

TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU

Series H Supplement 2 (05/2003)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

H.248.x sub-series packages guide – Release 4

ITU-T H-series Recommendations - Supplement 2

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 $For {\it further details, please refer to the list of ITU-T Recommendations}.$ 

## **Supplement 2 to ITU-T H-series Recommendations**

## H.248.x sub-series packages guide – Release 4

## **Summary**

This Supplement summarizes packages that have been standardized in the time frame from June 2000 to May 2003. It identifies packages that meet H.248.x sub-series requirements for package definition and are for general use by the wider standards community.

H.248.x sub-series packages guide – Release 4 provides for the:

- identification of packages that are considered technically consistent with H.248.x sub-series principles and packages definition rules in clause 12/H.248.1;
- identification of packages that are currently being worked upon;
- identification of packages that have worked upon over a certain period of time;
- identification of packages with overlapping functionality.

Implementors are encouraged to review the packages in this supplement before proposing new packages.

#### **Source**

Supplement 2 to ITU-T H-series Recommendations was agreed by ITU-T Study Group 16 (2001-2004) on 30 May 2003.

#### **FOREWORD**

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. 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 Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 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.

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## **Supplement 2 to ITU-T H-series Recommendations**

## H.248.x sub-series packages guide – Release 4

### 1 Scope

This Supplement summarizes packages that have been standardized in the time frame from June 2000 to May 2003. It identifies packages that meet H.248.x sub-series requirements for package definition and are for general use by the wider standards community.

H.248.x sub-series packages guide – Release 4 provides for the:

- identification of packages that are considered technically consistent with H.248.x sub-series principles and packages definition rules in clause 12/H.248.1;
- identification of packages that are currently being worked upon;
- identification of packages that have worked upon over a certain period of time;
- identification of packages with overlapping functionality.

ITU-T Study Group 16 invites packages authors/editors to share their current and future work on packages in the form of contribution, liaison or communication to ITU-T Study Group 16. This will assist ITU-T Study Group 16 in producing future releases of this Supplement. ITU-T Study Group 16 will then endeavour to provide constructive comments to assist you in your packages work. If ITU-T SG16 determines that your packages are consistent with H.248 and particularly, clause 12/H.248.1, it will include these in the "Externally defined Packages that meet requirements" clause of the H.248.x sub-series packages Implementors' Guide.

#### 2 References

ITU-T Recommendation Q.1950 (2001), Bearer independent call bearer control protocol.
 See clauses below for individual references.

### 3 Definitions

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4 Abbreviations

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# 5 ITU-T Study Group 16 packages

Dealers and describe	Identity		D.f	Status
Package name and description	Text	Binary	Reference	Status
Annex E/H.248.1				
Basic Packages				
The packages contained in this annex are:				
Generic package	g	0x0001	Annex E/H.248.1	Done
Base Root package	root	0x0002		
Tone Generator package	tonegen	0x0003		
Tone Detection package	tonedet	0x0004		
Basic DTMF Generator package	dg	0x0005		
DTMF Detection package	dd	0x0006		
Call Progress Tones Generator Package	cg	0x0007		
Call Progress Tones Detection Package	cd	0x0008		
Analog Line Supervision Package	al	0x0009		
Basic Continuity Package	ct	0x000a		
Network Package	nt	0x000b		
RTP Package	rtp	0x000c		
TDM Circuit Package	tdmc	0x000d		

Doologo name and description	Ident	city	- Reference	Status
Package name and description	Text	Binary	Reference	Status
H.248.2 Facsimile, text conversation and call discrimination packages	Ftmd	0x000e	H.248.2	Done
This Recommendation describes packages for fax, text telephone, call type	Txc	0x000f		
discrimination, and data call detection.	Txp	0x0010		
The packages contained in this Recommendation are:	ctyp	0x0011		
The Call Type Discrimination package defines control and monitoring of a PSTN line for the signalling protocols used in the beginning of a session of data	fax	0x0012		
transmission for fax, text telephony or data.	ipfax	0x0013		
The Text Telephone package defines control of a PSTN text telephone session in any of the modes supported by the automoding text telephone ITU-T Rec. V.18.				
The Fax package defines control of a PSTN fax transmission.				
The Fax/Textphone/Modem Tones Detection package defines control over a termination for detection of any signals from a fax, text telephone or data modem during a connection in voice mode.				
The Text Conversation package defines control over a real time interactive text conversation session using a universal presentation format and transferred with a transport method from a multimedia protocol in any network environment.				
The IP Fax package defines control over facsimile transmission in a packet network.				
H.248.3 IP Phone Packages	dis	0x0014	H.248.3	Done
	key	0x0015		
	kp	0x0016		
	labelkey	0x0017		
	kf	0x0018		
	ind	0x0019		
	ks	0x001a		
	anci	0x001b		

Design of the second design of	Identity		Deference	
Package name and description	Text	Binary	Reference	Status
H.248.6 Dynamic Tone definition package	dtd	0x001c	H.248.6	Done
This package defines a mechanism to redefine existing tones and create new tones for playback. The existing tones are the ones described in supported packages that extend the tonegen generic package.				
H.248.7 Generic Announcement Package	an	0x001d	H.248.7	Done
This package supports announcement functionality at a Media Gateway. This announcement could be realised by the Media Gateway as different sorts of messaging. For example: it could be an audio announcement, a text message or a composition of text messages.				
H.248.9 Advanced Announcement Server Packages	aasb	0x0033	H.248.9	Done
The Basic Audio package provides support for the standard IVR operations of	aasdc	0x0034		
PlayAnnouncement, PlayCollect, and PlayRecord. It supports direct references to simple audio as well as indirect references to simple and complex audio. It	aasrec	0x0035		
provides audio variables, control of audio interruptability, digit buffer control,	aassm	0x0036		
special key sequences, and support for reprompting during data collection.	bavvsyx	0x0047		
The Advanced Audio Package extends the Base Package by providing an arbitrary number of user defined qualifiers to be used in resolving complex	vvsyx	0x0048		
audio structures. For example, the user could define qualifiers for any or all of	setsyx	0x0049		
the following: language, accent, audio file format, gender, speaker, or customer.	phrsyx	0x004a		
H.248.10 Congestion Package	chp	0x0029	H.248.10	Done
This package makes it possible for the MG to control its load.				
H.248.11 <b>Media Gateway Overload Control Package</b> . This is a more indepth proposal than H.248.10	оср	0x0051	H.248.11	Done
H.248.12 H.248 packages for H.323 and Annex C/H.324 interworking	h245	0x002a	H.248.12	Done
This Recommendation gathers together packages for H.245, H.245 parameters	h323bc	0x002b		
specific to H-series audiovisual terminal and Annex C/H.324 for use with the H.248 gateway control protocol. The packages in this Recommendation are in	h324	0x002c		
conformance with clause 12/H.248.1 package definition guidelines.	h245com	0x002d		
	h245ind	0x002e		

Dooleans warms and described on	Ide	Identity		G
Package name and description	Text	Binary	Reference	Status
Annex A/H.248.12 Extended H.324-, H.245 Command- and H.245 Indication Packages	H324ext H245comext	0x0063 0x0064	Annex A/H.248.12	Done
This annex introduces package extensions that allow the MGC to control the interworking between H.324 and H.323.	h245indext	0x0065		
H.248.13 Quality Alert Ceasing Package	qac	0x0037	H.248.13	Done
This package enables the MG to indicate when a line has returned to normal quality.				
H.248.14 Inactivity Alert Package.	It	0x0045	H.248.14	Done
This is used by MG to poll whether or not the MGC is still alive.				
H.248.15 SDP H.248 Package Attribute	NA	NA	H.248.15	Done
This Recommendation describes SDP attributes to allow the text local and remote descriptor to contain properties.				
H.248.16 Extended DTMF Detection Package	xdd	0x0052	H.248.16	Done
	edd	0x0066		

Deckers and decoded as	Ide	entity	Defenses	64-4
Package name and description	Text	Binary	Reference	Status
H.248.17 Line Test Packages			H.248.17	Done
This Recommendation contains a number of packages that enables line tests to be performed.				
Quiet Termination Test Component	qtlt	0x0053		
Loopback Line Test Response	lltr	0x0054		
• ITU 404 Hz Line Test Package	itult404	0x0055		
ITU 816 Hz Line Test Package	itult816	0x0056		
• ITU 1020 Hz Line Test Package	itult1020	0x0057		
• ITU 2100 Hz Disable Tone Line Test Package	itultdist	0x0058		
• ITU 2100 Hz Disable Echo Canceller Tone Line Test Package	itultdisecd	0x0059		
• ITU 2804 Hz Tone Line Test Package	itult2804	0x005a		
ITU Noise Test Tone Line Test Package	itultntt	0x005b		
• ITU Digital Pseudo Random Test Tone Line Test Package	itultdprt	0x005c		
• ITU ATME No.2 Test Line Response Package	itultatme2	0x005d		
ANSI 1004 Hz Test Tone Line Test Package	ansilt1004	0x005e		
ANSI Test Responder Line Test Package	ansilttres	0x005f		
ANSI 2225 Hz Test Progress Tone Line Test Package	ansilt2225	0x0060		
ANSI Digital Test Signal Line Test Package	ansiltdts	0x0061		
<ul> <li>ANSI Inverting Loopback Line Test Response</li> </ul>	ansiinvlltr	0x0062		
H.248.18 <b>Profile Handling Package</b> . This package enables the MGC to determine what packages are on the MG.	prp	0x0050	H.248.18	Done

Dechage name and description	Ide	entity	Defeneres	Chahaa
Package name and description	Text	Binary	Reference	Status
H.248.19 Decomposed Multipoint Control Unit, Audio, Video and Data Conferencing Packages			H.248.19	In progress
This Recommendation describes the decomposition of a Media Control Unit, requirements and packages for media resource functions.				
Floor Control Package	fcp	0x00??		
Indication of Being Viewed Package	indview	0x00??		
Volume Control Package	vcp	0x00??		
Volume Detection Package	vdp	0x00??		
Volume Level Mixing Package	vlmp	0x00??		
Mixing Volume Level Control Package	mvlcp	0x00??		
Voice Activated Video Switch Package	vavsp	0x00??		
Lecture Video Mode Package	lvmp	0x00??		
Contributing Video Source Package	cvsp	0x00??		
Video Window Package	vwp	0x00??		
Tiled Window Package	tilwin	0x00??		
H.248.20 The use of Local and Remote Descriptors with H.221/H.223 multiplexing	NA	NA	H.248.20	Done
This Recommendation describes how the local and remote descriptors are filled in for H.221 and H.223 multiplexing terminations				
H.248.21 Semi-permanent Connection Handling Package	semper	0x006a	H.248.21	Done
This Recommendation describes a package to enable the Media Gateway Controller to indicate to the Media Gateway that terminations and the connection between the "semi-permanent" marked terminations shall be treated as semi-permanent.				

	Identity		D. C	
Package name and description	Text	Binary	Reference	Status
H.248.22 Shared Risk Group Package	shrisk	0x006b	H.248.22	Done
H.248.22 describes a package to enable the Media Gateway Controller (MGC) to indicate to the Media Gateway (MG) to use or to not use network resources associated with a shared risk group when setting up connections. A shared risk group is a group of resources that share the same risk of failure.				
H.248.23 Enhanced Alerting Packages			H.248.23	Done
This Recommendation defines two packages that provide enhanced alerting and data transfer capabilities for H.248:				
Enhanced Alerting Package	alert	0x003b		
Analogue Display Signalling Package	andisp	0x003c		
H.248.24 MF Tone Generation and Detection Packages			H.248.24	Done
This Recommendation defines two packages that provide multi-frequency tone generation and detection capabilities for H.248:				
Multifrequency Tone Generation Package	mfg	0x003d		
Multifrequency Tone Detection Package	mfd	0x003e		
H.248.25 Basic CAS Packages			H.248.25	Done
This Recommendation defines Basic Channel Associated Signaling (CAS) and R1 packages and supplemental CAS packages:				
Basic CAS Package	bcas	0x003f		
Basic CAS Addressing Package	bcasaddr	0x00??		
Robbed Bit Signalling Package	rbs	0x0040		
Operator Services and Emergency Services Package	oses	0x0041		
Operator Package	osext	0x0042		

Dealers name and description	and description		Reference	G4 4
Package name and description	Text	Binary	Keierence	Status
H.248.26 Enhanced Analog Lines Packages			H.248.26	Done
This Recommendation defines two packages that provide support for extended line supervision and metering analog lines capabilities for H.248:				
Extended Analogue Line Supervision Package	xal	0x0043		
Automatic Metering Package	amet	0x0044		
H.248.27 Supplemental Tones Packages			H.248.27	Done
This Recommendation defines three packages that provide additional tones capabilities for H.248:				
Conferencing Tones Generation Package	conftn	0x0038		
Diagnostic Tones Package	test	0x0039		
Carrier Tones Generation Package	carr	0x003a		
H.248.icas International CAS Packages			H.248.icas	In progress
The International CAS package (icas) provides an extension to the Basic CAS packages, defining additional line signals and events required for international signaling protocols.			(TD-WP2-0026 Geneva 2003-05)	
• International CAS Package	icas	0x003f		
H.248.icasc International CAS Compelled Register Signalling Packages			H.248.icasc	In progress
International CAS Compelled Package			(D341)	
International Compelled with Overlap Package	Icasc	0x00??		
• International CAS Compelled with end-to-end Package	icasco	0x00??		
	icasce	0x00??		
H.248.ajb Jitter Buffer Extension Package	???	0x00??	H.248.ajb	In progress
			(TD-WP2-0052	
			Geneva 2003-05)	

## **Externally defined Packages that meet requirements**

The packages identified in this clause are consistent with regards to the package definition rules contained clause 12/H.248.1.

# 6.1 ITU-T Study Group 11

Declaration of the state of the	I	dentity		64-4
Package name and description	Text	Binary	Keierence	Status
Bearer Characteristics Package	bcp	0x001e	A.3/Q.1950	Done
This package contains the functionality required to identify which bearer services are to be supported by a MG.				
Bearer Network Connection Cut Through Package	bnct	0x001f	A.4/Q.1950	Done
This package provides the functionality to be able to determine the cut through capabilities of the bearer network.				
Reuse Idle Package	ri	0x0020	A.5/Q.1950	Done
This package provides the ablity to determine the reuse of idle bearer functionality network.				
Generic Bearer Connection Package	gb	0x0021	A.6/Q.1950	Done
This package provides the functionality to be able to establish/modify/release a bearer connection.				
Bearer Control Tunnelling Package	bt	0x0022	A.7/Q.1950	Done
This package describes the functionality to be able support the transport of "Bearer Information Transport" information between an MGC and MG.				
<b>Basic Call Progress Tones Generator with Directionality</b>	bcg	0x0023	A.8/Q.1950	Done
This package defines the basic call progress tones as signals and extends the allowed values of the tl parameter of playtone in tonegen . In addition, this package extends the Tone Generator Package with the ability to specify in which direction the tone is played.				

Deckers name and description	Ide	Identity		Status
Package name and description	Text	Binary	Reference	Status
<b>Expanded Call Progress tones Generator Package</b>	Xcg	0x0024	A.9/Q.1950	Done
This package defines the expanded call progress tones as signals and extends the allowed values of the tl parameter of playtone in tonegen. In addition, this package extends the Tone Generator Package with the ability to specify in which direction the tone is played.				
<b>Basic Services Tones Generation Package</b>	srvtn	0x0025	A.10/Q.1950	Done
This package defines signals for use by telephony services and allows for specification of directionality.				
<b>Expanded Services Tones Generation Package</b>	xsrvtn	0x0026	A.11/Q.1950	Done
This package defines additional signals for use by telephony services and allows for specification of directionality.				
Intrusion Tones Generation Package	int	0x0027	A.12/Q.1950	Done
This package defines for use by operator-based telephony services and allows for specification of directionality.				
<b>Business Tones Generation Package</b>	biztn	0x0028	A.13/Q.1950	Done
This package defines for use by business telephony services and allows for specification of directionality.				
Bearer Characteristics Package v2	bcp	0x001e	Annex A/Q.1950	Done
Version 2 introduces a new value for TDM bearer characteristics	(Version 2)	(Version 2)		
Connection Group Identity Package	xg	0x0067	Annex E/Q.1950	Done
The Connection Group ID is required information in a BIWF if a connection is to be established in the direction toward the BICC Access Network and the private virtual facility capability is invoked.				

Package name and description	Ide	ntity	Reference	Status
r ackage name and description	Text	Binary	Kelerence	Status
SPNE Control Package	spne	0x0069	Q.115.0	Done
This package defines properties and events for SPNE functions controlled by or integrated into a media gateway. Note that echo cancellers associated with media gateways are assumed to be compliant with ITU-T Rec. G.168 as indicated in ITU-T Rec. G.177.				
ISUP Trunk Tones Generator Package	isuptn	0x006c	Annex B/Q.171	Done
This package defines the ISUP trunk tones played from a trunk gateway as signals and extends the allowed values of the tl parameter of playtone in tonegen.				

# **6.2 3GPP CN4**

Dealtage name and description	Identity		Reference	Status
Package name and description	Text	Binary	Keierence	Status
3GUP (User Plane) package	threegup	0x002f	3GPP TS 29.232	Done
This package identifies that the User Plane package is used for the termination. It also contains some parameters for the User Plane functions in the MGW.				
Circuit Switched Data package	threegcsd	0x0030	3GPP TS 29.232	Done
This package contains the information needed to be able to support GSM and UMTS Circuit Switched Data from the media gateway.				
TFO package	threegtfoc	0x0031	3GPP TS 29.232	Done
This package defines events and properties for Tandem Free Operation (TFO) control. TFO uses inband signalling and procedures for Transcoders to enable compressed speech to be maintained between a tandem pair of transcoders. This package allows an MGW which has inserted a transcoder to support TFO.				

Dealtage name and description	Ident	tity	Reference	C4-4	
Package name and description	Text	Binary	Reference	Status	
3G Expanded Call Progress Tones Generator Package	threegxcg	0x0032	3GPP TS 29.232	Done	
This package extends "Expanded Call Progress Tones Generator Package" as defined in ITU-T Rec. Q.1950. The package adds a new toneId for CAMEL prepaid warning tone.					
3G Modification of Link Characteristics Package	threegmlc	0x0046	3GPP TS 29.232	Done	
CTM Text Transport	threegctm	0x0068	3GPP TS 29.232 v5.2.0	Done	

#### 7 Packages undergoing development

The packages identified in this clause are currently under development and/or have not been reviewed by SG16. The packages identified here may have inconsistencies with regards to the package definition rules contained in clause 12/H.248.1. The packages below may also overlap in functionality.

#### **AMTF (ATM Forum)** 7.1

Daalzaga nama and description	Identity		Reference	Status
Package name and description	Text	Binary	Keierence	Status
ATMF are no longer defining their own packages. Reference is made to IETF developed packages. For more information see: BTD-VMOA-LESH248-01.02		ESH248-01.02		

LES Using AAL2 – H.248 Signalling Addendum October 2001.

## 7.2 ETSI Tiphon

Daglage name and description	Ide	entity	Reference	Status	
Package name and description	Text Binary		Reference	Status	
Aggregate Bearer Control Package This package defines aggregate bearer load control information flows between a MG and MGC in order to provide admission control functionality based on aggregate bandwidth usage measurements and transport network QoS performance.	aggr	?	DTS 03022 v0.0.3	In progress	
Middle Box Package This package defines a property to enable the MGC to act as a MIDCOM Agent and control a "gateway" acting as a Middlebox	emp	?	DTS3027 V0.1.0 (2002-01)	In progress	

## 7.3 IETF Megaco

NOTE – The packages are official work items adopted by the IETF Megaco work group. These references can be found at the URL: <a href="mailto:ttp://www.ietf.org/internet-drafts/">ttp://www.ietf.org/internet-drafts/</a>

Dealtage name and description	Identity		Deference (Note)	Status
Package name and description	Text	Binary	Reference (Note)	Status
Megaco/H.248 sub-series NAS Packages			draft-ietf-megaco-naspkg-	In progress
Basic NAS Package	nas	0x004b	04.txt	
NAS incoming package	nasin	0x004c		
NAS outgoing package	nasout	0x004d		
NAS control package	nasctl	0x004e		
NAS root package	nasroot	0x004f		
Megaco R2 packages and Call Flows	NA	NA	draft-ietf-megaco-r2pacakge- 03.txt	Expired

## 7.4 IETF Individual Submissions

NOTE – This clause identities packages that individuals have submitted to the IETF. These have not been taken as official work items of the IETF Megaco work group.

Package name and description	Idei	ntity	Reference	Status
rackage name and description	Text	Binary		
MF Tone Generation and Detection Packages			draft-bothwell- megaco-mftonepkgs- 03.txt	Expired. Superceeded by H.248.24.
ISDN Package for Megaco	NA	NA	draft-bouwen- megaco-isdn-pack- 00.txt	Expired
Enhanced Alerting Packages for Megaco/H.248 sub-series			draft-boyle-megaco- alerting-03.txt	Expired. Superceeded by H.248.23.
Supplemental Tones Packages for Megaco/H.248 sub-series			draft-boyle-megaco- tonepkgs-07.txt	Expired. Superceeded by H.248.27.
MGC Cookie Package for Megaco/H248 sub-series	mgcckie	0x00??	draft-cutler-megaco- mgc-cookie-02.txt	Expired
Megaco/H.248 sub-series Basic CAS Packages			draft-manyfolks- megaco-caspackage- 02.txt	Expired. Superceeded by H.248.25.
Enhanced Line Services Packages			draft-taylor-megaco- enhalpkgs-01.txt	Expired. Superceeded by H.248.26.
Name Pattern Package for Megaco	nampat	0x00??	draft-rosen-megaco- namepatterns-01.txt	Expired
Megaco/H.248 sub-series QoS Packages: This document is work in progress and defines the basic QoS Package that addresses the different means of supporting Quality of service (QoS) on IP networks. This memo also defines the RSVP package (that falls into the Integrated services model) and the Differentiated services package in association with the Megaco/H.248 Protocol	Bqos Rsvp diffserv	0x00?? 0x00?? 0x00??	draft-madhubabu- megaco-qospackage- 00.tx	Expired

Package name and description	Identity		Reference	Status
r ackage name and description	Text	Binary		
MEGACO/H.248 FXO packages  This document describes the events and signals helpful for signaling between Central Office (CO) and Foreign Exchange Office (FXO) at Customer Premises Equipment (CPE).	??	??	draft-sridhar-megaco- fxopackage-01.txt	Expired
AAL2 Package	??	??	draft-barr-megaco- aal2bearer-00.txt	Expired
Megaco ATM Package	NA	NA	draft-rosen-megaco- atm-package-01.txt	Expired

## 8 H.248 sub-series MIBS

NOTE – These references can be found at the URL: <a href="http://www.ietf.org/internet-drafts/">http://www.ietf.org/internet-drafts/</a>

MIB Name	Reference (Note)
H.248 sub-series MIB	<draft-ietf-megaco-mib-05.txt></draft-ietf-megaco-mib-05.txt>
H.248 Ringing MIB	<draft-pitchandi-megaco-ringing-mib-00.txt></draft-pitchandi-megaco-ringing-mib-00.txt>
H.248 sub-series Tones MIB	<draft-doyle-megaco-tonesmib-00></draft-doyle-megaco-tonesmib-00>

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Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
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Series Z	Languages and general software aspects for telecommunication systems