SONY

IP CONTROL CARD

BRBK-IP10
BRBK-IP7Z

SERVICE MANUAL

1st Edition

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

Table of Contents

Manual Structure

1. Service Overview

2. Circuit Description

3. Troubleshooting

4. Spare Parts

Manual Structure

Purpose of this manual

This manual is the Service Manual of the IP Control Card BRBK-IP10/IP7Z.
This manual contains the service overview, circuit description, troubleshooting, and spare parts.

The camera provided with BRBK-IP10/IP7Z may be changed.

Related manuals

In addition to this Service Manual the following manuals are provided.

- **"Installation Manual" (supplied with this unit)**
  This manual is necessary for Installation of this unit.

Trademarks

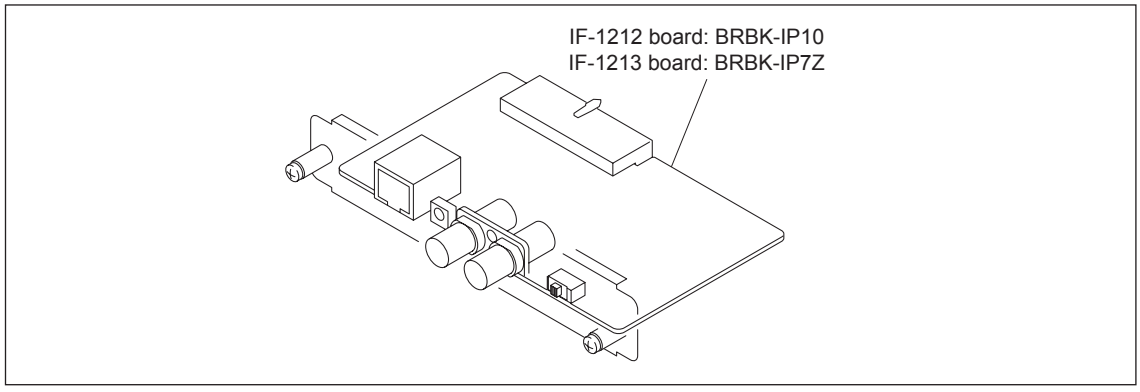
Trademarks and registered trademarks used in this manual are as follows.

- Windows, Windows Vista, Windows 7, and Internet Explorer are the registered trademarks of Microsoft Corporation in the United States and Other countries.

Other system names, product names, and company names appearing in this manual are trademarks or registered trademarks of their respective holders.

Section 1
Service Overview

1-1. Board Location



1-2. Tighten Torque

Tighten the each screw with the torque below.

- PSW2.6 × 6: 0.40 ±0.02 N•m (4.07 ±0.20 kgf•cm)
- PSW3 × 6: 0.60 ±0.02 N•m (6.11 ±0.20 kgf•cm)

1-3. Firmware Version Upgrade

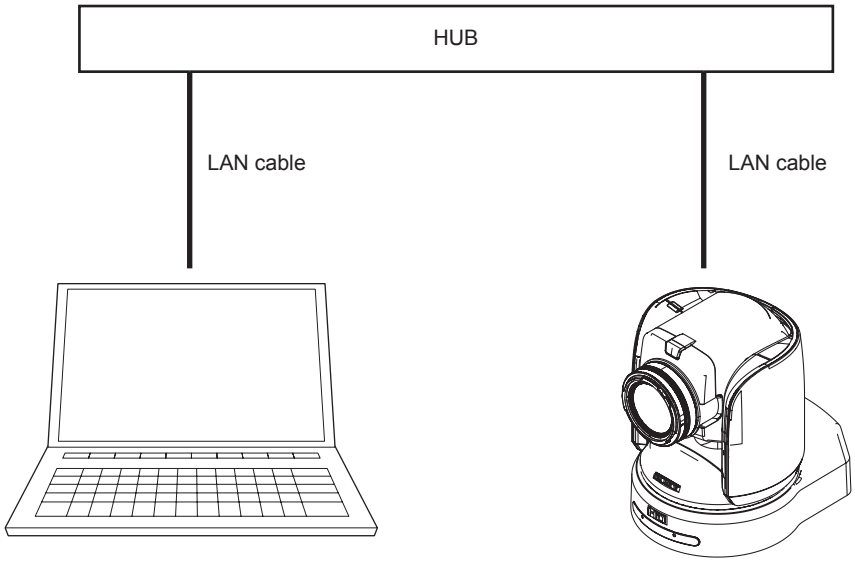
In BRBK-IP10 and BRBK- IP7Z, the firmware version upgrade of the microcomputer is performed via LAN.

1-3-1. Required Equipment

- Personal computer (PC): OS (Windows XP/Vista/7)
- Web browser: Internet Explorer 7 or later
- Firmware: BRBK-IP10_IP7Z_Ver***_yyyymmdd.bin
  (***: Version, yyyymmdd: Date)

1-3-2. Connection Environment

Install this unit and PC on the same LAN. Set the different IP address of the same segment to this unit and PC.



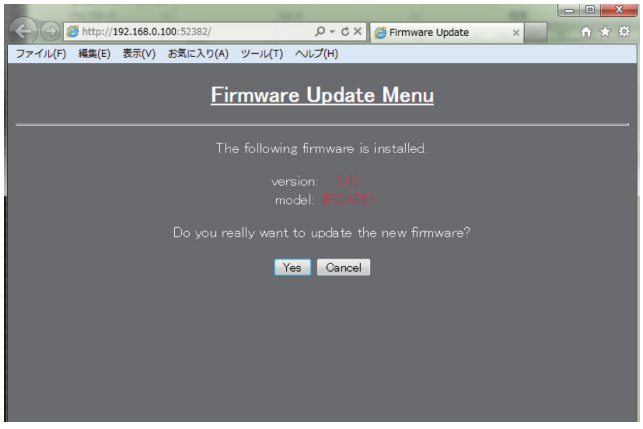
Note
When connecting this unit and PC directly, use the LAN cable (cross).

1-3-3. Preparation

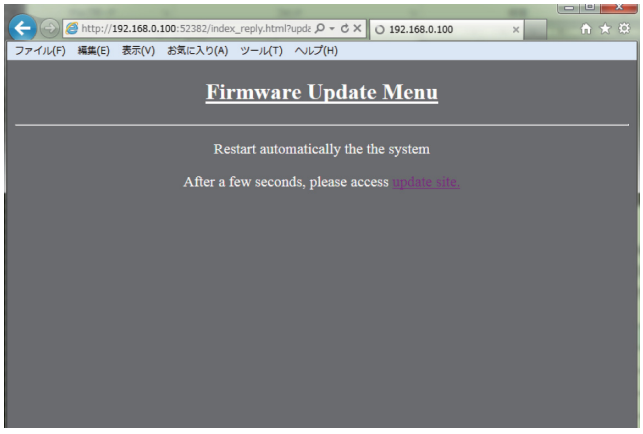
1. Connect each device according to Section 1-3-2.
2. Turn on the power of each device.
3. Copy the firmware to an arbitrary folder of PC.
4. Set the different IP address of the same segment to this unit and PC.
   Note
   Check the IP address of this unit using the camera menu.

1-3-4. Version Upgrade

1. Start the Web browser on PC, and then type the following URL.
   http://IP address of this unit:52382/
   (Example) In the case that the IP address is 192.168.0.100
   http:// 192.168.0.100:52382/
   The following window is displayed.



   In the “version” and “model”, the current firmware version and model name are displayed respectively. (This unit is displayed as IPCARD.)
2. Click the Yes button.
   The following window is displayed, and then this unit is restarted.



3. After about 5 seconds, click the update site button.
   Note
   The above window may not be displayed depending on the communication state. In this case, type URL in step 1 again, and then proceed to step 4.
4. Type the user name and password.
   • User name: sony_brc_ipcard
   • Password: sony_ipremote
   The “Authentification success” window is displayed.
5. Click the Browse... button.
6. Select the version upgrade file in the window in step 5, and then click the OK button. The upgrade is started.
7. When the upgrade is normally completed, this unit is restarted.

8. Click the Close button.
   This unit is restarted.
9. Perform step 1 again, and then check that the firmware is upgraded to the latest version.

1-4. About the MAC Address

When replacing this unit, it is not required to replace the MAC address label.
However, since the MAC address label is attached to the panel plate, when replacing the panel plate, it is required to peel off the MAC address label attached to the panel plate and reattach it to the new panel plate.

1-5. Factory Setting

1-5-1. Factory Settings of Network

- IP address: 192.168.0.100
- Subnet mask: 255.255.255.0
- Name: CAM1

Note

The IP address of this unit and the name are changed by the user using “RM-IP10SetupTool.exe” supplied with this unit.

1-5-2. Factory Settings of Switch on the Board

- BRBK-IP10: HD (DATA MIX ON)
- BRBK-IP7Z: HD

1-6. Lead-free Solder

Boards requiring use of lead-free solder are printed with a lead free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

 : LEAD FREE MARK

Notes

- Be sure to use the lead-free solder for the printed circuit board printed with the lead free mark.
- The lead-free solder melts at a temperature about 40 °C higher than the ordinary solder, therefore, it is recommended to use the soldering iron having a temperature regulator.
- The ordinary soldering iron can be used but the iron tip has to be applied to the solder joint for a slightly longer time. The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful.

Section 2
Circuit Description

2-1. BRBK-IP10

The BRBK-IP10 is an optional board that converts a video signal into an HD-SDI or SD-SDI signal and outputs the converted signal when it is installed in the card slot of BRC-Z330 or BRC-H900 (hereinafter described as a camera).
The BRBK-IP10 can also perform the camera control such as panning, tilt, and zoom by connecting RM-IP10 to an LAN connector.
A three position slide switch is mounted on the panel of the BRBK-IP10. The format of a video output signal can be selected from HD-SDI (DATA MIX OFF), HD-SDI (DATA MIX On), and SD-SDI signals using this switch.
The signal from this slide switch is sent to the microcomputer of a camera through a microcomputer. In the microcomputer, the format of the video output signal output from a card slot is controlled.
The image data from the card slot is encoded to an SDI signal through FPGA using an HD/SD-SDI serializer and output from a BNC connector (CN2002: SDI×2).
For camera control, a signal is sent from RM-IP10 to PHY through a LAN connector (CN2003) and from RM-IP10 to the microcomputer of a camera through a microcomputer so as to control panning, tilt, and zoom.
Moreover, the contents of the IP address stored in EEPROM that is connected to a microcomputer can be returned to the factory-setting state by holding down an address reset key.

2-2. BRBK-IP7Z

The BRBK-IP7Z is an optional board that converts a video signal into an HD-SDI or SD-SDI signal and outputs the converted signal when it is installed in the card slot of BRC-Z700 (hereinafter described as a camera).
The BRBK-IP7Z can also perform the camera control such as panning, tilt, and zoom by connecting RM-IP10 to a LAN connector.
A two position slide switch is mounted on the panel of the BRBK-IP7Z. The format of the video output signal from HD-SDI and SD-SDI signals can be selected using this switch.
The signal from this slide switch is sent to the microcomputer of a camera through a microcomputer. In the microcomputer, the format of the video output signal output from a card slot is controlled.
For an HD-SDI output, the image data input from the card slot is sent to an SDI serializer through FPGA.
For an SD-SDI output, the image data is converted from an HD signal to an SD signal through FPGA using a down-converter and encoded to an SDI signal through FPGA using an SDI serializer again. The encoded signal is then output from a BNC connector (CN2002: SDIx2).
For camera control, a signal is sent from RM-IP10 to PHY through a LAN connector (CN2003) and from RM-IP10 to the microcomputer of a camera through a microcomputer so as to control panning, tilt, and zoom.
Moreover, the contents of the IP address stored in EEPROM that is connected to a microcomputer can be returned to the factory-setting state by holding down an address reset key.

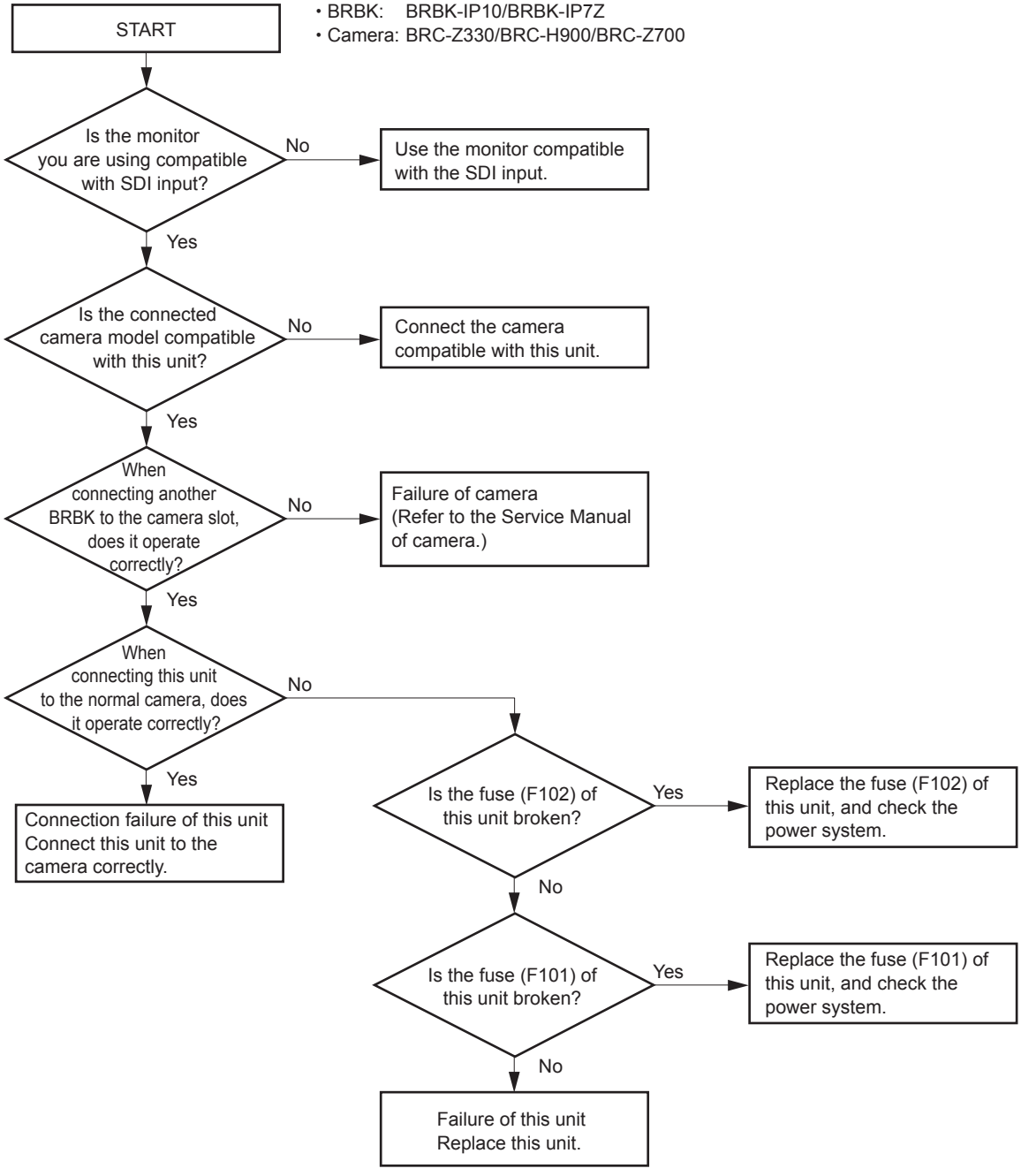
Section 3
Troubleshooting

Notes

- When performing the check of this unit (BRBK-IP10 or BRBK- IP7Z), use the extension board (EX-1089 board).
- Connect BRBK-IP 10 or BRBK- IP7Z to the camera that is compatible with each unit.
  - BRBK-IP10: BRC-Z330/BRC-H900
  - BRBK-IP7Z: BRC-Z700

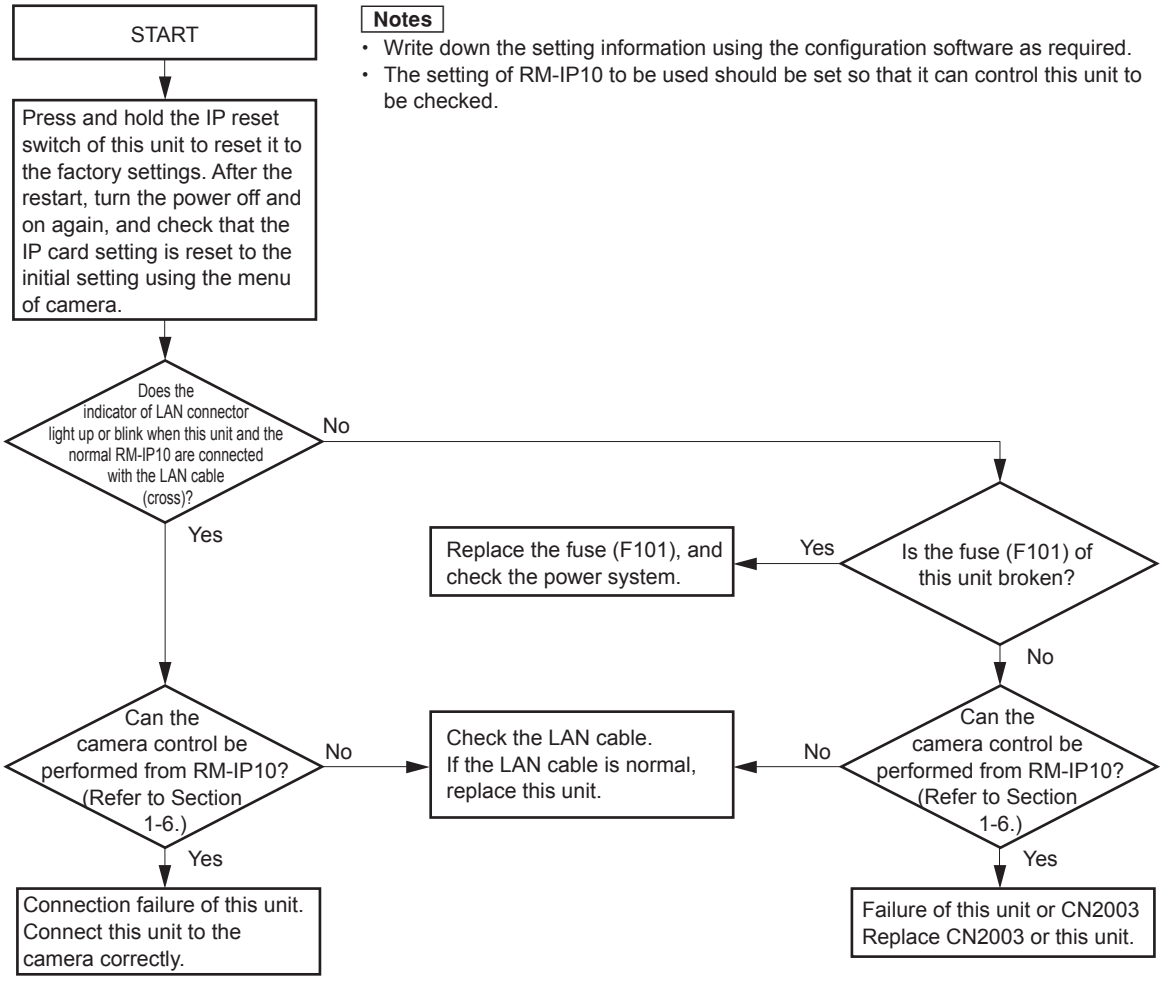
  Use the latest software version.
- Set the image format to 1080/59.94i and check it.

3-1. Image is Not Displayed



3-2. IP Communication is Not Successful

BRBK: BRBK-IP10/BRBK-IP7Z



Notes

- Write down the setting information using the configuration software as required.
- The setting of RM-IP10 to be used should be set so that it can control this unit to be checked.

Section 4
Spare Parts

4-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

3. Stock of Parts

Parts marked with “o” at SP (Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

4. Harness

Harnesses with no part number are not registered as spare parts.

4-1. 補修部品注意事項

1. 安全重要部品

⚠警告

⚠印のついた部品は安全性を維持するために重要な部品です。したがって，交換する時は必ず指定の部品を使ってください。

2. 部品の共通化

ソニーから供給する補修用部品は，セットに使われているものと異なることがあります。
これは部品の共通化，改良等によるものです。

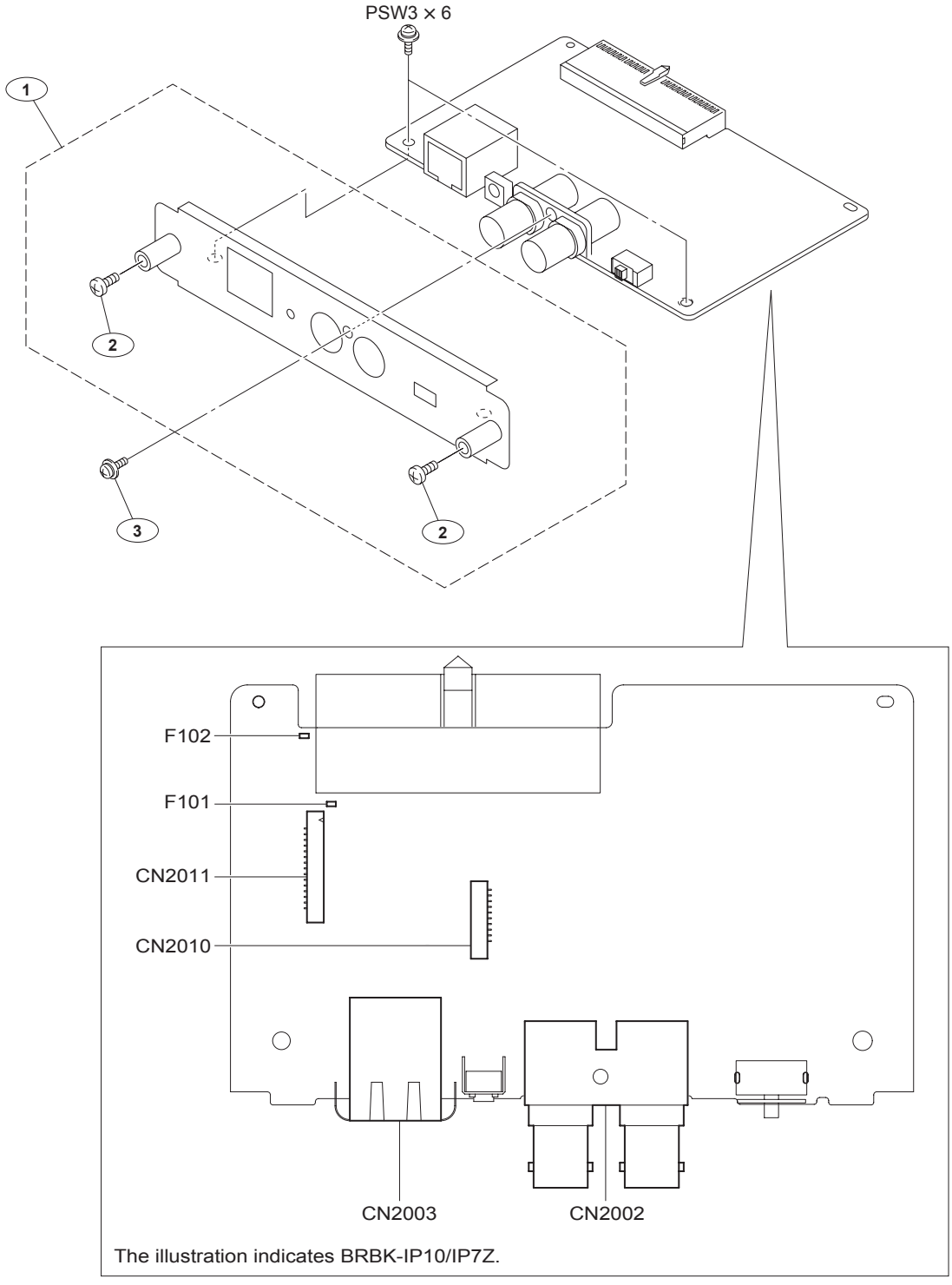
3. 部品の在庫

部品表の SP（Supply code）欄に “o” で示される部品は在庫していないことがあり，納期が長くなることがあります。

4. ハーネス

部品番号の記載されていないハーネスは，サービス部品として登録されていません。

4-2. Exploded Views



The illustration indicates BRBK-IP10/IP7Z.

No.	Part No.	SP	Description
1	A-1907-076-A	s	IF-1212 PANEL ASSY (For BRBK-IP10)
	A-1907-077-A	s	IF-1213 PANEL ASSY (For BRBK-IP7Z)
2	3-637-896-04	s	SCREW,STEP(+B3X14)
3	3-986-877-01	s	+PSW2.6X6
	7-682-947-01	s	SCREW +PSW 3X6

No.	Part No.	SP	Description
CN2002	1-819-993-11	s	CONNECTOR, COAXIAL(BNC DOUBLE)
CN2003	1-815-187-11	s	JACK, MODULAR
CN2010	1-784-254-21	s	CONNECTOR 10P
CN2011	1-750-361-71	s	CONNECTOR, FFC/FPC (ZIF) 30P
F101	⚠ 1-576-596-41	s	MICRO FUSE-LINK (1608 TYPE) (1A/36V)
F102	⚠ 1-576-596-41	s	MICRO FUSE-LINK (1608 TYPE) (1A/36V)

BRBK-IP10 (WW)
BRBK-IP7Z (WW) J,E
9-878-430-01

Sony Corporation

Printed in Japan
2012. 11 32