

# Service Manual

Notebook Computer

CF-72

*Simplified*

**TOUGHBOOK**

This is the Service Manual for  
the following areas.  
T ...for Italy

## Model Number Reference

The following models are numbered in accordance with the types of CPU, LCD and HDD etc. featured by product.

## Model No. CF-721 2 3 RD45

### 1: CPU type

T: for Intel® Mobile Pentium® III Processor-M 1.06 GHz

### 2: LCD type

C: for 13.3" TFT Color with Touchscreen

### 3: HDD type / RAM size

J: 30 GB / 256 MB

### 4: Operation System

F: Multi-Language (Microsoft® Windows® 2000)

### 5: Area

T: Refer to above area table

## WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

**Panasonic®**

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# WARNINGS

For U.K.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 3 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR

HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

Important

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

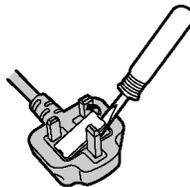
Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

The mains plug on this equipment must be used to disconnect the mains power.

Please ensure that a socket outlet is available near the equipment and shall be easily accessible.

## How to replace the fuse

Open the fuse compartment with a screw-driver and replace the fuse.



## Warnings

This equipment is not designed for connection to an IT power system.

(An IT system is a system having no direct connections between live parts and Earth; the exposed-conductive-parts of the electrical installation are earthed.)

An IT system is not permitted where the computer is directly connected to public supply systems in the U.K.)

Disconnect the mains plug from the supply socket when the computer is not in use.

This equipment is produced to BS800/1983.

# LASER SAFETY INFORMATION

## For U.S.A.

### Class 1 LASER-Product

This product is certified to comply with DHHS Rules 21 CFR Subchapter J.

This product complies with European Standard EN60825 (or IEC Publication 825)

### For all areas

This equipment is classified as a class 1 level LASER product and there is no hazardous LASER radiation.

#### Caution:

- (1) Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- (2) The drive is designed to be incorporated into a computer-based system or unit which has an enclosing cover. It should never be used as a stand alone drive.

#### Danger:

The serviceman should not remove the cover of drive unit and should not service because the drive unit is a non-serviceable part.

Please check DANGER label on PD-drive unit.

- Unplug the AC power cord to the equipment before opening the top cover of the drive.
- When the power switch it on, do not place your eyes close to the front panel door to look into the interior of the unit.

#### LASER Specification

Class 1 level LASER Product

Wave Length:	DVD	658 ± 8 nm
	CD	775~815 nm

Laser safety information is appropriate only when drive with laser is installed.

## LITHIUM BATTERY ⚠

### • CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the equipment manufacture.

Discard used batteries according to the manufacturer's instructions.

## LITHIUMBATTERIES ⚠

### Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

## PILE AU LITHIUM ⚠

ATTENTION: IL Y A DANGER D'EXPLOSION S' IL Y A REMPLACEMENT INCORRECT DE LA PILE. REMPLACER UNIQUEMENT AVEC UNE PILE DU MÊME TYPE OU D'UN TYPE RECOMMANDÉ PAR LE CONSTRUCTEUR. METTRE AU RÉBUT LES PILES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT.

## Replacement Parts List Comparison Table

Note: Important Safety Notice

Components identified by  mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.

### CF-72TCJRDF

REF. NO. and AREA	PART NO.		DESCRIPTION	Q'TY
	CF-72TCJUZXM	CF-72TCJRDF		
<b>Main Block Unit</b>				
E1	DL3U11156CAA	DL3U11156DAA	PCB, MAIN	RTL 1
E 24 (M)	DFSX1A71UATG	-----	KEYBOARD	1->0
E 24 (T)	-----	DFSX1A75UATG	KEYBOARD	1
E 47	DL2BA1092FAA	-----	DVD UNIT	1
E 47-1	DFWV78A0147	-----	DRIVE, DVD	1
E 47-2	DFJE50N035BH	-----	FPC	1
E 47-3	DL3U11130AAA	-----	PCB, CONNECTOR (A)	RTL 1
E 47-4	DL3U21130AAA	-----	PCB, CONNECTOR (B)	RTL 1
E 47-5	DFMD3064YA	-----	PLATE, DVD	1
E 47-6	DFMX0501YA	-----	INSULATION, PCB, DVD	1
E 47-7	DFMX0561YA	-----	INSULATION SHEET, MP-CN	1
E 47-8	DFHG1161ZA	-----	CONTROL, CONNECTOR	1
E 47-9	DFHE7007ZA	-----	DVD KEY	2
E 47-10	DFKM0253XB-0	-----	CAB, DVD TOP	1
E 47-11	DFGE0027YA	-----	CHASSIS, DVD	1
E 47-12	DFHR7614ZA	-----	SPACER, DVD	1
E 47-13	LMYP0445	-----	BEZEL, DVD	1
E 47-14	 DFGT0834ZA	-----	RATING LABEL	1
E 47-15	JDLB0007ZA	-----	SCREW	2
E 47-16	DFHM0177YA	-----	SCREW	2
E 47-17	DFHE5067YA	-----	SCREW	2
E 47-18	DFHE5086ZA	-----	SCREW	2
E 48	DL1BA1132AAA	-----	FDD UNIT	1
E 48-1	DFJG065ZA-T	-----	DRIVE, FD	1
E 48-2	DFJE9071ZAH	-----	FPC	1
E 48-3	DFMD2113ZA	-----	PLATE, FDD	2
E 48-4	DFMX0561YA	-----	INSULATION SHEET, MP-CN	1
E 48-5	DFDB0004XA	-----	DUMPER	4
E 48-6	DFHM0176ZA	-----	NUT, FDD	2
E 48-7	DFHE0118ZB	-----	GASKET	1
E 48-8	DFKM0253YB-0	-----	CABINET, FDD	1
E 48-9	DFGL0018ZC-3	-----	LENS, LED	1
E 48-10	DFGE0027ZA	-----	CHASSIS	1
E 48-11	DL3UP0982AAA	-----	PCB, FDD	RTL 1
E 48-12	 DFQT6234ZA	-----	CAUTION LABEL	1
E 48-13	XYN26+J4FN	-----	SCREW	4
E 48-14	XTB26+6GFN	-----	SCREW	4
E900	-----	N1AA91000006	ANTENNA, ELEMENT	1
E901	-----	DL3MA0150AAA	ASS'Y, ANTENNA	1
E904	-----	K1YBZZ000015	SIM CARD HOLDER	1
E905	-----	K1SZZAZ0004	CONNECTOR	1
E920	-----	DL3UP1175AAA	PCB, WIRELESS	RTL 1
E921	-----	N5HZZ0000015	GPRS MODULE	1
E922	-----	DFJS762ZA	CABLE	1
E923	-----	DFJE40M20HB	FFC, GPRS	1
E951	-----	K1NA10Z00001	SMART CARD SOCKET	1

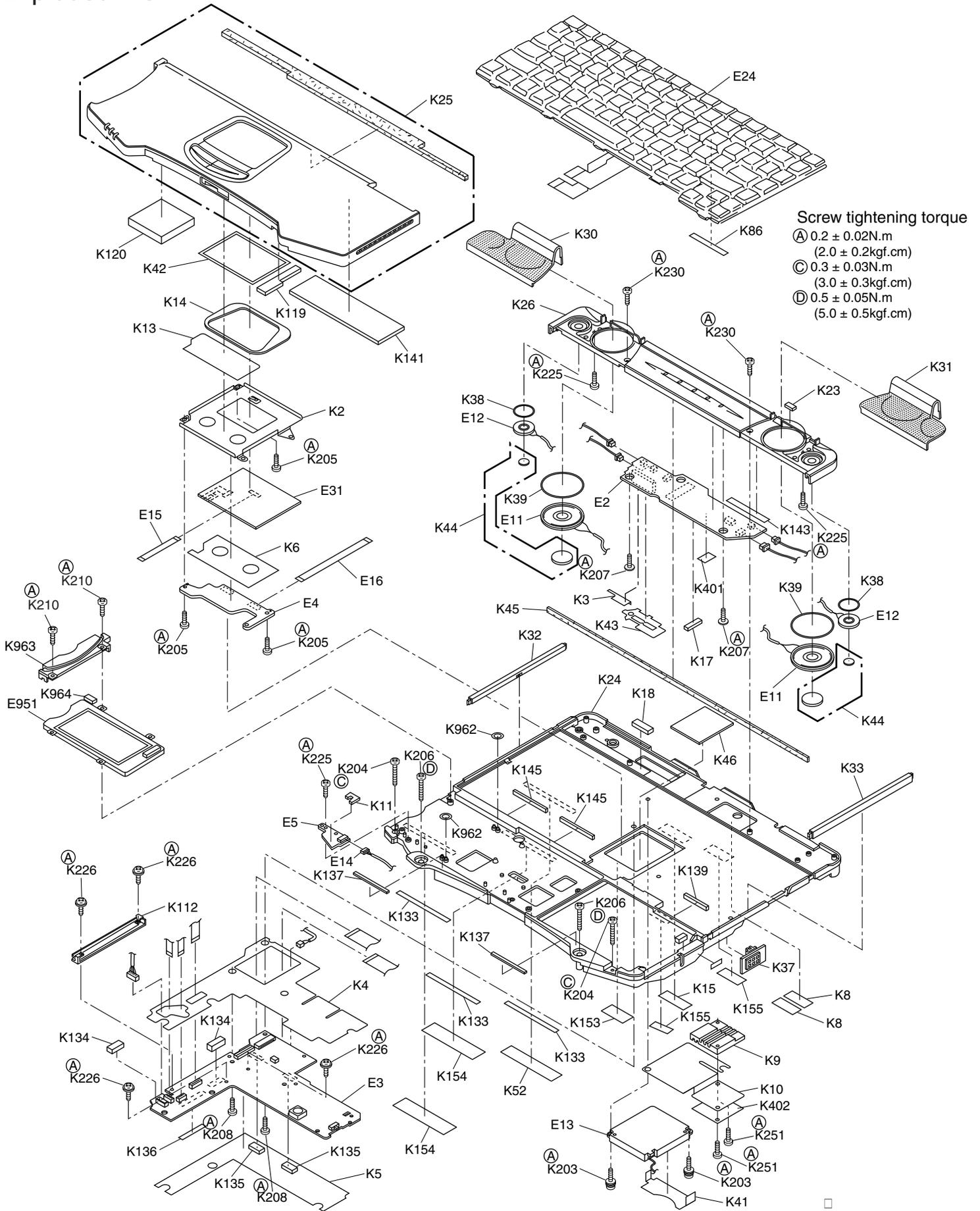
<b>Accessories</b>					
A3 (M)	△	DFJA0047ZAKK	-----	AC CABLE	1->0
A3 (T)	△	-----	DFJA0044ZAKK	CABLE, AC	1
A 5(M)	△	DFQX5280ZB	-----	OPERATING INSTRUCTIONS	1->0
A 5 (T)	△		*OPERATING INSTRUCTION MANUAL		1
Note: About parts which written "*" above, please order to Computer Products Europe (CPE) written below. Matsushita Electric (U.K.) Ltd. Computer Products Europe (CPE) TEL : +44-1222-736060 FAX : +44-1222-735500					
<b>Mechanical Parts</b>					
K 50		DFKE0570YA-0	-----	COVER, SLOT, PALM	1
K51		DFKF8127XB-0	DFKF8127WB-0	ASS'Y, CASE, PCB	1
K70		DFKE0661ZA-0	-----	COVER, N, ANTENNA	1->0
K 104 (M)	△	DFGT0812ZA	-----	LABEL-M, UNIT	1->0
K 104 (T)	△	-----	DFGT0811ZA	LABEL-EU, UNIT	1
K 429		DFQT9675ZAT	-----	LABEL, ENERGY STAR	1->0
K900		-----	DFMX0833ZA	HOLDER, INVERTER CABLE	3
K901		-----	DFMD2130WA	PLATE, CONFIG, LAN/WL	1
K903		-----	DFMD7691UA	ANGLE, GPRS	1
K904		-----	DFMZ0034ZA	LED INSULATOR	1
K905		-----	XTN2+6G	SCREW	1
K907		-----	DFHE5020XA	SCREW	2
K908		-----	DFHE5025XA	SCREW	5
K909		-----	DFGX0282ZA-0	WIRELESS INDICATOR	1
K910		-----	DFGX0292ZA	RIM IND DUMMY	1
K911		-----	DFHR8381ZA	JACK INSULATOR	1
K912		-----	DFHR8384ZA	SPACER, BUS	1
K913		-----	DFHG1457ZA	SPACER, CABLE	2
K916		-----	DFKE0662ZA-0	ANTENNA COVER C	1
K920		-----	DFHP7127ZA	TAPE	1
K921		-----	DFQT9791ZA	CE LABEL	1
K922		-----	DFHE0527ZA	GASKET	1
K923		-----	DFMD7881ZA	ANGLE, GPRS	1
K924		-----	DFMX0960ZA	SHEET, FFC	1
K925		-----	DXQT2+D25FNM	SCREW	7
K926		-----	DFHE0621ZA	SPACER	1
K962		-----	DFHE6015ZA	SPACER	2
K963		-----	DFKE0699ZA-0	SMART CARD BEZEL	1
K964		-----	DFBC0295ZA-0	EJECT KNOB	1
K965		-----	DFHR9058ZA	PROTECTION FILM, TS PANEL	1

## CD-R/RW Drive

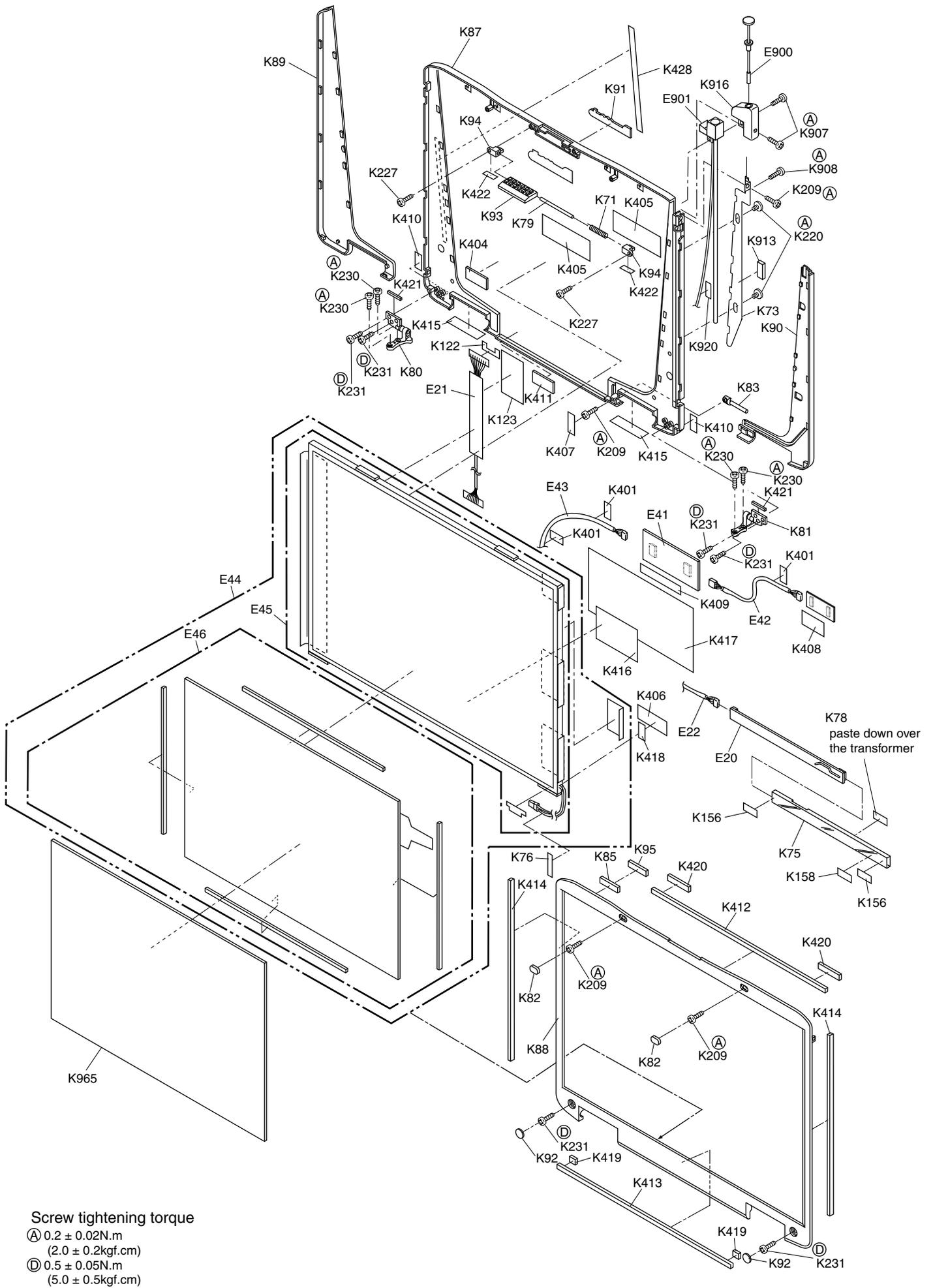
REF. NO. and AREA	PART NO.		DESCRIPTION	Q'TY
	CF-72TCJUzXM	CF-72TCJRDFT		
<b>Main Block Unit</b>				
E1	-----	DL3U11130BAA	PCB, CONNECTOR (A)	RTL 1
E2	-----	DFWV48C0591	PCB, CONNECTOR (B)	RTL 1
E3	-----	DFJE50N035BH	FPC	1
E4	-----	DFWV78A0162	DRIVE, CD-R/RW	1
E4-1	-----	UJSJDYP0110	BEZEL, CD-R/RW	1
E4-2	-----	JDLB0007ZA	SCREW, BEZEL	3
<b>Mechanical</b>				
K1	-----	DFKM0253WA-0	CABINET, TOP	1
K2	-----	DFGE0027WA	CHASSIS	1
K3	-----	DFMD3064XA	CLAMP, CD-R/RW DRIVE	1
K4	-----	DFMX0561YA	SHEET, INSULATION, CONNECTOR PCB	1
K5	-----	DFHE7007ZA	CD KEY	2

K6	△	-----	DFGT0892ZA	RATING LABEL	1
K7		-----	DFUS0244XA	EARTH SPRING (A)	1
K9		-----	DFMX0501YA	SHEET, INSULATION	1
K10		-----	DFHR7614ZA	SPACER (1)	1
K101		-----	DFHM0177YA	SCREW	2
K102		-----	DXQT2+D25FNM	SCREW	2
K103		-----	DFHE5086ZA	SCREW	2
<b>Connector (A) PCB</b>					
CN101		-----	DFJS250YA160	CONNECTOR, EXPANSION BUS	1
CN102		-----	DFJS120ZA050	CONNECTOR, FOR CONNECTOR (B) PCB	1
<b>Connector (B) PCB</b>					
CN201		-----	DFJS315XA050	CONNECTOR, FOR CD-R/RW DRIVE	1
CN202		-----	DFJS120ZA050	CONNECTOR, FOR CONNECTOR (A) PCB	1

# Exploded View



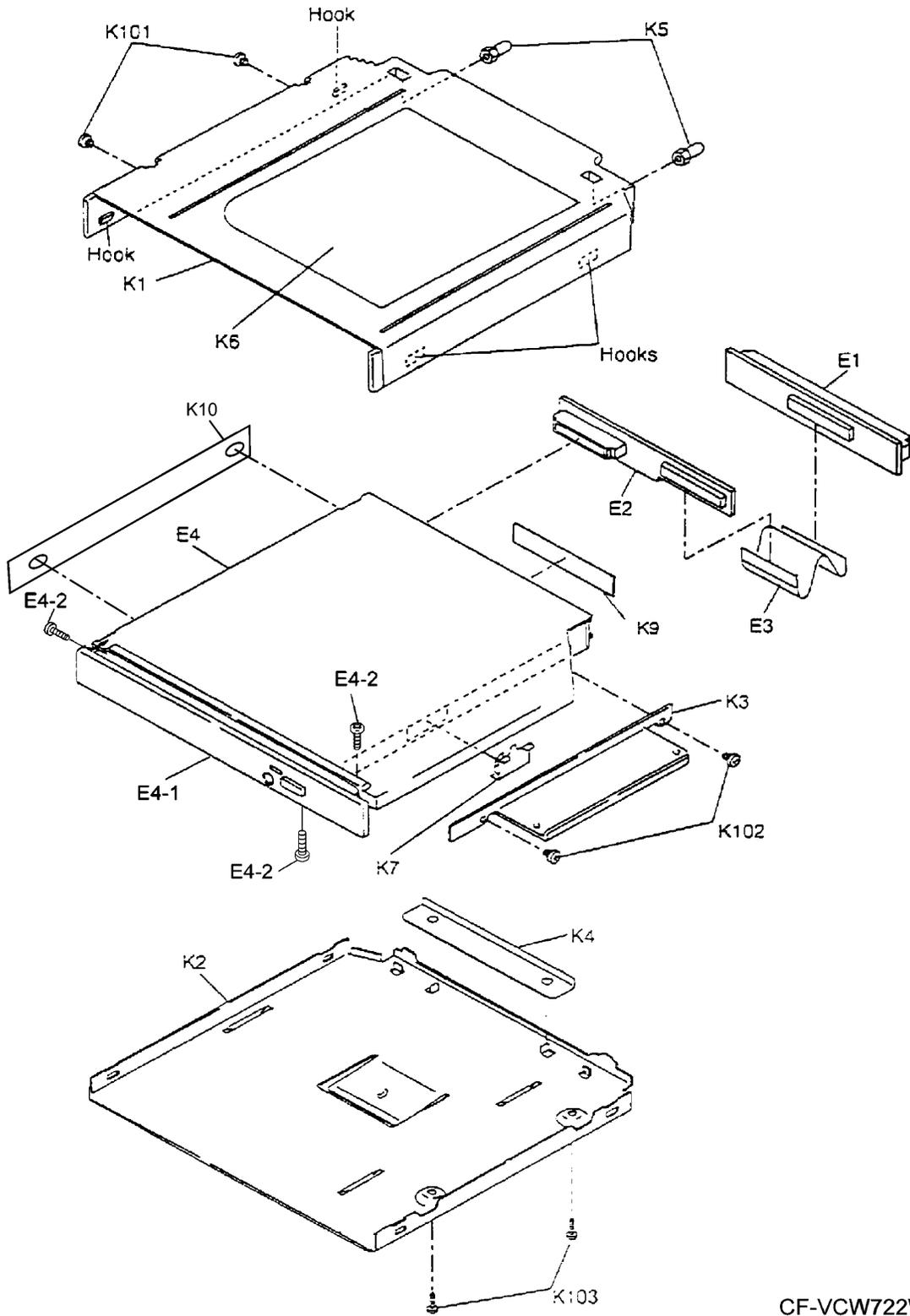




**Screw tightening torque**

- Ⓐ  $0.2 \pm 0.02\text{N.m}$   
( $2.0 \pm 0.2\text{kgf.cm}$ )
- Ⓓ  $0.5 \pm 0.05\text{N.m}$   
( $5.0 \pm 0.5\text{kgf.cm}$ )

# CD-R/RW Drive



CF-VCW722W