

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

---

**Network Operations Subcommittee**

---

**AMERICAN NATIONAL STANDARD**

**ANSI/SCTE 38-10 2017 (R2022)**

**Outside Plant Status Monitoring  
SCTE-HMS-RF-AMPLIFIER-MIB  
Management Information Base (MIB) Definition**

## 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 38-10 2003	05/09/2003
SCTE 38-10 2009	07/10/2009
SCTE 38-10 2017	12/04/2017
SCTE 38-10 2017 (R2022)	August 2022

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 38-10 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

<b>SCOPE .....</b>	<b>6</b>
<b>COPYRIGHT .....</b>	<b>6</b>
<b>NORMATIVE REFERENCE.....</b>	<b>6</b>
<b>INFORMATIVE REFERENCE.....</b>	<b>6</b>
<b>TERMS AND DEFINITIONS.....</b>	<b>6</b>
<b>REQUIREMENTS.....</b>	<b>6</b>

## **SCOPE**

This document is identical to SCTE 38-10 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 defines information about HFC RF Amplifiers.

## **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 1155

SCTE 37

SCTE 38

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

The syntax is given below.

```
*****  
-- *  
-- * Module Name: HMS115R4.MIB SCTE-38-10  
-- *  
-- * SCTE Status: Draft Revision 4  
-- *  
-- * Description: Implements SCTE-HMS-AMPLIFIER-MIB for Amplifiers.  
-- * This MIB is intended for use on all RF Amplifiers. This  
-- * includes the US strand mount or outside plant rfAmplifiers,  
-- * and some pedestal models. This MIB may not apply to the  
-- * pedestal racks used in the European Cable networks.  
-- *  
-- * EXCEPT AS NOTED, THE VOLATILITY OF CONTROL OBJECTS IN THIS MIB IS  
-- * DETERMINED BY THE AMPLIFIER APPLICATION  
-- *  
-- * Note:  
-- * Objects which are not present must not have the properties present either.  
-- * This applies to:  
-- * a) Any table(s) not supported by an rfAmplifier;  
-- * b) Any object(s) not supported by an rfAmplifier;  
-- *  
-- *  
-- *****
```

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

IMPORTS

```
OBJECT-TYPE  
FROM RFC-1212  
DisplayString  
FROM RFC1213-MIB  
rfAmplifierIdent  
FROM SCTE-HMS-ROOTS  
;
```

rfAmpAdminGroup OBJECT IDENTIFIER ::= { rfAmplifierIdent 1 }

```
-- *****  
-- * Administration Group  
-- *****
```

```
rfAmpVendorOID 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."  
 ::= { rfAmpAdminGroup 1 }
```

```
rfAmpDeviceId OBJECT-TYPE  
SYNTAX DisplayString ( SIZE(0..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. "  
 ::= { rfAmpAdminGroup 2 }
```

```
-- *****  
-- * Forward RF Actives  
-- *****
```

```
rfAmpNumberRFActives OBJECT-TYPE  
SYNTAX INTEGER ( 1..16 )  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION  
    "Number of RF actives for this rfAmplifier.  
    There must be a least one RF Active per rfAmplifier.
```

Note also that it is not necessary to monitor the RF active; this



table would show 1 for this object, but all of the objects in the table may not be supported."

::= { rfAmplifierIdent 2 }

rfAmpRFActiveTable OBJECT-TYPE

SYNTAX SEQUENCE OF RFampRFActiveEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"Table containing information about each RF Active."

::= { rfAmplifierIdent 3 }

rfAmpRFActiveEntry OBJECT-TYPE

SYNTAX RFampRFActiveEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"List of information about each RF Active."

INDEX { rfAmpRFActiveIndex }

::= { rfAmpRFActiveTable 1 }

RFampRFActiveEntry ::=

SEQUENCE

{

rfAmpRFActiveIndex

INTEGER,

rfAmpRFActiveControlType

DisplayString,

rfAmpRFActiveOutputLevel

INTEGER,

rfAmpRFActiveCurrent

INTEGER,

rfAmpRFActiveControlLevel

INTEGER

}

rfAmpRFActiveIndex OBJECT-TYPE

SYNTAX INTEGER

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Index into rfAmpRFActiveTable."

::= { rfAmpRFActiveEntry 1 }

rfAmpRFActiveControlType OBJECT-TYPE

SYNTAX DisplayString ( SIZE(0..10) )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the control type of this rfAmplifier. Possibilities include, but are not limited to:

none - No control type inherent to this unit.

alc - automatic level control

asc - automatic slope control

agc - automatic gain control

alsc - automatic level slope control"

::= { rfAmpRFActiveEntry 2 }

rfAmpRFActiveOutputLevel OBJECT-TYPE

SYNTAX INTEGER ( 0..65535 )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the forward Path output RF level of a pilot signal on the rfAmplifier.

Units 0.1 dBmV.

This item requires an entry in the properties MIB."

::= { rfAmpRFActiveEntry 3 }

rfAmpRFActiveCurrent OBJECT-TYPE

SYNTAX INTEGER ( 0..65535 )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the RF active current. Units milliAmps.  
This item requires an entry in the properties MIB."  
::= { rfAmpRFActiveEntry 4 }

rfAmpRFActiveControlLevel OBJECT-TYPE  
SYNTAX INTEGER  
ACCESS read-only  
STATUS optional  
DESCRIPTION  
"Returns the control level (as indicated by rfAmpRFActiveControlType)  
for this RF active.  
Units 0.1VDC.  
This item has an entry in the properties MIB."  
::= { rfAmpRFActiveEntry 5 }

-- \*\*\*\*\*  
-- \* RF ports  
-- \*\*\*\*\*

rfAmpNumberRFPort OBJECT-TYPE  
SYNTAX INTEGER ( 0..16 )  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION  
"Number of entries in the RF port table.  
A zero entry means the table does not exist and the functional  
area is not present in the device."  
::= { rfAmplifierIdent 4 }

rfAmpRFPortMasterAttenuationControl OBJECT-TYPE  
SYNTAX INTEGER { low(1), high(2), pad(3) }  
ACCESS read-write  
STATUS optional  
DESCRIPTION  
"Reports and Controls the state of a reverse path attenuation switch  
that affects ALL ports.  
low - No attenuation on the reverse path.

high - Typically high amount of attenuation on the reverse path.

This value may not be available for all switches.

pad - Typically a small amount of attenuation on the reverse path. This value may not be available for all switches.

Note that the values for the object rfAmpRFPortReverseAttenuationControl do NOT change when this object is accessed."

::= { rfAmplifierIdent 5 }

rfAmpRFPortTable OBJECT-TYPE

SYNTAX SEQUENCE OF RFampRFPortEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"Table containing information about the RF ports."

::= { rfAmplifierIdent 6 }

rfAmpRFPortEntry OBJECT-TYPE

SYNTAX RFampRFPortEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"List of information about each RF port."

INDEX { rfAmpRFPortIndex }

::= { rfAmpRFPortTable 1 }

RFampRFPortEntry ::=

SEQUENCE

{

rfAmpRFPortIndex

INTEGER,

rfAmpRFPortControlType

DisplayString,

rfAmpRFPortControlLevel

INTEGER,

rfAmpRFPortOutputRFLevel

```
    INTEGER,  
    rfAmpRFPortRFActive  
    INTEGER,  
    rfAmpRFPortName  
    DisplayString,  
    rfAmpRFPortReverseAttenuationControl  
    INTEGER  
}
```

rfAmpRFPortIndex OBJECT-TYPE

SYNTAX INTEGER

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Index into the rfAmpRFPortTable.

This index is application specific. It can be either the nth port,  
or a port number.

For example; a node may have 4 ports, numbered 1, 3, 4, 6. Thus,  
the indexes could be .1, .3, .4, .6, OR .1, .2, .3., .4.

In the latter case, the port name is critical."

::= { rfAmpRFPortEntry 1 }

rfAmpRFPortControlType OBJECT-TYPE

SYNTAX DisplayString ( SIZE(0..10) )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the control type of this rfAmplifier. Possibilities include,  
but are not limited to:

none - No control type inherent to this unit.

alc - automatic level control

asc - automatic slope control

agc - automatic gain control

alsc - automatic level slope control"

::= { rfAmpRFPortEntry 2 }

rfAmpRFPortControlLevel OBJECT-TYPE

SYNTAX INTEGER

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the control level (as indicated by rfAmpRFPortControlType)  
for this RF port.

Units 0.1VDC. This item has an entry in the properties MIB."

::= { rfAmpRFPortEntry 3 }

rfAmpRFPortOutputRFLevel OBJECT-TYPE

SYNTAX INTEGER ( 0..65535 )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the RF Path output RF level of a pilot signal on the  
rfAmplifier port.

Units 0.1 dBmV.

This item requires an entry in the properties MIB.

This object shall report alarms using the value of rfAmpRFPortName  
in the alarmText object in the hmsAlarmEvent Trap."

::= { rfAmpRFPortEntry 4 }

rfAmpRFPortRFActive OBJECT-TYPE

SYNTAX INTEGER

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Returns the RF Active index associated with this RF Port"

::= { rfAmpRFPortEntry 5 }

rfAmpRFPortName OBJECT-TYPE

SYNTAX DisplayString

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Physical name of Port. Some examples are Port 1 and Port 2.  
This name is put into the alarmText object used by hmsAlarmTrap  
when alarms are generated by objects in this table."

::= { rfAmpRFPortEntry 6 }

rfAmpRFPortReverseAttenuationControl OBJECT-TYPE

SYNTAX INTEGER { low(1), high(2), pad(3) }

ACCESS read-write

STATUS optional

DESCRIPTION

"Reports and Controls the state of the reverse path  
attenuation switch for this port only.

low - No attenuation on the reverse path.

high - Typically high amount of attenuation on the reverse  
path. This value may not be available for all switches.

pad - Typically a small amount of attenuation on the reverse  
path. This value may not be available for all switches."

::= { rfAmpRFPortEntry 7 }

-- \*\*\*\*\*

-- \* AC Power

-- \*\*\*\*\*

rfAmpLinePowerVoltage1 OBJECT-TYPE

SYNTAX INTEGER ( 0..65535 )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the line power voltage from primary feed. Units 1VAC.

This item requires an entry in the properties MIB."

::= { rfAmplifierIdent 8 }

rfAmpLinePowerVoltage2 OBJECT-TYPE

SYNTAX INTEGER ( 0..65535 )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the line power voltage from a secondary feed. Units 1VAC.

This item requires an entry in the properties MIB."

::= { rfAmplifierIdent 9 }

rfAmpLinePowerCurrent OBJECT-TYPE

SYNTAX INTEGER ( 0..65535 )

ACCESS read-only

STATUS optional

DESCRIPTION

"Returns the total current draw of the rfAmplifier. Units 0.1 Amp.

This item requires an entry in the properties MIB."

::= { rfAmplifierIdent 10 }

-- \*\*\*\*\*

-- \* Power Supplies

-- \*\*\*\*\*

rfAmpNumberDCPowerSupply OBJECT-TYPE

SYNTAX INTEGER ( 0..16 )

ACCESS read-only

STATUS mandatory

DESCRIPTION

"Number of entries in the internal DC power supply table

A zero entry means the table does not exist and the functional area is not present in the device."

::= { rfAmplifierIdent 11 }

rfAmpDCPowerSupplyMode OBJECT-TYPE

SYNTAX INTEGER { loadsharing(1), switchedRedundant(2) }

ACCESS read-only

STATUS optional

DESCRIPTION

"Indicates the mode, either load sharing or redundant (switched), in which the power supplies operate. This object should not be supported if the unit can only support one DC power supply."

::= { rfAmplifierIdent 13 }



rfAmpDCPowerTable OBJECT-TYPE  
SYNTAX SEQUENCE OF RFampDCPowerEntry  
ACCESS not-accessible  
STATUS mandatory  
DESCRIPTION  
    "A table containing information about the Regulated Power."  
 ::= { rfAmplifierIdent 14 }

rfAmpDCPowerEntry OBJECT-TYPE  
SYNTAX RFampDCPowerEntry  
ACCESS not-accessible  
STATUS mandatory  
DESCRIPTION  
    "A list of information about the Regulated Power."  
INDEX { rfAmpDCPowerIndex }  
 ::= { rfAmpDCPowerTable 1 }

RFampDCPowerEntry ::=  
SEQUENCE  
{  
    rfAmpDCPowerIndex  
        INTEGER,  
    rfAmpDCPowerVoltage  
        INTEGER,  
    rfAmpDCPowerCurrent  
        INTEGER,  
    rfAmpDCPowerName  
        DisplayString  
}

rfAmpDCPowerIndex OBJECT-TYPE  
SYNTAX INTEGER  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION  
    "Index into the rfAmpDCPowerTable."

::= { rfAmpDCPowerEntry 1 }

rfAmpDCPowerVoltage OBJECT-TYPE  
SYNTAX INTEGER ( -32768..32767 )  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION

"Returns the regulated power voltage. Units in 0.1 Volts.  
This item requires an entry in the properties MIB.

This object shall report alarms using the value of rfAmpDCPowerName  
in the alarmText object in the hmsAlarmEvent Trap."

::= { rfAmpDCPowerEntry 2 }

rfAmpDCPowerCurrent OBJECT-TYPE  
SYNTAX INTEGER ( 0..65535 )  
ACCESS read-only  
STATUS optional  
DESCRIPTION

"Returns the regulated power current. Units in 0.1 Amps.  
This item requires an entry in the properties MIB.

This object shall report alarms using the value of rfAmpDCPowerName  
in the alarmText object in the hmsAlarmEvent Trap."

::= { rfAmpDCPowerEntry 3 }

rfAmpDCPowerName OBJECT-TYPE  
SYNTAX DisplayString  
ACCESS read-only  
STATUS mandatory  
DESCRIPTION

"Identifies the Physical name of the Power Supply. For example:

24 VDC Supply A

Actual value of this field is vendor specific, at a minimum it  
shall identify the nominal voltage expected and distinguish the

supplies from one another.

If a single PHYSICAL supply provides multiple voltages, each voltage shall have its own entry in this table, with an appropriate name.

This name is put into the alarmText object in the hmsAlarmEvent Trap when alarms are generated by objects in this table."

::= { rfAmpDCPowerEntry 4 }

END