CASSETTE RECEIVER

KRC-391/391Y
KRC-36/36Y/30Y

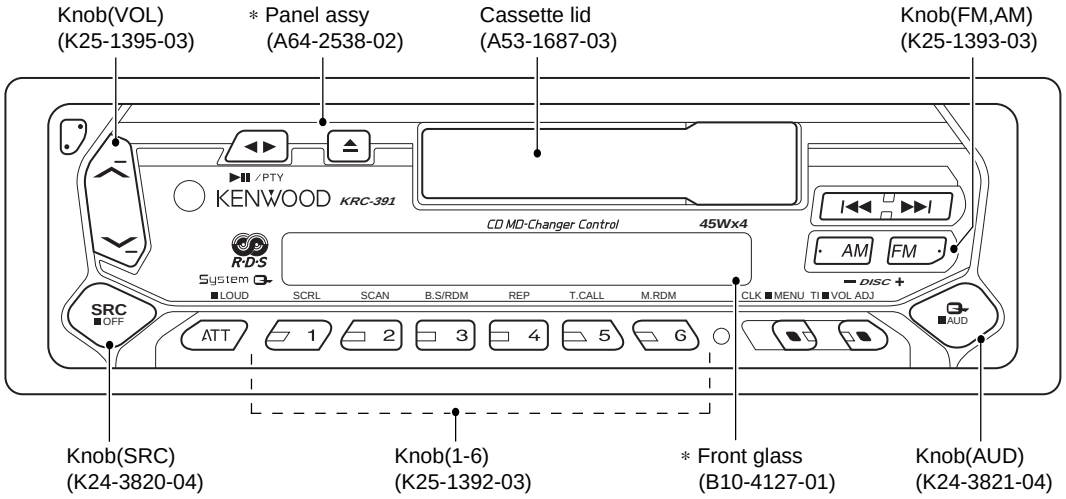
SERVICE MANUAL

KENWOOD

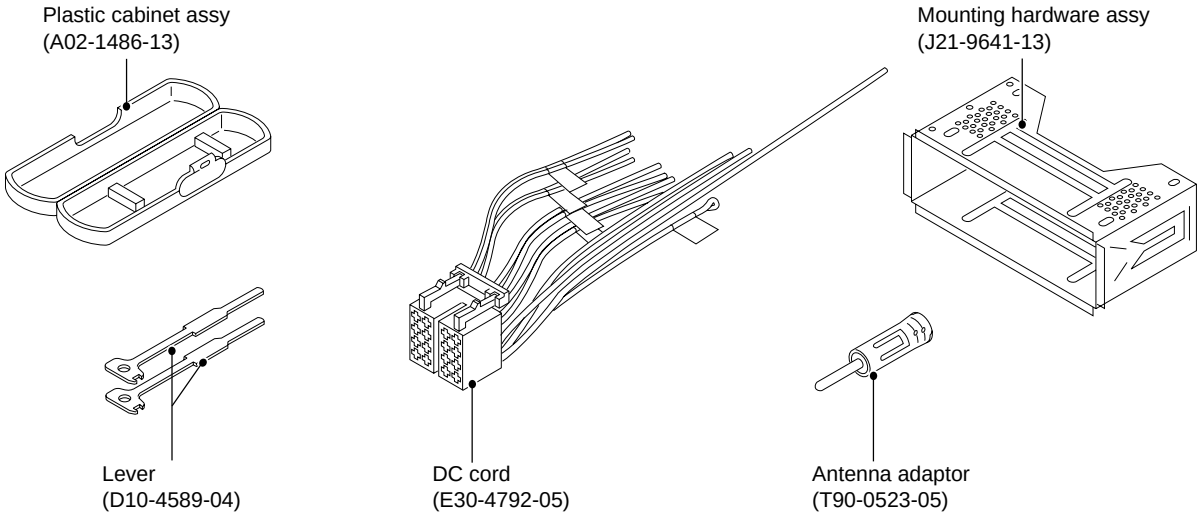
B51-7853-00 (S) 1929

MECHANISM EXTENSION CORD
W05-0477-00 (7P)
W05-0609-00 (10P)

● **KRC-391**

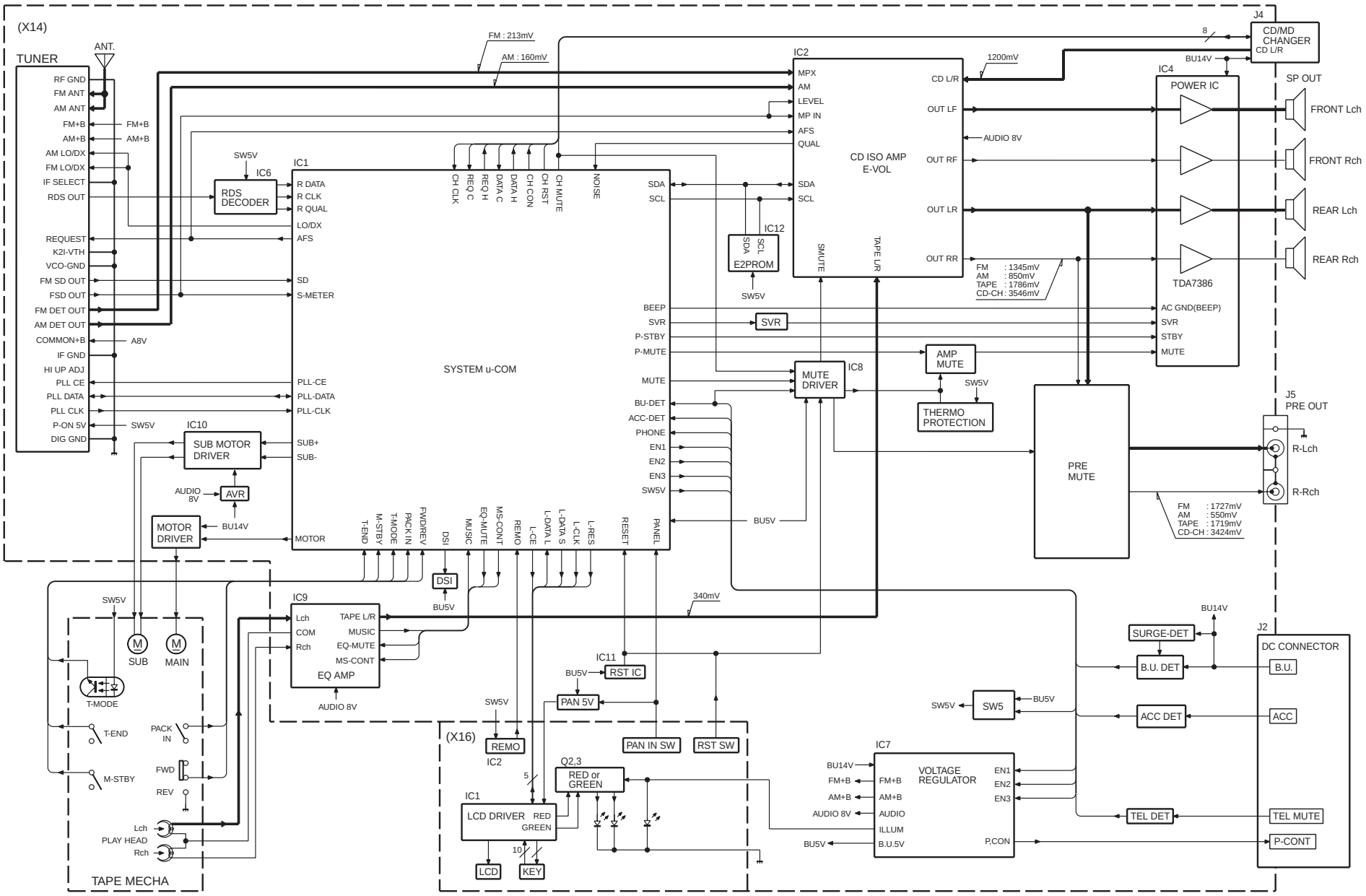


∗ Refer to the PARTS LIST



KRC-391/Y,36/Y,30Y

BLOCK DIAGRAM



COMPONENT DESCRIPTION

● SYNTHESIZER UNIT(X14-6892/9002-XX)

REF.No.	FUNCTION	OPERATION
IC1	SYSTEM μ-COM	
IC2	E-VOLUME	
IC4	POWER AMPLIFIER	Speaker output
IC6	RDS DECODER	
IC7	POWER IC	
IC8	MUTE CONTROL LOGIC	3 input NOR gate x 3
IC9	EQUALIZER AMPLIFIER	For full logical cassette mechanism control
IC10	SUB MOTOR DRIVER	For full logical cassette mechanism sub motor driver
IC11	RESET IC	Detection voltage below 3.0V
IC12	EEPROM	
Q1	P.CON.DETECTION	Detects P.CON voltage.
Q10	BACK-UP DETECTION	Detects the back-up voltage.
Q11	SERGE DETECTION	Detects serge voltage.
Q20	ACC DETECTION	Detects ACC voltage.
Q40	PREOUT MUTE DRIVER	Mutes when the base terminal voltage level becomes "L".
Q50	5V SW	Works when the base terminal voltage level becomes "L".
Q101	DSI SW	LED for DSI works when the base terminal voltage level becomes "H".
Q151	PANEL 5V SW	Works when the base terminal voltage level becomes "L". Supplies VDD to panel.
Q201	NOISE DETECTION	Detects noise.
Q221-224	PREOUT MUTE	Mutes when the base terminal voltage level becomes "H".
Q251	POWER IC SVR SW	Discharges the capacitor's voltage of SVR terminal after the base terminal voltage becomes "H".
Q301	LOCAL SEEK SW	Changes to the local seeking after the base terminal voltage becomes "H".
Q501	MOTOR DRIVER AVR	Works when the base terminal voltage becomes "H". Supplies the power to the motor driver.
Q551	MAIN MOTOR SW	Works when the base terminal voltage becomes "L".
Q552	MAIN MOTOR SW	Works when the base terminal voltage becomes "H".

● SWITCH UNIT(X16-1532/1722-XX)

REF.No.	FUNCTION	OPERATION
IC1	LCD DRIVER	
IC2	REMOTE SENSOR	
Q1	KEY SCAN SW	Receives key signal when the base terminal voltage becomes "L".
Q2	KEY ILLUMINATION SW	Key illumination color becomes green when the base terminal voltage becomes "H".
Q3	KEY ILLUMINATION SW	Key illumination color becomes red when the base terminal voltage becomes "H".

MICROCOMPUTER'S TERMINAL DESCRIPTION

● (X14-) IC1: μ-COM

PORT No.	PORT NAME	I/O	FUNCTION	OPERATING CONDITION
1	DSI	O	DSI control.	
2	PANEL	I	Panel detection.	"L": Panel exists.
3	-	-	-	
4	AVSS	-	GND.	
5	L-RST	O	LCD driver reset.	
6	L-CE	O	LCD driver chip enable.	
7	AVREF1	I	Reference voltage	
8	-	-	-	
9	PLL-DATA	I/O	Front-end communication data.	
10	PLL-CLK	O	Front-end communication clock.	
11	L-DATA L	I	LCD driver communication data.	
12	L-DATA S	O	LCD driver communication data.	
13	L-CLK	O	LCD driver communication clock.	
14	R-DATA	I	RDS data.	
15	R-QUAL	I	RDS QUAL.	
16	CH-DATA C	I	Changer communication data.	
17	CH-DATA H	O	Changer communication data.	
18	CH-CLK	I/O	Changer communication clock.	
19	M-STBY	I	Cassette tape stand-by detection.	"H": Stand-by.
20	$\overline{\text{T-END}}$	I	Tape end detection.	"H": Run. "L": Stop.
21	ACC-DET	I	ACC detection.	
22	BU-DET	I	Back-up detection.	
23	IC2 TYPE 0	I	For service.	"L": Normally.
24	IC2 TYPE 1	I	For service.	"L": Normally.
25	TYPE 0	I	Destination discrimination.	
26	TYPE 1	I	Destination discrimination.	
27	TYPE REF	O	Reference voltage for destination and service.	
28	MOTOR	O	Cassette mechanism motor.	"H": ON. "L": OFF.
29	PLL-CE	O	Front-end communication chip enable.	
30	SD	I	Station detection.	"H": Station exists. "L": Station does not exist.
31	ASF	O	Noise detection time constant switch.	
32	LO/$\overline{\text{DX}}$	O	Local seeking switch.	"H": LO. "L": DX.
33	VSS1	-	GND.	
34	P-MUTE	O	Power amplifier muting.	
35	SVR	O	SVR control.	
36	-	-	-	
37	IC2-SCL	O	E-volume communication clock.	
38	IC2-SDA	I/O	E-volume communication data.	
39	MUTE	O	Muting control.	
40	P-STBY	O	Power amplifier stand-by.	
41	P.CON-DET	I	P.CON short-circuited detection.	
42	CH-CONT	O	Changer control.	
43	-	-	-	
44	CH-REC H	O	Changer request.	
45-47	-	-	-	
48	EN2-1	O	Power supply IC control.	
49	EN2-0	O	Power supply IC control.	
50	BEEP	O	Buzzer.	
51	EN3	O	Power supply IC control.	
52	EN1	O	Power supply IC control.	
53	SW 5V	O	P.ON 5V control.	"H": OFF. "L": ON.
54	$\overline{\text{MUSIC}}$	I	Tape signal detection.	"H": Signal does not exist. "L": Signal exist.
55	MS-CONT	O	Tape advanced sensitivity control.	"H": Play. "L": FF/REW.
56	EQ-MUTE	O	Cassette tape muting.	"H": ON. "L": OFF.

MICROCOMPUTER'S TERMINAL DESCRIPTION

PORT No.	PORT NAME	I/O	FUNCTION	OPERATING CONDITION
57	FWD/$\overline{REV}$	I	Cassette tape running direction detection.	"H": FWD "L": REV.
58	SUB+	O	Sub motor control.	
59	SUB-	O	Sub motor control.	
60	RESET	I	System reset.	
61	REMOTE	I	Remote control.	
62	R-CLK	I	RDS clock.	
63	CH-REQ C	I	Changer request.	
64	PACK-IN	I	Cassette tape pack-in detection.	
65	KEY-REQ	I	Key signal detection.	
66	-	-	-	
67	VSS0	-	GND.	
68	VDD1	-	VDD.	
69	X2	-	Main system clock.	
70	X1	I	Main system clock.	
71	IC	-	-	
72	-	-	-	
73	XT1	-	VDD.	
74	VDD0	-	VDD.	
75	AVREF 0	I	Reference voltage.	
76	S-METER	I	SD detection.	"H": SD exists. "L": SD does not exist.
77	T-MODE	I	Cassette tape mode detection.	
78	PHONE	I	Navi mute: Over 2.5V. Tel mute: less than 2.5V.	
79	NOISE	I	Noise detection during FM mode.	
80	AV CONT	O	Reference voltage.	

KRC-391/Y,36/Y,30Y

TEST MODE / ADJUSTMENT

TESTMODE

1. How to enter the test mode

- Reset the unit while holding the "FM" key and preset "6" key.
- All indication segments go ON at the beginning of the test mode.

2. How to release the test mode

- Simply reset the unit.
- (NOTE) The test mode should not released in conditions of ACC OFF, power OFF, momentary power down or the panel off.

3. Test mode

- Blanking Skip (B.S) OFF.
- Eject a tape by pressing "ATT" key.

4. Audio adjustment

- Enter the audio mode by pressing the "AUD" key or "OPEN/CLOSE" key on the remote controller.
- Set the volume level to be -10dB. In that case, "30" should be shown on the display.
- Loudness OFF.
- The BASS/MIDDLE/TREBLE and BALANCE/FADER can be adjusted to the full-boost/full-cut and full-front/full-rear each by pressing the "UP" and "DOWN" keys.

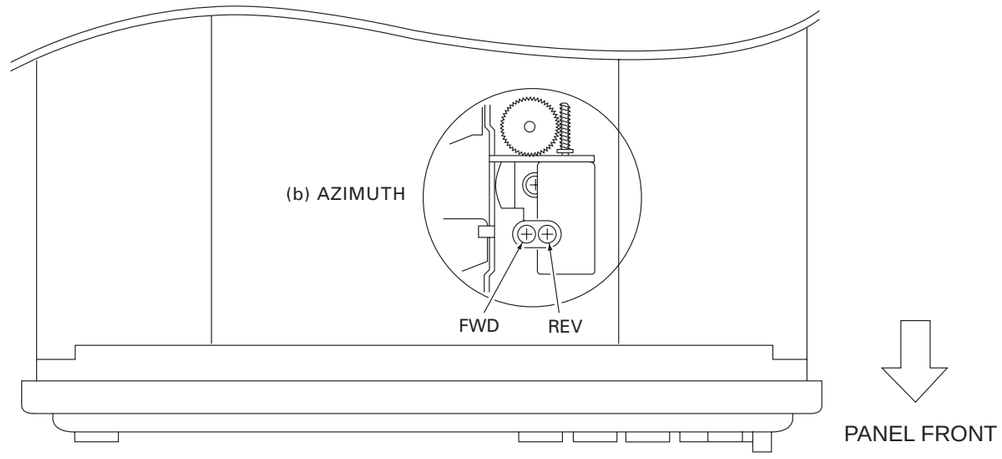
5. Menu mode

- Enter the menu mode by pressing "CLK" key or "DNPP" key on the remote controller.
- Only on models with RDS function, Local Seeking should be first menu.

ADJUSTMENT

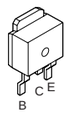
BALANCE/FADER/BASS/TREBLE : CENTER
T.ADV/METAL/DOLBY NR/AUTO : OFF

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
CASSETTE DECK SECTION							
1	AZIMUTH	TCC-153 10kHz	SP OUT	TAPE PLAY	Head azimuth screw (FWD/REV) (ME1)	Adjust so that output level in playing "FWD" and "REV" becomes maximum each.	(b)

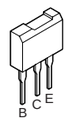


DTC114YUA
DTC143TUA
UN5111
UN5114
UN5211
UN5214
UN5216
2SA1036K
2SD1819A

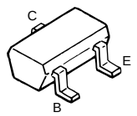
2SD1760



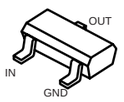
2SB1443



2SC4081



DTA114EUA
DTA124EUA
DTC114EUA
DTC124EUA



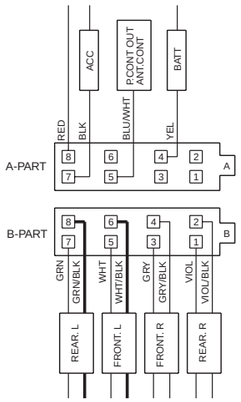
DTA114YUA

IC1 : ✳
IC2 : TDA7407D
IC4 : TDA7386
IC6 : TDA7479D
IC7 : TDA3682ST
IC8 : HD74HC27FP
IC9 : HA12221F
IC10 : LB1930M
IC11 : S-80835ANNP
IC12 : BR24C01AF

Q1,301 : DTC124EUA or UN5212
Q10,11,20,101,201 : 2SC4081 or 2SD1819A
Q40 : DTA124EUA or UN5112
Q50 : 2SA1036K
Q151 : DTA114YUA or UN5114
Q223,224 : DTC143TUA or UN5216
Q251 : DTC114YUA or UN5214
Q501 : 2SD1760
Q551 : 2SB1443
Q552 : DTC114EUA or UN5211

D1 : 1N5393G-M6 or S2V20 ✳ A
D2,3 : 1GWJ43 (TPB5)
D4,551 : AM01Z or ERA15-01
D10,11,401,402 : MA4068 (N) -M
D20 : MA4051 (N) -M
D30 : MA4047-M or HZS5B1
D40,101,251-253 : 1SS133
D102 : B30-1567-05
D153,154,157,159-161, 403,404,407,409-411 : MA4062-L or HZS6C1

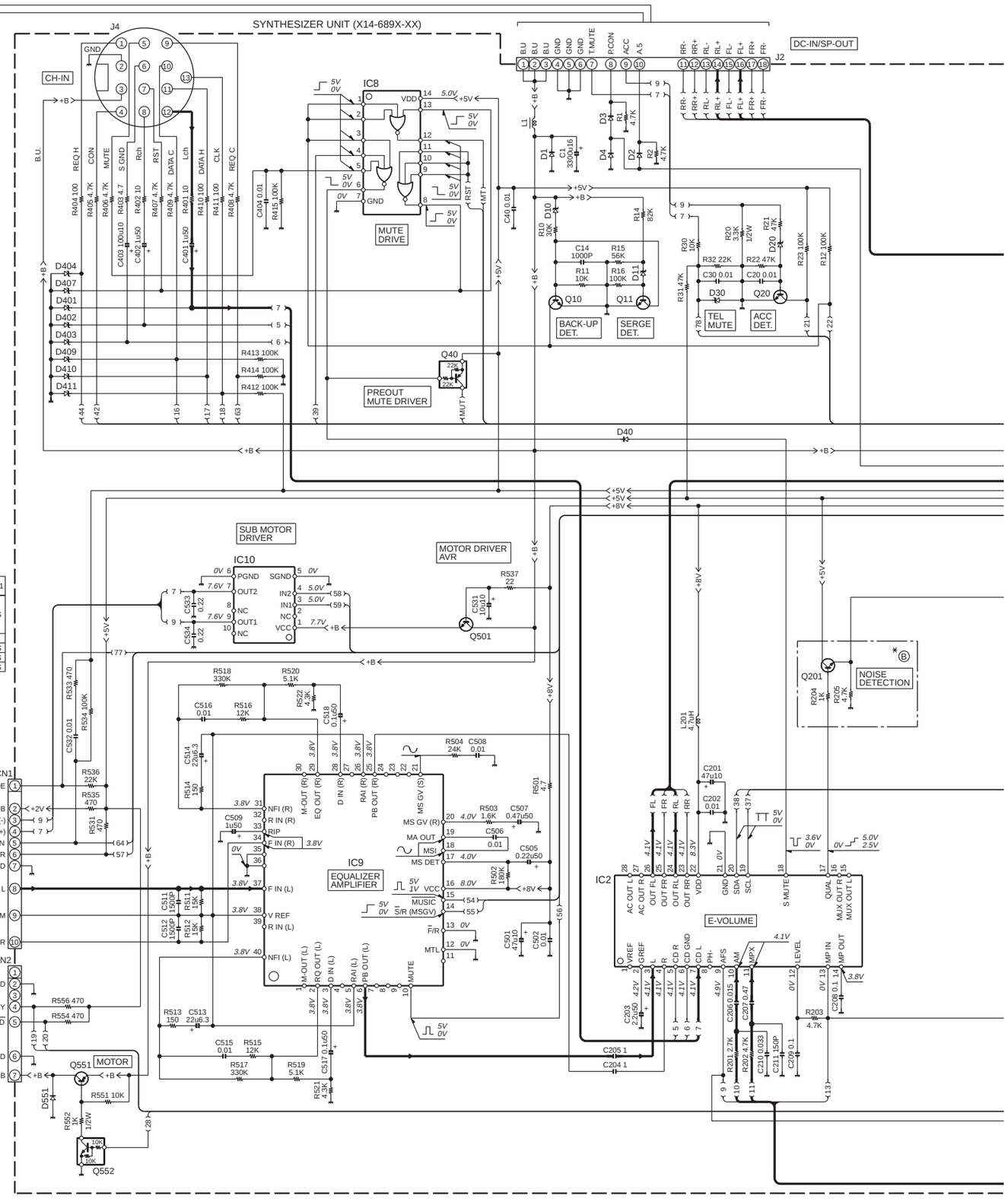
SIGNAL LINE
GND LINE
+B +B LINE



DC1
(E30-4792-05)

(X14-689X-XX)

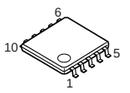
MODEL NAME	UNIT No.	Ⓑ Ⓒ	A1	C308	IC1	R111	R112	R113	R114	R118	R146	Q301
KRC-391 (E) KRC-391Y (E) KRC-36 (E) KRC-36Y (E)	2-70	YES	X86-3512-70	YES	UPD780058GC418	YES	NO	YES	NO	YES	YES	YES
KRC-4902Y (E)	2-72	NO	X86-3512-72	NO	UPD780058GC426	NO	YES	YES	NO	NO	NO	NO
KRC-30Y (E)	2-71	NO	X86-3512-70	YES	UPD780058GC418	NO	YES	YES	NO	YES	NO	YES
KRC-365L (M)	0-22	NO	X86-3512-70	YES	UPD780058GC426	YES	NO	NO	YES	YES	NO	YES
KRC-465R (M/I)	0-21	YES	X86-3512-70	YES	UPD780058GC418	YES	NO	NO	YES	YES	YES	YES



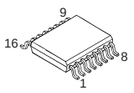
UN5212

BR24C01AF
BR24C01AF-W

LBP1930M



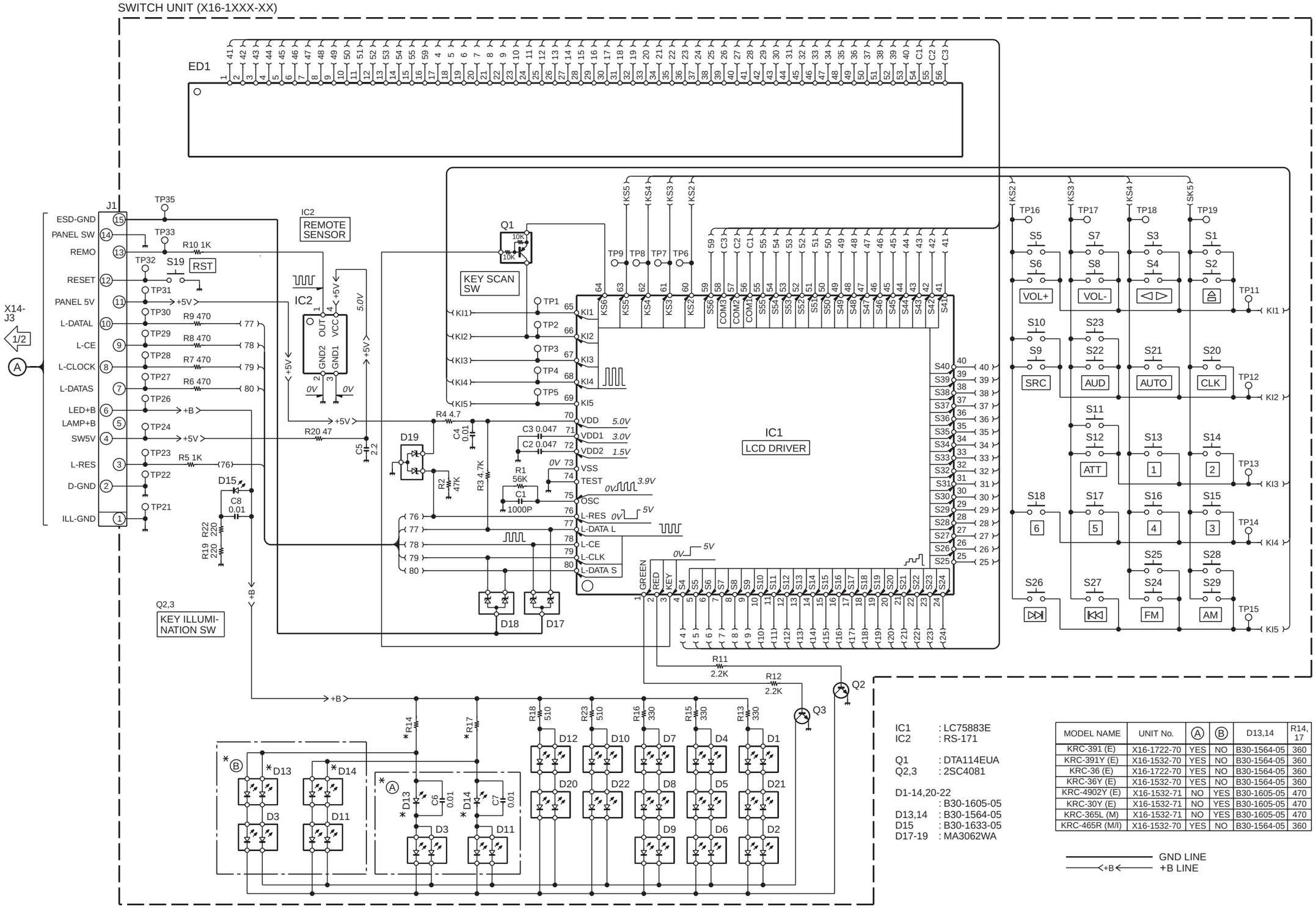
TDA7479D



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.

SWITCH UNIT (X16-1XXX-XX)



IC1 : LC75883E
IC2 : RS-171

Q1 : DTA114EUA
Q2,3 : 2SC4081

D1-14,20-22 : B30-1605-05
D13,14 : B30-1564-05
D15 : B30-1633-05
D17-19 : MA3062WA

MODEL NAME	UNIT No.	Ⓐ	Ⓑ	D13,14	R14, 17
KRC-391 (E)	X16-1722-70	YES	NO	B30-1564-05	360
KRC-391Y (E)	X16-1532-70	YES	NO	B30-1564-05	360
KRC-36 (E)	X16-1722-70	YES	NO	B30-1564-05	360
KRC-36Y (E)	X16-1532-70	YES	NO	B30-1564-05	360
KRC-4902Y (E)	X16-1532-71	NO	YES	B30-1605-05	470
KRC-30Y (E)	X16-1532-71	NO	YES	B30-1605-05	470
KRC-365L (M)	X16-1532-71	NO	YES	B30-1605-05	470
KRC-465R (M/I)	X16-1532-70	YES	NO	B30-1564-05	360

GND LINE
+B LINE

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KRC-391/Y,36/Y,30Y

KENWOOD