Type:**

- **RFC 1490**

     IP routed frames (NLPID = 0xCC)

IPX routed frames (SNAP)

Bridged frames (802.3 without LAN FCS)

No Fragmentation

No Address Resolution

- **RFC 1973 (PPP over FR)**

    Does not support PAP and CHAP Authentication.

    Does not support protocol field compression.

**DLCI:** 16-991

**CIR/EIR Rate Enforcement**

# Appendix:

1. **FR Setup Procedure**
    a) Configure WAN port for FR: go to menu 2, select WAN port, change the connection type to "Leased-Sync" and say yes to "Edit Frame Relay Options". Menu 2.1.2 (frame relay line settings menu) will then pop up. You may change the line type based on your need. If you want to use 2 P153X to do the test, one of them has to be set to "Network" and the other "User". Please also make sure that the link management type is the same on both the network and user sides. For the uninitiated, you may want to leave the rest of the settings as they are.
    b) Configure remote node for FR: go to menu 11, select a remote node, change the connection type to "Leased-Sync" and say yes to "Edit Frame Relay Options". Menu 11.4 (remote node FR settings menu) will then pop up. Pay attention to the setting of DLCI and make sure both the network and user sides are using the same value.

2. **SMT modification**

**SMT menu 2.1: added option for changing FR settings.**

```
                        Menu 2.1 - Sync/Async WAN Port Setup     Modem Name=
FR1      Active= Yes      Connection Type= Leased-Sync     Direction= N/A
Phone Number= N/A      Clock Source= External      Device Type= N/A
     Port Speed= 115200
     AT Command String:
       Init= N/A

     Edit Advanced Setup= Yes
     Edit Frame Relay Options= Yes/No/N/A



                          DELETE PROFILE:


```

Connection Type:
> Switch-Async, Leased-Async and Leased-Sync. Frame relay is allowed only for Leased-Sync connection type.

Edit Frame Relay Options:
> **Yes/No when Connection Type is Leased-Sync; otherwise N/A.**


**SMT menu 2.1.2: frame relay line settings menu.**

```
                      Menu 2.1.2 – Frame Relay Setup      Line Type = User
      Link Management = ANSI(T1.617)



                                  Press ENTER to Confirm or ESC to Cancel:

 Press Space Bar to Toggle.
```


Line Type:
> **Network – Frame relay is configured as network side**
> **User – Frame relay is configured as user side**
> **None – Frame relay is disabled**

Link Management:
> **ITU-T(Q.933)**
> **ANSI(T1.617)**

N391    1 – 255, default to 6
N392    1 – 10, default to 3
N393    1 – 10, default to 4, N393 must Σ N392
T391    5 – 30, default to 10
T392    5 – 30, default to 15, T392 must Σ T391


**SMT menu 11.1: added edit FR options for changing FR parameters.**

```
                       Menu 11.1 – Remote Node Profile

      Rem Node Name= rn1                Route= IP
      Active= Yes                       Bridge= No
      Connection Type= Leased-Sync
      Leased Ports= 1                   Edit PPP Options= No
      Backup Line Call Direction= Both  Rem IP Addr: 192.168.1.1
        Device Type= N/A                Edit IP/IPX/Bridge= No
      Incoming:
        Rem Login= 1111                 Telco Option:
        Rem Password= ********             Edit Frame Relay Options= Yes/No/N/A
      Outgoing:
        My Login= 2222                  Session Options:
        My Password= ********             Edit Filter Sets= No
        Authen= N/A                       Idle Timeout(sec)= 300
        Primary Phone #= N/A
        Secondary Phone #= N/A

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

Connection Type:

    Switch-Async, Leased-Async and Leased-Sync. Frame relay is allowed only for Leased-Sync connection type.

Leased Port: up to 3 NDIS channels per NDIS line (Port).

    Port 1 – map to WAN channel with ID = 0

    Port 2 – map to WAN channel with ID = 1

Edit Frame Relay Options:

    **Yes/No when Connection Type is Leased-Sync; otherwise N/A.**

**SMT menu 11.4: remote node FR settings menu.**

```
                    Menu 11.4 - Remote Node Frame Relay Options    Encapsulation=
RFC 1490
     DLCI = 16
     CIR (kbps)= 64
     EIR (kbps)= 80
                     Enter here to CONFIRM or ESC to CANCEL:
```

Encapsulation Type:

    RFC 1490, RFC 1973 (PPP over FR)

DLCI    16 – 991

CIR    Maximum allowable CIR is 256Kbps. However, the user should be aware that the sum of CIRs from all channels in a line should not exceed 256Kbps due to the processing limit of the CPU in P153X. In field test, P153X was found to have a maximum throughput (w/ FR) of roughly 180Kbps.

EIR    Must be $\Sigma$ CIR and P 256Kbps.

**SMT menu 4: added edit FR options for changing FR settings.**

```
                    Menu 4 - Internet Access Setup

          ISP's Name= ISP
          Connection Type= Leased-Sync
            Leased Ports= 2
          Pri Phone #= N/A
          Sec Phone #= N/A
          My Login= 1111
          My Password= ********
          Single User Account= No
            IP Addr= N/A
          Edit Frame Relay Options= Yes/No
          Edit Script Options= N/A
          Device Type= N/A
          Nailed-Up Connection= N/A
          Multilink= N/A
          Idle Timeout= N/A


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

```
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│                                                                          │
└──────────────────────────────────────────────────────────────────────────┘
```

Connection Type:

Switch-Async, Leased-Async and Leased-Sync. Frame relay is allowed only for Leased-Sync connection type.

Edit Frame Relay Options:

**Yes/No when Connection Type is Leased-Sync; otherwise N/A.**

**SMT menu 4.2: FR settings menu for internet setup.**

```
                    Menu 4.2 – Internet Setup Frame Relay Options
Encapsulation= RFC 1490
    DLCI = 16
    CIR (kbps)= 64
    EIR (kbps)= 80
                    Enter here to CONFIRM or ESC to CANCEL:
```

Encapsulation Type:

RFC 1490, RFC 1973 (PPP over FR)

DLCI  16 – 991

CIR  Maximum allowable CIR is 256Kbps. However, the user should be aware that the sum of CIRs from all channels in a line should not exceed 256Kbps due to the processing limit of the CPU in P153X. In field test, P153X was found to have a maximum throughput (w/ FR) of roughly 180Kbps.

EIR  Must be Σ CIR and P 256Kbps.

**SMT menu 24.1: change status display to support multiple PVCs in a single port.**

```
            Menu 24.1 - System Maintenance - Status
   Port/
Ch DLCI    Status  Speed   TXPkts    RXPkts  Errs  Tx B/s  Rx B/s   Up Time
1  1/16    Down    0Kbps        0         0     0       0       0   0:00:00
2  1/18    Down    0Kbps        0         0     0       0       0   0:00:00
3  1/22    Down    0Kbps        0         0     0       0       0   0:00:00
4  2/16    Down    0Kbps        0         0     0       0       0   0:00:00
5  2/20    Down    0Kbps        0         0     0       0       0   0:00:00
6  2/24    Down    0Kbps        0         0     0       0       0   0:00:00
7  3       Down    0Kbps        0         0     0       0       0   0:00:00

     Total Outcall Time:    0:00:00   CPU load:   11.28%

     Ethernet:                       WAN:
       Status: 10M/Half Duplex         Port 1 IP Addr:
       TX Pkts: 1594                   Port 2 IP Addr:
       RX Pkts: 38066                  Port 3 IP Addr:
       Collisions: 5199


                          Press Command:
     CMDS: 1-7 Drop the indicated channel  8-Drop All  9-Rst Cnt  ESC-Exit
```

1. Statistics is shown for each PVC.
2. For frame relay, CIR is displayed in the speed field.
3. For WAN port IP address, if frame relay is deployed, the WAN IP address for each PVC will take turn display in the corresponding port IP address field. The port number and DLCI will be appended to the end of the IP address to indicate which PVC is intended; e.g. 192.168.1.1 [18].
4. The field "LAN Packet Which Triggered Last Call:" is removed from menu 24.1 since there's not much space left (only one line) and leased line users do not need it.

```
                    Menu 24.1 - System Maintenance - Status
      Port/
  Ch  DLCI    Status   Speed    TXPkts    RXPkts   Errs  Tx B/s  Rx B/s    Up Time
   1  1/18    ISP      64Kbps        0         0      0       0       0    0:00:00
   2  1/0     Down     0Kbps         0         0      0       0       0    0:00:00
   3  1/0     Down     0Kbps         0         0      0       0       0    0:00:00
   4   2      Taipei   256Kbps     510       513      0      12      13    0:33:06
   5  N/A     -        0Kbps         0         0      0       0       0    0:00:00
   6  N/A     -        0Kbps         0         0      0       0       0    0:00:00
   7   3      Down     0Kbps         0         0      0       0       0    0:00:00

      Total Outcall Time:     0:00:00    CPU load:   13.57%

      Ethernet:                        WAN:
        Status: 10M/Half Duplex          Port 1 IP Addr: 192.168.1.1     [18]
        TX Pkts: 354                     Port 2 IP Addr: 192.168.1.131
        RX Pkts: 715                     Port 3 IP Addr:
        Collisions: 255

                              Press Command:
       CMDS: 1-7 Drop the indicated channel  8-Drop All  9-Rst Cnt  ESC-Exit
```

The above figure shows how menu 24.1 would look like if port 1 is configured for frame relay and port 2 is configured for WAN.

**3. Frame relay related CI commands**

Most of the FR CI commands are for code debugging during development stage. Only those commands useful for users of Prestige P153X are listed below.

a) To reset a line: fr line reset line# where line# is 1 for line 1 and 2 for line 2; e.g.
   i) To reset line 2: fr line reset 2.
b) To view/set FR parameters: fr param [disp/set] [line ID], e.g.
   i) To see FR parameters for line 1 (i.e. line ID = 0): fr param disp 0
   ii) To set T391 for line 2 (line ID = 1): fr param set t391 1 10. Remember that T391 must be smaller than or equal to T392. Note that after FR parameter is set, fr line reset must be run to get the new parameter in effect.
c) To reset a FR channel: fr chan reset channel_name, where channel name is fr0 to fr5. fr0 is for FR channel 1, fr1 for FR channel 2 and etc.; e.g.
   i) To reset FR channel 2: fr chan reset fr1