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Network Operations Subcommittee

AMERICAN NATIONAL STANDARD

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Hybrid Fiber/Coax Outside Plant Status Monitoring
SCTE-HMS-ALARMS-MIB
Management Information Base (MIB) Definition

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Document Types and Tags

Document Type: Specification
Document Tags:

☐ Test or Measurement   ☐ Checklist   ☐ Facility
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☐ Procedure, Process or Method   ☐ Cloud   ☐ Customer Premises

Document Release History

Release	Date
SCTE 38-2 2002	*02/25/2002*
SCTE 38-2 2005	*09/30/2005*
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Note: Standards that are released multiple times in the same year use: a, b, c, etc. to indicate normative balloted updates and/or r1, r2, r3, etc. to indicate editorial changes to a released document after the year.

Note: This document is a reaffirmation of SCTE 38-2 2017. No substantive changes have been made to this document. Information components may have been updated such as the title page, NOTICE text, headers, and footers.

Contents

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.

```
-- *************************************************************************
-- *
-- * Module Name:    HMS023R14.MIB   SCTE-HMS-ALARMS-MIB
-- *
-- * SCTE Status:   PUBLISHED
-- *
-- * Description:   This MIB describes the historical list of alarms detected by the transponder,
-- *                as well as the SNMP trap generated for these alarms.
-- *
-- * Change:
-- * January 2005   Modify hmsAlarmEvent description to allow for additional
-- *                optional objects.
-- *************************************************************************

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
                    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
```