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Hybrid Fiber/Coax Outside Plant Status Monitoring
SCTE-HMS-ALARMS-MIB
Management Information Base (MIB) Definition
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2. **COPYRIGHT** 
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1. **Scope**
   This document is identical to SCTE 38-2 2011 except for informative components which may have been updated such as the title page, NOTICE text, headers and footers. No normative changes have been made to this document.

   This document defines the historical list of alarms detected by the transponder, as well as the SNMP trap generated for these alarms.

2. **Copyright**
   The MIB definition found in this document may be incorporated directly in products without further permission from the copyright owner, SCTE.

3. **Normative Reference**
   IETF RFC 1155
   ANSI/SCTE 37 2010

4. **Informative Reference**
   None

5. **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.

6. **Requirements**
   This section defines the mandatory syntax of the SCTE-HMS-ALARMS-MIB. It follows the IETF Simple Network Management Protocol (SNMP) for defining the managed objects.

   The syntax is given below.
SCTE-HMS-ALARMS-MIB DEFINITIONS ::= BEGIN

IMPORTS
  TRAP-TYPE
  FROM RFC-1215
  OBJECT-TYPE
  FROM RFC-1212
  DisplayString
  FROM RFC1213-MIB
  alarmsIdent
  FROM SCTE-HMS-ROOTS
  commonPhysAddress
  FROM SCTE-HMS-COMMON-MIB
  commonLogicalID
  FROM SCTE-HMS-COMMON-MIB
  scteHmsTree
  FROM SCTE-ROOT

alarmLogNumberOfEntries OBJECT-TYPE
SYNTAX INTEGER
ACCESS read-only
STATUS mandatory
DESCRIPTION
"The current number of entries in the alarmLogTable."
::= { alarmsIdent 1 }

alarmLogLastIndex OBJECT-TYPE
SYNTAX INTEGER
ACCESS read-only
STATUS mandatory
DESCRIPTION
"Index of the most recent alarm entry logged in the alarmLogTable."
::= { alarmsIdent 2 }

alarmLogTable OBJECT-TYPE
SYNTAX SEQUENCE OF AlarmLogEntry
ACCESS not-accessible
STATUS mandatory
DESCRIPTION
"A list of alarms that have been logged.
Agent should generate generic SNMP HMS trap every time a new alarm entry is logged.
This table should support a minimum of 16 entries."
 ::= { alarmsIdent 3 }

alarmLogEntry OBJECT-TYPE
 SYNTAX AlarmLogEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION "A set of data describing an alarm event that has
 been logged."
 INDEX { alarmLogIndex }
 ::= { alarmLogTable 1 }

AlarmLogEntry ::= SEQUENCE

{ alarmLogIndex INTEGER,
  alarmLogInformation OCTET STRING
}

alarmLogIndex OBJECT-TYPE
 SYNTAX INTEGER (1..32767)
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION "An index that uniquely identifies an entry
 in the log table. Indexes are assigned beginning with 1
 and increased by one with each new log entry up to 32767. The next
 entry after 32767 is one. The agent may choose to delete the oldest
 instances of alarmLogEntry as required because of
 lack of memory. It is an implementation-specific
 matter as to when this deletion may occur."
 ::= { alarmLogEntry 1 }

alarmLogInformation OBJECT-TYPE
 SYNTAX OCTET STRING ( SIZE ( 17..255 ) )
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION "Alarm information encoded as octet string. Format of this octet is:

  Octet 1-4: POSIX Time of alarm occurrence (Most significant byte first)
  Octet 5: Alarm Type (See description below)
  Octet 6: Contents of commonNeStatus immediately after alarm occurred;
  Octet 7-m: Alarm Object Identifier (BER encoded)
  Octet n-z: Alarm value (BER encoded)

Alarm Type (Enumerated type):
  1 NOMINAL
  2 HIHI
```plaintext
3 HI
4 LO
5 LOLO
6 Discrete Major
7 Discrete Minor
::= { alarmLogEntry 2 }

alarmText OBJECT-TYPE
SYNTAX DisplayString
ACCESS read-only
STATUS optional
DESCRIPTION
"This object is mandatory for transponders that are required
to report a text field with the trap. This field is a place
holder for text that contains the prescribed text as identified by
the object description of the item in alarm. This object
is therefore volatile and shall not be expected to contain a
given value at any specific time. Values returned are of
no use. Access is read-only to satisfy SMIv1 requirements.

Those objects which should report a name shall be identified as such."
::= { alarmsIdent 4 }

hmsAlarmEvent TRAP-TYPE
ENTERPRISE scteHmsTree
VARIABLES { commonPhysAddress, commonLogicalID, alarmLogInformation }
DESCRIPTION
"The SNMP trap that is generated when an alarm event is found. At the
option of the transponder, the alarmText variable may be reported as a
fourth varbind, for those instances where an additional text field is
indicated by the object, as noted in the alarmText object description.

Also, at the option of the transponder, additional specific varbinds MAY
be added to clearly define the event that caused the trap to be sent.

In the case where the event is defined in the propertyTable, the
additional varbinds (when present) MUST BE the parameterOID object &
value and the currentAlarmState object & value (see HMS026) from the
table entry for which the trap was generated.

In the case where the event is defined in the discretePropertyTable, the
additional varbinds (when present) MUST BE the discreteParameterOID
object & value and the discreteAlarmState object & value from the table
entry for which the trap was generated.

The non-optional parameters of the trap (commonPhysAddress,
commonLogicalID, alarmLogInformation) MUST still be filled in properly,
regardless of whether additional parameters are appended.

It is highly recommended that transponders not requiring specific HMS
software at the headend include these varbinds in order to assist
networks that do not implement HMS-specific SNMP management software.

Additionally, though indicated as an option for the transponder, it is
```
recommended that transponders using HMS specified RF transmission
(specifically, SCTE 25-1 aka HMS005) SHOULD NOT append these additional
parameters, due to the limited bandwidth available in the return path."

::= 1

END