

# **SCTE** | **STANDARDS**

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**Network Operations Subcommittee**

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**AMERICAN NATIONAL STANDARD**

**ANSI/SCTE 38-6 2017 (R2022)**

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

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### DOCUMENT TYPES AND TAGS

Document Type: Specification

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### DOCUMENT RELEASE HISTORY

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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 38-6 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 .....	5
2. COPYRIGHT.....	5
3. NORMATIVE REFERENCES.....	5
4. INFORMATIVE REFERENCES.....	5
5. TERMS AND DEFINITIONS.....	5
6. REQUIREMENTS.....	6

## 1. SCOPE

This document is identical to SCTE 38-6 2012 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 provides the branch object identifiers for each of the MIBs within the SCTE HMS Tree.

## 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 REFERENCES

The following documents contain provisions, which, through reference in this text, constitute provisions of this standard. At the time of subcommittee approval, the editions indicated were valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

- 3.1 IETF RFC 1155, Structure and identification of management information for TCP/IP-based internets
- 3.2 ANSI/SCTE 36 2012 [on pending approval], SCTE-ROOT Management Information Base (MIB) Definitions
- 3.3 ANSI/SCTE 37 2010, SCTE-HMS-ROOTS Management Information Base (MIB) Definition

## 4. INFORMATIVE REFERENCES

The following documents may provide valuable information to the reader but are not required when complying with this standard.

- 4.1 ANSI/SCTE 25-3 2010, Hybrid Fiber Coax Outside Plant Status Monitoring – Power Supply to Transponder Interface Bus (PSTIB) Specification v1.1
- 4.2 ANSI/SCTE 38-4 2012 [on pending approval], Hybrid Fiber/Coax Outside Plant Status Monitoring SCTE-HMS - PS-MIB Management Information Base (MIB) Definition

## 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-GEN-MIB MIB. It follows the IETF Simple Network Management Protocol (SNMP) for defining managed objects.

The syntax is given below:

```
-- *****
-- *
-- * Module Name: HMS033R11 (SCTE 38-6-2012)
-- *
-- * Description: Implements SCTE-HMS-GEN-MIB for Outside Plant Generators
-- *
-- * 13-Apr-2005  Altered genVBatIgnition and genEnclosureTemperature to
-- *              require an entry in the property table, instead of entries
-- *              in the discrete property table. Description of
-- *              these objects in R8 was a typographical error.
-- *
-- * 07-Nov-2005  Altered genProtocolVersion per ballot comments
-- *              - 'power supply' changed to 'generator'
-- *              - value of 0x04 changed to 11 to reflect current document
-- *              revision
-- *              - Object description now mirrors psProtocolVersion MIB object
-- *              in SCTE-HMS-PS-MIB.
-- *
-- * 15-Oct-2006  Altered many descriptions to make them less dependant on
-- *              descriptions from HMS022.
-- *
-- * 2012 Revised dates of References to reflect updates
-- *
-- *****
```

SCTE-HMS-GEN-MIB DEFINITIONS ::= BEGIN

IMPORTS

```
OBJECT-TYPE
FROM RFC-1212
genIdent
FROM SCTE-HMS-ROOTS
;
```

```
-- /*****
-- * The Generator Group *
-- *****/
```

```
genNumberOfGenerators OBJECT-TYPE
SYNTAX INTEGER ( 1..8 )
ACCESS read-only
STATUS mandatory
DESCRIPTION
"Number of generators connected to this NE."
::= { genIdent 1 }
```

```
genDeviceTable OBJECT-TYPE
SYNTAX SEQUENCE OF GenDeviceEntry
ACCESS not-accessible
STATUS mandatory
DESCRIPTION
"Table containing information about the individual
generators being monitored"
::= { genIdent 2 }
```

genDeviceEntry OBJECT-TYPE  
SYNTAX GenDeviceEntry  
ACCESS not-accessible  
STATUS mandatory  
DESCRIPTION  
"List of information about each generator being monitored."  
INDEX { genDeviceAddress }  
::= { genDeviceTable 1 }

GenDeviceEntry ::= SEQUENCE  
{  
    genDeviceAddress  
        INTEGER,  
  
    genProtocolVersion  
        INTEGER,  
  
    genSoftwareVersion  
        OCTET STRING,  
  
    genDeviceId  
        OCTET STRING,  
  
    genGasHazardOption  
        INTEGER,  
  
    genWaterIntrusionOption  
        INTEGER,  
  
    genPadShearOption  
        INTEGER,  
  
    genDoorOption  
        INTEGER,  
  
    genChargerOption  
        INTEGER,  
  
    genFuelOption  
        INTEGER,  
  
    genVBatIgnitionOption  
        INTEGER,  
  
    genTempOption  
        INTEGER,  
  
    genGeneratorStatus  
        INTEGER,  
  
    genGasHazard  
        INTEGER,  
  
    genWaterIntrusion



```
    INTEGER,  
    genPadShear  
        INTEGER,  
    genEnclosureDoor  
        INTEGER,  
    genCharger  
        INTEGER,  
    genFuel  
        INTEGER,  
    genVBatIgnition  
        INTEGER,  
    genEnclosureTemperature  
        INTEGER,  
    genEquipmentControl  
        INTEGER,  
    genOilOption  
        INTEGER,  
    genMinorAlarmSupport  
        INTEGER,  
    genMajorAlarmSupport  
        INTEGER,  
    genOil  
        INTEGER,  
    genMinorAlarm  
        INTEGER,  
    genMajorAlarm  
        INTEGER,  
    genVendorOID  
        OBJECT IDENTIFIER  
}  
  
genDeviceAddress OBJECT-TYPE  
SYNTAX INTEGER ( 1..15 )  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION  
    "Index into the psDeviceTable.  
    For devices that implement ANSI/SCTE 25-3 (formally HMS022),  
    this is the address of Generator on the RS-485 Path"  
 ::= { genDeviceEntry 1 }
```

-- \* Generator Configuration

genProtocolVersion OBJECT-TYPE

SYNTAX INTEGER ( 0..255 )

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Version of the SCTE HMS protocol implemented in the monitored equipment. The 'Protocol Version' implementation will comply with the defined protocol in the SCTE 25-3 (formerly HMS 022) document with the corresponding revision number.

Example: A generator implementing all commands and responses defined in the SCTE 25-3 revision 1.1 would return a value of 11(decimal) in this field, reflecting major revision 1, minor revision 1.

Transponders which are capable of appropriately rendering the data as defined by this MIB without implementing an interface as defined by SCTE 25-3 may respond with one of two values: [a] the transponder may return a value of zero (0), or [b] the transponder may return a value consistent with the SCTE 25-3 version that the transponder wants to make it appear it is supporting."

::= { genDeviceEntry 2 }

genSoftwareVersion OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(8))

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The contents of this field are vendor specific. The intent is to provide a text representation of the power supply or generator system software version. Any printable ASCII characters can be included in this field. NULL (0x00) characters are non-printable and are used to fill any unused locations following the text data"

::= { genDeviceEntry 3 }

genDeviceId OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(32))

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The content of this field is vendor specific. The intent is to provide manufacturer and/or product specific ASCII text information that will propagate to the manager's console verbatim. The following special characters are defined in association with this field:

'\ ' Used to cause a new line on the console display.

Example: 'ALPHA\XM2 9015' would appear at the monitoring station as :

ALPHA

XM2 9015"

::= { genDeviceEntry 4 }

genGasHazardOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if gas hazard sensor is installed and genGasHazard is supported."

::= { genDeviceEntry 5 }

genWaterIntrusionOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if water intrusion sensor is installed and genWaterIntrusion is supported."

::= { genDeviceEntry 6 }

genPadShearOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if pad shear sensor is installed and genPadShear is supported."

::= { genDeviceEntry 7 }

genDoorOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if separate generator door is installed and genEnclosureDoor is supported."

::= { genDeviceEntry 8 }

genChargerOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if charger fail signal and genCharger is supported."

::= { genDeviceEntry 9 }

genFuelOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if low fuel detection and genFuel is supported."

::= { genDeviceEntry 10 }

genVBatIgnitionOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if engine ignition battery voltage is monitored and genVBatIgnition is supported."

::= { genDeviceEntry 11 }

genTempOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if engine enclosure temperature is monitored and genEnclosureTemperature is supported."

::= { genDeviceEntry 12 }

-- \* Generator Data

genGeneratorStatus OBJECT-TYPE

SYNTAX INTEGER { off(1), runningTest (2), running(3), fail(4) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines the current state of generator operation.

1 = Off

2 = Running(test)

3 = Running

4 = Fail (A condition preventing the generator from functioning)

This item requires entries in the discrete property table."

::= { genDeviceEntry 13 }

genGasHazard OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"The concentration of hydrocarbon fuel in the generator enclosure has exceeded safe limits. Generator operation is suspended. The alarm is cleared when the sensor is reset via the 'Reset Latched Generator Alarms' command.

This item requires entries in the discrete property table."

::= { genDeviceEntry 14 }

genWaterIntrusion OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Water level within the generator or fuel enclosure has exceeded safe limits for generator operation. Generator operation is suspended while this alarm is active. The alarm is reset when the water returns to a safe level.

This item requires entries in the discrete property table."

::= { genDeviceEntry 15 }

genPadShear OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Indicates that the generator or fuel enclosure has shifted from its mounting position. Generator operation is suspended. The alarm is reset when the unit is returned to its original position.

This item requires entries in the discrete property table."

::= { genDeviceEntry 16 }

genEnclosureDoor OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Indicates current status of the generator and/or auxiliary fuel enclosure door.

This item requires entries in the discrete property table."

::= { genDeviceEntry 17 }

genCharger OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Indicates if the ignition battery charger is operating.

This item requires entries in the discrete property table."

::= { genDeviceEntry 18 }

genFuel OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION  
"Indicates if the engine's fuel supply is sufficient for extended operation. Alarm is reset when fuel is replenished.

This item requires entries in the discrete property table."

::= { genDeviceEntry 19 }

genVBatIgnition OBJECT-TYPE  
SYNTAX INTEGER ( 0..65535 )  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION  
"Scaled representation of the generator's ignition battery in 1/100 Volts.

This item requires an entry in the property table."

::= { genDeviceEntry 20 }

genEnclosureTemperature OBJECT-TYPE  
SYNTAX INTEGER ( -40..80 )  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION  
"Temperature inside generator's enclosure in degrees C.

This item requires an entry in the property table."

::= { genDeviceEntry 21 }

genEquipmentControl OBJECT-TYPE  
SYNTAX INTEGER {  
stopGenerator(1),  
startGenerator(2),  
resetLatchedAlarms(3) }  
ACCESS read-write  
STATUS optional  
DESCRIPTION  
"When written, the appropriate corresponding command action is sent to the generator.

- 1 = End generator test
- 2 = Start generator test
- 3 = Reset latched generator alarms which may be preventing a generator start

This object is intentionally simplistic to allow for maximum flexibility. It IS assumed that the generator has sufficient intelligence to prevent an overcrank condition.

Example 1: From a single SET and corresponding single

'start' command, the generator may automatically attempt starting 'n' times before giving up.

Example 2: The transponder may be simple and send only the single 'start' command, and the EMS/end user is responsible for making 'n' attempts (by performing additional SETs to this object.)

The choice between the methods depends on the specific application and vendor equipment."

::= { genDeviceEntry 22 }

genOilOption OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if oil pressure is monitored and genOil is supported."

::= { genDeviceEntry 23 }

genMinorAlarmSupport OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if the minor alarm indicator and genMinorAlarm is supported."

::= { genDeviceEntry 24 }

genMajorAlarmSupport OBJECT-TYPE

SYNTAX INTEGER { notInstalled(1), installed(2) }

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Defines if the major alarm indicator and genMajorAlarm is supported."

::= { genDeviceEntry 25 }

genOil OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS optional

DESCRIPTION

"Indicates if the engine's oil is adequate for safe operation. Alarm is reset when the condition returns to normal.

This item requires entries in the discrete property table."

::= { genDeviceEntry 26 }

genMinorAlarm OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS optional

DESCRIPTION

"Indicates if the generator is indicating a minor alarm.

The generator requires attention, but does not require an immediate visit to the generator.

This item requires entries in the discrete property table."

::= { genDeviceEntry 27 }

genMajorAlarm OBJECT-TYPE

SYNTAX INTEGER { noAlarm(1), alarm(2) }

ACCESS read-only

STATUS optional

DESCRIPTION

"Indicates if the generator is indicating a major alarm.

The generator requires immediate attention, and should be visited immediately to remedy the situation.

This item requires entries in the discrete property table."

::= { genDeviceEntry 28 }

genVendorOID OBJECT-TYPE

SYNTAX OBJECT IDENTIFIER

ACCESS read-only

STATUS optional

DESCRIPTION

"This object provides a means for a vendor to point to a vendor specific extension of this MIB."

::= { genDeviceEntry 29 }

END