

# JIS

**JAPANESE INDUSTRIAL STANDARD**

**Concentric plugs and jacks**

**JIS C 6560** - 1994

**Translated and Published**

**by**

**Japanese Standards Association**

Printed in Japan

Licensee=Hong Kong Polytechnic University/9976803100  
Not for Resale, 07/29/2014 22:41:28 MDT

In the event of any doubt arising,  
the original Standard in Japanese is to be final authority.

## JAPANESE INDUSTRIAL STANDARD

J I S

## Concentric plugs and jacks

C 6560-1994

1. Scope This Japanese Industrial Standard specifies the very small-sized concentric plugs, small-sized concentric plugs, and large-sized concentric plugs, as well as jacks conforming to these plugs.

Remarks 1. The standards cited in this Standard are as follows:

JIS B 7503 Dial gauges

JIS C 0051 Basic environmental testing procedures Part 2:  
Tests Test U: Robustness of terminations and  
integral mounting devices

JIS C 5001 General rules for electronic components

JIS C 5401 General rules of connectors for use in electronic  
equipment

JIS C 5402 Method for test of connectors for use in electronic  
equipment

JIS H 3100 Copper and copper alloy sheets, plates and strips

JIS H 3130 Copper beryllium alloy, phosphor bronze and  
nickel silver sheets, plates and strips for springs

JIS H 3250 Copper and copper alloy rods and bars

JIS H 8617 Electroplated coatings of nickel and chromium

JIS K 6720 Polyvinyl chloride resins

JIS K 6748 Polyethylene moulding materials

2. The International standards corresponding to this Standard  
are as follows.

IEC 130-8 (1976) Connectors for frequencies below 3 MHz.  
Part 8: Concentric Connectors for audio  
circuits in radio receivers

IEC 603-11 (1992) Connectors for frequencies below 3 MHz for  
use with printed boards. Part 11: Detail  
Specification for concentric connectors  
(dimensions for free connectors and fixed  
connectors)

2. Definitions For the purpose of this Standard, the definitions given in JIS  
C 5001, JIS C 5401 and JIS C 5402 apply.

### 3. Type designation

**3.1 Composition of type designation** The composition of type designation shall be arranged as follows.

|                                                                 |                                                        |                                          |                                                               |
|-----------------------------------------------------------------|--------------------------------------------------------|------------------------------------------|---------------------------------------------------------------|
| <div>Symbol<br/>denoting<br/>concentric<br/>plug and jack</div> | <div>Symbol<br/>denoting<br/>conforming<br/>plug</div> | <div>Symbol<br/>denoting<br/>class</div> | <div>Symbol<br/>denoting<br/>composition<br/>of circuit</div> |
| 3.2.1                                                           | 3.2.2                                                  | 3.2.3                                    | 3.2.4                                                         |
| Example: JC                                                     | 35                                                     | J                                        | 2A                                                            |

### 3.2 Symbols

**3.2.1 Concentric plugs and jacks** The symbol denoting the concentric plugs and jacks shall be JC.

**3.2.2 Conforming plugs** The symbol denoting the conforming plugs shall be classified by the outer diameter of sleeve, as shown in Table 1.

Table 1. Symbol denoting the conforming plug

| Symbol | Conforming plug                            |
|--------|--------------------------------------------|
| 25     | Very small-sized (sleeve diameter, 2.5 mm) |
| 35     | Small-sized (sleeve diameter, 3.5 mm)      |
| 63     | Large-sized (sleeve diameter, 6.3 mm)      |

**3.2.3 Class** The symbol denoting the class shall be as specified in Table 2.

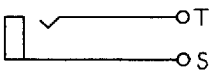
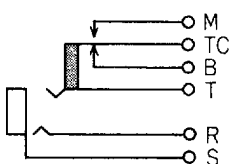
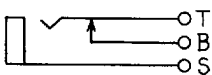
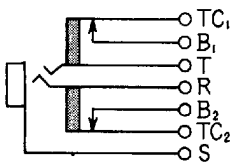
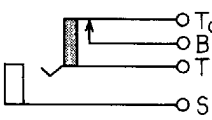
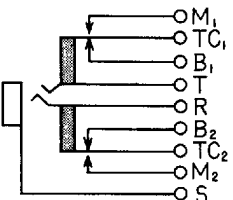
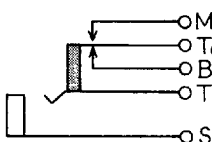
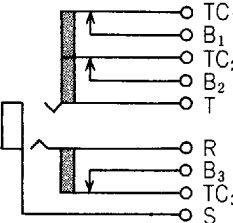
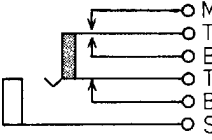
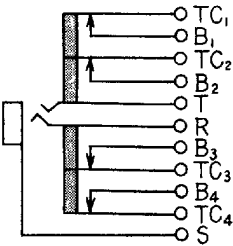
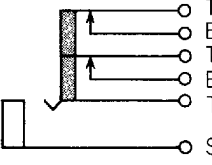
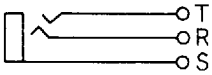
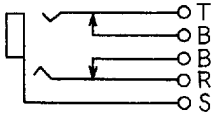
Table 2. Symbol denoting class

| Symbol | Class |
|--------|-------|
| P      | Plug  |
| J      | Jack  |

**3.2.4 Composition of circuit** The symbol denoting the composition of circuit shall be a numeric character for the number of poles and an English capital letter for type of circuit, as shown in Table 3. However, plugs shall be denoted only by a numeric character for the number of poles, and English capital letters shall not be used.

Example: (Plug) JC-35-P-2

Table 3. Symbols denoting composition of circuit

| Number of poles | Symbol | Composition of circuit                                                              | Number of poles | Symbol | Composition of circuit                                                                |
|-----------------|--------|-------------------------------------------------------------------------------------|-----------------|--------|---------------------------------------------------------------------------------------|
| 2               | 2A     |    | 3               | 3C     |    |
|                 | 2B     |    |                 | 3D     |    |
|                 | 2C     |    |                 | 3E     |    |
|                 | 2D     |    |                 | 3F     |  |
|                 | 2E     |   |                 | 3G     |  |
|                 | 2F     |  |                 | 3Z     | Others                                                                                |
|                 | 2Z     | Others                                                                              |                 |        |                                                                                       |
| 3               | 3A     |  |                 |        |                                                                                       |
|                 | 3B     |  |                 |        |                                                                                       |

Remarks: The detail of each termination symbol is given in Attached Fig. 8.

#### 4. Construction

4.1 Construction, shape and dimension The construction, shape and dimension of concentric plug and jack shall be specified by Attached Figures given in Table 4. However, where any dimension is not indicated in Attached Figs. 1 through 7, and 9, one example of construction and shape is illustrated.

Table 4. Construction, shape and dimension of concentric plug and jack

| Number | Item                                    | Dimension       |
|--------|-----------------------------------------|-----------------|
| 1      | 2-pole very small-sized concentric plug | Attached Fig. 1 |
| 2      | 3-pole very small-sized concentric plug | Attached Fig. 2 |
| 3      | 2-pole small-sized concentric plug      | Attached Fig. 3 |
| 4      | 3-pole small-sized concentric plug      | Attached Fig. 4 |
| 5      | 2-pole large-sized concentric plug      | Attached Fig. 5 |
| 6      | 3-pole large-sized concentric plug      | Attached Fig. 6 |
| 7      | Very small-sized jack                   | Attached Fig. 7 |
| 8      | Small-sized jack                        |                 |
| 9      | Large-sized jack                        |                 |
| 10     | Figure of basic composition of jack     | Attached Fig. 8 |
| 11     | Knob                                    | Attached Fig. 9 |

**4.2 Materials and surface treatment** The materials for concentric plugs shall be specified in Attached Table 1, and those for the jacks, in Attached Fig. 8.

The surface treatment of chips and rings of the concentric plugs shall be equivalent to or better than Ep-Cu/Ni 3 as specified in JIS H 8617.

**5. Performance** The performance and its test methods given in Table 5 shall apply.

Table 5. Performance and test methods

| No. | Item                  | Applicable component |      |      | Performance                                                    | Test method                                                                                                                            |                                                                                                                                                      |
|-----|-----------------------|----------------------|------|------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                       | Combination          | Plug | Jack |                                                                |                                                                                                                                        |                                                                                                                                                      |
| 1   | Voltage proof         | ○                    | ○    | ○    | No burn caused by short circuit and no insulation destruction  | Comply with 5.1 of JIS C 5402.<br>Test voltage:<br>AC500 V                                                                             | Test the chip, ring, sleeve gaps of plug; each termination gap when jack circuit is open, and gap between each termination and the insulated metals. |
| 2   | Insulation resistance | ○                    | ○    | ○    | 100 MΩ or over                                                 | Comply with 5.2 of JIS C 5402.<br>Test voltage for very small-sized:<br>DC100 V<br>Test voltage for small- and large-sized:<br>DC500 V |                                                                                                                                                      |
| 3   | Contact resistance    | ○                    | —    | —    | Between jack and plug:<br>50 mΩ or under                       | Comply with 5.3 of JIS C 5402.<br>Test current: 100 mA or under                                                                        |                                                                                                                                                      |
|     |                       | —                    | —    | ○    | Within jack:<br>Break spring<br>Meter spring<br>30 mΩ or under |                                                                                                                                        |                                                                                                                                                      |