

CD RECEIVER

# KDC-X615,6015 KDC-6080R/RV/RV,7016

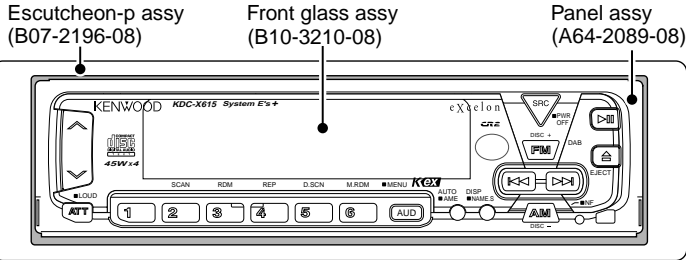
## SERVICE MANUAL

# KENWOOD

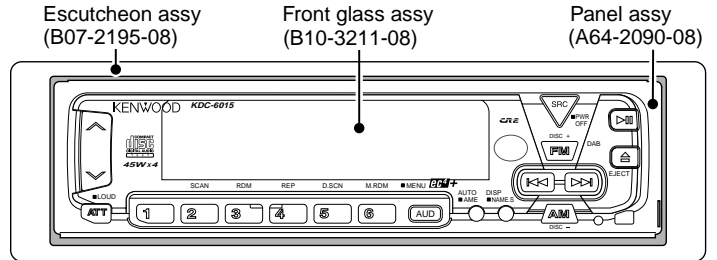
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B51-7592-00 (N) 3442

Extension cord	Parts No.
CD mechanism(22P)	W05-0618-00

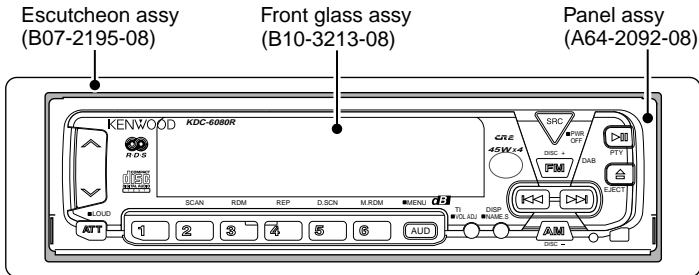
### KDC-X615



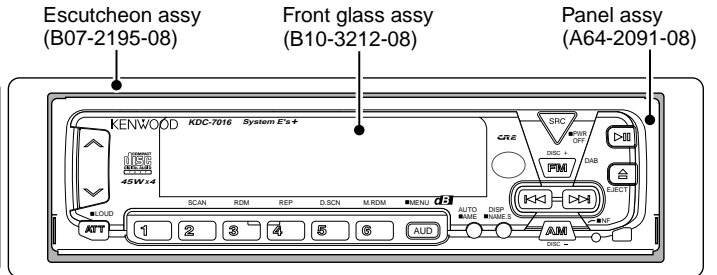
### KDC-6015



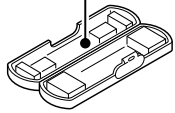
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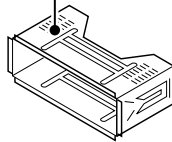
### KDC-7016



Plastic cabinet Assy  
(A02-1494-08)



Mounting hardware Assy  
(J21-9585-08)



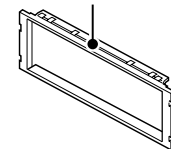
Remote controller Assy  
(A70-0883-05)  
:KDC-6015/7016



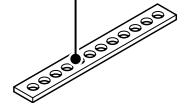
Remote controller Assy  
(A70-0894-05)  
:KDC-X615



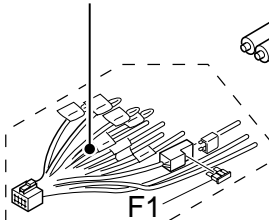
Escutcheon(J CAR)  
(B07-2186-08)  
:KDC-X615/6015/7016



Stay  
(J54-0611-08)  
:KDC-X615/6015/7016



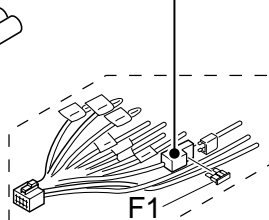
DC cord  
(E30-4865-08)  
:KDC-X615



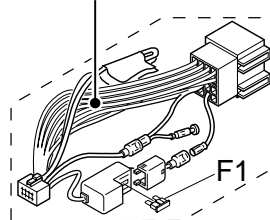
Battery(size:AAA)  
Not supplied as  
service parts



DC cord  
(E30-4866-08)  
:KDC-6015/7016



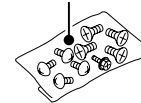
DC cord  
(E30-4867-08)  
:KDC-6080R/RV/RV



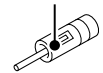
Screw set  
(N99-1688-08)



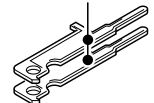
Screw set  
(N99-1689-08)  
:KDC-X615/6015/7016



Ant adapter  
(T90-0523-05)  
:KDC-6080R/RV/RV



Lever  
(D10-4514-08)x2

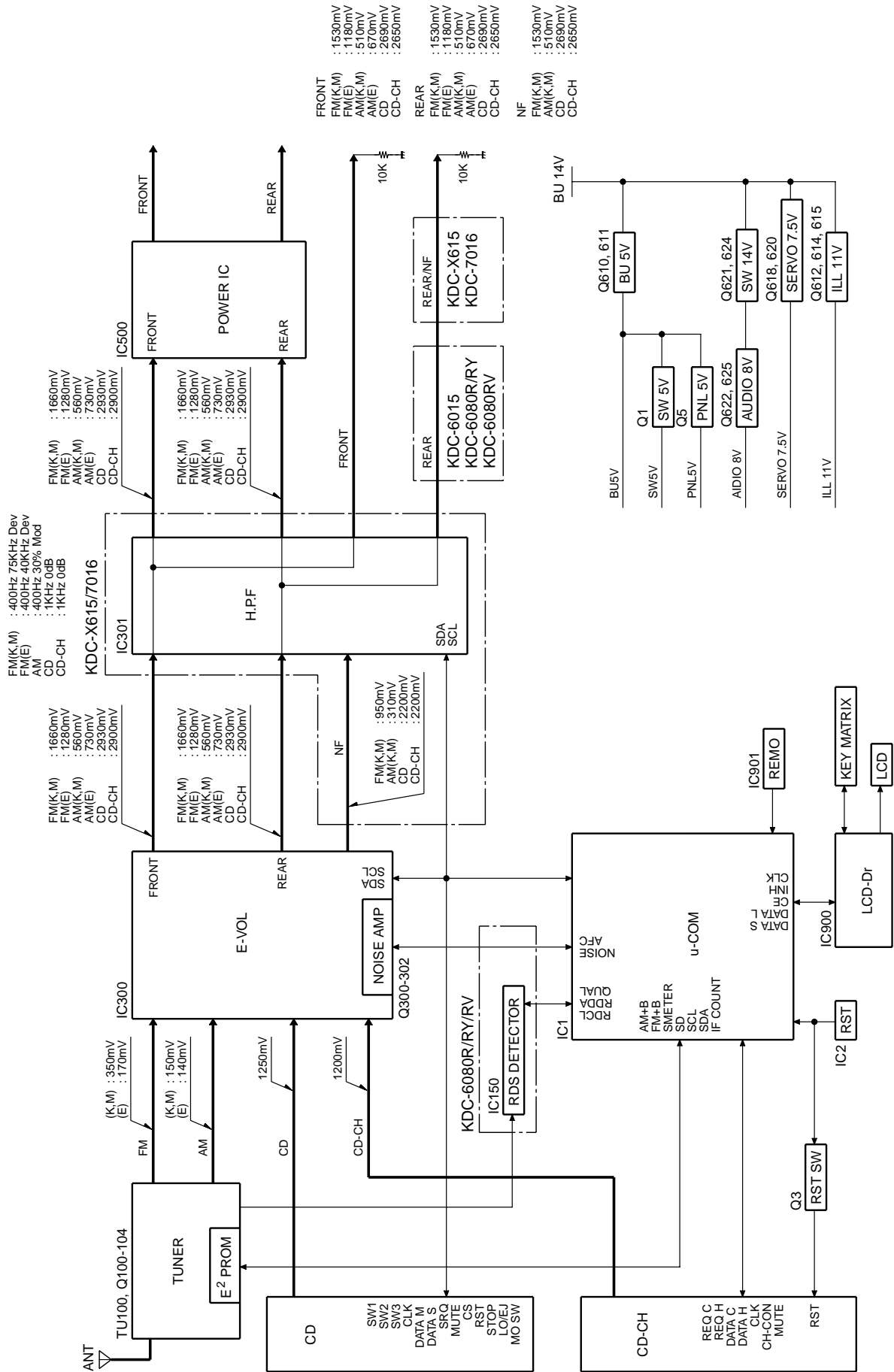


The MECHANISM OPERATION DESCRIPTION is the same as model KDC-S3007 and KDC-5050RG.  
Please refer to the service manual for model KDC-S3007(B51-7029-00) or KDC-5050RG(B51-7099-00).



# KDC-X615,6015 KDC-6080R/RV/RV,7016

## BLOCK DIAGRAM



# KDC-X615,6015 KDC-6080R/RV/RV,7016

## COMPONENTS DESCRIPTION

### ●MAIN UNIT

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC1	784217AGF506	System MI-COM.	
IC2	S-80830ANNP	Reset IC	"Lo": Detection voltage below 3.0V
IC3	HD74HC27FP	Mute logic	3 input NOR gate x3
IC150	TDA7479D	RDS decoder	
IC300	TDA7400D	E-VOL. & N.C. MPX	
IC301	TDA7401	HPF & NON FADER VOL.	
IC500	TDA7386	Power IC	
Q1	2SA1576A	SW 5V	ON when the base goes "Lo".
Q2	DTA124EUA	Mute driver for Audio mute SW	ON when the base goes "Lo".
Q3	DTA144EUA	Changer reset SW	ON when the base goes "Lo".
Q5	2SA1576A	Panel 5V SW	ON when the base goes "Lo" during the panel not detached.
Q100	2SA1703-AN	FM+B SW	Q100 is turned ON when Q101's base goes "Hi".
Q101	DTC144EUA		ON during FM reception
Q102	2SA1703-AN	AM+B SW	Q102 is turned ON when Q103's base goes "Hi".
Q103	DTC144EUA		ON during AM reception
Q104	2SC4081	Composite out buffer	
Q300	DTA124EUA	Noise detection time constant SW	OFF during FM seek, ON during FM reception.
Q301	DTC114TUA		Q301 is turned On when Q300's emitter goes "Hi".
Q302	2SC4081	Noise buffer	
Q303	DTC144EUA	E-VOL. mute SW	E-VOL. is muted when the base goes "Hi".
Q350A,B	DTC343TK	Audio mute SW	Audio pre-outs are muted when the base goes "Hi"
Q351A,B	DTC343TK	Audio mute SW	Audio pre-outs are muted when the base goes "Hi"
Q500	DTC114YUA	SVR SW	POWER IC RESET is activated when the base goes "Hi".
Q600	2SC4081	BU detection(Momentary power down detection)	ON when the base goes "Hi" during BU applied.
Q601	2SC4081	ACC detection	ON when the base goes "Hi" during ACC applied.
Q602	2SA1703-AN	P ANT SW	Q602 is turned ON when Q603's base goes "Hi".
Q603	DTC114YUA		ON during AM/FM reception.
Q604	2SA1703-AN	P CON SW	Q604 is turned ON when Q607's base goes "Hi".
Q607	DTC114EUA		ON during POWER ON mode except ALL OFF mode.
Q605	2SA1576A	P CON protection	Protect Q604 by turning ON when P-CON output is grounded.
Q606	DTA124EUA		Prevents Q605 tuning ON during start-up after power ON.
Q608	DTC144EUA	Dimmer SW	ON when the base goes "Hi" while vehicle small lamps turn on.
Q609	DTA123JUA	Ext. AMP SW	ON when the base goes "Lo".
Q610	2SB1565(E,F)	BU 5V AVR	Inverted darlington connection.
Q611	2SC4081		ON during BU applied.
Q612	2SD1760	Illumination AVR	ON when the base goes "Hi".
Q614	DTA124EUA	Illumination AVR SW	Q614 is turned ON when Q615's base goes "Hi".
Q615	DTC124EUA		
Q618	2SB1565(E,F)	Servo AVR	Inverted darlington connection.
Q620	2SC4081		Q618 is turned ON when Q620's base goes "Hi".
Q621	DTA124EUA	SW 14V	Audio 8V AVR and Servo AVR ON/OFF control
Q624	DTC144EUA		Q621 is turned ON when Q624's base goes "Hi".
Q622	2SB1565(E,F)	Audio 8V AVR	Inverted darlington connection.
Q625	2SC4081		Q622 is turned ON when Q625's base goes "Hi".

## COMPONENTS DESCRIPTION

### ●CONTROL UNIT

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC900	LC75808E	LCD driver with key-matrix	
IC901	RS-171	Remote control IC	
Q900	DTA124EUA	Remote SW	ON when the base goes "Lo".
Q901	2SD2114K	Key illumination green SW	ON when the base goes "Hi".
Q902	2SD2114K	Key illumination red SW	ON when the base goes "Hi".
Q903	DTA124EUA	Key-matrix permission SW	ON when the base goes "Lo".
Q904	2SC4081	VLCD AVR	
Q905	2SC4081	Dimmer SW	ON when the base goes "Hi".

### ●CD PLAYER UNIT(X32-4720-00)

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC1	AN8806SB	RF amplifier	Generation of RF signal based on the signals from the APC circuit and pickup, and generation of servo error(focusing error and tracking error)signals. Detection of dropout, anti-shock, track crossing and off-track conditions.
IC2	MN662773KB3	CD signal processor built-in MI-COM	Focusing, tracking, sled and spindle servo processing. Automatic adjustment(focusing, tracking, gain, offset and balance)operations. Digital signal processing (DSP, PLL, sub-codes, CIRC error correction, audio data interpolation)operations.
IC4	BA5917AFP	BTL driver	Focusing coil, tracking coil, spindle motor and sled motor driver
IC5	TA78L05F	5V AVR	
IC6	NJM4565MD	Low pass filter	
Q1	2SB1188	APC	LD power control
Q2	DTC124EUA	P ON SW	ON during the CD source selected.
Q3	2SA1362(Y)	A.8V SW	A8V line ON/OFF control
Q4	2SA1362(Y)	D.5V SW	D5V line ON/OFF control
Q5	DTC124EUA	MOTOR ON SW	ON during CD loading or eject action .
Q8	DTC124EUA	GAIN CONTROL SW	

## •TEST MODE SPECIFICATIONS

### (1) How to enter the test mode

While holding the FM and Preset 6 keys simultaneously, reset the unit.

All indicators and display segments are ON at the start of test mode.

### (2) How to exit from the test mode

Reset the unit.

(Note) The test mode cannot be canceled by turning Acc OFF, power OFF or momentary power down.

### (3) Test mode specifications of the CD receiver

Each press of the Track Up key jumps to the following tracks.

No. 9 ⇒ No. 15 ⇒ No. 10 ⇒ No. 11 ⇒ No. 12 ⇒ No. 13  
⇒ No. 14 ⇒ No. 9 (return to beginning)

Pressing the Track Down key jumps to the previous track to the track being played.

### (4) Audio

- The volume is -10 dB (displayed as 30).
- LOUD is OFF, and CRSC is also OFF whether the function is provided or not.
- With the Bass/Treble and Balance/Fader controls, pressing the Up/Down key switch the setting alternately to:  
Full Boost ⇒ Full Cut ⇒ Full Boost, Full Right ⇒ Full Left ⇒ Full Right, or Full Front ⇒ Full Rear ⇒ Full Front.
- With the high-pass filter, pressing the Up key sets it to Through/100 Hz/200 Hz and pressing the Down key sets it to 200 Hz/100 Hz/Through.
- Other adjustments function in the same way as normal mode.

### (5) Backup current measurement

When the unit is reset (backup turned on) while Acc is OFF or when Acc is turned OFF in test mode, the MUTE terminal goes on in 2 seconds, instead of 1.5 second. (The panel, CD, C and MD mechanisms are not activated at this time.)

### (6) Security code registration after E2PROM replacement servicing (E/M type only)

1. Enter the test mode. (See (1) How to enter the test mode.)
2. Press the SRC key to set All OFF.

3. Press and hold the AUDIO key for 1 second to enter menu mode.

4. Press the FM/AM key to select "SECURITY".

5. Press and hold the Track Up/Down for 2 seconds.

6. Enter the code by pressing the Preset 1, 2, 3 and 4 keys.

Example: To enter "3510",

- Press the Preset 1 key 4 times.

- Press the Preset 2 key 6 times.

- Press the Preset 3 key 2 times.

- Press the Preset 4 key once.

7. Press and hold the DISPLAY key for 3 seconds to display "APPROVED".

8. Quit the test mode (See (2) How to exit from the test mode.)

### (7) How to clear the simple security code (K type only)

1. While the code is requested, press and hold the DISP key and press and hold the VOL Up key for 3 seconds.

("----" disappears.)

2. Enter "KCAR" from the remote control unit. (Same operation as the '98 model)

- Press numeric key 5 twice then press the Track Up key. (This enters "K".)

- Press numeric key 2 three times then press the Track Up key. (This enters "A".)

- Press numeric key 2 once then press the Track Up key. (This enters "A".)

- Press numeric key 7 twice then press the Track Up key. (This enters "R".)

3. The security is canceled and the unit enters the TUNER mode.

### (8) Other

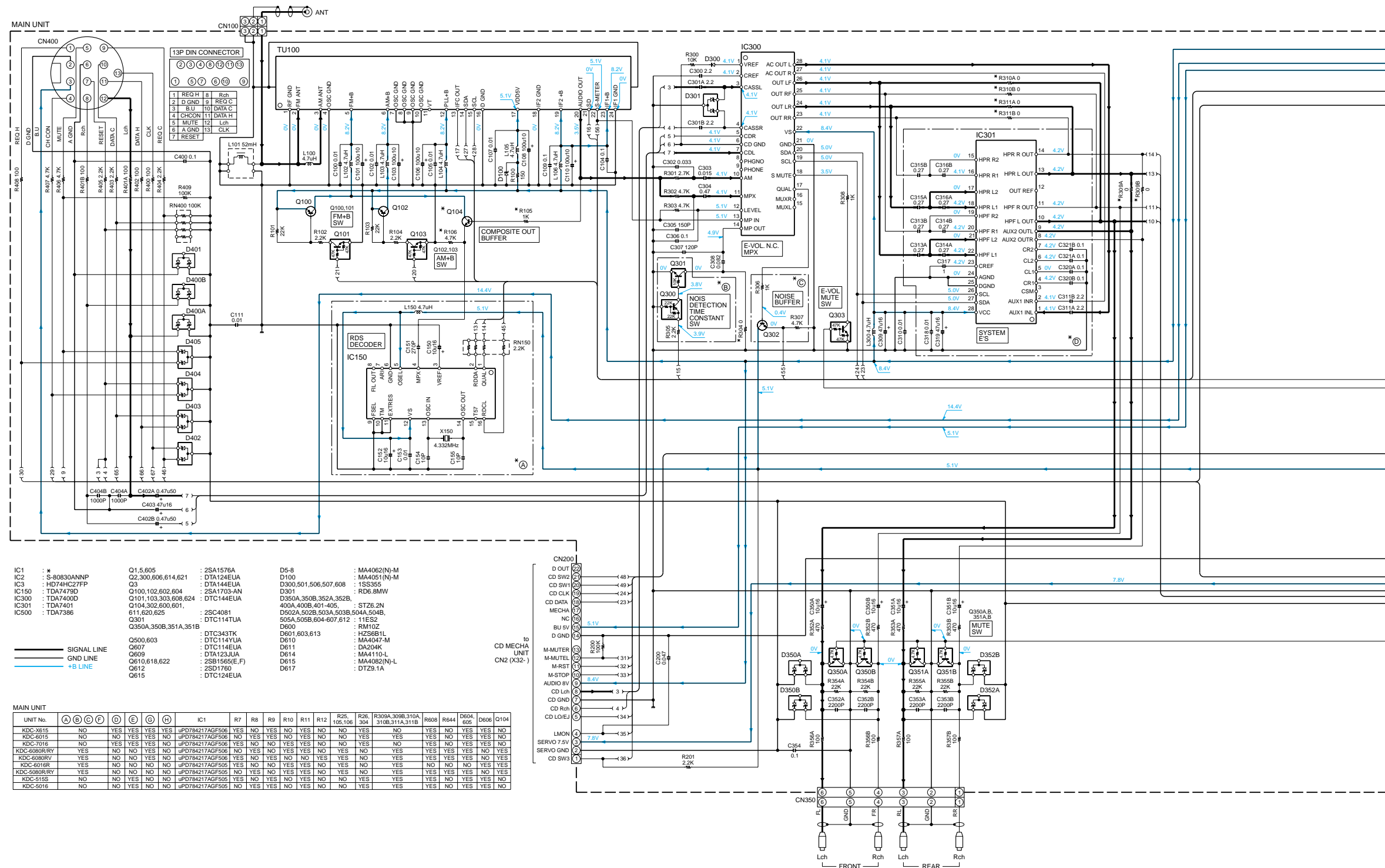
- The DNPP/SBF key of the remote control unit (RC-510) functions as the menu mode ON/OFF key.

- The OPEN/CLOSE key of the remote control unit (RC-510) functions as the audio adjustment mode ON/OFF key.

- The menu is displayed by displaying only the required features.

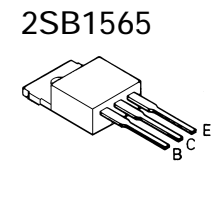
- Message such as "CODE OFF" is not displayed when power is turned ON.

- The contrast can be adjusted only to 0/5/10 using the Up/Down keys.

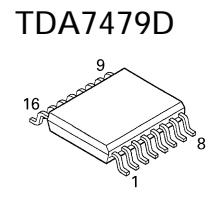
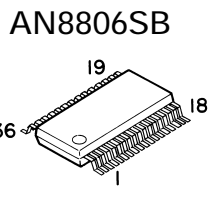
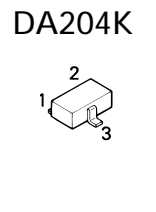
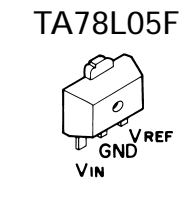
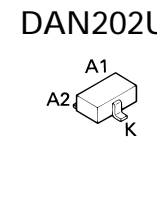
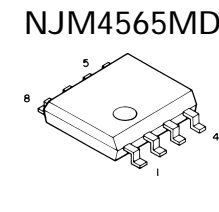
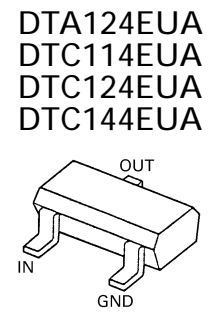
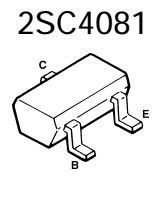
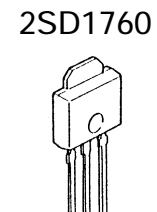
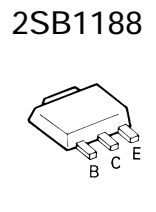


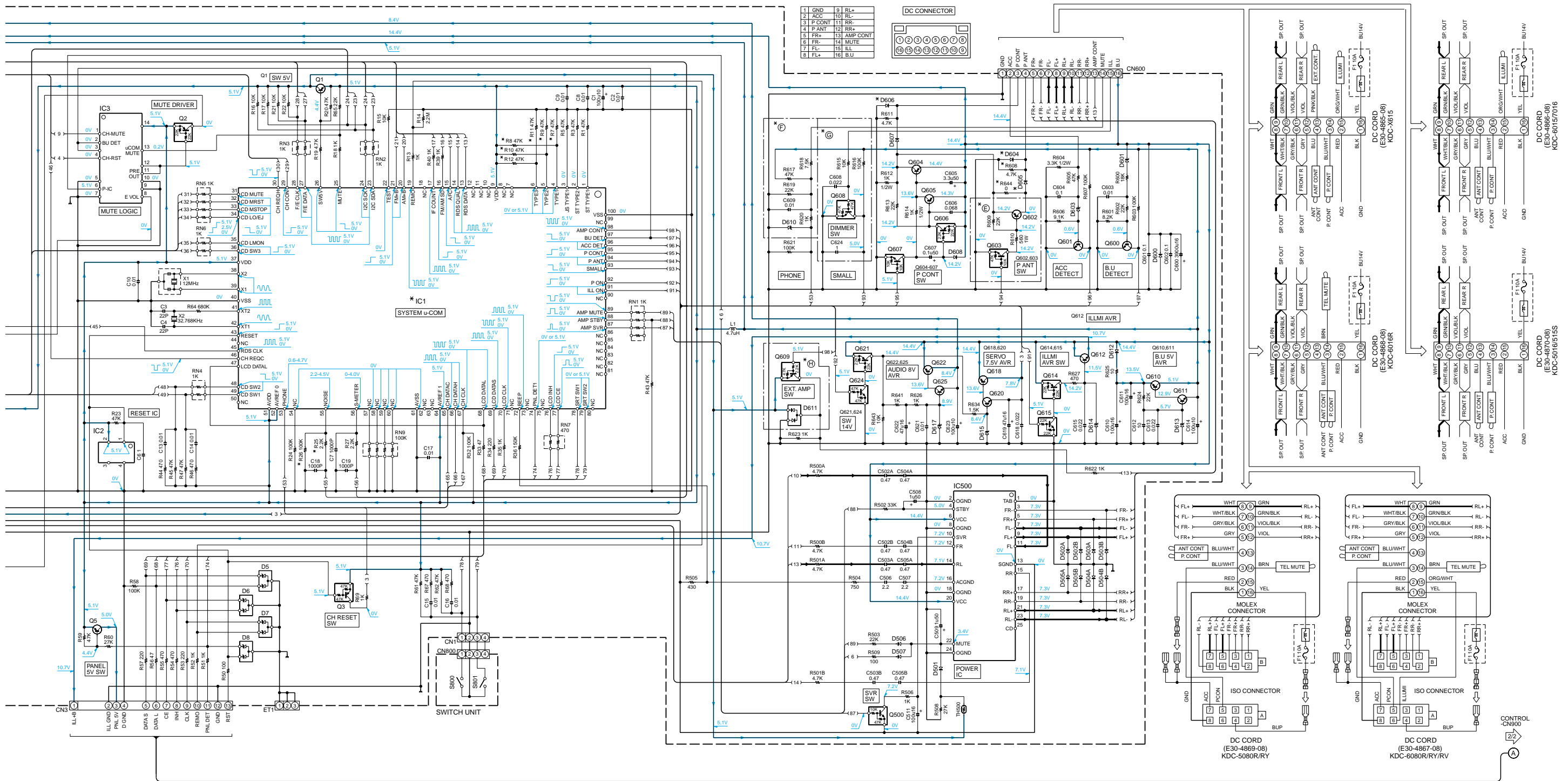
IC1	: *	Q1,5,605	: 2SA1576A	D5-8	: MA4062(N)-M
IC2	: S-80830ANNP	Q2,300,606,614,621	: DTA124EUA	D100	: MA4051(N)-M
IC3	: HD74HC27FP	Q3	: DTA144EUA	D300,501,506,507,608	: 1SS350
IC150	: TDA7479D	Q100,102,602,604	: 2SA11703-AN	D301	: RD6.8MW
IC300	: TDA7400D	Q101,103,303,608,624	: DTC144EUA	D350A,350B,352A,352B,400A,400B,401-405, D502A,502B,503A,503B,504A,504B, 505A,505B,604-607,612	: 11ES2
IC301	: TDA7401	Q104,302,600,601, 611,620,625	: 2SC4081	D600	: RM102
IC500	: TDA7386	Q301	: DTC114TUA	D601,603,613	: HZS6B1L
		Q350A,350B,351A,351B	: DTC343TK	D610	: MA4047-M
		Q500,603	: DTC114YUA	D611	: DA204K
		Q607	: DTC114EUA	D614	: MA4110-L
		Q609	: DTA123JUA	D615	: MA4082(N)-L
		Q610,618,622	: 2SB1565(E,F)	D617	: DTZ9.1A
		Q612	: 2SD1760		
		Q615	: DTC124EUA		

UNIT No.	A	B	C	F	D	E	G	H	IC1	R7	R8	R9	R10	R11	R12	R25, 105,106	R26, 304	R309A,309B,310A, 310B,311A,311B	R608	R644	D604	D606	Q104
KDC-X615	NO	YES	YES	YES	YES	YES	YES	YES	μPD784217AGF506	YES	NO	YES	NO	YES	NO	NO	YES	NO	YES	NO	YES	YES	NO
KDC-5015	NO	NO	YES	YES	NO	μPD784217AGF506	NO	YES	YES	NO	YES	NO	NO	NO	NO	NO	YES	YES	YES	NO	YES	YES	NO
KDC-7016	NO	YES	YES	YES	NO	μPD784217AGF506	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
KDC-608R/RV	YES	NO	NO	YES	NO	μPD784217AGF506	NO	YES	NO	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO
KDC-608RV	YES	NO	NO	YES	NO	μPD784217AGF506	YES	NO	YES	NO	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO
KDC-6016R	YES	NO	NO	NO	NO	μPD784217AGF505	YES	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
KDC-508R/RV	YES	NO	NO	NO	NO	μPD784217AGF505	NO	YES	NO	YES	YES	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	NO
KDC-515S	NO	NO	YES	NO	NO	μPD784217AGF505	YES	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO
KDC-5016	NO	NO	YES	NO	NO	μPD784217AGF505	NO	YES	YES	NO	YES	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	NO



DTA144EUA  
DTC114YUA  
DTC343TK  
2SA1362  
2SA1576A  
2SD2114K



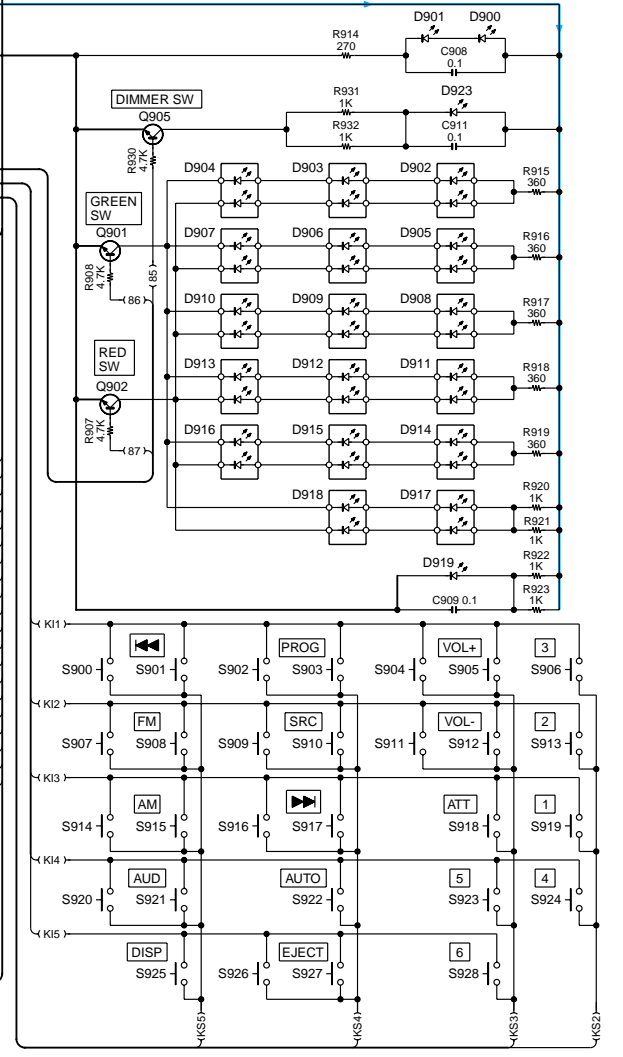
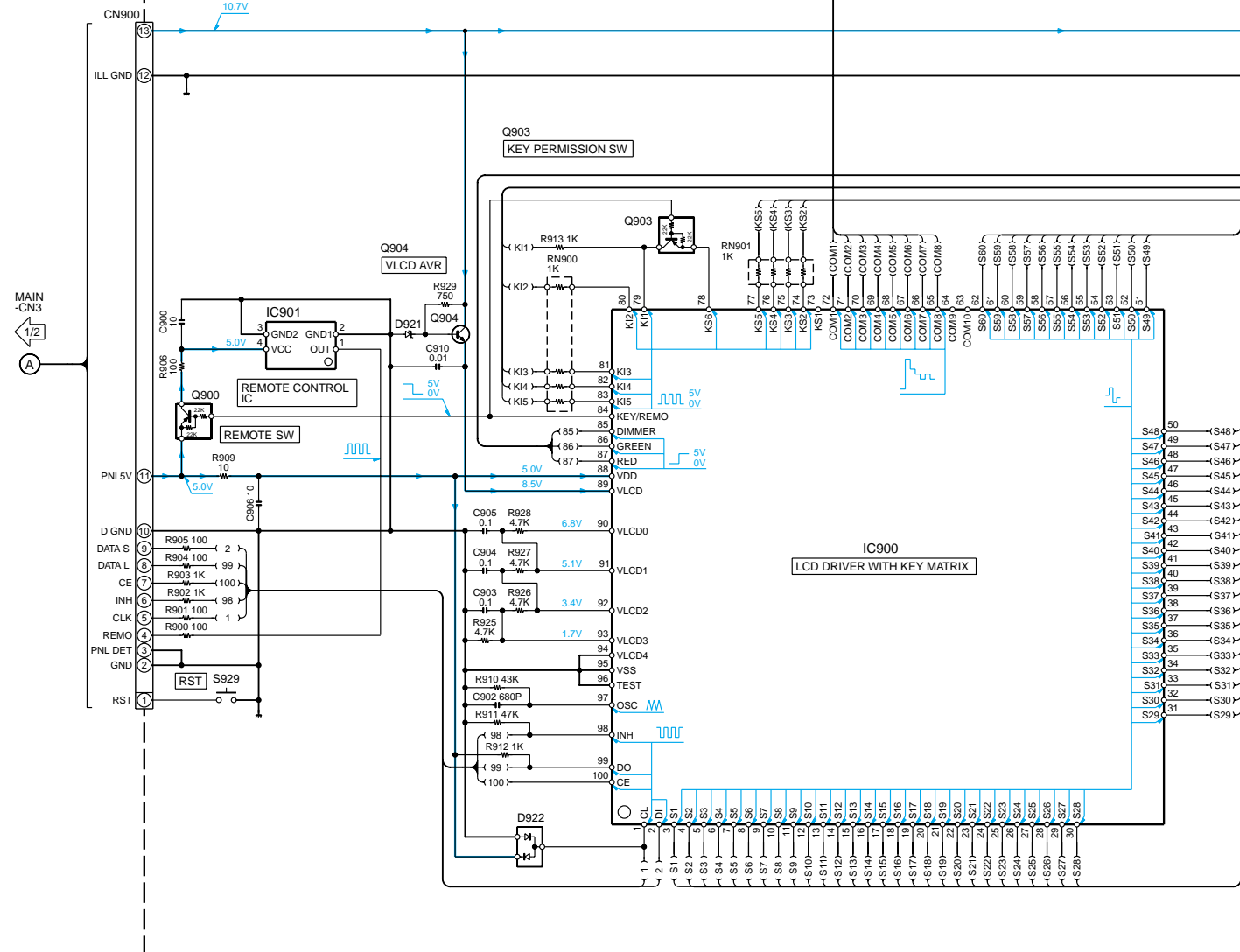
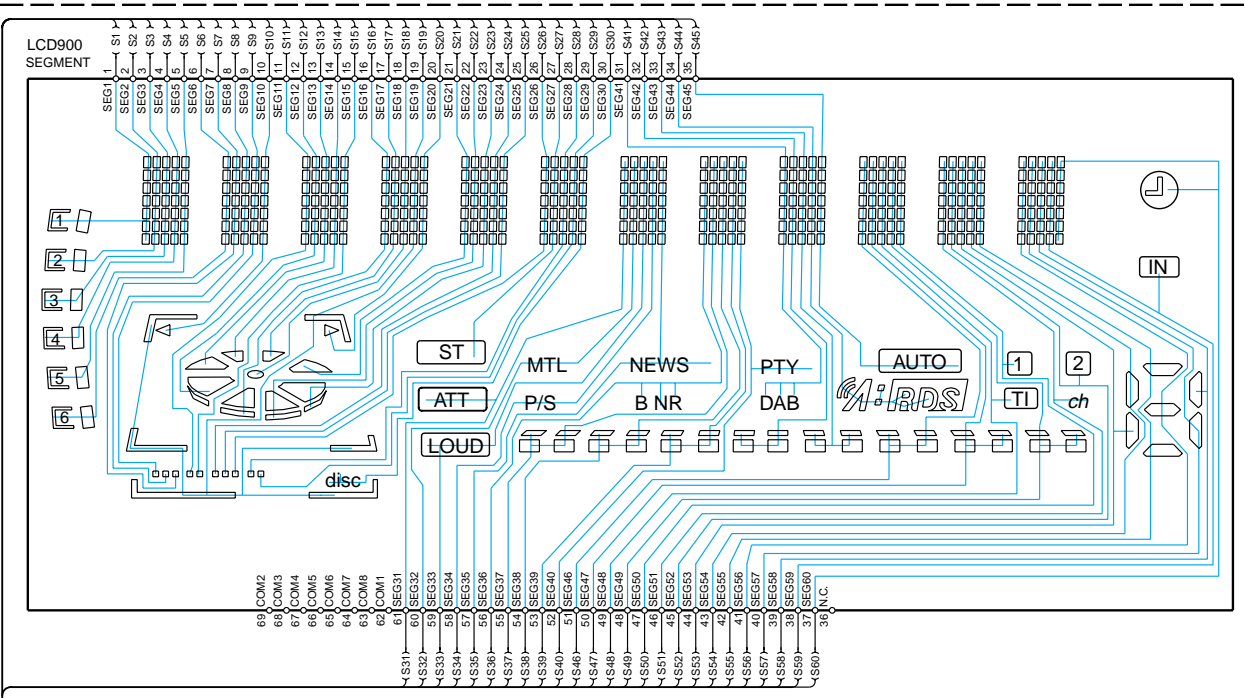
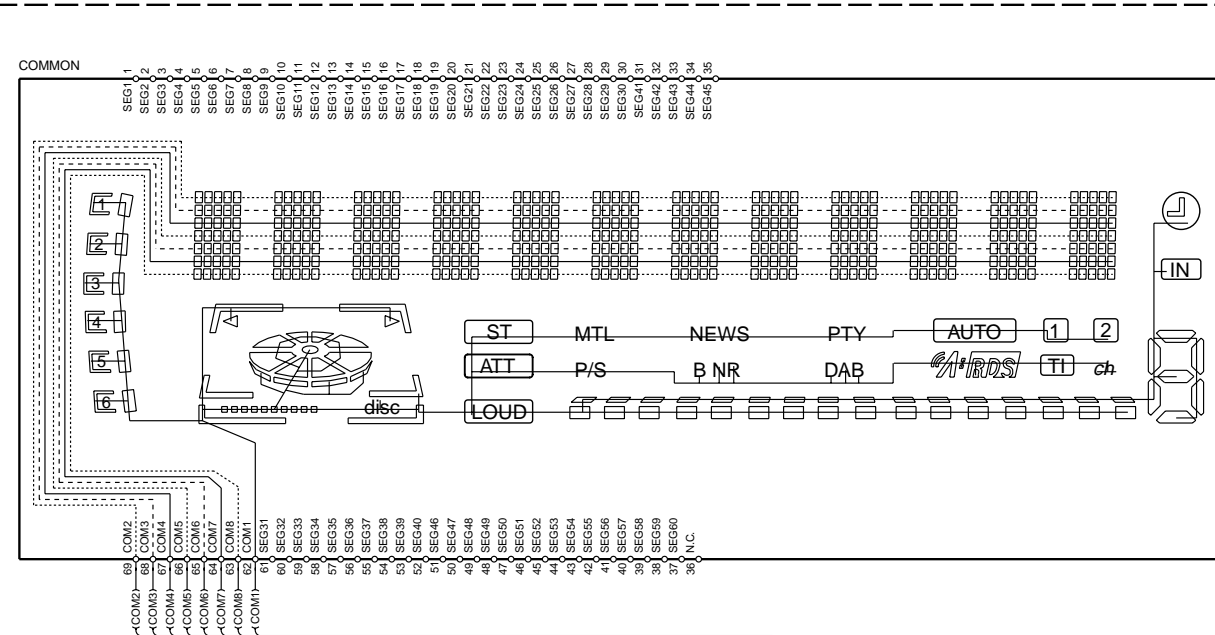


**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  
 ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

KDC-X615,6015  
 KDC-6080R/RV,7016

KENWOOD

CONTROL UNIT



- IC900 : LC75808E
- IC901 : RS-171
- Q900,903 : DTA124EUA
- Q901,902 : 2SD2114K
- Q904,905 : 2SC4081
- D900,901,923 : B30-1571-05
- D902-918 : B30-1562-05
- D919 : B30-1545-05
- D921 : VDZ9.1B
- D922 : DA204K

— GND LINE  
 + B LINE

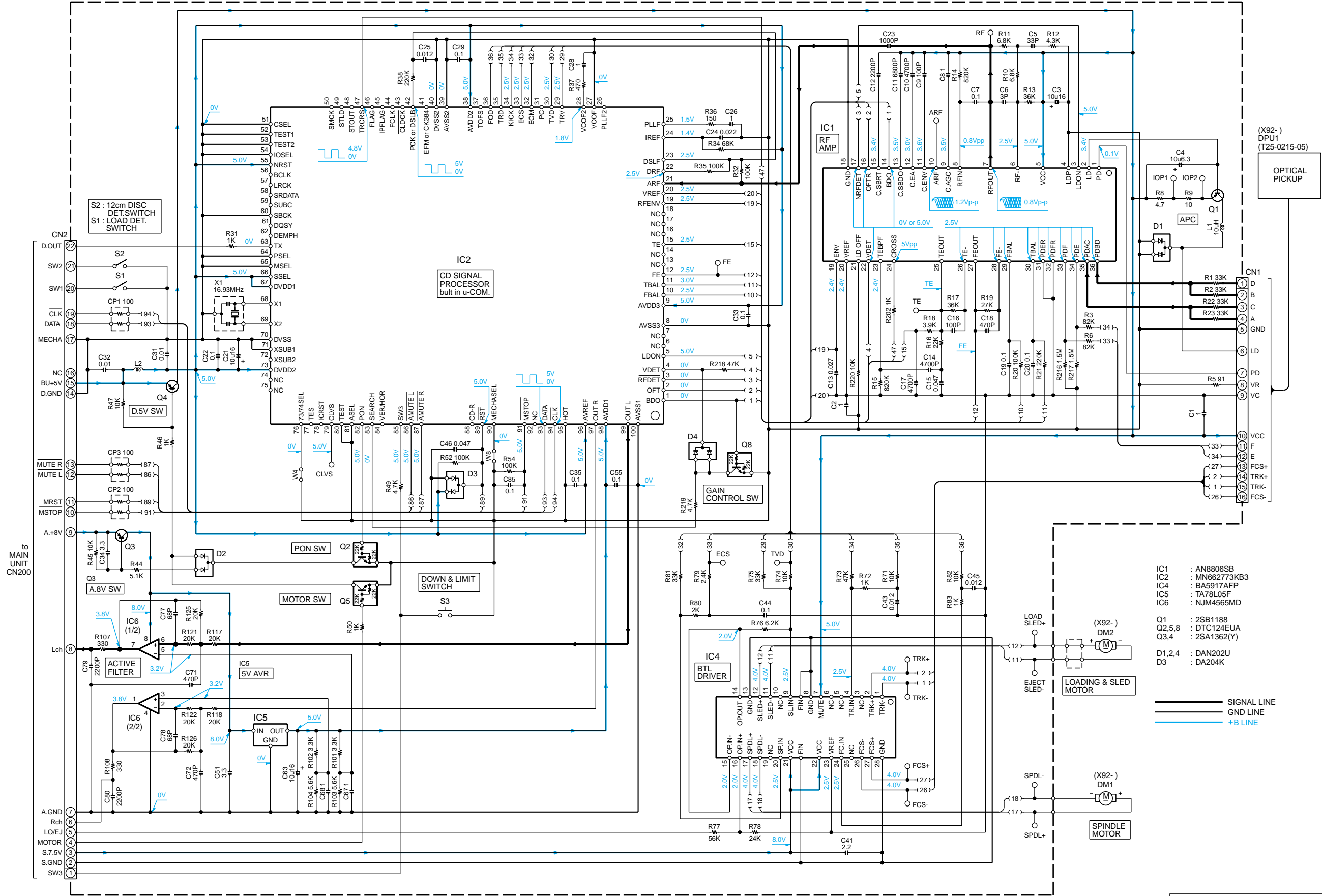
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KDC-X615,6015  
 KDC-6080R/RV,7016

KENWOOD



X32-4720-00 : (DXM-1340)



- IC1 : AN8806SB
- IC2 : MN662773KB3
- IC4 : BA5917AFP
- IC5 : TA78L05F
- IC6 : NJM4565MD
- Q1 : 2SB1188
- Q2,5,8 : DTC124EUA
- Q3,4 : 2SA1362(Y)
- D1,2,4 : DAN202U
- D3 : DA204K

— SIGNAL LINE  
 — GND LINE  
 — +B LINE

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