Cisco 90 Series MIB

How to Obtain the Cisco 90 Series MIB

Cisco Management Information Bases (MIBs) are archived in Cisco's FTP server and are accessible via anonymous FTP at the following location:

```
ftp://ftpeng.cisco.com/pub/mibs
```

The contents of this archive are mirrored in CCO. The Cisco 90 Series MIB is at the following location:

```
ftp://ftpeng.cisco.com/pub/mibs/v1/CISCO-90-MIB.my
```

Cisco 90 Series MIB

```
Cisco90Series-MIB DEFINITIONS ::= BEGIN

   IMPORTS
      enterprises, Counter, TimeTicks
         FROM RFC1155-SMI
      OBJECT-TYPE
         FROM RFC-1212
      TRAP-TYPE
         FROM RFC-1215;

      -- From RFC-1213 (MIB-II)
      DisplayString ::=
         OCTET STRING

   ciscoTelesend    OBJECT IDENTIFIER ::= { enterprises 1570 }
   frMux       OBJECT IDENTIFIER ::= { ciscoTelesend 1 }

-- Frame Relay Multiplexer MIB groups
-- system group
   frxSys       OBJECT IDENTIFIER ::= { frMux 1 }

-- defaults group
   frxDefault    OBJECT IDENTIFIER ::= { frMux 2 }

-- bank group
   frxBank       OBJECT IDENTIFIER ::= { frMux 3 }

-- channel unit group
   frxChUnit     OBJECT IDENTIFIER ::= { frMux 4 }

-- channel unit management group
   frxMgt        OBJECT IDENTIFIER ::= { frMux 5 }
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                -- port group
                  frxPort      OBJECT IDENTIFIER ::= { frMux 6 }

                -- frxSys group
                  frxSysDescr OBJECT-TYPE
                     SYNTAX  DisplayString (SIZE (0..255))
                     ACCESS  read-only
                     STATUS  mandatory
                     DESCRIPTION
                        "Description of the Cisco 90 Series System."
                   ::= { frxSys 1 }

                  frxClockHour OBJECT-TYPE
                     SYNTAX  INTEGER   (0..23)
                     ACCESS  read-write
                     STATUS  mandatory
                     DESCRIPTION
                        "Synchronized 24 hour clock for the Cisco 90 Series system -
                        Hour.  This clock is used by the channel units
                        and BRITE cards to set the performance monitoring
                        end-of-hour and end-of-day intervals."
                     ::= { frxSys 2 }

                  frxClockMin OBJECT-TYPE
                     SYNTAX  INTEGER   (0..59)
                     ACCESS  read-write
                     STATUS  mandatory
                     DESCRIPTION
                        "Synchronized 24 hour clock for the Cisco 90 Series system -
                        Minutes. This clock is used by the channel units
                        and BRITE cards to set the performance monitoring
                        end-of-hour and end-of-day intervals."
                     ::= { frxSys 3 }

                  frxClockSec OBJECT-TYPE
                     SYNTAX  INTEGER   (0..59)
                     ACCESS  read-write
                     STATUS  mandatory
                     DESCRIPTION
                        "Synchronized 24 hour clock for the Cisco 90 Series system -
                        Seconds. This clock is used by the channel units
                        and BRITE cards to set the performance monitoring
                        end-of-hour and end-of-day intervals."
                   ::= { frxSys 4 }

                  frxUpTime OBJECT-TYPE
                     SYNTAX  TimeTicks
                     ACCESS  read-only
                     STATUS  mandatory
                     DESCRIPTION
                        "Time since the agent was last initialized in
                        0.01 second increments."
                   ::= { frxSys 5 }

                  frxAdminContact OBJECT-TYPE
                     SYNTAX  DisplayString (SIZE (0..255))
                     ACCESS  read-write
                     STATUS  mandatory
                     DESCRIPTION
                        "Cisco 90 Series administrative contact name."
                     ::= { frxSys 6 }

                  frxSysName OBJECT-TYPE
                     SYNTAX  DisplayString (SIZE (0..255))
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   ACCESS  read-write
   STATUS  mandatory
   DESCRIPTION
      "Administratively assigned name for this Cisco 90 Series agent."
 ::= { frxSys 7 }


frxSysLoc OBJECT-TYPE
   SYNTAX  DisplayString (SIZE (0..255))
   ACCESS  read-write
   STATUS  mandatory
   DESCRIPTION
      "Physical location of the Cisco 90 Series agent."
 ::= { frxSys 8 }


frxSysVersion OBJECT-TYPE
   SYNTAX  INTEGER (0..65535)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Cisco 90 Series Agent version number. The version number is
      an INTEGER representation of the actual version number string.
      The way to translate to a version number string is 200 = 2.0.0,
      201 = 2.0.1, etc."
 ::= { frxSys 9 }


frxUPerfTrapEnable OBJECT-TYPE
   SYNTAX  INTEGER {
      enableUPerfTrap(1),
      disableUPerfTrap(2)
      }
   ACCESS  read-write
   STATUS  mandatory
   DESCRIPTION
      "1=Enable sending the frxUPerfTrap trap to the
      SNMP manager when  a performance monitoring
      threshold is crossed at an Cisco 90 Series channel unit or
      a downstream BRITE card.
      2=Disable Trap."
   ::= { frxSys 10 }


frxAgtLinkErrors OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Number of Annex-D signaling link reliability errors
      between the Cisco 90 Series Agent and the Frame Relay Switch.
      A signaling reliability error is declared whenever
      the Cisco 90 Series Agent did not receive a reply from the
      frame relay switch in response to an Annex-D link
      integrity poll or full status inquiry poll"
   ::= { frxSys 11 }


frxAgtProtErrors OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Number of Annex-D signaling protocol errors
      between the Cisco 90 Series Agent and the Frame
      Relay Switch. A signaling protocol error is
      declared whenever the Cisco 90 Series Agent
      receives a reply with incorrect format or
      sequence numbers from the frame relay switch in
      response to an Annex-D link integrity poll or
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                                   full status inquiry poll"
                              ::= { frxSys 12 }

                   frxAgtChInactive OBJECT-TYPE
                       SYNTAX   Counter
                       ACCESS   read-only
                       STATUS   mandatory
                       DESCRIPTION
                          "Number of times the Cisco 90 Series Agent Annex-D signaling
                          channel was declared inactive."
                       ::= { frxSys 13 }

                   frxAgtChStatus OBJECT-TYPE
                       SYNTAX   INTEGER {
                          active(1),
                          inactive(2)
                          }
                       ACCESS   read-only
                       STATUS   mandatory
                       DESCRIPTION
                          "Current status of the Annex-D signaling channel
                          between the Cisco 90 Series Agent and the Frame Relay Switch."
                       ::= { frxSys 14 }

                -- frxDefault group
                   frxDefaultEnable OBJECT-TYPE
                       SYNTAX   INTEGER {
                          enableAutoLoad(1),
                          disableAutoLoad(2)
                          }
                       ACCESS   read-write
                       STATUS   mandatory
                       DESCRIPTION
                          "1=Enable automatic loading of defaults (defined
                          in this group) to the channel unit when the
                          Download Configuration pushbutton on the channel
                          unit faceplate is pushed. 2=Disable loading."
                       ::= { frxDefault 1 }

                   frxDefaultTrap OBJECT-TYPE
                       SYNTAX   INTEGER {
                          enableConfigureTrap(1),
                          disableConfigureTrap(2)
                          }
                       ACCESS   read-write
                       STATUS   mandatory
                       DESCRIPTION
                          "1=Enable sending the frxDownloadTrap trap to
                          the SNMP manager when  the Download Configuration
                          pushbutton on the channel unit faceplate is pushed.
                          2=Disable Trap"
                       ::= { frxDefault 2 }

                   frxDConfigSrc OBJECT-TYPE
                       SYNTAX   INTEGER {
                          annexD(1),
                          snmp(2)
                          }
                       ACCESS   read-write
                       STATUS   mandatory
                       DESCRIPTION
                          "System default for frxConfigSrc - used when the
                          Download Configuration pushbutton on the channel unit
                          faceplate is pushed and when frxDefaultEnable is set to 1.
                          1=Data rate and protocol set by Annex-D assignment rules.
```

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      2=Data rate and protocol set by the SNMP variables
        frxPortSpeed and frxPortProtocol"
   ::= { frxDefault 3 }

frxDMgtT391   OBJECT-TYPE
   SYNTAX  INTEGER (5..30)
   ACCESS  read-write
   STATUS  mandatory
   DESCRIPTION
     "System Default for frxMgtT391 - used when the
     Download Configuration pushbutton on the channel unit
     faceplate is pushed and when frxDefaultEnable is set to 1.
     This controls how often (in seconds) the channel units
     send an Annex-D poll to the frame relay switch.
     This is the Annex-D T391 parameter (Typical value 10)"
   ::= { frxDefault 4 }

frxDMgtT392 OBJECT-TYPE
   SYNTAX  INTEGER (5..30)
   ACCESS  read-write
   STATUS  mandatory
   DESCRIPTION
     "System Default for frxMgtT392 - used when the
     Download Configuration pushbutton on the channel unit
     faceplate is pushed and when frxDefaultEnable is set to 1.
     This controls how long (in seconds) the channel unit
     will wait for a subscriber to send it an Annex-D poll
     before declaring a link error from the subscriber.
     This is the Annex-D T392 parameter (Typical value 15)"
   ::= { frxDefault 5 }


frxDMgtN391   OBJECT-TYPE
   SYNTAX  INTEGER (1..255)
   ACCESS  read-write
   STATUS  mandatory
   DESCRIPTION
     "System Default for frxMgtN391 - used when the
     Download Configuration pushbutton on the channel unit
     faceplate is pushed and when frxDefaultEnable is set to 1.
     This controls how often the channel units send a full
     status inquiry poll to the frame relay switch instead of
     a link integrity verification poll.
     This is the Annex-D N391 parameter (Typical value 6)"
   ::= { frxDefault 6 }

frxDMgtN392   OBJECT-TYPE
   SYNTAX  INTEGER (1..10)
   ACCESS  read-write
   STATUS  mandatory
   DESCRIPTION
     "System Default for frxMgtN392 - used when the
     Download Configuration pushbutton on the channel unit
     faceplate is pushed and when frxDefaultEnable is set to 1.
     When more than frxMgtN392 errors are detected in any
     frxMgtN393 monitored Annex-D events, the network is
     declared inactive.
     This is the Annex-D N392 parameter (Typical value 3)"
   ::= { frxDefault 7 }


frxDMgtN393   OBJECT-TYPE
   SYNTAX  INTEGER (1..10)
   ACCESS  read-write
   STATUS  mandatory
```

```
                             DESCRIPTION
                                "System Default for frxMgtN393 - used when the
                                Download Configuration pushbutton on the channel unit
                                faceplate is pushed and when frxDefaultEnable is set to 1.
                                When more than frxMgtN392 errors are detected in any
                                frxMgtN393 monitored Annex-D events, the network is
                                declared inactive.
                                This is the Annex-D N393 parameter (Typical value 4)"
                             ::= { frxDefault 8 }

                 frxDPortSpeed OBJECT-TYPE
                             SYNTAX   INTEGER  {
                                use56kbps(1),
                                use64kbps(2),
                                use128kbps(3),
                                use144kbps(4)
                                }
                             ACCESS   read-write
                             STATUS   mandatory
                             DESCRIPTION
                                "System Default for frxPortSpeed - used when the
                                Download Configuration pushbutton on the channel unit
                                faceplate is pushed and when frxDefaultEnable is set to 1.
                                This is the speed that the channel unit port runs at.
                                1=56kbps   2=64kbps   3=128kbps   4=144kbps"
                             ::= { frxDefault 9 }


                 frxDPortProtocol OBJECT-TYPE
                             SYNTAX   INTEGER {
                                frameRelay(1),
                                ppp(2)
                                }
                             ACCESS   read-write
                             STATUS   mandatory
                             DESCRIPTION
                                "System Default for frxPortProtocol - used when the
                                Download Configuration pushbutton on the channel unit
                                faceplate is pushed and when frxDefaultEnable is set to 1.
                                1=Port uses Frame Relay protocol
                                2=Port uses PPP protocol - do RFC-1973 encapsulation"
                             ::= { frxDefault 10 }

                 frxDCktCIR OBJECT-TYPE
                             SYNTAX   INTEGER (0..1544000)
                             ACCESS   read-write
                             STATUS   mandatory
                             DESCRIPTION
                                "System Default for frxCktCIR - used when the
                                Download Configuration pushbutton on the channel unit
                                faceplate is pushed and when frxDefaultEnable is set to 1.
                                This is the committed information rate (CIR) in bits per
                                second.  (Typical value 1536000/#ports)"
                             ::= { frxDefault 11 }

                 frxDCktBc OBJECT-TYPE
                             SYNTAX   INTEGER (0..16777215)
                             ACCESS   read-write
                             STATUS   mandatory
                             DESCRIPTION
                                "System Default for frxCktBc - used when the
                                Download Configuration pushbutton on the channel unit
                                faceplate is pushed and when frxDefaultEnable is set to 1.
                                This is the committed BurstSize (Bc) in bits. The time
                                interval over which the burst is measured is Bc/CIR.
```

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                (Typically set to same number as frxDCktCIR)."
             ::= { frxDefault 12 }

      frxDCktBe OBJECT-TYPE
          SYNTAX  INTEGER (0..16777212)
          ACCESS  read-write
          STATUS  mandatory
          DESCRIPTION
             "System Default for frxCktBe - used when the
             Download Configuration pushbutton on the channel unit
             faceplate is pushed and when frxDefaultEnable is set to 1.
             This is the excess BurstSize (Be) in bits. The time
             interval over which the excess burst is measured is Be/CIR.
             (Typical value 1536000)."
          ::= { frxDefault 13 }

-- frxBank group
-- frxBank Table
   frxBankTable OBJECT-TYPE
       SYNTAX  SEQUENCE OF FrxBankEntry
       ACCESS  not-accessible
       STATUS  mandatory
       DESCRIPTION
          "This Cisco 90 Series Bank Di-group Table contains channel
          bank level information for each of the channel bank di-groups
          in the system. A di-group is a T1 interface to the frame
          relay network. The table is indexed using the Cisco 90 Series
          channel bank digroup number"
       ::= { frxBank 1 }

   frxBankEntry OBJECT-TYPE
       SYNTAX  FrxBankEntry
       ACCESS  not-accessible
       STATUS  mandatory
       DESCRIPTION
          "A specific entry in the Cisco 90 Series Bank Di-group
          Table. There is one entry for each channel bank di-group
          (T1) in the system. There are no entries for unused banks"
       INDEX   {
          frxBankIndex
          }
       ::= { frxBankTable 1 }

   FrxBankEntry ::= SEQUENCE {
       frxBankIndex  INTEGER,
       frxBankType   INTEGER
       }

   frxBankIndex OBJECT-TYPE
       SYNTAX  INTEGER (16..1007)
       ACCESS  read-only
       STATUS  mandatory
       DESCRIPTION
          "Channel Bank Di-group Number. This index is used to address
          the various channel banks in the system. This number is the
          same as the DLCI number used to communicate with the bank at
          the Cisco 90 SNMP Agent. (note that this is NOT the same
          as the DLCI number at the channel bank.  The channel bank
          always uses DLCI 30 or 31 to communicate with the Agent.)"
       ::= { frxBankEntry 1 }

   frxBankType OBJECT-TYPE
       SYNTAX  INTEGER {
          d4(1)
          }
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                    ACCESS  read-write
                    STATUS  mandatory
                    DESCRIPTION
                       "This is the type of channel bank and is for future use.
                       D4 banks return a value of 1."
                    ::= { frxBankEntry 2 }


           -- frxChUnit group
           -- frxChUnit Table

             frxChUTable OBJECT-TYPE
                    SYNTAX  SEQUENCE OF FrxChUEntry
                    ACCESS  not-accessible
                    STATUS  mandatory
                    DESCRIPTION
                       "This Cisco 90 Series Channel Unit Table contains channel unit
                       level control and statistics for each of the Cisco 90 Series
                       channel units in the system. The table is indexed
                       first using the Cisco 90 Series channel bank digroup number,
                       then the channel unit number (1 to 24)."
                    ::= { frxChUnit 1 }

             frxChUEntry OBJECT-TYPE
                    SYNTAX  FrxChUEntry
                    ACCESS  not-accessible
                    STATUS  mandatory
                    DESCRIPTION
                       "A specific entry in the Cisco 90 Series Channel Unit Table.
                       There is one entry for each Cisco 90 Series channel unit in
                       the system. There are no entries for unused banks or empty
                       channel unit slots"
                    INDEX   {
                       frxBankIndex,
                       frxChUIndex
                       }
                    ::= { frxChUTable 1 }

             FrxChUEntry ::= SEQUENCE {
                    frxChUIndex        INTEGER,
                    frxChUType         INTEGER,
                    frxChUVersion      INTEGER,
                    frxSigProtocol     INTEGER,
                    frxConfigSrc       INTEGER,
                    frxDLCIAdLen       INTEGER,
                    frxNetInOctets     Counter,
                    frxNetOutOctets    Counter,
                    frxNetBadFrames    Counter,
                    frxNetHDLCEs       Counter,
                    frxNetCRCEs        Counter,
                    frxNetLinkEs       Counter,
                    frxNetFrShEs       Counter,
                    frxNetFrLgEs       Counter,
                    frxNetPPPEs        Counter,
                    frxNetBufEs        Counter
                    }

             frxChUIndex OBJECT-TYPE
                    SYNTAX  INTEGER (1..24)
                    ACCESS  read-only
                    STATUS  mandatory
                    DESCRIPTION
                       "Channel Unit Number.  This index is used to address a
                       specific channel unit in a bank. For D4 channel banks
                       this number is the same as the physical slot number 1-24"
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                    ::= { frxChUEntry 1 }

frxChUType OBJECT-TYPE
    SYNTAX  INTEGER {
        cisco90i(100)
        }
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
        "Type of Cisco 90 Series channel unit installed."
    ::= { frxChUEntry 2 }

frxChUVersion OBJECT-TYPE
    SYNTAX  INTEGER (0..65535)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
        "Cisco 90 Series channel unit version number."
    ::= { frxChUEntry 3 }

frxSigProtocol OBJECT-TYPE
    SYNTAX  INTEGER {
        annexD(1)
        }
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
        "This is the type of Local In-channel Signaling used
        when the subscriber is running frame relay protocol.
        It is provided for future use. Set to 1 for T1.617
        Annex-D"
    ::= { frxChUEntry 4 }

frxConfigSrc OBJECT-TYPE
    SYNTAX  INTEGER {
        annexD(1),
        snmp(2)
        }
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
        "Source for configuring speed and protocol for each port.
         1=Data rate and protocol set by DLCI assignment rules
           as reported by Annex-D.  This option allows control
           of these basic parameters from the frame relay switch
           management station instead of the Cisco 90 Series
           management station.
         2=Data rate and protocol set by SNMP variables
           frxPortSpeed and frxPortProtocol"
   ::= { frxChUEntry 5 }

frxDLCIAdLen OBJECT-TYPE
    SYNTAX  INTEGER {
        twoOctetDlci(1)
        }
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
        "The number of bytes used for the DLCI address.
        For future use.  1=two octets."
    ::= { frxChUEntry 6 }

frxNetInOctets OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
```

```
                        STATUS  mandatory
                        DESCRIPTION
                          "Total number of octets received by this channel
                          unit from Frame Relay Switch (on the T1 interface)
                          Only frames whose DLCI is addressed to a port on
                          this channel unit are counted.  Bad frames, Annex-D
                          and SNMP frames are not counted. CRC bytes are not
                          counted"
                        ::= { frxChUEntry 7 }

                  frxNetOutOctets OBJECT-TYPE
                        SYNTAX  Counter
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Total number of octets transmitted to the Frame
                          Relay Switch (on the T1 interface) by this channel
                          unit. Annex-D and SNMP frames are not counted. CRC
                          bytes are not counted"
                        ::= { frxChUEntry 8 }

                  frxNetBadFrames OBJECT-TYPE
                        SYNTAX  Counter
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Total number of frames received on the network (T1)
                          interface that are discarded by this channel unit.
                          Possible reasons for discard are:
                             Frame contained HDLC abort (7 or more ones in a row)
                             Frame had a CRC error
                             Frame had a non-integral number of bytes
                             Frame was too short (less than 5 bytes)
                             Frame was too long (more than 8192 bytes)
                             Frame had bad RFC-1973 (PPP) header - this error only
                                occurs if destination port is set for PPP protocol.
                             Frame was discarded due to lack of buffer space.
                          Only frames whose DLCI is addressed to a port on
                          this channel unit are counted."
                        ::= { frxChUEntry 9 }

                  frxNetHDLCEs OBJECT-TYPE
                        SYNTAX  Counter
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Network Errored Seconds caused by HDLC aborts (7 or more
                          ones in a row). Total number of seconds in which a frame
                          with an HDLC abort is received by this channel unit on
                          the network (T1) interface. Only frames whose DLCI is
                          addressed to a port on this channel unit are counted."
                        ::= { frxChUEntry 10 }

                  frxNetCRCEs OBJECT-TYPE
                        SYNTAX  Counter
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Network Errored Seconds caused by CRC errors.
                          Total number of seconds in which a frame with a CRC
                          error is received by this channel unit on the network
                          (T1) interface. Only frames whose DLCI is addressed
                          to a port on this channel unit are counted."
                        ::= { frxChUEntry 11 }
```

```
    frxNetLinkEs OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
          "Network Errored Seconds caused by Non-integral Bytes.
          Total number of seconds in which a frame with a non-integral
          number of bytes is received by this channel unit on the
          network (T1) interface. Only frames whose DLCI is addressed
          to a port on this channel unit are counted."
        ::= { frxChUEntry 12 }

    frxNetFrShEs OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
          "Network Errored Seconds caused by Short Frames received.
          Total number of seconds in which a frame that is too
          short (less than 5 bytes) is received by this channel
          unit on the network (T1) interface. Only frames whose
          DLCI is addressed to a port on this channel unit are
          counted."
        ::= { frxChUEntry 13 }

    frxNetFrLgEs OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
          "Network Errored Seconds caused by Long Frames received.
          Total number of seconds in which a frame that is too
          long (more than 8192 bytes) is received by this channel
          unit on the network (T1) interface. Only frames whose
          DLCI is addressed to a port on this channel unit are
          counted."
        ::= { frxChUEntry 14 }

    frxNetPPPEs OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
          "Errored seconds caused by bad RFC-1973 (PPP) header.
          Total number of seconds in which a frame with an
          invalid RFC-1973 (PPP) header is received by this
          channel unit on the network (T1) interface. Only frames
          whose DLCI is addressed to a port that is set to PPP
          protocol and is on this channel unit are counted."
        ::= { frxChUEntry 15 }

    frxNetBufEs OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
          "Errored Seconds caused by Buffer Overflow.
          Total number of seconds in which a frame received
          by this channel unit on the network (T1) interface
          was discarded due to insufficient buffer space. Only
          frames whose DLCI is addressed to a port on this
          channel unit are counted."
        ::= { frxChUEntry 16 }

-- frxMgt group
```

```
                   -- frxMgt Table
                     frxMgtTable OBJECT-TYPE
                        SYNTAX  SEQUENCE OF FrxMgtEntry
                        ACCESS  not-accessible
                        STATUS  mandatory
                        DESCRIPTION
                           "This table monitors and controls the T1-617 Annex-D
                           parameters used by the channel units. There is one
                           table row for every channel unit in every bank. The
                           table is indexed first using the Cisco 90 Series channel
                           bank digroup number, then the channel unit number (1 to 24).
                           For best performance, all of the channel units in a
                           given bank should be set to identical values.  These
                           values are typically set using global parameters in the
                           frxDefaultTable instead of directly via this table. "
                        ::= { frxMgt 1 }

                     frxMgtEntry OBJECT-TYPE
                        SYNTAX  FrxMgtEntry
                        ACCESS  not-accessible
                        STATUS  mandatory
                        DESCRIPTION
                           "A specific entry in the Cisco 90 Series Management Table.
                           There is one entry for each Cisco 90 Series channel unit
                           in the system. There are no entries for unused banks or
                           empty channel unit slots"
                        INDEX    {
                           frxBankIndex,
                           frxChUIndex
                           }
                        ::= { frxMgtTable 1 }

                     FrxMgtEntry ::= SEQUENCE {
                        frxPortsInSvc        INTEGER,
                        frxMgtT391           INTEGER,
                        frxMgtT392           INTEGER,
                        frxMgtN391           INTEGER,
                        frxMgtN392           INTEGER,
                        frxMgtN393           INTEGER,
                        frxNetLinkErrors     Counter,
                        frxNetProtErrors     Counter,
                        frxNetChInactive     Counter,
                        frxNetChStatus       INTEGER
                        }

                     frxPortsInSvc OBJECT-TYPE
                        SYNTAX  INTEGER (0..4)
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                           "Ports in service. The number of ports on a Cisco 90 Series
                           channel unit that have one or more active PVCs, as determined
                           by Annex-D."
                        ::= { frxMgtEntry 1 }

                     frxMgtT391 OBJECT-TYPE
                        SYNTAX  INTEGER (5..30)
                        ACCESS  read-write
                        STATUS  mandatory
                        DESCRIPTION
                           "This controls how often (in seconds) the channel unit
                           sends an Annex-D poll to the frame relay switch.
                           This is the Annex-D T391 parameter (Typical value 10)"
                        ::= { frxMgtEntry 2 }
```

```
frxMgtT392 OBJECT-TYPE
    SYNTAX  INTEGER (5..30)
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
      "This controls how long (in seconds) the channel unit
      will wait for a subscriber to send it an Annex-D poll
      before declaring a link error from the subscriber.
      This is the Annex-D T392 parameter (Typical value 15)"
    ::= { frxMgtEntry 3 }

frxMgtN391 OBJECT-TYPE
    SYNTAX  INTEGER (1..255)
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
      "This controls how often (in polls) the channel unit
      sends a full status inquiry poll to the frame relay
      switch instead of a link integrity verification poll.
      This is the Annex-D N391 parameter (Typical value 6)"
    ::= { frxMgtEntry 4 }

frxMgtN392 OBJECT-TYPE
    SYNTAX  INTEGER (1..10)
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
      "When more than frxMgtN392 errors are detected in any
      frxMgtN393 monitored Annex-D events, the network is
      declared inactive. This is the Annex-D N392 parameter
      (Typical value 3)"
    ::= { frxMgtEntry 5 }

frxMgtN393 OBJECT-TYPE
    SYNTAX  INTEGER (1..10)
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
      "When more than frxMgtN392 errors are detected in any
      frxMgtN393 monitored Annex-D events, the network is
      declared inactive. This is the Annex-D N393 parameter
      (Typical value 4)"
    ::= { frxMgtEntry 6 }

frxNetLinkErrors OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
      "Number of signaling link reliability errors from
      network.  A signaling reliability error is declared
      whenever the channel units did not receive a reply
      from the frame relay switch to an Annex-D link
      integrity poll or full status inquiry poll"
    ::= { frxMgtEntry 7 }

frxNetProtErrors OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
      "Number of signaling protocol errors from network.
      A signaling protocol error is declared whenever
      the channel units receive a reply with incorrect
      format or sequence numbers from the frame relay
```

```
                                 switch in response to an Annex-D link integrity
                                 poll or full status inquiry poll"
                          ::= { frxMgtEntry 8 }

                   frxNetChInactive OBJECT-TYPE
                       SYNTAX   Counter
                       ACCESS   read-only
                       STATUS   mandatory
                       DESCRIPTION
                          "Number of times network Annex-D signaling channel
                          was declared inactive."
                       ::= { frxMgtEntry 9 }

                   frxNetChStatus OBJECT-TYPE
                       SYNTAX   INTEGER {
                          active(1),
                          inactive(2)
                          }
                       ACCESS   read-only
                       STATUS   mandatory
                       DESCRIPTION
                          "Current status of the Annex-D signaling channel on
                          the network side of the channel bank."
                       ::= { frxMgtEntry 10 }

                -- frxMgtPortTable
                  frxMgtPortTable OBJECT-TYPE
                       SYNTAX   SEQUENCE OF FrxMgtPortEntry
                       ACCESS   not-accessible
                       STATUS   mandatory
                       DESCRIPTION
                          "This table monitors the T1-617 Annex-D link
                          between the channel units and the subscribers.
                          There is one table row for every port on every
                          channel unit in every bank. The table is indexed
                          first using the channel bank digroup number, then
                          the channel unit number (1 to 24), and then the
                          port number (0 to 3)."
                       ::= { frxMgt 2 }

                   frxMgtPortEntry OBJECT-TYPE
                       SYNTAX   FrxMgtPortEntry
                       ACCESS   not-accessible
                       STATUS   mandatory
                       DESCRIPTION
                          "A specific entry in the Cisco 90 Series Management Port
                          Table. There is one entry for each port on each
                          Cisco 90 Series channel unit in the system.  There are no
                          entries  for unused banks or empty channel unit
                          slots."
                       INDEX   {
                          frxBankIndex,
                          frxChUIndex,
                          frxPortIndex
                          }
                       ::= { frxMgtPortTable 1 }

                   FrxMgtPortEntry ::= SEQUENCE {
                       frxPortIndex          INTEGER,
                       frxPortLinkErrors     Counter,
                       frxPortProtErrors     Counter,
                       frxPortChInactive     Counter
                       }

                   frxPortIndex OBJECT-TYPE
```

```
                SYNTAX  INTEGER (0..3)
                ACCESS  read-only
                STATUS  mandatory
                DESCRIPTION
                   "Which subscriber port on the channel unit is
                   addressed.  Ports are numbered from 0 to 3.
                   Some channel unit types have less than 4 ports."
                ::= { frxMgtPortEntry 1 }

          frxPortLinkErrors OBJECT-TYPE
                SYNTAX  Counter
                ACCESS  read-only
                STATUS  mandatory
                DESCRIPTION
                   "Number of signaling link reliability errors from
                   subscriber port.  A signaling reliability error is
                   declared whenever the channel units did not receive
                   an Annex-D link integrity poll or full status inquiry
                   poll from the subscriber port within the required time."
                ::= { frxMgtPortEntry 2 }

          frxPortProtErrors OBJECT-TYPE
                SYNTAX  Counter
                ACCESS  read-only
                STATUS  mandatory
                DESCRIPTION
                   "Number of signaling protocol errors from subscriber
                   port. A signaling protocol error is declared whenever
                   the channel units receive an Annex-D link integrity
                   poll or full status inquiry poll with incorrect
                   format or sequence numbers from the subscriber port."
                ::= { frxMgtPortEntry 3 }

          frxPortChInactive OBJECT-TYPE
                SYNTAX  Counter
                ACCESS  read-only
                STATUS  mandatory
                DESCRIPTION
                   "Number of times the subscriber port Annex-D signaling
                   channel was declared inactive"
                ::= { frxMgtPortEntry 4 }

       -- frxPort group
       -- frxPort Table
         frxPortTable OBJECT-TYPE
                SYNTAX  SEQUENCE OF FrxPortEntry
                ACCESS  not-accessible
                STATUS  mandatory
                DESCRIPTION
                   "This Cisco 90 Series Port Table contains per-port control and
                   statistics for each of the subscriber ports in the
                   system. The table is indexed first using the Cisco 90 Series
                   channel bank digroup number, then by the channel
                   unit number (1 to 24), and finally by the port
                   number (0-3)."
                ::= { frxPort 1 }

         frxPortEntry OBJECT-TYPE
                SYNTAX  FrxPortEntry
                ACCESS  not-accessible
                STATUS  mandatory
                DESCRIPTION
                   "A specific entry in the Cisco 90 Series Port Table. There is
                   one entry for each port on each Cisco 90 Series channel unit
                   in the system.  There are no entries for unused banks or
```

```
                                empty channel unit slots."
                          INDEX    {
                             frxBankIndex,
                             frxChUIndex,
                             frxPortIndex
                             }
                          ::= { frxPortTable 1 }

                    FrxPortEntry ::= SEQUENCE {
                       frxPortSpeed        INTEGER,
                       frxPortProtocol     INTEGER,
                       frxDSLStatus        INTEGER,
                       frxPVCAssigned      INTEGER,
                       frxLastChange       TimeTicks,
                       frxBrite            INTEGER,
                       frxDSLInOctets      Counter,
                       frxDSLOutOctets     Counter,
                       frxT1InOctets       Counter,
                       frxT1OutOctets      Counter,
                       frxDSLBadFrames     Counter,
                       frxDSLHDLCEs        Counter,
                       frxDSLCRCEs         Counter,
                       frxDSLLinkEs        Counter,
                       frxDSLFrShEs        Counter,
                       frxDSLFrLgEs        Counter,
                       frxDSLDLCIEs        Counter,
                       frxTxBuf            INTEGER,
                       frxRxBuf            INTEGER,
                       frxPortNetEs        Counter
                       }

                    frxPortSpeed OBJECT-TYPE
                       SYNTAX  INTEGER {
                          use56kbps(1),
                          use64kbps(2),
                          use128kbps(3),
                          use144kbps(4)
                          }
                       ACCESS  read-write
                       STATUS  mandatory
                       DESCRIPTION
                          "This is the speed that the channel unit port runs at.
                            1=56kbps    2=64kbps    3=128kbps    4=144kbps
                          This parameter can only be changed if frxConfigSrc is
                          set to SNMP."
                       ::= { frxPortEntry 1 }

                    frxPortProtocol OBJECT-TYPE
                       SYNTAX  INTEGER {
                          frameRelay(1),
                          ppp(2)
                          }
                       ACCESS  read-write
                       STATUS  mandatory
                       DESCRIPTION
                          "This parameter controls what protocol the channel
                          unit should expect the subscriber to send on the port.
                            1=Port uses Frame Relay protocol - no encapsulation
                            2=Port uses PPP protocol - do RFC-1973 encapsulation
                          This parameter can only be changed if frxConfigSrc is
                          set to SNMP."
                       ::= { frxPortEntry 2 }

                    frxDSLStatus OBJECT-TYPE
                       SYNTAX  INTEGER {
```

```
              loopDown(1),
              dslSyncOnly(2),
              loopUpInactive(3),
              loopUp(4)
              }
       ACCESS  read-only
       STATUS  mandatory
       DESCRIPTION
          "This is the status of the DSL loop to the subscriber.
          1=Loop is down.
          2=Frx card has achieved physical layer activation with
            the first BRITE card or the NT1 if there are no BRITE cards.
          3=Link is up but Annex-D is still inactive.  The ACT bit has
            been exchanged with the NT1 indicating a clear channel path
            to the customer has been established. Ports running protocols
            (i.e. PPP) that do not support Annex-D will never be in this
            state.
          4=Link is fully up.  Annex-D (if appropriate) is active."
       ::= { frxPortEntry 3 }

frxPVCAssigned OBJECT-TYPE
    SYNTAX  INTEGER (0..8)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Number of PVCs assigned to Subscriber Port as determined
       by Annex-D"
    ::= { frxPortEntry 4 }

frxLastChange OBJECT-TYPE
    SYNTAX  TimeTicks
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Time since DSL went in sync or lost sync in 0.01
       second increments."
    ::= { frxPortEntry 5 }

frxBrite OBJECT-TYPE
    SYNTAX  INTEGER (0..6)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Number of BRITE cards downstream.  BRITE cards are used
       to extend the loop over subscriber loop carrier systems
       and are detected via a background polling operation."
    ::= { frxPortEntry 6 }

frxDSLInOctets OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Number of octets received from the subscriber DSL
       Does not include Annex-D octets"
    ::= { frxPortEntry 7 }

frxDSLOutOctets OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Number of octets transmitted to the subscriber DSL.
       Does not include Annex-D octets"
    ::= { frxPortEntry 8 }
```

```
frxT1InOctets OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Number of octets received from the network
      directed at this subscriber port"
   ::= { frxPortEntry 9 }

frxT1OutOctets OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Number of octets transmitted to the network
       from this subscriber port"
   ::= { frxPortEntry 10 }

frxDSLBadFrames OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Total number of frames received from this subscriber port
       that were discarded. Possible reasons for discard are:
          Frame contained HDLC abort (7 or more ones in a row)
          Frame had a CRC error
          Frame had a non-integral number of bytes
          Frame was too short (less than 5 bytes)
          Frame was too long (more than 8192 bytes)
          Frame had illegal DLCI (not 16-23)
          Frame was discarded due to lack of buffer space or
             due to congestion control"
   ::= { frxPortEntry 11 }

frxDSLHDLCEs OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Subscriber port Errored Seconds caused by HDLC aborts
       (7 or more ones in a row). Total number of seconds in
       which a frame with an HDLC abort is received from this
       port."
   ::= { frxPortEntry 12 }

frxDSLCRCEs OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Subscriber port Errored Seconds caused by CRC errors.
       Total number of seconds in which a frame with a CRC
       error is received from this port."
   ::= { frxPortEntry 13 }

frxDSLLinkEs OBJECT-TYPE
   SYNTAX  Counter
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      "Subscriber port Errored Seconds caused by Non-integral
       Bytes. Total number of seconds in which a frame with a
       non-integral  number of bytes is received from this
```

```
                 port."
             ::= { frxPortEntry 14 }

frxDSLFrShEs OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Subscriber port Errored Seconds caused by Short Frames.
       received Total number of seconds in which a frame that
       is too short (less than 5 bytes) is received from this
       port."
    ::= { frxPortEntry 15 }

frxDSLFrLgEs OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Subscriber port Errored Seconds caused by Long Frames
       received. Total number of seconds in which a frame that
       is too long (more than 8192 bytes) is received from this
       port."
    ::= { frxPortEntry 16 }

frxDSLDLCIEs OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Subscriber port Errored Seconds caused by illegal DLCI.
       Total number of seconds in which a frame that has a DLCI
       other than 16 to 23 (or 0) is received from this port."
    ::= { frxPortEntry 17 }

frxTxBuf OBJECT-TYPE
    SYNTAX  INTEGER (0..65535)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Number of octets in the transmit buffer for this
       subscriber port.  This data is waiting to be sent
       to the network (T1)."
    ::= { frxPortEntry 18 }

frxRxBuf OBJECT-TYPE
    SYNTAX  INTEGER (0..65535)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Number of octets in the receive buffer for this
       subscriber port.  This data is from the network (T1)
       and is waiting to be sent to the subscriber port."
    ::= { frxPortEntry 19 }

frxPortNetEs OBJECT-TYPE
    SYNTAX  Counter
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Total number of seconds in which a frame received
       from the network (T1) and targeted at this subscriber
       port was discarded."
    ::= { frxPortEntry 20 }
```

```
                   -- frxCircuit Table
                     frxCircuitTable OBJECT-TYPE
                        SYNTAX   SEQUENCE OF FrxCircuitEntry
                        ACCESS   not-accessible
                        STATUS   mandatory
                        DESCRIPTION
                          "This Cisco 90 Series Circuit Table contains
                          per-virtual-circuit control and statistics for each of the
                          permanent virtual circuits in the system. The table is
                          indexed first using the Cisco 90 Series channel bank
                          digroup number, then by the channel unit number (1 to 24),
                          then by the port number (0-3) and finally by the circuit
                          DLCI number (16 to 23)."
                        ::= { frxPort 2 }

                     frxCircuitEntry OBJECT-TYPE
                        SYNTAX   FrxCircuitEntry
                        ACCESS   not-accessible
                        STATUS   mandatory
                        DESCRIPTION
                          "A specific entry in the Cisco 90 Series Circuit Table.
                          There is one entry for each permanent virtual circuit
                          in the system.  There are no entries for unused
                          banks or empty channel unit slots."
                        INDEX   {
                          frxBankIndex,
                          frxChUIndex,
                          frxPortIndex,
                          frxPvcIndex
                          }
                        ::= { frxCircuitTable 1 }

                     FrxCircuitEntry ::= SEQUENCE {
                        frxPvcIndex        INTEGER,
                        frxCktCIR          INTEGER,
                        frxCktBc           INTEGER,
                        frxCktBe           INTEGER,
                        frxFarEndOpStat    INTEGER,
                        frxCktInOctets     Counter,
                        frxCktOutOctets    Counter,
                        frxCktInFrames     Counter,
                        frxCktOutFrames    Counter,
                        frxCktDiscards     Counter
                        }

                     frxPvcIndex OBJECT-TYPE
                        SYNTAX   INTEGER (16..23)
                        ACCESS   read-only
                        STATUS   mandatory
                        DESCRIPTION
                          "This index is the subscriber loop DLCI number of the
                          permanent virtual circuit. It ranges from 16 to 23.
                          The corresponding network side DLCI must be assigned
                          in the frame relay switch and communicated to the Cisco 90
                          Series channel units via the Annex-D protocol before this
                          element can be addressed."
                        ::= { frxCircuitEntry 1 }

                     frxCktCIR OBJECT-TYPE
                        SYNTAX   INTEGER (0..1544000)
                        ACCESS   read-write
                        STATUS   mandatory
                        DESCRIPTION
                          "This is the committed information rate (CIR) in bits
```

```
                             per second for the addressed permanent virtual circuit.
                             (Typical value 1536000/#ports).”
                       ::= { frxCircuitEntry 2 }

           frxCktBc OBJECT-TYPE
              SYNTAX  INTEGER (0..16777215)
              ACCESS  read-write
              STATUS  mandatory
              DESCRIPTION
                 “This is the Committed Burst Size (Bc) in bits for the
                 addressed permanent virtual circuit. The time interval
                 over which the burst is measured is Bc/CIR. (Typically
                 set to same number as frxCktCIR).”
              ::= { frxCircuitEntry 3 }

           frxCktBe OBJECT-TYPE
              SYNTAX  INTEGER (0..16777215)
              ACCESS  read-write
              STATUS  mandatory
              DESCRIPTION
                 “This is the Excess Burst Size (Be) in bits for the
                 addressed permanent virtual circuit. The time interval
                 over which the excess burst is measured is Be/CIR.
                 (Typical value 1536000).”
              ::= { frxCircuitEntry 4 }

           frxFarEndOpStat OBJECT-TYPE
              SYNTAX  INTEGER {
                 active(1),
                 inactive(2)
                 }
              ACCESS  read-only
              STATUS  mandatory
              DESCRIPTION
                 “This is the status of the far end of the frame relay
                 permanent virtual circuit (through the frame relay
                 network) as determined by Annex-D.
                   1=active
                   2=inactive”
              ::= { frxCircuitEntry 5 }

           frxCktInOctets OBJECT-TYPE
              SYNTAX  Counter
              ACCESS  read-only
              STATUS  mandatory
              DESCRIPTION
                 “The number of input octets from the subscriber port
                 on the addressed permanent virtual circuit.  These
                 octets are destined for the network (T1).”
              ::= { frxCircuitEntry 6 }

           frxCktOutOctets OBJECT-TYPE
              SYNTAX  Counter
              ACCESS  read-only
              STATUS  mandatory
              DESCRIPTION
                 “The number of output octets to the subscriber port
                 on the addressed permanent virtual circuit.  These
                 octets were received from the network (T1).”
              ::= { frxCircuitEntry 7 }

           frxCktInFrames OBJECT-TYPE
              SYNTAX  Counter
              ACCESS  read-only
              STATUS  mandatory
```

```
                    DESCRIPTION
                       "The number of input frames from the subscriber port
                       on the addressed permanent virtual circuit.  These
                       frames are destined for the network (T1)."
                    ::= { frxCircuitEntry 8 }

                frxCktOutFrames OBJECT-TYPE
                    SYNTAX  Counter
                    ACCESS  read-only
                    STATUS  mandatory
                    DESCRIPTION
                       "The number of output frames to the subscriber port
                       on the addressed permanent virtual circuit.  These
                       frames were received from the network (T1)."
                    ::= { frxCircuitEntry 9 }

                frxCktDiscards OBJECT-TYPE
                    SYNTAX  Counter
                    ACCESS  read-only
                    STATUS  mandatory
                    DESCRIPTION
                       "The number of input frames from the subscriber port
                       on the addressed permanent virtual circuit that were
                       discarded due to congestion (lack of buffer space or
                       congestion control."
                    ::= { frxCircuitEntry 10 }


            -- frxUEoc Table
              frxUEocTable OBJECT-TYPE
                    SYNTAX  SEQUENCE OF FrxUEocEntry
                    ACCESS  not-accessible
                    STATUS  mandatory
                    DESCRIPTION
                       "This Cisco 90 Series Embedded Operations Channel Table
                       is used to diagnose and sectionalize problems with the
                       subscriber loop.  It contains one entry for each of the
                       Cisco 90 Series channel units in the system. The table
                       is indexed first using the Cisco 90 Series channel bank
                       digroup number, then the channel unit number (1 to 24)."
                    ::= { frxPort 3 }

              frxUEocEntry OBJECT-TYPE
                    SYNTAX  FrxUEocEntry
                    ACCESS  not-accessible
                    STATUS  mandatory
                    DESCRIPTION
                       "A specific entry in the Cisco 90 Series Embedded Operations
                       Channel Table. There is one entry for each Cisco 90 Series
                       channel unit in the system. There are no entries for unused
                       banks or empty channel unit slots"
                    INDEX   {
                       frxBankIndex,
                       frxChUIndex
                       }
                    ::= { frxUEocTable 1 }

              FrxUEocEntry ::= SEQUENCE {
                    frxTestPort         INTEGER,
                    frxTestType         INTEGER,
                    frxLoopLoc          INTEGER,
                    frxLoopCh           INTEGER,
                    frxStartTest        INTEGER,
                    frxBertRst          INTEGER,
                    frxBertBE           Counter,
```

```
                frxBertTestTime      TimeTicks,
                frxTestInProg        INTEGER
                }

frxTestPort OBJECT-TYPE
    SYNTAX  INTEGER (0..3)
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
       "This parameter indicates which subscriber port on the
       channel unit to test. It has no effect until frxStartTest
       is set to start the test. Only one port on a given channel
       unit may be tested at a time."
    ::= { frxUEocEntry 1 }

frxTestType OBJECT-TYPE
    SYNTAX  INTEGER {
       loopbackAndBert(1),
       bertOnly(2),
       sendCorruptCRC(3),
       loopbackOnly(4),
       localLoopAllPorts(5)
       }
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
       "This parameter indicates the type of test to perform. It
       has no effect until frxStartTest is set to start the test.
       1=Set up a loopback and run a PN-2047 Bit Error Rate Test.
       2=Run a (straightaway) PN-2047 Bit Error Rate Test.  This
         test assumes a loopback has been manually set up somewhere
         downstream or another test set running PN-2047 BERT is
         connected downstream.
       3=Send corrupted CRC on the DSL.  This has no effect on the
         frame relay CRC, only the out-of-band DSL CRC (used for
         performance monitoring) is corrupted.
       4=Set up a loopback at the specified location to loop the
         frame relay or PPP data in both directions.
       5=Setup a local loopback on all 4 ports.  frxTestPort and
         frxLoopLoc are ignored for this test."
    ::= { frxUEocEntry 2 }

frxLoopLoc OBJECT-TYPE
    SYNTAX  INTEGER {
       localFrx(7),
       briteCard1(1),
       briteCard2(2),
       briteCard3(3),
       briteCard4(4),
       briteCard5(5),
       briteCard6(6),
       nt1(8)
       }
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
       "This parameter indicates the location of the loopback or
       the card that will send corrupt CRC. It has no effect
       until frxStartTest is set to start the test.  It has no
       effect for a BertOnly test.
       7=Local Cisco 90 Series card  8=NT1 at customer premise
       1 to 6 is used to address intervening BRITE cards."
    ::= { frxUEocEntry 3 }

frxLoopCh OBJECT-TYPE
```

```
                          SYNTAX  INTEGER {
                             b1only(1),
                             b2only(2),
                             all(3)
                             }
                          ACCESS  read-write
                          STATUS  mandatory
                          DESCRIPTION
                             "This parameter indicates which channels to use for the
                             loopbackOnly and localLoopAllPorts test. It has no effect
                             until frxStartTest is set to start the test. Note that the
                             loopbackAndBert test always loops all channels back.
                             1=B1 channel   2=B2 channel   3=All channels (includes all
                                B channels plus all D channels"
                          ::= { frxUEocEntry 4 }

                       frxStartTest OBJECT-TYPE
                          SYNTAX  INTEGER {
                             stopTest(1),
                             startTest(2)
                             }
                          ACCESS  read-write
                          STATUS  mandatory
                          DESCRIPTION
                             "This parameter is used to start and stop the test.
                             frxTestPort, frxTestType, frxLoopLoc, and frxLoopCh should
                             be set up prior to starting the test.
                             1=stop test.   2=start test."
                          ::= { frxUEocEntry 5 }

                       frxBertRst OBJECT-TYPE
                          SYNTAX  INTEGER {
                             normal(1),
                             resetBert(2)
                             }
                          ACCESS  read-write
                          STATUS  mandatory
                          DESCRIPTION
                             "This parameter may be used during a LoopbackAndBert test
                             or a BertOnly test to reset the frxBertBE counter. It
                             must be returned to the normal posiion to allow errors to
                             be counted.
                             1=normal.   2=Reset BERT counter."
                          ::= { frxUEocEntry 6 }

                       frxBertBE OBJECT-TYPE
                          SYNTAX  Counter
                          ACCESS  read-only
                          STATUS  mandatory
                          DESCRIPTION
                             "BERT test block errors"
                          ::= { frxUEocEntry 7 }

                       frxBertTestTime OBJECT-TYPE
                          SYNTAX  TimeTicks
                          ACCESS  read-only
                          STATUS  mandatory
                          DESCRIPTION
                             "BERT test time in 0.01 second increments"
                          ::= { frxUEocEntry 8 }

                       frxTestInProg OBJECT-TYPE
                          SYNTAX  INTEGER {
                             testInProgress(1),
                             normalOperation(2)
```

```
               }
          ACCESS  read-only
          STATUS  mandatory
          DESCRIPTION
             "Test in progress (1); Normal operation (2)"
          ::= { frxUEocEntry 9 }

 -- frxUThr Table
   frxUThrTable OBJECT-TYPE
       SYNTAX  SEQUENCE OF FrxUThrEntry
       ACCESS  not-accessible
       STATUS  mandatory
       DESCRIPTION
          "This table contains the U-interface Performance Monitoring
          Thresholds and Alarms for each of the subscriber loops in
          the system and for any BRITE cards extending those loops
          (e.g. using Subscriber Loop Carrier systems)  The table is
          indexed first using the Cisco 90 Series channel bank digroup
          number, then the channel unit number (1 to 24), then the port
          number (0, 1, etc) and finally the location number (the BRITE
          card number (1 to 6) or 7 for local parameters in the Cisco
          90 Series card). These registers are defined by Bellcore
          TR-TSY-000829."
       ::= { frxPort 4 }

   frxUThrEntry OBJECT-TYPE
       SYNTAX  FrxUThrEntry
       ACCESS  not-accessible
       STATUS  mandatory
       DESCRIPTION
          "A specific entry in the U-interface Performance Monitoring
          Threshold table.  There is one entry for each port on each
          Cisco 90 Series channel unit in the system and one entry for
          each BRITE card extending those ports.  There are no entries
          for unused banks or empty channel unit slots"
       INDEX   {
          frxBankIndex,
          frxChUIndex,
          frxPortIndex,
          frxPAddrIndex
         }
       ::= { frxUThrTable 1 }

   FrxUThrEntry ::= SEQUENCE {
       frxPAddrIndex        INTEGER,
       frxChEsTh            INTEGER,
       frxCdEsTh            INTEGER,
       frxChSesTh           INTEGER,
       frxCdSesTh           INTEGER,
       frxAlertMask         INTEGER,
       frxThCond            INTEGER
        }

   frxPAddrIndex OBJECT-TYPE
       SYNTAX  INTEGER {
          localFrx(7),
          briteCard1(1),
          briteCard2(2),
          briteCard3(3),
          briteCard4(4),
          briteCard5(5),
          briteCard6(6)
          }
       ACCESS  read-only
       STATUS  mandatory
```

```
                  DESCRIPTION
                    "This is the physical location where the performance
                    monitoring takes place.  It may be set to localFrx(7)
                    to access and control PM values local to the Cisco 90
                    Series channel unit. If there are BRITE cards in the
                    subscriber loop between the Cisco 90 Series channel
                    unit and the customer, PM values contained in those
                    cards may be accessed using briteCard1(1) to
                    briteCard6(6) where briteCard1 is the card closest
                    to the Cisco 90 Series channel unit."
                  ::= { frxUThrEntry 1 }

          frxChEsTh OBJECT-TYPE
              SYNTAX   INTEGER (1..3600)
              ACCESS   read-write
              STATUS   mandatory
              DESCRIPTION
                 "Current Hour Errored Seconds threshold. This
                 threshold is used for both the transmit and receive
                 directions. When errors are detected that exceed this
                 threshold and the corresponding bit in the frxAlertMask
                 register is 0, the corresponding bit in the frxThCond
                 register is set and a trap is generated (depending on
                 the state of frxUPerfTrapEnable). Factory defaut is 40.
                 Indexed by Bank.ChannelUnit.Port.Address"
              ::= { frxUThrEntry 2 }

          frxCdEsTh OBJECT-TYPE
              SYNTAX   INTEGER (1..65535)
              ACCESS   read-write
              STATUS   mandatory
              DESCRIPTION
                 "Current Day Errored Seconds threshold. This
                 threshold is used for both the transmit and receive
                 directions. When errors are detected that exceed this
                 threshold and the corresponding bit in the frxAlertMask
                 register is 0, the corresponding bit in the frxThCond
                 register is set and a trap is generated (depending on
                 the state of frxUPerfTrapEnable). Factory defaut is 100.
                 Indexed by Bank.ChannelUnit.Port.Address"
              ::= { frxUThrEntry 3 }

          frxChSesTh OBJECT-TYPE
              SYNTAX   INTEGER (1..3600)
              ACCESS   read-write
              STATUS   mandatory
              DESCRIPTION
                 "Current Hour Severely Errored Seconds threshold. This
                 threshold is used for both the transmit and receive
                 directions. When errors are detected that exceed this
                 threshold and the corresponding bit in the frxAlertMask
                 register is 0, the corresponding bit in the frxThCond
                 register is set and a trap is generated (depending on
                 the state of frxUPerfTrapEnable). Factory defaut is 10.
                 Indexed by Bank.ChannelUnit.Port.Address"
              ::= { frxUThrEntry 4 }

          frxCdSesTh OBJECT-TYPE
              SYNTAX   INTEGER (1..65535)
              ACCESS   read-write
              STATUS   mandatory
              DESCRIPTION
                 "Current Day Severely Errored Seconds threshold. This
                 threshold is used for both the transmit and receive
                 directions. When errors are detected that exceed this
```

```
                  threshold and the corresponding bit in the frxAlertMask
                  register is 0, the corresponding bit in the frxThCond
                  register is set and a trap is generated (depending on
                  the state of frxUPerfTrapEnable). Factory defaut is 25.
                  Indexed by Bank.ChannelUnit.Port.Address"
              ::= { frxUThrEntry 5 }

      frxAlertMask OBJECT-TYPE
          SYNTAX  INTEGER (0..255)
          ACCESS  read-write
          STATUS  mandatory
          DESCRIPTION
              "8-bit Alert Mask register. One bit for each threshold in
              both directions.  When set to 1, the corresponding threshold
              crossing is ignored. When set to 0, the corresponding threshold
              crossing is indicated in frxThCond and may cause a trap to be
              sent depending on the state of frxUPerfTrapEnable.
                    1  Current Day Severely Errored Seconds Receive
                    2  Current Day Severely Errored Seconds Transmit
                    4  Current Day Errored Seconds Receive
                    8  Current Day Errored Seconds Receive
                   16  Current Hour Severely Errored Seconds Receive
                   32  Current Hour Severely Errored Seconds Transmit
                   64  Current Hour Errored Seconds Receive
                  128  Current Hour Errored Seconds Transmit
              Transmit is data from the customer towards the network.
              Receive is data from the network towards the Customer.
              This register is defined by Bellcore TR-TSY-000829.
              Indexed by Bank.ChannelUnit.Port.Address"
              ::= { frxUThrEntry 6 }

      frxThCond OBJECT-TYPE
          SYNTAX  INTEGER (0..255)
          ACCESS  read-write
          STATUS  mandatory
          DESCRIPTION
              "8-bit Threshold Condition register. One bit for each
              threshold in both directions.  Set to 1 if the threshold
              is exceeded and the corresponding bit in the frxAlertMask
              register is set to 0. Only set to 0 by the SNMP manager.
                    1  Current Day Severely Errored Seconds Receive
                    2  Current Day Severely Errored Seconds Transmit
                    4  Current Day Errored Seconds Receive
                    8  Current Day Errored Seconds Receive
                   16  Current Hour Severely Errored Seconds Receive
                   32  Current Hour Severely Errored Seconds Transmit
                   64  Current Hour Errored Seconds Receive
                  128  Current Hour Errored Seconds Transmit
              Receive is data from the customer towards the network.
              Transmit is data from the network towards the Customer.
              SNMP manager should reset bits to 0 after they it has been
              read by issuing a set using the inverted byte read. Sets
              will only reset bits where the set data is a 0.  Setting
              a bit to a 1 has no effect.  This register is defined
              by Bellcore TR-TSY-000829.  In the spirit of SNMP, the bits
              are inverted when read relative to that specification so
              the sense of the bits is the same for sets and gets.
              Indexed by Bank.ChannelUnit.Port.Address"
              ::= { frxUThrEntry 7 }

-- frxUPerf Table
  frxUPerfTable OBJECT-TYPE
      SYNTAX  SEQUENCE OF FrxUPerfEntry
      ACCESS  not-accessible
      STATUS  mandatory
```

```
                      DESCRIPTION
                         "This table contains the U-interface Performance Monitoring
                         Statistics for each of the subscriber loops in the system
                         and for any BRITE cards extending those loops (e.g. using
                         Subscriber Loop Carrier systems)  The table is indexed
                         first using the Cisco 90 Series channel bank digroup number,
                         then the channel unit number (1 to 24), then the port number
                         (0, 1, etc) and finally the location number (the BRITE card
                         number (1 to 6) or 7 for local parameters in the Cisco 90
                         Series card). These registers are defined by Bellcore
                         TR-TSY-000829."
                      ::= { frxPort 5 }

                 frxUPerfEntry OBJECT-TYPE
                      SYNTAX  FrxUPerfEntry
                      ACCESS  not-accessible
                      STATUS  mandatory
                      DESCRIPTION
                         "A specific entry in the U-interface Performance Monitoring
                         Statistics table.  There is one entry for each port on each
                         Cisco 90 Series channel unit in the system and one entry for
                         each BRITE card extending those ports.  There are no entries for
                         unused banks or empty channel unit slots"
                      INDEX   {
                         frxBankIndex,
                         frxChUIndex,
                         frxPortIndex,
                         frxPAddrIndex
                      }
                      ::= { frxUPerfTable 1 }

                 FrxUPerfEntry ::= SEQUENCE {
                      frxResetPM            INTEGER,
                      frxPMtype             INTEGER,
                      frxChEsTx             INTEGER,
                      frxChEsRx             INTEGER,
                      frxPhEsTx             INTEGER,
                      frxPhEsRx             INTEGER,
                      frxH2EsTx             INTEGER,
                      frxH2EsRx             INTEGER,
                      frxH3EsTx             INTEGER,
                      frxH3EsRx             INTEGER,
                      frxH4EsTx             INTEGER,
                      frxH4EsRx             INTEGER,
                      frxH5EsTx             INTEGER,
                      frxH5EsRx             INTEGER,
                      frxH6EsTx             INTEGER,
                      frxH6EsRx             INTEGER,
                      frxH7EsTx             INTEGER,
                      frxH7EsRx             INTEGER,
                      frxH8EsTx             INTEGER,
                      frxH8EsRx             INTEGER,
                      frxCdEsTx             INTEGER,
                      frxCdEsRx             INTEGER,
                      frxPdEsTx             INTEGER,
                      frxPdEsRx             INTEGER,
                      frxChSesTx            INTEGER,
                      frxChSesRx            INTEGER,
                      frxPhSesTx            INTEGER,
                      frxPhSesRx            INTEGER,
                      frxCdSesTx            INTEGER,
                      frxCdSesRx            INTEGER,
                      frxPdSesTx            INTEGER,
                      frxPdSesRx            INTEGER,
                      frxChBeTx             INTEGER,
```

```
        frxChBeRx              INTEGER,
        frxPhBeTx              INTEGER,
        frxPhBeRx              INTEGER
    }

frxResetPM OBJECT-TYPE
    SYNTAX  INTEGER {
        normal(1),
        resetPM(2)
        }
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
        "Reset all of the performance monitoring statistics on the
        specified Cisco 90 Series channel unit or BRITE card.
        1=Normal. 2=Reset.  There is no need to set this register
        back to Normal after doing a reset."
    ::= { frxUPerfEntry 1 }

frxPMtype OBJECT-TYPE
    SYNTAX  INTEGER {
        segmentedPM(1),
        pathPM(2)
        }
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
        "Determines if the Cisco 90 Series channel unit or the downstream
        BRITE cards is doing segmented or path performance monitoring as
        specified in Bellcore document TR-NWT-000397.  Only segmented
        performance monitoring should be used.  In segmented PM, CRC
        errors are counted on each segment of the loop, instead of
        over the entire path.  If no BRITE cards exist in the system,
        there is no difference between segmented and path PM
        1=Segmented.   2=Path."
    ::= { frxUPerfEntry 2 }

frxChEsTx OBJECT-TYPE
    SYNTAX  INTEGER (0..3600)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
        "Current Hour Errored Seconds - Transmit direction.
        Transmit is data from the network towards the customer.
        Errored Seconds are seconds in which one or more block
        errors occur.  These errors are measured at the physical
        link level (e.g. DSL CRC or BPV errors) and not at the
        frame relay level. This register is defined by Bellcore
        TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
        (note: DDS loops cannot detect transmit errors)"
    ::= { frxUPerfEntry 3 }

frxChEsRx OBJECT-TYPE
    SYNTAX  INTEGER (0..3600)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
        "Current Hour Errored Seconds - Receive direction.
        Receive is data from the customer towards the network.
        Errored Seconds are seconds in which one or more block
        errors occur.  These errors are measured at the physical
        link level (e.g. DSL CRC or BPV errors) and not at the
        frame relay level. This register is defined by Bellcore
        TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
    ::= { frxUPerfEntry 4 }
```

```
frxPhEsTx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Previous Hour Errored Seconds - Transmit direction.
     Transmit is data from the network towards the customer.
     Errored Seconds are seconds in which one or more block
     errors occur.  These errors are measured at the physical
     link level (e.g. DSL CRC or BPV errors) and not at the
     frame relay level. This register is defined by Bellcore
     TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
     (note: DDS loops cannot detect transmit errors)"
   ::= { frxUPerfEntry 5 }

frxPhEsRx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Previous Hour Errored Seconds - Receive direction.
     Receive is data from the customer towards the network.
     Errored Seconds are seconds in which one or more block
     errors occur.  These errors are measured at the physical
     link level (e.g. DSL CRC or BPV errors) and not at the
     frame relay level. This register is defined by Bellcore
     TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
   ::= { frxUPerfEntry 6 }

frxH2EsTx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Errored Seconds 2 hours ago - Transmit direction.
     Transmit is data from the network towards the customer.
     Errored Seconds are seconds in which one or more block
     errors occur.  These errors are measured at the physical
     link level (e.g. DSL CRC or BPV errors) and not at the
     frame relay level. This register is defined by Bellcore
     TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
     (note: DDS loops cannot detect transmit errors)"
   ::= { frxUPerfEntry 7 }

frxH2EsRx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Errored Seconds 2 hours ago - Receive direction.
     Receive is data from the customer towards the network.
     Errored Seconds are seconds in which one or more block
     errors occur.  These errors are measured at the physical
     link level (e.g. DSL CRC or BPV errors) and not at the
     frame relay level. This register is defined by Bellcore
     TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
   ::= { frxUPerfEntry 8 }

frxH3EsTx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Errored Seconds 3 hours ago - Transmit direction.
```

```
      Transmit is data from the network towards the customer.
      Errored Seconds are seconds in which one or more block
      errors occur.  These errors are measured at the physical
      link level (e.g. DSL CRC or BPV errors) and not at the
      frame relay level. This register is defined by Bellcore
      TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
      (note: DDS loops cannot detect transmit errors)”
   ::= { frxUPerfEntry 9 }

frxH3EsRx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      “Errored Seconds 3 hours ago - Receive direction.
      Receive is data from the customer towards the network.
      Errored Seconds are seconds in which one or more block
      errors occur.  These errors are measured at the physical
      link level (e.g. DSL CRC or BPV errors) and not at the
      frame relay level. This register is defined by Bellcore
      TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address”
   ::= { frxUPerfEntry 10 }

frxH4EsTx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      “Errored Seconds 4 hours ago - Transmit direction.
      Transmit is data from the network towards the customer.
      Errored Seconds are seconds in which one or more block
      errors occur.  These errors are measured at the physical
      link level (e.g. DSL CRC or BPV errors) and not at the
      frame relay level. This register is defined by Bellcore
      TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
      (note: DDS loops cannot detect transmit errors)”
   ::= { frxUPerfEntry 11 }

frxH4EsRx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      “Errored Seconds 4 hours ago - Receive direction.
      Receive is data from the customer towards the network.
      Errored Seconds are seconds in which one or more block
      errors occur.  These errors are measured at the physical
      link level (e.g. DSL CRC or BPV errors) and not at the
      frame relay level. This register is defined by Bellcore
      TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address”
   ::= { frxUPerfEntry 12 }

frxH5EsTx OBJECT-TYPE
   SYNTAX  INTEGER (0..3600)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
      “Errored Seconds 5 hours ago - Transmit direction.
      Transmit is data from the network towards the customer.
      Errored Seconds are seconds in which one or more block
      errors occur.  These errors are measured at the physical
      link level (e.g. DSL CRC or BPV errors) and not at the
      frame relay level. This register is defined by Bellcore
      TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
      (note: DDS loops cannot detect transmit errors)”
```

```
                                 ::= { frxUPerfEntry 13 }

                    frxH5EsRx OBJECT-TYPE
                        SYNTAX  INTEGER (0..3600)
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Errored Seconds 5 hours ago - Receive direction.
                          Receive is data from the customer towards the network.
                          Errored Seconds are seconds in which one or more block
                          errors occur.  These errors are measured at the physical
                          link level (e.g. DSL CRC or BPV errors) and not at the
                          frame relay level. This register is defined by Bellcore
                          TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
                        ::= { frxUPerfEntry 14 }

                    frxH6EsTx OBJECT-TYPE
                        SYNTAX  INTEGER (0..3600)
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Errored Seconds 6 hours ago - Transmit direction.
                          Transmit is data from the network towards the customer.
                          Errored Seconds are seconds in which one or more block
                          errors occur.  These errors are measured at the physical
                          link level (e.g. DSL CRC or BPV errors) and not at the
                          frame relay level. This register is defined by Bellcore
                          TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
                          (note: DDS loops cannot detect transmit errors)"
                        ::= { frxUPerfEntry 15 }

                    frxH6EsRx OBJECT-TYPE
                        SYNTAX  INTEGER (0..3600)
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Errored Seconds 6 hours ago - Receive direction.
                          Receive is data from the customer towards the network.
                          Errored Seconds are seconds in which one or more block
                          errors occur.  These errors are measured at the physical
                          link level (e.g. DSL CRC or BPV errors) and not at the
                          frame relay level. This register is defined by Bellcore
                          TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
                        ::= { frxUPerfEntry 16 }

                    frxH7EsTx OBJECT-TYPE
                        SYNTAX  INTEGER (0..3600)
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
                          "Errored Seconds 7 hours ago - Transmit direction.
                          Transmit is data from the network towards the customer.
                          Errored Seconds are seconds in which one or more block
                          errors occur.  These errors are measured at the physical
                          link level (e.g. DSL CRC or BPV errors) and not at the
                          frame relay level. This register is defined by Bellcore
                          TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
                          (note: DDS loops cannot detect transmit errors)"
                        ::= { frxUPerfEntry 17 }

                    frxH7EsRx OBJECT-TYPE
                        SYNTAX  INTEGER (0..3600)
                        ACCESS  read-only
                        STATUS  mandatory
                        DESCRIPTION
```

        "Errored Seconds 7 hours ago - Receive direction.
        Receive is data from the customer towards the network.
        Errored Seconds are seconds in which one or more block
        errors occur. These errors are measured at the physical
        link level (e.g. DSL CRC or BPV errors) and not at the
        frame relay level. This register is defined by Bellcore
        TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
    ::= { frxUPerfEntry 18 }

frxH8EsTx OBJECT-TYPE
    SYNTAX INTEGER (0..3600)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Errored Seconds 8 hours ago - Transmit direction.
        Transmit is data from the network towards the customer.
        Errored Seconds are seconds in which one or more block
        errors occur. These errors are measured at the physical
        link level (e.g. DSL CRC or BPV errors) and not at the
        frame relay level. This register is defined by Bellcore
        TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
        (note: DDS loops cannot detect transmit errors)"
    ::= { frxUPerfEntry 19 }

frxH8EsRx OBJECT-TYPE
    SYNTAX INTEGER (0..3600)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Errored Seconds 8 hours ago - Receive direction.
        Receive is data from the customer towards the network.
        Errored Seconds are seconds in which one or more block
        errors occur. These errors are measured at the physical
        link level (e.g. DSL CRC or BPV errors) and not at the
        frame relay level. This register is defined by Bellcore
        TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
    ::= { frxUPerfEntry 20 }

frxCdEsTx OBJECT-TYPE
    SYNTAX INTEGER (0..65535)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Current Day Errored Seconds - Transmit direction.
        Transmit is data from the network towards the customer.
        Errored Seconds are seconds in which one or more block
        errors occur. These errors are measured at the physical
        link level (e.g. DSL CRC or BPV errors) and not at the
        frame relay level. This register is defined by Bellcore
        TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
        (note: DDS loops cannot detect transmit errors)"
    ::= { frxUPerfEntry 21 }

frxCdEsRx OBJECT-TYPE
    SYNTAX INTEGER (0..65535)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Current Day Errored Seconds - Receive direction.
        Receive is data from the customer towards the network.
        Errored Seconds are seconds in which one or more block
        errors occur. These errors are measured at the physical
        link level (e.g. DSL CRC or BPV errors) and not at the
        frame relay level. This register is defined by Bellcore
        TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"

```
                                   ::= { frxUPerfEntry 22 }

                        frxPdEsTx OBJECT-TYPE
                           SYNTAX  INTEGER (0..65535)
                           ACCESS  read-only
                           STATUS  mandatory
                           DESCRIPTION
                             "Previous Day Errored Seconds - Transmit direction.
                              Transmit is data from the network towards the customer.
                              Errored Seconds are seconds in which one or more block
                              errors occur.  These errors are measured at the physical
                              link level (e.g. DSL CRC or BPV errors) and not at the
                              frame relay level. This register is defined by Bellcore
                              TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
                              (note: DDS loops cannot detect transmit errors)"
                           ::= { frxUPerfEntry 23 }

                        frxPdEsRx OBJECT-TYPE
                           SYNTAX  INTEGER (0..65535)
                           ACCESS  read-only
                           STATUS  mandatory
                           DESCRIPTION
                             "Previous Day Errored Seconds - Receive direction.
                              Receive is data from the customer towards the network.
                              Errored Seconds are seconds in which one or more block
                              errors occur.  These errors are measured at the physical
                              link level (e.g. DSL CRC or BPV errors) and not at the
                              frame relay level. This register is defined by Bellcore
                              TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
                           ::= { frxUPerfEntry 24 }

                        frxChSesTx OBJECT-TYPE
                           SYNTAX  INTEGER (0..3600)
                           ACCESS  read-only
                           STATUS  mandatory
                           DESCRIPTION
                             "Current Hour Severely Errored Seconds - Transmit direction.
                              Transmit is data from the network towards the customer.
                              Severely Errored Seconds are seconds in which three or more
                              block errors occur.  These errors are measured at the physical
                              link level (e.g. DSL CRC or BPV errors) and not at the
                              frame relay level. This register is defined by Bellcore
                              TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
                              (note: DDS loops cannot detect transmit errors)"
                           ::= { frxUPerfEntry 25 }

                        frxChSesRx OBJECT-TYPE
                           SYNTAX  INTEGER (0..3600)
                           ACCESS  read-only
                           STATUS  mandatory
                           DESCRIPTION
                             "Current Hour Severely Errored Seconds - Receive direction.
                              Receive is data from the customer towards the network.
                              Severely Errored Seconds are seconds in which three or more
                              block errors occur.  These errors are measured at the physical
                              link level (e.g. DSL CRC or BPV errors) and not at the
                              frame relay level. This register is defined by Bellcore
                              TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
                           ::= { frxUPerfEntry 26 }

                        frxPhSesTx OBJECT-TYPE
                           SYNTAX  INTEGER (0..3600)
                           ACCESS  read-only
                           STATUS  mandatory
                           DESCRIPTION
```

```
           "Previous Hour Severely Errored Seconds - Transmit direction.
           Transmit is data from the network towards the customer.
           Severely Errored Seconds are seconds in which three or more
           block errors occur.  These errors are measured at the physical
           link level (e.g. DSL CRC or BPV errors) and not at the
           frame relay level. This register is defined by Bellcore
           TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address
           (note: DDS loops cannot detect transmit errors)"
       ::= { frxUPerfEntry 27 }

frxPhSesRx OBJECT-TYPE
    SYNTAX  INTEGER (0..3600)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Previous Hour Severely Errored Seconds - Receive direction.
       Receive is data from the customer towards the network.
       Severely Errored Seconds are seconds in which three or more
       block errors occur.  These errors are measured at the physical
       link level (e.g. DSL CRC or BPV errors) and not at the
       frame relay level. This register is defined by Bellcore
       TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
    ::= { frxUPerfEntry 28 }

frxCdSesTx OBJECT-TYPE
    SYNTAX  INTEGER (0..65535)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Current Day Severely Errored Seconds - Transmit direction.
       Transmit is data from the network towards the customer.
       Severely Errored Seconds are seconds in which three or more
       block errors occur.  These errors are measured at the physical
       link level (e.g. DSL CRC or BPV errors) and not at the
       frame relay level. This register is defined by Bellcore
       TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
    ::= { frxUPerfEntry 29 }

frxCdSesRx OBJECT-TYPE
    SYNTAX  INTEGER (0..65535)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Current Day Severely Errored Seconds - Receive direction.
       Receive is data from the customer towards the network.
       Severely Errored Seconds are seconds in which three or more
       block errors occur.  These errors are measured at the physical
       link level (e.g. DSL CRC or BPV errors) and not at the
       frame relay level. This register is defined by Bellcore
       TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
    ::= { frxUPerfEntry 30 }

frxPdSesTx OBJECT-TYPE
    SYNTAX  INTEGER (0..65535)
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
       "Previous Day Severely Errored Seconds - Transmit direction.
       Transmit is data from the network towards the customer.
       Severely Errored Seconds are seconds in which three or more
       block errors occur.  These errors are measured at the physical
       link level (e.g. DSL CRC or BPV errors) and not at the
       frame relay level. This register is defined by Bellcore
       TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
    ::= { frxUPerfEntry 31 }
```

```
frxPdSesRx OBJECT-TYPE
   SYNTAX  INTEGER (0..65535)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Previous Day Severely Errored Seconds - Receive direction.
     Receive is data from the customer towards the network.
     Severely Errored Seconds are seconds in which three or more
     block errors occur.  These errors are measured at the physical
     link level (e.g. DSL CRC or BPV errors) and not at the
     frame relay level. This register is defined by Bellcore
     TR-TSY-000829. Indexed by Bank.ChannelUnit.Port.Address"
   ::= { frxUPerfEntry 32 }

frxChBeTx OBJECT-TYPE
   SYNTAX  INTEGER (0..65535)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Current Hour Block Errors - Transmit direction.
     Transmit is data from the network towards the customer.
     Block errors are 12 millisecond time periods in which a
     physical link level (e.g. DSL CRC or BPV) error occurs.
     These errors are not the same as frame relay level errors.
     This register is defined by Bellcore TR-TSY-000829.
     Indexed by Bank.ChannelUnit.Port.Address"
   ::= { frxUPerfEntry 33 }

frxChBeRx OBJECT-TYPE
   SYNTAX  INTEGER (0..65535)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Current Hour Block Errors - Receive direction.
     Receive is data from the customer towards the network.
     Block errors are 12 millisecond time periods in which a
     physical link level (e.g. DSL CRC or BPV) error occurs.
     These errors are not the same as frame relay level errors.
     This register is defined by Bellcore TR-TSY-000829.
     Indexed by Bank.ChannelUnit.Port.Address"
   ::= { frxUPerfEntry 34 }

frxPhBeTx OBJECT-TYPE
   SYNTAX  INTEGER (0..65535)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Previous Hour Block Errors - Transmit direction.
     Transmit is data from the network towards the customer.
     Block errors are 12 millisecond time periods in which a
     physical link level (e.g. DSL CRC or BPV) error occurs.
     These errors are not the same as frame relay level errors.
     This register is defined by Bellcore TR-TSY-000829.
     Indexed by Bank.ChannelUnit.Port.Address"
   ::= { frxUPerfEntry 35 }

frxPhBeRx OBJECT-TYPE
   SYNTAX  INTEGER (0..65535)
   ACCESS  read-only
   STATUS  mandatory
   DESCRIPTION
     "Previous Hour Block Errors - Receive direction.
     Receive is data from the customer towards the network.
     Block errors are 12 millisecond time periods in which a
```

```
                   physical link level (e.g. DSL CRC or BPV) error occurs.
                   These errors are not the same as frame relay level errors.
                   This register is defined by Bellcore TR-TSY-000829.
                   Indexed by Bank.ChannelUnit.Port.Address"
                ::= { frxUPerfEntry 36 }

     -- frx Traps
       frxDownloadTrap TRAP-TYPE
           ENTERPRISE frMux
           VARIABLES  { frxBankIndex, frxChUIndex }
           DESCRIPTION
              "This trap is sent if the Download Config pushbutton
              on the channel unit faceplate is pushed and frxDefaultTrap
              is set to 1."
           ::= 1

       frxUPerfTrap TRAP-TYPE
           ENTERPRISE frMux
           VARIABLES  { frxBankIndex, frxChUIndex }
           DESCRIPTION
              "This trap is sent if a performance monitoring threshold
              on a channel unit or a BRITE card is exceeded and the
              corresponding bit in the frxAlertMask is enabled and
              frxUPerfTrapEnable is enabled.  The manager should read
              and clear all of the threshold condition registers
              for the specified channel unit to enable the trap to
              be sent again."
           ::= 2

       frxInsertChUTrap TRAP-TYPE
           ENTERPRISE frMux
           VARIABLES  { frxBankIndex, frxChUIndex }
           DESCRIPTION
              "This trap is sent when the channel unit is inserted."
           ::= 3

       frxRemoveChUTrap TRAP-TYPE
           ENTERPRISE frMux
           VARIABLES  { frxBankIndex, frxChUIndex }
           DESCRIPTION
              "This trap is sent when the channel unit is removed."
           ::= 4

       frxDConfigFailed TRAP-TYPE
           ENTERPRISE frMux
           VARIABLES  { frxBankIndex, frxChUIndex }
           DESCRIPTION
              "This trap is sent if downloading configuration data
              to a channel unit fails."
           ::= 5

     END
```