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Corrigendum 1

(11/96)

SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

Digital transmission systems – Terminal equipments – Operations, administration and maintenance features of transmission equipment

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Synchronous Digital Hierarchy (SDH) management information model for the network element view

Corrigendum 1

ITU-T Recommendation G.774 – Corrigendum 1

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION G.774

SYNCHRONOUS DIGITAL HIERARCHY (SDH) MANAGEMENT INFORMATION MODEL FOR THE NETWORK ELEMENT VIEW

CORRIGENDUM 1

Source

Corrigendum 1 to ITU-T Recommendation G.774 was prepared by ITU-T Study Group 15 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 8th of November 1996.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, the ITU had/had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Recommendation G.774

SYNCHRONOUS DIGITAL HIERARCHY (SDH) MANAGEMENT INFORMATION MODEL FOR THE NETWORK ELEMENT VIEW

CORRIGENDUM 1

(Geneva, 1996)

1 Introduction

1.1 Scope

Revisions that do not require re-registration

The following text replaces the entire text within 1.1/G.774 (1992). All additions are marked in **bold** for clarity.

This Recommendation provides an information model for the Synchronous Digital Hierarchy (SDH) [1], [2] and [3]. It identifies the Telecommunications Management Network (TMN) object classes required for the management of SDH network elements. These objects are relevant to information exchanged across standardized interfaces defined in Recommendation M.3010 (TMN architecture) [4]. The managed object classes in this Recommendation are specialized from the generic managed object classes defined in Recommendation M.3100 (Generic Network Information Model) [5].

This Recommendation applies to SDH network elements and those systems in the TMN that manage SDH network elements. Functional capabilities of SDH multiplex equipment are given in Recommendation G.783 [6], and aspects of the management of SDH equipment are provided in Recommendation G.784 [7]. This Recommendation provides the management information required for use with the protocols specified in Recommendation G.784.

The new objects defined in this Recommendation supersede those defined in Recommendation G.774 (1992). For each object class, attribute, action, notification, parameter defined in this Recommendation, it shall be indicated what the impacts upon the existing Recommendation G.774 (1992) are.

1.2 Structure of this Recommendation

No revisions are required.

2 SDH information model

2.1 Overview

Revisions that do not require re-registration

The following text replaces the entire text within 2.1/G.774 (1992). All additions are marked in **bold** for clarity.

The SDH information model is based on the Generic Network Information Model of Recommendation M.3100. The Generic Network Information Model includes a Termination Point fragment which serves as a structure for specialization of those object classes specific to the SDH network. It is these SDH specific object classes, along with the generic object classes in other

fragments of the Generic Network Information Model (e.g. the Cross-connection fragment and the Equipment fragment), that are used to manage SDH network elements. The services used to manage the SDH resources represented by these object classes are provided in Recommendation M.3100 and other Recommendations.

The information exchanged at a management interface is modelled using design principles outlined in Recommendation X.720 (Management Information Model) [10]. Resources are modelled as objects, and the management view of a resource is a managed object. Objects with similar attributes may be grouped into object classes. An object is characterized by its object class and object instance, and may possess multiple attribute types and associated values. The terms managed object class and managed object instance apply specifically to objects that are being managed. This Recommendation specifies the properties of the resource visible for management.

An object class may be a subclass of another class. A subclass inherits attribute types, packages and behaviours of its superclass, in addition to possessing its own specific attributes and properties. The SDH specific object classes are all derived from superclasses in the Generic Network Information Model, Recommendation M.3100.

The MOCS proforma for the object definitions defined in this Recommendation should be defined using the guidelines and format defined in Recommendation X.724.

Object classes and attribute types are defined only for the purpose of communicating network management messages between systems, and need not be related to the structure of data within those systems. The object classes defined in this issue of the SDH information model can apply to multiple management functional areas (e.g. fault management and configuration management).

There are several different viewpoints of management information that may be defined for management purposes. The network element viewpoint is concerned with the information that is required to manage a network element. This refers to information required to manage the network element function and the physical aspects of the network element. This Recommendation addresses only the network element viewpoint of SDH management.

2.2 Requirements

Revisions that do not require re-registration

The following text replaces the entire text within 2.2/G.774 (1992). All additions are marked in **bold** for clarity.

To allow SDH equipment to be represented in a consistent manner across the interface some of the conditional packages in Recommendation M.3100 are made mandatory in this Recommendation, the following conditional packages inherited from Recommendation M.3100 shall not be used when the SDH object classes defined in this Recommendation are instantiated: ttpInstancePackage, ctpInstancePackage, networkLevelPackage, characteristicInformationPackage, channelNumberPackage.

The SDH specific subclasses specified in this Recommendation shall be used to manage the specific transport resources of SDH network elements. Implementations shall conform to both the management information defined in clauses 3 to 7 of this Recommendation and the requirements identified in 2.2 and clause 8.

In the context of this Recommendation, the various objects defined hereafter will be named using local distinguished naming.

3 Object Classes

Revisions that do not require re-registration

The following text replaces the text within clause 3/G.774 (1992) associated with the following listed subheadings. All additions are marked in **bold** for clarity.

Electrical SPI Trail Termination Point Classes
Optical SPI Trail Termination Point Classes

Any object classes defined in Recommendation G.774 (1992) which are not referred to here are retained unaltered.

Electrical SPI Trail Termination Point Object Classes

```
electricalSPITTPBidirectional MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100":trailTerminationPointBidirectional,
        electricalSPITTPSink,
        electricalSPITTPSource;
REGISTERED AS { g774ObjectClass 10 };

electricalSPITTPSink MANAGED OBJECT CLASS
        DERIVED FROM    "Recommendation M.3100":trailTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        electricalSPIPackage,
        electricalSPITTPSinkPkg PACKAGE
                BEHAVIOUR
                electricalSPITTPSinkBehaviourPkg BEHAVIOUR
                        DEFINED AS
                *This object class represents the point where the incoming
                electrical interface signal is converted into an internal logic level
                and the timing is recovered from the line signal.
                A communicationsAlarm notification shall be issued if a loss of
                signal is detected. The probableCause parameter of the
                notification shall indicate LOS (Loss Of signal).
                The upstream connectivity pointer is NULL for an instance of
                this class when the upstream termination point is not
                contained within the same network element.
                *
        ;;;;
REGISTERED AS { g774ObjectClass 11 };

electricalSPITTPSource MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100":trailTerminationPointSource;
        CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        electricalSPIPackage,
        electricalSPITTPSourcePkg PACKAGE
                BEHAVIOUR
                electricalSPITTPSourceBehaviourPkg BEHAVIOUR
```

DEFINED AS
*This object class represents the point at which an outgoing internal logic level STM-N signal is converted into a STM-N in station electrical interface signal.
The downstream connectivity pointer is NULL for an instance of this class when the downstream termination point is not contained within the same network element.
*
;;;;
REGISTERED AS { g774ObjectClass 12 };

Optical SDH Physical Interface Trail Termination Point Object Classes

opticalSPITTPBidirectional MANAGED OBJECT CLASS
DERIVED FROM
"Recommendation M.3100":trailTerminationPointBidirectional,
opticalSPITTPSink,
opticalSPITTPSource;
REGISTERED AS { g774ObjectClass 28 };

opticalSPITTPSink MANAGED OBJECT CLASS
DERIVED FROM
"Recommendation M.3100":trailTerminationPointSink;
CHARACTERIZED BY
"Recommendation X.721":administrativeStatePackage,
"Recommendation M.3100":createDeleteNotificationsPackage,
"Recommendation M.3100":stateChangeNotificationPackage,
"Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
opticalSPIPackage,
opticalSPITTPSinkPkg PACKAGE
BEHAVIOUR
opticalSPITTPSinkBehaviourPkg BEHAVIOUR
DEFINED AS
*This object class represents the point where the incoming optical interface signal is converted into an internal logic level and the timing is recovered from the line signal.
A communicationsAlarm notification shall be issued if a loss of signal is detected. The probableCause parameter of the notification shall indicate LOS (Loss Of signal).
The upstream connectivity pointer is NULL for an instance of this class when the upstream termination point is not contained within the same network element.*
;;;;
REGISTERED AS { g774ObjectClass 29 };

opticalSPITTPSource MANAGED OBJECT CLASS
DERIVED FROM
"Recommendation M.3100":trailTerminationPointSource;
CHARACTERIZED BY
"Recommendation X.721":administrativeStatePackage,
"Recommendation M.3100":createDeleteNotificationsPackage,
"Recommendation M.3100":stateChangeNotificationPackage,
"Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
opticalSPIPackage,
opticalSPITTPSourcePkg PACKAGE
BEHAVIOUR
opticalSPITTPSourceBehaviourPkg BEHAVIOUR
DEFINED AS
*This object class represents the point at which an outgoing internal logic level STM-N signal is converted into a STM-N in-station or inter-station optical interface signal.

A communicationsAlarm notification shall be issued if the transmit laser fails. The probableCause parameter of the notification shall indicate TransmitFail.
The downstream connectivity pointer is NULL for an instance of this class when the downstream termination point is not contained within the same network element.*

;;;;
REGISTERED AS { g774ObjectClass 30 };

Revisions that require re-registration

This clause provides replacement managed object class definitions for the existing Recommendation G.774 (1992). Any managed object class replaced by one in this clause is considered to be deprecated. The reasons for the replacement of a managed object class are as follows:

1) The replaced managed object class is faulty and must be fixed.

2) The replaced managed object class includes an attribute, package, notification or action which has been re-registered in this Recommendation.

3) The replaced managed object class inherits from a managed object class which has been re-registered in this Recommendation.

In each case where a class is replaced, the new class will be registered within this Recommendation. The textual label for the class will be revised to include the text "R1". For example, in the revision of the G.774 (1992) managed object class "au4CTPSink", the revised label will become "au4CTPSinkR1".

Below is a table of classes deprecated from Recommendation G.774 (1992) and the new G.774 classes which replace them:

Deprecated G.774 (1992) Classes	**Replacement G.774 Classes**
au3CTPSink	au3CTPSinkR1
au3CTPBidirectional	au3CTPBidirectionalR1
au4CTPSink	au4CTPSinkR1
au4CTPBidirectional	au4CTPBidirectionalR1
tu11CTPSink	tu11CTPSinkR1
tu11CTPBidirectional	tu11CTPBidirectionalR1
tu12CTPSink	tu12CTPSinkR1
tu12CTPBidirectional	tu12CTPBidirectionalR1
tu2CTPSink	tu2CTPSinkR1
tu2CTPBidirectional	tu2CTPBidirectionalR1
tu3CTPSink	tu3CTPSinkR1
tu3CTPBidirectional	tu3CTPBidirectionalR1
vc11TTPBidirectional	vc11TTPBidirectionalR1
vc11TTPSink	vc11TTPSinkR1
vc12TTPBidirectional	vc12TTPBidirectionalR1
vc12TTPSink	vc12TTPSinkR1
vc2TTPBidirectional	vc2TTPBidirectionalR1
vc2TTPSink	vc2TTPSinkR1
vc3TTPBidirectional	vc3TTPBidirectionalR1
vc3TTPSink	vc3TTPSinkR1
vc3TTPSource	vc3TTPSourceR1
vc4TTPBidirectional	vc4TTPBidirectionalR1
vc4TTPSink	vc4TTPSinkR1
vc4TTPSource	vc4TTPSourceR1

Administrative Unit 3 Object Classes

```
au3CTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointBidirectional,
        au3CTPSinkR1,
        "Recommendation G.774:1992":au3CTPSource;
REGISTERED AS { g774ObjectClass 83 }

au3CTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":operationalStatePackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        au3CTPSinkR1Pkg PACKAGE
                BEHAVIOUR
                au3CTPSinkR1PkgBehaviour BEHAVIOUR
                        DEFINED AS
                        *This object class represents a termination point where an AU-3
                        Connection is terminated.
                        The AU-3 consists of a VC-3 plus an AU pointer which indicates
                        the phase alignment of the VC-3 with respect to the STM-N
                        frame.
                        A communicationsAlarm notification shall be issued if a loss of
                        AU pointer is detected.  The probableCause parameter of the
                        notification shall indicate LOP (Loss Of Pointer).
                        A communicationsAlarm notification shall be issued if an AU
                        path alarm indication signal is detected.  The probableCause
                        parameter of the notification shall indicate AIS (Alarm
                        Indication Signal).
                        A change in the operational state shall cause a state change
                        notification *
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992":au3CTPId            GET,
                "Recommendation G.774:1992":pointerSinkType     GET;
        ;;
REGISTERED AS { g774ObjectClass 84 };
```

Administrative Unit 4 Object Classes

```
au4CTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointBidirectional,
        au4CTPSinkR1,
        "Recommendation G.774:1992":au4CTPSource;
REGISTERED AS { g774ObjectClass 85 };

au4CTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":operationalStatePackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        au4CTPSinkR1Pkg PACKAGE
```

```
            BEHAVIOUR
            au4CTPSinkR1PkgBehaviour BEHAVIOUR
                DEFINED AS
                *This object class represents a termination point where an AU-4
                Connection is terminated.
                The AU-4 consists of a VC-4 plus an AU pointer which indicates
                the phase alignment of the VC-4 with respect to the STM-N
                frame.
                A communicationsAlarm notification shall be issued if a loss of
                AU pointer is detected.  The probableCause parameter of the
                notification shall indicate LOP (Loss Of Pointer).
                A communicationsAlarm notification shall be issued if an AU
                path alarm indication signal is detected. The probableCause
                parameter of the notification shall indicate AIS (Alarm
                Indication Signal).
                A change in the operational state shall cause a state change
                notification *
                ;;
            ATTRIBUTES
            "Recommendation G.774:1992": au4CTPId                GET,
            "Recommendation G.774:1992": pointerSinkType         GET;
    ;;
REGISTERED AS { g774ObjectClass 86 };
```

Tributary Unit 11 Object Classes

```
tu11CTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
    "Recommendation M.3100:1992":connectionTerminationPointBidirectional,
    tu11CTPSinkR1,
    "Recommendation G.774:1992":tu11CTPSource;
REGISTERED AS { g774ObjectClass 87 };

tu11CTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM
    "Recommendation M.3100:1992":connectionTerminationPointSink;
    CHARACTERIZED BY
    "Recommendation M.3100:1992":createDeleteNotificationsPackage,
    "Recommendation M.3100:1992":operationalStatePackage,
    "Recommendation M.3100:1992":stateChangeNotificationPackage,
    "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
    "Recommendation G.774:1992":tu-nSinkPackage,
    tu11CTPSinkR1Pkg PACKAGE
        BEHAVIOUR
        tu11CTPSinkR1BehaviourPkg BEHAVIOUR
            DEFINED AS
            *This object class terminates a tu-11 connection.
            A change in the operational state shall cause a state change
            notification *
        ;;
        ATTRIBUTES
        "Recommendation G.774:1992": tu11CTPId       GET;
    ;;
REGISTERED AS { g774ObjectClass 88 };
```

Tributary Unit 12 Object Classes

```
tu12CTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
    "Recommendation M.3100:1992":connectionTerminationPointBidirectional,
    tu12CTPSinkR1,
```

```
        "Recommendation G.774:1992":tu12CTPSource;
REGISTERED AS { g774ObjectClass 89 };

tu12CTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":operationalStatePackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        "Recommendation G.774:1992":tu-nSinkPackage,
        tu12CTPSinkR1Pkg PACKAGE
                BEHAVIOUR
                tu12CTPSinkR1BehaviourPkg BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a tu-12 connection.
                        A change in the operational state shall cause a state change
                        notification *
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": tu12CTPId  GET;
        ;;
REGISTERED AS { g774ObjectClass 90 };
```

Tributary Unit 2 Object Classes

```
tu2CTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointBidirectional,
        tu2CTPSinkR1,
        "Recommendation G.774:1992":tu2CTPSource;
REGISTERED AS { g774ObjectClass 91 };

tu2CTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":operationalStatePackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        "Recommendation G.744:1992":tu-nSinkPackage,
        tu2CTPSinkR1Pkg PACKAGE
                BEHAVIOUR
                tu2CTPSinkR1BehaviourPkg BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a tu-2 connection.
                        A change in the operational state shall cause a state
                        change notification *
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": tu2CTPId                GET;
        ;;
REGISTERED AS { g774ObjectClass 92 };
```

Tributary Unit 3 Object Classes

```
tu3CTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointBidirectional,
```

```
        tu3CTPSinkR1,
        "Recommendation G.744:1992":tu3CTPSource;
REGISTERED AS { g774ObjectClass 93 };

tu3CTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":connectionTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":operationalStatePackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        "Recommendation G.774:1992":tu-nSinkPackage,
        tu3CTPSinkR1Pkg PACKAGE
                BEHAVIOUR
                tu3CTPSinkR1BehaviourPkg BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a tu-3 connection.
                        A change in the operational state shall cause a state change
                        notification *
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992":tu3CTPId                    GET;
        ;;
REGISTERED AS { g774ObjectClass 94 };
```

Virtual Container 11 Object Classes

```
vc11TTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":trailTerminationPointBidirectional,
        vc11TTPSinkR1,
        "Recommendation G.774 : 1992":vc11TTPSource;
        CHARACTERIZED BY
        vc11-2BidirectionalPackageR1;
REGISTERED AS { g774ObjectClass 95 };

vc11TTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":trailTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation X.721:1992":administrativeStatePackage,
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        vc11-2SinkPackageR1,
        vc11TTPSinkPkgR1 PACKAGE
                BEHAVIOUR
                vc11TTPSinkPkgR1Behaviour BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a vc11 trail, i.e. the point at which
                        the VC11-POH is extracted from the STM-N frame.*
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": vc11TTPId                  GET;
        ;;
REGISTERED AS { g774ObjectClass 96 };
```

Virtual Container 12 Object Classes

```
vc12TTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":trailTerminationPointBidirectional,
        vc12TTPSinkR1,
        "Recommendation G.774:1992":vc12TTPSource;
        CHARACTERIZED BY
        vc11-2BidirectionalPackageR1;
REGISTERED AS { g774ObjectClass 97 };

vc12TTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":trailTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation X.721:1992":administrativeStatePackage,
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        vc11-2SinkPackageR1,
        vc12TTPSinkPkgR1 PACKAGE
                BEHAVIOUR
                vc12TTPSinkPkgR1Behaviour BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a vc12 trail, i.e. the point at which
                        the VC12-POH is extracted from the STM-N frame.*
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": vc12TTPId                  GET;
        ;;
REGISTERED AS { g774ObjectClass 98 };
```

Virtual Container 2 Object Classes

```
vc2TTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":trailTerminationPointBidirectional,
        vc2TTPSinkR1,
        "Recommendation G.774:1992":vc2TTPSource;
        CHARACTERIZED BY
        vc11-2BidirectionalPackageR1;
REGISTERED AS { g774ObjectClass 99 };

vc2TTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM "Recommendation M.3100:1992":trailTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation X.721:1992":administrativeStatePackage,
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        vc11-2SinkPackageR1,
        vc2TTPSinkPkgR1 PACKAGE
                BEHAVIOUR
                vc2TTPSinkPkgR1Behaviour BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a vc2 trail, i.e. the point at which
                        the VC2-POH is extracted from the STM-N frame.*
                ;;
```

```
            ATTRIBUTES
            "Recommendation G.774:1992": vc2TTPId                GET;
        ;;
REGISTERED AS { g774ObjectClass 100 };
```

Virtual Container 3 Object Classes

```
vc3TTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":trailTerminationPointBidirectional,
        vc3TTPSinkR1,
        vc3TTPSourceR1;
        CHARACTERIZED BY
        vc3-4BidirectionalPackageR1;
REGISTERED AS { g774ObjectClass 101 };

vc3TTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM "Recommendation M.3100:1992":trailTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation X.721:1992":administrativeStatePackage,
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        vc3-4SinkPackageR1,
        vc3TTPSinkPkgR1 PACKAGE
                BEHAVIOUR
                vc3TTPSinkPkgR1Behaviour BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a vc3 trail, i.e. the point at which
                        the SDH VC-3 is terminated.*
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": vc3TTPId                GET;
        ;;
REGISTERED AS { g774ObjectClass 102 };

vc3TTPSourceR1 MANAGED OBJECT CLASS
        DERIVED FROM "Recommendation M.3100":trailTerminationPointSource;
        CHARACTERIZED BY
        "Recommendation X.721:1992":administrativeStatePackage,
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        vc3-4SourcePackageR1,
        vc3TTPSourcePkgR1 PACKAGE
                BEHAVIOUR
                vc3TTPSourcePkgR1Behaviour BEHAVIOUR
                        DEFINED AS
                        *This object class originates a vc3 trail, i.e. the point at which
                        the SDH VC-3 is originated.*
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": vc3TTPId                GET;
        ;;
REGISTERED AS { g774ObjectClass 103 };
```

Virtual Container 4 Object Classes

```
vc4TTPBidirectionalR1 MANAGED OBJECT CLASS
        DERIVED FROM
        "Recommendation M.3100:1992":trailTerminationPointBidirectional,
        vc4TTPSinkR1,
```

```
        vc4TTPSourceR1;
        CHARACTERIZED BY
        vc3-4BidirectionalPackageR1;
REGISTERED AS { g774ObjectClass 104 };

vc4TTPSinkR1 MANAGED OBJECT CLASS
        DERIVED FROM "Recommendation M.3100:1992":trailTerminationPointSink;
        CHARACTERIZED BY
        "Recommendation X.721:1992":administrativeStatePackage,
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        "Recommendation M.3100:1992":tmnCommunicationsAlarmInformationPackage,
        vc3-4SinkPackageR1,
        vc4TTPSinkPkgR1 PACKAGE
                BEHAVIOUR
                vc4TTPSinkPkgR1Behaviour BEHAVIOUR
                        DEFINED AS
                        *This object class terminates a vc4 trail, i.e. the point at which
                        the SDH VC-4 is terminated.*
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": vc4TTPId                   GET;
        ;;
REGISTERED AS { g774ObjectClass 105 };

vc4TTPSourceR1 MANAGED OBJECT CLASS
        DERIVED FROM "Recommendation M.3100:1992":trailTerminationPointSource;
        CHARACTERIZED BY
        "Recommendation X.721:1992":administrativeStatePackage,
        "Recommendation M.3100:1992":createDeleteNotificationsPackage,
        "Recommendation M.3100:1992":stateChangeNotificationPackage,
        vc3-4SourcePackageR1,
        vc4TTPSourcePkgR1 PACKAGE
                BEHAVIOUR
                vc3-4TTPSourcePkgR1Behaviour BEHAVIOUR
                        DEFINED AS
                        *This object class originates a vc4 trail, i.e. the point at which
                        the SDH VC-4 is originated.*
                ;;
                ATTRIBUTES
                "Recommendation G.774:1992": vc4TTPId                   GET;
        ;;
REGISTERED AS { g774ObjectClass 106 };
```

4 Packages

Revisions that require re-registration

This clause provides replacement package definitions for the existing Recommendation G.774 (1992). Any package replaced by one in this clause is considered to be deprecated. The reasons for the replacement of a package are as follows:

1) The replaced package is faulty and must be fixed.

2) The replaced package includes an attribute, package, notification or action which has been re-registered in this Recommendation.

In each case where a package is replaced, the new package will be registered within this Recommendation. The textual label for the package will be revised to include the text "R1". For example, in the revision of the G.774 (1992) package "vc3-4SourcePackage", the revised label will become "vc3-4SourcePackageR1".

Below is a table of packages deprecated from Recommendation G.774 (1992) and the G.774 packages which replace them:

Deprecated G.774 (1992) Packages	**Replacement G.774 Packages**
vc11-2BidirectionalPackage	vc11-2BidirectionalPackageR1
vc11-2SinkPackage	vc11-2SinkPackageR1
vc3-4BidirectionalPackage	vc3-4BidirectionalPackageR1
vc3-4SinkPackage	vc3-4SinkPackageR1
vc3-4SourcePackage	vc3-4SourcePackageR1

Virtual Container 11-2 Packages

```
vc11-2BidirectionalPackageR1 PACKAGE
        BEHAVIOUR
        vc11-2BidirectionalPackageR1Behaviour BEHAVIOUR
                DEFINED AS
                *A communicationsAlarm notification shall be issued if a far end
                receive failure (V5 byte) is detected.  The probableCause parameter of
                the notification shall indicate FERF (Far End Receive Failure).*
;;;

vc11-2SinkPackageR1 PACKAGE
        BEHAVIOUR
        vc11-2SinkPackageR1Behaviour BEHAVIOUR
                DEFINED AS
                *A communicationsAlarm notification shall be issued if the signal label
                received (V5 Byte) does not match the signal label expected. The
                probableCause parameter of the notification shall indicate signal label
                mismatch.*
        ;;
        ATTRIBUTES
                "Recommendation G.774:1992": v5SignalLabelExpected GET,
                "Recommendation G.774:1992": v5SignalLabelReceive   GET;
;
```

Virtual Container 3-4 Packages

```
vc3-4BidirectionalPackageR1 PACKAGE
        BEHAVIOUR
        vc3-4BidirectionalPackageR1Behaviour BEHAVIOUR
                DEFINED AS
                *A communicationsAlarm notification shall be issued if a far end
                receive failure (G1 byte) is detected.  The probableCause parameter of
                the notification shall indicate FERF (Far End Receive Failure).*
;;;

vc3-4SinkPackageR1 PACKAGE
        BEHAVIOUR
        vc3-4SinkPackageR1Behaviour BEHAVIOUR
                DEFINED AS
                *A communicationsAlarm notification shall be issued if the signal label
                received (C2 Byte) does not match the signal label expected. The
                probableCause parameter of the notification shall indicate signal label
                mismatch.
```

A communicationsAlarm notification shall be issued if the path trace received (J1 Byte) does not match the path trace expected. The probableCause parameter of the notification shall indicate path trace mismatch.
A communicationsAlarm notification shall be issued if a loss of TU multiframe indicator (H4 Byte) is detected. The probableCause parameter of the notification shall indicate loss of TU multiframe. This communicationsAlarm notification is only required for high order paths with payloads that require use of the multiframe indicator.
When 16 bytes are supported, the 16 bytes of the path trace shall be conveyed at the management interface in both ways. This is a local issue whether the NE recompute the CRC-7 under a replace operation.*
;;
ATTRIBUTES
"Recommendation G.774:1992": j1PathTraceExpected
DEFAULT VALUE SDH.Null
GET-REPLACE REPLACE-WITH-DEFAULT,
"Recommendation G.774.5:1994": j1PathTraceReceive GET,
"Recommendation G.774:1992c2SignalLabelExpected GET,
"Recommendation G.774:1992": c2SignalLabelReceive GET;
;

vc3-4SourcePackageR1 PACKAGE
BEHAVIOUR
vc3-4SourcePackageR1Behaviour BEHAVIOUR
DEFINED AS
When 16 bytes are supported, the 16 bytes of the path trace shall be conveyed at the management interface.
;;
ATTRIBUTES
"Recommendation G.774.5:1994": j1PathTraceSend GET-REPLACE,
"Recommendation G.774:1992": c2SignalLabelSend GET;
;

5 Attributes

Revisions that do not require re-registration

The following text replaces the text within clause 5/G.774 (1992) associated with the following list of subheadings only. All additions are marked in **bold** for clarity.

AU-3 Identification
AU-4 Identifcation
AUG Identification
C2 Signal Label Expected
C2 Signal Label Receive
C2 Signal Label Send
Electrical SDH Physical Interface Trail Termination Point Identification
J1 Path Trace Expected
J1 Path Trace Receive
J1 Path Trace Send
Multiplex Section Trail Termination Point Identification
Optical SDH Physical Interface Trail Termination Point Identification
Regerator Section Trail Termination Point Identification
Tributary Unit 12 Connection Termination Point Identification
Tributary Unit 2 Connection Termination Point Identification
Tributary Unit 3 Connection Termination Point Identification
TUG-2 Identification
TUG-3 Identification

V5 Signal Label Expected
V5 Signal Label Receive
V5 Signal Label Send
Virtual Container 11 Trail Termination Point Identification
Virtual Container 12 Trail Termination Point Identification
Virtual Container 2 Trail Termination Point Identification
Virtual Container 3 Trail Termination Point Identification
Virtual Container 4 Trail Termination Point Identification

Any attributes defined in Recommendation G.774 (1992) which are not referred to here are retained unaltered.

AU-3 Identification

```
au3CTPId ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.NameType;
        MATCHES FOR EQUALITY, ORDERING;
        BEHAVIOUR
        au3CTPIdBehaviour BEHAVIOUR
                DEFINED AS
                *The au3CTPId attribute is an attribute type whose distinguished value can be
                used as an RDN when naming an instance of the AU3CTPBidirectional,
                AU3CTPSink, and AU3CTPSource managed object classes. This attribute
                specifies the timeslot of the au3CTP within its server TTP or IA. The value shall
                be the integer which represents the position of the timeslot in temporal order. The
                first timeslot shall be numbered one.*
                ;;
REGISTERED AS { g774Attribute 1 };
```

AU-4 Identification

```
au4CTPId ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.NameType;
        MATCHES FOR EQUALITY, ORDERING;
        BEHAVIOUR
        au4CTPIdBehaviour BEHAVIOUR
                DEFINED AS
                *The au4CTPId attribute is an attribute type whose distinguished value can be
                used as an RDN when naming an instance of the AU4CTPBidirectional,
                AU4CTPSink, and AU4CTPSource managed object classes. This attribute
                specifies the timeslot of the au4CTP within its server TTP or IA. The value shall
                be the integer which represents the position of the timeslot in temporal order. The
                first timeslot shall be numbered one.*
        ;;
REGISTERED AS { g774Attribute 2 };
```

AUG Identification

```
augId ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.NameType;
        MATCHES FOR EQUALITY, ORDERING;
        BEHAVIOUR
        augIdBehaviour BEHAVIOUR
                DEFINED AS
                *The augId attribute is an attribute type whose distinguished value can be used as
                an RDN when naming an instance of the AUG managed object class. This
                attribute specifies the timeslot of the aug within its server TTP or IA. The value
                shall be the integer which represents the position of the timeslot in temporal
                order. The first timeslot shall be numbered one.*
        ;;
REGISTERED AS { g774Attribute 3 };
```

C2 Signal Label Expected

```
c2SignalLabelExpected ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.C2SignalLabel;
        MATCHES FOR EQUALITY;
        BEHAVIOUR
        c2SignalLabelExpectedBehaviour BEHAVIOUR
                DEFINED AS
                *This attribute specifies the expected C2 VC Signal Label for an incoming
                VC-n. See Recommendation G.707 for a list of valid values.*
        ;;
REGISTERED AS { g774Attribute 4 };
```

C2 Signal Label Receive

```
c2SignalLabelReceive ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.C2SignalLabel;
        MATCHES FOR EQUALITY;
        BEHAVIOUR
        c2SignalLabelReceiveBehaviour BEHAVIOUR
                DEFINED AS
                *This attribute specifies the C2 VC Signal Label for an incoming VC-n. See
                Recommendation G.707 for a list of valid values.*
        ;;
REGISTERED AS { g774Attribute 5 };
```

C2 Signal Label Send

```
c2SignalLabelSend ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.C2SignalLabel;
        MATCHES FOR EQUALITY;
        BEHAVIOUR
        c2SignalLabelSendBehaviour BEHAVIOUR
                DEFINED AS
                *This attribute specifies the C2 VC Signal Label for an outgoing VC-n. See
                Recommendation G.707 for a list of valid values.*
        ;;
REGISTERED AS { g774Attribute 6 };
```

Electrical SDH Physical Interface Trail Termination Point Identification

```
electricalSPITTPId ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.NameType;
        MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
        BEHAVIOUR
        electricalSPITTPIdBehaviour BEHAVIOUR
                DEFINED AS
                *This attribute is used as an RDN for naming instances of the electricalSPITTP
                object classes. If the string choice of the syntax is used then matching on
                substrings is permitted. If the number choice for the syntax is used then
                matching on ordering is permitted.*
        ;;
REGISTERED AS { g774Attribute 7 };
```

J1 Path Trace Expected

```
j1PathTraceExpected ATTRIBUTE
        WITH ATTRIBUTE SYNTAX SDH.PathTrace;
        MATCHES FOR EQUALITY;
        BEHAVIOUR
```

j1PathTraceExpectedBehaviour BEHAVIOUR
DEFINED AS
This attribute is used to specify the value of the expected J1 Byte VC Path Trace byte message for instances of the VC-n. If the value of this attribute is set to NULL then any Received Path Trace shall be considered to match.
;;
REGISTERED AS { g774Attribute 10 };

J1 Path Trace Receive

j1PathTraceReceive ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.PathTrace;
MATCHES FOR EQUALITY;
BEHAVIOUR
j1PathTraceReceiveBehaviour BEHAVIOUR
DEFINED AS
This attribute is used to indicate the value of the incoming J1 Byte VC Path Trace byte message for instances of the VC-n.
;;
REGISTERED AS { g774Attribute 11 };

J1 Path Trace Send

j1PathTraceSend ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.PathTrace;
MATCHES FOR EQUALITY;
BEHAVIOUR
j1PathTraceSendBehaviour BEHAVIOUR
DEFINED AS
This attribute is used to indicate the value of the outgoing J1 VC Path Trace byte message for instances of the VC-n. The NULL choice is not supported.
;;
REGISTERED AS { g774Attribute 12 };

Multiplex Section Trail Termination Point Identification

msTTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;
BEHAVIOUR
msTTPIdBehaviour BEHAVIOUR
DEFINED AS
*This attribute is used as an RDN for naming instances of the msTTP object class. **If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.***
;;
REGISTERED AS { g774Attribute 16 };

Optical SDH Physical Interface Trail Termination Point Identification

opticalSPITTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;
BEHAVIOUR
opticalSPITTPIdBehaviour BEHAVIOUR
DEFINED AS
*This attribute is used as an RDN for naming instances of the opticalSPITTP object class. **If the string choice of the syntax is used then matching on**

substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.*

;;

REGISTERED AS { g774Attribute 18 };

Regenerator Section Trail Termination Point Identification

rsTTPId ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.NameType;

MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;

BEHAVIOUR

rsTTPIdBehaviour BEHAVIOUR

DEFINED AS

*This attribute is used as an RDN for naming instances of the rsTTP object classes. **If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.***

;;

REGISTERED AS { g774Attribute 25 };

Tributary Unit 11 Connection Termination Point Identification

tu11CTPId ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.NameType;

MATCHES FOR EQUALITY, **ORDERING**;

BEHAVIOUR

tu11CTPIdBehaviour BEHAVIOUR

DEFINED AS

This attribute is used as an RDN for naming instances of the tu11CTP object classes. This attribute specifies the time slot of the TU-11 CTP within its server TTP or IA. The value shall be the integer which represents the position of the time slot in temporal order. The first time slot shall be numbered one.

;;

REGISTERED AS { g774Attribute 29 };

Tributary Unit 12 Connection Termination Point Identification

tu12CTPId ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.NameType;

MATCHES FOR EQUALITY, **ORDERING**;

BEHAVIOUR

tu12CTPIdBehaviour BEHAVIOUR

DEFINED AS

This attribute is used as an RDN for naming instances of the tu12CTP object classes. This attribute specifies the time slot of the TU-12 CTP within its server TTP or IA. The value shall be the integer which represents the position of the time slot in temporal order. The first time slot shall be numbered one.

;;

REGISTERED AS { g774Attribute 30 };

Tributary Unit 2 Connection Termination Point Identification

tu2CTPId ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.NameType;

MATCHES FOR EQUALITY, **ORDERING**;

BEHAVIOUR

tu2CTPIdBehaviour BEHAVIOUR

DEFINED AS

*This attribute is used as an RDN for naming instances of the tu2CTP object classes. This attribute specifies the time slot of the TU-2 CTP within its server TTP or IA. The value shall be the integer which represents the position of the

time slot in temporal order. The first time slot shall be numbered one.*
;;
REGISTERED AS { g774Attribute 31 };

Tributary Unit 3 Connection Termination Point Identification

tu3CTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING**;
BEHAVIOUR
tu3CTPIdBehaviour BEHAVIOUR
DEFINED AS
This attribute is used as an RDN for naming instances of the tu3CTP object classes. This attribute specifies the time slot of the TU-3 CTP within its server TTP or IA. The value shall be the integer which represents the position of the time slot in temporal order. The first time slot shall be numbered one.
;;
REGISTERED AS { g774Attribute 32 };

TUG-2 Identification

tug2Id ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING**;
BEHAVIOUR
tug2IdBehaviour BEHAVIOUR
DEFINED AS
The tug2Id attribute is an attribute type whose distinguished value can be used as an RDN when naming an instance of the TUG-2 managed object class. This attribute specifies the time slot of the TUG-2 within its server TTP or IA. The value shall be the integer which represents the position of the time slot in temporal order. The first time slot shall be numbered one.
;;
REGISTERED AS { g774Attribute 33 };

TUG-3 Identification

tug3Id ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING**;
BEHAVIOUR
tug3IdBehaviour BEHAVIOUR
DEFINED AS
The tug3Id attribute is an attribute type whose distinguished value can be used as an RDN when naming an instance of the TUG-3 managed object class. This attribute specifies the time slot of the TUG-3 within its server TTP or IA. The value shall be the integer which represents the position of the time slot in temporal order. The first time slot shall be numbered one.
;;
REGISTERED AS { g774Attribute 34 };

V5 Signal Label Expected

v5SignalLabelExpected ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.V5SignalLabel;
MATCHES FOR EQUALITY;
BEHAVIOUR
v5SignalLabelExpectedBehaviour BEHAVIOUR

DEFINED AS
This attribute specifies the expected V5 VC Signal Label for an incoming VC-n. See Recommendation G.707 for a list of valid values.
;;
REGISTERED AS { g774Attribute 35 };

V5 Signal Label Receive

v5SignalLabelReceive ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.V5SignalLabel;
MATCHES FOR EQUALITY;
BEHAVIOUR
v5SignalLabelReceiveBehaviour BEHAVIOUR
DEFINED AS
This attribute specifies the V5 VC Signal Label for an incoming VC-n. See Recommendation G.707 for a list of valid values.
;;
REGISTERED AS { g774Attribute 36 };

V5 Signal Label Send

v5SignalLabelSend ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.V5SignalLabel;
MATCHES FOR EQUALITY;
BEHAVIOUR
v5SignalLabelSendBehaviour BEHAVIOUR
DEFINED AS
This attribute specifies the V5 VC Signal Label for an outgoing VC-n. See Recommendation G.707 for a list of valid values.
;;
REGISTERED AS { g774Attribute 37 };

Virtual Container 11 Trail Termination Point Identification

vc11TTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;
BEHAVIOUR
vc11TTPIdBehaviour BEHAVIOUR
DEFINED AS
*This attribute is used as an RDN for naming instances of the vc11TTP object classes. **If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.***
;;
REGISTERED AS { g774Attribute 38 };

Virtual Container 12 Trail Termination Point Identification

vc12TTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;
BEHAVIOUR
vc12TTPIdBehaviour BEHAVIOUR
DEFINED AS
*This attribute is used as an RDN for naming instances of the vc12TTP object classes. **If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.***
;;
REGISTERED AS { g774Attribute 39 };

Virtual Container 2 Trail Termination Point Identification

vc2TTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;
BEHAVIOUR
vc2TTPIdBehaviour BEHAVIOUR
DEFINED AS
*This attribute is used as an RDN for naming instances of the vc2TTP object classes. **If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.***
;;
REGISTERED AS { g774Attribute 40 };

Virtual Container 3 Trail Termination Point Identification

vc3TTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;
BEHAVIOUR
vc3TTPIdBehaviour BEHAVIOUR
DEFINED AS
*This attribute is used as an RDN for naming instances of the vc3TTP object classes. **If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.***
;;
REGISTERED AS { g774Attribute 41 };

Virtual Container 4 Trail Termination Point Identification

vc4TTPId ATTRIBUTE
WITH ATTRIBUTE SYNTAX SDH.NameType;
MATCHES FOR EQUALITY, **ORDERING, SUBSTRINGS**;
BEHAVIOUR
vc4TTPIdBehaviour BEHAVIOUR
DEFINED AS
*This attribute is used as an RDN for naming instances of the vc4TTP object classes. **If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.***
;;
REGISTERED AS { g774Attribute 42 };

Revisions that require re-registration

This clause provides replacement attribute definitions for the existing Recommendation G.774 (1992). Any attribute replaced by one in this clause is considered to be deprecated. The reasons for the replacement of an attribute are as follows:

1) The replaced attribute is faulty and must be fixed.

Below is a table of attributes deprecated from Recommendation G.774 (1992):

Deprecated G.774 (1992) Attributes

ferfState

6 Namebindings

Revisions that require re-registration

This clause provides replacement namebinding definitions for the existing Recommendation G.774 (1992). Any namebinding replaced by one in this clause is considered to be deprecated. The reasons for the replacement of a namebinding are as follows:

1) The replaced namebinding is faulty and must be fixed.

2) The replaced namebinding refers to a superior managed object class which has been re-registered in this Recommendation.

3) The replaced namebinding refers to a subordinate managed object class which has been re-registered in this Recommendation.

4) The replaced namebinding refers to a naming attribute which has been re-registered in this Recommendation.

In each case where a namebinding is replaced, the new namebinding will be registered within this Recommendation. The textual label for the namebinding will be revised to include the text "R1". For example, in the revision of the G.774 (1992) namebinding "vcnUserChannelCTPSource-vc4TTPSource", the revised label will become "vcnUserChannelCTPSource-vc4TTPSourceR1" or in the case of the "vc4TTPSink-sdhNE" namebinding, the revised label becomes "vc4TTPSinkR1-sdhNE". Note the "R1" is placed immediately following the revised class which impacts the namebinding.

Below is a table of namebindings deprecated from Recommendation G.774 (1992) and the G.774 namebindings which replace them:

Deprecated G.774 (1992) Namebindings

vcnUserChannelCTPBidirectional-vc3TTPBidirectional
vcnUserChannelCTPSink-vc3TTPBidirectional
vcnUserChannelCTPSink-vc3TTPSink
vcnUserChannelCTPSource-vc3TTPBidirectional
vcnUserChannelCTPSource-vc3TTPSource
vcnUserChannelCTPBidirectional-vc4TTPBidirectional
vcnUserChannelCTPSink-vc4TTPBidirectional
vcnUserChannelCTPSink-vc4TTPSink
vcnUserChannelCTPSource-vc4TTPBidirectional
vcnUserChannelCTPSource-vc4TTPSource
au3CTPBidirectional-augBidirectional
au3CTPSink-augBidirectional
au3CTPSink-augSink
au4CTPBidirectional-augBidirectional
au4CTPSink-augBidirectional
au4CTPSink-augSink
tu11CTPBidirectional-tug2Bidirectional
tu11CTPSink-tug2Bidirectional
tu11CTPSink-tug2Sink
tu12CTPBidirectional-tug2Bidirectional
tu12CTPSink-tug2Bidirectional
tu12CTPSink-tug2Sink
tu2CTPBidirectional-tug2Bidirectional
tu2CTPSink-tug2Bidirectional
tu2CTPSink-tug2Sink
tu3CTPBidirectional-tug3Bidirectional
tu3CTPSink-tug3Bidirectional
tu3CTPSink-tug3Sink
tug2Bidirectional-vc3TTPBidirectional

tug2Sink-vc3TTPSink
tug2Source-vc3TTPSource
tug3Bidirectional-vc4TTPBidirectional
tug3Sink-vc4TTPSink
tug3Source-vc4TTPSource
vc11TTPBidirectional-sdhNE
vc11TTPSink-sdhNE
vc12TTPBidirectional-sdhNE
vc12TTPSink-sdhNE
vc2TTPBidirectional-sdhNE
vc2TTPSink-sdhNE
vc3TTPBidirectional-sdhNE
vc3TTPSink-sdhNE
vc3TTPSource-sdhNE
vc4TTPBidirectional-sdhNE
vc4TTPSink-sdhNE
vc4TTPSource-sdhNE

Replacement G.774 Namebindings

vcnUserChannelCTPBidirectional-vc3TTPBidirectionalR1
vcnUserChannelCTPSink-vc3TTPBidirectionalR1
vcnUserChannelCTPSink-vc3TTPSinkR1
vcnUserChannelCTPSource-vc3TTPBidirectionalR1
vcnUserChannelCTPSource-vc3TTPSourceR1
vcnUserChannelCTPBidirectional-vc4TTPBidirectionalR1
vcnUserChannelCTPSink-vc4TTPBidirectionalR1
vcnUserChannelCTPSink-vc4TTPSinkR1
vcnUserChannelCTPSource-vc4TTPBidirectionalR1
vcnUserChannelCTPSource-vc4TTPSourceR1
au3CTPBidirectionalR1-augBidirectional
au3CTPSinkR1-augBidirectional
au3CTPSinkR1-augSink
au4CTPBidirectionalR1-augBidirectional
au4CTPSink-augBidirectional
au4CTPSinkR1-augSink
tu11CTPBidirectionalR1-tug2Bidirectional
tu11CTPSinkR1-tug2Bidirectional
tu11CTPSinkR1-tug2Sink
tu12CTPBidirectionalR1-tug2Bidirectional
tu12CTPSinkR1-tug2Bidirectional
tu12CTPSinkR1-tug2Sink
tu2CTPBidirectionalR1-tug2Bidirectional
tu2CTPSinkR1-tug2Bidirectional
tu2CTPSinkR1-tug2Sink
tu3CTPBidirectionalR1-tug3Bidirectional
tu3CTPSinkR1-tug3Bidirectional
tu3CTPSinkR1-tug3Sink
tug2Bidirectional-vc3TTPBidirectionalR1
tug2Sink-vc3TTPSinkR1
tug2Source-vc3TTPSourceR1
tug3Bidirectional-vc4TTPBidirectionalR1
tug3Sink-vc4TTPSinkR1
tug3Source-vc4TTPSourceR1
vc11TTPBidirectionalR1-sdhNE
vc11TTPSinkR1-sdhNE
vc12TTPBidirectionalR1-sdhNE
vc12TTPSinkR1-sdhNE
vc2TTPBidirectionalR1-sdhNE
vc2TTPSinkR1-sdhNE
vc3TTPBidirectionalR1-sdhNE

```
        vc3TTPSinkR1-sdhNE
        vc3TTPSourceR1-sdhNE
        vc4TTPBidirectionalR1-sdhNE
        vc4TTPSinkR1-sdhNE
        vc4TTPSourceR1-sdhNE

au3CTPBidirectionalR1-augBidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        au3CTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":augBidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":au3CTPId;
        BEHAVIOUR
        au3CTPBidirectionalR1-augBidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed objects are automatically instantiated when the
                superior managed object is instantiated, according to the make-up and mode of
                operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 121 };

au3CTPSinkR1-augBidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        au3CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":augBidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":au3CTPId;
        BEHAVIOUR
        au3CTPSinkR1-augBidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed objects are automatically instantiated when the
                superior managed object is instantiated, according to the make-up and mode of
                operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 122 };

au3CTPSinkR1-augSink NAME BINDING
        SUBORDINATE OBJECT CLASS        au3CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":augSink;
        WITH ATTRIBUTE "Recommendation G.774:1992":au3CTPId;
        BEHAVIOUR
        au3CTPSinkR1-augSinkBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed objects are automatically instantiated when the
                superior managed object is instantiated, according to the make-up and mode of
                operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 123 };

au4CTPBidirectionalR1-augBidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        au4CTPBidirectional R1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":augBidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":au4CTPId;
        BEHAVIOUR
        au4CTPBidirectional R1-augBidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 124 };
```

```
au4CTPSinkR1-augBidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        au4CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":augBidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":au4CTPId;
        BEHAVIOUR
        au4CTPSinkR1-augBidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 125 };

au4CTPSinkR1-augSink NAME BINDING
        SUBORDINATE OBJECT CLASS        au4CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":augSink;
        WITH ATTRIBUTE "Recommendation G.774:1992":au4CTPId;
        BEHAVIOUR
        au4CTPSinkR1-augSinkBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 126 };

tu11CTPBidirectionalR1-tug2Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        tu11CTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":tug2Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu11CTPId;
        BEHAVIOUR
        tu11CTPBidirectionalR1-tug2BidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed objects are automatically instantiated when the
                superior managed object is instantiated, according to the make-up and mode of
                operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 127 };

tu11CTPSinkR1-tug2Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS                tu11CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":tug2Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu11CTPId;
        BEHAVIOUR
        tu11CTPSinkR1-tug2BidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed objects are automatically instantiated when the
                superior managed object is instantiated, according to the make-up and mode of
                operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 128 };

tu11CTPSinkR1-tug2Sink NAME BINDING
        SUBORDINATE OBJECT CLASS                tu11CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":tug2Sink;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu11CTPId;
        BEHAVIOUR
        tu11CTPSinkR1-tug2SinkBehaviour BEHAVIOUR
```

```
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 129 };

tu12CTPBidirectionalR1-tug2Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS                tu12CTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":tug2Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu12CTPId;
        BEHAVIOUR
        tu12CTPBidirectionalR1-tug2BidirectionalBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 130 };

tu12CTPSinkR1-tug2Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS                tu12CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":tug2Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu12CTPId;
        BEHAVIOUR
        tu12CTPSinkR1-tug2BidirectionalBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 131 };

tu12CTPSinkR1-tug2Sink NAME BINDING
        SUBORDINATE OBJECT CLASS                tu12CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":tug2Sink;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu12CTPId;
        BEHAVIOUR
        tu12CTPSinkR1-tug2SinkBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 132 };

tu2CTPBidirectionalR1-tug2Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        tu2CTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":tug2Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu2CTPId;
        BEHAVIOUR
        tu2CTPBidirectionalR1-tug2BidirectionalBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 133 };
```

```
tu2CTPSinkR1-tug2Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        tu2CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":tug2Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu2CTPId;
        BEHAVIOUR
        tu2CTPSinkR1-tug2BidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 134 };

tu2CTPSinkR1-tug2Sink NAME BINDING
        SUBORDINATE OBJECT CLASS        tu2CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":tug2Sink;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu2CTPId;
        BEHAVIOUR
        tu2CTPSinkR1-tug2SinkBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 135 };

tu3CTPBidirectionalR1-tug3Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        tu3CTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":tug3Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu3CTPId;
        BEHAVIOUR
        tu3CTPBidirectionalR1-tug3BidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 136 };

tu3CTPSinkR1-tug3Bidirectional NAME BINDING
        SUBORDINATE OBJECT CLASS        tu3CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS
        "Recommendation G.774:1992":tug3Bidirectional;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu3CTPId;
        BEHAVIOUR
        tu3CTPSinkR1-tug3BidirectionalBehaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 137 };

tu3CTPSinkR1-tug3Sink NAME BINDING
        SUBORDINATE OBJECT CLASS        tu3CTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":tug3Sink;
        WITH ATTRIBUTE "Recommendation G.774:1992":tu3CTPId;
        BEHAVIOUR
        tu3CTPSinkR1-tug3SinkBehaviour BEHAVIOUR
```

```
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 138 };

tug2Bidirectional-vc3TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":tug2Bidirectional;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":tug2Id;
        BEHAVIOUR
        tug2Bidirectional-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 139 };

tug2Sink-vc3TTPSinkR1 NAME BINDING
        SUBORDINATE OBJECT CLASS        "Recommendation G.774:1992":tug2Sink;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPSinkR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":tug2Id;
        BEHAVIOUR
        tug2Sink-vc3TTPSinkR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 140 };

tug2Source-vc3TTPSourceR1 NAME BINDING
        SUBORDINATE OBJECT CLASS        "Recommendation G.774:1992":tug2Source;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPSourceR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":tug2Id;
        BEHAVIOUR
        tug2Source-vc3TTPSourceR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 141 };

tug3Bidirectional-vc4TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":tug3Bidirectional;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":tug3Id;
        BEHAVIOUR
        tug3Bidirectional-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode of
            operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 142 };
```

```
tug3Sink-vc4TTPSinkR1 NAME BINDING
        SUBORDINATE OBJECT CLASS        "Recommendation G.774:1992":tug3Sink;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPSinkR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":tug3Id;
        BEHAVIOUR
        tug3Sink-vc4TTPSinkR1Behaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed objects are automatically instantiated when the
                superior managed object is instantiated, according to the make-up and mode of
                operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 143 };

tug3Source-vc4TTPSourceR1 NAME BINDING
        SUBORDINATE OBJECT CLASS        "Recommendation G.774:1992":tug3Source;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPSourceR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":tug3Id;
        BEHAVIOUR
        tug3Source-vc4TTPSourceR1Behaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed objects are automatically instantiated when the
                superior managed object is instantiated, according to the make-up and mode of
                operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 144 };

vc11TTPBidirectionalR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc11TTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc11TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 145 };

vc11TTPSinkR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc11TTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc11TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 146 };

vc12TTPBidirectionalR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc12TTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc12TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 147 };
```

```
vc12TTPSinkR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc12TTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc12TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 148 };

vc2TTPBidirectionalR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc2TTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc2TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 149 };

vc2TTPSinkR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc2TTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc2TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 150 };

vc3TTPBidirectionalR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc3TTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc3TTPI d;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 151 };

vc3TTPSinkR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc3TTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc3TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 152 };

vc3TTPSourceR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc3TTPSourceR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc3TTPId;
```

```
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 153 };

vc4TTPBidirectionalR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc4TTPBidirectionalR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc4TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 154 };

vc4TTPSinkR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc4TTPSinkR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc4TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 155 };

vc4TTPSourceR1-sdhNE NAME BINDING
        SUBORDINATE OBJECT CLASS        vc4TTPSourceR1;
        NAMED BY SUPERIOR OBJECT CLASS "Recommendation G.774:1992":sdhNE;
        WITH ATTRIBUTE "Recommendation G.774:1992":vc4TTPId;
        CREATE
                WITH-REFERENCE-OBJECT,
                WITH-AUTOMATIC-INSTANCE-NAMING;
        DELETE
                DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 156 };

vcnUserChannelCTPBidirectional-vc3TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPBidirectional;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPBidirectional-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 157 };

vcnUserChannelCTPSink-vc3TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSink;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSink-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
```

```
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 158 };

vcnUserChannelCTPSink-vc3TTPSinkR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSink;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPSinkR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSink-vc3TTPSinkR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 159 };

vcnUserChannelCTPSource-vc3TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSource;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSource-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 160 };

vcnUserChannelCTPSource-vc3TTPSourceR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSource;
        NAMED BY SUPERIOR OBJECT CLASS vc3TTPSourceR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSource-vc3TTPSourceR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 161 };

vcnUserChannelCTPBidirectional-vc4TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPBidirectional;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPBidirectional-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
```

```
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 162 };

vcnUserChannelCTPSink-vc4TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSink;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSink-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 163 };

vcnUserChannelCTPSink-vc4TTPSinkR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSink;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPSinkR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSink-vc4TTPSinkR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 164 };

vcnUserChannelCTPSource-vc4TTPBidirectionalR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSource;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPBidirectionalR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSource-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the superior
            managed object is instantiated, according to the make-up and mode of operation
            of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 165 };

vcnUserChannelCTPSource-vc4TTPSourceR1 NAME BINDING
        SUBORDINATE OBJECT CLASS
        "Recommendation G.774:1992":vcnUserChannelCTPSource;
        NAMED BY SUPERIOR OBJECT CLASS vc4TTPSourceR1;
        WITH ATTRIBUTE "Recommendation G.774:1992":vcnUserChannelCTPId;
        BEHAVIOUR
        vcnUserChannelCTPSource-vc4TTPSourceR1Behaviour BEHAVIOUR
```

```
                DEFINED AS
                *The subordinate managed object is automatically instantiated when the superior
                managed object is instantiated, according to the make-up and mode of operation
                of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 166 };
```

7 Supporting ASN.1

Revisions that do not require re-registration

The following text replaces the entire text within clause 7/G.774 (1992). All additions are marked in **bold** for clarity.

```
SDH {itu-t(0) Recommendation(0) g(7) sdhm(774) informationModel(0) asn1Module(2)sdh(0)}

DEFINITIONS IMPLICIT TAGS ::=
BEGIN

IMPORTS
NameType   --  Recommendation M.3100
FROM ASN1DefinedTypesModule {itu-t(0) recommendation(0) m(13) gnm(3100) informationModel(0)
asn1Modules(2) asn1DefinedTypeModule(0)}
;
g774 OBJECT IDENTIFIER ::= {itu-t(0) recommendation(0) g(7) sdhm(774)informationModel(0)}

g774ObjectClass OBJECT IDENTIFIER ::= {g774 managedObjectClass(3)}

g774Attribute OBJECT IDENTIFIER ::= {g774 attribute(7)}

g774NameBinding OBJECT IDENTIFIER ::= {g774 nameBinding(6)}

Boolean ::= BOOLEAN

C2SignalLabel ::= INTEGER (0..255)

FerfState ::= ENUMERATED {
        automatic(0),
        forceOn(1),
        forceOff(2)
}

Integer ::= INTEGER

OpticalReach ::= ENUMERATED {
        intraOffice(0),
        shortHaul(1),
        longHaul(2)
}

OpticalWavelength ::= ENUMERATED {
        wl1310(0),
        wl1550(1)
}
```

```
PathTrace ::= CHOICE {
        null                    NULL,
        pathtrace               [1]  GRAPHICSTRING
}
-- Refering to PointerSinkType. The ENUMERATED value of invalidPointer(2)
-- should be used when a LOP condition exists or if the pointer value is unknown .

PointerSinkType ::= ENUMERATED {
        normalPointer(0),
        concatenationIndication(1),
        invalidPointer(2)
}

PointerSourceType ::= ENUMERATED {
        normalPointer(0),
        concatenationIndication(1)
}

V5SignalLabel ::= INTEGER (0..7)

END
```

Revisions that do not require re-registration

Below is a table of ASN.1 Syntax definitions deprecated from existing Recommendation G.774 (1992) ASN.1 module SDH {itu-t(0) recommendation(0) g(7) sdhm(774) informationModel(0) asn1Module(2) sdh(0)}.

Deprecated G.774 (1992) ASN.1 Syntax

FerfState

Below is a table of ASN.1 Syntax definitions added to existing Recommendation G.774 (1992) ASN.1 module SDH {itu-t(0) recommendation(0) g(7) sdhm(774) informationModel(0) asn1Module(2) sdh(0)}.

Additional G.774 ASN.1 Syntax

```
Null ::= NULL
```

8 Object relations

No revisions are required.

8.1 Syntax

No revisions are required.

8.1.1 Subordination Rule Templates

No revisions are required.

8.1.2 Constraint Rule Templates

No revisions are required.

8.2 Connectivity Pointer Constraints

Revisions that do not require re-registration

The following text replaces the text within 8.2/G.774 (1992) associated with the following listed constraint rules only. All additions are marked in **bold** for clarity.

upstreamConnectivityPointer-rsTTPSink
upstreamConnectivityPointer-rsTTPSource

Any constraint rules defined in Recommendation G.774 (1992) which are not referred to here are retained unaltered.

```
upstreamConnectivityPointer-rsTTPSink CONSTRAINT RULE
        OBJECT CLASS
                rsTTPSink AND SUBCLASSES;
        IS RELATED TO
                rsCTPSink, rsCTPBidirectional;
        USING ATTRIBUTE
                "Recommendation M.3100":upstreamConnectivityPointer;
        CASE {
        single ACCORDING TO RULE
                SET SIZE(1) OF CHOICE {
                        rsCTPSink, rsCTPBidirectional }
        };
;

downstreamConnectivityPointer-rsTTPSource CONSTRAINT RULE
        OBJECT CLASS
                rsTTPSource AND SUBCLASSES;
        IS RELATED TO
                rsCTPSource, rsCTPBidirectional;
        USING ATTRIBUTE
                "Recommendation M.3100":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                rsCTPSource, rsCTPBidirectional }
        };
;
```

Revisions that require re-registration

This clause provides replacement constraint rule definitions for the existing Recommendation G.774 (1992). Any constraint rule replaced by one in this clause is considered to be deprecated. The reasons for the replacement of a constraint rule are as follows:

1) The replaced constraint rule is faulty and must be fixed.

2) The replaced constraint rule refers to a managed object class which has been re-registered in this Recommendation.

3) The replaced constraint rule refers to an attribute which has been re-registered in this Recommendation.

In each case where a constraint is replaced, the new constraint will be registered within this Recommendation. The textual label for the constraint will be revised to include the text "R1". For example, in the revision of the G.774 (1992) constraint "downstreamConnectivityPointer-au3CTPSink", the revised label will become "downstreamConnectivityPointer-au3CTPSinkR1". Note the "R1" is placed immediately following the revised class which impacts the constraint. In the case where the class within the label has not changed but the constraint is still altered because the

constraint refers to a class that has changed, then the "R1" is placed immediately following the "downstreamConnectivityPointer" text of the revised constraint label. For example, in the revision of the G.774 (1992) constraint "downstreamConnectivityPointer-au3CTPSource", the revised label will become "downstreamConnectivityPointerR1-au3CTPSource".

Below is a table of constraint rules deprecated from Recommendation G.774 (1992) and the G.774 constraint rules which replace them:

Deprecated G.774 (1992) Constraint Rules

downstreamConnectivityPointer-au3CTPSink
upstreamConnectivityPointer-au3CTPSource
downstreamConnectivityPointer-au4CTPSink
upstreamConnectivityPointer-au4CTPSource
downstreamConnectivityPointer-tu11CTPSink
upstreamConnectivityPointer-tu11CTPSource
downstreamConnectivityPointer-tu12CTPSink
upstreamConnectivityPointer-tu12CTPSource
downstreamConnectivityPointer-tu2CTPSink
upstreamConnectivityPointer-tu2CTPSource
downstreamConnectivityPointer-tu3CTPSink
upstreamConnectivityPointer-tu3CTPSource
upstreamConnectivityPointer-vc11TTPSink
downstreamConnectivityPointer-vc11TTPSource
upstreamConnectivityPointer-vc12TTPSink
downstreamConnectivityPointer-vc12TTPSource
upstreamConnectivityPointer-vc2TTPSink
downstreamConnectivityPointer-vc2TTPSource
upstreamConnectivityPointer-vc3TTPSink
downstreamConnectivityPointer-vc3TTPSource
upstreamConnectivityPointer-vc4TTPSink
downstreamConnectivityPointer-vc4TTPSource

Replacement G.774 Constraint Rules

downstreamConnectivityPointer-au3CTPSinkR1
upstreamConnectivityPointerR1-au3CTPSource
downstreamConnectivityPointer-au4CTPSinkR1
upstreamConnectivityPointerR1-au4CTPSource
downstreamConnectivityPointer-tu11CTPSinkR1
upstreamConnectivityPointerR1-tu11CTPSource
downstreamConnectivityPointer-tu12CTPSinkR1
upstreamConnectivityPointerR1-tu12CTPSource
downstreamConnectivityPointer-tu2CTPSinkR1
upstreamConnectivityPointerR1-tu2CTPSource
downstreamConnectivityPointer-tu3CTPSinkR1
upstreamConnectivityPointerR1-tu3CTPSource
upstreamConnectivityPointer-vc11TTPSinkR1
downstreamConnectivityPointerR1-vc11TTPSource
upstreamConnectivityPointer-vc12TTPSinkR1
downstreamConnectivityPointerR1-vc12TTPSource
upstreamConnectivityPointer-vc2TTPSinkR1
downstreamConnectivityPointerR1-vc2TTPSource
upstreamConnectivityPointer-vc3TTPSinkR1
downstreamConnectivityPointer-vc3TTPSourceR1
upstreamConnectivityPointer-vc4TTPSinkR1
downstreamConnectivityPointer-vc4TTPSourceR1

```
downstreamConnectivityPointer-au3CTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                au3CTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                vc3TTPSinkR1, vc3TTPBidirectionalR1,
                "Recommendation G.774:1992":au3CTPSource, au3CTPBidirectionalR1,
                "Recommendation G.774:1992":tu3CTPSource, tu3CTPBidirectionalR1,
                vc4TTPSinkR1, vc4TTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc3TTPSinkR1,vc3TTPBidirectionalR1,
                                "Recommendation G.774:1992":au3CTPSource,
                                au3CTPBidirectionalR1,
                                "Recommendation G.774:1992":tu3CTPSource,
                                tu3CTPBidirectionalR1,
                                vc4TTPSinkR1,vc4TTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                SET SIZE(1..N) OF CHOICE {
                                        vc3TTPSinkR1, vc3TTPBidirectionalR1,
                                        "Recommendation G.774:1992":tu3CTPSource,
                                         tu3CTPBidirectionalR1,
                                        "Recommendation G.774:1992":au3CTPSource,
                                        au3CTPBidirectionalR1 },
                                SET SIZE(1..N) OF CHOICE {
                                        vc4TTPSinkR1, vc4TTPBidirectionalR1 }
                        }
        };
;

upstreamConnectivityPointerR1-au3CTPSource CONSTRAINT RULE
        OBJECT CLASS
                "Recommendation G.774:1992":au3CTPSource AND SUBCLASSES;
        IS RELATED TO
                vc3TTPSourceR1, vc3TTPBidirectionalR1,
                au3CTPSinkR1, au3CTPBidirectionalR1,
                tu3CTPSinkR1, tu3CTPBidirectionalR1,
                vc4TTPSourceR1, vc4TTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE { vc3TTPSourceR1,vc3TTPBidirectionalR1,
                                au3CTPSinkR1,au3CTPBidirectionalR1,
                                tu3CTPSinkR1,tu3CTPBidirectionalR1,
                                vc4TTPSourceR1,vc4TTPBidirectionalR1 }
        };
;

downstreamConnectivityPointer-au4CTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                au4CTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                "Recommendation G.774:1992":au4CTPSource, au4CTPBidirectionalR1,
                vc4TTPSinkR1, vc4TTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
```

```
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc4TTPSinkR1,vc4TTPBidirectionalR1,
                                "Recommendation G.774:1992":au4CTPSource,
                                au4CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                vc4TTPSinkR1, vc4TTPBidirectionalR1,
                                "Recommendation G.774:1992":au4CTPSource,
                                 au4CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointerR1-au4CTPSource CONSTRAINT RULE
        OBJECT CLASS
                "Recommendation G.774:1992":au4CTPSource AND SUBCLASSES;
        IS RELATED TO
                au4CTPSinkR1, au4CTPBidirectionalR1,
                vc4TTPSourceR1, vc4TTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc4TTPSourceR1, vc4TTPBidirectionalR1,
                                au4CTPSinkR1, au4CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointer-tu11CTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                tu11CTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                vc11TTPSinkR1, vc11TTPBidirectionalR1,
                "Recommendation G.774:1992":tu11CTPSource, tu11CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc11TTPSinkR1, vc11TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu11CTPSource,
                                 tu11CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                vc11TTPSinkR1, vc11TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu11CTPSource,
                                tu11CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointerR1-tu11CTPSource CONSTRAINT RULE
        OBJECT CLASS
                "Recommendation G.774:1992":tu11CTPSource AND SUBCLASSES;
        IS RELATED TO
                "Recommendation G.774:1992":vc11TTPSource, vc11TTPBidirectionalR1,
                tu11CTPSinkR1, tu11CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
```

```
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                "Recommendation G.774:1992":vc11TTPSource,
                                 vc11TTPBidirectionalR1,
                                tu11CTPSinkR1, tu11CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointer-tu12CTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                tu12CTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                vc12TTPSinkR1, vc12TTPBidirectionalR1,
                "Recommendation G.774:1992":tu12CTPSource, tu12CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc12TTPSinkR1, vc12TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu12CTPSource,
                                tu12CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                vc12TTPSinkR1, vc12TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu12CTPSource,
                                tu12CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointerR1-tu12CTPSource CONSTRAINT RULE
        OBJECT CLASS
                "Recommendation G.774:1992":tu12CTPSource AND SUBCLASSES;
        IS RELATED TO
                "Recommendation G.774:1992":vc12TTPSource, vc12TTPBidirectionalR1,
                tu12CTPSinkR1, tu12CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                "Recommendation G.774:1992":vc12TTPSource,
                                 vc12TTPBidirectionalR1,
                                tu12CTPSinkR1, tu12CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointer-tu2CTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                tu2CTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                vc2TTPSinkR1, vc2TTPBidirectionalR1,
                "Recommendation G.774:1992":tu2CTPSource, tu2CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc2TTPSinkR1, vc2TTPBidirectionalR1,
```

```
                    "Recommendation G.774:1992":tu2CTPSource,
                    tu2CTPBidirectionalR1 },
            broadcast ACCORDING TO RULE
                SET SIZE(1..N) OF CHOICE {
                    vc2TTPSinkR1, vc2TTPBidirectionalR1,
                    "Recommendation G.774:1992":tu2CTPSource,
                    tu2CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointerR1-tu2CTPSource CONSTRAINT RULE
        OBJECT CLASS
            "Recommendation G.774:1992":tu2CTPSource AND SUBCLASSES;
        IS RELATED TO
            "Recommendation G.774:1992":vc2TTPSource, vc2TTPBidirectionalR1,
            tu2CTPSinkR1, tu2CTPBidirectionalR1;
        USING ATTRIBUTE
            "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
            single ACCORDING TO RULE
                SET SIZE(1) OF CHOICE {
                    "Recommendation G.774:1992":vc2TTPSource,
                     vc2TTPBidirectionalR1,
                    tu2CTPSinkR1, tu2CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointer-tu3CTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
            tu3CTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
            vc3TTPSinkR1, vc3TTPBidirectionalR1,
            "Recommendation G.774:1992":au3CTPSource, au3CTPBidirectionalR1,
            "Recommendation G.774:1992":tu3CTPSource, tu3CTPBidirectionalR1;
        USING ATTRIBUTE
            "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
            single ACCORDING TO RULE
                SET SIZE(1) OF CHOICE {
                    vc3TTPSinkR1, vc3TTPBidirectionalR1,
                    "Recommendation G.774:1992":au3CTPSource,
                    au3CTPBidirectionalR1,
                    "Recommendation G.774:1992":tu3CTPSource,
                    tu3CTPBidirectionalR1 },
            broadcast ACCORDING TO RULE
                SET SIZE(1..N) OF CHOICE {
                    vc3TTPSinkR1, vc3TTPBidirectionalR1,
                    "Recommendation G.774:1992":au3CTPSource,
                    au3CTPBidirectionalR1,
                    "Recommendation G.774:1992":tu3CTPSource,
                    tu3CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointerR1-tu3CTPSource CONSTRAINT RULE
        OBJECT CLASS
            "Recommendation G.774:1992":tu3CTPSource AND SUBCLASSES;
        IS RELATED TO
            vc3TTPSourceR1, vc3TTPBidirectionalR1,
            au3CTPSinkR1, au3CTPBidirectionalR1,
            tu3CTPSinkR1, tu3CTPBidirectionalR1;
```

```
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc3TTPSourceR1, vc3TTPBidirectionalR1,
                                au3CTPSinkR1, au3CTPBidirectionalR1,
                                tu3CTPSinkR1, tu3CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointer-vc11TTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                vc11TTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                "Recommendation G.774:1992":vc11TTPSource, vc11TTPBidirectionalR1,
                tu11CTPSinkR1, tu11CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                "Recommendation G.774:1992":vc11TTPSource,
                                 vc11TTPBidirectionalR1,
                                tu11CTPSinkR1, tu11CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointerR1-vc11TTPSource CONSTRAINT RULE
        OBJECT CLASS
                "Recommendation G.774:1992":vc11TTPSource AND SUBCLASSES;
        IS RELATED TO
                vc11TTPSinkR1, vc11TTPBidirectionalR1,
                "Recommendation G.774:1992":tu11CTPSource, tu11CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc11TTPSinkR1, vc11TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu11CTPSource,
                                tu11CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                vc11TTPSinkR1, vc11TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu11CTPSource,
                                tu11CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointer-vc12TTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                vc12TTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                "Recommendation G.774:1992":vc12TTPSource, vc12TTPBidirectionalR1,
                tu12CTPSinkR1, tu12CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
```

```
                SET SIZE(1) OF CHOICE {
                        "Recommendation G.774:1992":vc12TTPSource,
                         vc12TTPBidirectionalR1,
                        tu12CTPSinkR1, tu12CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointerR1-vc12TTPSource CONSTRAINT RULE
        OBJECT CLASS
                "Recommendation G.774:1992":vc12TTPSource AND SUBCLASSES;
        IS RELATED TO
                vc12TTPSinkR1, vc12TTPBidirectionalR1,
                "Recommendation G.774:1992":tu12CTPSource, tu12CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc12TTPSinkR1, vc12TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu12CTPSource,
                                tu12CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                vc12TTPSinkR1, vc12TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu12CTPSource,
                                tu12CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointer-c2TTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                vc2TTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                "Recommendation G.774:1992":vc2TTPSource, vc2TTPBidirectionalR1,
                tu2CTPSinkR1, tu2CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                "Recommendation G.774:1992":vc2TTPSource,
                                vc2TTPBidirectionalR1,
                                tu2CTPSinkR1, tu2CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointerR1-vc2TTPSource CONSTRAINT RULE
        OBJECT CLASS
                "Recommendation G.774:1992":vc2TTPSource AND SUBCLASSES;
        IS RELATED TO
                vc2TTPSinkR1, vc2TTPBidirectionalR1,
                "Recommendation G.774:1992":tu2CTPSource, tu2CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc2TTPSinkR1, vc2TTPBidirectionalR1,
                                "Recommendation G.774:1992":tu2CTPSource,
                                tu2CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
```

```
                SET SIZE(1..N) OF CHOICE {
                        vc2TTPSinkR1, vc2TTPBidirectionalR1,
                        "Recommendation G.774:1992":tu2CTPSource,
                        tu2CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointer-vc3TTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                vc3TTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                vc3TTPSourceR1, vc3TTPBidirectionalR1,
                au3CTPSinkR1, au3CTPBidirectionalR1,
                tu3CTPSinkR1, tu3CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc3TTPSourceR1, vc3TTPBidirectionalR1,
                                au3CTPSinkR1, au3CTPBidirectionalR1,
                                tu3CTPSinkR1, tu3CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointer-vc3TTPSourceR1 CONSTRAINT RULE
        OBJECT CLASS
                vc3TTPSourceR1 AND SUBCLASSES;
        IS RELATED TO
                vc3TTPSinkR1, vc3TTPBidirectionalR1,
                "Recommendation G.774:1992":au3CTPSource, au3CTPBidirectionalR1,
                "Recommendation G.774:1992":tu3CTPSource, tu3CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc3TTPSinkR1, vc3TTPBidirectionalR1,
                                "Recommendation G.774:1992":au3CTPSource,
                                au3CTPBidirectionalR1,
                                "Recommendation G.774:1992":tu3CTPSource,
                                tu3CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                vc3TTPSinkR1, vc3TTPBidirectionalR1,
                                "Recommendation G.774:1992":au3CTPSource,
                                au3CTPBidirectionalR1,
                                "Recommendation G.774:1992":tu3CTPSource,
                                tu3CTPBidirectionalR1 }
        };
;

upstreamConnectivityPointer-vc4TTPSinkR1 CONSTRAINT RULE
        OBJECT CLASS
                vc4TTPSinkR1 AND SUBCLASSES;
        IS RELATED TO
                vc4TTPSourceR1, vc4TTPBidirectionalR1,
                au4CTPSinkR1, au4CTPBidirectionalR1,
                au3CTPSinkR1, au3CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":upstreamConnectivityPointer;
```

```
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc4TTPSourceR1, vc4TTPBidirectionalR1,
                                au4CTPSinkR1, au4CTPBidirectionalR1 },
                concatenated ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                SEQUENCE SIZE(3) OF au3CTPSinkR1,
                                SEQUENCE SIZE(3) OF au3CTPBidirectionalR1 }
        };
;

downstreamConnectivityPointer-vc4TTPSourceR1 CONSTRAINT RULE
        OBJECT CLASS
                vc4TTPSourceR1 AND SUBCLASSES;
        IS RELATED TO
                vc4TTPSinkR1, vc4TTPBidirectionalR1,
                "Recommendation G.774:1992":au4CTPSource, au4CTPBidirectionalR1,
                "Recommendation G.774:1992":au3CTPSource, au3CTPBidirectionalR1;
        USING ATTRIBUTE
                "Recommendation M.3100:1992":downstreamConnectivityPointer;
        CASE {
                single ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                vc4TTPSinkR1, vc4TTPBidirectionalR1,
                                "Recommendation G.774:1992":au4CTPSource,
                                au4CTPBidirectionalR1 },
                broadcast ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                vc4TTPSinkR1, vc4TTPBidirectionalR1,
                                "Recommendation G.774:1992":au4CTPSource,
                                au4CTPBidirectionalR1 },
                concatenated ACCORDING TO RULE
                        SET SIZE(1) OF CHOICE {
                                SEQUENCE SIZE(3) OF
                                        "Recommendation G.774:1992":au3CTPSource,
                                SEQUENCE SIZE(3) OF au3CTPBidirectionalR1 },
                broadcastConcatenated ACCORDING TO RULE
                        SET SIZE(1..N) OF CHOICE {
                                SEQUENCE SIZE(3) OF
                                        "Recommendation G.774:1992":au3CTPSource,
                                SEQUENCE SIZE(3) OF au3CTPBidirectionalR1 }
        };
;
```

8.3 Naming Constraints

Revisions that do not require re-registration

The following text replaces the text within 8.3/G.774 (1992) associated with the following listed subordination rules only. All additions are marked in **bold** for clarity.

tug3BidirectionalSubordination

Any subordination rules defined in Recommendation G.774 (1992) which are not referred to here are retained unaltered.

```
tug3BidirectionalSubordination SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                tug3Bidirectional;
```

```
        NAMES SUBORDINATES
                tug2sink, tug2Source, tug2Bidirectional,
                tu3CTPSink, tu3CTPSource, tu3CTPBidirectional;
        ACCORDING TO RULE
                CHOICE {
                        SET SIZE(1) OF CHOICE {
                                tu2CTPSink, tuCTPSource, tu3CTPBidirectional }
                        SET SIZE(7) OF CHOICE {
                                tug2Sink, tug2Source, tug2Bidirectional }
                };
;
```

Revisions that require re-registration

This clause provides replacement subordination rule definitions for the existing Recommendation G.774 (1992). Any subordination rule replaced by one in this clause is considered to be deprecated. The reasons for the replacement of a subordination rule are as follows:

1) The replaced subordination rule is faulty and must be fixed.

2) The replaced subordination rule refers to a managed object class which has been re-registered in this Recommendation.

In each case where a subordination rule is replaced, the new subordination rule will be registered within this Recommendation. The textual label for the subordination rule will be revised to include the text "R1". For example, in the revision of the G.774 (1992) subordination rule "vc3TTPSinkSubordination", the revised label will become "vc3TTPSinkR1Subordination". Note the "R1" is placed immediately following the revised class which impacts the subordination rule. In the case where the class within the label has not changed but the subordination rule is still altered because the subordination rule refers to a class that has changed, then the "R1" is placed at the end of the revised subordination rule label. For example, in the revision of the G.774 (1992) subordination rule "tug3BidirectionalSubordination", the revised label will become "tug3BidirectionalSubordinationR1".

Below is a table of subordination rules deprecated from Recommendation G.774 (1992) and the G.774 subordination rules which replace them.

Deprecated G.774 (1992) Subordination Rules

augSinkSubordination
augBidirectionalSubordination
sdhNESubordination
tug2SinkSubordination
tug2BidirectionalSubordination
tug3SinkSubordination
tug3BidirectionalSubordination
vc3TTPSinkSubordination
vc3TTPSourceSubordination
vc3TTPBidirectionalSubordination
vc4TTPSinkSubordination
vc4TTPSourceSubordination
vc4TTPBidirectionalSubordination

Replacement G.774 Subordination Rules

augSinkSubordinationR1
augBidirectionalSubordinationR1
sdhNESubordinationR1
tug2SinkSubordinationR1
tug2BidirectionalSubordinationR1

```
        tug3SinkSubordinationR1
        tug3BidirectionalSubordinationR1
        vc3TTPSinkR1Subordination
        vc3TTPSourceSubordinationR1
        vc3TTPBidirectionalR1Subordination
        vc4TTPSinkR1Subordination
        vc4TTPSourceR1Subordination
        vc4TTPBidirectionalR1Subordination

augSinkSubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                "Recommendation G.774:1992":augSink;
        NAMES SUBORDINATES
                au3CTPSinkR1,
                au4CTPSinkR1;
        ACCORDING TO RULE
                CHOICE {
                        SET SIZE(1) OF au4CTPSinkR1,
                        SET SIZE(3) OF au3CTPSinkR1
                };
;

augBidirectionalSubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                "Recommendation G.774:1992":augBidirectional;
        NAMES SUBORDINATES
                au3CTPSinkR1, "Recommendation G.774:1992":au3CTPSource,
                 au3CTPBidirectionalR1,
                au4CTPSinkR1, "Recommendation G.774:1992":au4CTPSource,
                au4CTPBidirectionalR1;
        ACCORDING TO RULE
                CHOICE {
                        SET SIZE(1) OF CHOICE {
                                au4CTPSinkR1, "Recommendation G.774:1992":au4CTPSource,
                                au4CTPBidirectionalR1 },
                        SET SIZE(3) OF CHOICE {
                                au3CTPSinkR1, "Recommendation G.774:1992":au3CTPSource,
                                au3CTPBidirectionalR1 }
                };
;

sdhNESubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                sdhNE;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":electricalSPITTPSink,
                "Recommendation G.774:1992":electricalSPITTPSource,
                "Recommendation G.774:1992":electricalSPITTPBidirectional,
                "Recommendation G.774:1992":msTTPSink,
                "Recommendation G.774:1992":msTTPSource,
                "Recommendation G.774:1992":msTTPBidirectional,
                "Recommendation G.774:1992":opticalSPITTPSink,
                "Recommendation G.774:1992":opticalSPITTPSource,
                "Recommendation G.774:1992":opticalSPITTPBidirectional,
                "Recommendation G.774:1992":rsTTPSink,
                "Recommendation G.774:1992":rsTTPSource,
                "Recommendation G.774:1992":rsTTPBidirectional,
                vc11TTPSinkR1,
                "Recommendation G.774:1992":vc11TTPSource,
                vc11TTPBidirectionalR1,
                vc12TTPSinkR1,
```

```
            "Recommendation G.774:1992":vc12TTPSource,
            vc12TTPBidirectionalR1,
            vc2TTPSinkR1,
            "Recommendation G.774:1992":vc2TTPSource,
            vc2TTPBidirectionalR1,
            vc3TTPSinkR1, vc3TTPSourceR1, vc3TTPBidirectionalR1,
            vc4TTPSinkR1, vc4TTPSourceR1, vc4TTPBidirectionalR1;
        ACCORDING TO RULE
            SET {
                SET SIZE(0..N) OF
                "Recommendation G.774:1992":electricalSPITTPSink,
                SET SIZE(0..N) OF
                "Recommendation G.774:1992":electricalSPITTPSource,
                SET SIZE(0..N) OF
                "Recommendation G.774:1992":electricalSPITTPBidirectional,
                SET SIZE(0..N) OF "Recommendation G.774:1992":msTTPSink,
                SET SIZE(0..N) OF "Recommendation G.774:1992":msTTPSource,
                SET SIZE(0..N) OF
                "Recommendation G.774:1992":msTTPBidirectional,
                SET SIZE(0..N) OF
                "Recommendation G.774:1992":opticalSPITTPSink,
                SET SIZE(0..N) OF
                "Recommendation G.774:1992":opticalSPITTPSource,
                SET SIZE(0..N) OF
                "Recommendation G.774:1992":opticalSPITTPBidirectional,
                SET SIZE(0..N) OF "Recommendation G.774:1992":rsTTPSink,
                SET SIZE(0..N) OF "Recommendation G.774:1992":rsTTPSource,
                SET SIZE(0..N) OF "Recommendation G.774:1992":rsTTPBidirectional,
                SET SIZE(0..N) OF vc11TTPSinkR1,
                SET SIZE(0..N) OF "Recommendation G.774:1992":vc11TTPSource,
                SET SIZE(0..N) OF vc11TTPBidirectionalR1,
                SET SIZE(0..N) OF vc12TTPSinkR1,
                SET SIZE(0..N) OF "Recommendation G.774:1992":vc12TTPSource,
                SET SIZE(0..N) OF vc12TTPBidirectionalR1,
                SET SIZE(0..N) OF vc2TTPSinkR1,
                SET SIZE(0..N) OF "Recommendation G.774:1992":vc2TTPSource,
                SET SIZE(0..N) OF vc2TTPBidirectionalR1,
                SET SIZE(0..N) OF vc3TTPSinkR1,
                SET SIZE(0..N) OF vc3TTPSourceR1,
                SET SIZE(0..N) OF vc3TTPBidirectionalR1,
                SET SIZE(0..N) OF vc4TTPSinkR1,
                SET SIZE(0..N) OF vc4TTPSourceR1,
                SET SIZE(0..N) OF vc4TTPBidirectionalR1
            };
;

tug2SinkSubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
            "Recommendation G.774:1992":tug2Sink;
        NAMES SUBORDINATES
            tu11CTPSinkR1,
            tu12CTPSinkR1,
            tu2CTPSinkR1;
        ACCORDING TO RULE
            CHOICE {
                SET SIZE(1) OF tu2CTPSinkR1,
                SET SIZE(3) OF tu12CTPSinkR1,
                SET SIZE(4) OF tu11CTPSinkR1
            };
;
```

```
tug2BidirectionalSubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                "Recommendation G.774:1992":tug2Bidirectional;
        NAMES SUBORDINATES
                tu11CTPSinkR1,
                "Recommendation G.774:1992":tu11CTPSource,
                tu11CTPBidirectionalR1,
                tu12CTPSinkR1,
                "Recommendation G.774:1992":tu12CTPSource,
                tu12CTPBidirectionalR1,
                tu2CTPSinkR1,
                "Recommendation G.774:1992":tu2CTPSource,
                tu2CTPBidirectionalR1;
        ACCORDING TO RULE
                CHOICE {
                        SET SIZE(1) OF CHOICE {
                                tu2CTPSinkR1,
                                "Recommendation G.774:1992":tu2CTPSource,
                                tu2CTPBidirectionalR1 },
                        SET SIZE(3) OF CHOICE {
                                tu12CTPSinkR1,
                                "Recommendation G.774:1992":tu12CTPSource,
                                tu12CTPBidirectionalR1 },
                        SET SIZE(4) OF CHOICE {
                                tu11CTPSinkR1,
                                "Recommendation G.774:1992":tu11CTPSource,
                                tu11CTPBidirectionalR1 }
                };
;

tug3SinkSubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                "Recommendation G.774:1992":tug3Sink;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":tug2Sink,
                tu3CTPSinkR1;
        ACCORDING TO RULE
                CHOICE {
                        SET SIZE(1) OF tu3CTPSinkR1,
                        SET SIZE(7) OF "Recommendation G.774:1992":tug2Sink
                };
;

tug3BidirectionalSubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                "Recommendation G.774:1992":tug3Bidirectional;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":tug2Sink,
                "Recommendation G.774:1992":tug2Source,
                "Recommendation G.774:1992":tug2Bidirectional,
                tu3CTPSinkR1,
                "Recommendation G.774:1992":tu3CTPSource,
                tu3CTPBidirectionalR1;
        ACCORDING TO RULE
                CHOICE {
                        SET SIZE(1) OF CHOICE {
                                tu3CTPSinkR1,
                                "Recommendation G.774:1992":tu3CTPSource,
                                tu3CTPBidirectionalR1 }
```

```
                SET SIZE(7) OF CHOICE {
                        "Recommendation G.774:1992":tug2Sink,
                        "Recommendation G.774:1992":tug2Source,
                        "Recommendation G.774:1992":tug2Bidirectional }
                };
;

vc3TTPSinkR1Subordination SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                vc3TTPSink;
        NAMES SUBORDINATES
                tug2Sink,
                vcnUserChannelCTPSink;
        ACCORDING TO RULE
                SET {
                        SET SIZE(7) OF tug2Sink,
                        SET SIZE(1) OF vcnUserChannelCTPSink
                };
;

vc3TTPSourceSubordinationR1 SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                vc3TTPSourceR1;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":tug2Source,
                "Recommendation G.774:1992":vcnUserChannelCTPSource;
        ACCORDING TO RULE
                SET {
                        SET SIZE(7) OF "Recommendation G.774:1992":tug2Source,
                        SET SIZE(1) OF "Recommendation G.774:1992":vcnUserChannelCTPSource
                };
;

vc3TTPBidirectionalR1Subordination SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                vc3TTPBidirectionalR1;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":tug2Bidirectional,
                "Recommendation G.774:1992":vcnUserChannelCTPSink,
                "Recommendation G.774:1992":vcnUserChannelCTPSource,
                "Recommendation G.774:1992":vcnUserChannelCTPBidirectional;
        ACCORDING TO RULE
                SET {
                        SET SIZE(7) OF "Recommendation G.774:1992":tug2Bidirectional,
                        SET SIZE(1) OF CHOICE {
                                "Recommendation G.774:1992":vcnUserChannelCTPSink,
                                "Recommendation G.774:1992":vcnUserChannelCTPSource,
                                "Recommendation G.774:1992":vcnUserChannelCTPBidirectional }
                };
;

vc4TTPSinkR1Subordination SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                vc4TTPSinkR1;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":tug3Sink,
                "Recommendation G.774:1992":vcnUserChannelCTPSink;
```

```
        ACCORDING TO RULE
                SET {
                        SET SIZE(3) OF "Recommendation G.774:1992":tug3Sink,
                        SET SIZE(1) OF "Recommendation G.774:1992":vcnUserChannelCTPSink
                };
;

vc4TTPSourceR1Subordination SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                vc4TTPSourceR1;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":tug3Source,
                "Recommendation G.774:1992":vcnUserChannelCTPSource;
        ACCORDING TO RULE
                SET {
                        SET SIZE(3) OF "Recommendation G.774:1992":tug3Source,
                        SET SIZE(1) OF "Recommendation G.774:1992":vcnUserChannelCTPSource
                };
;

vc4TTPBidirectionalR1Subordination SUBORDINATION RULE
        SUPERIOR OBJECT CLASS
                vc4TTPBidirectionalR1;
        NAMES SUBORDINATES
                "Recommendation G.774:1992":tug3Bidirectional,
                "Recommendation G.774:1992":vcnUserChannelCTPSink,
                "Recommendation G.774:1992":vcnUserChannelCTPSource,
                "Recommendation G.774:1992":vcnUserChannelCTPBidirectional;
        ACCORDING TO RULE
                SET {
                        SET SIZE(3) OF "Recommendation G.774:1992":tug3Bidirectional,
                        SET SIZE(1) OF CHOICE {
                                "Recommendation G.774:1992":vcnUserChannelCTPSink,
                                "Recommendation G.774:1992":vcnUserChannelCTPSource,
                                "Recommendation G.774:1992":vcnUserChannelCTPBidirectional }
                };
;
```

ANNEX A

Entity relationship diagrams

No revisions are required.

ANNEX B

Alphabetical list of abbreviations used in this Recommendation

References

No revisions are required.

ITU-T RECOMMENDATIONS SERIES

Series A	Organization of the work of the ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	**Transmission systems and media, digital systems and networks**
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	Maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks and open system communication
Series Z	Programming languages