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HFC Management Subcommittee**

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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 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.

```

*****
-- *
-- * 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 RFActiveEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"Table containing information about each RF Active."

::= { rfAmplifierIdent 3 }

rfAmpRFActiveEntry OBJECT-TYPE

SYNTAX RFActiveEntry

ACCESS not-accessible

STATUS mandatory

DESCRIPTION

"List of information about each RF Active."

INDEX { rfActiveIndex }

::= { rfActiveTable 1 }

RFActiveEntry ::=

SEQUENCE

{

rfActiveIndex

INTEGER,

rfActiveControlType

DisplayString,

rfActiveOutputLevel

INTEGER,

rfActiveCurrent

INTEGER,

rfActiveControlLevel

INTEGER

}

rfActiveIndex 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