BS EN 62574:2011

BSI Standards Publication

Audio, video and multimedia systems — General channel assignment of multichannel audio

bsi.

...making excellence a habit.™

National foreword

This British Standard is the UK implementation of EN 62574:2011. It is identical to IEC 62574:2011.

The UK participation in its preparation was entrusted to Technical Committee EPL/100, Audio, video and multimedia systems and equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

ISBN 978 0 580 75468 5

ICS 33.160.30

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2011.

Amendments issued since publication

Amd. No.	Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62574

May 2011

ICS 33.160.30

English version

Audio, video and multimedia systems - General channel assignment of multichannel audio

(IEC 62574:2011)

Systèmes audio, vidéo et multimédia - Affectation générale des voies des systèmes audio à voies multiples
(CEI 62574:2011)

Audio-, Video- und Multimediasysteme - Allgemeine Zuordnung der Kanäle von Mehrkanal-Tonsystemen
(IEC 62574:2011)

This European Standard was approved by CENELEC on 2011-05-12. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62574:2011 E

Foreword

The text of document 100/1706/CDV, future edition 1 of IEC 62574, prepared by IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62574 on 2011-05-12.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-02-12
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-05-12

Endorsement notice

The text of the International Standard IEC 62574:2011 was approved by CENELEC as a European Standard without any modification.

CONTENTS

INTRODUCTION

There are many multichannel audio formats and there will be new formats. These formats have a specific channel assignment such as a channel mapping and channel labels, but the basic channel assignments are not so different from each other. These can be unified to one common channel assignment as the general channel assignment. This general channel assignment provides audio devices and digital audio interfaces with the usage of unified channel assignments for any multichannel audio formats.

AUDIO, VIDEO AND MULTIMEDIA SYSTEMS – GENERAL CHANNEL ASSIGNMENT OF MULTICHANNEL AUDIO

1 Scope

This International Standard specifies the general channel assignment for multichannel audio formats. The general channel assignment as a channel mapping and labeling provides the unified usage of channel assignments for source devices, digital audio interfaces and sink devices. This standard excludes the specification of the exact position of each loudspeaker. It is aimed at consumer applications, but is not targeted for theatrical environments. Up to 32 labels for loudspeaker positions are specified, which can be used for all current multichannel formats.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE The general sequence of position labels is used: height, front/back, left/centre/right. Absence of a height letter indicates the middle layer. The other two planes are always indicated. See also Table 1.

2.1
top layer
top (highest) layer of three loudspeaker-layers located at the top of the screen, alternatively at the top of the room; loudspeaker channels of the top layer are annotated with the letters Tp

2.2
middle layer
middle layer of three loudspeaker-layers located at the vertical centre of the TV screen, alternatively at the same height as the height of viewer's ear

2.3
bottom layer
bottom (lowest) layer of three loudspeaker-layers located at the bottom of the TV screen, alternatively at floor level of the room; loudspeaker channels of the bottom layer are annotated with the letters Bt

2.4
front left
FL
loudspeaker position located at far left and centred vertically of the middle layer

2.5
front right
FR
loudspeaker position located at far right and centred vertically of the middle layer

2.6
front centre
FC
loudspeaker position located in the middle layer corresponding to the centre of the TV screen, as viewed from the seating area

2.7
low frequency effects
LFE
carry only sound effects in low frequency band, generally below 120 Hz; the LFE channel is not used as a subwoofer channel to compesate for low frequency band of each loudspeaker

2.8
low frequency effects 1
LFE1
LFE loudspeaker position located at the bottom layer

NOTE When mono LFE is used, it is conveyed in the LFE1 channel and the LFE1 loudspeaker position at the bottom layer is not defined. When LFE2 is also used, the LFE1 loudspeaker position is normally located far left front at the bottom layer.

2.9
back left
BL
loudspeaker position located at far left back of the middle layer

2.10
back right
BR
loudspeaker position located at far right back of the middle layer

2.11
front left centre
FLc
loudspeaker position located mid-way between the front centre and front left of the middle layer

2.12
front right centre
FRc
loudspeaker position located mid-way between the front centre and front right of the middle layer

2.13
back centre
BC
loudspeaker position located at centre back of the middle layer

2.14
low frequency effects 2
LFE2
LFE loudspeaker position located at the bottom layer and normally far right front, when LFE1 is used

2.15
side left
SiL
loudspeaker position located on the left of the middle layer

2.16
side right
SiR
loudspeaker position located on the right of the middle layer

2.17
top front left
TpFL
loudspeaker position located at far left front of the top layer

2.18
top front right
TpFR
loudspeaker position located at far right front of the top layer

2.19
top front centre
TpFC
loudspeaker position located at centre front of the top layer

2.20
top centre
TpC
loudspeaker position located at the centre of the top layer directly above the seating area

2.21
top back left
TpBL
loudspeaker position located at far left back of the top layer

2.22
top back right
TpBR
loudspeaker position located at far right back of the top layer

2.23
top side left
TpSiL
loudspeaker position located on the left of the top layer

2.24
top side right
TpSiR
loudspeaker position located on the right of the top layer

2.25
top back centre
TpBC
loudspeaker position located at centre back of the top layer

2.26
bottom front centre
BtFC
loudspeaker position located at centre front of the bottom layer

2.27
bottom front left
BtFL
loudspeaker position located at far left front of the bottom layer

2.28
bottom front right
BtFR
loudspeaker position located at far right front of the bottom layer

2.29
front left wide
FLw
loudspeaker position located at front left end in the room in the middle layer

2.30
front right wide
FRw
loudspeaker position located at front right end in the room in the middle layer

2.31
left surround
LS
array of loudspeakers positioned along the left side of the middle layer starting approximately 1/3 of the distance from the screen to the back wall

2.32
right surround
RS
array of loudspeakers positioned along the right side of the middle layer starting approximately 1/3 of the distance from the screen to the back wall

2.33
left surround direct
LSd
loudspeaker position located on the left wall of the middle layer for localized directionality as opposed to the diffuse array

2.34
right surround direct
RSd
loudspeaker position located on the right wall of the middle layer for localized directionality as opposed to the diffuse array

2.35
top left surround
TpLS
array of loudspeakers positioned along the right side of the top layer starting approximately 1/3 of the distance from the screen to the back wall

2.36
top right surround
TpRS
array of loudspeakers positioned along the right side of the top layer starting approximately 1/3 of the distance from the screen to the back wall

3 General channel assignment

3.1 General

The channel assignment specifies the channels of multichannel audio, the loudspeaker assignment is the loudspeaker position of its channels.

3.2 Model

Figure 1 shows the model of channel assignment spaces with the three layers, and a listener is located in the centre of the bottom layer. The middle layer is located at the vertical centre of the picture screen or, alternatively, at the same height as the height of a listener's ear.

This model specifies the general channel assignments in these three layers, which are the top layer, the middle layer and the bottom layer. Each layer specifies channels in its layer.

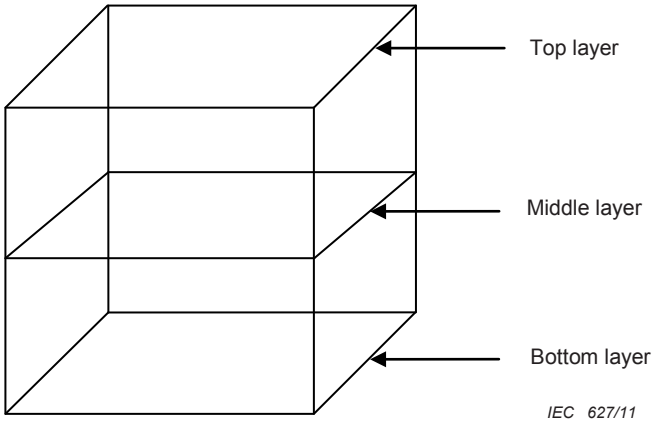

Figure 1 – Model of channel spaces

Figure 2 shows the top layer with its channel assignments, Figure 3 shows the middle layer with its channel assignments, and Figure 4 shows the bottom layer with its channel assignments.

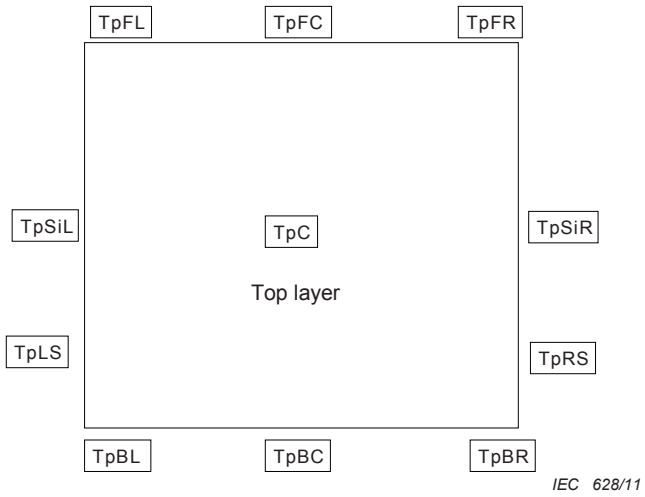

Figure 2 – Top layer

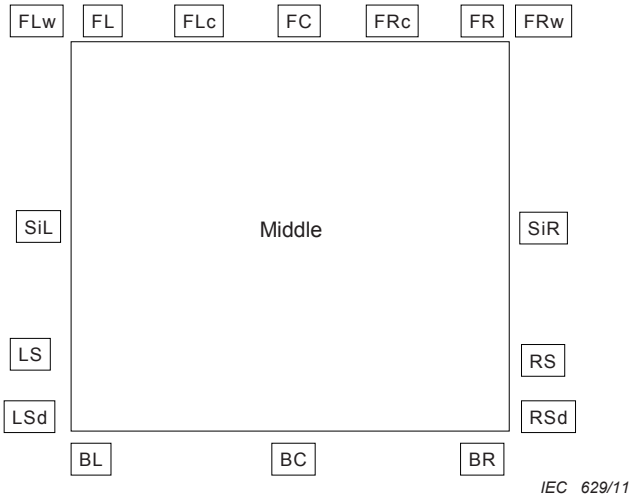

Figure 3 – Middle layer

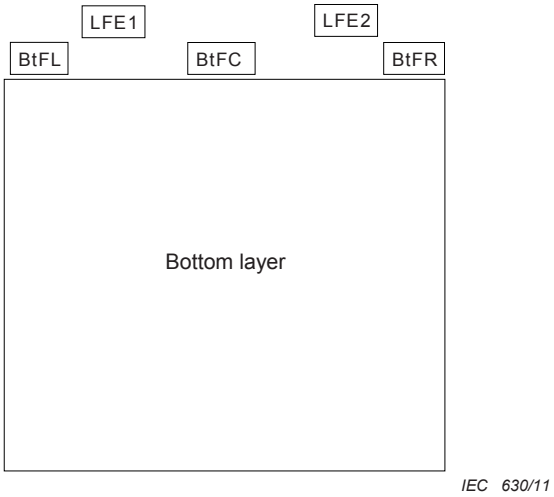

Figure 4 – Bottom layer

3.3 Channel maps and labels

Table 1 shows the definition of channel maps and labels of the general channel assignments. The channel label has an ID name as abbreviation label for each channel label. Each name is case sensitive.

Table 1 – General channel assignment table

Channel number	Channel label ID name	Full name of ID
1/2	FL/FR	Front Left/Front Right
3/4	FC/LFE1	Front Centre/Low Frequency Effects-1
5/6	BL/BR	Back Left/Back Right
7/8	FLc/FRc	Front Left centre/Front Right centre
9/10	BC/LFE2	Back Centre/Low Frequency Effects-2
11/12	Sil/SiR	Side Left/Side Right
13/14	TpFL/TpFR	Top Front Left/Top Front Right
15/16	TpFC/TpC	Top Front Centre/Top Centre
17/18	TpBL/TpBR	Top Back Left/Top Back Right
19/20	TpSiL/TpSiR	Top Side Left/Top Side Right
21/22	TpBC/BtFC	Top Back Centre/Bottom Front Centre
23/24	BtFL/BtFR	Bottom Front Left/Bottom Front Right
25/26	FLw/FRw	Front Left wide/Front Right wide
27/28	LS/RS	Left Surround/Right Surround
29/30	LSd/RSd	Left Surround direct/Right Surround direct
31/32	TpLS/TpRS	Top Left Surround/Top Right Surround

Bibliography

SMPTE 2036-2-2008, *Ultra High Definition Television – Audio Characteristics and Audio Channel Mapping for Program Production*

_____

This page deliberately left blank

British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards -based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at bsigroup.com/standards or contacting our Customer Services team or Knowledge Centre.

Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at bsigroup.com/shop, where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to bsigroup.com/subscriptions.

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

PLUS is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit bsigroup.com/shop.

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email bsmusales@bsigroup.com.

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

Copyright

Useful Contacts:

Customer Services
Tel: +44 845 086 9001
Email (orders): orders@bsigroup.com
Email (enquiries): cservices@bsigroup.com

Subscriptions
Tel: +44 845 086 9001
Email: subscriptions@bsigroup.com

Knowledge Centre
Tel: +44 20 8996 7004
Email: knowledgecentre@bsigroup.com

Copyright & Licensing
Tel: +44 20 8996 7070
Email: copyright@bsigroup.com

bsi.

...making excellence a habit.™