

UNIVERSAL DOCK for iPod YDS-12

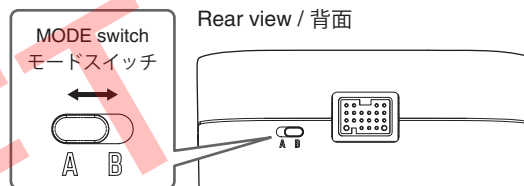
SERVICE MANUAL

• **MODE switch setting**

1. When checking operation, the mode switch of this unit properly corresponding MUST be set to the dock-compatible component connected to this unit.
Position A: For the YDS-12 compatible component (the RX-V367 or later)
Position B: For the Dock-compatible component sold in 2009 or before
2. After repairing is completed, the mode switch of this unit MUST be set to "A" position.

• **モードスイッチの設定**

1. 動作チェックする場合、本機に接続した DOCK 対応機器に対応して本機のモードスイッチを正しくセットしてください。
ポジション A : YDS-12 対応機器 (RX-V367 以降)
ポジション B : 2009 年度以前に発売された DOCK 対応機器
2. 修理完了後、本機のモードスイッチを "A" の位置にセットしてください。



IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

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このサービスマニュアルは、エコマーク認定の再生紙を使用しています。
This Service Manual uses recycled paper.



■ TO SERVICE PERSONNEL

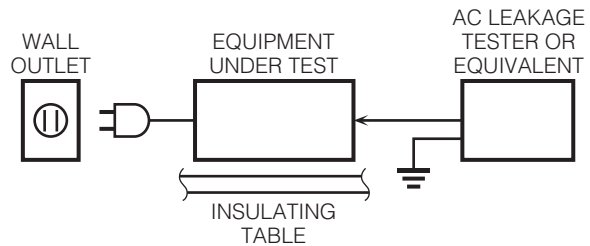
1. Critical Components Information

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

2. Leakage Current Measurement (For 120V Models Only)

When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohms shunted by 0.15 μ F.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

WARNING: CHEMICAL CONTENT NOTICE!

This product contains chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

About lead free solder / 無鉛ハンダについて

All of the P.C.B.s installed in this unit and solder joints are soldered using the lead free solder.

Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

Caution:

As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.

本機に搭載されているすべての基板およびハンダ付けによる接合部は無鉛ハンダでハンダ付けされています。

無鉛ハンダにはいくつかの種類がありますが、修理時には下記のような無鉛ハンダの使用を推奨します。

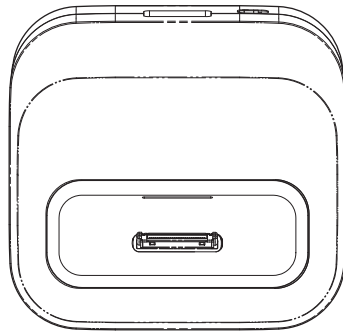
- Sn+Ag+Cu (錫 + 銀 + 銅)
- Sn+Cu (錫 + 銅)
- Sn+Zn+Bi (錫 + 亜鉛 + ビスマス)

注意：

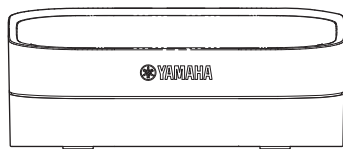
無鉛ハンダの融点温度は通常の鉛入りハンダに比べ 30 ~ 40°C 程度高くなっていますので、それぞれのハンダに合ったハンダごてをご使用ください。

FRONT PANEL

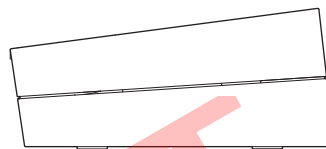
Top view



Front view

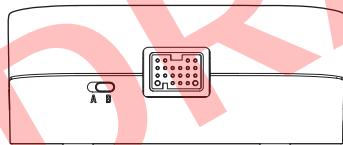


Side view



REAR PANELS

Rear view



Bottom view

U, C models



R, T, K, A, G, J models



■ SPECIFICATIONS / 参考仕様

■ General / 総合

Dimensions (W x H x D) / 寸法 (幅 × 高さ × 奥行き)
 89 x 37 x 86 mm (3-1/2" x 1-1/2" x 3-3/8")

Weight / 質量
 160 g (5.64 oz.)

Finish / 仕上げ
 U, C, R, T, K, A, G, J models Black color

Accessories / 付属品

Dock cable (2 m)	x 1
iPod dock adaptor (A type)	x 1
iPod dock adaptor (B type)	x 1
iPod dock adaptor (C type)	x 1

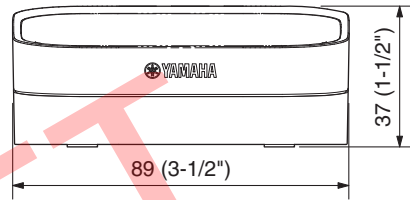
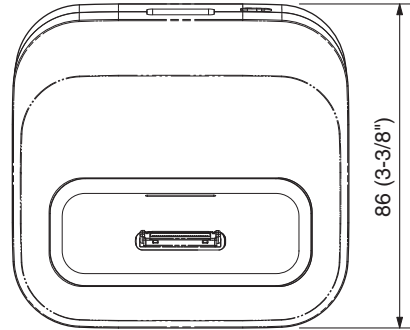
* Specifications are subject to change without notice.
 ※ 参考仕様および外観は、製品の改良のため予告なく変更することがあります。

U	U.S.A. model	K	Korean model
C	Canadian model	A	Australian model
R	General model	G	European model
T	Chinese model	J	Japanese model

iPod™, iPhone™

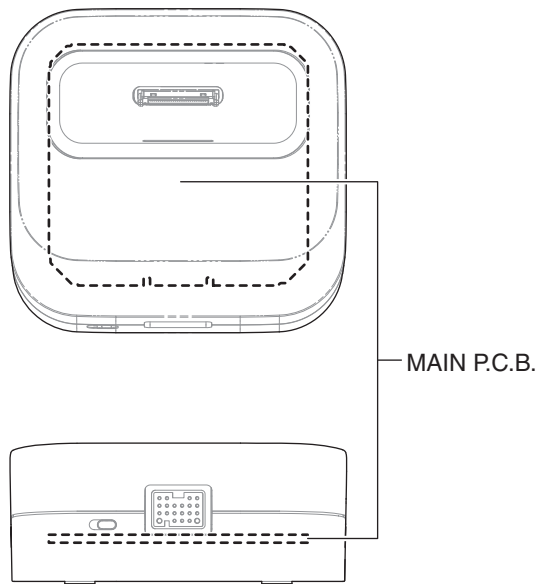
iPod is a trademark of Apple Inc., registered in the U.S. and other countries.
 iPhone is a trademark of Apple Inc.
 iPod は、米国およびその他の国々で登録されているApple Inc. の商標です。
 iPhone は、Apple Inc. の商標です。

● DIMENSIONS



Unit: mm (inch)
 単位: mm (インチ)

■ INTERNAL VIEW



DRAFT

■ REPAIR NOTES / 修理上の留意点

1. Supply of replacement parts

None of the components of the MAIN P.C.B. can be supplied separately.

The MAIN P.C.B. must be replaced as a whole in case of a failure.

2. Operation check

YDS-12 does not operate by itself.

To check its operation, prepare the Dock-compatible component (AV receiver, etc. (*1)) and type of the iPod/iPhone (*2) with this unit.

*1 This unit is not applicable to DVX-C310 (DVR-C310).

*2 The type of iPod/iPhone compatible with this unit:

- iPod (4th Gen/5th Gen/Classic)
- iPod mini
- iPod nano
- iPod Touch
- iPhone

3. MODE switch setting

3-1. When checking operation, the mode switch of this unit properly corresponding MUST be set to the dock-compatible component connected to this unit.

Position A: For the YDS-12 compatible component (the RX-V367 or later)

Position B: For the Dock-compatible component sold in 2009 or before

3-2. After repairing is completed, the mode switch of this unit MUST be set to "A" position.

1. サービス部品供給

MAIN P.C.B. は、子部品の供給ができません。

故障の場合は、MAIN P.C.B. を交換してください。

2. 動作確認

YDS-12 は単独で動作しません。

動作チェックする場合、DOCK 対応機器 (AV レシーバーなど) および、iPod/iPhone (※ 1) を用意してください。

※ 1 本機に対応する iPod/iPhone :

- iPod (4th Gen/5th Gen/Classic)
- iPod mini
- iPod nano
- iPod Touch
- iPhone

3. MODE スイッチの設定

3-1. 動作チェックする場合、本機に接続した DOCK 対応機器に対応して本機のモードスイッチを正しくセットしてください。

ポジション A: YDS-12 対応機器 (RX-V367 以降)

ポジション B: 2009 年度以前に発売された DOCK 対応機器

3-2. 修理完了後、本機のモードスイッチを "A" の位置にセットしてください。

■ DISASSEMBLY PROCEDURES / 分解手順

1. Removal of MAIN P.C.B.

- Remove 3 screws (①). (Fig. 1)
* Screws (①) are identified with (⇒) marks. (Fig. 1)
- Remove the top cabinet.
- Remove the MAIN P.C.B.. (Fig. 1)

1. MAIN P.C.B. の外し方

- ①のネジ3本を外します。(Fig. 1)
※ ①のネジは(⇒)マークで判別できます。(Fig. 1)
- トップキャビネットを取り外します。
- MAIN P.C.B.を取り外します。(Fig. 1)

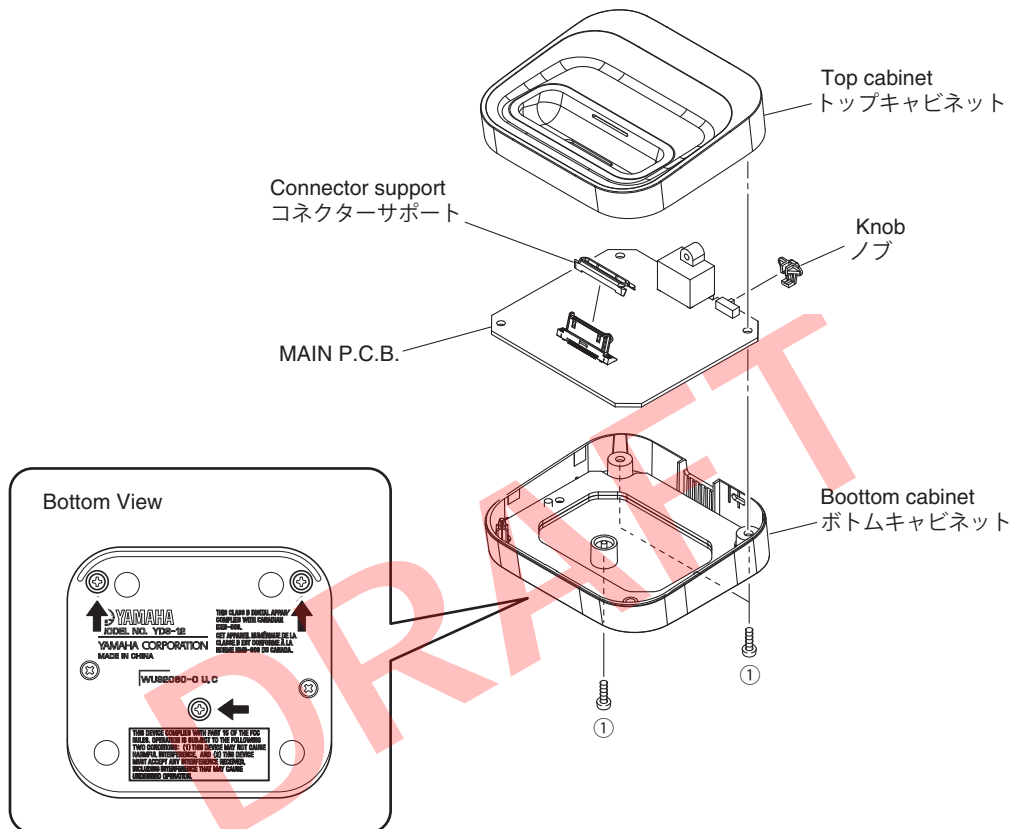
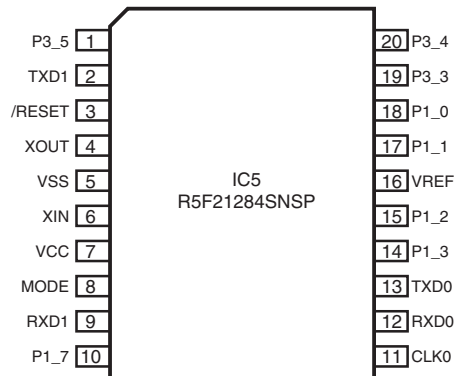


Fig. 1

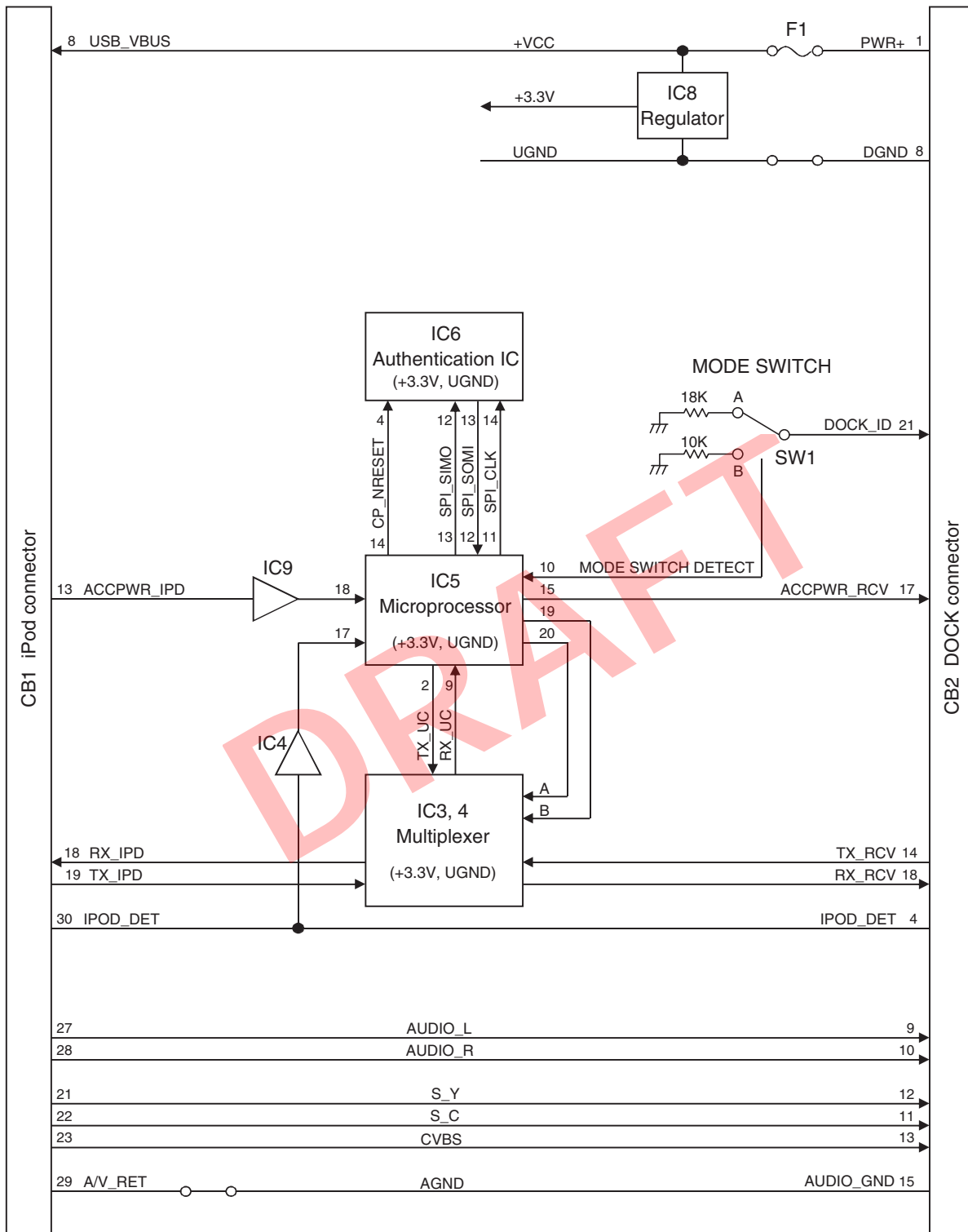
■ IC DATA

IC5: R5F21284SNSP (MAIN P.C.B.)
Microprocessor



Pin No.	Port Name	Function Name	I/O	Detail of Function
1	P3_5	FET_CTRL	O	FET control output
2	TXD1	TXD1	O	RS232C transmit data output
3	/RESET	/RESET	I	Reset input
4	XOUT	XOUT	O	XOUT clock output
5	VSS	VSS	I	GND
6	XIN	XIN	I	XIN clock input
7	VCC	VCC	I	Power supply input
8	MODE	MODE	I	H : Normal mode, L : Flash rewrite mode
9	RXD1	RXD1	I	RS232C receive data input
10	P1_7	DOCK_ID	I	Dock_ID input (YDS-12/YDS-11)
11	CLK0	CLK0	O	SPI_CLK
12	RXD0	RXD0	I	SPI_SOMI
13	TXD0	TXD0	O	SPI_SIMO
14	P1_3	CP_NRESET	O	Reset for authentication coprocessor
15	P1_2	ACCPWR_OUT	O	Accessory_power output to receiver
16	VREF	VREF	I	Reference voltage input
17	P1_1	IPOD_DET_IN	I	iPod_detect input
18	P1_0	ACCPWR_IN	I	Accessory_power input from iPod
19	P3_3	SW_SEL_B	O	RS232C SW select B
20	P3_4	SW_SEL_A	O	RS232C SW select A

■ BLOCK DIAGRAM

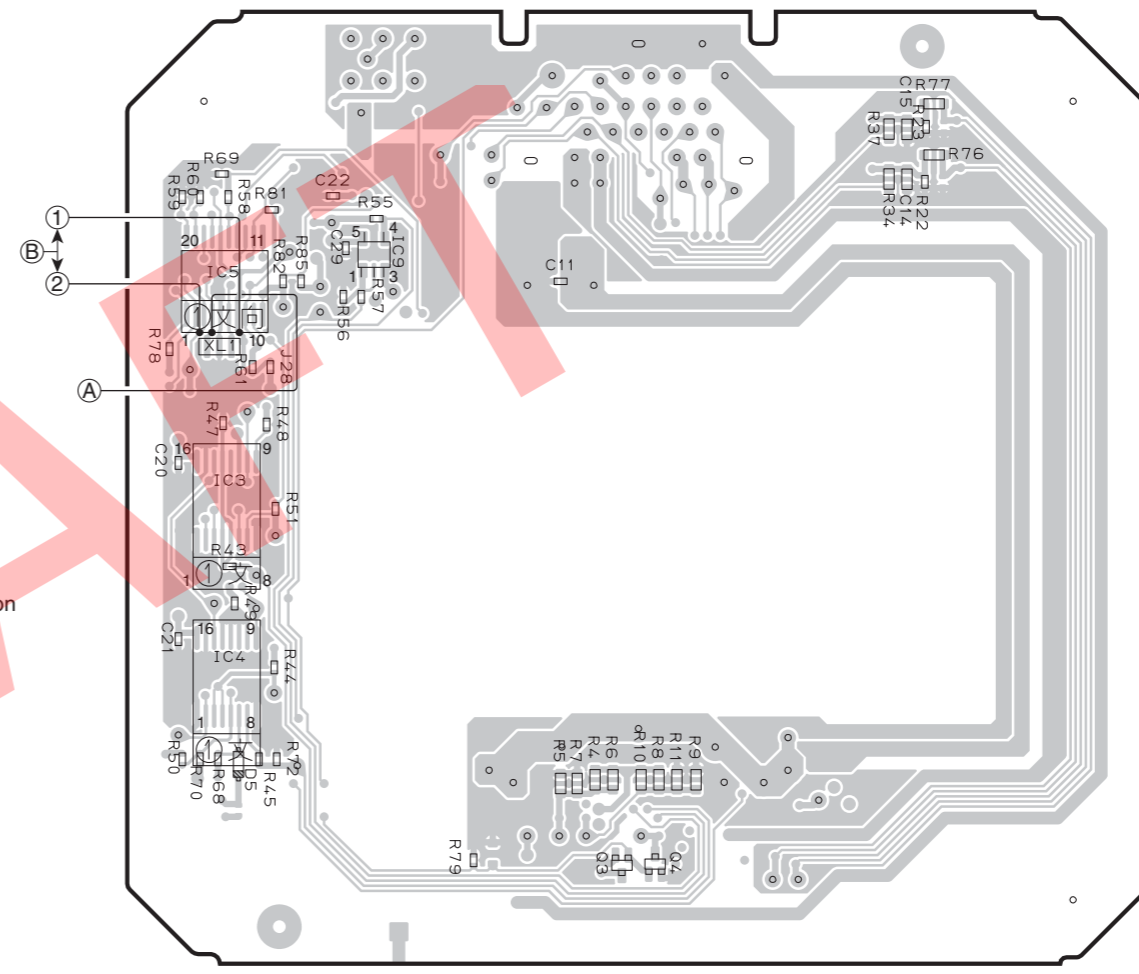
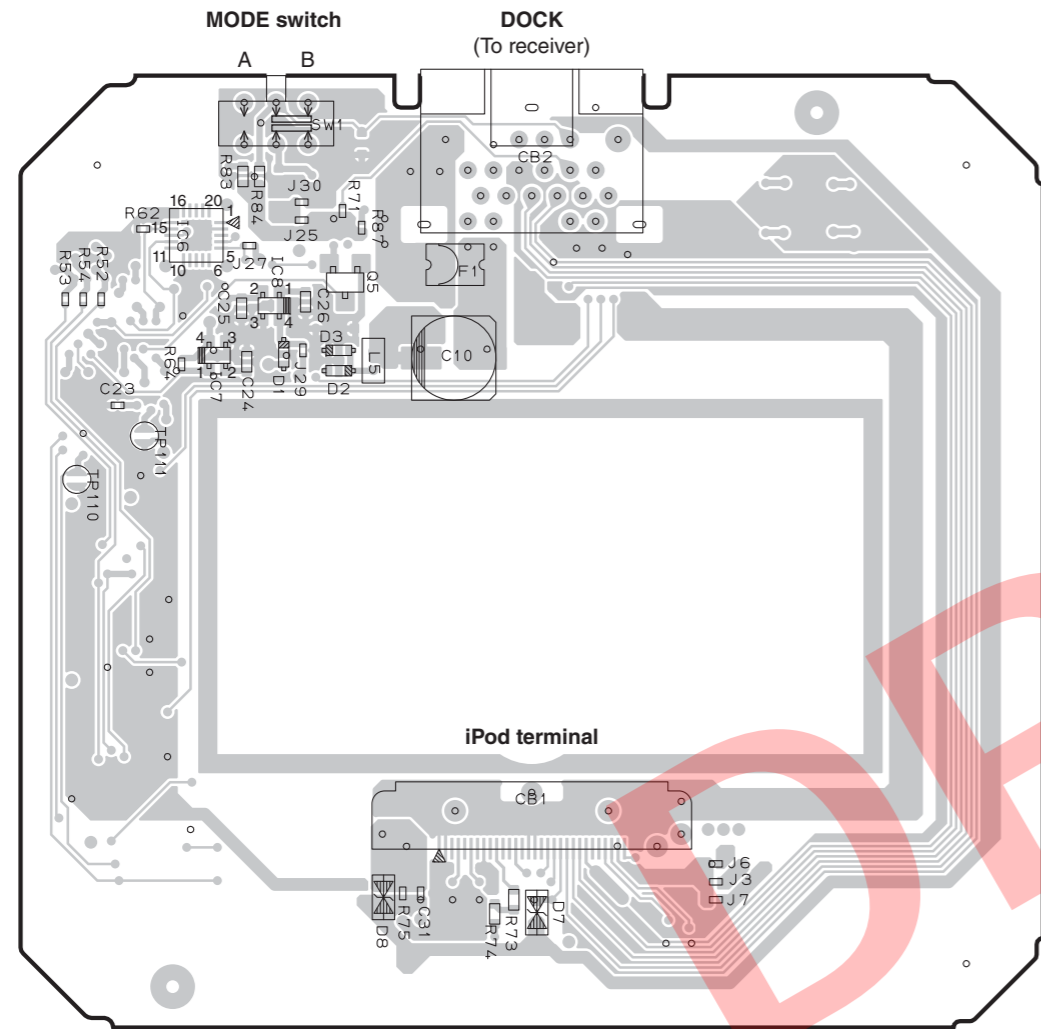


MAIN • See page 10 →
SCHEMATIC DIAGRAM

1 ■ PRINTED CIRCUIT BOARD
 FOR INFORMATION ONLY (NO REPLACEMENT COMPONENT PARTS WILL BE AVAILABLE)

MAIN P.C.B. (Side A)

MAIN P.C.B. (Side B)



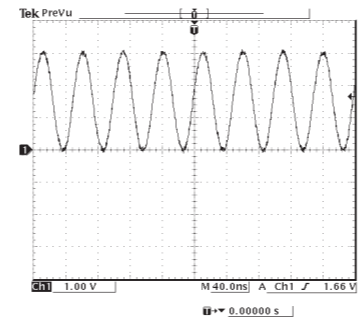
• Semiconductor Location

Ref no.	Location
D1	B3
D2	B3
D3	B3
D7	C5
D8	B5
IC6	B3
IC7	B3
IC8	B3
Q5	B3

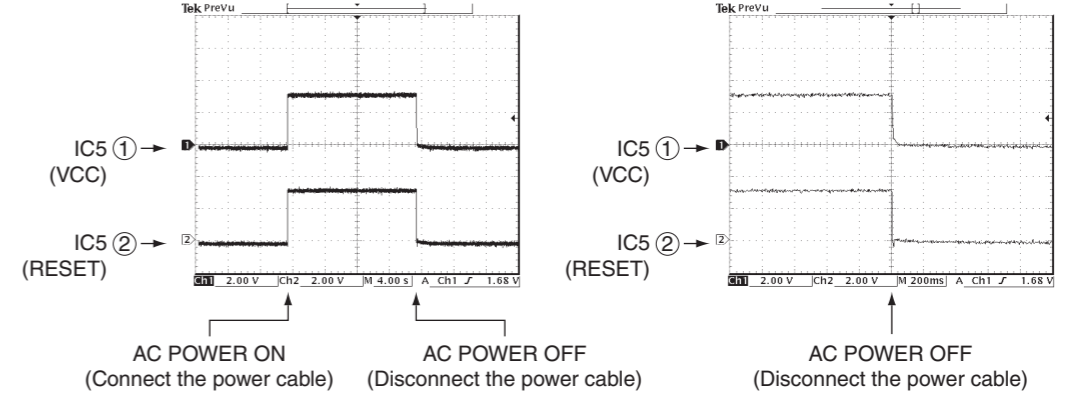
• Semiconductor Location

Ref no.	Location
D5	F5
IC3	F4
IC4	F4
IC5	F3
IC9	G3
Q3	G5
Q4	G5

POINT (A) XL1 (Pin 4 of IC5)



POINT (B) ①/ IC5 (7 pin, VCC), ②/ IC5 (3 pin, RESET)



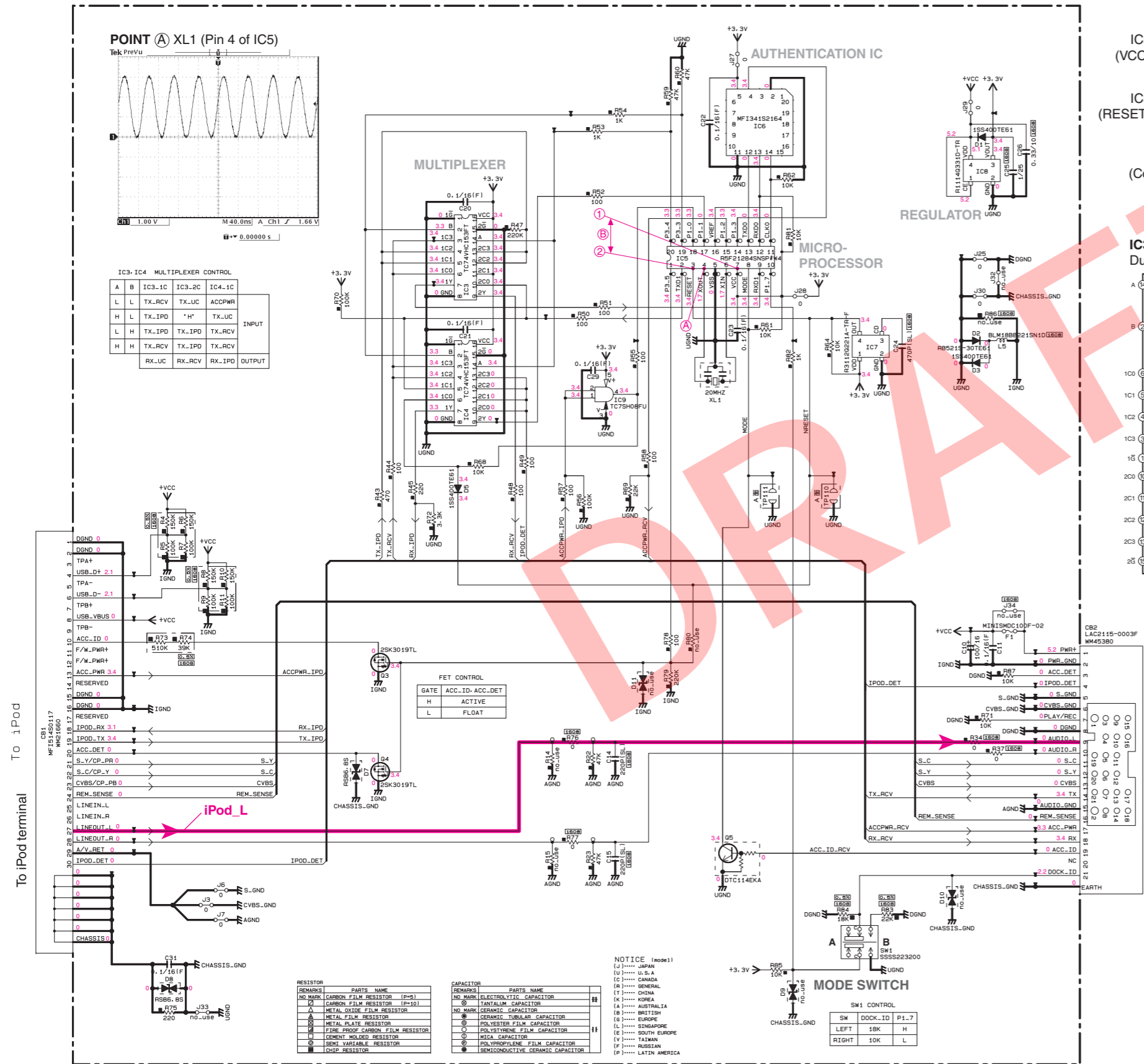
2
3
4
5
6
7

SCHEMATIC DIAGRAM

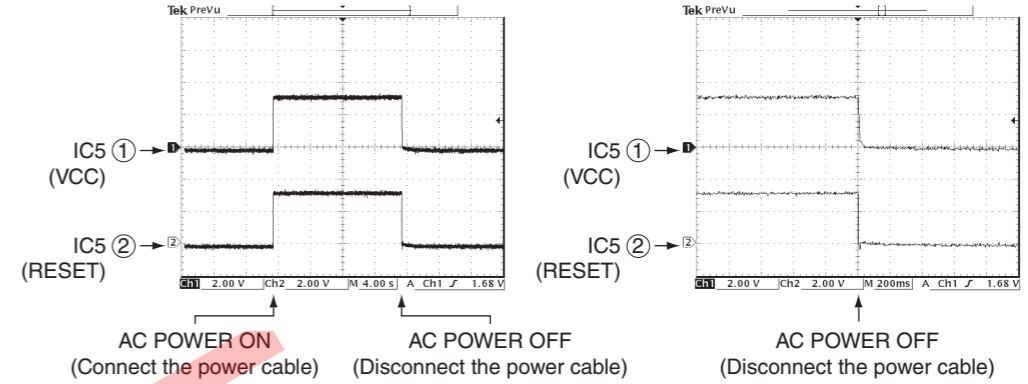
FOR INFORMATION ONLY (NO REPLACEMENT COMPONENT PARTS WILL BE AVAILABLE)

The voltage is measured with the dock-compatible component.

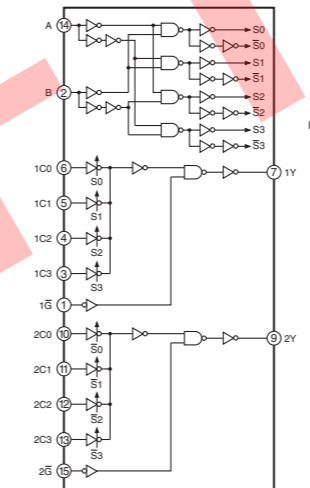
電圧はDOCK対応機器を接続して測定したものです。



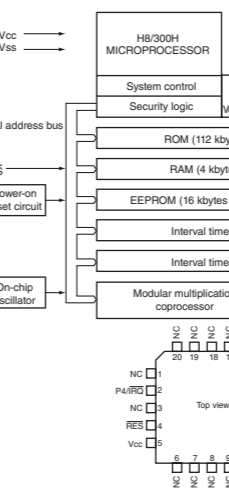
POINT (B) ①/ IC5 (7 pin, VCC), ②/ IC5 (3 pin, RESET)



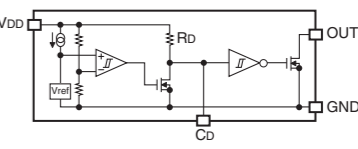
IC3, 4: TC74VHC153FT Dual 4-channel multiplexer



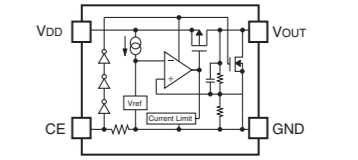
IC6: MFI341S2164 IC digital



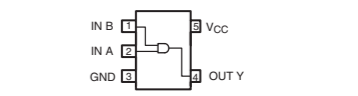
IC7: R3112Q221A-TR-F Nch open drain type



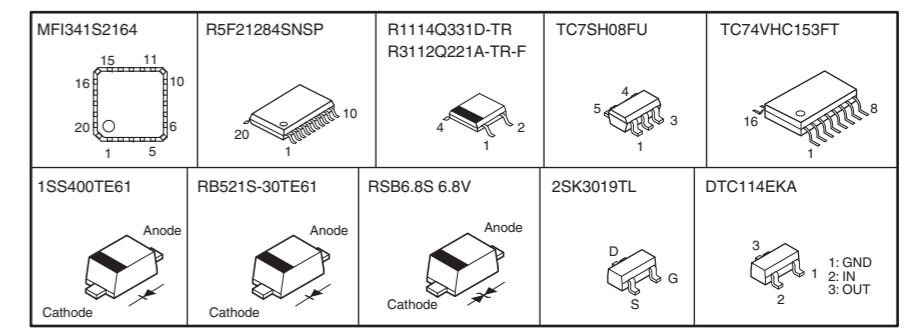
IC8: R1114Q331D-TR Low noise 150 mA LDO regulator



IC9: TC7SH08FU 2-input AND gate



PIN CONNECTION DIAGRAMS OF TRANSISTOR, DIODE AND ICs.

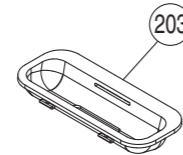
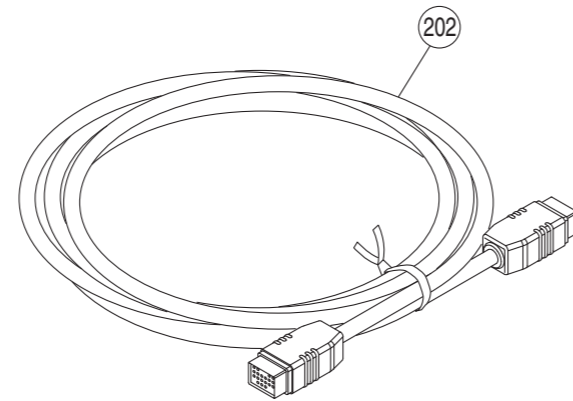
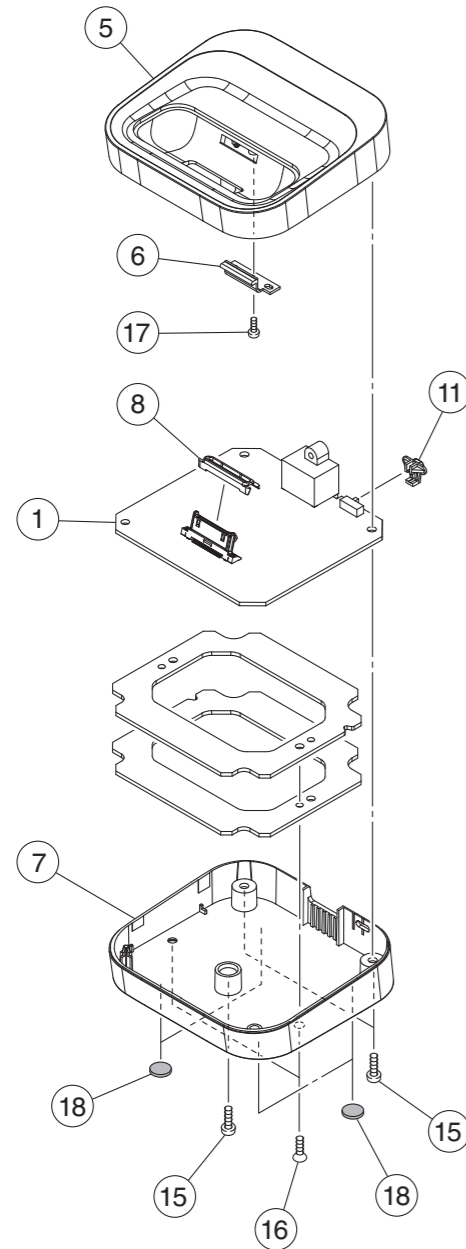


- ★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
- ★ Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- ★ Schematic diagram is subject to change without notice.

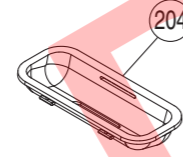
- 電圧は、内部抵抗 10MΩの電圧計で測定したものです。
- Δ印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は標準回路図です。改良のため予告なく変更することがあります。

1 ■ REPLACEMENT PARTS LIST

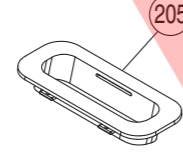
● OVERALL ASS'Y



A iPod with color display
(20 GB or 30 GB) or U2 Special Edition
カラーディスプレイ付き iPod
(20GB、30GB) および U2 Special Edition



B iPod with color display
(40 GB or 60 GB) or iPod (40 GB)
iPod (40GB)、カラーディスプレイ付き
iPod (40GB および 60GB)



C iPod mini (4 GB or 6 GB)
iPod mini (4GB および 6GB)

* The mark (A), (B), or (C) is shown on the back of each iPod dock adapter.
A、B、C は iPod Dock アダプターの裏面に表示されています。

Ref No.	Part No.	Description	Remarks	Markets	部品名	ランク
* 1	WU907500	P. C. B. ASS'Y	MAIN		PCB MAIN	
* 5	WU898200	TOP CABINET			トップキャビネット	03
6	WR513800	SPRING IPOD			スプリング iPod	
* 7	WU898400	BOTTOM CABINET		JRTKAG	ボトムキャビネット	
* 7	WU920600	BOTTOM CABINET		UC	ボトムキャビネット	
* 8	WV240800	CONNECTOR SUPPORT			コネクターサポート	
* 11	WU899500	KNOB	MODE SWITCH		ノブ	
15	WF266600	BIND HEAD P-TIGHT SCREW	3x8 MFZN2B3		バインドPタイトネジ	01
16	WF266800	FLAT HEAD B-TIGHT SCREW	3x8 MFZN2B3		皿Bタイトネジ	
17	WF267600	BIND HEAD P-TIGHT SCREW	2x6 MFZN2B3		バインドPタイトネジ	01
18	WG595300	NONSKID PAD	D8 t=1		滑止パッド	
		ACCESSORIES			付属品	
* 202	WU805500	DOCK CABLE	21P 2m 1pc	LLM2118-2000	DOCKケーブル	
* 203	WR558200	IPOD DOCK ADAPTOR	Black Atype 1pc		iPod DOCKアダプター	01
* 204	WR558400	IPOD DOCK ADAPTOR	Black Btype 1pc		iPod DOCKアダプター	01
* 205	WR558100	IPOD DOCK ADAPTOR	Black Ctype 1pc		iPod DOCKアダプター	01

* New Parts * 新規部品

YDS-12



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