

SCTE | **STANDARDS**

Network Operations Subcommittee

AMERICAN NATIONAL STANDARD

ANSI/SCTE 94-1 2017 (R2022)

**HMS Common Inside Plant
Management Information Base (MIB)
SCTE-HMS-HE-RF-AMP-MIB**

NOTICE

The Society of Cable Telecommunications Engineers (SCTE) Standards and Operational Practices (hereafter called “documents”) are intended to serve the public interest by providing specifications, test methods and procedures that promote uniformity of product, interoperability, interchangeability, best practices, and the long term reliability of broadband communications facilities. These documents shall not in any way preclude any member or non-member of SCTE from manufacturing or selling products not conforming to such documents, nor shall the existence of such standards preclude their voluntary use by those other than SCTE members.

SCTE assumes no obligations or liability whatsoever to any party who may adopt the documents. Such adopting party assumes all risks associated with adoption of these documents and accepts full responsibility for any damage and/or claims arising from the adoption of such documents.

NOTE: The user’s attention is called to the possibility that compliance with this document may require the use of an invention covered by patent rights. By publication of this document, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the standards developer. SCTE shall not be responsible for identifying patents for which a license may be required or for conducting inquiries into the legal validity or scope of those patents that are brought to its attention.

Patent holders who believe that they hold patents which are essential to the implementation of this document have been requested to provide information about those patents and any related licensing terms and conditions. Any such declarations made before or after publication of this document are available on the SCTE web site at <https://scte.org>.

All Rights Reserved
© 2022 Society of Cable Telecommunications Engineers, Inc.
140 Philips Road
Exton, PA 19341

DOCUMENT TYPES AND TAGS

Document Type: Specification

Document Tags:

- | | | |
|---|------------------------------------|--|
| <input type="checkbox"/> Test or Measurement | <input type="checkbox"/> Checklist | <input type="checkbox"/> Facility |
| <input type="checkbox"/> Architecture or Framework | <input type="checkbox"/> Metric | <input checked="" type="checkbox"/> Access Network |
| <input type="checkbox"/> Procedure, Process or Method | <input type="checkbox"/> Cloud | <input type="checkbox"/> Customer Premises |

DOCUMENT RELEASE HISTORY

Release	Date
SCTE 94-1 2003	<i>12/26/2003</i>
SCTE 94-1 2009	<i>7/10/2009</i>
SCTE 94-1 2017	<i>9/25/2017</i>
SCTE 94-1 2022	<i>August 2022</i>

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 94-1 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

DOCUMENT TYPES AND TAGS	3
DOCUMENT RELEASE HISTORY	3
SCOPE	5
COPYRIGHT	5
NORMATIVE REFERENCE	5
INFORMATIVE REFERENCE	5
TERMS AND DEFINITIONS	5
REQUIREMENTS	5

SCOPE

This document is identical to SCTE 94-1 2009 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 MIB definitions for HMS RF amplifier equipment present in the headend (or indoor) and is supported by a SNMP agent.

COPYRIGHT

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

NORMATIVE REFERENCE

IETF RFC 1907 SNMPv2-MIB
IETF RFC 2578 SNMPv2-SMI
IETF RFC 2579 SNMPv2-TC
IETF RFC 2580 SNMPv2-CONF
IETF RFC 2737 ENTITY-MIB
SCTE 36 SCTE-ROOT
SCTE 37 SCTE-HMS-ROOTS
SCTE 38-11 SCTE-HMS-HEADENDIDENT-MIB
SCTE 83-4 SCTE-HMS-HE-RF-MIB
SCTE 38-1 SCTE-HMS-HE-PROPERTY-MIB
SCTE 84-1 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-RF-AMP-MIB. It follows the IETF Simple Network Management Protocol (SNMP) for defining managed objects.

The syntax is given below.

SCTE-HMS-HE-RF-AMP-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-COMPLIANCE, OBJECT-GROUP
FROM SNMPv2-CONF
OBJECT-TYPE, MODULE-IDENTITY, Unsigned32
FROM SNMPv2-SMI
DisplayString
FROM SNMPv2-TC
entPhysicalIndex
FROM ENTITY-MIB
HeTenthdB, HeTenthdBmV
FROM SCTE-HMS-HEADENDIDENT-MIB
heRFAmplifierGroup
FROM SCTE-HMS-HE-RF-MIB;

heRFampMIB MODULE-IDENTITY

LAST-UPDATED "200310090000Z" -- Oct 9, 2003
ORGANIZATION "SCTE HMS Working Group"
CONTACT-INFO
"SCTE HMS Subcommittee, Chairman
mailto: standards@SCTE.org"

DESCRIPTION

"The MIB module for the HMS HE RF Amp module entities.

This MIB module is for representing RF Amp equipment present in the headend (or indoor) and is supported by a SNMP agent.

This MIB is intended to describe an indoor headend amplifier with one input port and one or more output ports.

Refer to the associated notes for information on what SNMP responses should be returned for unsupported enumerations."

::= { heRFAmplifierGroup 1 }

heRFampMIBObjects OBJECT IDENTIFIER ::= { heRFampMIB 1 }

-- Every RF Amp described above is modeled by the tables presented
-- in this MIB module. These tables extend the entPhysicalTable
-- according to RFC 2737. The extension index entPhysicalIndex uniquely
-- identifies the RF Amp.

-- Every RF Amp is also modeled by the following tables:
-- entPhysicalEntry - 1 row; (defined in document: RFC2737)
-- heCommonEntry - 1 row. (defined in document: HMS111)

-- Every RF Amp module will have its alarms modeled by the table:
-- propertyEntry - x rows; (defined in document: HMS026)

```

--          (where x is the nos. of alarmable analog properties supported
-- by the RF Amp)

--          discretePropertyEntry - y rows; (defined in document: HMS026)
--          (where y is the nos. of alarmable digital properties supported by
-- the RF Amp)

-- Every RF Amp module will have a list of currently active
-- alarms modeled by the table:
--          currentAlarmEntry - z rows; (defined in document: HMS026)
--          (where z is the nos. of current active alarms in the RF
-- Amp)

-- Thus, a RF Amp with one input and two outputs
-- will be represented by one row in entPhysicalTable, one row in
-- heCommonTable, one row in heRFampUnitTable, and two rows
-- in heRFampOutputTable.

```

```

-- the RF Amp Unit Table
heRFampUnitTable OBJECT-TYPE
    SYNTAX SEQUENCE OF HeRFampUnitEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "A table containing information about RF Amp used
        in an indoor environment."
    ::= { heRFampMIBObjects 1 }

```

```

heRFampUnitEntry OBJECT-TYPE
    SYNTAX HeRFampUnitEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "List of information about each RF Amp."
    INDEX { entPhysicalIndex }
    ::= { heRFampUnitTable 1 }

```

```

HeRFampUnitEntry ::= SEQUENCE
{
    heRFampGainControlMode          INTEGER,
    heRFampAttenuatorControl        HeTenthdB,
    heRFampSlopeControl             HeTenthdB
}

```

```

heRFampGainControlMode OBJECT-TYPE
    SYNTAX INTEGER {
        none(1),
        alc(2),
        asc(3),
        agc(4),
        als(5)
    }
    MAX-ACCESS read-write

```

```

STATUS      current
DESCRIPTION
    "This controls and/or reports the amplifier
      control mode.
      none - no automatic control provided
      alc - automatic level control
      asc - automatic slope control
      agc - automatic gain control
      als - automatic level slope control
    "

```

```
 ::= { heRFampUnitEntry 1 }
```

```

heRFampAttenuatorControl OBJECT-TYPE
SYNTAX      HeTenthdB
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This controls and reports the setting of an attenuator
      in the amplifier RF chain.
    "

```

```
 ::= { heRFampUnitEntry 2 }
```

```

heRFampSlopeControl OBJECT-TYPE
SYNTAX      HeTenthdB
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This controls and reports the slope setting of the amplifier.
    "

```

```
 ::= { heRFampUnitEntry 3 }
```

```

-- the RF Amp Output Table
heRFampOutputTable OBJECT-TYPE
SYNTAX      SEQUENCE OF HeRFampOutputEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "A table containing information about each RF Amp
      output used in an indoor environment."
 ::= { heRFampMIBObjects 2 }

```

```

heRFampOutputEntry OBJECT-TYPE
SYNTAX      HeRFampOutputEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "List of information about each RF Amp output."
INDEX { entPhysicalIndex, heRFampOutputIndex }
 ::= { heRFampOutputTable 1 }

```

```

HeRFampOutputEntry ::= SEQUENCE
{
    heRFampOutputIndex          Unsigned32,

```



```

heRFampOutputDescription  DisplayString,
    heRFampOutputLevel      HeTenthdBmV,
    heRFampOutputAttenuatorControl  HeTenthdB
}

```

```

heRFampOutputIndex OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Index number corresponding to the RF Output."
    ::= { heRFampOutputEntry 1 }

```

```

heRFampOutputDescription OBJECT-TYPE
    SYNTAX      DisplayString (SIZE (0..32))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A description of the Amp output. The description text is
        to be determined by the equipment manufacturer. For example,
        Output A or Secondary Output."
    ::= { heRFampOutputEntry 2 }

```

```

heRFampOutputLevel OBJECT-TYPE
    SYNTAX      HeTenthdBmV
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The output level of the RF amplifier output."
    ::= { heRFampOutputEntry 3 }

```

```

heRFampOutputAttenuatorControl OBJECT-TYPE
    SYNTAX      HeTenthdB
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This controls and reports the setting of an attenuator
        in the amplifier RF chain."
    ::= { heRFampOutputEntry 4 }

```

-- conformance information

```
heRFampMIBConformance OBJECT IDENTIFIER ::= { heRFampMIB 2 }
```

```
heRFampMIBCompliances OBJECT IDENTIFIER ::= { heRFampMIBConformance 1 }
```

```
heRFampMIBGroups      OBJECT IDENTIFIER ::= { heRFampMIBConformance 2 }
```

```
heRFampBasicCompliance MODULE-COMPLIANCE
```

```
    STATUS current
```

```
    DESCRIPTION
```

```
        "The compliance statement for SNMP HMS Headend RF
        Amp entities which implement the SNMP
        heRFampMIB."

```

```
    MODULE -- this module

```

```
MANDATORY-GROUPS { heRFampOutputMandatoryGroup
}
 ::= { heRFampMIBCompliances 1 }
```

```
heRFampOutputMandatoryGroup OBJECT-GROUP
OBJECTS {
    heRFampOutputDescription
}
STATUS current
DESCRIPTION
    "The main group defines heRFampOutputTable objects which
    are mandatory to all indoor RF Amp modules."
 ::= { heRFampMIBGroups 1 }
```

```
heRFampUnitGroup OBJECT-GROUP
OBJECTS {
    heRFampGainControlMode,
    heRFampAttenuatorControl,
    heRFampSlopeControl
}
STATUS current
DESCRIPTION
    "The collection of heRFampUnitTable objects which are used to
    represent the indoor RF Amp module."
 ::= { heRFampMIBGroups 2 }
```

```
heRFampOutputGroup OBJECT-GROUP
OBJECTS {
    heRFampOutputLevel,
    heRFampOutputAttenuatorControl
}
STATUS current
DESCRIPTION
    "The collection of heRFampOutputTable objects which are used to
    represent the indoor RF Amp module."
 ::= { heRFampMIBGroups 3 }
```

END