

CD RECEIVER

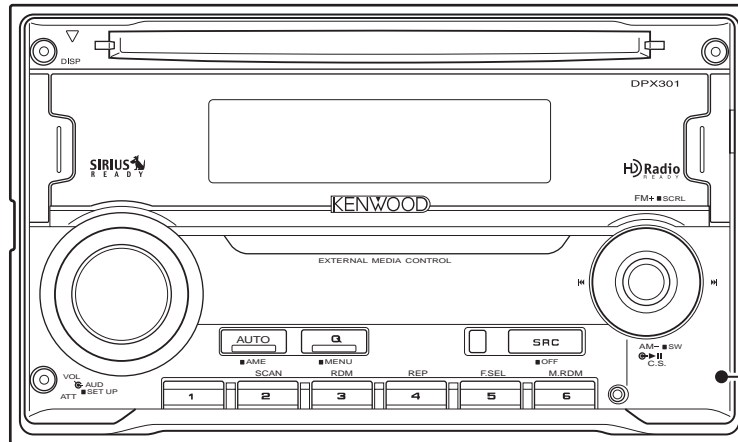
# DPX301 DPX-MP2090/MP2090S SERVICE MANUAL

# KENWOOD

Kenwood Corporation

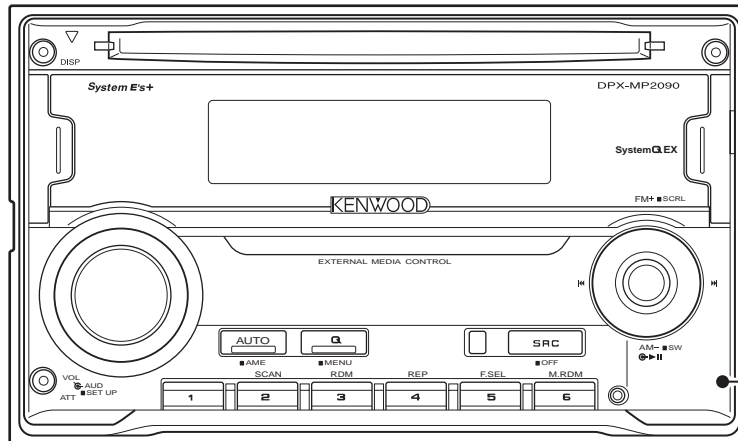
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B53-0370-00 (N) 724

DPX301  
(K type)



Panel assy  
(A64-3785-12)

DPX-MP2090  
DPX-MP2090S  
(M type)



Panel assy  
(A64-3811-12) : DPX-MP2090  
(A64-3812-12) : DPX-MP2090S

### DPX-MP2090/MP2090S

Remote controller assy  
(A70-2069-15)

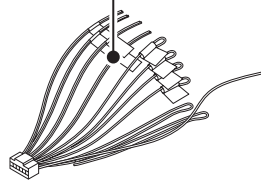


RC-517

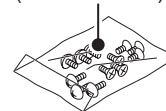
SIZE AA BATTERY  
(Not supplied)



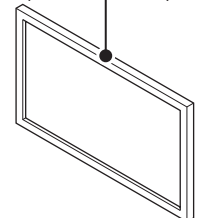
DC cord  
DPX-MP2090/MP2090S: (E30-6408-05)  
DPX301: (E30-6428-05)



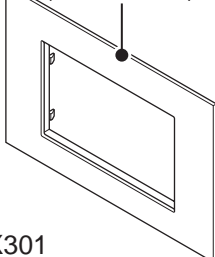
Screw set  
(N99-1779-05)



Escutcheon assy  
(B07-3046-04)

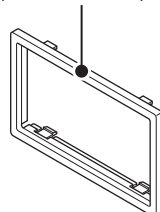


Escutcheon  
(B07-3172-12)

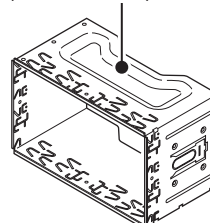


DPX301

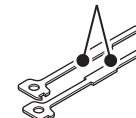
Escutcheon  
(B07-3165-02)



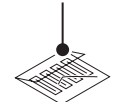
Mounting hardware assy  
(J22-0429-03)



Lever  
(D10-4589-04) x2



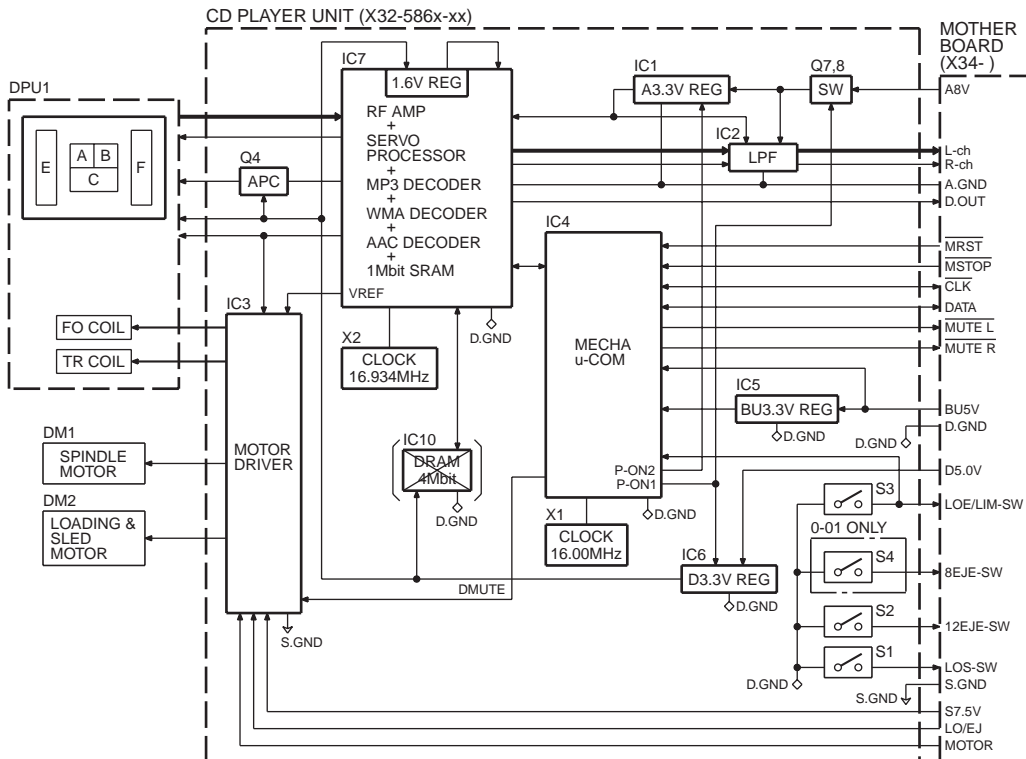
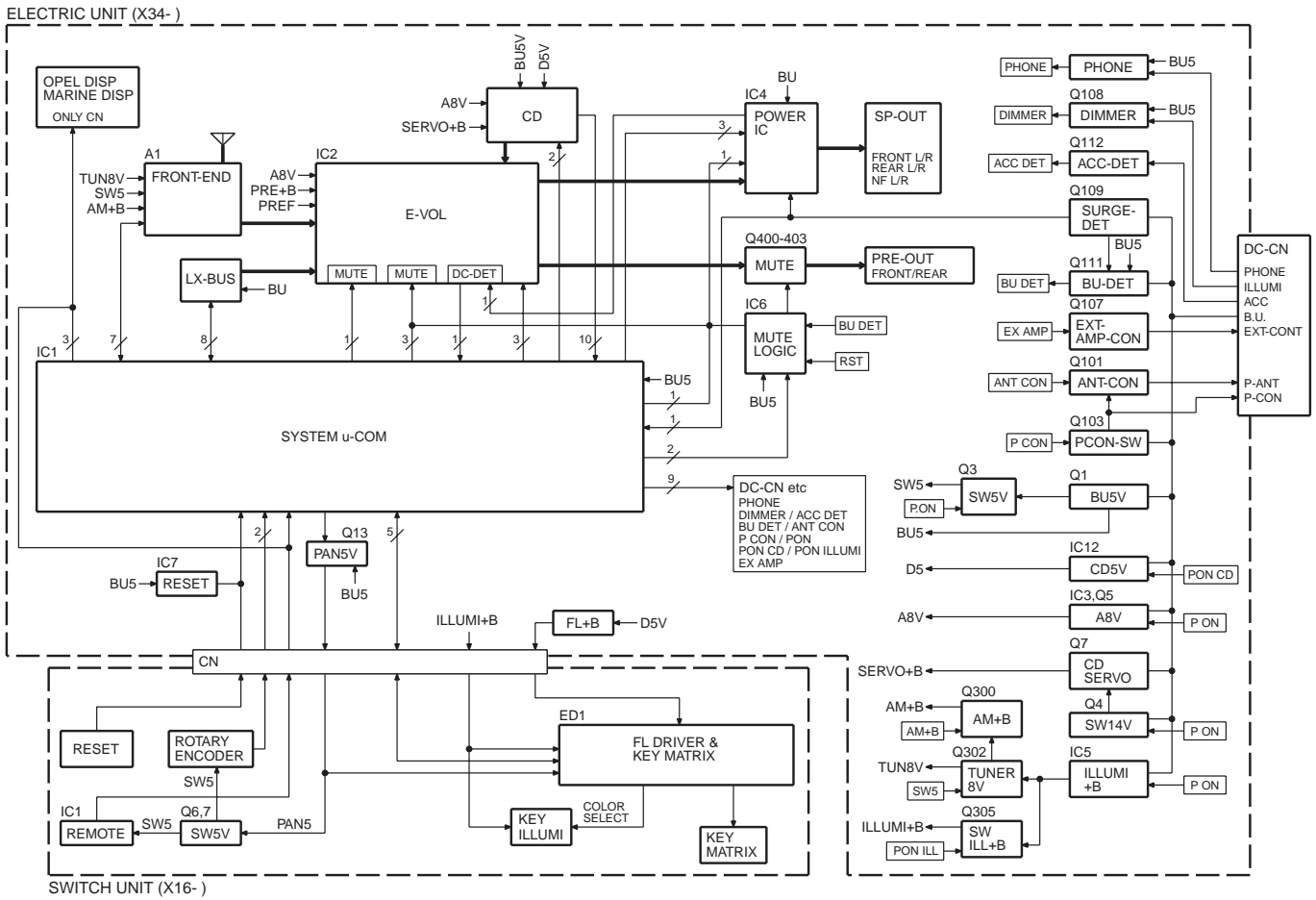
Adhesive double-coated tape  
(H30-0595-04)



This product uses Lead Free solder.



# BLOCK DIAGRAM



## COMPONENTS DESCRIPTION

### ● SWITCH UNIT (X16-3530-xx)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	Remote Control IC	
Q1~3	GRID_DRIVER	Each Transister's base is "L" then GRID is On
Q6,7	SW5V	The power supply of IC1 is turned on when Q6's base level goes "L"
Q9	RED SW	RED LED is turned on when Q9's base level goes "H"
Q12	VFD RESTART	Key scan start at Q12's Base goes "H" when the SET's Power is On

### ● ELECTRIC UNIT (X34-4140-xx)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	System $\mu$ -COM	Controls FM/AM tuner, the changer, CD mechanism, Panel, volume and tone
IC2	E. Vol	Controls the source, volume, tone
IC3	A8V Ref Power Supply	Output 1.27V
IC4	Power IC	Amplifies the front L/R and the rear L/R to 50W maximum.
IC5	ILL+B Power Supply	Output 1.225V
IC6	Muting logic IC	Controls logic for muting
IC7	Reset IC	"L" when detection voltage goes below 3.6V or less
IC12	SW Regulator	Power Supply for mp3 and VFD
Q1,2	B.U.5V AVR	While BU is applied, BU5V AVR outputs +5V
Q3,11	SW5V	When Q11'base goes Hi, SW5V outputs +5V
Q4,9	SW14V	When Q9'base goes Hi, SW14V outputs 14V
Q5,6,10	AUDIO8V AVR	When Q10'base goes Hi, A8V AVR outputs 8.0V
Q7,8	SERVO+B AVR	When Q8'base goes Hi, S+B AVR outputs 7.5V
Q12	SW for IC12	When Q12'base gose Lo, IC7 is turned on
Q13	PANEL 5V	When Q13'base gose Lo, PANEL5V outputs 5V
Q101,102	P-ANT SW	When Q102'base goes Hi, P-ANT SW outputs 14V
Q103,106	P-CON SW	When Q106'base goes Hi, AVR outputs 14V
Q104,105	P-CON Protection	Protect Q103 by turning on when P-CON output is grounded
Q107	EXT-AMP-CON	When Q107'base goes Lo, Q107 is turned on
Q108	Small lamp det SW	When Q108'base goes Hi, Q108 is turned on
Q109	SERGE Det.	When Q109'base goes Hi, IC4 is changed into a standby state
Q111	BU det	When Q111'base gose Hi, Q111 is turned on
Q112	ACC det	When Q112'base gose Hi, Q112 is turned on
Q113	Mute-Driver	When a base gose Hi, Pre-out mute driver is turned on
Q114	Mute-Driver	Q114 turned on by RST
Q115,116	Pre-out mute driver	When a base gose Lo, mute driver is turned on
Q298,299	Tuner8V SW	When Q299'base goes Hi, Tuner8V output 8V
Q300,301	AM+B	When Q301'base goes Hi, AM+B is out
Q302,303	Tuner8V	When Q303'base goes Hi, Tuner8V outputs 8V
Q305,306	SW ILL+B	When Q306'base goes Hi, SW ILL+B outputs 11V
Q400~403	Pre-out mute SW	When a base goes Hi, Pre-out is muted

## COMPONENTS DESCRIPTION

● CD PLAYER UNIT (X32-5860-00)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	A3.3V regulator	Power supply for audio 3.3V
IC2	Ope amp for low-pass filter	
IC3	4ch BTL driver	Driving spindle motor and loading/ejection operation
IC4	Mechanism $\mu$ -com	
IC5	BU 3.3V regulator	Power supply for backup 3.3V
IC6	D3.3V regulator	Digital 3.3V power supply
IC7	Audio DAC built-in servo DSP	MP3, WMA, and AAC compatible
IC11	Buffer IC	Level shift
Q1	A3.3V discharge circuit	
Q4	Current amp	Adjusts current to be sent to laser
Q5,6	SW 5V	
Q7,8	SW 8V	
D1	For current amp	

## MICROCOMPUTER'S TERMINAL DESCRIPTION

● SYSTEM MICROCOMPUTER: 30624MGPA76GP (X34: IC1)

Pin No.	Pin Name	Module	I/O	Application	Truth value table	Processing Operation Description
1	REMO	EXTRA	I	Remote control signal input		Detect pulse width
2	LX_MUTE	LX_M	I	MUTE request from slave unit		H: Mute ON, L: Mute OFF
3	AUD_SDA	AUDIO	O	E-VOL data output terminal		
4	AUD_SEL	AUDIO	O	E-VOL control terminal		
5	AUD_SCL	AUDIO	O	E-VOL clock output terminal		
6	BYTE	μCOM	-			
7	CNVSS	μCOM	-			
8	XCIN	μCOM	I			
9	XCOUT	μCOM	I			
10	RESET	μCOM	-			
11	XOUT	μCOM	-			
12	VSS	μCOM	-			
13	XIN	μCOM	-	12.0MHz		
14	VCC1	μCOM	-			
15	NMI	μCOM	I	Not used		
16	CN_DET	EXTRA	I	Panel communication detection (FLIP)		H: PANEL detached, L: PANEL attached
16	NC		O	Not used (2DIN)		Fixed to L
17	RDS_CLK	TUNER	I	RDS decoder CLK input terminal (RDS model only)		
17	NC		O	Not used (except RDS model)		Output L fixed
18	LX_REQ_S	LX_M	I	Communication request from slave unit		
19	PON_AM	Power supply	I/O	AM power supply control		H: When AM, Hi-z: When not AM
20	LX_REQ_M	LX_M	O	Communication request to the slave unit		
21	TUN_IFC_OUT	TUNER	I	F/E IFC OUT input terminal		H: Station found, L: Station not found
22	NC		O	Not used		Output L fixed
23	RDS_AFS_M	TUNER	I/O	Constant number switching when noise detected (in RDS and RBDS models)	②	Refer to the truth value table
23	NC		O	Not used (except RDS and RBDS models)		Output L fixed
24	RDS_QUAL	TUNER	I	RDS decoder QUAL input terminal (RDS model only)		
24	NC		O	Not used (except RDS model)		Output L fixed
25	RDS_DATA	TUNER	I	RDS decoder DATA input terminal (RDS model only)		
25	NC		O	Not used (except RDS model)		Output L fixed
26	PWIC_BEEP	PWIC	O	Beep output		
27	TUN_SCL	TUNER	I/O	F/E I2C clock input/output terminal		
28	TUN_SDA	TUNER	I/O	F/E I2C data input/output terminal		

## MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	Module	I/O	Application	Truth value table	Processing Operation Description
29	VFD_DATA	to PANEL	I/O	VFD data input/output terminal		Data input/output
30	VFD_INT	to PANEL	I	VFDINT input terminal		INT input terminal
31	VFD_CLK	to PANEL	O	VFD clock output terminal		Normal: 125kHz Low consumption mode: 62.5kHz
32	VFD_RST	to PANEL	O	VFD driver reset terminal		H: Clear RESET, L: RESET L: Momentary power down, when panel detached and 11 minutes after ACC_OFF
33	SDA/CD_SDA	CD	I/O	CD mechanism I2C data input/output terminal		
33	SDA/ROMCOR_SDA	EXTRA	I/O	E2PROM I2C data input/output terminal for ROM correction		
34	SCL/CD_SCL	CD	I/O	CD mechanism I2C clock output terminal		
34	SCL/ROMCOR_SCL	EXTRA	I/O	E2PROM I2C clock output terminal for ROM correction		
35	PON_PANEL	Power supply	I/O	Panel 5V control terminal (FLIP model)		L: ON, Hi-Z: Momentary power down, when panel detached and 11 minutes after ACC_OFF
36	DSI	EXTRA	I/O	DSI/EJECT_LED (FLIP only) control terminal		Hi-z: OFF, Pulse drive: When PANEL detached H: ILL_ON and OPEN (when Power_ON)
36	NC		O	Not used (2DIN)		Output L fixed
37,38	NC		O	Not used		Output L fixed
39	EPM	μCOM	I	FLASH EPM input terminal		
40	PANEL_DET	EXTRA	I	Panel detection (FLIP only)		L: PANEL detached, H: PANEL attached
40	NC		O	Not used (2DIN)		Output L fixed
41	NC		O	Not used		Output L fixed
42	ROMCOR_DET	EXTRA	I	E2PROM writing-in request		H: Writing-in
43	NC		O	Not used (no USB model)		Output L fixed
43	PON_FL	Power supply	O	FL+B control (USB model)		H: FL+B ON, L: FL+B OFF
44	VFD_CS	to PANEL	O	VFD chip select control terminal		
45	ROTARY_CW	to PANEL	I	VOL key input		Detect pulse width
46	ROTARY_CCW	to PANEL	I	VOL key input		Detect pulse width
47	CD_DISC12_SW	CD	I	CD disc detection terminal (12cm)		
48	CD_LOS_SW	CD	I	CD loading detection terminal		
49	CD_MUTE_R	CD	I	CD MUTE (Rch) request terminal		H: Normal, L: Rch mute request (valid only when in CD mode)
50	CD_MUTE_L	CD	I	CD MUTE (Lch) request terminal		H: Normal, L: Lch mute request (valid only when in CD mode)
51	CD_MRST	CD	O	CD mechanism μ-com RST terminal		H: Normal, L: RESET
52	CD_MSTOP	CD	O	CD mechanism μ-com stop terminal		H: Mechanism μ-com in operation L: Mechanism μ-com stop

## MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	Module	I/O	Application	Truth value table	Processing Operation Description
53	CD_DISC8_SW	CD	I	CD disc detection terminal (8cm) (J only)		
53	NC	CD	O	Not used (except J)		Output L fixed
54	CD_LOE_LIM_SW	CD	I	CD detection terminal (chucking SW)		H: Loading completed, L: No disc
55	CD_LOEJ	CD	I/O	CD motor control terminal	①	Refer to the truth value table
56	CD_MOTOR	CD	O	CD motor control terminal	①	Refer to the truth value table
57	PON_ILLUMI	Power supply	I/O	Key illumi power supply control		ON: H, OFF: Hi-Z
58	PON_PANEL_CD	Power supply	O	Power supply control terminal for panel 5V/CD WMA (no USB model)		L: POWER ON, H: POWER OFF L: When resetting before M-STOP
58	PON_CD	Power supply	O	Power supply control terminal for CD WMA (USB model)		L: POWER ON, H: POWER OFF H: When resetting before M-STOP
59	PON	Power supply	O	Power supply control		POWER ON: H, POWER OFF: L
60	VCC2	μCOM	-			
61	EXT_AMP_CON	EXTRA	I/O	EXTERNAL AMP control		
61	NC		O	Not used (for destination without EXTERNAL AMP CON)		Output L fixed
62	VSS	μCOM	-			
63	TYPE_1	TYPE	I	Destination switching	④	Refer to the truth value table
64	TYPE_2	TYPE	I	Destination switching	④	Refer to the truth value table
65	TYPE_3	TYPE	I	Destination switching	④	Refer to the truth value table
66	TUN_TYPE1	TYPE	I	Destination setting 1	③	Refer to the truth value table
67	TUN_TYPE2	TYPE	I	Destination setting 2	③	Refer to the truth value table
68	OEM_DISP_DATA	EXTRA	I/O	External display DATA		External display
68	NC		O	Not used (M, J destinations only)		Output L fixed
69	OEM_DISP_CLK	EXTRA	I/O	External display CLK		External display
69	NC		O	Not used (M, J destinations only)		Output L fixed
70	OEM_DISP_CE	EXTRA	I/O	External display control request		External display
70	NC		O	Not used (M, J destinations only)		Output L fixed
71	EJECT	to PANEL	I	Eject key input (FLIP model only)		L: EJECT
71	NC		O	Not used (2DIN)		Output L fixed
72	P_CON	Power supply	O	External amplifier control terminal		H: POWER ON, L: POWER OFF L: STANDBY source
73	VFD_KEY_REQ	toPANEL	I	Communication request from VFD driver		Connect to INT
74	ANT_CON	EXTRA	O	Power antenna control		TUNER ON: H
75	ILLUMI_DET	EXTRA	I	Dimmer illumi detection		L: ON, H: OFF
76	BU_DET	EXTRA	I	Momentary power down detection		L: BU found H: BU not found, momentary power down
77	ACC_DET	EXTRA	I	ACC power supply detection		L: ACC ON, H: ACC OFF
78	(PWIC_SVR)	PWIC	O	SVR discharging circuit		H: For 5 seconds after POWER OFF momentary power down, L: Thereafter

## MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	Module	I/O	Application	Truth value table	Processing Operation Description
79	PWIC_MUTE	PWIC	O	Power IC MUTE terminal		L: When in STANDBY source, at momentary power down, L: While TEL MUTE
80	PWIC_STBY	PWIC	O	Power IC standby control		POWER ON: H, POWER OFF: L
81	LX_CON	LX_M	O	Start-up request to slave unit		H: Slave unit ON, L: Slave unit OFF
82	MUTE_PRE_R	AUDIO	O	PRE_OUT MUTE Rch		H: When CD MUTE R is L (while playing CD) H: When momentary power down Fixed to L: Only when 2 zone or NAVI interruption
83	MUTE_PRE_L	AUDIO	O	PRE_OUT MUTE Lch		H: When CD MUTE L is L (while playing CD) H: When momentary power down Fixed to L: Only when 2 zone or NAVI interruption
84	MUTE_0	AUDIO	I/O	E-VOL FRONT MUTE terminal		L: MUTE ON, Hi-Z: MUTE OFF
85	MUTE_1	AUDIO	I/O	E-VOL REAR MUTE terminal		L: MUTE ON, Hi-Z: MUTE OFF
86	MUTE_2	AUDIO	I/O	E-VOL OTHER MUTE terminal		L: MUTE ON, Hi-Z: MUTE OFF
87	LINE_MUTE	EXTRA	I	Line mute detection		TEL MUTE: 1V or lower NAVI MUTE: 2.5V or higher In J-TYPE, NAVI MUTE: 1V or less, or 2.5V or higher
88	MUTE_PRE_SW	AUDIO	I/O	PRE_OUT MUTE NF When REAR is selected for REAR/SUB switching, do not port-process (FMC)		L: MUTE ON, Hi-Z: MUTE OFF
88	NC		O	Not used (MMC)		Output L fixed
89	PWIC_DC_DET	PWIC	I	DC offset detection terminal		
90	LX_RST	LX_M	O	Hardware-reset to slave unit		H: Reset, L: Normal
91	MUTE_AFS	AUDIO	I/O	TUNER output MUTE terminal (for AFS) (models with USB and RDS)		L: MUTE ON, Hi-Z: MUTE OFF
91	MUTE_C	AUDIO	I/O	E-VOL MUTE terminal (for AFS) (models without USB, with RDS)		L: MUTE ON, Hi-Z: MUTE OFF
91	NC		O	Not used (no RDS model, including no RBDS model)		Output L fixed
92	NC		O	Not used		Output L fixed
93	RDS_NOISE	TUNER	I	FM noise detection terminal		
94	AVSS	μCOM	-			
95	TUN_SMETER	TUNER	I	S meter input		
96	VREF	μCOM	-			Connect to P_ON
97	AVCC	μCOM	-			Connect to VCC
98	LX_DATA_S	LX_M	I	Data from slave unit		
99	LX_DATA_M	LX_M	I/O	Data to slave unit		
100	LX_CLK	LX_M	I/O	LX-BUS clock		



# MICROCOMPUTER'S TERMINAL DESCRIPTION

## Truth value table

① CD\_MOTOR, CD\_LOEJ

	CD_MOTOR	CD_LOEJ
Stop	L	L
Load	H	L
Eject	H	H
Brake	H	Hi-z

② AFS control

	RDS_AFS_M	RDS_AFS_L	Status
AFS LOW	L	Not used	No sound output in AF search
AFS MID	L	Not used	Sound output in AF search
AFS HIGH	Hi-Z	Not used	Normal reception

③ TUNER TYPE

	TUN_TYPE1 (66PIN)	TUN_TYPE2 (67PIN)
Kenwood brand model	L	L
OEM model 1	L	H
OEM model 2	H	L
OEM model 3	H	H

④ 06 FLIP/2DIN, no USB model (MID)

TYPE3	TYPE2	TYPE1	Destination	X34-414 (2DIN)
1	1	0	DPX301	0-10
1	1	1	DPX-MP2090/S	0-21

## MICROCOMPUTER'S TERMINAL DESCRIPTION

● CD MECHANISM MICROCOMPUTER: 703030BYGCJ21A (X32: IC4)

Pin No.	Pin Name	I/O	Application	Processing Operation Description	Remarks
1	NC	-	Not used	Low-fixed	
2	E2P SCL	I/O	Rom correction E2P I2C clock		
3~5	NC	-	Not used	Low-fixed	
6	VDD	-	5V electric potential		
7	GND	-	GND electric potential		
8,9	NC	-	Not used	Low-fixed	
10,11	PON1,PON2	O	Power ON/OFF control	H : ON, L : OFF	
12	LOE/LIM SW	I	Down-limit SW detection	L : Lim detection	
13	DAC MUTE	O	DAC MUTE control	H : MUTE ON, L : MUTE OFF	Used with DXM-6680W (X32-586). With DXM-6580W (X32-574), open and L-fixed.
14	DAC RST	O	DAC RESET	H : NORMAL, L : RESET	Used with DXM-6680W (X32-586). With DXM-6580W (X32-574), open and L-fixed.
15	EMPH	O	External DAC Emphasis control	H : Emphasis ON L : Emphasis OFF	Used with DXM-6680W (X32-586). With DXM-6580W (X32-574), open and L-fixed.
16,17	NC	-	Not used	Low-fixed	
18	IC/Vpp	-	Write voltage (FLASH)	L : Normal operation H : In writing	
19	MUTE L	O	Lch audio MUTE control	L : MUTE ON, H : MUTE OFF	
20	MUTE R	O	Rch audio MUTE control	L : MUTE ON, H : MUTE OFF	
21	TYPE	I	DAC switching	H : DSP built-in DAC used L : DSP built-in DAC Not used	H : DXM-6580W (X32-574) L : DXM-6680W (X32-586)
22	TEST O 1	O	TEST MODE O 1	(Not used)	
23	TEST O 2	O	TEST MODE O 2	(Not used)	
24	TEST O 3	O	TEST MODE O 3	(Not used)	
25	TEST O 4	O	TEST MODE O 4	(Not used)	
26	NC	-	Not used	Low-fixed	
27	WAIT	I	Wait control signal detection		
28~30	NC	-	Not used	Low-fixed	
31	RESET	I	Reset detection	H : NORMAL, L : RESET	
32	XT1	I	Not used		
33	XT2	-	Not used		
34	REGC	-			
35	X2	-			
36	X1	I			
37	Vss	-	GND electric potential		
38	VDD	-	5V electric potential		
39	NC	-	NC	Output stopped in standby	3.3V driven
40	WRL	I	Multiplex WRITE signal		3.3V driven

## MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Application	Processing Operation Description	Remarks
41,42	NC	-	Not used	Low-fixed	3.3V driven
43	RD	O	Multiplex RD signal		3.3V driven
44	ASTB	O	Multiplex ASTB signal		3.3V driven
45	NC	-	Not used	Low-fixed	3.3V driven
46	NC	-	Not used	Low-fixed	3.3V driven
47~54	AD0~AD7	I/O	Multiplex address/data		3.3V driven
55	BVdd	-	BUS interface power supply		
56	BVss	-	BUS interface GND		
57~61	AB8~AB12	I/O	Multiplex data/address		3.3V driven
62~65	NC	-	Not used	Low-fixed	3.3V driven
66	CS	O	Chip select control	H : OFF, L : ON	3.3V driven
67	DSP RESET	O	DSP reset control	H : NORMAL, L : RESET	3.3V driven
68~70	NC	-	Not used	Low-fixed	3.3V driven
71	Avdd	-			
72	Avss	-			
73	Avref	I	A/D port reference voltage input		
74	NC	-	Not used	Low-fixed	
75	RAMSEL	I	With DRAM/No DRAM switching for different models	H : With DRAM, L : No DRAM	
76	RZM	I	0bit MUTE detection	H : $\geq 1.7V$ , L : $< 1.7V$	
77	LZM	I	0bit MUTE detection	H : $\geq 1.7V$ , L : $< 1.7V$	
78	AAC	I	AAC compatibility switching	H : AAC non-compatible L : AAC compatible	AAC non-compatible mode has priority for both hardware and software.
79	ASEL	I	Audio output polarity switching	H : Reverse output L : Non-reverse output	
80	E2P WR	I	E2PROM write switching	H : E2PROM WRITE L : NORMAL	
81	TEST I 0	I	TEST MODE I 0	(Not used)	
82	TEST I 1	I	TEST MODE I 1	(Not used)	
83	TEST I 2	I	TEST MODE I 2	(Not used)	
84	TEST I 3	I	TEST MODE I 3	(Not used)	
85,86	NC	-	Not used	Low-fixed	
87	MSTOP	I	Standby restart interruption	H : STOP release, L : STOP	
88	INTSV	I	Interruption from servo IC	H : Interruption	
89~92	NC	-	Not used	Low-fixed	
93	D-MUTE	O	Driver MUTE	H : OFF, L : ON	
94	SYS SDA	I/O	System $\mu$ -com I2C data		Flash write port (S10)
95	NC	-	Not used	Low-fixed	Flash write port (S00)
96	SYS SCL	I/O	System $\mu$ -com I2C clock		Flash write port (SCK0)
97~99	NC	-	Not used	Low-fixed	
100	E2P SDA	I/O	ROM correction E2P I2C data		

## TEST MODE

### ● How to enter the test mode

Press and hold the [1] and [3] keys and reset.  
(While "----" is being displayed, power can be ON for 30 minutes.)

### ● How to clear the test mode

Reset, momentary power down, Acc OFF, Power OFF.

### ● Test mode default condition

- Source is STANDBY.
- Display lights are all turned on.
- The volume is at -10dB (The display is 30).
- LOUD is OFF.
- CRSC is off regardless of the availability of switching function.
- SYSTEM Q is NATURAL (=FLAT).
- BEEP is always activated by briefly pressing a button.
- AUX is ON.
- SWPRE is SUB WOOFER (2PREOUT model).

### ● Special display in tuner mode

Error is found in front-end, etc. If indications below are displayed while in tuner mode.

"TNE2P\_NG": Front-end E2PROM values are still default (not determined).

"TNCON\_NG": Cannot communicate with the front-end.

### ● K3I forced switching

Every time when [6] key is pressed in tuner FM mode, switched in the following order: AUTO → Forced WIDE → Forced MIDDLE → Forced NARROW → AUTO. Default status is AUTO, and displayed as shown below.

AUTO: FM1\_98.1A

Forced WIDE: FM1\_98.1W

Forced MIDDLE: FM1\_98.1M

Forced NARROW: FM1\_98.1N

### ● CD receiver test mode specification

- Display mode default setting shall be P-TIME.
- Jumps to the following tracks by pressing the [▶▶] key.  
No. 9 → No. 15 → No. 10 → No. 11 → No. 12 → No. 13 → No. 22 → No. 14 → No. 9 (recursive)  
Note that when playing an MP3/WMA/AAC disc with 8 files or less, the disc is played from the 1st track in the normal order.

- Pressing the [◀◀] key goes back by 1 track from the track being played.
- When playing an MP3/WMA/AAC disc, display the file format before starting to play each file. ("MP3", "WMA", "AAC")
- When CD is the source, press the [1] key briefly to jump to No. 28.
- When CD is the source, press the [2] key briefly to jump to No. 14.
- When CD is the source, press the [3] key briefly to display CD mechanism model name and the version. Press the [3] key briefly again to go back to the normal screen. (time code display)

6	6	8	0	:	0	1	2	3
Model name					Version			

- When CD is the source, press the [6] key to jump to No. 15. At this time, the volume value is set to 25 (2V PRE).

### ● AUDIO adjust mode

- Press [AUD] key briefly to enter the audio adjustment mode.
- Press the remote control [\*] key and [AUD] key to go into the audio adjustment mode.
- Both AUDIO FUNCTION MODE and SETUP MODE adjustment items are included.
- By pressing [AUD] or [FM] key briefly, switch the item to be adjusted in the following order. (only in forward rotation)  
The default item shall be Fader, and then the item is forwarded in the following order: Balance → Bass Level → Middle Level → Treble Level → HPF Front → HPF Rear → LPF Sub Woofer (thereafter arbitrary).
- Continuous forwarding by remote control is prohibited.
- Fader is adjusted by the VOL knob and [◀◀] / [▶▶] keys in 3 steps: R15 ↔ 0 ↔ F15. (Default value: 0)
- Balance is adjusted by the VOL knob and [◀◀] / [▶▶] keys in 3 steps: L15 ↔ 0 ↔ R15. (Default value: 0)
- Bass/Middle/Treble Level are adjusted by the VOL knob and [◀◀] / [▶▶] keys in 3 steps: -8 ↔ 0 ↔ +8. (Default value: 0)
- HPF Front / Rear is adjusted by the VOL knob and [◀◀] / [▶▶] keys in 2 steps: Through ↔ 180Hz (or 220Hz). (Default value: Through)
- LPF Sub Woofer is adjusted by the VOL knob and [◀◀] / [▶▶] keys in 2 steps: 60Hz (or 50Hz) ↔ Through. (Default value: Through)

## TEST MODE

- Sub Woofer Phase is adjusted by the VOL knob and [◀◀] / [▶▶] keys in 2 steps: Reverse ↔ Normal. (Default value: Normal)
- Volume Offset is adjusted by the VOL knob and [◀◀] / [▶▶] keys in 2 steps: -8 ↔ 0. (Default value: 0)
- Loudness ON/OFF is adjusted by the VOL knob and [◀◀] / [▶▶] keys in 2 steps: OFF ↔ ON. (Default value: OFF)
- Bass f / Bass Q / Bass EXT / Middle f / Middle Q / Treble f are not displayed on the audio adjustment mode.

### ● MENU

- Press the [Q] key to enter the MENU.
- Press the remote control [DNPP/SBF] key or the [DIRECT] key to enter the MENU.
- Continuous forwarding by remote control is prohibited.

### ● Backup current measurement

If reset while in Acc OFF (Back Up ON) condition, MUTE terminal goes off 2 seconds later, rather than 15 seconds. (During this time, the CD mechanism does not function.)

### ● Special displays while all lights are on

When all lights are on with STANDBY source, if the following keys are pressed, the following messages are displayed.

[1] key	Version is displayed (forwarding). (Display) TYPE : x_ _ _ → ("x" is displayed in hexadecimals) 530K-1.02 → ("development ID" - "version") all lights on → * TYPE indicates μ-com destination, and shows real-time condition of the destination terminal.
[2] key	Serial No. is displayed (8 digits). (Display) xxxxxxxx
[3] key	Key pressed briefly: Power ON time is displayed. While Power ON time is displayed, press and hold for 2 seconds to clear the Power ON time. (Display) PON_0Hxx (00~50 is displayed for "xx"). When less than 1 hour, display by increment of 10 minutes xxxxx (00001~10922 is displayed for "xxxxx") MAX 10922 (hours)

[4] key	Key pressed briefly: CD operation time is displayed. While CD operation time is displayed, press and hold for 2 seconds to clear the CD operation time. (Display) CDT_0Hxx (00~50 is displayed for "xx"). When less than 1 hour, display by increment of 10 minutes xxxxx (00001~10922 is displayed for "xxxxx") MAX 10922 (hours)
[5] key	Key pressed briefly: Number of CD EJECT time is displayed. While the CD EJECT times is displayed, press and hold for 2 seconds to clear the CD EJECT time. (Display) EJCxxxxx MAX 65535 (times)
[6] key	Not used.
[FM] key	ROM correction version is displayed. (Display) ROM_R123 When E2PROM is not installed: ROM_ERR_ When not written in: ROM_R-- -- When data not matching: ROM_R***
[▶▶] key	AUDIO data initialization (Display) AUD_INIT
[◀◀] key	Key pressed briefly: Forced Power OFF data displayed. While the forced power OFF data is displayed, press and hold for 2 seconds to clear the data. (Display) POFF_ -- -- (No Forced Power OFF) ← Fixed display
[▶▶] key	Key pressed briefly: CD information display mode ON/OFF. While in CD information display mode, press and hold for 2 seconds to clear all CD information. * Please refer to the next table.

#### CD information display mode

	I2C communication condition display (Display) I2C_OK_ _ NG
[AM] key ↑	CD mechanism error log display (switched by [◀◀] / [▶▶] keys) (Display) MCERR1: xx ↔ MCERR2: xx ↔ MCERR3: xx ↔ MCERR1: xx ↔ (" -- " or the error code is displayed for "xx")

# TEST MODE

	<p>CD loading error log display (switched by [◀◀] / [▶▶] keys) (Display) LDERR1: xx ↔ LDERR2: xx ↔ LDERR1: xx ↔ (Number of times is displayed for “xx”) MAX 99 (times)</p> <p>Disk detection switch ON/OFF is monitored, and when the loading operation is not completed within the specified time length, or when E-99 mechanism error occurred, record which SW signal had an error. * Refer to [CD LOAD error detection]'s note.</p>
	<p>CD ejection error log display (switched by [◀◀] / [▶▶] keys) (Display) EJERR1: xx ↔ EJERR2: xx ↔ EJERR3: xx ↔ EJERR4: xx ↔ EJERR1: xx ↔ (Number of times is displayed for “xx”) MAX 99 (times)</p> <p>Disk detection switch ON/OFF is monitored, and when the loading operation is not completed within the specified time length, or when E-99 mechanism error occurred, record which SW signal had an error. * Refer to [CD LOAD error detection]'s note.</p>
	<p>CD time code error count data display (missing counts) (switched by [◀◀] / [▶▶] keys) (Display) CNT_LOSE ↔ CDDA_ _: xx ↔ CDROM_ : xx ↔ CNT_LOSE ↔ (Number of times is displayed for “xx”) MAX 99 (times)</p> <p>Monitor time code continuity. Record the number of times when discontinuity occurred as error data. Record the data of compressed audio and CD-DA played separately.</p>
↓ [FM] key	<p>CD time code error count data display (count not updated) (switched by [◀◀] / [▶▶] keys) (Display) CNT_STAY ↔ CDDA_ _: xx ↔ CDROM_ : xx ↔ CNT_STAY ↔ (Number of times is displayed for “xx”) MAX 99 (times)</p> <p>When the time code is not renewed for 2 or more seconds, record the number of times occurred as error data. (skipped sound)</p>

## ● Initializing AUDIO-related setting value

Press the [▶▶] key in the STANDBY source and reset the AUDIO setting value to the test mode default value.

## ● Other

- When Power ON, do not display “CODE\_OFF” and “CODE\_ON”.
- When the source is STANDBY, press and hold [AUTO] key for 1 second to switch PREOUT Rear and Sub Woofer. (2PREOUT model)
- When started in Test Mode, duration of prohibiting LINE MUTE shall be changed from 10 seconds to 1 second.
- While in Test Mode, serial number is not written with a serial-number-writing jig.
- When in Test Mode, when DC offset error detection is run, the detection information is not written into the E2PROM.
- DEMO mode shall not be operated while in Test Mode, CD Mechanism Error Log Data Clearing Mode, or DC Offset Error Detection Data Clearing Mode.  
Also, do not display DEMO ON/OFF option items in the MENU in STANDBY source in the above modes.

## ● Clearing CD mechanism information and service information (Clearing E2PROM (F/E) data)

1. While pressing the [Q] key and [ATT] key, reset-start to start CD mechanism and service information initialization.  
(While “— — — —” is being displayed, power can be ON for 30 minutes.)  
[CD mechanism information]
  - Displays I2C communication condition
  - Displays CD mechanism error log
  - Displays CD loading error data.
  - Displays CD ejection error data
  - Displays CD time code error count data (missing count)
  - Displays CD time code error count data (count not updated)
[Service information]
  - Displays power ON time is displayed
  - Displays CD operation time
  - Displays number of CD EJECT times
  - Displays forced Power OFF data
2. After the initialization process is completed, the following is displayed.  
When successfully completed: “CD\_O\_ \_ \_ \_”  
When finished but unsuccessful: “CD\_X\_ \_ \_ \_”
3. This mode is cancelled by resetting. (The last screen will not be retained.)

## TEST MODE

### ● Clearing DC error detection data (E2PROM (F/E) data clearing)

1. Press and hold [3] and [6] keys and reset-start to go into the DC offset error display mode.  
(While "----" is being displayed, power can be ON for 30 minutes.)
2. While in STANDBY source, the current DC offset error condition is displayed.  
When detected: "DC\_ERR\_ \_"  
When not detected: "DC\_OK\_ \_ \_"
3. While error condition is being displayed, press [AUTO] key briefly to clear the detection data. (clear E2PROM)
4. DC error display mode is cancelled by resetting. (The last screen will not be retained.)

### ● Frequency span switching (K/M type)

While pressing and holding [1] and [5] keys, press [SRC] key simultaneously to power ON.

### ● Security

- Forced Power-ON mode (all models)  
Even when security is permitted, by pressing and holding [Q] and [4] keys and pressing RESET simultaneously, power can be ON for 30 minutes. After 30 minutes, recovered only by reset.
- Simplified security code clearing procedure (simplified security model)
  1. While code is requested, press and hold [AUTO] key and press [▶▶1] key for 3 seconds. ("----" disappears.)
  2. Enter "KCAR" by remote control.  
Press the remote control [5] key 2 times, display "K", and press the [▶▶1] key.  
Press the remote control [2] key 3 times, display "C", and press the [▶▶1] key.  
Press the remote control [2] key once, display "A", and press the [▶▶1] key.  
Press the remote control [7] key 2 times, display "R", and press the [▶▶1] key.
  3. Security is cleared and the source is set to STANDBY.
  4. If a wrong code is entered, code request mode is displayed.

## DC OFFSET ERROR

### ● Purpose

Prevent customers' vehicle speakers damages, burnouts, and smoking.

Avoid the connected speakers to be burned out, damaged, or to smoke when DC occurs between the audio power amp. + and - outputs.

### ● Processing after detection

1. System status
  - At the detection of DC error, error data is to be saved immediately (E2PROM error log save area).
  - Display the error message on the display. The system shall maintain the current condition, including the operation. Shut down audio system power supply. Set Mute to ON.

- Although switching between Power OFF and ON (ACC, BU, and Key operation) is valid, switching from Off to ON shall be error until the  $\mu$ -com is reset.
- \* While power-on, even if the IC2VI DCErr output terminal logic recovered to normal level value, the error condition shall continue.
- Prohibit to save the backup/installer memory to E2PROM (nonvolatile memory).
- 2. Controlling  $\mu$ -com terminal
  - Set Mute for all channels including for pre-out.
  - Turn off power IC control system power supply. (Set AMP-Standby function to valid)
  - Set P-Con output to OFF (Logic by which external AMP unit is turned off).
  - \* The purpose is to shut down audio output. Basically, the logic sets the audio output system signal line when in Standby source.

## DC OFFSET ERROR

### 3. Key specification

- No specific limitation (Normal operation).

### 4. Display specification

- Display the “PROTECT” string and blink all characters at 1Hz.

\* Use the indication below with the highest priority (error message), and maintain the error message even when the source is changed.

Display Example



### ● Cancel Condition

- Press the Reset terminal on the main body. or set Backup to OFF (Unplug and plug back in the DC connector). The history is maintained (E2PROM data is saved).

### ● Note while in test mode

- While in test mode, even if DC leak is detected, it is not written into E2PROM. When an error is detected, the display is enabled.

### ● Other

- Function for checking and clearing data in E2PROM by a given key shall be included. (Used at production dpt. and service center, etc.)

## CD LOAD ERROR DETECTION

### ● Overview

Record the number of times when mechanism error (SW error) occurred at CD LOAD.

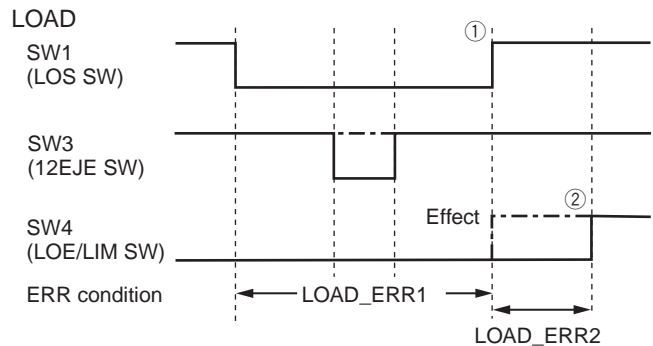
LOAD error recording shall be done in 2 patterns, by the SW status illustrated below.

LOAD error is established when LOAD operation is not completed after LOAD operation is started before the protect timer count is completed.

Clearing of record is done in the following situations:

- 1) After reset is cancelled, when reading EEPROM, the code is NG.
  - 2) While in test mode, the specified key (Play/Pause key pressed for 2 seconds) input.
  - 3) When in EEPROM all-clear initialization mode (refer to the test mode specification document)
- Display is shown on the test mode specification document.
  - Number of times with error (s) is 99 at MAX.
  - Not recorded in test mode [1+3 keys].

### ● Operation



- \* Trigger for starting the sequence: detecting the inserted disc with SW 1 and 3 LOW edge. (As an exception, protect LOAD when EJECT error)

- ① If the protect timer was counted up before the LOS (SW1) up edge detection, it is recorded as LOAD\_ERR1.
- ② If the protect timer was counted up after the LOS (SW1) up edge detection, before the LOE/LIM (SW4) up edge detection, it is recorded as LOAD\_ERR2

- \* When DISC was inserted briefly but pulled out immediately (DISC is detected but not inserted), it is considered as an error.

Special case: Even if LOS (SW1) up edge is not detected, if LOE/LIM (SW4) up edge is detected, it is still recorded as LOAD\_ERR1. Also, if SW4 up edge is detected, the motor is stopped.



# CD EJECT ERROR DETECTION

## ● Overview

Record the number of times when mechanism error (SW error) occurred at CD EJECT.

EJECT error recording shall be done in 4 patterns, by the SW status illustrated below (3 patterns in models other than TYPE-J).

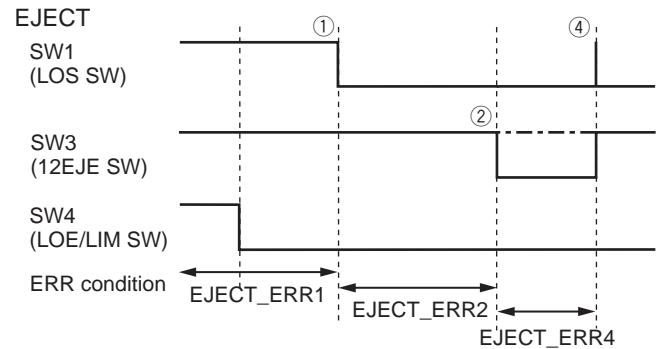
EJECT error is established when EJECT operation is not completed after EJECT operation is started before the protect timer count is completed (False EJECT, or ejection with no CD, is considered as exception and is not recorded).

(False EJECT is determined when: while chucking is not done, and when SW status is determined as NO DISC.)

Clearing of record is done in the following situations :

- 1) After reset is cancelled, when reading EEPROM, the code is NG.
  - 2) While in test mode, the specified key (Play/Pause key pressed for 2 seconds) is input.
  - 3) When in EEPROM all-clear initialization mode (refer to the test mode specification document).
- Indication is shown on the test mode specification document.
  - Number of times with error (s) is 99 times at MAX.
  - Not recorded in test mode [1+3 keys].
  - When EJECT was error, re-try 3 times, and count each error while re-try as 1 error.

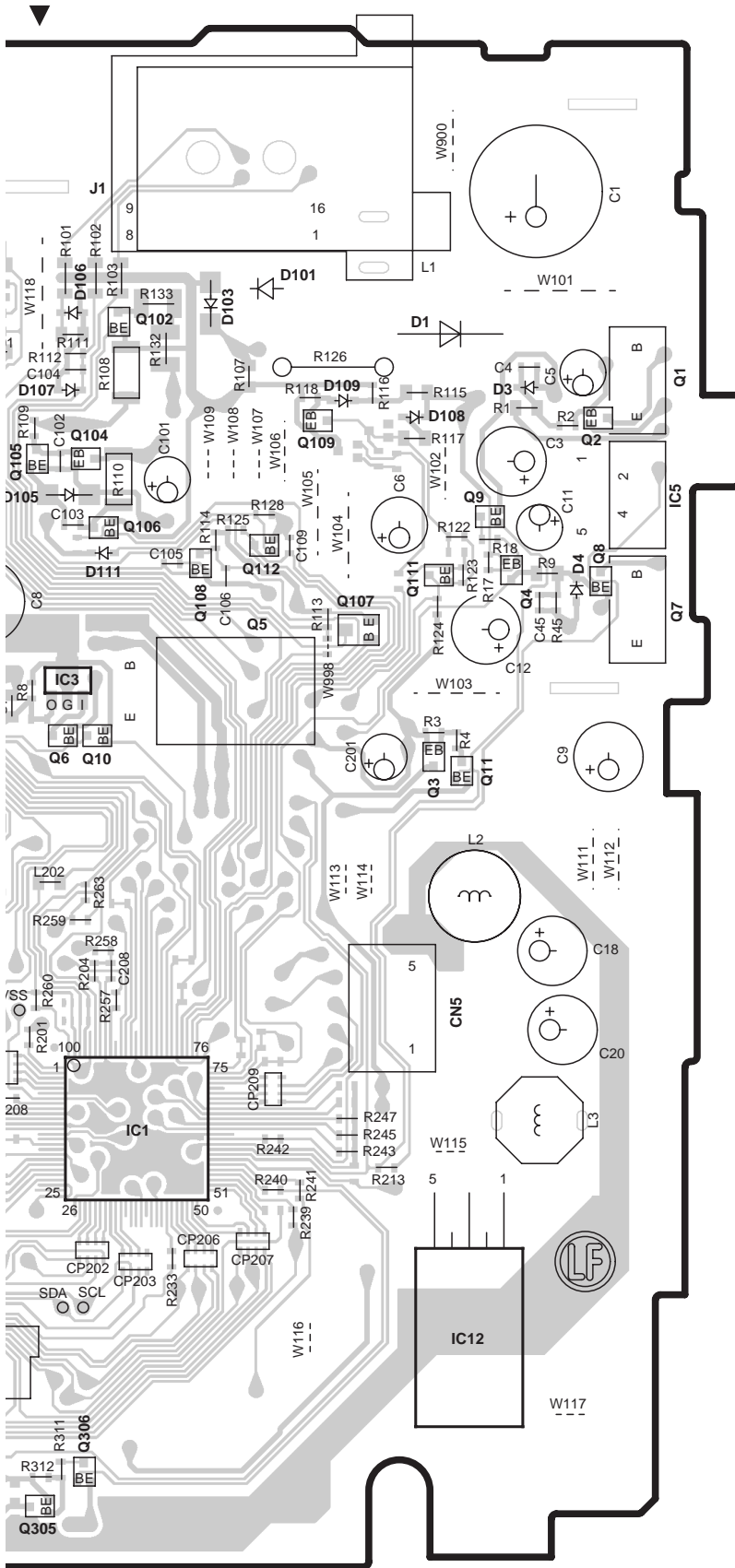
## ● Operation



\* Trigger for starting the sequence: detecting DISC ejection by EJECT key. (As an exception, protect EJECT when LOAD error)

- ① If the protect timer was counted up before the LOS (SW1) down edge detection, it is recorded as EJECT\_ERR1.
  - ② If the protect timer was counted up after LOS (SW1) down edge before the 8EJE (SW2) down edge detection, it is recorded as EJECT\_ERR2. [12EJE down edge detection in models other than TYPE-J]
  - ③ If the protect timer was counted up after LOS (SW1) down edge before the 12EJE (SW3) down edge detection, it is recorded as EJECT\_ERR3. (TYPE-J only)
  - ④ If the protect timer was counted up after LOS (SW1)/8EJE (SW2)/12EJE (SW3) down edge before the down edge detection of any of these, it is recorded as EJECT\_ERR4.
- \* When EJECT is started, if not chucking, it is not counted as EJECT error (considered as false EJECT). However, EJECT when SW change is detected.





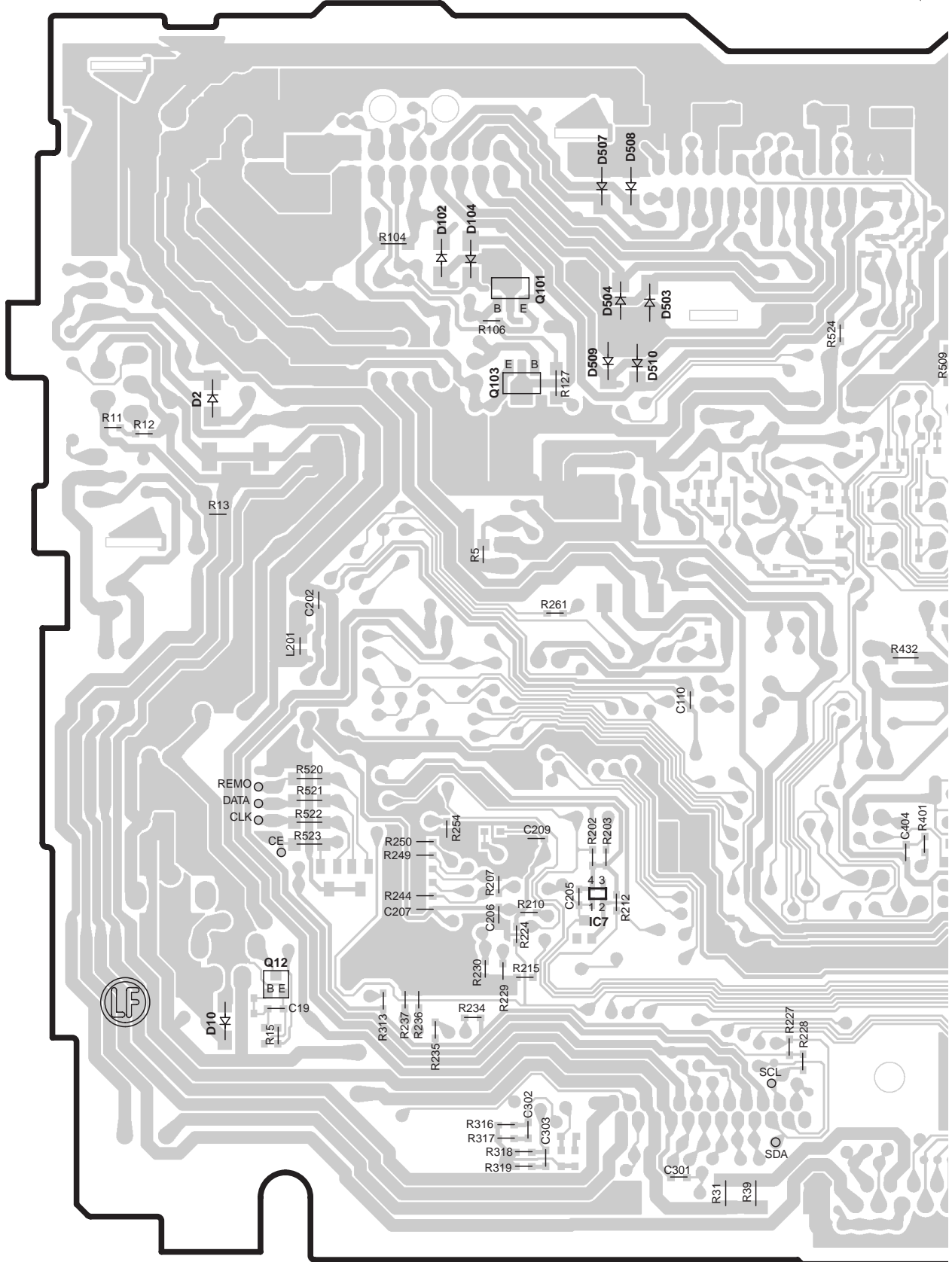
X34-4140-xx

Ref. No.	Address
IC1	5F
IC2	5D
IC3	4F
IC4	2E
IC5	3H
IC6	4E
IC12	6G
Q1	3H
Q2	3H
Q3	4G
Q4	3G
Q5	4F
Q6	4F
Q7	3H
Q8	3H
Q9	3G
Q10	4F
Q11	4G
Q13	6D
Q102	2F
Q104	3F
Q105	3E
Q106	3F
Q107	3G
Q108	3F
Q109	3G
Q111	3G
Q112	3F
Q113	4E
Q114	5E
Q298	6B
Q299	6B
Q302	6B
Q303	5B
Q305	7E
Q306	6F
Q400	3B
Q401	3B
Q402	3C
Q403	3C

Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (FOIL SIDE VIEW)

ELECTRIC UNIT X34-4140-xx (J76-0173-12)



2

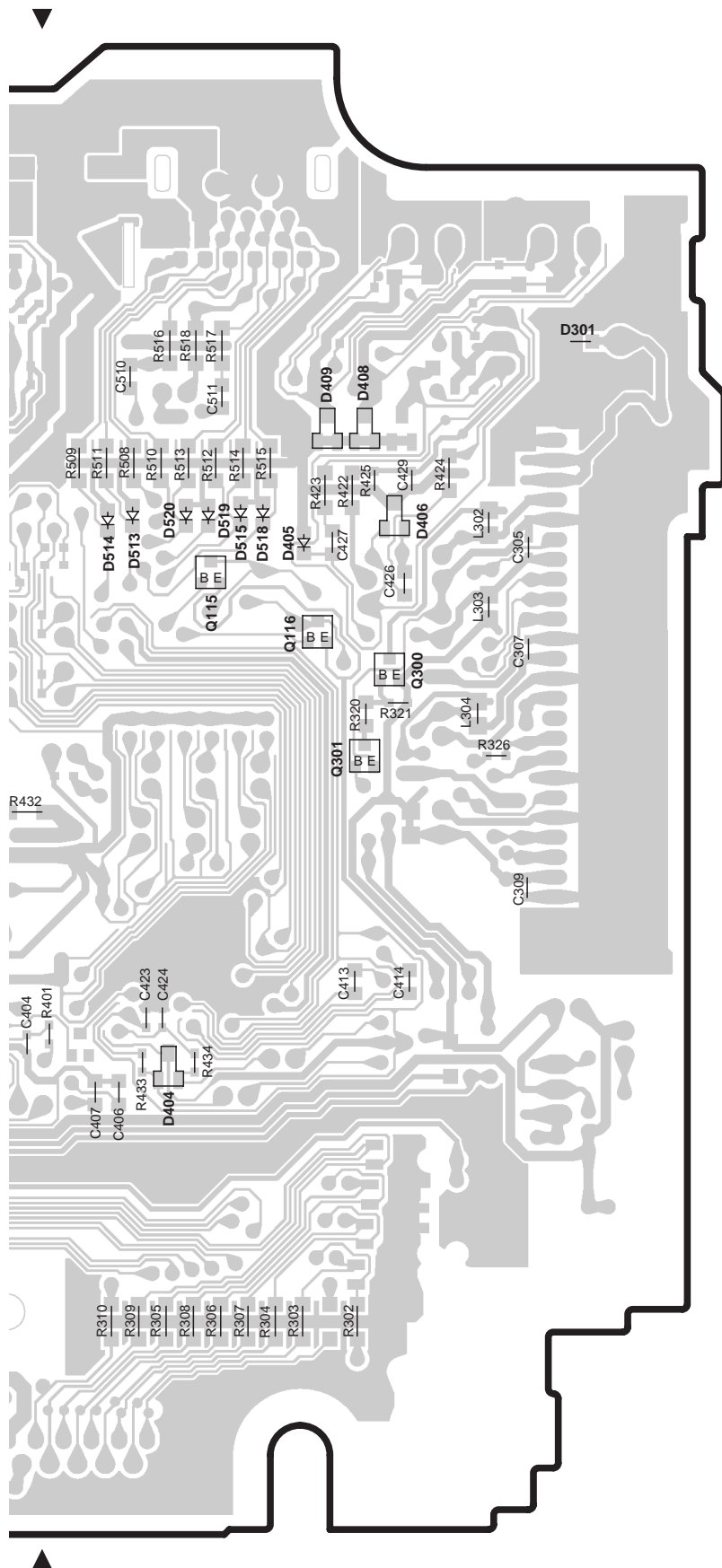
3

4

5

6

7



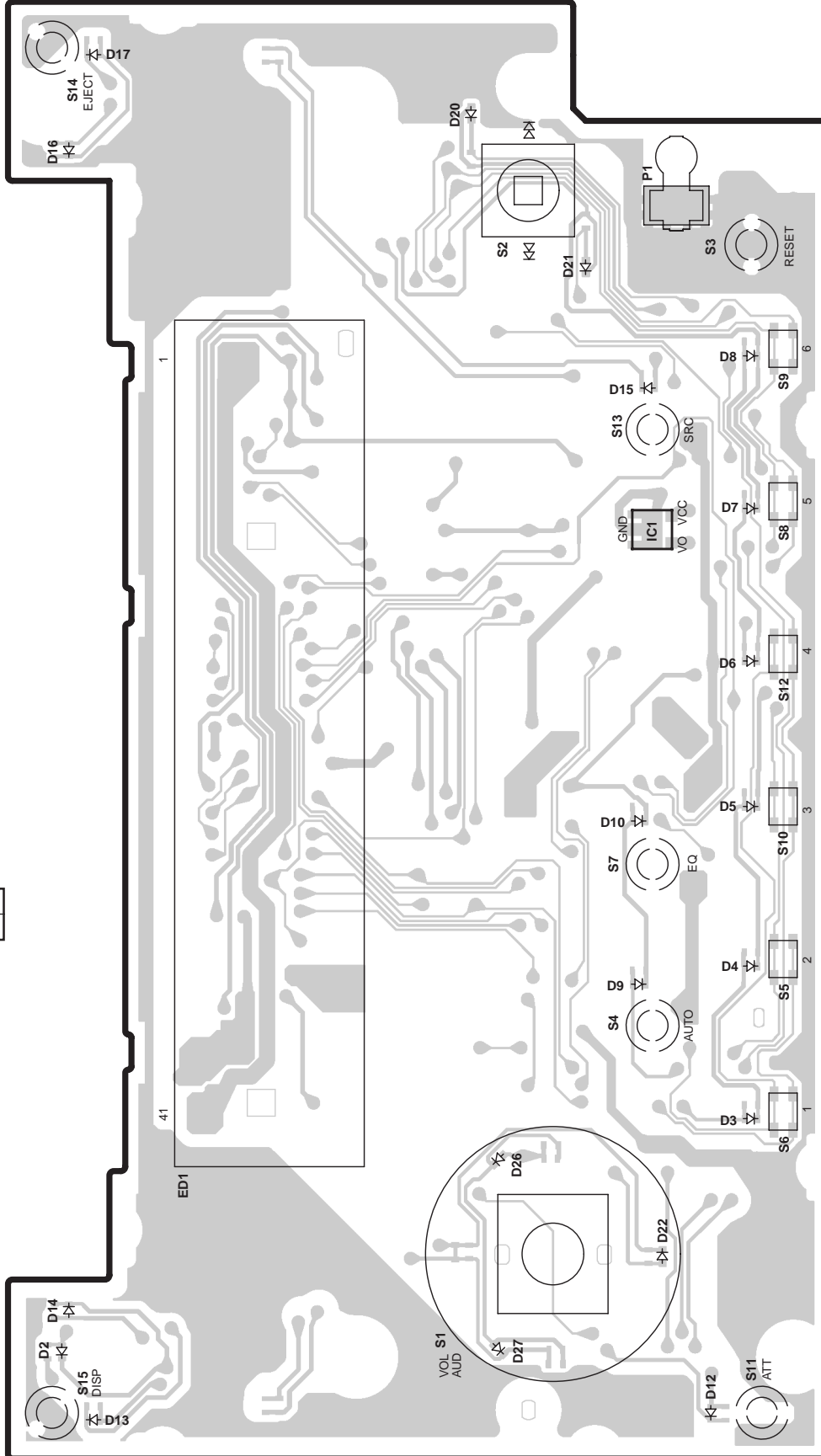
## X34-4140-xx

Ref. No.	Address
IC7	5N
Q12	6L
Q101	3N
Q103	3M
Q115	4P
Q116	4Q
Q300	4Q
Q301	4Q

Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (COMPONENT SIDE VIEW)

SWITCH UNIT X16-3530-xx (J76-0176-12)



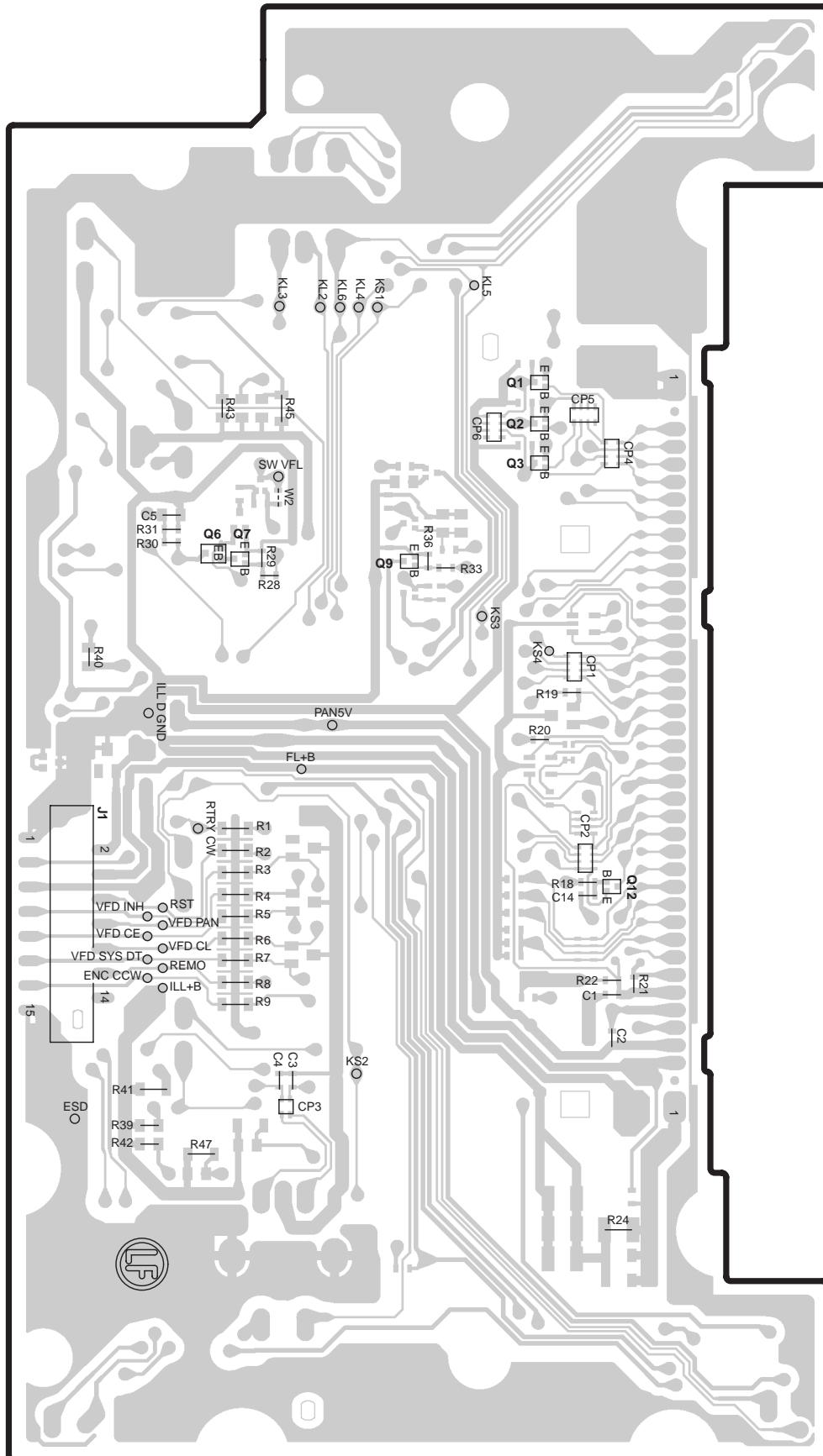
X16-3530-xx

Ref. No.	Address
IC1	3X

Refer to the schematic diagram for the values of resistors and capacitors.

## PC BOARD (FOIL SIDE VIEW)

## SWITCH UNIT X16-3530-xx (J76-0176-12)



## X16-3530-xx

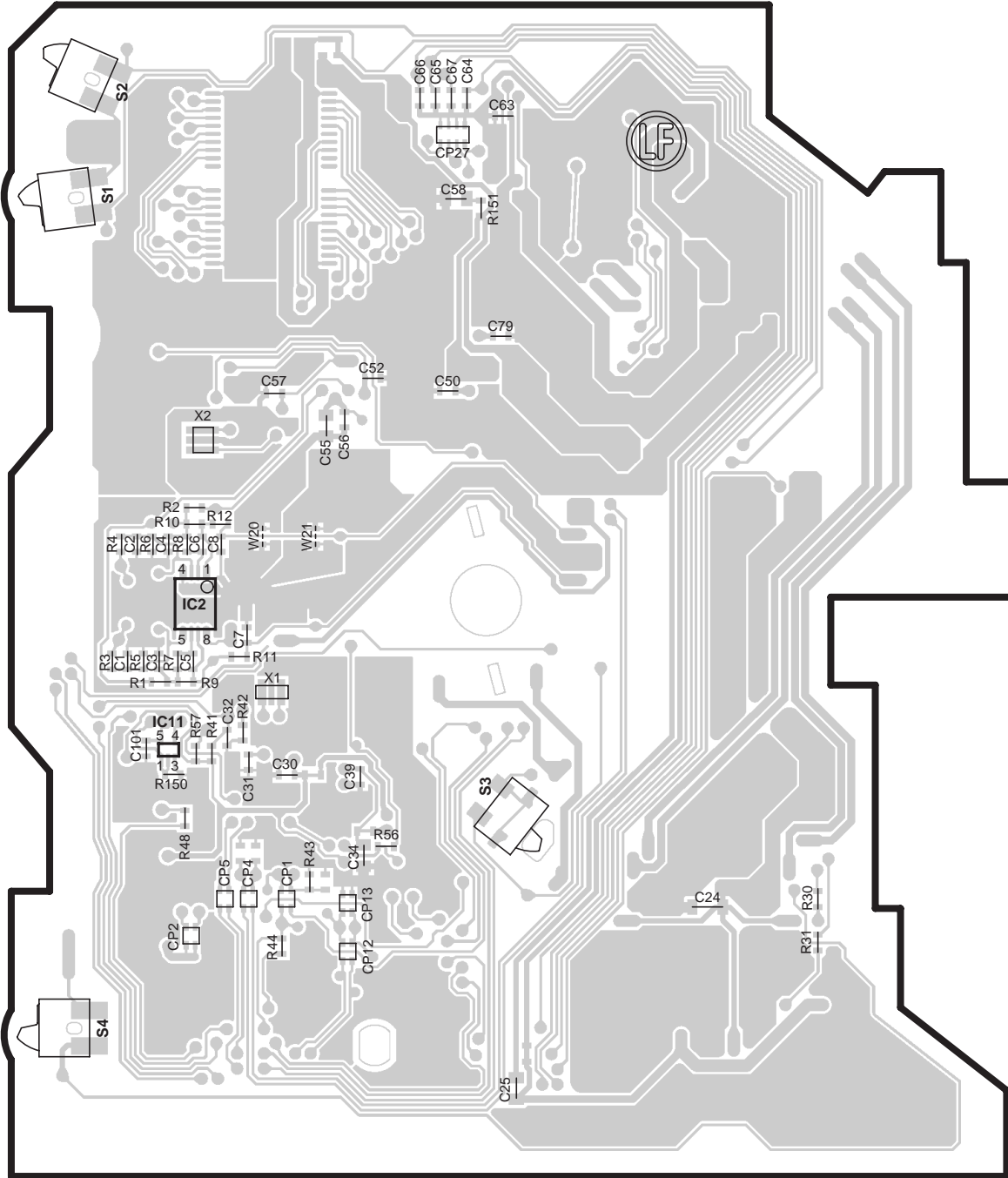
Ref. No.	Address
Q1	3AB
Q2	3AB
Q3	3AB
Q6	3AA
Q7	3AA
Q9	4AA
Q12	5AB

Refer to the schematic diagram for the values of resistors and capacitors.

DPX301  
DPX-MP2090/MP2090S

# PC BOARD (COMPONENT SIDE VIEW)

CD PLAYER UNIT X32-5860-00 (J76-0212-02)



X32-5860-00

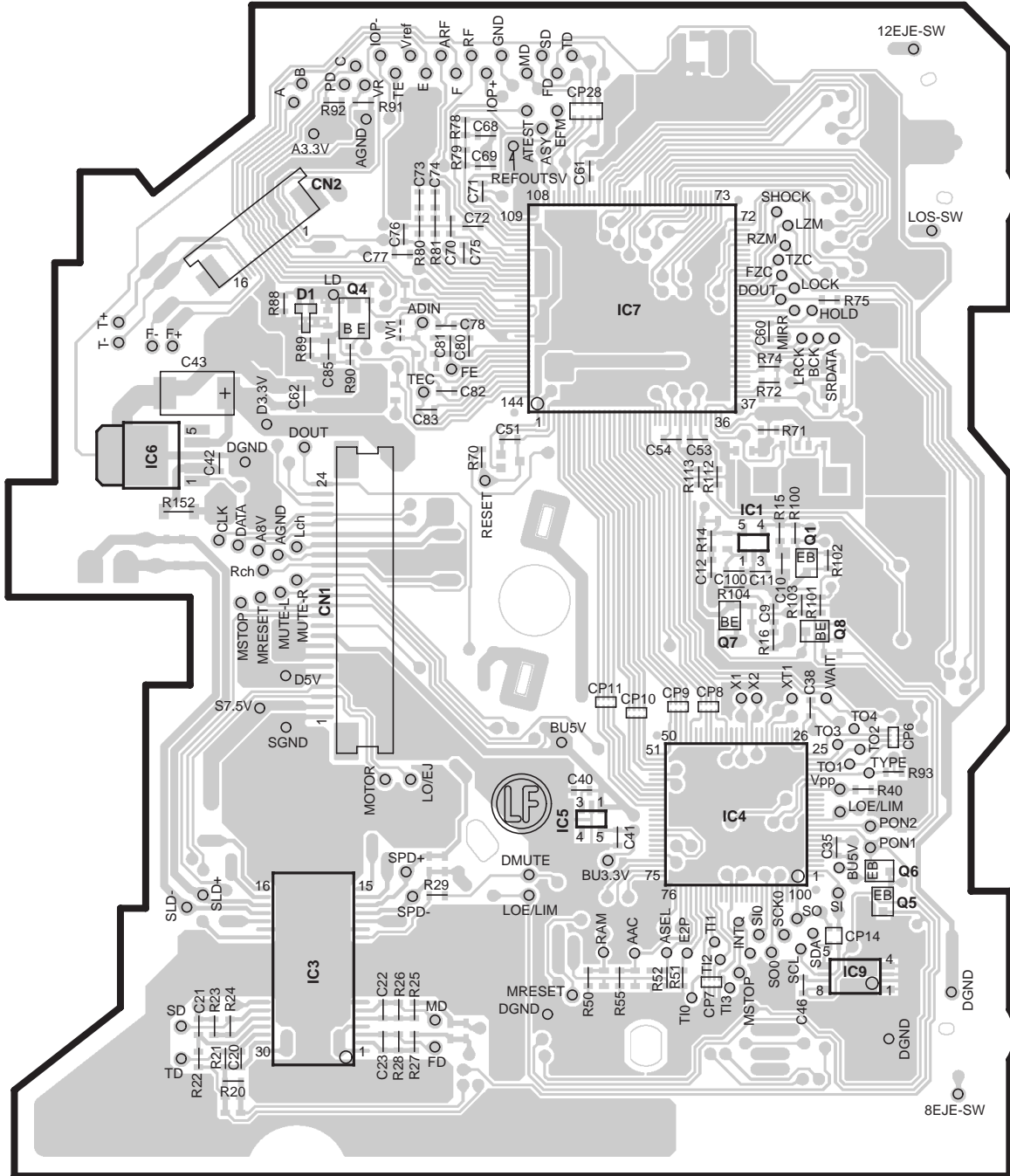
Ref. No.	Address
IC2	4AF
IC11	4AF

Refer to the schematic diagram for the values of resistors and capacitors.



## PC BOARD (FOIL SIDE VIEW)

## CD PLAYER UNIT X32-5860-00 (J76-0212-02)

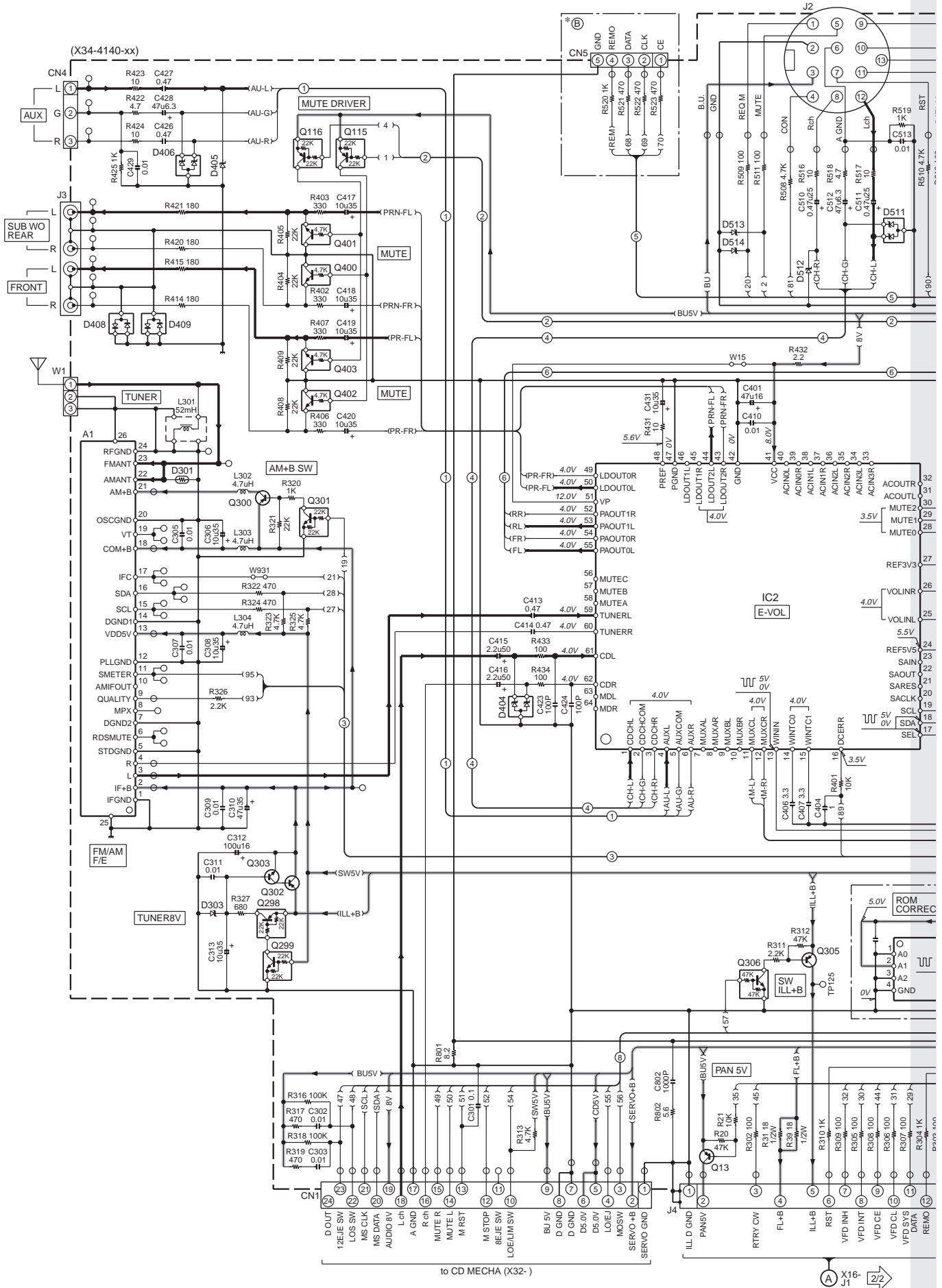


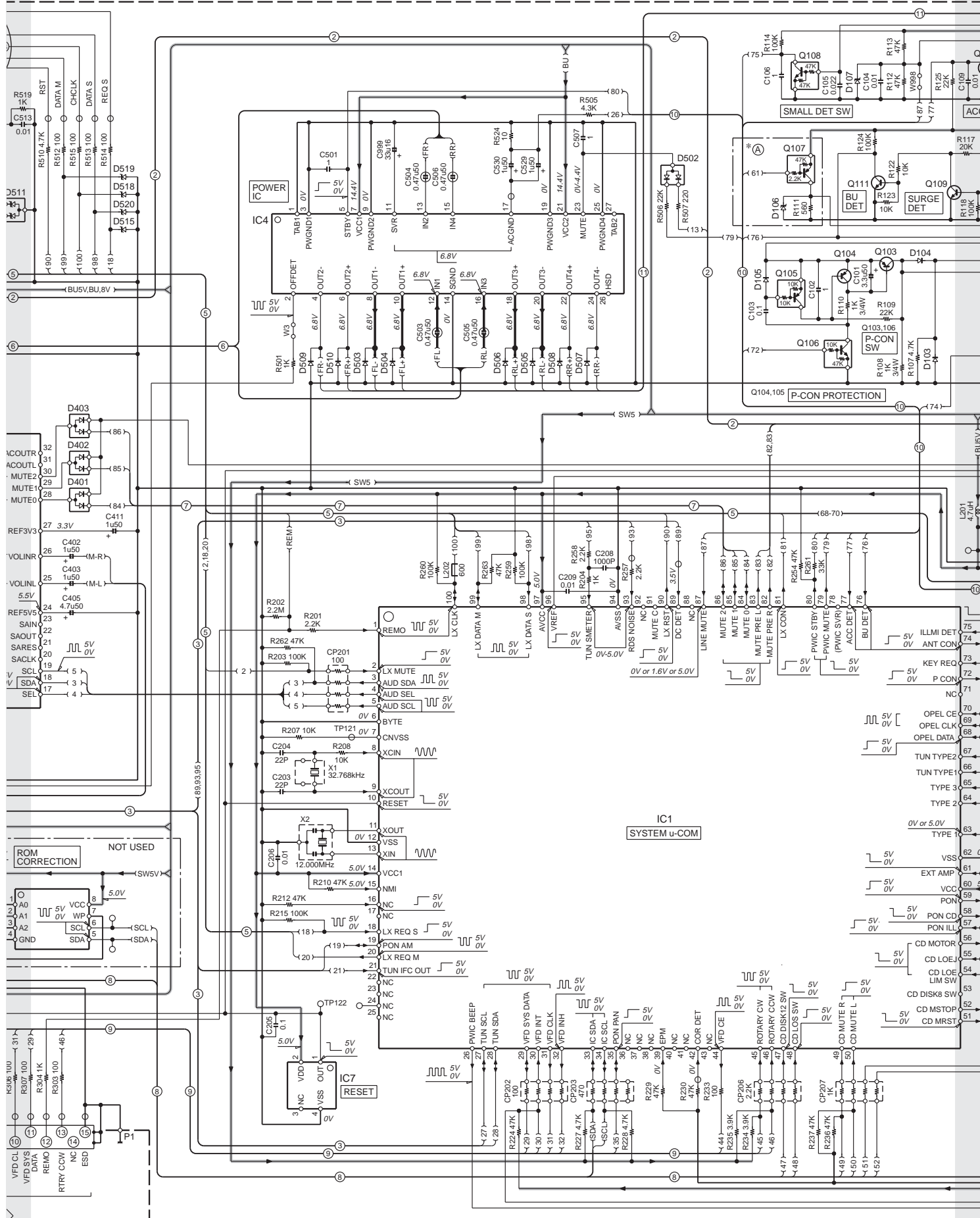
## X32-5860-00

Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	3AM	IC7	3AL	Q6	5AM
IC3	5AK	IC9	5AM	Q7	4AM
IC4	4AM	Q1	3AM	Q8	4AM
IC5	4AL	Q4	2AK		
IC6	3AJ	Q5	5AM		

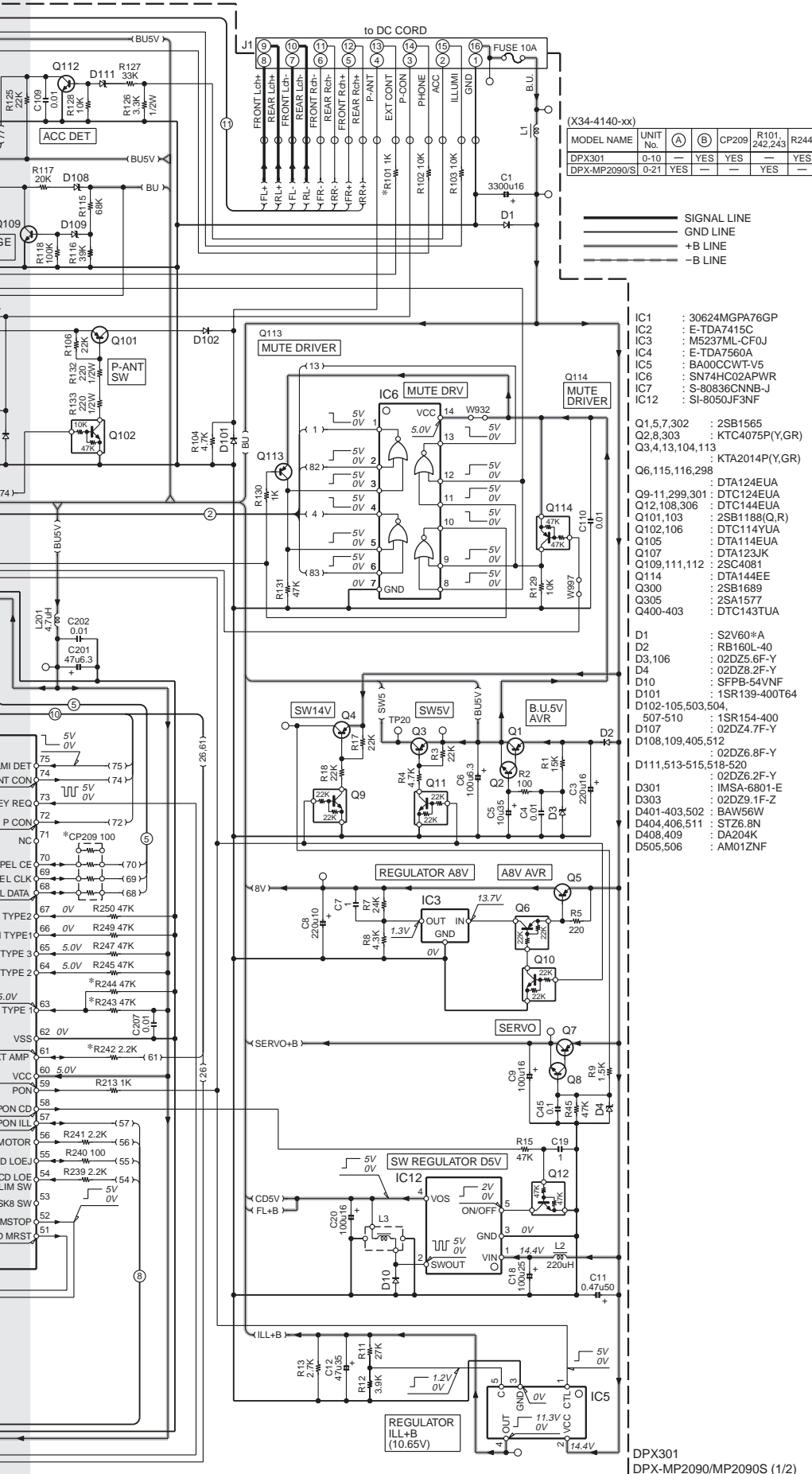
Refer to the schematic diagram for the values of resistors and capacitors.

DPX301  
DPX-MP2090/MP2090S





# DPX301 DPX-MP2090/MP2090S



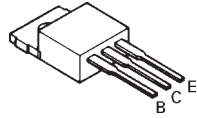
(X34-4140-xx)

MODEL NAME	UNIT No.	(A)	(B)	CP209	R101, 242, 243	R244
DPX301	0-10	—	YES	YES	—	YES
DPX-MP2090/S	0-21	YES	—	—	YES	—

— SIGNAL LINE  
 — GND LINE  
 — +B LINE  
 - - - - -B LINE

- IC1 : 30624MGA76GP
- IC2 : E-TDA7415C
- IC3 : M5237ML-CF0J
- IC4 : E-TDA7560A
- IC5 : BA00CCWT-V5
- IC6 : SN74HC02APWVR
- IC7 : S-80836CNNB-J
- IC12 : SI-8050JF3NF
- Q1,5,7,302 : 2SB1565
- Q2,8,303 : KTC4075P(Y,GR)
- Q3,4,13,104,113 : KTA2014P(Y,GR)
- Q6,115,116,298 : DTA124EUA
- Q9-11,299,301 : DTC124EUA
- Q12,108,306 : DTC144EUA
- Q101,103 : 2SB1188(Q,R)
- Q102,106 : DTC114YUA
- Q105 : DTA114EUA
- Q107 : DTA123JK
- Q109,111,112 : 2SC4081
- Q114 : DTA144EE
- Q300 : 2SB1689
- Q305 : 2SA1577
- Q400-403 : DTC143TUA
- D1 : S2V60\*A
- D2 : RB160L-40
- D3,106 : 02DZ5.6F-Y
- D4 : 02DZ8.2F-Y
- D10 : SFPB-54VNF
- D101 : 1SR139-400T64
- D102-105,503,504, 507-510 : 1SR154-400
- D107 : 02DZ4.7F-Y
- D108,109,405,512 : 02DZ6.8F-Y
- D111,513-515,518-520 : 02DZ6.2F-Y
- D301 : IMSA-6801-E
- D303 : 02DZ9.1F-Z
- D401-403,502 : BAW56W
- D404,406,511 : STZ6.8N
- D408,409 : DA204K
- D505,506 : AM01ZNF

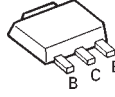
2SB1565



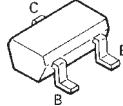
DTA123JK  
 DTA144EE  
 DTC114YUA  
 DTC143TUA  
 DTC144EE  
 2SA1576A  
 2SC4617



2SB1188



2SA1774  
 2SC4081



**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  
 ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

DPX301  
 DPX-MP2090/MP2090S (1/2)

# DPX301 DPX-MP2090/MP2090S

1

2

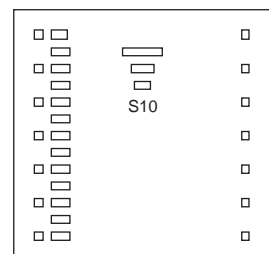
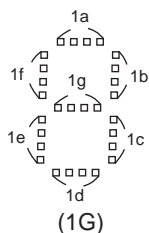
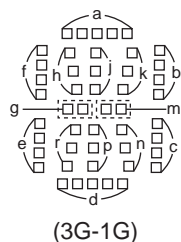
3

4

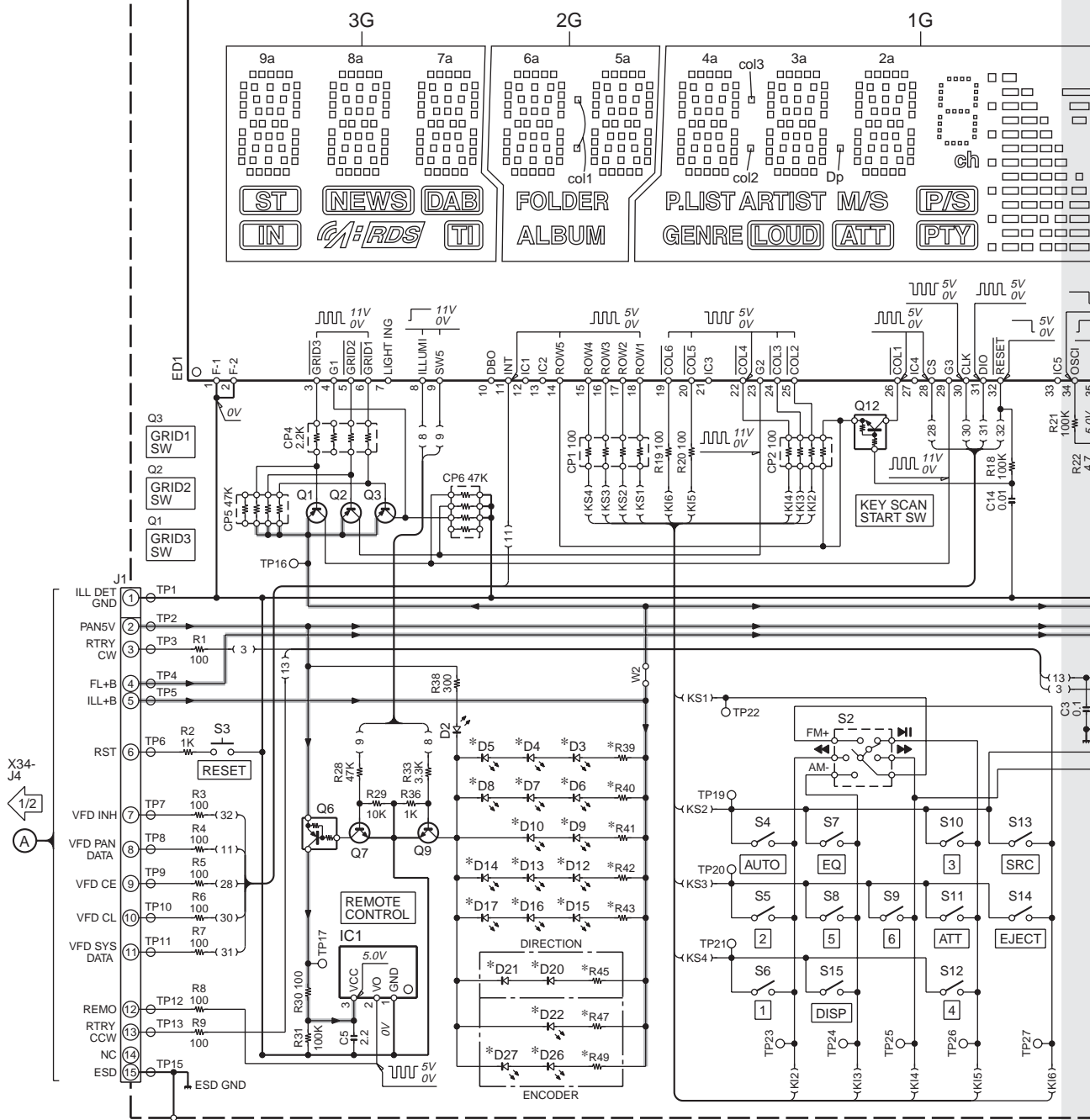
5

6

7



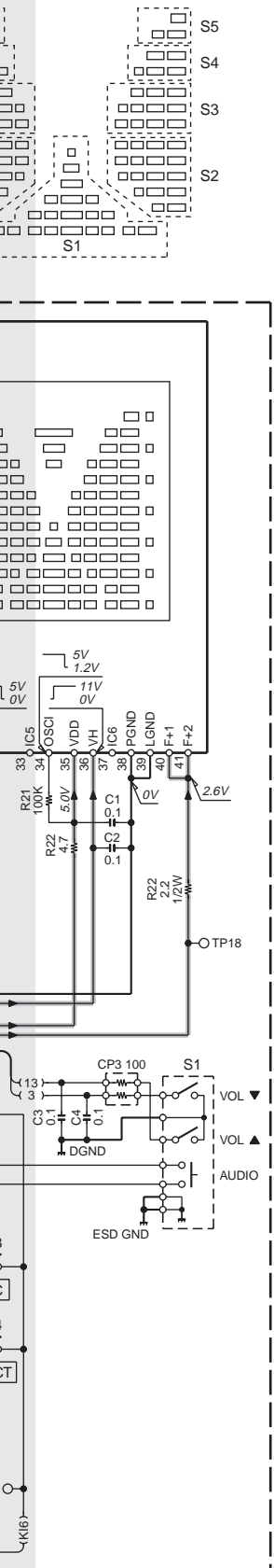
(X16-3530-xx)



- IC1 : PNA4S22M02KW
- D2 : B30-1567-05
- D3-10,12-17,20-22,26,27 : \*
- Q1-3 : 2SA1774
- Q6 : DTA114EUA
- Q7,9 : 2SC4617
- Q12 : DTC114EE
- GND LINE
- +B LINE

(X16-3530-xx)					
MODEL NAME	UNIT No.	D3-10,12-17,20-22,26,27	R39,40,42,43	R41,45,49	R47
DPX301	0-10	B30-1567-05	620	820	1.1K
DPX-MP2090/S	0-21	B30-1690-05	510	680	1K

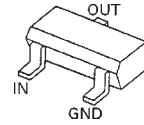
DPX301  
DPX-MP2090/MP2090S



ANODE CONNECTION

PIN NAME	3G	2G	1G
P1	9a	—	2a
P2	9h	—	2h
P3	9j	—	2j
P4	9k	—	2k
P5	9b	—	2b
P6	9f	—	2f
P7	9m	—	2m
P8	9g	—	2g
P9	9c	—	2c
P10	9e	—	2e
P11	9r	—	2r
P12	9p	—	2p
P13	9n	—	2n
P14	9d	—	2d
P15	8a	6a	4a
P16	7a	5a	3a
P17	8h	6h	4h
P18	7h	5h	3h
P19	8j	6j	4j
P20	7j	5j	3j
P21	8k	6k	4k
P22	7k	5k	3k
P23	8b	6b	4b
P24	7b	5b	3b
P25	8f	6f	4f
P26	7f	5f	3f
P27	8m	6m	4m
P28	7m	5m	3m
P29	8g	6g	4g
P30	7g	5g	3g
P31	8c	6c	4c
P32	7c	5c	3c
P33	8e	6e	4e
P34	7e	5e	3e
P35	8r	6r	4r
P36	7r	5r	3r
P37	8p	6p	4p
P38	7p	5p	3p
P39	8n	6n	4n
P40	7n	5n	3n
P41	8d	6d	4d
P42	7d	5d	3d
P43	—	col1	col2
P44	—	—	col3
P45	—	—	Dp
P46		FOLDER	PLIST
P47		ALBUM	ARTIST
P48		—	M/S
P49		—	GENRE
P50		—	LOUD
P51		—	ATT
P52	—	—	1a
P53	—	—	1b
P54	—	—	1f
P55	—	—	1g
P56	—	—	1c
P57	—	—	1e
P58	—	—	1d
P59	—	—	ch
P60	—	—	
P61	—	—	
P62	—	—	S1
P63	—	—	S2
P64	—	—	S3
P65	—	—	S4
P66	—	—	S5
P67	—	—	S6
P68	—	—	S7
P69	—	—	S8
P70	—	—	S9
P71	—	—	S10

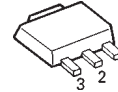
DTA114EUA  
DTA124EUA  
DTC124EUA  
DTC144EUA



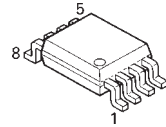
DAP202U  
DA204U



M5237ML-CF0J



NJM4580V-ZB



**CAUTION** : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

DPX301  
DPX-MP2090/MP2090S (2/2)

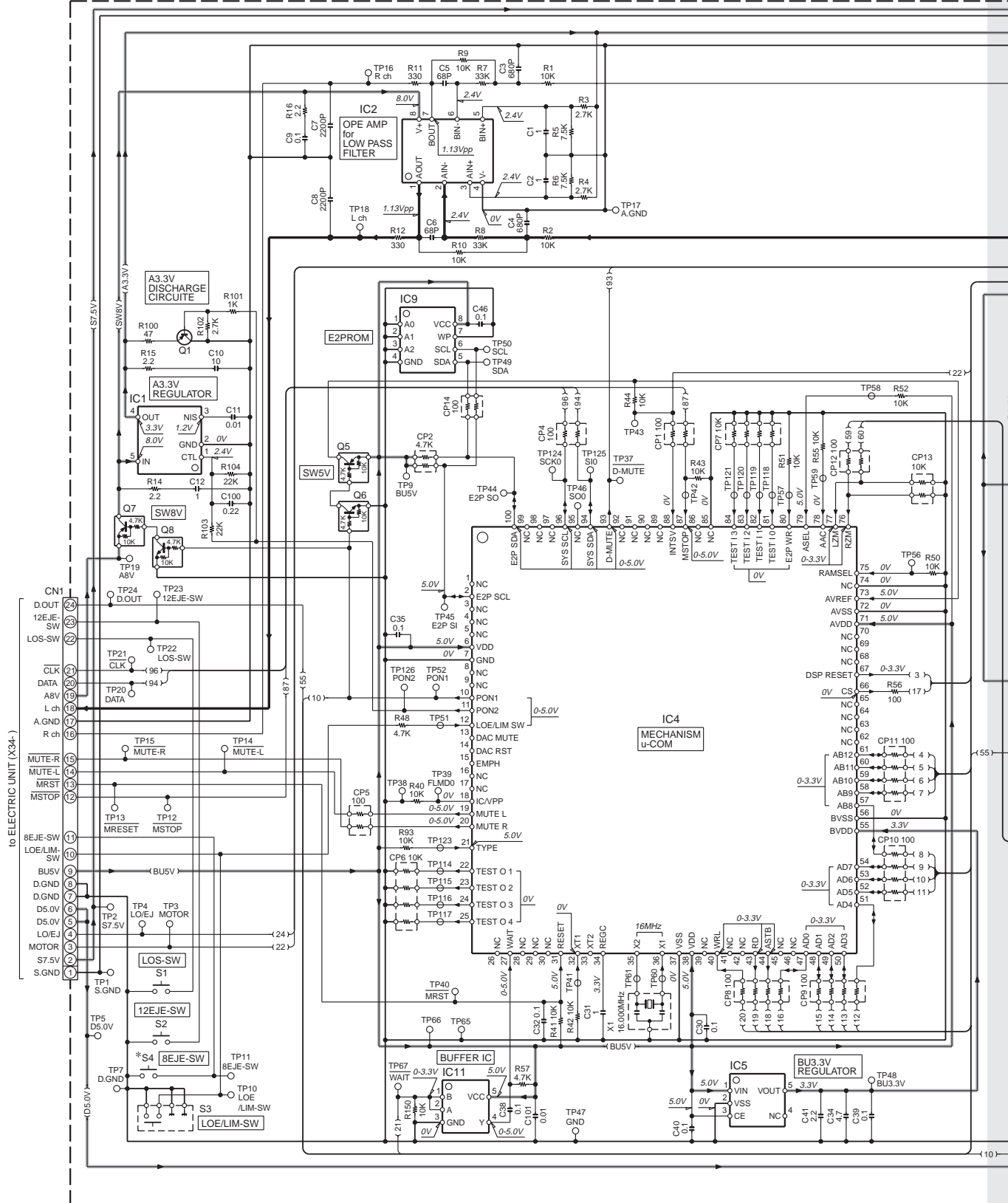
R47  
1.1K  
1K

1  
2  
3  
4  
5  
6  
7

# DPX301 DPX-MP2090/MP2090S

IC1 : TAR5S33-F	IC7 : UPD63763CGJ	D1 : DAP202U	(X32-586x-xx)
IC2 : NJM4580V-ZB	IC9 : BR24L02FV-W	Q1 : 2SA1576A	UNIT No.
IC3 : BA5824FP	IC11 : TC7SET32FU-F	Q4 : 2SB0970	DESTINATION
IC4 : 703030BYGCJ21A		Q5,7 : DTA143XUA	0-00
IC5 : XC6219B332MR		Q6,8 : DTC143XUA	0-02
IC6 : BA33BC0WFP			0-01
			J
			YES

CD PLAYER UNIT (X32-5860-0x)

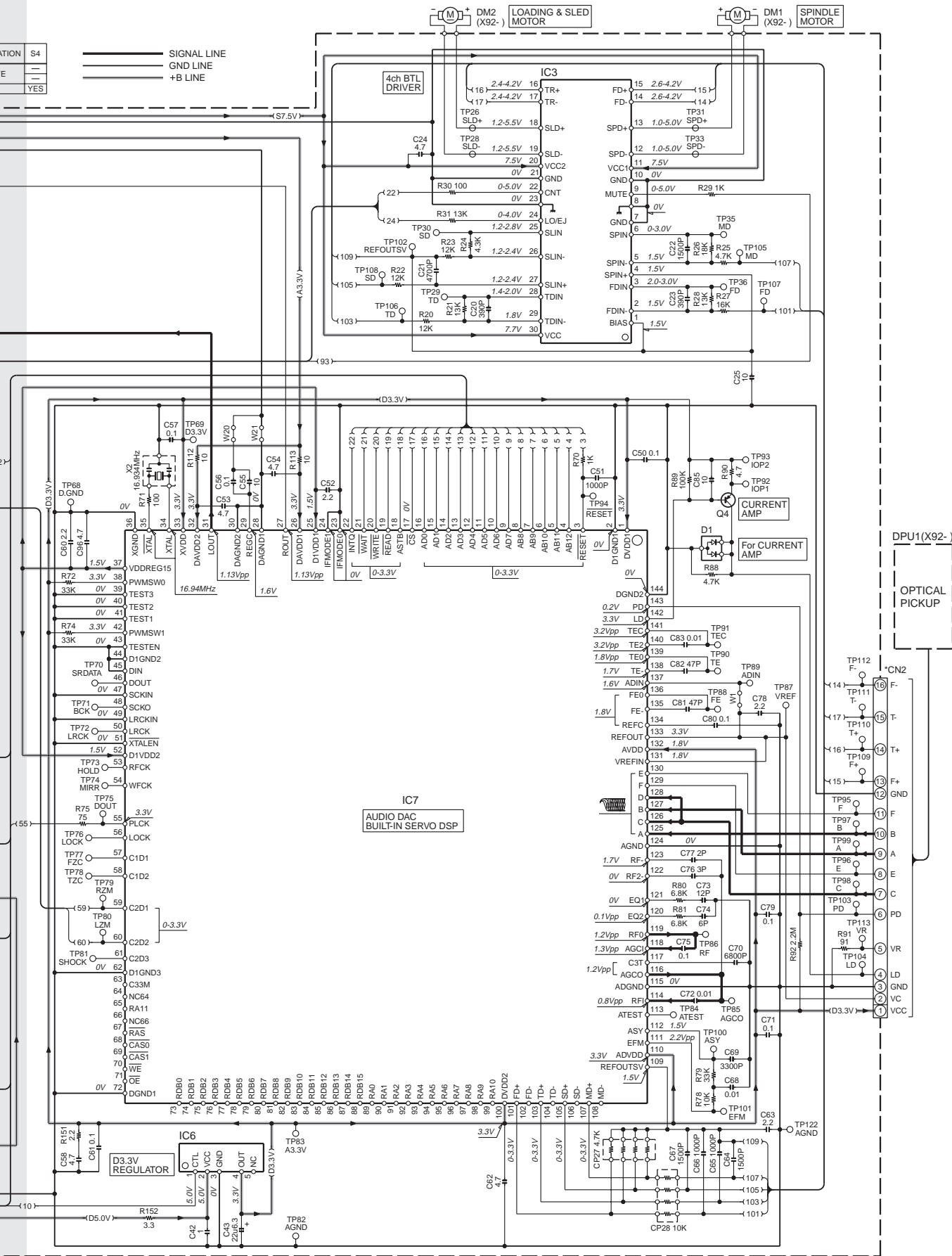


**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  
 ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

# DPX301 DPX-MP2090/MP2090S

ATION	S4
E	---
YES	---

——— SIGNAL LINE  
 ——— GND LINE  
 ——— +B LINE



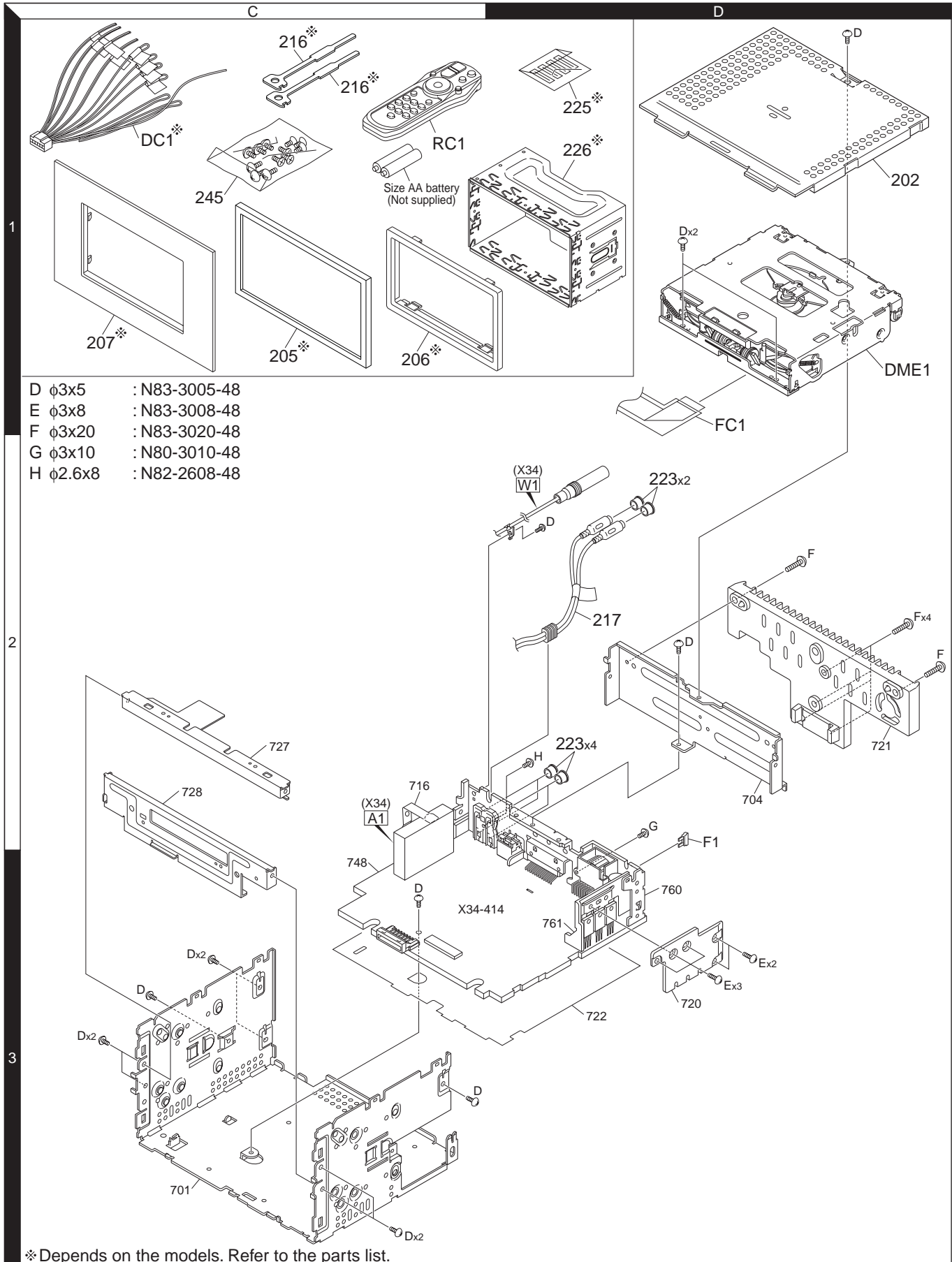
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

1  
2  
3  
4  
5  
6  
7





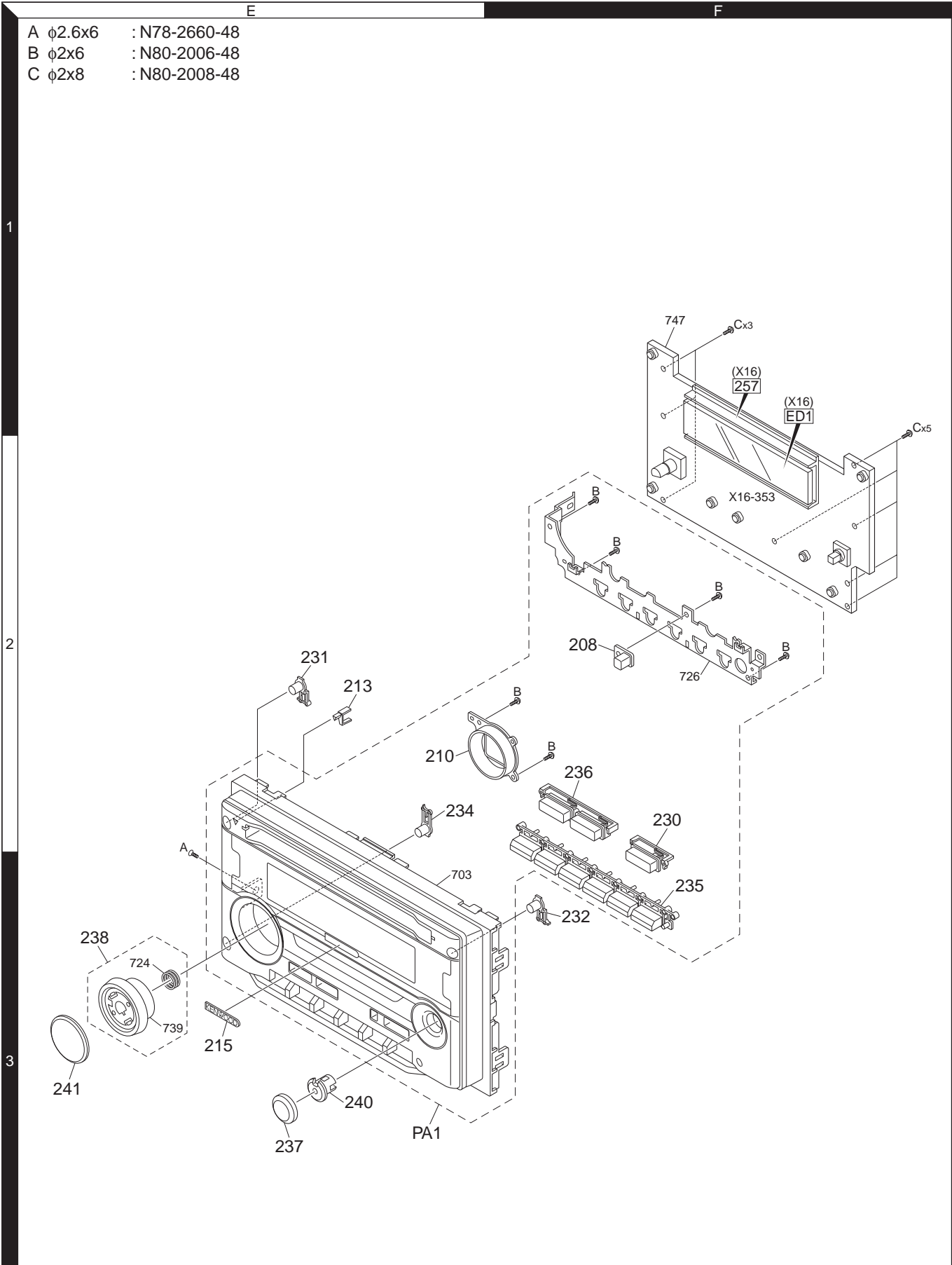
# EXPLODED VIEW (UNIT)



※ Depends on the models. Refer to the parts list.

# EXPLODED VIEW (PANEL)

- |   |        |               |
|---|--------|---------------|
| A | φ2.6x6 | : N78-2660-48 |
| B | φ2x6   | : N80-2006-48 |
| C | φ2x8   | : N80-2008-48 |



Parts with the exploded numbers larger than 700 are not supplied.

# DPX301 DPX-MP2090/MP2090S

## PARTS LIST

\* New parts

Parts without **Parts No.** are not supplied.

Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
<b>DPX301, DPX-MP2090/MP2090S</b>					
202	1D	*	A52-0872-02	TOP PLATE	
PA1	3E	*	A64-3785-12	PANEL ASSY	K1
PA1	3E	*	A64-3811-12	PANEL ASSY	M5
PA1	3E	*	A64-3812-12	PANEL ASSY	M6
RC1	1C		A70-2069-15	REMOTE CONTROLLER ASSY	
-			B46-0682-00	WARRANTY CARD	
-		*	B64-3283-00	INSTRUCTION MAN (ENG.T-CHI.KOR)	M5M6
-		*	B64-3285-00	INSTRUCTION MANUAL (ENGLISH)	K1
-		*	B64-3286-00	INSTRUCTION MANUAL (FRE.SPA.)	K1
205	1C		B07-3046-04	ESCUTCHEON ASSY	M5M6
206	1C	*	B07-3165-02	ESCUTCHEON	K1
207	1C	*	B07-3172-12	ESCUTCHEON	K1
208	3F	*	B10-4811-03	FRONT GLASS	
210	2E	*	B19-2368-03	LIGHTING BOARD	
213	2E	*	B19-2373-03	LIGHTING BOARD	
215	3E	*	B43-1535-04	BADGE	
216	1C		D10-4589-04	LEVER	K1
217	2D		E30-6291-15	CORD WITH PINPLUG	
DC1	1C		E30-6408-05	DC CORD	M5M6
DC1	1C		E30-6428-05	DC CORD	K1
FC1	1D	*	E39-0811-05	FLAT CABLE	
223	2D		F29-0626-04	INSULATING COVER	
F1	3D		F52-0006-05	FUSE (MINI BLADE TYPE)	
-		*	H10-4970-02	POLYSTYRENE FOAMED FIXTURE	M5M6
-		*	H10-4971-02	POLYSTYRENE FOAMED FIXTURE	K1
-			H25-0337-04	PROTECTION BAG (180X300X0.03)	
-			H25-1164-04	PROTECTION BAG (0.5X350X480)	
-			H25-1170-04	PROTECTION BAG	M5M6
-		*	H54-3649-03	ITEM CARTON CASE	K1
-		*	H54-3650-03	ITEM CARTON CASE	M5
-		*	H54-3651-03	ITEM CARTON CASE	M6
225	1D	*	H30-0595-04	ADHESIVE DOUBLE-COATED TAPE	K1
226	1D	*	J22-0429-03	MOUNTING HARDWARE ASSY	K1
230	2F	*	K24-4445-03	PUSH KNOB (SRC)	
231	2E	*	K24-4448-03	PUSH KNOB (DISP)	K1M5
231	2E	*	K24-4449-03	PUSH KNOB (DISP)	M6
232	3F	*	K24-4450-03	PUSH KNOB (CD EJECT)	K1M5
232	3F	*	K24-4451-03	PUSH KNOB (CD EJECT)	M6
234	2E	*	K24-4454-03	PUSH KNOB (ATT)	K1M5
234	2E	*	K24-4473-03	PUSH KNOB (ATT)	M6
235	3F	*	K25-1787-02	PUSH KNOB (PRESET)	
236	2F	*	K25-1801-03	PUSH KNOB (AUTO)	K1M5
236	2F	*	K25-1802-03	PUSH KNOB (AUTO)	M6
237	3E		K28-0106-03	KEY TOP (CONTROL)	
238	3E	*	K29-7195-03	KNOB ASSY (VOL)	
240	3E	*	K29-7197-03	KNOB BASE (CONTROL)	
241	3E	*	K29-7198-03	KEY TOP (VOL)	
245	1C	*	N99-1779-05	SCREW SET	
A	3E		N78-2660-48	PAN HEAD TAPTITE SCREW	
B	2F		N80-2006-48	PAN HEAD TAPTITE SCREW	

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
C	1F		N80-2008-48	PAN HEAD TAPTITE SCREW	
D	3C		N83-3005-48	PAN HEAD TAPTITE SCREW	
E	3D		N83-3008-48	PAN HEAD TAPTITE SCREW	
F	2D		N83-3020-48	PAN HEAD TAPTITE SCREW	
DME1	1F		X92-5470-00	CD MECHANISM ASSY (DXM-6680W)	
<b>SWITCH UNIT (X16-3530-xx)</b>					
D2			B30-1567-05	LED (1608,RED)	M5M6
D2-10			B30-1567-05	LED (1608,RED)	K1
D3-10			B30-1690-05	LED (1608,YG)	M5M6
D12-17			B30-1567-05	LED (1608,RED)	K1
D12-17			B30-1690-05	LED (1608,YG)	M5M6
D20-22			B30-1567-05	LED (1608,RED)	K1
D20-22			B30-1690-05	LED (1608,YG)	M5M6
D26,27			B30-1567-05	LED (1608,RED)	K1
D26,27			B30-1690-05	LED (1608,YG)	M5M6
C1-4			CK73GB1H104K	CHIP C 0.10UF K	
C5			CK73FB1A225K	CHIP C 2.2UF K	
C14			CK73GB1H103K	CHIP C 0.010UF K	
J1			E59-0851-05	RECTANGULAR PLUG	
257	1F	*	J19-7119-12	HOLDER	
CP1,2			RK74GB1J101J	CHIP-COM 100 J 1/16W	
CP3			RK74GA1J101J	CHIP-COM 100 J 1/16W	
CP4			RK74GB1J222J	CHIP-COM 2.2K J 1/16W	
CP5,6		*	RK74GB1J473J	CHIP-COM 47K J 1/16W	
R1			RK73EB2E101J	CHIP R 100 J 1/4W	
R2			RK73EB2E102J	CHIP R 1.0K J 1/4W	
R3-9			RK73EB2E101J	CHIP R 100 J 1/4W	
R18			RK73GB2A104J	CHIP R 100K J 1/10W	
R19,20			RK73GB2A101J	CHIP R 100 J 1/10W	
R21			RK73GB2A104J	CHIP R 100K J 1/10W	
R22			RK73GB2A4R7J	CHIP R 4.7 J 1/10W	
R24			RK73PB2H2R2J	CHIP R 2.2 J 1/2W	
R28			RK73GB2A473J	CHIP R 47K J 1/10W	
R29			RK73GB2A103J	CHIP R 10K J 1/10W	
R30			RK73GB2A101J	CHIP R 100 J 1/10W	
R31			RK73GB2A104J	CHIP R 100K J 1/10W	
R33			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R36			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R38			RK73GB2A301J	CHIP R 300 J 1/10W	
R39,40			RK73FB2B511J	CHIP R 510 J 1/8W	M5M6
R39,40			RK73FB2B621J	CHIP R 620 J 1/8W	K1
R41			RK73EB2E681J	CHIP R 680 J 1/4W	M5M6
R41			RK73EB2E821J	CHIP R 820 J 1/4W	K1
R42,43			RK73FB2B511J	CHIP R 510 J 1/8W	M5M6
R42,43			RK73FB2B621J	CHIP R 620 J 1/8W	K1
R45			RK73EB2E681J	CHIP R 680 J 1/4W	M5M6
R45			RK73EB2E821J	CHIP R 820 J 1/4W	K1
R47			RK73EB2E102J	CHIP R 1.0K J 1/4W	M5M6
R47			RK73EB2E112J	CHIP R 1.1K J 1/4W	K1
R49			RK73EB2E681J	CHIP R 680 J 1/4W	M5M6
R49			RK73EB2E821J	CHIP R 820 J 1/4W	K1
W2			R92-1252-05	CHIP R 0 OHM J 1/16W	

K1 : DPX301 (North America)

M5 : DPX-MP2090 M6 : DPX-MP2090S (Other Areas)

△ Indicates safety critical components.

## PARTS LIST

### SWITCH UNIT (X16-3530-xx)

Ref. No.	Add	New	Parts No.	Description	Destination
S2			S70-0106-05	TACT SWITCH	
S3,4			S70-0051-15	TACT SWITCH	
S5,6			S70-0901-05	TACT SWITCH	
S7			S70-0051-15	TACT SWITCH	
S8-10			S70-0901-05	TACT SWITCH	
S11			S70-0051-15	TACT SWITCH	
S12			S70-0901-05	TACT SWITCH	
S13-15			S70-0051-15	TACT SWITCH	
S1			T99-0457-15	ROTARY ENCODER	
ED1	1F	*	3-BT-235INK	FLUORESCENT INDICATOR TUBE	
IC1			PNA4S22M02KW	ANALOGUE IC	
Q1-3			2SA1774	TRANSISTOR	
Q6			DTA114EUA	DIGITAL TRANSISTOR	
Q7			2SC4617	TRANSISTOR	
Q9			2SC4617	TRANSISTOR	
Q12			DTC144EE	DIGITAL TRANSISTOR	
<b>CD PLAYER UNIT (X32-5860-00)</b>					
C1,2			CK73GB1A105K	CHIP C 1.0UF K	
C3,4			CC73GCH1H681J	CHIP C 680PF J	
C5,6			CC73GCH1H680J	CHIP C 68PF J	
C7,8			CK73GB1H222K	CHIP C 2200PF K	
C9			CK73GB1H104K	CHIP C 0.10UF K	
C10			CK73FB0J106K	CHIP C 10UF K	
C11			CK73GB1H103K	CHIP C 0.010UF K	
C12			CK73GB1A105K	CHIP C 1.0UF K	
C20			CC73GCH1H391J	CHIP C 390PF J	
C21			CK73GB1H472K	CHIP C 4700PF K	
C22			CK73GB1H152K	CHIP C 1500PF K	
C23			CC73GCH1H391J	CHIP C 390PF J	
C24			CK73EB1A475K	CHIP C 4.7UF K	
C25			CK73FB0J106K	CHIP C 10UF K	
C30			CK73GB1H104K	CHIP C 0.10UF K	
C31			CK73GB1A105K	CHIP C 1.0UF K	
C32			CK73GB1H104K	CHIP C 0.10UF K	
C34			CK73FB0J475K	CHIP C 4.7UF K	
C35			CK73GB1H104K	CHIP C 0.10UF K	
C38-40			CK73GB1H104K	CHIP C 0.10UF K	
C41			CK73GB0J225K	CHIP C 2.2UF K	
C42			CK73GB1A105K	CHIP C 1.0UF K	
C43			C92-1792-05	ELECTRO 22UF 6.3WV	
C46			CK73GB1H104K	CHIP C 0.10UF K	
C50			CK73GB1H104K	CHIP C 0.10UF K	
C51			CK73GB1H102K	CHIP C 1000PF K	
C52			CK73GB0J225K	CHIP C 2.2UF K	
C53,54			CK73GB0J475K	CHIP C 4.7UF K	
C55			CK73FB0J106K	CHIP C 10UF K	
C56,57			CK73GB1H104K	CHIP C 0.10UF K	
C58			CK73FB0J475K	CHIP C 4.7UF K	
C60			CK73GB0J225K	CHIP C 2.2UF K	
C61			CK73GB1H104K	CHIP C 0.10UF K	
C62			CK73FB0J475K	CHIP C 4.7UF K	
C63			CK73GB0J225K	CHIP C 2.2UF K	
C64			CK73GB1H152K	CHIP C 1500PF K	

Ref. No.	Add	New	Parts No.	Description	Destination
C65,66			CK73GB1H102K	CHIP C 1000PF K	
C67			CK73GB1H152K	CHIP C 1500PF K	
C68			CK73GB1H103K	CHIP C 0.010UF K	
C69			CK73GB1H332K	CHIP C 3300PF K	
C70			CK73GB1H682K	CHIP C 6800PF K	
C71			CK73GB1H104K	CHIP C 0.10UF K	
C72			CK73GB1H103K	CHIP C 0.010UF K	
C73			CC73GCH1H120J	CHIP C 12PF J	
C74			CC73GCH1H060D	CHIP C 6.0PF D	
C75			CK73GB1H104K	CHIP C 0.10UF K	
C76			CC73GCH1H030C	CHIP C 3.0PF C	
C77			CC73GCH1H020C	CHIP C 2.0PF C	
C78			CK73GB0J225K	CHIP C 2.2UF K	
C79,80			CK73GB1H104K	CHIP C 0.10UF K	
C81,82			CC73GCH1H470J	CHIP C 47PF J	
C83			CK73GB1H103K	CHIP C 0.010UF K	
C85			CK73FB0J106K	CHIP C 10UF K	
C96			CK73GB0J475K	CHIP C 4.7UF K	
C100			CK73GB1C224K	CHIP C 0.22UF K	
C101			CK73GB1H103K	CHIP C 0.010UF K	
CN1			E41-2083-15	FLAT CABLE CONNECTOR	
CN2			E41-2297-05	FLAT CABLE CONNECTOR	
X1			L78-0862-05	RESONATOR (16.00MHZ)	
X2			L78-0851-05	RESONATOR (16.93MHZ)	
CP1			RK74GA1J101J	CHIP-COM 100 J 1/16W	
CP2			RK74GA1J472J	CHIP-COM 4.7K J 1/16W	
CP4,5			RK74GA1J101J	CHIP-COM 100 J 1/16W	
CP6,7			RK74HB1J103J	CHIP-COM 10K J 1/16W	
CP8-11			RK74HB1J101J	CHIP-COM 100 J 1/16W	
CP12			RK74GA1J101J	CHIP-COM 100 J 1/16W	
CP13			RK74GA1J103J	CHIP-COM 10K J 1/16W	
CP14			RK74GA1J101J	CHIP-COM 100 J 1/16W	
CP27			RK74GB1J472J	CHIP-COM 4.7K J 1/16W	
CP28			RK74GB1J103J	CHIP-COM 10K J 1/16W	
R1,2			RK73GH2A103D	CHIP R 10K D 1/10W	
R3,4			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R5,6			RK73GB2A752J	CHIP R 7.5K J 1/10W	
R7,8			RK73GB2A333J	CHIP R 33K J 1/10W	
R9,10			RK73GH2A103D	CHIP R 10K D 1/10W	
R11,12			RK73GB2A331J	CHIP R 330 J 1/10W	
R14-16			RK73GB2A2R2J	CHIP R 2.2 J 1/10W	
R20			RK73GB2A123J	CHIP R 12K J 1/10W	
R21			RK73GB2A133J	CHIP R 13K J 1/10W	
R22,23			RK73GB2A123J	CHIP R 12K J 1/10W	
R24			RK73GB2A432J	CHIP R 4.3K J 1/10W	
R25			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R26			RK73GB2A183J	CHIP R 18K J 1/10W	
R27			RK73GB2A163J	CHIP R 16K J 1/10W	
R28			RK73GB2A133J	CHIP R 13K J 1/10W	
R29			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R30			RK73GB2A101J	CHIP R 100 J 1/10W	
R31			RK73GB2A133J	CHIP R 13K J 1/10W	
R40-44			RK73GB2A103J	CHIP R 10K J 1/10W	
R48			RK73GB2A472J	CHIP R 4.7K J 1/10W	

**K1** : DPX301 (North America)  
**M5** : DPX-MP2090 **M6** : DPX-MP2090S (Other Areas)

△ Indicates safety critical components.

# PARTS LIST

## CD PLAYER UNIT (X32-5860-00)

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
R50-52			RK73GB2A103J	CHIP R 10K J 1/10W	
R55			RK73GB2A103J	CHIP R 10K J 1/10W	
R56			RK73GB2A101J	CHIP R 100 J 1/10W	
R57			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R70			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R71			RK73GB2A101J	CHIP R 100 J 1/10W	
R72			RK73GB2A333J	CHIP R 33K J 1/10W	
R74			RK73GB2A333J	CHIP R 33K J 1/10W	
R75			RK73GB2A750J	CHIP R 75 J 1/10W	
R78			RK73GB2A103J	CHIP R 10K J 1/10W	
R79			RK73GB2A333J	CHIP R 33K J 1/10W	
R80,81			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R88			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R89			RK73GB2A104J	CHIP R 100K J 1/10W	
R90			RK73GB2A4R7J	CHIP R 4.7 J 1/10W	
R91			RK73GB2A910J	CHIP R 91 J 1/10W	
R92			RK73GB2A225J	CHIP R 2.2M J 1/10W	
R93			RK73GB2A103J	CHIP R 10K J 1/10W	
R100			RK73GB2A470J	CHIP R 47 J 1/10W	
R101			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R102			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R103,104			RK73GB2A223J	CHIP R 22K J 1/10W	
R112,113			RK73GB2A100J	CHIP R 10 J 1/10W	
R150			RK73GB2A103J	CHIP R 10K J 1/10W	
R151			RK73GB2A2R2J	CHIP R 2.2 J 1/10W	
R152			RK73EB2E3R3J	CHIP R 3.3 J 1/4W	
W1			R92-1252-05	CHIP R 0 OHM J 1/16W	
W20,21			R92-1252-05	CHIP R 0 OHM J 1/16W	
S1,2			S68-0863-05	PUSH SWITCH	
S3			S68-0862-05	PUSH SWITCH	
D1			DAP202U	DIODE	
IC1			TAR5S33-F	ANALOGUE IC	
IC2			NJM4580V-ZB	ANALOGUE IC	
IC3			BA5824FP	ANALOGUE IC	
IC4			703030BYGCJ21A	MICROCONTROLLER IC	
IC5			XC6219B332MR	ANALOGUE IC	
IC6			BA33BC0WFP	ANALOGUE IC	
IC7			UPD63763CGJ	MOS-IC	
IC9			BR24L02FV-W	ROM IC	
IC11			TC7SET32FU-F	MOS-IC	
Q1			2SA1576A	TRANSISTOR	
Q4			2SB0970	TRANSISTOR	
Q5			DTA143XUA	DIGITAL TRANSISTOR	
Q6			DTC143XUA	DIGITAL TRANSISTOR	
Q7			DTA143XUA	DIGITAL TRANSISTOR	
Q8			DTC143XUA	DIGITAL TRANSISTOR	
<b>ELECTRIC UNIT (X34-4140-xx)</b>					
C1			C90-6746-05	ELECTRO 3300UF 16WV	
C3			C90-5692-05	ELECTRO 220UF 16WV	
C4			CK73GB1H103K	CHIP C 0.010UF K	
C5			CD04AS1V100M	ELECTRO 10UF 35WV	
C6			CD04AS0J101M	ELECTRO 100UF 6.3WV	
C7			CK73FB1C105K	CHIP C 1.0UF K	

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
C8			CD04AT1A221M	ELECTRO 220UF 10WV	
C9			CD04AS1C101M	ELECTRO 100UF 16WV	
C11			CD04AS1HR47M	ELECTRO 0.47UF 50WV	
C12			CD04BF1V470M	ELECTRO 47UF 35WV	
C18			CD04BF1E101M	ELECTRO 100UF 25WV	
C19			CK73GB1A105K	CHIP C 1.0UF K	
C20		*	CD04BK1C101M	ELECTRO 100UF 16WV	
C45			CK73GB1H104K	CHIP C 0.10UF K	
C101			CD04AS1H3R3M	ELECTRO 3.3UF 50WV	
C102			CK73GB1A105K	CHIP C 1.0UF K	
C103			CK73GB1H104K	CHIP C 0.10UF K	
C104			CK73GB1H103K	CHIP C 0.010UF K	
C105			CK73GB1H223K	CHIP C 0.022UF K	
C106			CK73GB1A105K	CHIP C 1.0UF K	
C109,110			CK73GB1H103K	CHIP C 0.010UF K	
C201			CD04AS0J470M	ELECTRO 47UF 6.3WV	
C202			CK73GB1H103K	CHIP C 0.010UF K	
C203,204			CC73GCH1H220J	CHIP C 22PF J	
C205			CK73GB1H104K	CHIP C 0.10UF K	
C206,207			CK73GB1H103K	CHIP C 0.010UF K	
C208			CK73GB1H102K	CHIP C 1000PF K	
C209			CK73GB1H103K	CHIP C 0.010UF K	
C301			CK73GB1H104K	CHIP C 0.10UF K	
C302,303			CK73GB1H103K	CHIP C 0.010UF K	
C305			CK73GB1H103K	CHIP C 0.010UF K	
C306			CD04AS1V100M	ELECTRO 10UF 35WV	
C307			CK73GB1H103K	CHIP C 0.010UF K	
C308			CD04AS1V100M	ELECTRO 10UF 35WV	
C309			CK73GB1H103K	CHIP C 0.010UF K	
C310			CD04BF1V470M	ELECTRO 47UF 35WV	
C311			CK73GB1H103K	CHIP C 0.010UF K	
C312		*	CD04BK1C101M	ELECTRO 100UF 16WV	
C313			CD04AS1V100M	ELECTRO 10UF 35WV	
C401			CD04AS1C470M	ELECTRO 47UF 16WV	
C402,403			CD04AS1H010M	ELECTRO 1UF 50WV	
C404			CK73GB1A105K	CHIP C 1.0UF K	
C405			CD04AS1H4R7M	ELECTRO 4.7UF 50WV	
C406,407			CK73FB1A335K	CHIP C 3.3UF K	
C410			CK73GB1H103K	CHIP C 0.010UF K	
C411			CD04AS1H010M	ELECTRO 1UF 50WV	
C413,414			CK73FB1E474K	CHIP C 0.47UF K	
C415,416			CD04AS1H2R2M	ELECTRO 2.2UF 50WV	
C417-420			CD04AS1V100M	ELECTRO 10UF 35WV	
C423,424			CC73GCH1H101J	CHIP C 100PF J	
C426,427			CK73FB1E474K	CHIP C 0.47UF K	
C428			CD04AS0J470M	ELECTRO 47UF 6.3WV	
C429			CK73GB1H103K	CHIP C 0.010UF K	
C431			CD04AS1V100M	ELECTRO 10UF 35WV	
C501			CK73FB1C105K	CHIP C 1.0UF K	
C503-506			C90-5620-05	ELECTRO 0.47UF 50WV	
C507			CK73FB1C105K	CHIP C 1.0UF K	
C510,511			CK73FB1E474K	CHIP C 0.47UF K	
C512			CD04AS0J470M	ELECTRO 47UF 6.3WV	
C513			CK73GB1H103K	CHIP C 0.010UF K	
C529,530			C90-6711-05	ELECTRO 1UF 50WV	

## PARTS LIST

### ELECTRIC UNIT (X34-4140-xx)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
C802			CK73GB1H102K	CHIP C 1000PF K		R111			RK73FB2B561J	CHIP R 560 J 1/8W	M5M6
C999			CD04AS1C330M	ELECTRO 33UF 16WV		R112			RK73GB2A223J	CHIP R 22K J 1/10W	
CN1		*	E41-2581-05	FLAT CABLE CONNECTOR		R113			RK73GB2A473J	CHIP R 47K J 1/10W	
CN4			E41-2446-05	PIN ASSY		R114			RK73GB2A104J	CHIP R 100K J 1/10W	
CN5			E41-0944-05	PIN ASSY		R115			RK73FB2B683J	CHIP R 68K J 1/8W	
△ J1			E58-0991-05	RECTANGULAR RECEPTACLE	K1	R116			RK73GB2A393J	CHIP R 39K J 1/10W	
J2			E56-0855-05	CYLINDRICAL RECEPTACLE		R117			RK73FB2B203J	CHIP R 20K J 1/8W	
J3			E63-0896-05	PIN JACK		R118			RK73GB2A104J	CHIP R 100K J 1/10W	
J4			E58-0993-05	RECTANGULAR RECEPTACLE		R122,123			RK73GB2A103J	CHIP R 10K J 1/10W	
W1	2D		E30-6218-15	CORD WITH PLUG		R124			RK73GB2A104J	CHIP R 100K J 1/10W	
L1			L33-1988-05	CHOKE COIL ASSY		R125			RK73GB2A223J	CHIP R 22K J 1/10W	
L2			L33-1925-05	CHOKE COIL		R126			RD14DB2H332J-T	SMALL-RD 3.3K J 1/2W	
L3			L33-2262-05	CHOKE COIL		R127			RK73EB2E333J	CHIP R 33K J 1/4W	
L201			L41-4795-33	SMALL FIXED INDUCTOR (4.7U)		R128,129			RK73GB2A103J	CHIP R 10K J 1/10W	
L202			L92-0075-05	CHIP FERRITE		R130			RK73GB2A102J	CHIP R 1.0K J 1/10W	
L301			L33-2260-05	CHOKE COIL		R131			RK73GB2A473J	CHIP R 47K J 1/10W	
L302-304			L41-4795-33	SMALL FIXED INDUCTOR (4.7U)		R132,133	*		RK73PB2H221J	CHIP R 220 J 1/2W	
X1			L77-2880-05	CRYSTAL RESONATOR		R201			RK73GB2A222J	CHIP R 2.2K J 1/10W	
X2			L78-0872-05	RESONATOR (12MHZ)		R202			RK73GB2A225J	CHIP R 2.2M J 1/10W	
						R203			RK73GB2A104J	CHIP R 100K J 1/10W	
D	2D		N83-3005-48	PAN HEAD TAPTITE SCREW		R204			RK73GB2A102J	CHIP R 1.0K J 1/10W	
G	3D		N80-3010-48	PAN HEAD TAPTITE SCREW		R207,208			RK73GB2A103J	CHIP R 10K J 1/10W	
H	2D		N82-2608-48	BINDING HEAD TAPTITE SCREW		R210			RK73GB2A473J	CHIP R 47K J 1/10W	
CP201,202			RK74GB1J101J	CHIP-COM 100 J 1/16W		R212			RK73GB2A473J	CHIP R 47K J 1/10W	
CP203			RK74GB1J471J	CHIP-COM 470 J 1/16W		R213			RK73GB2A102J	CHIP R 1.0K J 1/10W	
CP206			RK74GB1J222J	CHIP-COM 2.2K J 1/16W		R215			RK73GB2A104J	CHIP R 100K J 1/10W	
CP207			RK74GB1J102J	CHIP-COM 1.0K J 1/16W		R224			RK73GB2A473J	CHIP R 47K J 1/10W	
CP209			RK74GB1J101J	CHIP-COM 100 J 1/16W	K1	R227,228			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R1			RK73FB2B153J	CHIP R 15K J 1/8W		R229,230			RK73GB2A473J	CHIP R 47K J 1/10W	
R2			RK73GB2A101J	CHIP R 100 J 1/10W		R233			RK73GB2A101J	CHIP R 100 J 1/10W	
R3			RK73GB2A223J	CHIP R 22K J 1/10W		R234,235			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R4			RK73GB2A472J	CHIP R 4.7K J 1/10W		R236,237			RK73GB2A473J	CHIP R 47K J 1/10W	
R5			RK73FB2B221J	CHIP R 220 J 1/8W		R239			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R7			RK73GH2A243D	CHIP R 24K D 1/10W		R240			RK73GB2A101J	CHIP R 100 J 1/10W	
R8			RK73GH2A432D	CHIP R 4.3K D 1/10W		R241			RK73GB2A222J	CHIP R 2.2K J 1/10W	K1
R9			RK73FB2B152J	CHIP R 1.5K J 1/8W		R241,242			RK73GB2A222J	CHIP R 2.2K J 1/10W	M5M6
R11			RK73GH2A273D	CHIP R 27K D 1/10W		R243			RK73GB2A473J	CHIP R 47K J 1/10W	M5M6
R12			RK73GH2A332D	CHIP R 3.3K D 1/10W		R244,245			RK73GB2A473J	CHIP R 47K J 1/10W	K1
R13			RK73GB2A272J	CHIP R 2.7K J 1/10W		R245			RK73GB2A473J	CHIP R 47K J 1/10W	M5M6
R15			RK73GB2A473J	CHIP R 47K J 1/10W		R247			RK73GB2A473J	CHIP R 47K J 1/10W	
R17,18			RK73GB2A223J	CHIP R 22K J 1/10W		R249,250			RK73GB2A473J	CHIP R 47K J 1/10W	
R20			RK73GB2A473J	CHIP R 47K J 1/10W		R254			RK73GB2A473J	CHIP R 47K J 1/10W	
R21			RK73GB2A103J	CHIP R 10K J 1/10W		R257,258			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R31		*	RK73PB2H180J	CHIP R 18 J 1/2W		R259,260			RK73GB2A104J	CHIP R 100K J 1/10W	
R39		*	RK73PB2H180J	CHIP R 18 J 1/2W		R261			RK73GB2A333J	CHIP R 33K J 1/10W	
R45			RK73GB2A473J	CHIP R 47K J 1/10W		R262,263			RK73GB2A473J	CHIP R 47K J 1/10W	
R101			RK73EB2E102J	CHIP R 1.0K J 1/4W	M5M6	R302,303			RK73EB2E101J	CHIP R 100 J 1/4W	
R102,103			RK73EB2E103J	CHIP R 10K J 1/4W		R304			RK73EB2E102J	CHIP R 1.0K J 1/4W	
R104			RK73EB2E472J	CHIP R 4.7K J 1/4W		R305-309			RK73EB2E101J	CHIP R 100 J 1/4W	
R106			RK73GB2A223J	CHIP R 22K J 1/10W		R310			RK73EB2E102J	CHIP R 1.0K J 1/4W	
R107			RK73FB2B472J	CHIP R 4.7K J 1/8W		R311			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R108			R92-5024-05	CHIP R 1K J 1/2W		R312			RK73GB2A473J	CHIP R 47K J 1/10W	
R109			RK73GB2A223J	CHIP R 22K J 1/10W		R313			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R110			R92-5024-05	CHIP R 1K J 1/2W		R316			RK73GB2A104J	CHIP R 100K J 1/10W	
						R317			RK73GB2A471J	CHIP R 470 J 1/10W	

K1 : DPX301 (North America)  
M5 : DPX-MP2090 M6 : DPX-MP2090S (Other Areas)

△ Indicates safety critical components.

# PARTS LIST

## ELECTRIC UNIT (X34-4140-xx)

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation	Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
R318			RK73GB2A104J	CHIP R 100K J 1/10W		D301			IMSA-6801-E	SURGE ABSORBER	
R319			RK73GB2A471J	CHIP R 470 J 1/10W		D303			02DZ9.1F-Z	ZENER DIODE	
R320			RK73FB2B102J	CHIP R 1.0K J 1/8W		D401-403		*	BAW56W	DIODE	
R321			RK73GB2A223J	CHIP R 22K J 1/10W		D404			STZ6.8N	ZENER DIODE	
R322			RK73GB2A471J	CHIP R 470 J 1/10W		D405			02DZ6.8F-Y	ZENER DIODE	
R323			RK73GB2A472J	CHIP R 4.7K J 1/10W		D406			STZ6.8N	ZENER DIODE	
R324			RK73GB2A471J	CHIP R 470 J 1/10W		D408,409			DA204K	DIODE	
R325			RK73GB2A472J	CHIP R 4.7K J 1/10W		D502		*	BAW56W	DIODE	
R326			RK73GB2A222J	CHIP R 2.2K J 1/10W		D503,504			1SR154-400	DIODE	
R327			RK73GB2A681J	CHIP R 680 J 1/10W		D505,506			AM01ZNF	DIODE	
R401			RK73GB2A103J	CHIP R 10K J 1/10W		D507-510			1SR154-400	DIODE	
R402,403			RK73GB2A331J	CHIP R 330 J 1/10W		D511			STZ6.2N	ZENER DIODE	
R404,405			RK73GB2A223J	CHIP R 22K J 1/10W		D512-515			02DZ6.2F-Y	ZENER DIODE	
R406,407			RK73GB2A331J	CHIP R 330 J 1/10W		D518-520			02DZ6.2F-Y	ZENER DIODE	
R408,409			RK73GB2A223J	CHIP R 22K J 1/10W		IC1		*	30624MGPA76GP	MICROCONTROLLER IC	
R414,415			RK73FB2B181J	CHIP R 180 J 1/8W		IC2		*	E-TDA7415C	ANALOGUE IC	
R420,421			RK73FB2B181J	CHIP R 180 J 1/8W		IC3			M5237ML-CF0J	ANALOGUE IC	
R422			RK73EB2E4R7J	CHIP R 4.7 J 1/4W		IC4			E-TDA7560A	ANALOGUE IC	
R423,424			RK73EB2E100J	CHIP R 10 J 1/4W		IC5			BA00CCWT-V5	ANALOGUE IC	
R425			RK73GB2A102J	CHIP R 1.0K J 1/10W		IC6			SN74HC02APWR	MOS-IC	
R431			RK73GB2A100J	CHIP R 10 J 1/10W		IC7			S-80836CNNB-J	MOS-IC	
R432			RK73EB2E2R2J	CHIP R 2.2 J 1/4W		IC12			SI-8050JF3NF	ANALOGUE IC	
R433,434			RK73GB2A101J	CHIP R 100 J 1/10W		Q1			2SB1565	TRANSISTOR	
R501			RK73GB2A102J	CHIP R 1.0K J 1/10W		Q2			KTC4075P(Y,GR)	TRANSISTOR	
R505			RK73GB2A432J	CHIP R 4.3K J 1/10W		Q3,4			KTA2014P(Y,GR)	TRANSISTOR	
R506			RK73GB2A223J	CHIP R 22K J 1/10W		Q5			2SB1565	TRANSISTOR	
R507			RK73GB2A221J	CHIP R 220 J 1/10W		Q6			DTA124EUA	DIGITAL TRANSISTOR	
R508			RK73EB2E472J	CHIP R 4.7K J 1/4W		Q7			2SB1565	TRANSISTOR	
R509			RK73EB2E101J	CHIP R 100 J 1/4W		Q8			KTC4075P(Y,GR)	TRANSISTOR	
R510			RK73EB2E472J	CHIP R 4.7K J 1/4W		Q9-11			DTC124EUA	DIGITAL TRANSISTOR	
R511-515			RK73EB2E101J	CHIP R 100 J 1/4W		Q12			DTC144EUA	DIGITAL TRANSISTOR	
R516,517			RK73EB2E100J	CHIP R 10 J 1/4W		Q13			KTA2014P(Y,GR)	TRANSISTOR	
R518			RK73EB2E4R7J	CHIP R 4.7 J 1/4W		Q101			2SB1188(Q,R)	TRANSISTOR	
R519			RK73GB2A102J	CHIP R 1.0K J 1/10W		Q102			DTC114YUA	DIGITAL TRANSISTOR	
R520			RK73EB2E102J	CHIP R 1.0K J 1/4W	K1	Q103			2SB1188(Q,R)	TRANSISTOR	
R521-523			RK73EB2E471J	CHIP R 470 J 1/4W	K1	Q104			KTA2014P(Y,GR)	TRANSISTOR	
R524			RK73GB2A100J	CHIP R 10 J 1/10W		Q105			DTA114EUA	DIGITAL TRANSISTOR	
R801			RK73GB2A8R2J	CHIP R 8.2 J 1/10W		Q106			DTC114YUA	DIGITAL TRANSISTOR	
R802			RK73GB2A5R6J	CHIP R 5.6 J 1/10W		Q107			DTA123JK	DIGITAL TRANSISTOR	
W3			R92-1252-05	CHIP R 0 OHM J 1/16W		Q108			DTC144EUA	DIGITAL TRANSISTOR	M5M6
W15			R92-2053-05	CHIP R 0 OHM J 1/8W		Q109			2SC4081	TRANSISTOR	
W931,932			R92-1252-05	CHIP R 0 OHM J 1/16W		Q111,112			2SC4081	TRANSISTOR	
W997,998			R92-1252-05	CHIP R 0 OHM J 1/16W		Q113			KTA2014P(Y,GR)	TRANSISTOR	
D1			S2V60*A	DIODE		Q114			DTA144EE	DIGITAL TRANSISTOR	
D2			RB160L-40	DIODE		Q115,116			DTA124EUA	DIGITAL TRANSISTOR	
D3			02DZ5.6F-Y	ZENER DIODE		Q298			DTA124EUA	DIGITAL TRANSISTOR	
D4			02DZ8.2F-Y	ZENER DIODE		Q299			DTC124EUA	DIGITAL TRANSISTOR	
D10			SFPB-54VNF	DIODE		Q300			2SB1689	TRANSISTOR	
D101			1SR139-400T64	DIODE		Q301			DTC124EUA	DIGITAL TRANSISTOR	
D102-105			1SR154-400	DIODE		Q302			2SB1565	TRANSISTOR	
D106			02DZ5.6F-Y	ZENER DIODE	M5M6	Q303			KTC4075P(Y,GR)	TRANSISTOR	
D107			02DZ4.7F-Y	ZENER DIODE		Q305			2SA1577	TRANSISTOR	
D108,109			02DZ6.8F-Y	ZENER DIODE		Q306			DTC144EUA	DIGITAL TRANSISTOR	
D111			02DZ6.2F-Y	ZENER DIODE		Q400-403			DTC143TUA	DIGITAL TRANSISTOR	

K1 : DPX301 (North America)  
M5 : DPX-MP2090 M6 : DPX-MP2090S (Other Areas)

△ Indicates safety critical components.



# PARTS LIST

## ELECTRIC UNIT (X34-4140-xx)

Ref. No.	Add New	Parts No.	Description	Destination
A1	3E	X86-3840-11	FRONT-END UNIT	
<b>CD MECHANISM ASSY (X92-5470-00) (DXM-6680W)</b>				
2	1B	A10-4827-32	CHASSIS	
5	1B	D10-4576-83	ARM ASSY	
8	2A	D10-4579-23	LEVER ASSY	
10	3A	D10-4581-13	ARM	
11	2A	D10-4582-13	ARM	
12	3A	D10-4583-03	ARM	
13	3A	D10-4584-03	ARM	
14	3B	D10-4585-03	ARM	
15	2A	D10-4586-13	SLIDER	
16	3B	D10-4587-52	SLIDER	
17	3B	D10-4588-13	SLIDER	
18	3B	D10-4595-04	ARM	
19	3B	D10-4596-24	ARM	
22	2A	D13-2151-04	GEAR	
23	2B	D13-2152-04	GEAR	
24	3B	D13-2153-04	GEAR	
25	3B	D13-2154-04	GEAR	
26	3B	D13-2155-04	WORM	
27	3B	D13-2156-14	GEAR	
28	3B	D13-2157-04	GEAR	
29	3B	D13-2158-04	GEAR	
30	3B	D13-2168-04	GEAR	
31	3B	D13-2171-04	GEAR	
32	1B	D13-2381-13	RACK (GEAR)	
33	2A	D14-0759-04	ROLLER	
35	2B	D21-2382-04	SHAFT	
36	1A	D23-0954-04	RETAINER	
37	1B	D39-0246-05	DAMPER	
38	2B	G01-3072-04	EXTENSION SPRING	
39	2A	G01-3073-04	TORSION COIL SPRING	
40	2A	G01-3074-04	EXTENSION SPRING	
41	1B	G01-3075-24	EXTENSION SPRING	
42	2A	G01-3076-04	EXTENSION SPRING	
43	1B	G01-3077-14	EXTENSION SPRING	
44	2B	G02-1399-04	FLAT SPRING	
45	2B	G02-1408-04	FLAT SPRING	
46	2A	G13-1258-04	CUSHION	
51	1A	J21-9676-32	MOUNTING HARDWARE	
52	3B	J21-9677-22	MOUNTING HARDWARE	
53	1B	J21-9678-13	MOUNTING HARDWARE	
55	1A	J90-1001-11	GUIDE	
56	1B	J90-1023-03	GUIDE	
DFPC1	3A	J84-0141-05	FLEXIBLE PRINTED WIRING BOARD	
A	2B	N09-4460-15	TAPTITE SCREW (P 2X8)	
B	1B	N09-6317-05	TAPTITE SCREW (M1.6X6)	
C	2B	N09-6004-15	MACHINE SCREW (M1.7X2.5)	
E	2B	N09-6007-15	MACHINE SCREW (M2X2)	
F	1A	N09-6051-15	TAPTITE SCREW (P 2X5)	
G	2A	N19-2163-04	FLAT WASHER (1.6X6X0.25)	
H	1B	N39-2020-46	PAN HEAD MACHINE SCREW	

Ref. No.	Add New	Parts No.	Description	Destination
J	1B	N09-6108-15	TAPTITE SCREW (M2X3.5)	
K	3B	N09-6155-15	SEMS (TAPTITE SCREW) (P 2X6)	
DM1	3B	T42-1066-14	DC MOTOR ASSY (SP)	
DM2	2B	T42-1067-14	DC MOTOR ASSY (LO)	
DPU1	2B	X93-2130-00	OPTICAL PICKUP ASSY	

**K1** : DPX301 (North America)  
**M5** : DPX-MP2090 **M6** : DPX-MP2090S (Other Areas)

△ Indicates safety critical components.

# SPECIFICATIONS

## FM Tuner Section

Frequency Range (DPX301)	
200kHz space	87.9MHz~107.9MHz
Frequency Range (DPX-MP2090/MP2090S)	
50kHz space	87.5MHz~108.0MHz
200kHz space	87.9MHz~107.9MHz
Usable Sensitivity (S/N : 30dB)	9.3dBf (0.8 $\mu$ V/75 $\Omega$ )
Quieting Sensitivity (S/N : 50dB)	15.2dBf (1.6 $\mu$ V/75 $\Omega$ )
Frequency Response ( $\pm$ 3.0dB)	30Hz~15kHz
Signal to Noise Ratio (MONO)	70dB
Selectivity ( $\pm$ 400kHz)	$\geq$ 80dB
Stereo Separation (1kHz)	40dB

## AM Tuner Section

Frequency Range (DPX301)	
10kHz space	530kHz~1700kHz
Frequency Range (DPX-MP2090/MP2090S)	
9kHz space	531kHz~1611kHz
10kHz space	530kHz~1700kHz
Usable Sensitivity (S/N : 20dB)	28dB $\mu$ V (25 $\mu$ V)

## CD Player Section

Laser Diode	GaAlAs
Digital Filter (D/A)	8 Times Over Sampling
D/A Converter	1 Bit
Spindle Speed	1000~400rpm (CLV 2 times)
Wow & Flutter	Below Mesurable Limit
Frequency Response ( $\pm$ 1dB)	10Hz~20kHz
Total Harmonic Distortion (1kHz)	0.008%
Signal to Noise Ratio (1kHz)	105dB
Dynamic Range	93dB
MP3 Decode	Compliant with MPEG-1/2 Audio Layer-3
WMA Decode	Compliant with Windows Media Audio
AAC Decode	AAC-LC “.m4a” files

## Audio Section

Maximum Output Power	50W x 4
Full Bandwidth Power (at less than 1% THD)	22W x 4
Speaker Impedance	4~8 $\Omega$
Tone Action	
Bass	100Hz $\pm$ 8dB
Middle	1kHz $\pm$ 8dB
Treble	10kHz $\pm$ 8dB
Preout Level/Load (duaring disc play)	2500mV/10k $\Omega$
Preout Impedance	$\leq$ 600 $\Omega$

## Auxiliary Input

Frequency Response ( $\pm$ 1dB)	20Hz~20kHz
Input Maximum Voltage	1200mV
Input Impedance	100k $\Omega$

## GENERAL

Operating Voltage (11~16V allowable)	14.4V
Current Consumption	10A
Installation Size (W x H x D)	182 x 100 x 155 mm
	7-3/16 x 3-15/16 x 6-1/8 inch
Weight	1.55kg / 3.4 lbs

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KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

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