

PCGA-DVD51

SERVICE MANUAL

US Model
Canadian Model

Ver 2-2001G

All the supplementary
information are attached
at the end of data files.

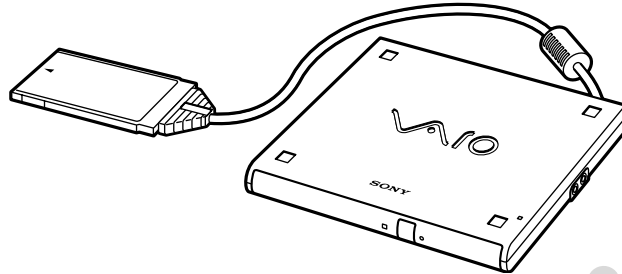
Update

Lineup : PCGA-DVD51

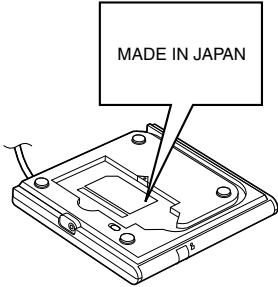
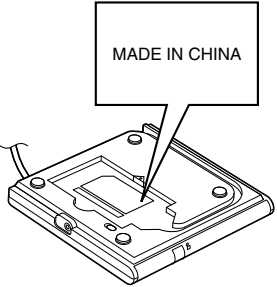
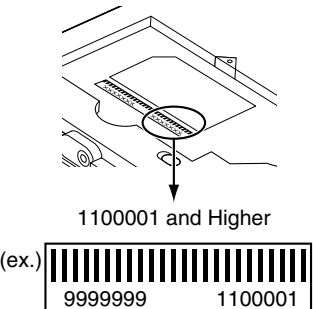
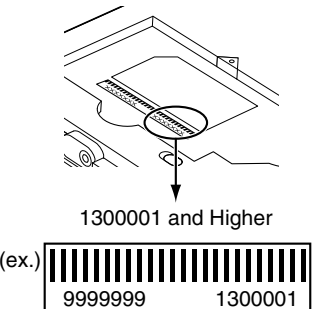
PCGA-DVD51/A (*Made in Japan)

PCGA-DVD51/A (*Made in China)

Illust : PCGA-DVD51/A



- This manual is a revised and integrated version for PCGA-DVD51 (9-872-100-11) and PCGA-DVD51/A (9-872-169-11).
- The basic performance of the product has not been changed.
- There are two differences in appearance between products made in Japan and those made in China. Upon repair, see the following list.

	Products made in Japan (J)	Products made in China (C)
Nameplate		
Serial Number (S/N)	 (ex.) 9999999 1100001	 (ex.) 9999999 1300001

SPECIFICATIONS

Disc

Compatible discs

- DVD-ROM
- DVD-VIDEO
- DVD-R (reading only)
- CD-R (reading only)
- CD-RW (reading only)
- CD-ROM
- Photo CD (multisession)
- CD-DA (music CD)
- Video CD
- CD Extra (CD+)
- CD TEXT
- Electronic Book

Disc diameter: 12 cm (4 7/8 in.), 8 cm (3 in.)

Drive performance

Data transfer rate⁽¹⁾

- Electric power from the supplied AC adapter
Max : approx. 8x speed (DVD-ROM)
: approx. 24x speed (CD-ROM)
- Electric power from the connected notebook computer)
Max : approx. 2x speed (DVD-ROM)
: approx. 12x speed (CD-ROM)

DVD-ROM:1x speed=1352 KB/s

CD-ROM:1x speed=150 KB/s

Access time

Average (1/3 stroke): 150 ms

Interface card

Interface: Conforms to PCMCIA 2.1/JEIDA 4.2
Card type: PCMCIA Type II (Conforms to CardBus/
16 bit mode)

AC adapter

Power requirements
100-240V AC, adjustable, 50/60 Hz

Power consumption
15W max.

Output voltage and current
10 Vmax, 1.5 A

Other Specifications

Power source

DC IN connector: 10 V

Connecting the supplied AC adapter supplies power
from an AC outlet.

Power consumption
Approx. 6 W (reading)

Operating temperature
41°F to 95°F (5°C to 35°C)

(temperature gradient less than 18°F (10°C)/hour)

Operating humidity
20% to 80% (not condensed),
provided that humidity is less than 65% at 95°F (35°C)

(hygrometer reading of less than 84°F (29°C))

Storage temperature
-4°F to 140°F (-20°C to 60°C)

(temperature gradient less than 18°F (10°C)/hour)

Storage humidity:
10% to 90% (not condensed),
provided that humidity is less than 20% at 140°F

(60°C)
(hygrometer reading of less than 95°F (35°C))

Dimensions

Approx. 5 1/4 x 1 1/2 x 6 1/8 inches (Approx. 144 x 26 x
153mm) (w/h/d)

Mass

Approx. 18.5 oz. (520 g) (drive only)

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All other trademarks are trademarks or registered trademarks of their respective owners. Other trademarks and trade names may be used in this document to refer to the entitles claiming the marks and names or their produces. Sony Corporation disclaims any proprietary interest in trademarks and trade names other than its own.

Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.

Dispose of used battery promptly.

Keep away from children.

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the (⚠ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

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MADE IN JAPAN

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CHAPTER 1. SEMICONDUCTOR

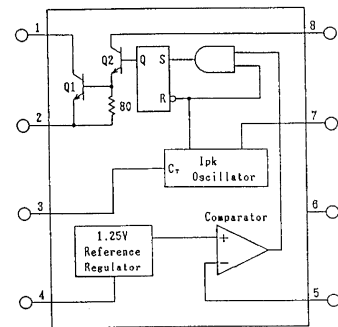
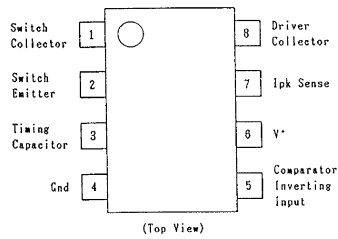
Semiconductor Index

<u>TYPE</u>	<u>PAGE</u>
NJM2360AM _____	1-2
RN5RF33AA-TR _____	1-2
RN5RG51AA-TL _____	1-2
RN5VD27AA-TR _____	1-2
RN5VD40AA-TR _____	1-2
TC7S08FU (TE85R) _____	1-2
TC74VHC123AFT (EL) _____	1-3
TC7WH74FU (TE12R) _____	1-3

NJM2360AM (TE2) (NJR)

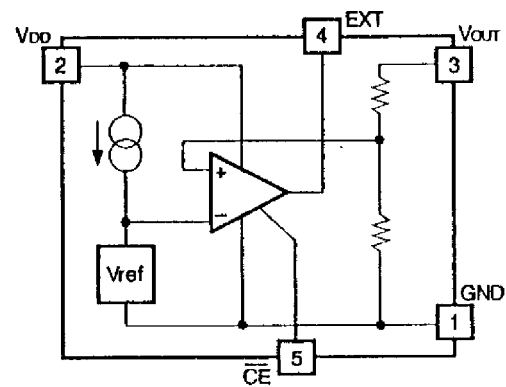
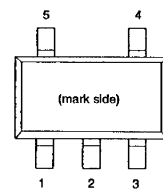
DC-DC CONVERTER

– TOP VIEW –

**RN5RG51AA-TL (RICOH) – CMOS –**

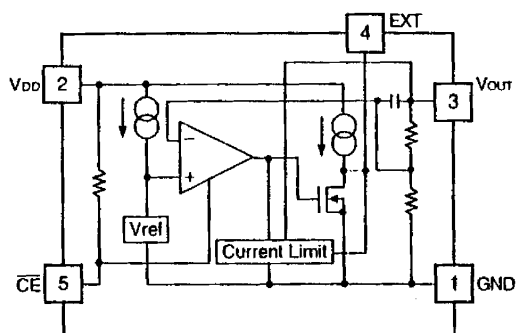
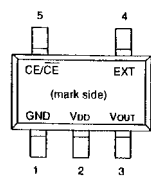
POSITIVE VOLTAGE REGULATOR

– MARK SIDE VIEW –

**RN5RF33AA-TR (RICOH) – CMOS –**

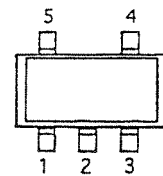
RIPPLE REGULATOR

– MARK SIDE VIEW –

**RN5VD27AA-TR (RICOH)****RN5VD40AA-TR (RICOH)**

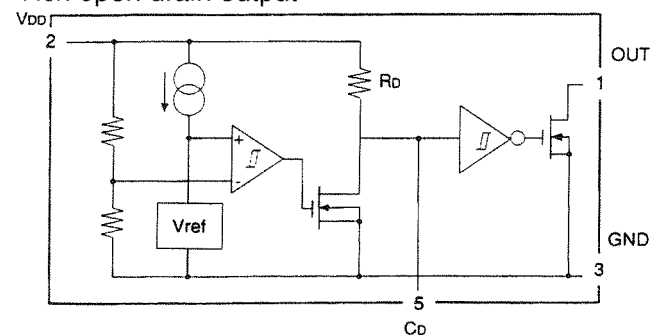
VOLTAGE DETECTOR

– MARK SIDE VIEW –



PIN No.	NAME
1	OUT
2	VDD
3	GND
4	NC
5	CD

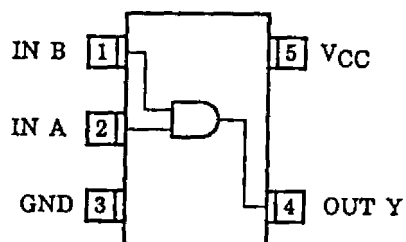
•Nch open drain output



TC7S08FU (TE85R) (TOSHIBA) – CMOS –

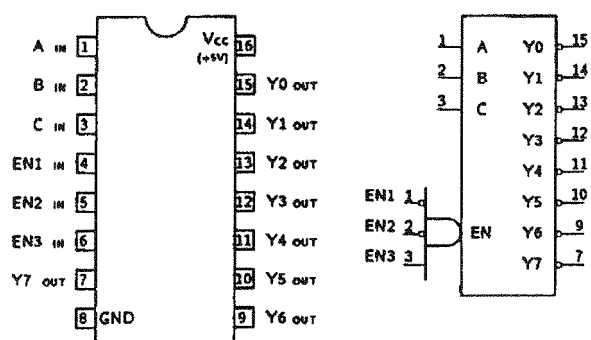
2 INPUT AND GATE

– TOP VIEW –

**TC74VHC123AFT (EL) (TOSHIBA)**

3-TO-8 LINE DECODER

– TOP VIEW –



INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

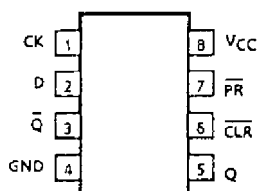
$$EN = \overline{EN1} \cdot \overline{EN2} \cdot EN3$$

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE

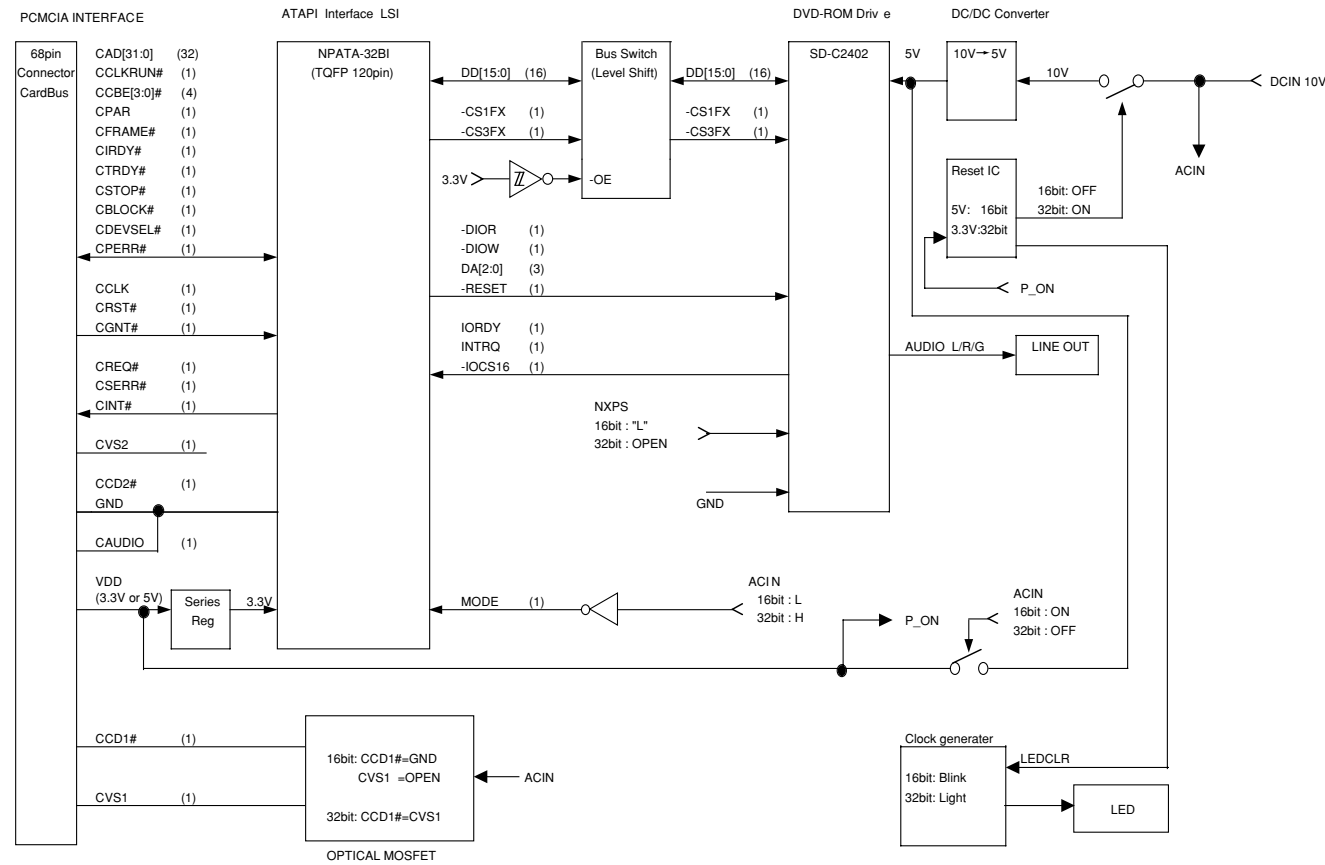
TC7WH74FU (TE12R) (TOSHIBA)

D-TYPE FLIP FLOP

– TOP VIEW –

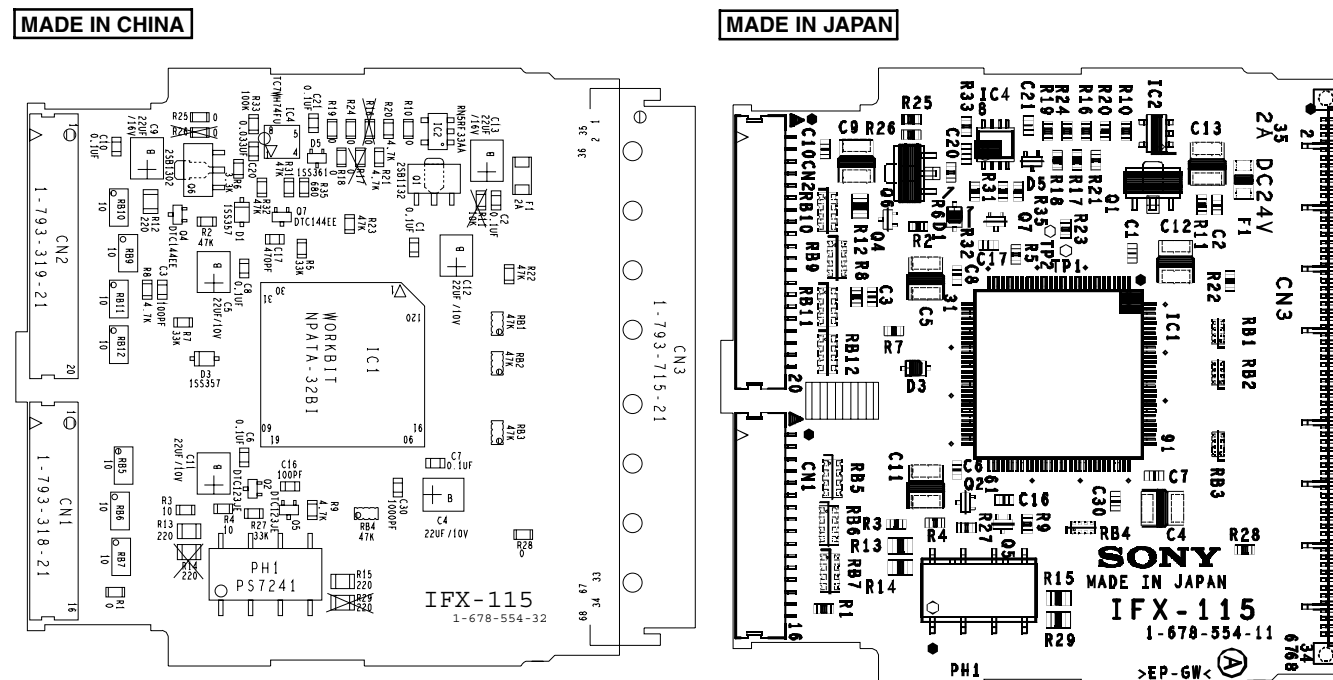


2-1. Block Diagram



2-2. Mounting Diagram

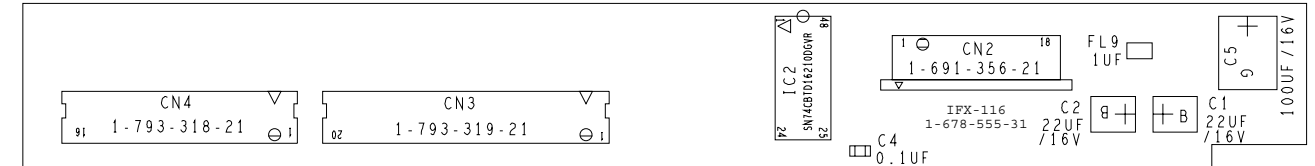
2-2-1. IFX-115 BOARD



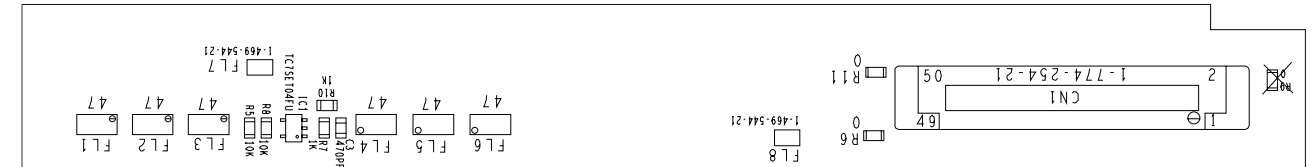
2-2-2. IFX-116 BOARD

MADE IN CHINA

- A Side -

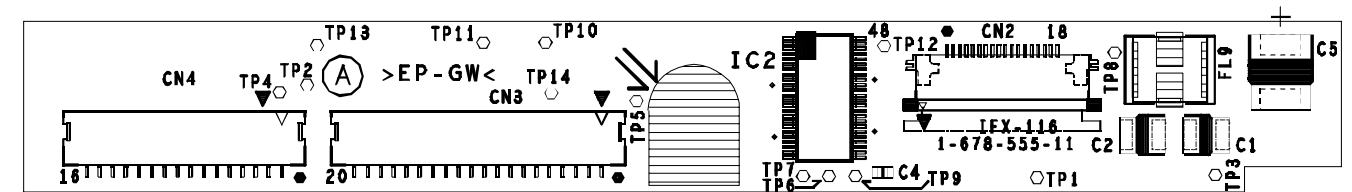


- B Side -

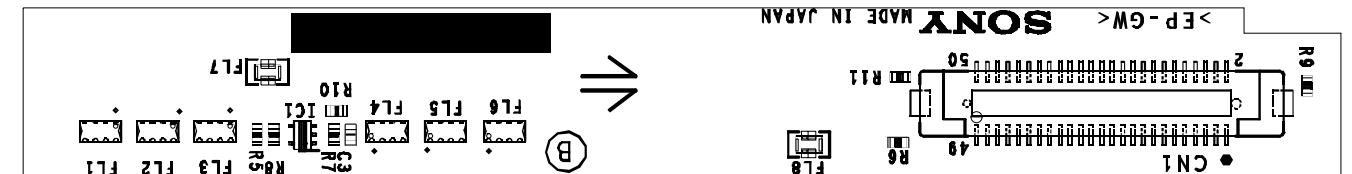


MADE IN JAPAN

- A Side -



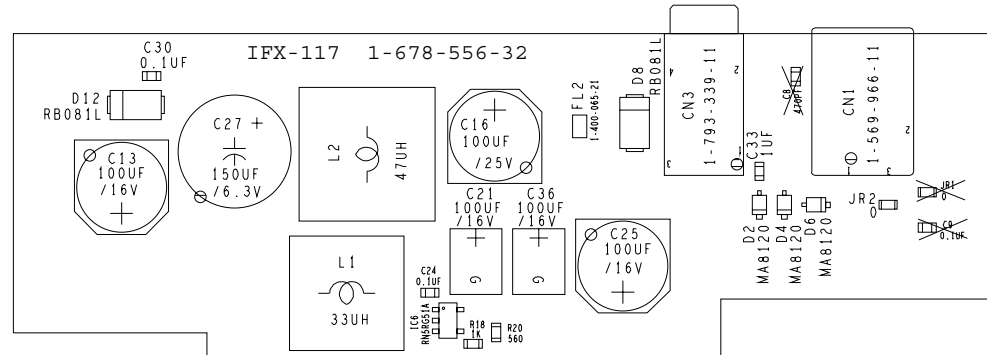
- B Side -



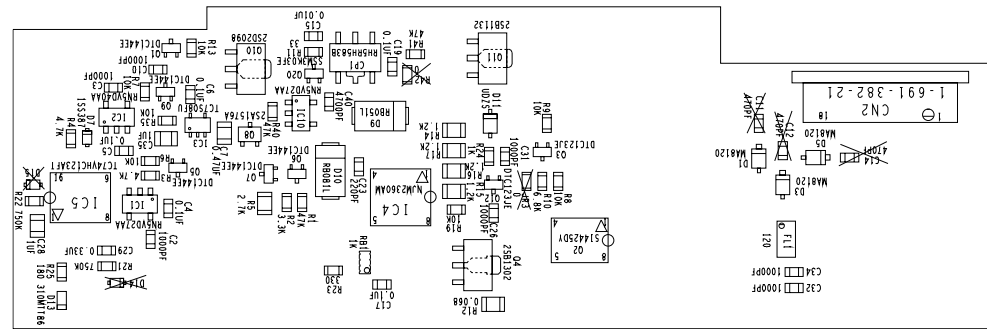
2-2-3. IFX-117 BOARD

MADE IN CHINA

- A Side -

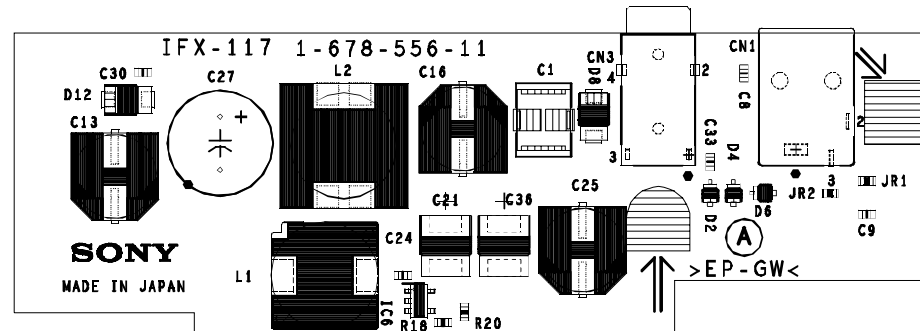


- B Side -

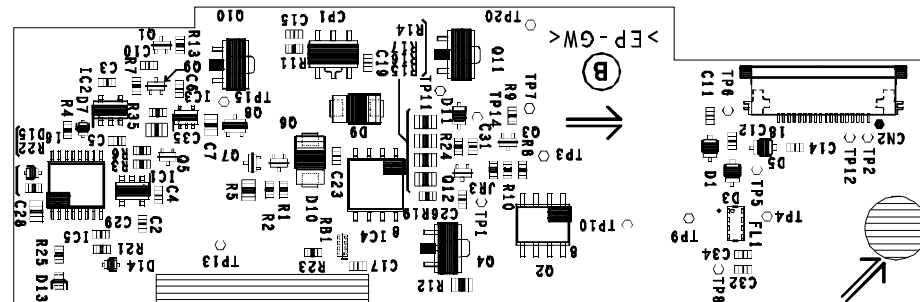


MADE IN JAPAN

- A Side -



- B Side -



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2-3. Schematic Diagram

MADE IN CHINA

2-3-1. IFX-115

8		7		6		5		4		3		2		1		
												REVISIONS				
												ZONE	LTR	DESCRIPTION	DATE	APPR.

PCGA-DVD51/A SCHEMATICS

SYSTEM BOARD IFX-115 REV 3.1

LAST_MODIFIED=Mon Feb 5 12:50:24 2001

FOR DVT <-32>

PAGE	REFERENCE	CIRCUIT DESCRIPTION	REVISION
2	1-	PC_CARD	EVT : : 2001/03/12 1-678-554-31 DVT : : PVT : : MP : :

• NOTE : □ □ □

LOCATION SCHEMATIC DIAGRAM SHEET NUMBER

DNI=Do Not Install

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DRAWING: IFX-115
BLOCK DIAGRAM

171867131
IFX-115Z

QTY 1/4

REV.

PART NO.
167855431

SIZE C

DESIGNER ICHIKAWA

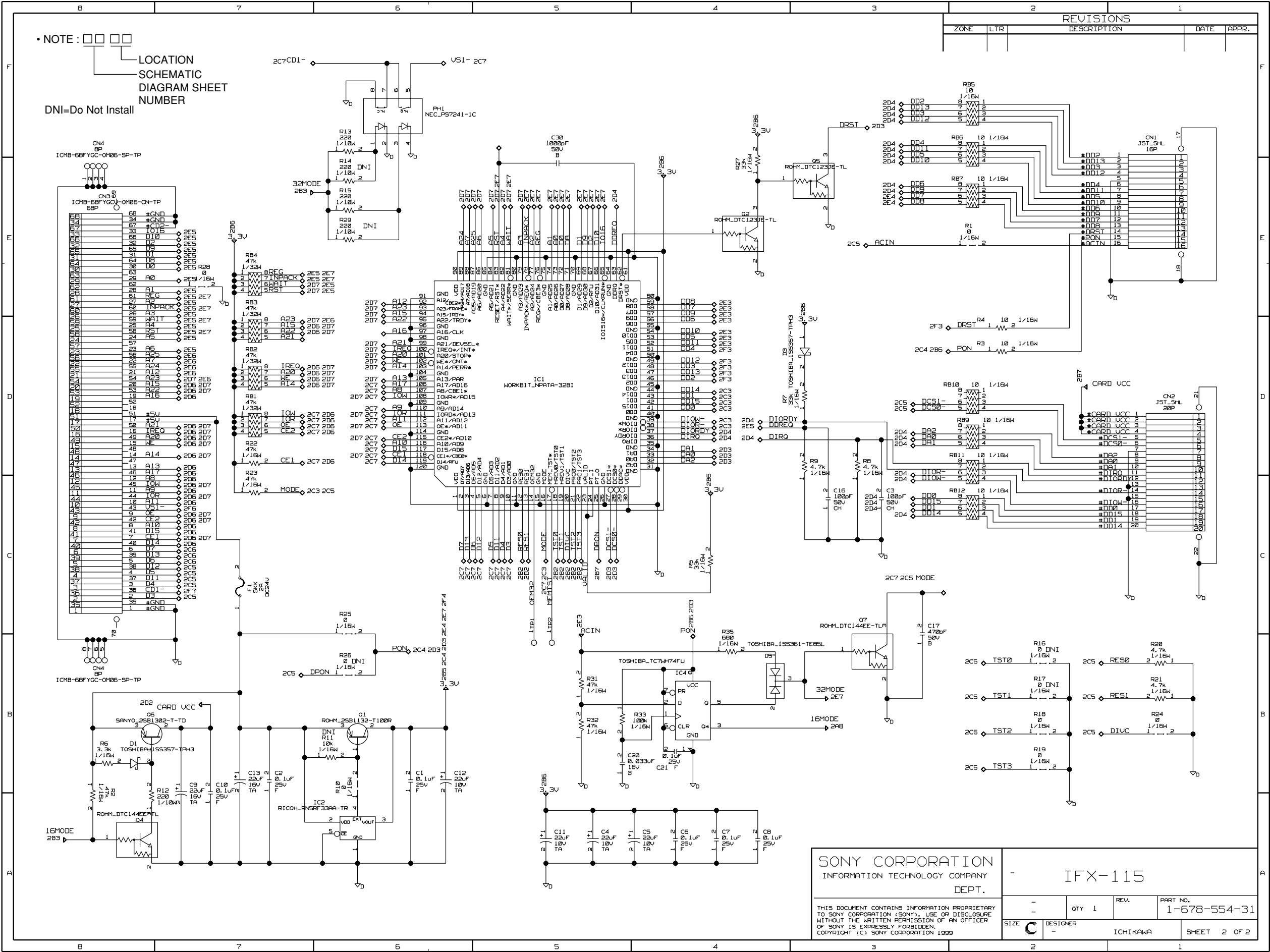
SHEET 1 OF 2

2-5

2-6

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PCGA-DVD51 (UC)

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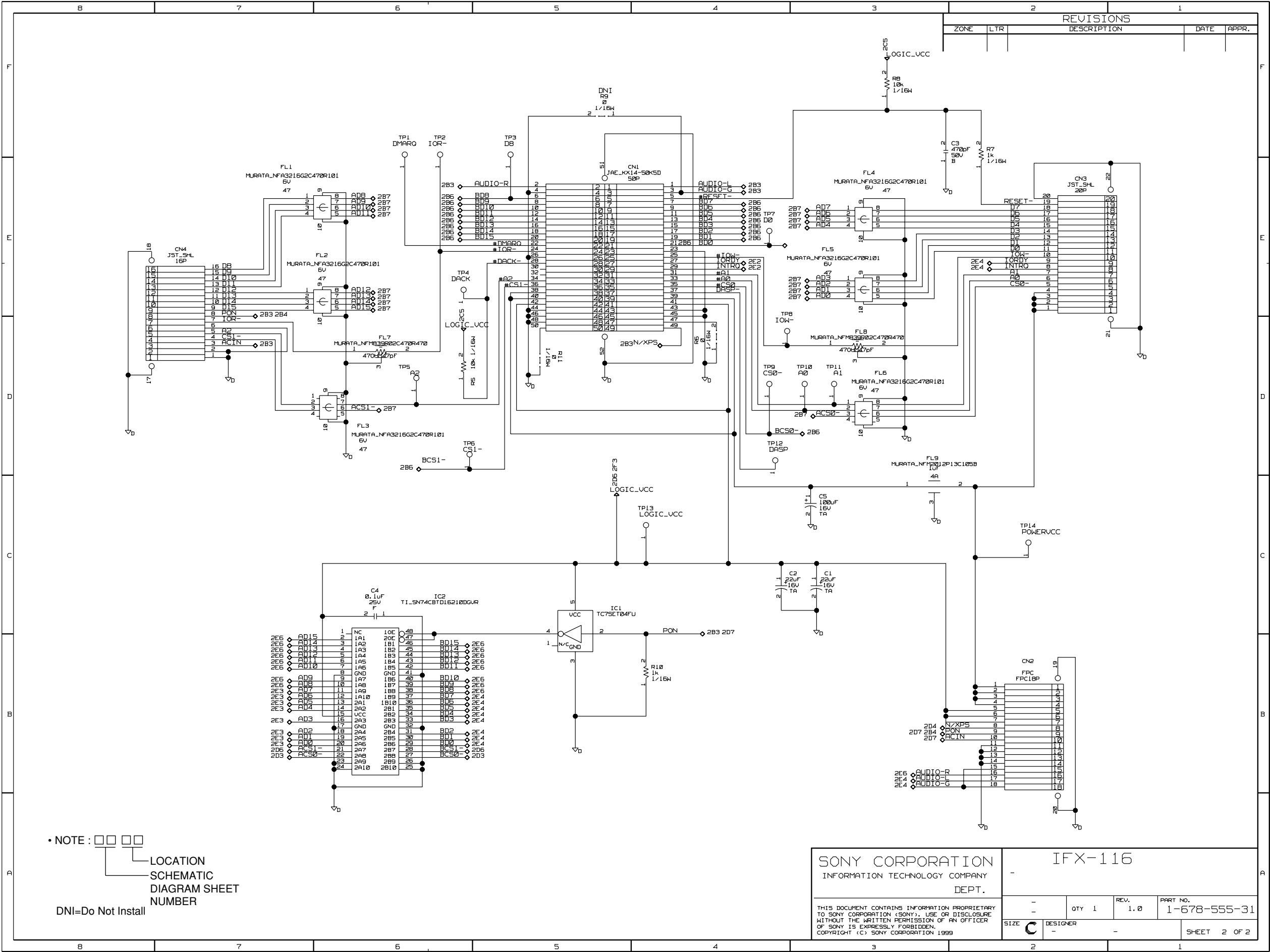
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												REVISIONS					
ZONE		LTR		DESCRIPTION								DATE		APPR.			
*** Unit Cross-Reference *** --- for the entire design ---																	
C1 C 2B6																	
C2 C 2B7																	
C3 C 2C3																	
C4 CE 2A5																	
C5 CE 2A4																	
C6 C 2A4																	
C7 C 2A4																	
C8 C 2A4																	
C9 CE 2B7																	
C10 C 2B7																	
C11 CE 2A5																	
C12 CE 2B6																	
C13 CE 2B7																	
C16 C 2C3																	
C17 C 2C3																	
C20 C 2B5																	
C21 C 2B4																	
C30 C 2F5																	
CN1 CN16P 2F1																	
CN2 CN20P 2D1																	
CN3 PCCARD-BASE 2E8																	
CN4 PCCARD-FRAME 2B8 2F8																	
D1 SHOTTKY 2B8																	
D3 SHOTTKY 2D4																	
D5 DD-KC 2B4																	
F1 FUSE 2C7																	
IC1 NPATA 2D5																	
IC2 RNSRF 2A6																	
IC4 7474 2B4																	
PH1 PS7241 2F6																	
O1 TR-PNP 2B6																	
O2 DTR-NPN-RBE 2E4																	
O4 DTR-NPN-RBE 2A8																	
O5 DTR-NPN-RBE 2E3																	
O6 TR-PNP 2B8																	
O7 DTR-NPN-RBE 2C3																	
R1 CONDUCTOR 2E2																	
R2 R 2A8																	
R3 R 2D2																	
R4 R 2D2																	
R5 R 2C4																	
R6 R 2B8																	
R7 R 2D4																	
R8 R 2D3																	
R9 R 2D3																	
R10 CONDUCTOR 2B6																	
R11 R 2B6																	
R12 R 2A8																	
R13 R 2F6																	
R14 R 2E6																	
R15 R 2E6																	
R16 CONDUCTOR 2B2																	
R17 CONDUCTOR 2B2																	
R18 CONDUCTOR 2B2																	
R19 CONDUCTOR 2B2																	
R20 R 2B1																	
R21 R 2B1																	
R22 R 2D7																	
R23 R 2C7																	
R24 CONDUCTOR 2B1																	
R25 CONDUCTOR 2C6																	
R26 CONDUCTOR 2B6																	
R27 R 2E4																	
R28 CONDUCTOR 2E7																	
R29 R 2E6																	
R31 R 2B5																	
R32 R 2B5																	
R33 R 2B4																	
R35 R 2B4																	
RB1 RB4 2D7																	
RB2 RB4 2D7																	
RB3 RB4 2E7																	
RB4 RB4 2F2																	
RB5 RB4 2F2																	
RB6 RB4 2F2																	
RB7 RB4 2E2																	
RB9 RB4 2D3																	
RB10 RB4 2D3																	
RB11 RB4 2D2																	
RB12 RB4 2C2																	
TP1 TP 2C5																	
TP2 TP 2C5																	
• NOTE : □ □ □ □																	
LOCATION																	
SCHEMATIC																	
DIAGRAM SHEET																	
NUMBER																	
DNI=Do Not Install																	
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SIZE C		DESIGNER -		-								SHEET 4 OF					

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2-3-2. IFX-116

8		7		6		5		4		3		2		1							
												REVISIONS									
												ZONE	LTR	DESCRIPTION	DATE	APPR.					
<div>PCGA-DVD51/A SCHEMATICS</div> <div>SYSTEM BOARD IFX-116 REV 3.1</div> <div>FOR DVT <-31></div> <div>LAST_MODIFIED=Mon Feb 5 13:17:01 2001</div> <table><thead><tr><th>PAGE</th><th>REFERENCE</th><th>CIRCUIT DESCRIPTION</th></tr></thead><tbody><tr><td>2</td><td>1-</td><td>IFX-116</td></tr></tbody></table> <div>REVISION EVT : : 2001/03/12 1-678-555-31 DVT : : PVT : : MP : :</div> <div><div>• NOTE : □ □ □</div><div>LOCATION SCHEMATIC DIAGRAM SHEET NUMBER</div><div>DNI=Do Not Install</div></div> <div><div>SONY PROPRIETARY INFORMATION</div><div><div>SONY CORPORATION INFORMATION TECHNOLOGY COMPANY MOBILE PRODUCTS 3DEPT.</div><div><div>THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SONY CORPORATION (SONY). USE OR DISCLOSURE WITHOUT THE WRITTEN PERMISSION OF AN OFFICER OF SONY IS EXPRESSLY FORBIDDEN. COPYRIGHT (C) SONY CORPORATION 1999</div><div><div>DRAWING: IFX-116 BLOCK DIAGRAM</div><div><div>171867231 IFX-116Z</div><div>QTY 1/10</div><div>REV. 1.0</div><div>PART NO. 167855531</div></div><div><div>SIZE C</div><div>DESIGNER -</div><div>SHEET 1 OF 2</div></div></div></div></div></div>																PAGE	REFERENCE	CIRCUIT DESCRIPTION	2	1-	IFX-116
PAGE	REFERENCE	CIRCUIT DESCRIPTION																			
2	1-	IFX-116																			

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8		7		6		5		4		3		2		1		
												REVISIONS				
												ZONE	LTR	DESCRIPTION	DATE	APPR.
*** Signal Cross-Reference *** --- for the entire design ---																
ACIN 2B3 2D7																
ACS0- 2B7 2D3																
ACS1- 2B7 2D6																
AD0 2B7 2E3																
AD1 2B7 2E3																
AD2 2B7 2E3																
AD3 2B7 2E3																
AD4 2B7 2E3																
AD5 2B7 2E3																
AD6 2B7 2E3																
AD7 2B7 2E3																
AD8 2B7 2E6																
AD9 2B7 2E6																
AD10 2B7 2E6																
AD11 2B7 2E6																
AD12 2B7 2E6																
AD13 2B7 2E6																
AD14 2B7 2E6																
AD15 2B7 2E6																
AUDIO-G 2B3 2E4																
AUDIO-L 2B3 2E4																
AUDIO-R 2B3 2E6																
BCS0- 2B6 2D3																
BCS1- 2B6 2D6																
BD0 2B6 2E4																
BD1 2B6 2E4																
BD2 2B6 2E4																
BD3 2B6 2E4																
BD4 2B6 2E4																
BD5 2B6 2E4																
BD6 2B6 2E4																
BD7 2B6 2E4																
BD8 2B6 2E6																
BD9 2B6 2E6																
BD10 2B6 2E6																
BD11 2B6 2E6																
BD12 2B6 2E6																
BD13 2B6 2E6																
BD14 2B6 2E6																
BD15 2B6 2E6																
INTRO 2E2 2E4																
IORDY 2E2 2E4																
LOGIC_UCC 2C5 2D6 2F3																
N/XPS 2B3 2D4																
PON 2B3 2B4 2D7																

• NOTE : □ □ □ □

LOCATION
SCHEMATIC
DIAGRAM SHEET
NUMBER

DNI=Do Not Install

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SIZE	C	DESIGNER	-	QTY	1	REV.	PART NO.
				SHEET		3 OF	

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F	8	7	6	5	4	3	2	1	
								REVISIONS	
	ZONE	LTR	DESCRIPTION				DATE	APPR.	
E									
D									
C									
B									
A									
8	7	6	5	4	3	2	1		

*** Unit Cross-Reference ***
--- for the entire design ---

C1	CE	2C3
C2	CE	2C4
C3	C	2F3
C4	C	2C6
C5	CE	2C3
CN1	CN50P	2E5
CN2	CN18P	2B2
CN3	CN20P	2E2
CN4	CN16P	2E7
FL1	FB4	2E7
FL2	FB4	2E6
FL3	FB4	2D6
FL4	FB4	2E3
FL5	FB4	2E3
FL6	FB4	2D3
FL7	EM13P	2D6
FL8	EM13P	2D3
FL9	C3T	2D3
IC1	7404	2C5
IC2	SN74CBTD16210	2C6
R5	R	2D6
R6	CONDUCTOR	2D4
R7	R	2E2
R8	R	2F3
R9	CONDUCTOR	2F5
R10	R	2B4
R11	CONDUCTOR	2D5
TP1	TP	2F6
TP2	TP	2F6
TP3	TP	2F5
TP4	TP	2E6
TP5	TP	2D6
TP6	TP	2D6
TP7	TP	2E4
TP8	TP	2D4
TP9	TP	2D4
TP10	TP	2D3
TP11	TP	2D3
TP12	TP	2D4
TP13	TP	2C4
TP14	TP	2C2

• NOTE : ☐☐☐☐

LOCATION
SCHEMATIC
DIAGRAM SHEET
NUMBER

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		—	—
		QTY 1	REV.
		—	—
		PART NO.	—
		SHEET 4 OF	

MADE IN CHINA

2-3-3. IFX-117

8		7		6		5		4		3		2		1		
												REVISIONS				
												ZONE	LTR	DESCRIPTION	DATE	APPR.

PCGA-DVD51/A SCHEMATICS

SYSTEM BOARD IFX-117 REV 3.1

LAST_MODIFIED=Mon Feb 5 13:48:27 2001

PAGE	REFERENCE	CIRCUIT DESCRIPTION
2	1-	POWER_BOARD

REVISION
EVT : : 2001/03/12 1-678-556-31
DVT : :
PVT : :
MP : :

• NOTE : □ □ □

LOCATION
SCHEMATIC
DIAGRAM SHEET
NUMBER

DNI=Do Not Install

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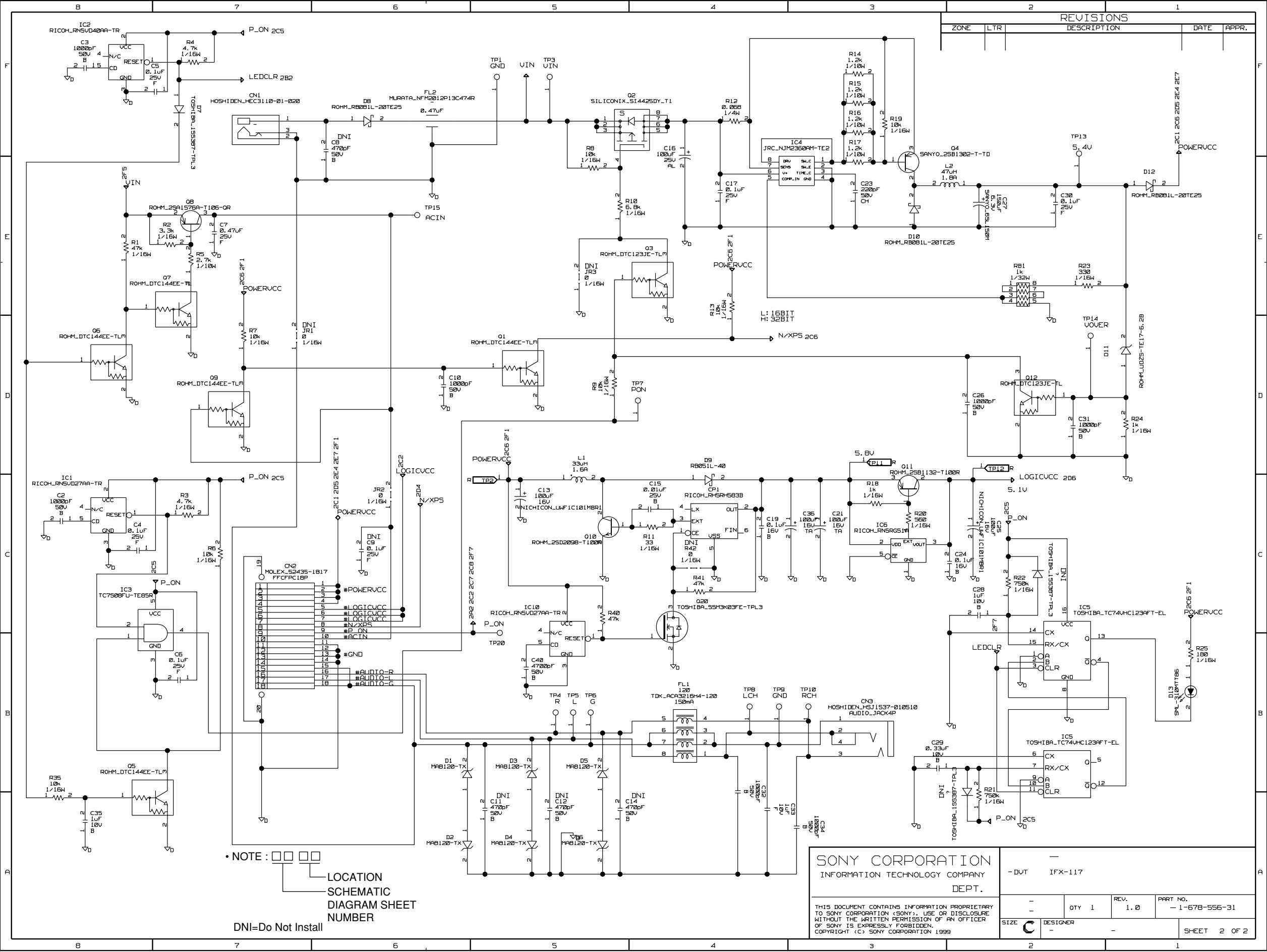
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INFORMATION TECHNOLOGY COMPANY
MOBILE PRODUCTS 3DEPT.

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DRAWING: IFX-117
BLOCK DIAGRAM

171867331 IFX-117Z	QTY 1/5	REV. 1.0	PART NO. 167855631
SIZE C	DESIGNER -	DVT	SHEET 1 OF 2

MADE IN CHINA



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												REVISIONS			
ZONE		LTR		DESCRIPTION								DATE		APPR.	

*** Signal Cross-Reference ***
--- for the entire design ---

LEDCLR	2B2 2F7
LOGICVCC	2C2 2D6
N/XPS	2C5 2D4
POWERVCC	2C1 2C6 2D5 2E4 2E7 2F1
P_ON	2A2 2C2 2C6 2C7 2C8 2F7
VIN	2E8 2F5

• NOTE : ☐☐☐☐

LOCATION
SCHEMATIC
DIAGRAM SHEET
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		C	1	-	-
		DESIGNER			SHEET 3 OF
		-			

MADE IN CHINA

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*** Unit Cross-Reference ***
--- for the entire design ---

C2 C 2C8

C3 C 2F8

C4 C 2C8

C5 C 2F8

C6 C 2B7

C7 C 2E7

C8 C 2F6

C9 C 2C6

C10 C 2D6

C11 C 2A5

C12 C 2A5

C13 CE 2C5

C14 C 2A5

C15 C 2C4

C16 CE 2E4

C17 C 2E4

C19 C 2C4

C21 CE 2C3

C23 C 2E3

C24 C 2C2

C25 CE 2C2

C26 C 2D2

C27 CE 2E2

C28 C 2C2

C29 C 2B3

C30 C 2E2

C31 C 2D2

C32 C 2A4

C33 C 2A4

C34 C 2A3

C35 C 2A8

C36 CE 2C3

C40 C 2B5

CN1 DCJ-E1AJ-1 2F7

CN2 CN18P 2C7

CN3 J351-11 2B3

CP1 RNSRH 2C4

D1 ZD 2B6

D2 ZD 2A6

D3 ZD 2B5

D4 ZD 2A5

D5 ZD 2B5

D6 ZD 2A5

D7 D 2F7

D8 SHOTTKY 2F6

D9 SHOTTKY 2D4

D10 SHOTTKY 2E3

D11 ZD 2D1

D12 SHOTTKY 2E1

D13 LED 2B1

FL1 EM14 2B4

FL2 EM13P 2F6

IC1 RNSVD 2C8

IC2 RNSVD 2F8

IC3 7408 2C8

IC4 NJM2360 2F3

IC5 74123 2B2 2C2

IC6 RNSRG 2C3

IC10 RNSVD 2C5

JR1 CONDUCTOR 2D7

JR2 CONDUCTOR 2C6

JR3 CONDUCTOR 2E5

L1 L 2B5

L2 L 2E3

O1 DTR-NPN-RBE 2D5

O2 M_FET_PCH_E_74XX_8P 2F5

O3 DTR-NPN-RBE 2E4

O4 TR-PNP 2E2

O5 DTR-NPN-RBE 2B8

O6 DTR-NPN-RBE 2D8

O7 DTR-NPN-RBE 2E7

O8 TR-PNP 2E7

O9 DTR-NPN-RBE 2D7

O10 TR-NPN 2C5

O11 TR-PNP 2D3

O12 DTR-NPN-RBE 2D2

O20 M_FET_NCH_E_3P 2C4

R1 R 2E8

R2 R 2E7

R3 R 2C7

R4 R 2F7

R5 R 2E7

R6 R 2C7

R7 R 2D7

R8 R 2E5

R9 R 2D5

R10 R 2E5

R11 R 2C4

R12 R 2F4

R13 R 2E4

R14 R 2F3

R15 R 2F3

R16 R 2F3

R17 R 2F3

R18 R 2C3

R19 R 2F3

R20 R 2C3

R21 R 2A2

R22 R 2C2

R23 R 2E2

R24 R 2D1

R25 R 2B1

R35 R 2B8

R40 R 2C5

R41 R 2C4

RB1 RB4 2E2

TP1 TP 2F5

TP2 TESTPAD 2C5

TP3 TP 2F5

TP4 TP 2B5

TP5 TP 2B5

TP6 TP 2B5

TP7 TP 2D4

TP8 TP 2B4

TP9 TP 2B4

TP10 TP 2B3

TP11 TESTPAD 2D3

TP12 TESTPAD 2D2

TP13 TP 2F2

TP14 TP 2D2

TP15 TP 2E6

TP20 TP 2B5

REVISIONS

ZONE

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DESCRIPTION

DATE

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• NOTE : □ □ □ □

LOCATION
SCHEMATIC
DIAGRAM SHEET
NUMBER

DNI=Do Not Install

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SIZE

C

DESIGNER

-

REV.

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PART NO.

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SHEET

4

OF

Confidential

PCGA-DVD51 (UC)

2-27

2-28

MADE IN JAPAN

2-3-1. IFX-115

8		7		6		5		4		3		2		1							
												REVISIONS									
												ZONE	LTR	DESCRIPTION	DATE	APPR.					
<div>PCGA-DVD51 SCHEMATICS</div> <div>SYSTEM BOARD IFX-115 REV 3.0</div> <div>LAST_MODIFIED= Tue Mar 28 18:17:13 2000</div> <div>FOR PVT <-11></div> <div>REVISION</div> <table><thead><tr><th>PAGE</th><th>REFERENCE</th><th>CIRCUIT DESCRIPTION</th></tr></thead><tbody><tr><td>2</td><td>1-</td><td>PC_CARD</td></tr></tbody></table> <div><div>• NOTE : □ □ □ □</div><div>LOCATION SCHEMATIC DIAGRAM SHEET NUMBER</div><div>DNI=Do Not Install</div></div>																PAGE	REFERENCE	CIRCUIT DESCRIPTION	2	1-	PC_CARD
PAGE	REFERENCE	CIRCUIT DESCRIPTION																			
2	1-	PC_CARD																			
												SONY PROPRIETARY INFORMATION									
												SONY CORPORATION INFORMATION TECHNOLOGY COMPANY MOBILE PRODUCTS 3DEPT.									
												DRAWING: IFX-115 BLOCK DIAGRAM									
												171857111 IFX-115Z		QTY 1/4		REV.		PART NO. 167855411			
												SIZE C		DESIGNER ICHIKAWA				SHEET 1 OF 2			
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8		7		6		5		4		3		2		1					
														REVISIONS					
														ZONE	LTR	DESCRIPTION		DATE	APPR.
*** Signal Cross-Reference *** --- for the entire design ---																			
3.3V 2B5 2B6 2C4 2D3 2E4 2E7 2F4																			
16MODE 2A8 2B3																			
32MODE 2B3 2E7																			
A0 2E5 2E7																			
A1 2E5 2E7																			
A2 2E5 2E7																			
A3 2D7 2E5																			
A4 2D7 2E5																			
A5 2D7 2E5																			
A6 2D7 2E5																			
A7 2D7 2E6																			
A8 2C7 2D6																			
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A22 2D6 2D7																			
A23 2D7 2E6																			
A24 2D7 2E6																			
A25 2D7 2E6																			
ACIN 2C5 2E3																			
CARD VCC 2B7 2D2																			
CD1- 2C7 2F7																			
CE1 2C7 2D6 2D7																			
CE2 2C7 2D6 2D7																			
D0 2E5 2E7																			
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DA0 2D3 2D4																			
DA1 2D3 2D4																			
DA2 2D3 2D4																			
DCS0- 2C5 2D3																			
DCS1- 2C5 2D3																			
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DD12 2D4 2F3																			
DD13 2D4 2F3																			
DD14 2C3 2D4																			
DD15 2C3 2D4																			
DBREQ 2D4 2E5																			
DIOR- 2C3 2D4																			
DIORDY 2D4																			
DIOW- 2C3 2D4																			
DIVC 2D4																			
DIVC 2B2 2C5																			
DPON 2B7 2C5																			
DRST 2D3 2F3																			
INPACK 2E5 2E7																			
I016 2E5 2E7																			
I0R 2C7 2D6 2D7																			
I0W 2C7 2D6 2D7																			
IREQ 2D6 2D7																			
MODE 2C3 2C5 2C7																			
OE 2C7 2D6 2D7																			
PON 2B6 2C4 2D3																			
REG 2E5 2E7																			
RES0 2B2 2C5																			
RES1 2B2 2C5																			
RST 2D7 2E7 2F5																			
TST0 2B2 2C5																			
TST1 2B2 2C5																			
TST2 2B2 2C5																			
TST3 2B2 2C5																			
VSI- 2C7 2F6																			
WAIT 2D7 2E5 2E7																			
WE 2D6 2D7																			

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LOCATION
SCHEMATIC
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SIZE	DESIGNER	QTY 1	REV.	PART NO.
C	-	-	-	-
SHEET 3 OF				

MADE IN JAPAN

8

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REVISIONS

ZONE

LTR

DESCRIPTION

DATE

APPR.

*** Unit Cross-Reference ***
--- for the entire design ---

C1C2B6

C2C2B7

C3C2C3

C4CE2A5

C5CE2A4

C6C2A4

C7C2A4

C8C2A4

C9CE2B7

C10C2B7

C11CE2A5

C12CE2B6

C13CE2B7

C16C2C3

C17C2C3

C20C2B5

C21C2B4

C30C2F5

CN1CN16P2F1

CN2CN20P2D1

CN3PCCARD-BASE2E8

CN4PCCARD-FRAME2B82F8

D1SHOTTKY2B8

D3SHOTTKY2D4

D5DD-KC2B4

F1FUSE2C7

IC1NPATA2D5

IC2RNE5RF2A6

IC474742B4

PH1PS72412F6

O1TR-RNP2B6

O2DTR-NFN-RBE2E4

O4DTR-NFN-RBE2A8

O5DTR-NFN-RBE2E3

O6TR-RNP2B8

O7DTR-NFN-RBE2C3

R1CONDUCTOR2E2

R2R2A8

R3R2D2

R4R2D2

R5R2C4

R6R2B8

R7R2D4

R8R2D3

R9R2D3

R10CONDUCTOR2B6

R11R2B6

R12R2A8

R13R2F6

R14R2E6

R15R2E6

R16CONDUCTOR2B2

R17CONDUCTOR2B2

R18CONDUCTOR2B2

R19CONDUCTOR2B2

R20R2B1

R21R2B1

R22R2D7

R23R2C7

R24CONDUCTOR2B1

R25CONDUCTOR2C6

R26CONDUCTOR2B6

R27R2E4

R28CONDUCTOR2E7

R29R2E6

R31R2B5

R32R2B5

R33R2B4

R35R2B4

RB1RB42D7

RB2RB42D7

RB3RB42E7

RB4RB42E7

RB5RB42F2

RB6RB42F2

RB7RB42E2

RB9RB42D2

RB10RB42D3

RB11RB42D2

RB12RB42C2

TP1TP2C5

TP2TP2C5

• NOTE : □□□□

LOCATION
SCHEMATIC
DIAGRAM SHEET
NUMBER

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QTY 1

REV.

PART NO.
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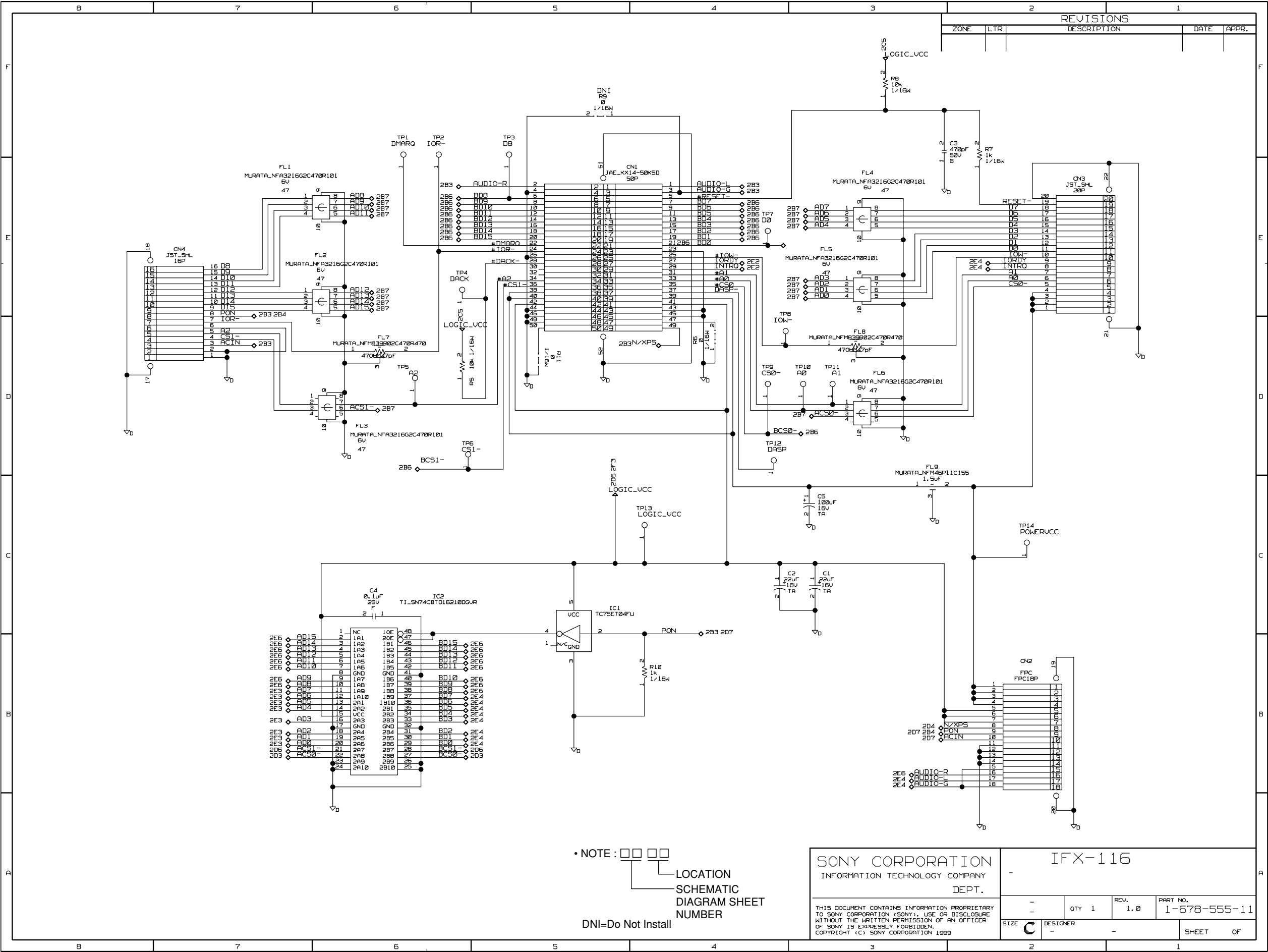
SHEET 4 OF

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2-3-2. IFX-116

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												REVISIONS									
												ZONE	LTR	DESCRIPTION	DATE	APPR.					
<div>PCGA-DVD51 SCHEMATICS</div> <div>SYSTEM BOARD IFX-116 REV 3.0</div> <div>FOR PVT <-11></div> <div>LAST_MODIFIED= Tue Mar 28 18:59:58 2000</div> <div>REVISION</div> <table><thead><tr><th>PAGE</th><th>REFERENCE</th><th>CIRCUIT DESCRIPTION</th></tr></thead><tbody><tr><td>2</td><td>1-</td><td>IFX-116</td></tr></tbody></table> <div><div>• NOTE : □ □ □ □</div><div>LOCATION SCHEMATIC DIAGRAM SHEET NUMBER</div><div>DNI=Do Not Install</div></div> <div><div>SONY PROPRIETARY INFORMATION</div><div><div>SONY CORPORATION</div><div>INFORMATION TECHNOLOGY COMPANY</div><div>MOBILE PRODUCTS 3DEPT.</div><div><small>THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SONY CORPORATION (SONY). USE OR DISCLOSURE WITHOUT THE WRITTEN PERMISSION OF AN OFFICER OF SONY IS EXPRESSLY FORBIDDEN. COPYRIGHT (C) SONY CORPORATION 1999</small></div></div><div><div>DRAWING: IFX-116</div><div>BLOCK DIAGRAM</div><div><div>171867211</div><div>IFX-116Z</div><div>QTY 1/10</div><div>REV. 1.0</div><div>PART NO. 167855511</div></div><div><div>SIZE C</div><div>DESIGNER -</div><div>SHEET 1 OF 2</div></div></div></div>																PAGE	REFERENCE	CIRCUIT DESCRIPTION	2	1-	IFX-116
PAGE	REFERENCE	CIRCUIT DESCRIPTION																			
2	1-	IFX-116																			

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MADE IN JAPAN

8		7		6		5		4		3		2		1		
												REVISIONS				
												ZONE	LTR	DESCRIPTION	DATE	APPR.
*** Signal Cross-Reference *** --- for the entire design ---																
ACIN 2B3 2D7																
ACS0- 2B7 2D3																
ACS1- 2B7 2D6																
AD0 2B7 2E3																
AD1 2B7 2E3																
AD2 2B7 2E3																
AD3 2B7 2E3																
AD4 2B7 2E3																
AD5 2B7 2E3																
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AD9 2B7 2E6																
AD10 2B7 2E6																
AD11 2B7 2E6																
AD12 2B7 2E6																
AD13 2B7 2E6																
AD14 2B7 2E6																
AD15 2B7 2E6																
AUDIO-G 2B3 2E4																
AUDIO-L 2B3 2E4																
AUDIO-R 2B3 2E6																
BCS0- 2B6 2D3																
BCS1- 2B6 2D6																
BD0 2B6 2E4																
BD1 2B6 2E4																
BD2 2B6 2E4																
BD3 2B6 2E4																
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BD5 2B6 2E4																
BD6 2B6 2E4																
BD7 2B6 2E4																
BD8 2B6 2E6																
BD9 2B6 2E6																
BD10 2B6 2E6																
BD11 2B6 2E6																
BD12 2B6 2E6																
BD13 2B6 2E6																
BD14 2B6 2E6																
BD15 2B6 2E6																
INTRQ 2E2 2E4																
IORDY 2E2 2E4																
LOGIC_VCC 2C5 2D6 2F3																
N/XPS 2B3 2D4																
PON 2B3 2B4 2D7																

• NOTE : □ □ □ □

LOCATION
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-	QTY 1	REV.	PART NO.
-	-	-	-
SIZE C	DESIGNER -	SHEET 3 OF	

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8		7		6		5		4		3		2		1			
												REVISIONS					
												ZONE	LTR	DESCRIPTION		DATE	APPR.

*** Unit Cross-Reference ***
--- for the entire design ---

C1	CE	2C3
C2	CE	2C4
C3	C	2F3
C4	C	2C6
C5	CE	2C3
CN1	CN50P	2E5
CN2	CN18P	2B2
CN3	CN20P	2E2
CN4	CN15P	2E7
FL1	FB4	2E7
FL2	FB4	2E6
FL3	FB4	2D6
FL4	FB4	2E3
FL5	FB4	2E3
FL6	FB4	2D3
FL7	EM13P	2D6
FL8	EM13P	2D3
FL9	C3T	2D3
IC1	7404	2C5
IC2	SN74CBT015210	2C6
R5	R	2D6
R6	CONDUCTOR	2D4
R7	R	2E2
R8	R	2F3
R9	CONDUCTOR	2F5
R10	R	2B4
R11	CONDUCTOR	2D5
TP1	TP	2F6
TP2	TP	2F6
TP3	TP	2F5
TP4	TP	2E6
TP5	TP	2D6
TP6	TP	2D6
TP7	TP	2E4
TP8	TP	2D4
TP9	TP	2D4
TP10	TP	2D3
TP11	TP	2D3
TP12	TP	2D4
TP13	TP	2C4
TP14	TP	2C2

• NOTE : □ □ □ □

LOCATION
SCHEMATIC
DIAGRAM SHEET
NUMBER

DNI=Do Not Install

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SIZE C	DESIGNER -	QTY 1	REV. -
PART NO. -		SHEET 4 OF	

MADE IN JAPAN

2-3-3. IFX-117

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<div>PCGA-DVD51 SCHEMATICS</div> <div>SYSTEM BOARD IFX-117 REV 3.0</div> <div>LAST_MODIFIED= Tue Mar 28 19:23:11 2000</div> <div>FOR PVT <-11></div> <div>REVISION</div> <table><thead><tr><th>PAGE</th><th>REFERENCE</th><th>CIRCUIT DESCRIPTION</th></tr></thead><tbody><tr><td>2</td><td>1-</td><td>POWER_BOARD</td></tr></tbody></table> <div><div>• NOTE : <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/></div><div>LOCATION SCHEMATIC DIAGRAM SHEET NUMBER</div><div>DNI=Do Not Install</div></div>																PAGE	REFERENCE	CIRCUIT DESCRIPTION	2	1-	POWER_BOARD																	
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2	1-	POWER_BOARD																																				
<div>SONY PROPRIETARY INFORMATION</div> <table><tr><td colspan="4">SONY CORPORATION INFORMATION TECHNOLOGY COMPANY MOBILE PRODUCTS 3DEPT.</td><td colspan="4">DRAWING: IFX-117 BLOCK DIAGRAM</td></tr><tr><td colspan="4">THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SONY CORPORATION (SONY). USE OR DISCLOSURE WITHOUT THE WRITTEN PERMISSION OF AN OFFICER OF SONY IS EXPRESSLY FORBIDDEN. COPYRIGHT (C) SONY CORPORATION 1999</td><td>171857311 IFX-117Z</td><td>QTY 1/5</td><td>REV. 1.0</td><td>PART NO. 167855611</td></tr><tr><td>SIZE C</td><td colspan="3">DESIGNER - PVT</td><td colspan="3">SHEET 1 OF 2</td></tr></table>																SONY CORPORATION INFORMATION TECHNOLOGY COMPANY MOBILE PRODUCTS 3DEPT.				DRAWING: IFX-117 BLOCK DIAGRAM				THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SONY CORPORATION (SONY). USE OR DISCLOSURE WITHOUT THE WRITTEN PERMISSION OF AN OFFICER OF SONY IS EXPRESSLY FORBIDDEN. COPYRIGHT (C) SONY CORPORATION 1999				171857311 IFX-117Z	QTY 1/5	REV. 1.0	PART NO. 167855611	SIZE C	DESIGNER - PVT			SHEET 1 OF 2		
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SIZE C	DESIGNER - PVT			SHEET 1 OF 2																																		

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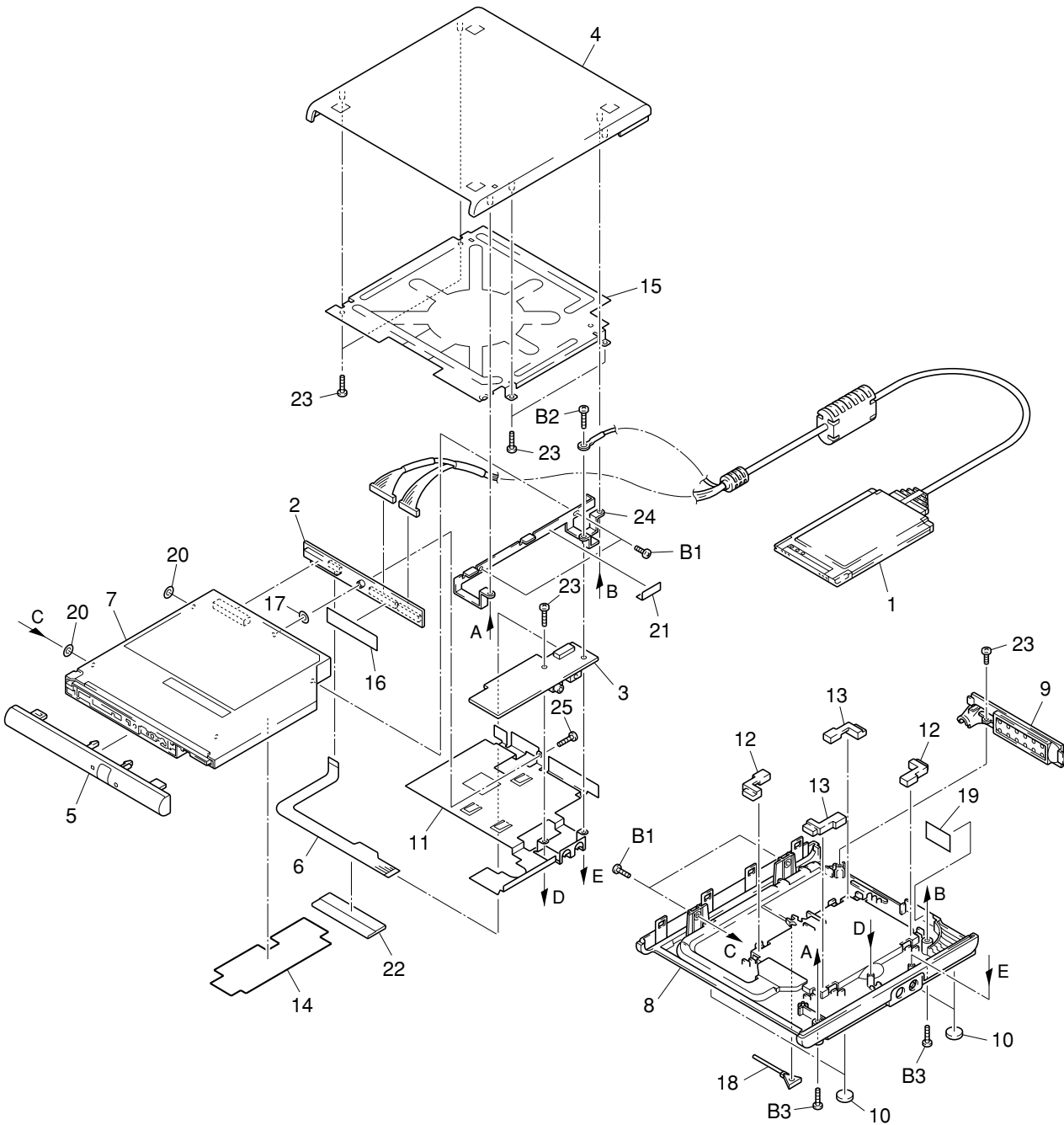
CHAPTER 3.
EXPLODED VIEW AND PARTS LIST

Note:

- Parts marked by * are not normally in stock.
- Any part that has no part number is not available.

The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

3-1. Main Unit



\triangle [COR]

Ref.No.	Part No.	Description
1	A-8046-973-A	IFX CARD ASSY, PC
2	A-8056-794-A	IFX IFX-116 MOUNT
3	A-8056-795-A	IFX IFX-117 MOUNT
4	X-4622-741-1	IFX CABINET (UPPER) ASSY (DVD-ROM)
5	X-4622-742-1	IFX BEZEL ASSY (DVD-ROM), DRIVE
6	1-678-660-11	PWB, FLEXIBLE PRINT
7	1-772-657-11	IFX DRIVE, DVD-ROM SD-C2402
8	4-642-621-22	CABINET (LOWER)
9	4-642-623-02	PANEL (CORE), FIX
10	4-642-628-02	FOOT
*11	4-642-629-01	IFX PLATE, SHIELD
12	4-642-631-01	HOLD (A), CARD
13	4-642-632-01	HOLD (B), CARD
14	4-642-633-02	IFX INSULATING SHEET
*15	4-642-634-02	IFX REINFORCEMENT (CD ROM)
16	4-643-097-02	INSULATING SHEET (CD ROM)
*17	4-643-098-01	SPACER (CD ROM)
18	4-643-099-01	PIN, EJECT
19	4-643-594-01	INSULATOR
20	4-643-921-02	SPACER (DRIVE)
21	4-643-932-01	CUSHION (BRACKET)
22	4-644-220-02	SHEET, CONDUCTIVE
23	4-646-809-01	+PTT 2 (B TITE)
*24	4-647-008-01	IFX BRACKET (DVD-ROM)
25	4-648-845-01	SCREW (M2), +B
B1	7-621-772-00	SCREW +B 2X3
B2	7-685-106-11	SCREW +P 2X10 TYPE2 NON-SLIT
B3	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT

ACCESSORY & PACKING GROUP

Ref.No.	Part No.	Description
1-418-607-21		ADAPTOR, AC
1-772-731-21		(PCGA-DVD51) . . . DISK, INSTALL
4-647-113-11		(PCGA-DVD51) . . . MANUAL, INSTRUCTION
4-650-301-11		(PCGA-DVD51/A) . . . MANUAL, INSTRUCTION (J)
4-650-301-31		(PCGA-DVD51/A) . . . MANUAL, INSTRUCTION (C)
4-651-277-01		(PCGA-DVD51/A) . . . DISK, INSTALL (J)
4-655-213-11		(PCGA-DVD51/A) . . . DISK, INSTALL (C)

IFX-116 Board

Ref.No.	Part No.	Description
CN1	1-774-254-21	"CONNECTOR, BOARD TO BOARD 50P"
CN2	1-691-356-21	"CONNECTOR, FFC/FPC (ZIF) 18P"
CN3	1-793-319-21	CONNECTOR 20P
CN4	1-793-318-21	CONNECTOR 16P
IC1	8-759-478-92	IC TC7SET04FU (TE85R)
IC2	8-759-638-39	IC SN74CBTD16210DGV

IFX-117 Board

Ref.No.	Part No.	Description
C1	1-117-193-21	(J) CERAMIC 1.5UF 50V
C40	1-162-968-11	(C) CERAMIC CHIP 0.0047UF 10.00% 50V
CN1	1-569-966-11	JACK,DC(POLARITY UNIFIED TYPE)
CN2	1-691-382-21	CONNECTOR, FFC/FPC 18P
CN3	1-793-339-11	JACK, PHONE
D1	8-719-423-30	DIODE MA8120-TX
D2	8-719-423-30	DIODE MA8120-TX
D3	8-719-423-30	DIODE MA8120-TX
D4	8-719-423-30	DIODE MA8120-TX
D5	8-719-423-30	DIODE MA8120-TX
D6	8-719-423-30	DIODE MA8120-TX
D7	8-719-055-62	DIODE 1SS387-TPL3
D8	8-719-066-33	DIODE RB081L-20TE25
D9	8-719-066-98	DIODE RB051L-40TE25
D10	8-719-066-33	DIODE DIODE RB081L-20TE25
D11	8-719-069-56	DIODE UDZS-TE17-6.2B
D12	8-719-066-33	DIODE RB081L-20TE25
D13	8-719-053-07	DIODE SML-310MTT86

FL2	1-400-065-21	(C) FILTER, EMI REMOVAL (SMD)
IC1	8-759-680-67	IC RN5VD27AA-TR
IC2	8-759-680-66	IC RN5VD40AA-TR
IC3	8-759-058-62	IC TC7S08FU (TE85R)
IC4	8-759-337-67	IC NJM2360AM (TE2)
IC5	8-759-523-97	IC TC74VHC123APT (EL)
IC6	8-759-597-83	IC RN5RG51AA-TL
IC10	8-759-680-67	(C) IC RN5VD27AA-TR

Q1	8-729-928-82	TRANSISTOR DTC144EE-TL
Q2	8-729-047-32	TRANSISTOR SI4425DY-T1
Q3	8-729-929-09	TRANSISTOR DTC123JE-TL
Q4	8-729-822-63	TRANSISTOR 2SB1302-T-TD
Q5	8-729-928-82	TRANSISTOR DTC144EE-TL
Q6	8-729-928-82	TRANSISTOR DTC144EE-TL
Q7	8-729-928-82	TRANSISTOR DTC144EE-TL
Q8	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR
Q9	8-729-928-82	TRANSISTOR DTC144EE-TL
Q10	8-729-049-93	TRANSISTOR 2SD2098-T100R
Q11	8-729-903-54	TRANSISTOR 2SB1132-T100-R
Q12	8-729-929-09	TRANSISTOR DTC123JE-TL
Q20	8-729-047-68	(C) TRANSISTOR SSM3K03FE (TPL3)
R40	1-216-841-11	(C) RES-CHIP 47K 5% 1/16W
R41	1-216-841-11	(C) RES-CHIP 47K 5% 1/16W

※ (J) ...MADE IN JAPAN (S/N 1100001-)
(C) ...MADE IN CHINA (S/N 1300001-)

3-2. Electrical Parts List

IFX-115 Board

Ref.No.	Part No.	Description
CN1	1-793-318-21	CONNECTOR 16P
CN2	1-793-319-21	CONNECTOR 20P
CN3	1-793-715-21	"CONNECTOR, CARD BUS FOR 68P"
CN4	1-791-699-11	"PLATE, BUS CONNECTOR SHIELD"
D1	8-719-027-76	DIODE 1SS357-TPH3
D3	8-719-027-76	DIODE 1SS357-TPH3
D5	8-719-024-69	DIODE 1SS361-TE85L
IC1	8-759-598-68	IC NPATA-32BI
IC2	8-759-574-57	IC RN5RF33AA-TR
IC4	8-759-447-77	IC TC7WH74FU (TE12R)
Q1	8-729-903-54	TRANSISTOR 2SB1132-T100-R
Q2	8-729-929-09	TRANSISTOR DTC123JE-TL
Q4	8-729-928-82	TRANSISTOR DTC144EE-TL
Q5	8-729-929-09	TRANSISTOR DTC123JE-TL
Q6	8-729-822-63	TRANSISTOR 2SB1302-T-TD
Q7	8-729-928-82	TRANSISTOR DTC144EE-TL

List of PCGA-DVD51 Series (As of July, 2001)

Model Name	Service Manual Parts No.
PCGA-DVD51 PCGA-DVD51/A (※Made in Japan) PCGA-DVD51/A (※Made in China)	9-872-169-12



: Re-Edition

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QUICK MEMO

(1/1)

No. FIT- **M2001_051**

■ J ■ UC □ E □ I

The object of information

☐ Technical ■ Parts ☐ Other information

Date : 2001.7.19

From : MNC IT Planning & Control

Dept. [SNT]

The relation document to the plan of

☐ T/N ■ Service manual ☐ Others ☐ No publication

Tel : +81 3 5795 6931

[Model/Series]

PCGA-DVD51 Series

VAIO Series SERVICE MANUAL

[Subject]

CORRECTION

[Contents]

Correction (of part)

		Incorrect		Correct	
Model (Page)	Ref.No.	Part No.	Description	Part No.	Description
J DVD51 (3-2)	1	A-8046-973-A	(J) CARD ASSY, PC	A-8046-973-A	CARD ASSY, PC
	2	A-8056-794-A	(J) IFX-116 MOUNT	A-8056-794-A	IFX-116 MOUNT
	3	A-8056-795-A	(J) IFX-117 MOUNT	A-8056-795-A	IFX-117 MOUNT
	4	X-4622-741-1	(J) CABINET (UPPER) ASSY (DVD-ROM)	X-4622-741-1	CABINET (UPPER) ASSY (DVD-ROM)
	5	X-4622-742-1	(J) BEZEL ASSY (DVD-ROM), DRIVE	X-4622-742-1	BEZEL ASSY (DVD-ROM), DRIVE
UC DVD51 (3-2)	7	1-772-657-11	(J) DRIVE, DVD-ROM SD-C2402	1-772-657-11	DRIVE, DVD-ROM SD-C2402
	11	4-642-629-01	(J) PLATE, SHIELD	4-642-629-01	PLATE, SHIELD
	14	4-642-633-02	(J) INSULATING SHEET	4-642-633-02	INSULATING SHEET
	15	4-642-634-02	(J) REINFORCEMENT (CD ROM)	4-642-634-02	REINFORCEMENT (CD ROM)
	24	4-647-008-01	(J) BRACKET (DVD-ROM)	4-647-008-01	BRACKET (DVD-ROM)

* Please make these changes on the list of repair parts as well until revised version published.

[Applicable Manuals]

J : PCGA-DVD51

(9-872-168-02)

UC : PCGA-DVD51

(9-872-169-12)

< For Japanese staff > Please look at information in Japanese by visiting at our web site.

Service Manual Update List

Date of the Lastest Update 2001.07.19

ADD : ADDITION COR : CORRECTION DEL : DELETION

Update No.	Classification	Page	Section	Contents		Medium			SM Ver.
				Details		Type	No.	Date	
△	COR	3-2	Main Unit	Ref.1	(J) CARD ASSY, PC→CARD ASSY, PC	Quick Memo	M2001_051	2001.7.19	Ver.2
				Ref.2	(J) IFX-116 MOUNT→IFX-116 MOUNT				
				Ref.3	(J) IFX-117 MOUNT→IFX-117 MOUNT				
				Ref.4	(J) CABINET (UPPER) ASSY (DVD-ROM)→CABINET (UPPER) ASSY (DVD-ROM)				
				Ref.5	(J) BEZEL ASSY (DVD-ROM), DRIVE→BEZEL ASSY (DVD-ROM), DRIVE				
				Ref.7	(J) DRIVE, DVD-ROM SD-C2402→DRIVE, DVD-ROM SD-C2402				
				Ref.11	(J) PLATE, SHIELD→PLATE, SHIELD				
				Ref.14	(J) INSULATING SHEET→INSULATING SHEET				
				Ref.15	(J) REINFORCEMENT (CD ROM)→REINFORCEMENT (CD ROM)				
				Ref.24	(J) BRACKET (DVD-ROM)→BRACKET (DVD-ROM)				