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**HMS HE Optics Management Information Base (MIB)
Part 2: SCTE-HMS-HE-OPTICAL RECEIVER-MIB**

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SCOPE

The MIB module is for representing general information about optical equipment present in the headend (or indoor) and is supported by an SNMP agent.

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NORMATIVE REFERENCE

IETF RFC2578, Structure of Management Information Version 2 (SMIV2)

IETF RFC2580, Conformance Statements for SMIV2

IETF RFC2737, Entity MIB (Version 2)

SCTE 38-11 , Hybrid Management Sub-layer Management Information Base (MIB) Part 11: SCTE-HMS-HEADENDIDENT-MIB

SCTE 83-1, HMS Inside Plant Management Information Base (MIB) Part 1: SCTE-HMS-HE-OPTICS-MIB

IETF RFC2573, SNMP Applications

IETF RFC1907, Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2)

ANSI/SCTE 38-1, Hybrid Management Sublayer Management Information Blocks (MIB) Part 1: Property MIB

SCTE 84-1, HMS Common Inside Plant Management Information Base (MIB) Part 1: SCTE-HMS-HE-COMMON-MIB

INFORMATIVE REFERENCE

None

TERMS AND DEFINITIONS

This document defines the following terms:

Management Information Base (MIB) - the specification of information in a manner that allows standard access through a network management protocol.

REQUIREMENTS

This section defines the mandatory syntax of the SCTE-HMS-HE-OPTICAL-RECEIVER-MIB. It follows the IETF Simple Network Management Protocol (SNMP) for defining managed objects.

The syntax is given below:

```

-- Module Name: HMS113R6.MIB (SCTE 85-2)
-- SCTE Status: Adopted

SCTE-HMS-HE-OPTICAL-RECEIVER-MIB DEFINITIONS ::= BEGIN

IMPORTS
    Unsigned32, MODULE-IDENTITY, OBJECT-TYPE
        FROM SNMPv2-SMI
    MODULE-COMPLIANCE, OBJECT-GROUP
        FROM SNMPv2-CONF
    entPhysicalIndex
        FROM ENTITY-MIB
    HeTenthdB, HeTenthdBm, HeHundredthNanoMeter,
    HeOnOffControl, HeFaultStatus
        FROM SCTE-HMS-HEADENDIDENT-MIB -- see SCTE 38-11 (formerly HMS114)
    heOpticalReceiverGroup
        FROM SCTE-HMS-HE-OPTICS-MIB; -- see SCTE 83-1 (formerly HMS108)

heOpticalReceiverMIB MODULE-IDENTITY
    LAST-UPDATED "200302170000Z" -- February 17, 2003
    ORGANIZATION "SCTE HMS Working Group"
    CONTACT-INFO
        " SCTE HMS Subcommittee, Chairman
        mailto:standards@scte.org
        "
    DESCRIPTION
        "The MIB module is for representing an optical receiver
        present in the headend (or indoor) and is supported by a
        SNMP agent."

    ::= { heOpticalReceiverGroup 1 }

heOpRxMIBObjects OBJECT IDENTIFIER ::= { heOpticalReceiverMIB 1 }

--      The Optical Receiver Input Table
heOpRxInputTable OBJECT-TYPE
    SYNTAX SEQUENCE OF HeOpRxInputEntry

```

MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"A table containing information about the input (optical) section
in optical receivers in a subsystem."
::= { heOpRxMIBObjects 1 }

heOpRxInputEntry OBJECT-TYPE
SYNTAX HeOpRxInputEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"A list of information about each optical section in an
optical receiver."
INDEX { entPhysicalIndex, heOpRxInputIndex }
::= { heOpRxInputTable 1 }

HeOpRxInputEntry ::= SEQUENCE
{
heOpRxInputIndex Unsigned32,
heOpRxInputPower HeTenthdBm,
heOpRxInputWavelengthControl HeHundredthNanoMeter,
heOpRxInputStatus HeFaultStatus
}

heOpRxInputIndex OBJECT-TYPE
SYNTAX Unsigned32
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"An arbitrary value which uniquely identifies
the receiver input."
::= { heOpRxInputEntry 1 }

heOpRxInputPower OBJECT-TYPE
SYNTAX HeTenthdBm
UNITS "0.1 dBm"

MAX-ACCESS read-only
STATUS current
DESCRIPTION

"Receiver input power.

This object must provide for the alarm management capabilities with a corresponding entry in the propertyTable of SCTE-HMS-PROPERTY-MIB (HMS026).

An alarm shall be recorded as an entry in the currentAlarmTable of SCTE-HMS-PROPERTY-MIB (HMS026).

A log record shall be added as an entry in the heCommonLogTable.

An heCommonAlarmEvent notification shall be sent."

::= { heOpRxInputEntry 2 }

heOpRxInputWavelengthControl OBJECT-TYPE

SYNTAX HeHundredthNanoMeter

UNITS "0.01 nm"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Wavelength feeding the particular input of the receiver.
Typical values might be 131000 (1310 nm) and 155000 (1550 nm).

This object is used to calibrate the optical power reading and has no affect on the wavelength of light received."

::= { heOpRxInputEntry 3 }

heOpRxInputStatus OBJECT-TYPE

SYNTAX HeFaultStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The laser detector status.

The value is normal(1) if the optical input is at normal levels.

The value is fault(2) if the optical level is not at the normal level.

This object must provide for the alarm management capabilities with a corresponding entry in the discretePropertyTable of SCTE-HMS-PROPERTY-MIB (HMS026).

An alarm shall be recorded as an entry in the currentAlarmTable of SCTE-HMS-PROPERTY-MIB (HMS026).

A log record shall be added as an entry in the heCommonLogTable.

An heCommonAlarmEvent notification shall be sent."

::= { heOpRxInputEntry 4 }

-- The Optical Receiver Output Table

heOpRxOutputTable OBJECT-TYPE

SYNTAX SEQUENCE OF HeOpRxOutputEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A table containing information about the output (RF) section in optical receivers in a subsystem."

::= { heOpRxMIBObjects 2 }

heOpRxOutputEntry OBJECT-TYPE

SYNTAX HeOpRxOutputEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A list of information about each RF section in an optical receiver."

INDEX { entPhysicalIndex, heOpRxOutputIndex }

::= { heOpRxOutputTable 1 }

```

HeOpRxOutputEntry ::= SEQUENCE
{
  heOpRxOutputIndex      Unsigned32,
  heOpRxOutputControl    HeOnOffControl,
  heOpRxOutputGainType   INTEGER,
  heOpRxOutputPower      HeTenthdBm,
  heOpRxOutputRFPadLevel HeTenthdB
}

```

```

heOpRxOutputIndex OBJECT-TYPE
  SYNTAX      Unsigned32
  MAX-ACCESS  not-accessible
  STATUS      current
  DESCRIPTION
    "An arbitrary value which uniquely identifies
    the receiver output."
  ::= { heOpRxOutputEntry 1 }

```

```

heOpRxOutputControl OBJECT-TYPE
  SYNTAX      HeOnOffControl
  MAX-ACCESS  read-write
  STATUS      current
  DESCRIPTION
    "Switches a particular receiver output either off(1) or on(2).

    A GET request shall return the current control state that is
    either off(1) or on(2)."
  ::= { heOpRxOutputEntry 2 }

```

```

heOpRxOutputGainType OBJECT-TYPE
  SYNTAX      INTEGER {
    constantPower(1),
    constantGain(2)
  }
  MAX-ACCESS  read-write
  STATUS      current
  DESCRIPTION

```

```

        "Controls the output gain type, which is either constant
        power or constant gain."
 ::= { heOpRxOutputEntry 3 }

heOpRxOutputPower OBJECT-TYPE
    SYNTAX      HeTenthdBm
    UNITS       "0.1 dBm"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "RF output power."
 ::= { heOpRxOutputEntry 4 }

heOpRxOutputRFPadLevel OBJECT-TYPE
    SYNTAX      HeTenthdB
    UNITS       "0.1 dB"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "RF Pad Attenuation Level."
 ::= { heOpRxOutputEntry 5 }

-- conformance information
heOpRxMIBConformance
    OBJECT IDENTIFIER ::= { heOpticalReceiverMIB 2 }

heOpRxMIBCompliances
    OBJECT IDENTIFIER ::= { heOpRxMIBConformance 1 }

heOpRxMIBGroups
    OBJECT IDENTIFIER ::= { heOpRxMIBConformance 2 }

-- compliance statements
heOpRxCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The minimum compliance statement for indoor optical receivers."

```

```

MODULE
  MANDATORY-GROUPS { heOpRxInputMandatoryGroup
  }
 ::= { heOpRxMIBCompliances 1 }

heOpRxInputMandatoryGroup OBJECT-GROUP
  OBJECTS {
    heOpRxInputStatus,
    heOpRxInputWavelengthControl
  }
  STATUS current
  DESCRIPTION
    "The main group defines objects which are common to all
    indoor optical receiver modules."
 ::= { heOpRxMIBGroups 1 }

heOpRxInputTableGroup OBJECT-GROUP
  OBJECTS {
    heOpRxInputPower,
    heOpRxInputWavelengthControl,
    heOpRxInputStatus
  }
  STATUS current
  DESCRIPTION
    "This group defines all the objects which are defined
    in the input section of SCTE-HMS-HE-OPTICAL-RECEIVER-MIB
    MIB module."
 ::= { heOpRxMIBGroups 2 }

heOpRxOutputTableGroup OBJECT-GROUP
  OBJECTS {
    heOpRxOutputControl,
    heOpRxOutputGainType,
    heOpRxOutputPower,
    heOpRxOutputRFPadLevel
  }
  STATUS current

```

DESCRIPTION

"This group defines all the objects which are defined
in the output section of SCTE-HMS-HE-OPTICAL-RECEIVER-MIB
MIB module."

::= { heOpRxMIBGroups 3 }

END