

# INTERNATIONAL STANDARD

**IEC**  
**60966-2-6**

Second edition  
2003-03

---

---

## **Radio frequency and coaxial cable assemblies –**

### **Part 2-6:**

**Detail specification for cable assemblies  
for radio and TV receivers - Frequency range  
0 to 3 000 MHz, IEC 61169-24 connectors**

*Ensemble de cordons coaxiaux et de cordons  
pour fréquences radioélectriques –*

### *Partie 2-6:*

*Spécification particulière pour cordons de connexion  
de récepteurs TV ou radio – Bande de fréquences  
de 0 à 3 000 MHz, connecteurs CEI 61169-24*



Reference number  
IEC 60966-2-6:2003(E)

## Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

## Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

## Further information on IEC publications

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology. Information relating to this publication, including its validity, is available in the IEC Catalogue of publications (see below) in addition to new editions, amendments and corrigenda. Information on the subjects under consideration and work in progress undertaken by the technical committee which has prepared this publication, as well as the list of publications issued, is also available from the following:

- **IEC Web Site** ([www.iec.ch](http://www.iec.ch))
- **Catalogue of IEC publications**  
The on-line catalogue on the IEC web site ([http://www.iec.ch/searchpub/cur\\_fut.htm](http://www.iec.ch/searchpub/cur_fut.htm)) enables you to search by a variety of criteria including text searches, technical committees and date of publication. On-line information is also available on recently issued publications, withdrawn and replaced publications, as well as corrigenda.
- **IEC Just Published**  
This summary of recently issued publications ([http://www.iec.ch/online\\_news/justpub/jp\\_entry.htm](http://www.iec.ch/online_news/justpub/jp_entry.htm)) is also available by email. Please contact the Customer Service Centre (see below) for further information.
- **Customer Service Centre**

If you have any questions regarding this publication or need further assistance, please contact the Customer Service Centre:

Email: [custserv@iec.ch](mailto:custserv@iec.ch)  
Tel: +41 22 919 02 11  
Fax: +41 22 919 03 00

# INTERNATIONAL STANDARD

**IEC**  
**60966-2-6**

Second edition  
2003-03

---

---

## **Radio frequency and coaxial cable assemblies –**

### **Part 2-6:**

**Detail specification for cable assemblies  
for radio and TV receivers - Frequency range  
0 to 3 000 MHz, IEC 61169-24 connectors**

*Ensemble de cordons coaxiaux et de cordons  
pour fréquences radioélectriques –*

### *Partie 2-6:*

*Spécification particulière pour cordons de connexion  
de récepteurs TV ou radio – Bande de fréquences  
de 0 à 3 000 MHz, connecteurs CEI 60169-24*

© IEC 2003 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland  
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

PRICE CODE

**F**

*For price, see current catalogue*

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## RADIO FREQUENCY AND COAXIAL CABLE ASSEMBLIES –

### Part 2- 6: Detail specification for cable assemblies for radio and TV receivers – Frequency range 0 to 3 000 MHz, IEC 61169-24 connectors

#### FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60966-2-6 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, r.f. connectors, r.f. and microwave passive components and accessories.

This second edition cancels and replaces the first edition published in 1998, of which it constitutes a technical revision.

The text of this standard is based on the following documents:

FDIS	Report on voting
46A/510/FDIS	46A/543/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this standard may be issued at a later date.

## INTRODUCTION

This detail specification applies to flexible coaxial cables described in IEC 60096-2. It relates to cable assemblies for radio and TV receivers, and in particular to the cable subfamily F.

This detail specification should be used together with the following IEC publications:

IEC 60966-1:1999, *Radio frequency and coaxial cable assemblies – Part 1: Generic specification – General requirements and test methods*

IEC 60966-2-1:1991, *Radio frequency and coaxial cable assemblies – Part 2-1: Sectional specification for flexible coaxial cable assemblies*


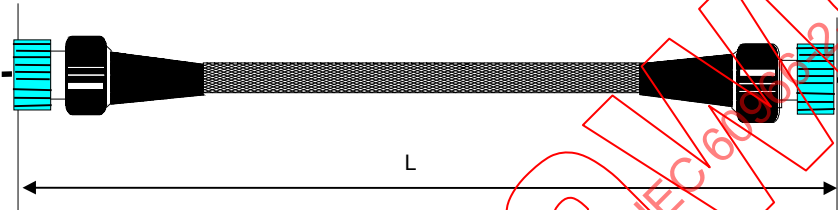
IEC 60966-2-2:1992, *Radio frequency and coaxial cable assemblies – Part 2-2: Blank detail specification for flexible coaxial cable assemblies*

IEC 61169-24:2001, *Radio frequency connectors – Part 24: Sectional specification – Radio frequency coaxial connectors with screw coupling, typically for use in 75 ohm cable distribution systems (type F)*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 61022:1989, *Interconnection of radio and TV receivers to feeder system outlets*

IEC 61196-1:1995, *Radio-frequency cables – Part 1: Generic specification – General, definitions, requirements and test methods*

[1] Prepared by IEC SC 46A		[2] Document No. 60966-2-6 Issue: Second issue Date: 21/03/03
[3] Available from: IEC 3 rue de Varembe Genève Suisse	[4] Generic specification: IEC 60966-1 Sectional specification: IEC 60966-2-1 Blank detail specification: IEC 60966-2-2	
[5] Additional references:		
Detail specification for coaxial cable assemblies for radio and TV receivers		
 IEC 727/03		
[6]		
[7] Characteristic impedance: 75 Ω	[8] Frequency range: 0 to 3000 MHz	
[9] Weight: 40 g/m + 50 g (typically)	[10] Minimum inside radius: for static bending 25 mm for dynamic bending 75 mm	
[11] Climatic category: 40/70/21	[12] Applicable test group: Ba, Eb, Eh, Ee, Mn	
[13] a Connector type: IEC 61169-24 (F) Straight plug  Cable type: IEC 61196-6 (under development) 75 yy or equivalent  Marking: Optional Taper sleeves: On both ends (colour optional)		
[14] Variants		[15] Page 1 of 3 pages

[16] Inspection values, ratings or characteristics	[17] Clause	[18] Value	[19] Remarks
<b>Electrical</b>			
<i>Reflection properties</i>	8.1	> 20 dB > 15 dB > 12 dB > 10 dB	5 MHz to 400 MHz 400 MHz to 862 MHz 862 MHz to 1 GHz 1 GHz to 3 GHz
<i>Operational attenuation (Insertion loss)</i>	8.3	< 0,08 + 0,4 dB/m	up to 3 GHz
<i>Screening effectiveness:</i>			
<i>Transfer impedance Class A</i>	12.1, 12.2 of IEC 61196-1 further tests UC (under consideration)	(5 mΩ/m)	5 MHz
<i>Class B</i>		UC	
<i>Screening attenuation Class A</i>		> 85 dB > 65 dB	30 MHz to 1 GHz 1 GHz to 3 GHz
<i>Class B</i>	8.9 (further tests UC)	> 75 dB > 55 dB	30 MHz to 1 GHz 1 GHz to 3 GHz
<i>Voltage proof</i>	8.10	1,0 kV	50 Hz peak value
<i>Insulation resistance</i>	8.11	10 <sup>5</sup> MΩ	Test voltage 500 V
<i>Inner and outer conductor continuity</i>	8.12	OK	Low voltage DC
<b>Mechanical</b>			
<i>Tensile</i>	9.1	45 N	Interface OK Duration 1 min Test 8.12
<i>Flexure</i>	9.2	500 cycles	Force 5 N 20/min Test 8.9
<i>Flexing endurance</i>	9.3	20 cycles	Test 8.12 and 8.9
<i>Cable assembly crushing</i>	9.4	700 N	Test 8.3

Under qualification approval, the qualification shall be conducted in accordance with 13.3 of IEC 60966-2-1 taking into account the specified variants. Only the tests whose results might depend on the variants shall be repeated.

Under capability approval, the qualification shall be conducted on the relating CQCs as defined in 13.4 of IEC 60966-2-1 and described in the capability manual (CM). Unless otherwise specified in the CM, only lot by lot tests from groups Ba and Eb shall be conducted on delivered products, all other tests shall be performed on CQCs as defined in 13.4 of IEC 60966-2-1 and described in the CM.

Recommended grouping of test			Recommended severity					[27] Length of specimen
[20] Group	[21] Clause	Test	[22] Periodicity	[23] IL	[24] AQL	[25] <i>n</i>	[26] <i>c</i>	
<i>Ba</i>	7.2	<i>Visual inspection</i>	lot by lot	S3	4.0			
	7.3	<i>Dimensional inspection</i>	lot by lot	S3	4.0			
<i>Eh</i>	8.1	<i>Reflection properties</i>	lot by lot	II	1.0			
	8.3	<i>Insertion loss</i>	lot by lot	II	1.0			
<i>Eb</i>	8.10	<i>Voltage proof</i>	lot by lot	II	1.0			
	8.11	<i>Insulation resistance</i>	lot by lot	II	1.0			
	8.12	<i>Inner and outer conductor continuity</i>	lot by lot	III	1.0			
<i>Ee</i>	8.9	<i>Screening attenuation</i>	1 year	I		1	0	
		<i>Transfer impedance</i>						
<i>Mn</i>	9.1	<i>Tensile</i>	3 years			3	0	On a CQC variant(e) 1 l = 300 mm
	9.2	<i>Flexure</i>	3 years					
	9.3	<i>Flexing endurance</i>	3 years					
	9.4	<i>Cable assembly crushing</i>	3 years					