Network Operations Subcommittee

AMERICAN NATIONAL STANDARD

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Outside Plant Status Monitoring
SCTE-HMS-RF-AMPLIFIER-MIB
Management Information Base (MIB) Definition
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140 Philips Road
Exton, PA 19341
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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.

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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.
**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 }
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 }

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
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 RFAmplifierDCPowerEntry
ACCESS not-accessible
STATUS mandatory
DESCRIPTION
"A table containing information about the Regulated Power."
::= { rfAmplifierIdent 14 }

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

RFAmplifierDCPowerEntry ::= 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