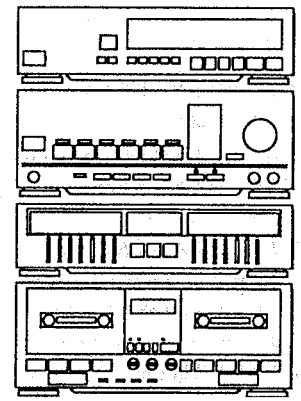
S/M Code No.89 – 067 DATE OF ISSUE 8/1989

AIWA®

CU-D1000



SERVICE MANUAL

STEREO SYSTEM

• BASIC TAPE MECHANISM : TN – 1800 • TYPE. H,E,K

SYSTEM	AMPLIFIER	CASSETTE DECK	TUNER	GRAPHIC EQUALIZER	REMOTE CONTROLLER	SPEAKER	CD PLAYER (OPTIONAL)	TURNTABLE (OPTIONAL)
H TYPE	MX – D10	FX – W10	TX – D10F	GE – D10	RC – T10F	SX – D10 ※1	DX – D10 ※2	LX – D10 ※3
E TYPE	MX – D10	FX – W10	TX – D10LE	GE – D10	RC – T10LE	SX – D10 ※1	DX – D10 ※2	LX – D10 ※3
K TYPE	MX – D10	FX – W10	TX – D10L	GE – D10	RC – T10L	SX – D10 ※1	DX – D10 ※2	LX – D10 ※3

※1 CU – D1000 does not have SX – D10.

※2 As to the service information of DX – D10, See the individual service manual of DX – D10.

※3 As to the service information of LX – D10, See the individual service manual of LX – D10.

AIWA Co., Ltd. Tokyo Japan

Printed in Japan

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SPECIFICATIONS

TUNER TX-D10

<FM section>

Frequency range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	1.6 μV (75 ohms) 15.2 dBf
Alternate channel selectivity	50 dB (±400 kHz)
Signal-to-noise ratio	70 dB (STEREO), 78 dB (MONO)
Harmonic distortion	0.3% (MONO), 1 kHz 0.8% (STEREO), 1kHz
Frequency response	20 Hz to 15 kHz (+0.5 dB, −3 dB)
Stereo separation	40 dB at 1 kHz
Antenna	75 ohms (unbalanced)

<AM (MW) section>

Frequency range	H: AM 530 kHz to 1,602 kHz E and K: MW 530 kHz to 1,605 kHz
Usable sensitivity	H: 300 μV/m E and K: 400 μV/m
Selectivity	22 dB (9 kHz)
Signal-to-noise ratio	53 dB (100 dB input)
Antenna	Loop antenna

<LW section> (E and K model only)

Frequency range	150 kHz to 285 kHz
Sensitivity	1,000 μV/m
Antenna	Loop antenna

<Timer section and general>

Program timer	"Once" and/or "every"
Sleep timer	Capable of setting in 10-minute increments, 99 minutes maximum
Dimensions	360 (W) × 76 (H) × 308.5 (D) mm
Weight	2.2 kg

AMPLIFIER MX-D10

Power output	H: 100 W + 100 W (6 ohms, EIAJ, 1 kHz) E: 80 W + 80 W (6 ohms, T.H.D. 1% 1 kHz) K: 100 W + 100 W (6 ohms, EIAJ, 1 kHz) 80 W + 80 W (6 ohms, T.H.D. 1% 1 kHz)
Harmonic distortion	0.03% (50 W, 1 kHz, 6 Ω)
Dampling factor	More than 20 (1 kHz, 6 Ω)
Input sensitivity (load impedance)	PHONO: 4.5 mV (47 kilohms) VCR 1, CDV/VCR 2, AUX, LD/AUX: 250 mV (47 kilohms)
Signal-to-noise ratio	90 dB
Power requirements	H: AC 120 V/220 V/240 V switchable, 50/60 Hz E: AC 220 V, 50/60 Hz K: AC 240 V, 50/60 Hz
Power consumption	H: 165 W (System total 190 W) E and K: 460 W (System total 480 W)
Dimensions	360 (W) × 136 (H) × 322 (D) mm
Weight	H: 9.6 kg E and K: 8.5 kg

CASSETTE DECK FX-W10

Track format	4 tracks, 2 channels
Frequeny response	METAL tape: 20 – 18,000 Hz CrO2 tape: 20 – 16,000 Hz Normal tape: 20 – 15,000 Hz
Signal-to-noise ratio	78 dBf (DOLBY C NR ON, METAL tape peak level above 5 kHz)
Wow and flutter	0.09 % (WRMS)
Tape speed	4.8 cm/sec. (1-7/8 ips) 9.5 cm/sec. (double speed)
Rewind time	120 sec. (C-60)
Fast forward time	120 sec. (C-60)
Recording system	AC bias
Erase system	AC erase
Motor	DC servomotor × 2
Heads	Playback head × 1 (deck 1) Record/playback/erase head × 1 (deck 2)
Dimensions	360 (W) × 136 (H) × 315 (D) mm
Weight	3.8 kg

GRAPHIC EQUALIZER GE-D10

Input	250 mV (47 kohms)
Output	250 mV (47 kohms)
Dimensions	360 (W) × 86 (H) × 298 (D) mm
Weight	2.3 kg

SPEAKER SX-D10

Cabinet type	Bass reflex
Speaker	230 mm cone type woofer 60 mm cone type tweeter 40 mm ceramic type tweeter
Impedance	6 ohms
Music power	150 W
Output sound pressure level	90 dB/W/m
Frequency response	40 Hz to 20 kHz
Dimensions	296 (W) × 520 (H) × 265 (D) mm
Weight	8.2 kg

COMMON SECTION

Power requirements	H: 120/220/240 V AC, switchable, 50/60 Hz E and K: 240 V AC, 50 Hz
Dimensions	952 (W) × 520 (H) × 322 (D) mm (vertical placement) 1,312 (W) × 520 (H) × 322 (D) mm (horizontal placement)
Weight	H: 34.3 kg E and K: 33.2 kg

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
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- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
- Under license from BBE Sound, Inc.

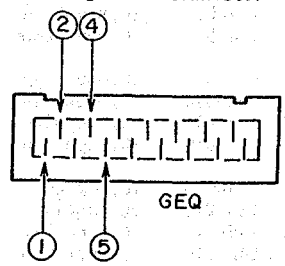
MODEL NO.

MX – D10

CAUTIONS WHEN SERVICING (MX – D10)

The audio signal passes through the graphic equalizer (GE-D10). When the unassembled amplifier is operated, therefore, the signal at the input terminal is not supplied to the power amplifier and no sound is output. When servicing the unassembled amplifier, operate it by the following procedure.

Diagram of Connector

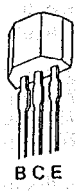


(When servicing the unassembled amplifer)

1. Short-circuit pins①and⑤(for Rch) of graphic equalizer input terminal CN402 and pins②and④(for Rch).

MX – D10,FX – W10,TX – D10,GE – D10

2SA952
2SA1015
2SA1296
2SC945
2SC1815
2SC2001
2SD1302
ESA1266



DTA114
DTA144
DTC114
DTC124
DTC144
2SC2458

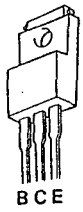
2SC1383
2SC1923
2SC2878
2SD655

2SC2603

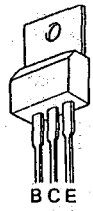
RN1205

2SK246
2SK373

2SK161
2SK241



2SB1015



2SD1761

ELECTRICAL MAIN PARTS LIST (MX – D10)

REF.NO.	PART NO.	DESCRIPTION
		=== IC ===
	87-001-443-010	IC,ASP8801
	87-001-523-010	IC,BA7001
	87-009-060-010	IC,HFBR-2550(CD,OPTICAL)
	81-669-640-010	IC,LC6554H-3883
	87-027-895-010	IC,M5218L
	87-001-576-010	IC,MJM7812FA
	87-027-747-010	IC,MSM4001RS(E,K)
	87-020-758-010	IC,NJM2068SD
	87-001-647-010	IC,NJM78L12A
	87-001-130-010	IC,NJU4051BD
	87-001-133-010	IC,NJU4052BD
	87-001-134-010	IC,NJU4053BD
	87-001-524-010	IC,PCM56P-L
	87-001-525-010	IC,SM5814AP
	87-001-748-010	IC,STK4204MK2
	87-020-642-010	IC,TC74HC00P
	87-020-665-010	IC,TC74HCU04P
	87-020-943-010	IC,TC9176P
	87-001-526-010	IC,YM3623B
		=== TRANSISTOR ===
	89-502-465-010	FET,2SK246GR
	89-109-521-010	TRANSISTOR,2SA952K
	89-110-155-010	TRANSISTOR,2SA1015(GR)
	89-210-154-010	TRANSISTOR,2SB1015Y
	89-309-456-010	TRANSISTOR,2SC945L,P
	89-313-835-010	TRANSISTOR,2SC1383NC Q
	89-318-155-010	TRANSISTOR,2SC1815,GR
	89-320-011-010	TRANSISTOR,2SC2001K
	89-324-585-010	TRANSISTOR,2SC2458GR (TP4)
	89-326-035-010	TRANSISTOR,2SC2603F
	89-328-785-010	TRANSISTOR,2SC2878(A)TPE2
	89-406-555-010	TRANSISTOR,2SD655E
	89-414-064-010	TRANSISTOR,2SD1406Y
	87-026-214-010	TRANSISTOR,DTA114YS
	87-026-219-010	TRANSISTOR,DTA144ES
	87-026-245-010	TRANSISTOR,DTC114ES
	87-026-217-010	TRANSISTOR,DTC124ES
	87-026-218-010	TRANSISTOR,DTC144ES
	87-026-367-010	TRANSISTOR,RN1205
		=== DIODE ===
	87-020-691-010	DIODE,1SS132
	87-001-749-010	DIODE,D5SB20
	87-020-123-010	DIODE,DS446
	87-020-945-010	DIODE,MPG06D
	87-027-455-010	DIODE,S2V20F
	87-001-833-010	DIODE,SB340F(E,K)
	87-027-475-010	DIODE,ZENER HZ-6B1
	87-027-321-010	DIODE,ZENER HZ-9B2
	87-027-661-010	DIODE,ZENER HZ30-2L
	87-027-416-010	DIODE,ZENER HZ3C2
	87-027-405-010	DIODE,ZENER RD2.2EB
		=== MAIN CIRCUIT BOARD SECTION ===
C649	★87-010-127-010	CAP,CERA-SOL SS 470P
C650	★87-010-127-010	CAP,CERA-SOL SS 470P
C651	★87-010-402-010	CAP,ELECT 2.2-50SME
C652	★87-010-402-010	CAP,ELECT 2.2-50SME
C653	★87-018-127-010	CAP,CERA-SOL SS 470P
C654	★87-018-127-010	CAP,CERA-SOL SS 470P
C655	★87-010-374-010	CAP,ELECT 47-10V
C656	★87-010-374-010	CAP,ELECT 47-10V
C663	★87-010-405-010	CAP,ELECT 10-50SME
C664	★87-010-248-010	CAP,ELECT 220-10SME
C665	★87-010-764-010	CAP,ELECT 47-63 SME
C666	★87-010-764-010	CAP,ELECT 47-63 SME
C667	★87-010-405-010	CAP,ELECT 10-50SME
C672	★87-010-402-010	CAP,ELECT 2.2-50SME
C674	★87-010-405-010	CAP,ELECT 10-50SME
C675	★87-010-405-010	CAP,ELECT 10-50SME
C676	★87-010-387-010	CAP,ELECT 470-25 SME
C677	★87-010-780-010	CAP,ELECT 6800-25V
C678	★87-015-651-010	CAP,ELECT 1000-63V
C679	★87-010-405-010	CAP,ELECT 10-50SME
C680	★87-010-247-010	CAP,ELECT 100-50SME
C681	★87-010-392-010	CAP,ELECT 33-35SME
C683	★87-010-405-010	CAP,ELECT 10-50SME
C684	★87-010-405-010	CAP,ELECT 10-50SME
C686	★87-010-405-010	CAP,ELECT 10-50SME
C687	★87-010-405-010	CAP,ELECT 10-50SME
C688	★87-015-457-010	CAP,ELECT 47-16V(BP)
C689	★87-010-403-010	CAP,ELECT 3.3-50SME
C691	★87-018-133-010	CAP,CERA-SOL SS 4700P
C695	★87-010-401-010	CAP,ELECT 1-50SME
C696	★87-010-401-010	CAP,ELECT 1-50SME
C901	★87-010-406-010	CAP,ELECT 22-50SME
C902	★87-010-405-010	CAP,ELECT 10-50SME
C903	★87-010-405-010	CAP,ELECT 10-50SME
C930	★87-010-408-010	CAP,ELECT 47-50
C931	★87-010-399-010	CAP,ELECT 3300-35SME(E,K)
C932	★87-010-399-010	CAP,ELECT 3300-35SME(E,K)
C933	★87-010-755-010	CAP,ELECT 8200-56LK
C934	★87-010-755-010	CAP,ELECT 8200-56LK
C935	★87-010-260-010	CAP,ELECT 47-25(E,K)
C936	★87-018-134-010	CAP,CERA-SOL SS 0.01
C937	★87-018-134-010	CAP,CERA-SOL SS 0.01
C942	★87-010-263-010	CAP,ELECT 100-10
C943	★87-018-134-010	CAP,CERA-SOL SS 0.01
⚠FR601	87-029-119-010	RES,FUSIBLE 1/4W-100
⚠FR602	87-029-119-010	RES,FUSIBLE 1/4W-100
⚠FR603	87-029-366-010	RES,FUSIBLE 1/2W-4.7 (F)
⚠FR604	87-029-366-010	RES,FUSIBLE 1/2W-4.7 (F)
J601	87-049-630-010	JACK 2.5(PHONO SYNC)
J603	★87-009-058-010	JACK,PIN 2P(SURROUND SPEAKERS)
J604	★87-033-197-010	TERMINAL,SP-4P 2(SPEAKERS)
KR601	★87-022-036-010	RES,MFO 220-2W
KR602	★87-022-036-010	RES,MFO 220-2W
RY601	87-045-280-010	RELAY G5R12V SP
RY602	87-045-258-010	RELAY G4U-12V
RY603	87-045-285-010	RELAY VB12MB(E,K)
RY604	87-045-201-010	RELAY G2R 12V(E,K)
VR601	87-024-159-010	VOLUME 50K(BALANCE)
VR602	87-024-160-010	VOLUME 50KB(BBE)
		=== FRONT CIRCUIT BOARD SECTION ===
C120	★87-010-263-010	CAP,ELECT 100/10V
C121	★87-010-263-010	CAP,ELECT 100/10V
C122	★87-018-134-010	CAP,CERA-SOL SS 0.01
C123	★87-010-544-010	CAP,ELECT 0.1-50
C124	★87-018-134-010	CAP,CERA-SOL SS 0.01
C125	★87-010-247-010	CAP,ELECT 100-50SME
C391	★87-018-205-010	CAP,CERA-SOL SS 0.022
C392	★87-018-205-010	CAP,CERA-SOL SS 0.022
CL101	★87-030-167-010	CERALOCK CST 4.0 MHZ
FL101	81-669-650-010	FL 5BT-101GK(SAMPLING FREQ.)
L101	★87-003-050-010	COIL,CHOKE 47UH

REF.NO.	PART NO.	DESCRIPTION
L102	*87-003-050-010	COIL,CHOKE 47UH
L103	*87-003-050-010	COIL,CHOKE 47UH
LED101	87-020-862-010	LED,SEL-2213C(VCR1)
LED102	87-001-190-010	LED,SEL-2413E(LD/AUX)
LED103	87-001-190-010	LED,SEL-2413E(LD/AUX)
LED104	87-020-862-010	LED,SEL-2213C(AUX)
LED105	87-020-862-010	LED,SEL-2213C(CDV/VCR2)
LED106	82-234-620-010	LED,SLZ981C50 RL105(MUT)
LED107	87-020-862-010	LED,SEL-2213C(TAPE)
LED108	87-020-862-010	LED,SEL-2213C(TUNER)
LED109	87-020-862-010	LED,SEL-2213C(PHONO)
LED110	87-001-190-010	LED,SEL-2413E(CD)
LED111	87-001-190-010	LED,SEL-2413E(CD)
LED112	87-001-190-010	LED,SEL-2413E(DAT)
LED113	87-001-190-010	LED,SEL-2413E(DAT)
LED114	82-234-620-010	LED,SLZ981C50 R L105(DSL)
LED115	82-234-620-010	LED,SLZ981C50 R L105(BBE)
LED116	87-001-190-010	LED,SEL-2413E(DIRECT)
LED117	87-001-190-010	LED,SEL-2413E(DIRECT)
LED118	87-020-862-010	LED,SEL-2213C(POWER)
S1	87-036-142-010	TACT SW(DIRECT)
S2	87-036-142-010	TACT SW(DSL)
S3	87-036-142-010	TACT SW(BBE)
S4	87-036-142-010	TACT SW(SURROUND)
S5	87-036-142-010	TACT SW(VCR1)
S6	87-036-142-010	TACT SW(LD/AUX)
S7	87-036-142-010	TACT SW(AUX)
S8	87-036-142-010	TACT SW(CDV/VCR2)
S9	87-036-142-010	TACT SW(MUTING)
S10	87-036-142-010	TACT SW(TAPE)
S11	87-036-142-010	TACT SW(TUNER)
S12	87-036-142-010	TACT SW(PHONO)
S13	87-036-142-010	TACT SW(CD)
S14	87-036-142-010	TACT SW(DAT)
⚠S101	87-031-692-010	PUSH SW(POWER)

=== JACK CIRCUIT BOARD SECTION ===

C301	*87-018-121-010	CAP,CERA-SOL SS 150P
C302	*87-018-121-010	CAP,CERA-SOL SS 150P
C303	*87-010-404-010	CAP,ELECT 4.7-50SME
C304	*87-010-404-010	CAP,ELECT 4.7-50SME
C305	*87-010-260-010	CAP,ELECT 47-25V SME
C306	*87-010-260-010	CAP,ELECT 47-25V SME
C307	*87-018-115-010	CAP,CERA-SOL SS 47P
C308	*87-018-115-010	CAP,CERA-SOL SS 47P
C309	*87-010-404-010	CAP,ELECT 4.7-50SME
C310	*87-010-404-010	CAP,ELECT 4.7-50SME
C315	*87-010-260-010	CAP,ELECT 47-25V SME
C316	*87-010-260-010	CAP,ELECT 47-25V SME
C321	*87-018-134-010	CAP,CERA-SOL SS 0.01
C322	*87-018-134-010	CAP,CERA-SOL SS 0.01
C323	*87-018-134-010	CAP,CERA-SOL SS 0.01
C324	*87-018-134-010	CAP,CERA-SOL SS 0.01
C325	*87-018-134-010	CAP,CERA-SOL SS 0.01
C326	*87-018-134-010	CAP,CERA-SOL SS 0.01
C327	*87-018-134-010	CAP,CERA-SOL SS 0.01
C328	*87-018-134-010	CAP,CERA-SOL SS 0.01
C331	*87-010-404-010	CAP,ELECT 4.7-50SME
C332	*87-010-404-010	CAP,ELECT 4.7-50SME
C333	*87-010-404-010	CAP,ELECT 4.7-50SME
C334	*87-010-404-010	CAP,ELECT 4.7-50SME
C335	*87-010-260-010	CAP,ELECT 47-25V SME
C336	*87-010-260-010	CAP,ELECT 47-25V SME
C340	*87-018-121-010	CAP,CERA-SOL SS 150P

REF.NO.	PART NO.	DESCRIPTION
C341	*87-010-401-010	CAP,ELECT 1-50SME
C342	*87-010-401-010	CAP,ELECT 1-50SME
C343	*87-010-401-010	CAP,ELECT 1-50SME
C344	*87-010-401-010	CAP,ELECT 1-50SME
C347	*87-010-401-010	CAP,ELECT 1-50SME
C348	*87-010-401-010	CAP,ELECT 1-50SME
C349	*87-010-405-010	CAP,ELECT 10-50SME
C350	*87-010-405-010	CAP,ELECT 10-50SME
C351	*87-010-404-010	CAP,ELECT 4.7-50SME
C352	*87-010-404-010	CAP,ELECT 4.7-50SME
C355	*87-018-132-010	CAP,CERA-SOL SS 2200P
C356	*87-018-132-010	CAP,CERA-SOL SS 2200P
C359	*87-010-545-010	CAP,ELECT 0.22-50 SME
C360	*87-010-545-010	CAP,ELECT 0.22-50 SME
C361	*87-018-109-010	CAP,CERA-SOL SS 22P
C362	*87-018-109-010	CAP,CERA-SOL SS 22P
C369	*87-010-401-010	CAP,ELECT 1-50SME
C370	*87-010-401-010	CAP,ELECT 1-50SME
C371	*87-010-401-010	CAP,ELECT 1-50SME
C372	*87-010-401-010	CAP,ELECT 1-50SME
C373	*87-010-401-010	CAP,ELECT 1-50SME
C374	*87-010-401-010	CAP,ELECT 1-50SME
C375	*87-018-134-010	CAP,CERA-SOL SS 0.01
C376	*87-018-134-010	CAP,CERA-SOL SS 0.01
C377	*87-010-260-010	CAP,ELECT 47-25V SME
C378	*87-010-260-010	CAP,ELECT 47-25V SME
C385	*87-018-134-010	CAP,CERA-SOL SS 0.01
C386	*87-018-134-010	CAP,CERA-SOL SS 0.01
J301-1	*87-009-057-010	JACK,PIN 6P(PHONO,L)
J301-2	+++	JACK,PIN 6P(PHONO,R)
J301-3	+++	JACK,PIN 6P(CDV/VCR2,L)
J301-4	+++	JACK,PIN 6P(CDV/VCR2,R)
J301-5	+++	JACK,PIN 6P(VCR1 IN,L)
J301-6	+++	JACK,PIN 6P(VCR1 IN,R)
J302-1	*87-009-056-010	JACK,PIN 4P(VCR1 OUT,L)
J302-2	+++	JACK,PIN 4P(VCR1 OUT,R)
J302-3	+++	JACK,PIN 4P(AUX,L)
J302-4	+++	JACK,PIN 4P(AUX,R)
J303-1	*87-009-056-010	JACK,PIN 4P(REC OUT,L)
J303-2	+++	JACK,PIN 4P(REC OUT,R)
J303-3	+++	JACK,PIN 4P(DAT REC OUT,L)
J303-4	+++	JACK,PIN 4P(DAT REC OUT,R)
SFR101	*87-024-172-010	SFR 10K
SFR102	*87-024-172-010	SFR 10K

=== DIGITAL CIRCUIT BOARD SECTION ===

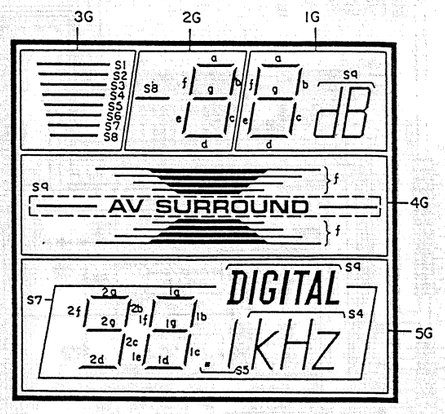
C202	*87-010-404-010	CAP,ELECT 4.7/50SME
C203	*87-018-134-010	CAP,CERA-SOL SS 0.01
C204	*87-018-134-010	CAP,CERA-SOL SS 0.01
C208	*87-018-134-010	CAP,CERA-SOL SS 0.01
C211	*87-010-260-010	CAP,ELECT 47-25V SME
C212	*87-018-134-010	CAP,CERA-SOL SS 0.01
C214	*87-018-109-010	CAP,CERA-SOL SS 22P
C215	*87-018-109-010	CAP,CERA-SOL SS 22P
C217	*87-018-109-010	CAP,CERA-SOL SS 22P
C218	*87-010-400-010	CAP,ELECT 0.47-50SME
C219	*87-010-404-010	CAP,ELECT 4.7-50SME
C220	*87-018-134-010	CAP,CERA-SOL SS 0.01
C221	*87-018-121-010	CAP,CERA-SOL SS 150P
C222	*87-018-121-010	CAP,CERA-SOL SS 150P
C223	*87-010-260-010	CAP,ELECT 47-25V SME
C224	*87-010-260-010	CAP,ELECT 47-25V SME
C225	*87-018-134-010	CAP,CERA-SOL SS 0.01
C226	*87-018-134-010	CAP,CERA-SOL SS 0.01

REF.NO.	PART NO.	DESCRIPTION
C227	*87-010-260-010	CAP,ELECT 47-25V SME
C228	*87-010-260-010	CAP,ELECT 47-25V SME
C229	*87-018-134-010	CAP,CERA-SOL SS 0.01
C230	*87-018-134-010	CAP,CERA-SOL SS 0.01
C239	*87-018-119-010	CAP,CERA-SOL SS 100P
C240	*87-018-119-010	CAP,CERA-SOL SS 100P
C241	*87-018-130-010	CAP,CERA-SOL 820P
C242	*87-018-130-010	CAP,CERA-SOL 820P
C243	*87-010-260-010	CAP,ELECT 47-25V SME
C244	*87-010-260-010	CAP,ELECT 47-25V SME
C245	*87-018-134-010	CAP,CERA-SOL SS 0.01
C246	*87-018-134-010	CAP,CERA-SOL SS 0.01
C247	*87-018-119-010	CAP,CERA-SOL SS 100P
C248	*87-018-119-010	CAP,CERA-SOL SS 100P
C249	*87-018-132-010	CAP,CERA-SOL SS 2200P
C250	*87-018-132-010	CAP,CERA-SOL SS 2200P
C251	*87-010-405-010	CAP,ELECT 10-50SME
C252	*87-010-405-010	CAP,ELECT 10-50SME
C255	*87-010-260-010	CAP,ELECT 47-25V SME
C256	*87-018-134-010	CAP,CERA-SOL SS 0.01
C260	*87-018-134-010	CAP,CERA-SOL SS 0.01
C261	*87-018-134-010	CAP,CERA-SOL SS 0.01
C262	*87-010-265-010	CAP,ELECT 33-16SME
C263	*87-010-265-010	CAP,ELECT 33-16SME
C264	*87-010-265-010	CAP,ELECT 33-16SME
C265	*87-010-375-010	CAP,ELECT 330-10SME
C266	*87-010-375-010	CAP,ELECT 330-10SME
C267	*87-010-260-010	CAP,ELECT 47-25V SME
C268	*87-010-260-010	CAP,ELECT 47-25V SME
C269	*87-010-260-010	CAP,ELECT 47-25V SME
C270	*87-010-263-010	CAP,ELECT 100/10V
C271	*87-010-112-010	CAP,ELECT 100-16
C272	*87-018-134-010	CAP,CERA-SOL SS 0.01
C279	*87-018-134-010	CAP,CERA-SOL SS 0.01
C280	*87-018-134-010	CAP,CERA-SOL SS 0.01
C281	*87-018-134-010	CAP,CERA-SOL SS 0.01
C282	*87-018-134-010	CAP,CERA-SOL SS 0.01
C283	*87-018-134-010	CAP,CERA-SOL SS 0.01
C284	*87-018-134-010	CAP,CERA-SOL SS 0.01
C285	*87-018-134-010	CAP,CERA-SOL SS 0.01
C286	*87-018-134-010	CAP,CERA-SOL SS 0.01
C287	*87-018-134-010	CAP,CERA-SOL SS 0.01
C288	*87-018-134-010	CAP,CERA-SOL SS 0.01
C289	*87-018-119-010	CAP,CERA-SOL SS 100P
C290	*87-018-119-010	CAP,CERA-SOL SS 100P
C291	*87-018-134-010	CAP,CERA-SOL SS 0.01
C293	*87-018-134-010	CAP,CERA-SOL SS 0.01
C294	*87-018-134-010	CAP,CERA-SOL SS 0.01
C295	*87-018-134-010	CAP,CERA-SOL SS 0.01
C296	*87-018-134-010	CAP,CERA-SOL SS 0.01
C297	*87-018-134-010	CAP,CERA-SOL SS 0.01
C298	*87-018-134-010	CAP,CERA-SOL SS 0.01
C299	*87-018-134-010	CAP,CERA-SOL SS 0.01
EM201	*87-008-372-010	FILTER,EMI BL OIRNI
J201	*87-009-054-010	JACK,PIN 1P(B)(LD/AUX,COAX)
J202	*87-009-054-010	JACK,PIN 1P(B)(DAT,COAX)
J203-1	*87-009-055-010	JACK,PIN 4P(Y)(VCR1 IN)
J203-2	+++	JACK,PIN 4P(Y)(VCR1 OUT)
J203-3	+++	JACK,PIN 4P(Y)(CDV/VCR2,IN)
J203-4	+++	JACK,PIN 4P(Y)(LD/AUX IN)
J204	*87-009-053-010	JACK,PIN 1P(Y)(MONITOR OUT)
L201	*87-003-149-010	COIL,CHOKE 47UH
L202	*87-003-149-010	COIL,CHOKE 47UH
L204	*87-003-149-010	COIL,CHOKE 47UH

REF.NO.	PART NO.	DESCRIPTION
L205	*87-003-050-010	COIL,CHOKE 47UH
L206	*87-003-098-010	COIL,CHOKE 2.2UH
L207	*87-003-149-010	COIL,CHOKE 47UH
L208	*87-003-149-010	COIL,CHOKE 47UH
X201	*87-030-145-010	CRYSTAL8.816 MHZ
=== OPTICAL CIRCUIT BOARD SECTION ===		
C201	*87-018-209-010	CAP,CERA-SOL 0.1
C202	*87-010-404-010	CAP,ELECT 4.7-50SME
C209	*87-018-209-010	CAP,CERA-SOL 0.1
J700	87-009-060-010	HFBR-2550(CD,OPTICAL)
=== POWER CIRCUIT BOARD SECTION ===		
⚠	*87-033-147-010	FUSE CLAMP
⚠F601	87-035-366-010	FUSE,T2.5A 250V(E,K)
⚠F602	87-035-312-010	FUSE,7A 250V(H)
⚠F602	87-035-370-010	FUSE,T6.3A 250V(E,K)
⚠F603	87-035-367-010	FUSE,T3.15A 250V(E,K)
⚠F604	87-035-367-010	FUSE,T3.15A 250V(E,K)
⚠F605	87-035-312-010	FUSE,7A 250V(H)
⚠F605	87-035-370-010	FUSE,T3.6A 250V(E,K)
⚠F606	87-035-254-010	FUSE,2.5A(H)
⚠F606	87-035-366-010	FUSE,T2.5A 250V(E,K)
⚠F607	87-035-254-010	FUSE,2.5A(H)
⚠F607	87-035-366-010	FUSE,T2.5A 250V(E,K)
⚠T601	81-669-606-010	POWER TRANSFORMER(H)
⚠T601	81-669-608-010	POWER TRANSFORMER(E)
⚠T601	81-669-607-010	POWER TRANSFORMER(K)
=== PHONES CIRCUIT BOARD SECTION ===		
J602	81-669-654-010	JACK 6.3 W/S AU(PHONES)
=== VOLUME CIRCUIT BOARD SECTION ===		
VR301	87-024-158-010	ROTARY ENCODER(VOLUME)
=== SURROUND CIRCUIT BOARD SECTION ===		
C601	*87-010-401-010	CAP,ELECT 1-50SME
C602	*87-010-401-010	CAP,ELECT 1-50SME
C603	*87-010-405-010	CAP,ELECT 10-50SME
C604	*87-010-405-010	CAP,ELECT 10-50SME
C605	*87-010-401-010	CAP,ELECT 1-50SME
C606	*87-010-401-010	CAP,ELECT 1-50SME
C607	*87-010-260-010	CAP,ELECT 47-25V SME
C608	*87-010-260-010	CAP,ELECT 47-25V SME
C615	*87-010-260-010	CAP,ELECT 47-25V SME
C616	*87-010-260-010	CAP,ELECT 47-25V SME
C617	*87-010-545-010	CAP,ELECT 0.22-50 SME
C618	*87-010-545-010	CAP,ELECT 0.22-50 SME
C619	*87-010-378-010	CAP,ELECT 10-16
C620	*87-010-378-010	CAP,ELECT 10-16
C621	*87-010-404-010	CAP,ELECT 4.7-50SME
C622	*87-010-404-010	CAP,ELECT 4.7-50SME
C623	*87-010-546-010	CAP,ELECT 0.33-50V SME
C624	*87-010-546-010	CAP,ELECT 0.33-50V SME
C625	*87-010-403-010	CAP,ELECT 3.3-50SME
C626	*87-010-403-010	CAP,ELECT 3.3-50SME
C627	*87-010-260-010	CAP,ELECT 47-25V SME
C628	*87-010-260-010	CAP,ELECT 47-25V SME
C629	*87-010-401-010	CAP,ELECT 1-50SME
C637	*87-010-404-010	CAP,ELECT 4.7-50SME
C638	*87-010-404-010	CAP,ELECT 4.7-50SME
C639	*87-018-103-010	CAP,CERA-SOL SS 8.2P
C640	*87-018-103-010	CAP,CERA-SOL SS 8.2P
C643	*87-010-260-010	CAP,ELECT 47-25V SME

REF.NO.	PART NO.	DESCRIPTION
C644	*87-010-260-010	CAP,ELECT 47-25V SME
C693	*87-010-404-010	CAP,ELECT 4.7-50SME
C694	*87-010-404-010	CAP,ELECT 4.7-50SME
		⚌ AC VOLTAGE CIRCUIT BOARD SECTION ⚌ (H MODEL ONLY)
⚠	87-033-147-010	FUSE CLAMP
⚠F608	87-035-257-010	FUSE,4A 250V
⚠F609	87-035-257-010	FUSE,4A 250V
⚠S102	87-036-173-010	SLIDE SW(AC VOLTAGE)
		⚌ AC OUTLET CIRCUIT BOARD SECTION ⚌ (E,K MODEL ONLY)
⚠J601	*87-049-514-010	AC OUTLET E(E)
⚠J601	*87-049-416-010	AC OUTLET K-N(K)
⚠J602	*87-049-514-010	AC OUTLET E(E)
⚠J602	*87-049-416-010	AC OUTLET K-N(K)
⚠J603	*87-049-514-010	AC OUTLET E(E)
⚠J603	*87-049-416-010	AC OUTLET K-N(K)
		⚌ TR CIRCUIT BOARD SECTION ⚌ (E,K MODEL ONLY)
		⚌ MISCELLANEOUS ⚌
⚠	*87-085-184-010	AC CORD BUSHING D(H)
⚠	*87-085-185-010	AC CORD BUSHING E(E,K)
⚠	*87-034-732-010	AC CORD(H)
⚠	*82-187-797-019	AC CORD(E)
⚠	*87-034-734-010	AC CORD(K)
⚠J601	*87-049-365-010	AC OUTLET 3P UNSW(H)
⚠S103	87-036-116-010	SEESAW SW(POWER)(E,K)

FL DISPLAY (MX – D10)



ANODE CONNECTION

	5G	4G	3G	2G	1G
S1	2d,2a	–	▬	a	a,d,e
S2	1b,1g, 2b,2c,2g	–	▬	b	b
S3	1a,1d,1e	–	▬	c	c,f
S4	kHz	–	▬	d	–
S5	▪ /	–	▬	e	–
S6	1c,1f,2f	▤	▬	f	–
S7	▭	–	▬	g	g
S8	–	–	▬	▬	–
S9	DIGITAL	— AV SURROUND —	–	–	dB

TRUTH TABLE (MX – D10)

NJU4051

CONTROL INPUT				ON
INHIBIT	C	B	A	SWITCH
0	0	0	0	X0
0	0	0	1	X1
0	0	1	0	X2
0	0	1	1	X3
0	1	0	0	X4
0	1	0	1	X5
0	1	1	0	X6
0	1	1	1	X7
1	X	X	X	–

※ X : DONT CARE

NJU4052

CONTROL INPUT			CHANNEL IN/OUT SWITCH OF COMMON TERMINAL			
INHIBIT	B	A	X0	X1	X2	X3
0	0	0	ON	OFF	OFF	OFF
0	0	1	OFF	ON	OFF	OFF
0	1	0	OFF	OFF	ON	OFF
0	1	1	OFF	OFF	OFF	ON
1	X	X	OFF	OFF	OFF	OFF

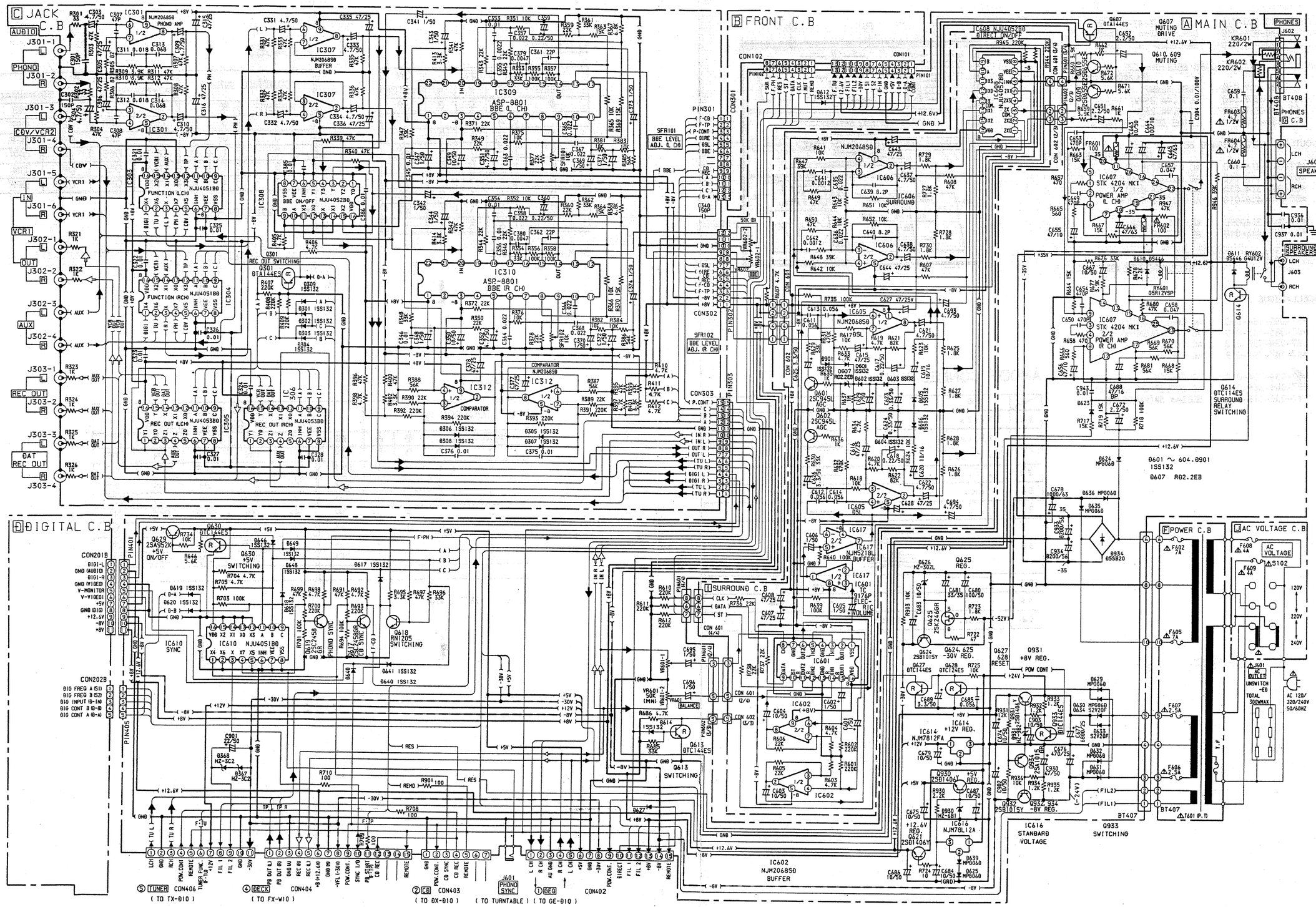
※ X : DONT CARE

NJU4053

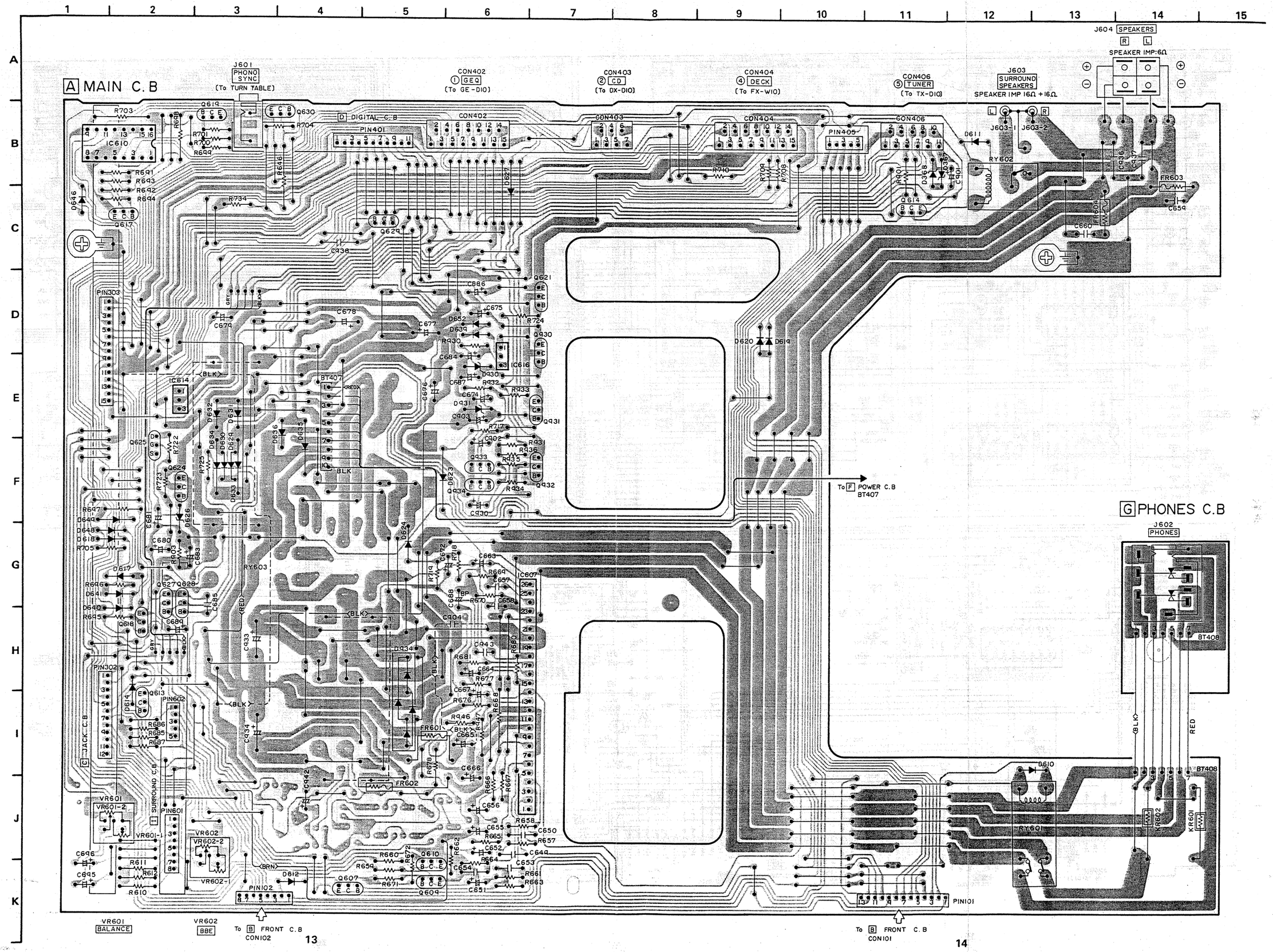
CONTROL INPUT				CHANNEL IN/OUT SWITCH OF COMMON TERMINAL					
INHIBIT	C	B	A	X0	X1	Y0	Y1	Z0	Z1
0	0	0	0	ON	OFF	ON	OFF	ON	OFF
0	0	0	1	OFF	ON	ON	OFF	ON	OFF
0	0	1	0	ON	OFF	OFF	ON	ON	OFF
0	0	1	1	OFF	ON	OFF	ON	ON	OFF
0	1	0	0	ON	OFF	ON	OFF	OFF	ON
0	1	0	1	OFF	ON	ON	OFF	OFF	ON
0	1	1	0	ON	OFF	OFF	ON	OFF	ON
0	1	1	1	OFF	ON	OFF	ON	OFF	ON
1	X	X	X	–	–	–	–	–	–

※ X : DONT CARE

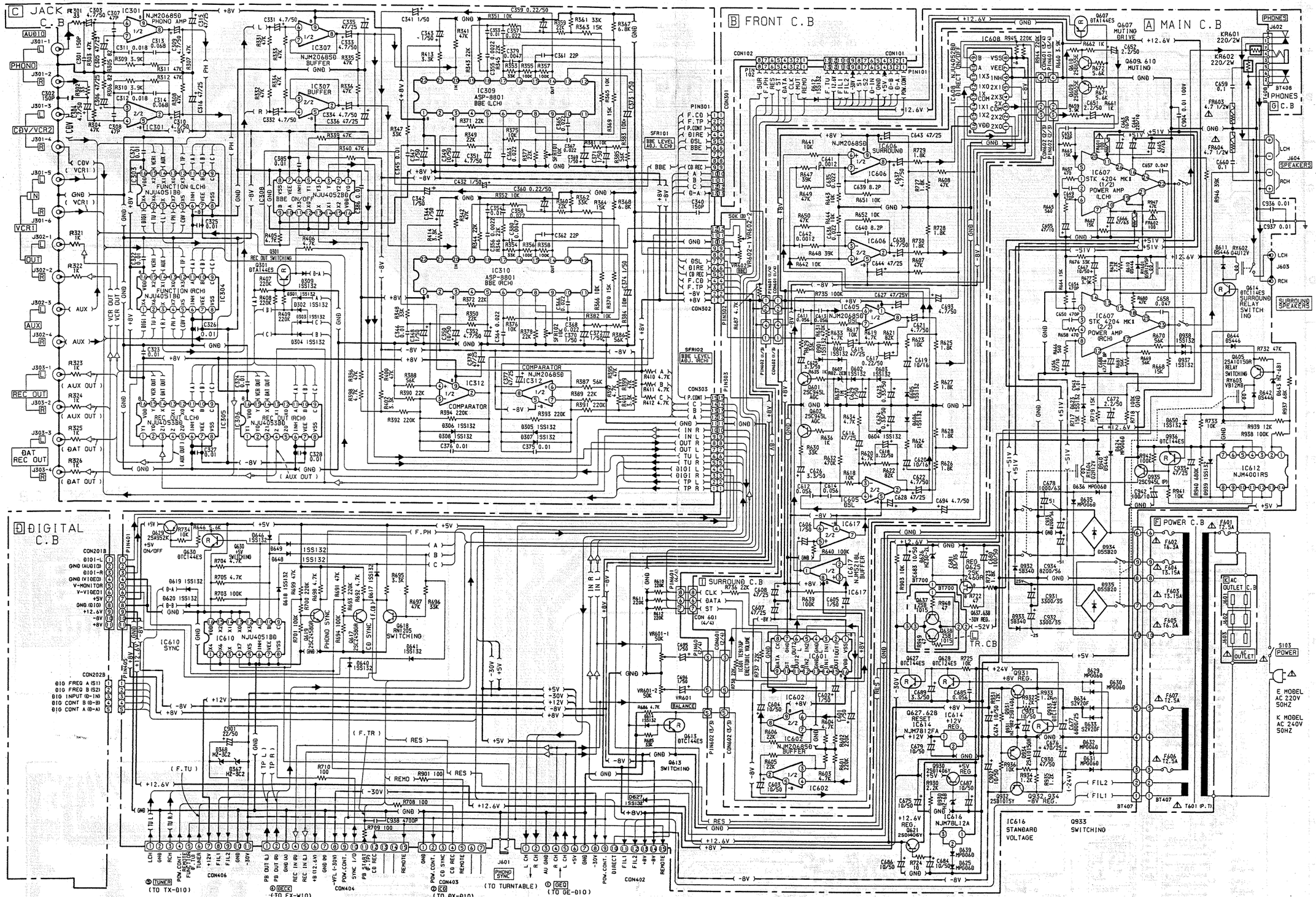
SCHEMATIC DIAGRAM – 1 (MX – D10H)

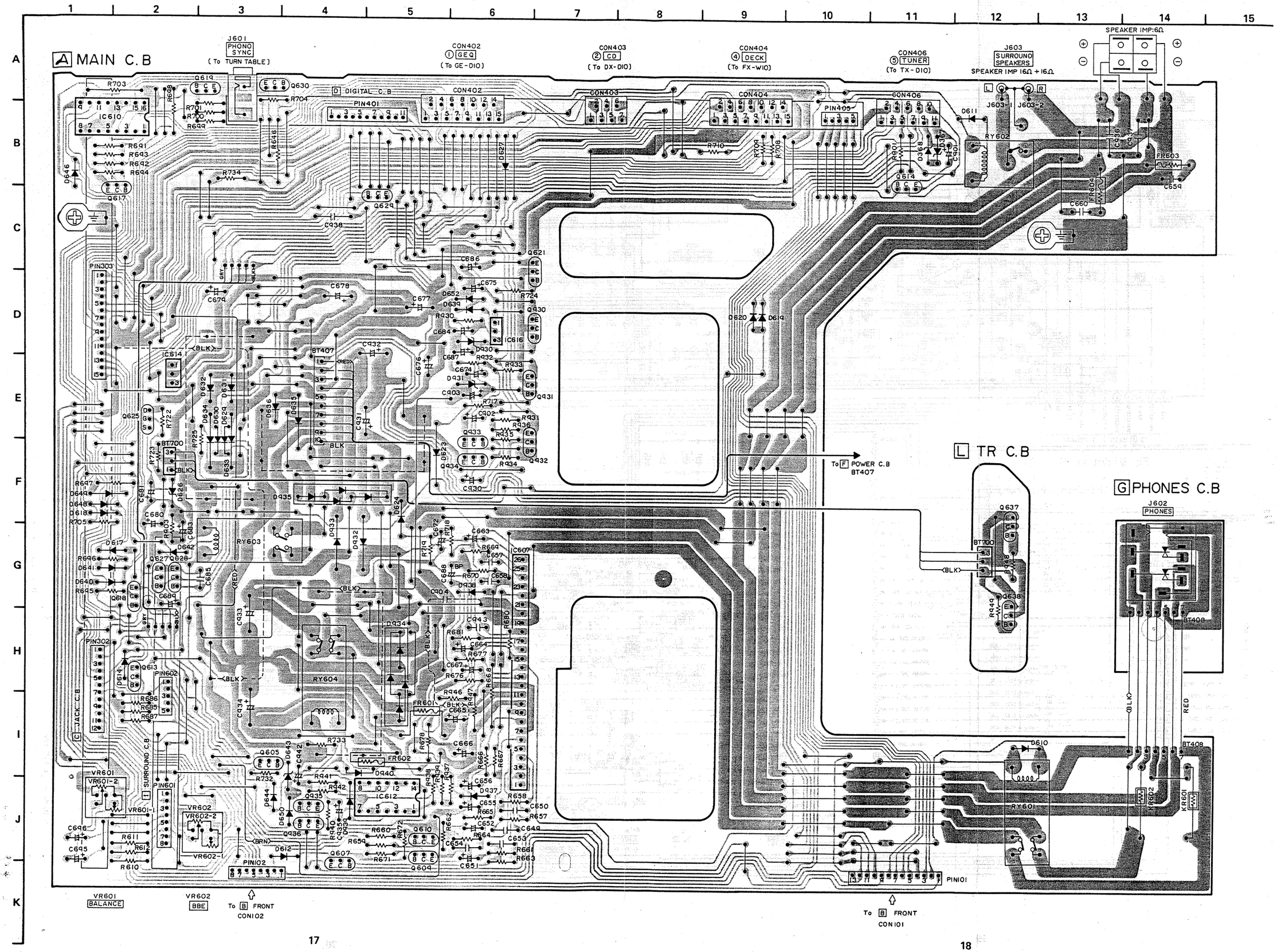


WIRING – 1 (MX – D10H)

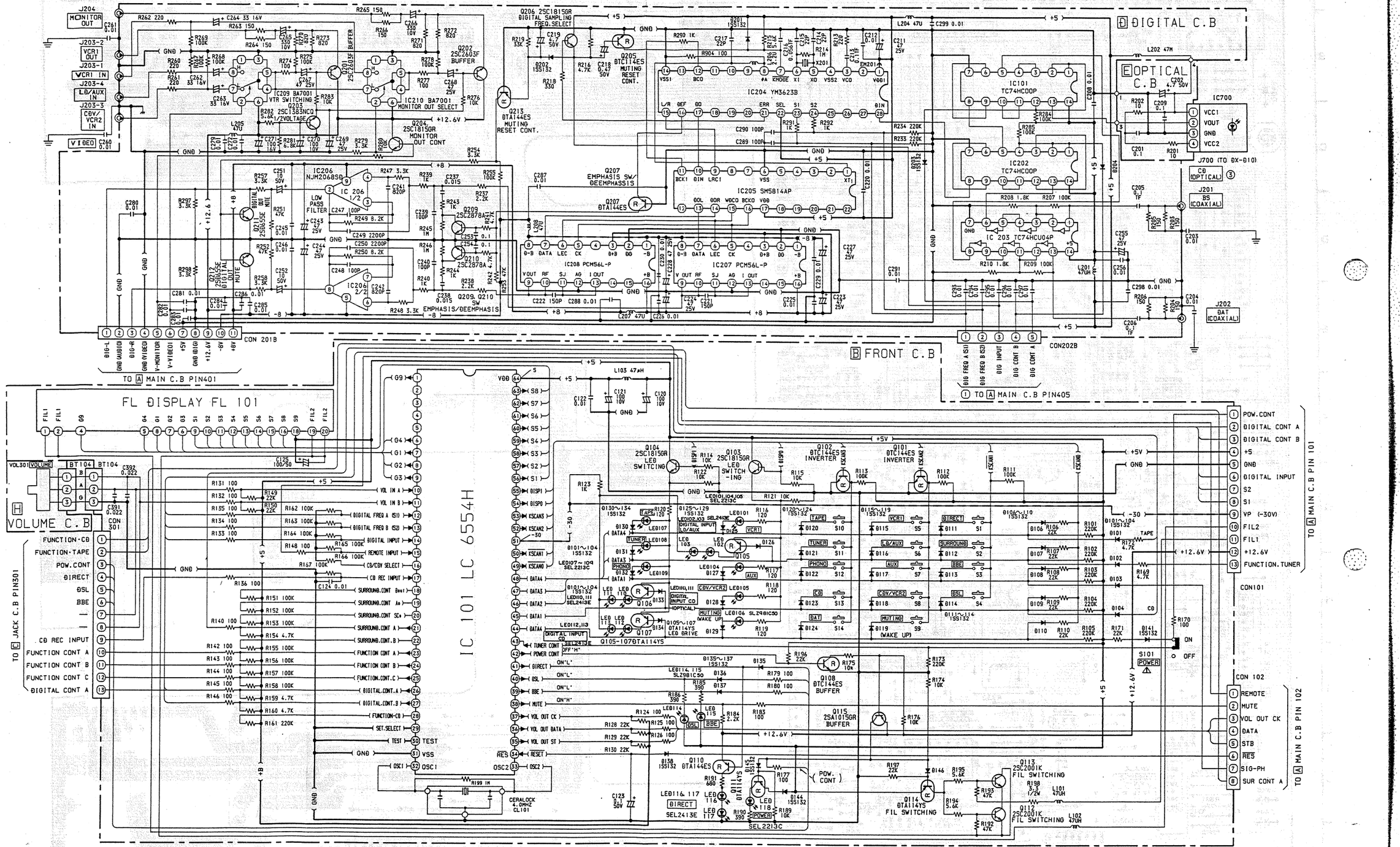


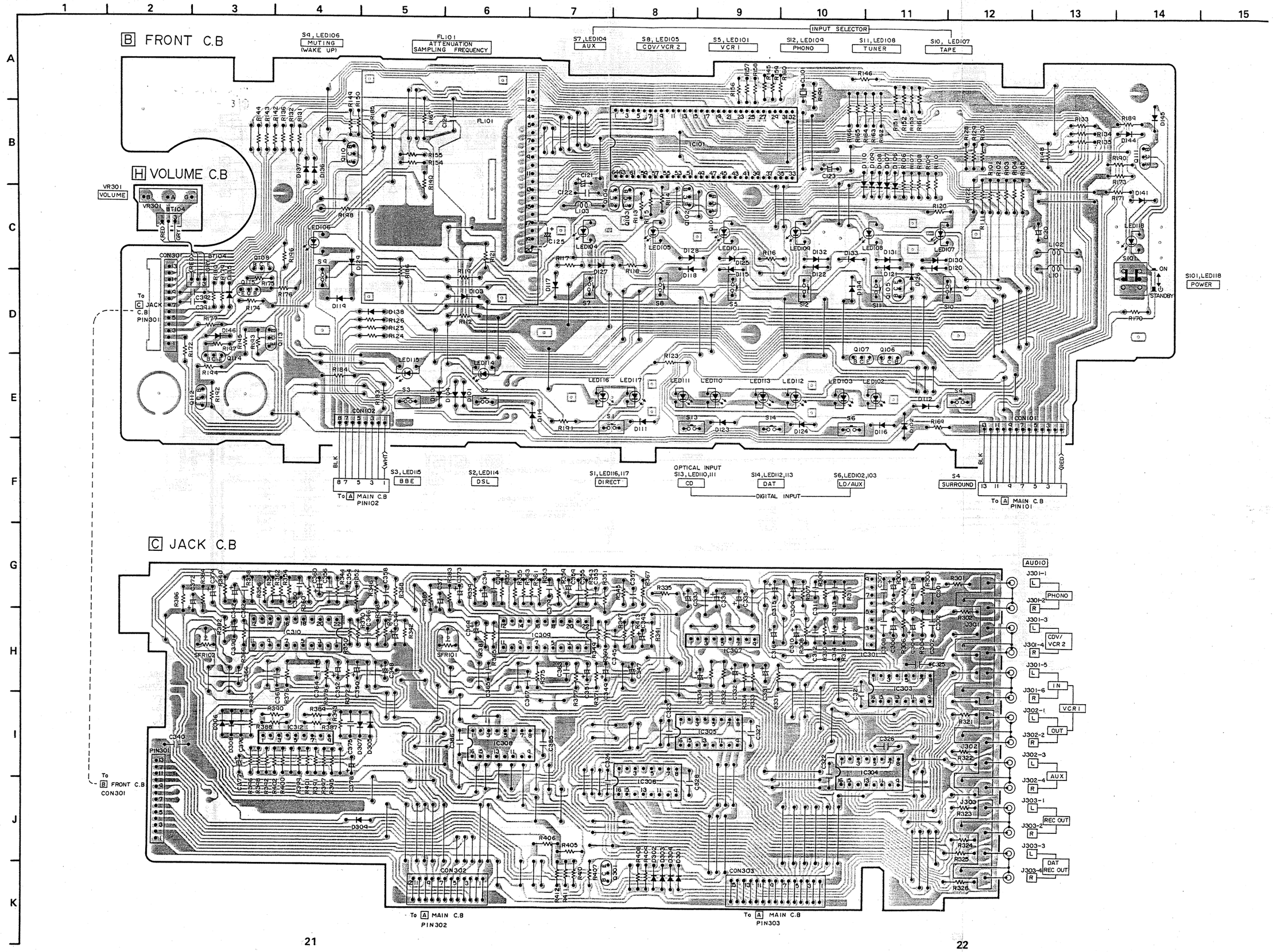
SCHEMATIC DIAGRAM – 2 (MX – D10E,K)



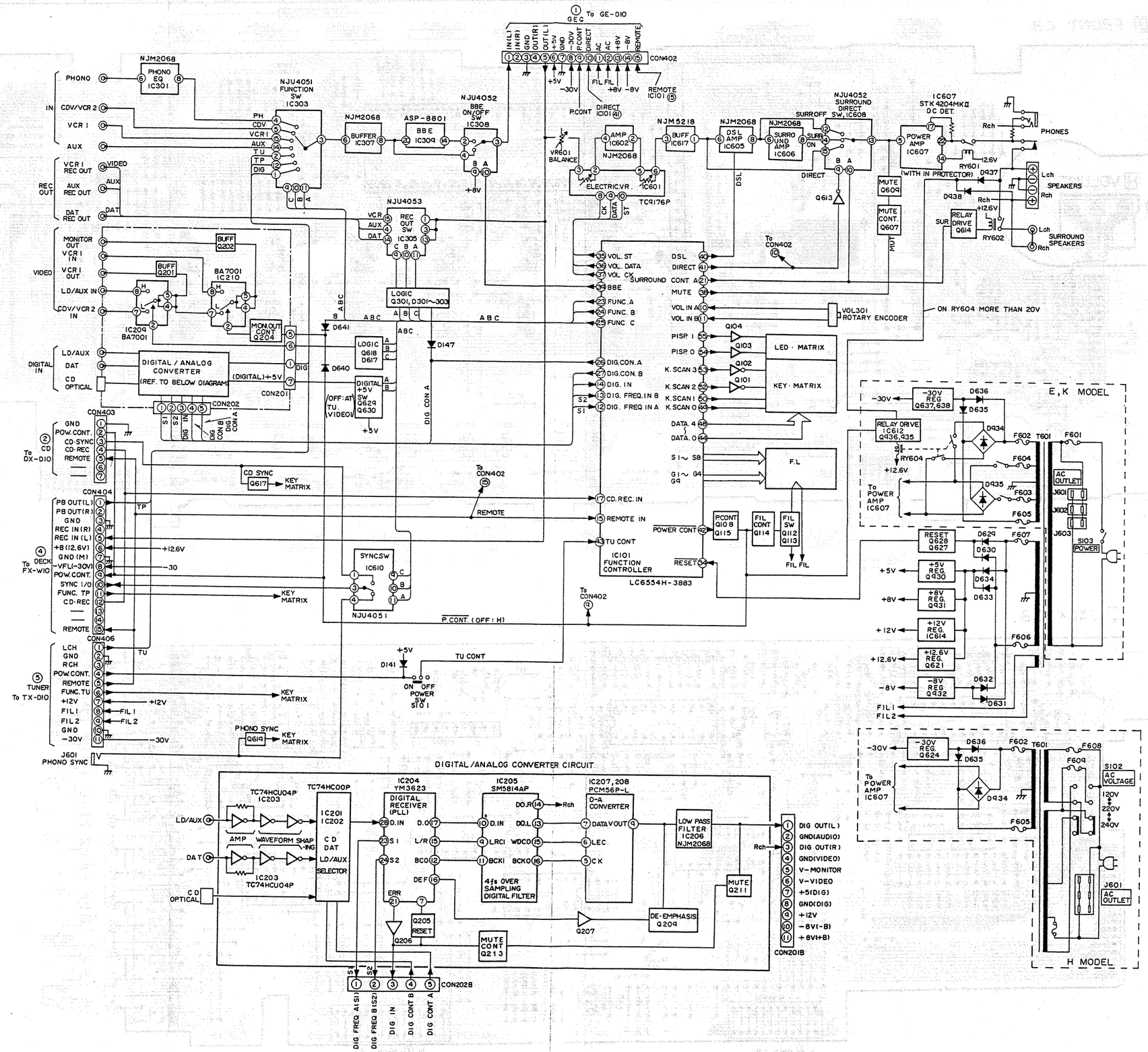

A MAIN C.B
J601 PHONO SYNC (To TURN TABLE)
CON402 ① GEQ (To GE-DIO)
CON403 ② CD (To DX-DIO)
CON404 ④ DECK (To FX-WIO)
CON406 ⑤ TUNER (To TX-DIO)
J603 SURROUND SPEAKERS
SPEAKER IMP:6Ω
SPEAKER IMP 16Ω + 16Ω
D DIGITAL C.B
C JACK C.B
I SURROUND C.B
L TR C.B
G PHONES C.B
To F POWER C.B BT407
VR601 BALANCE
VR602 BBE
To B FRONT CON102
To B FRONT CON101
RY601
RY602
RY603
RY604
IC610
IC612
IC614
IC616
PIN303
PIN302
PIN602
PIN601
PIN102
PIN101
PIN401
PIN405
BT407
BT700
BT408
FR601
FR602
FR603
FR604
KR601
KR602

SCHEMATIC DIAGRAM – 3 (MX – D10)




B FRONT C.B
H VOLUME C.B
C JACK C.B
S9, LED106 MUTING (WAKE UP)
FL101 ATTENUATION SAMPLING FREQUENCY
INPUT SELECTOR
S7, LED104 AUX
S8, LED105 CDV/VCR 2
S5, LED101 VCR 1
S12, LED109 PHONO
S11, LED108 TUNER
S10, LED107 TAPE
VR301 VOLUME
S101, LED118 POWER
ON
STANDBY
To C JACK C.B PIN301
S3, LED115 BBE
S2, LED114 DSL
S1, LED116,117 DIRECT
OPTICAL INPUT
S13, LED110,111 CD
S14, LED112,113 DAT
S6, LED102,103 LD/AUX
DIGITAL INPUT
S4 SURROUND
To A MAIN C.B PIN102
To A MAIN C.B PIN101
To B FRONT C.B CON301
To A MAIN C.B PIN302
To A MAIN C.B PIN303
AUDIO
PHONO
CDV/ VCR 2
IN
VCR 1
OUT
AUX
REC OUT
DAT REC OUT

BLOCK DIAGRAM (MX – D10)



E OPTICAL C.B D DIGITAL C.B

I SURROUND C.B

J700 CD (OPTICAL) (To CD PLAYER)
J201 LD/AUX (COAXIAL)
DIGITAL
J202 DAT (COAXIAL)
CON202B
To A MAIN C.B PIN405
CON201B
To A MAIN C.B PIN401
J204 VIDEO
J204 MONITOR OUT
VCR 1 J203-2 OUT J203-1 IN
J203-4 LD/AUX IN
J203-3 CDV/ VCR 2 IN
To A MAIN C.B PIN602
To A MAIN C.B PIN602
CON601
CON602

K AC OUTLET C.B E, K MODEL

AC OUTLETS J601 J602 J603
S103 POWER
AC220V 50Hz (E MODEL)
AC240V 50Hz (K MODEL)
F POWER C.B
To A MAIN C.B BT407
BT407
F601 F602 F603 F604 F605 F606 F607
T601(P.T)

H MODEL

J AC VOLTAGE C.B
S102 AC VOLTAGE
120V 220V 240V
F608 F609
AC120V/220V/240V 50/60Hz
J601 AC OUTLETS UNSWITCHED TOTAL 300W MAX
F POWER C.B
To A MAIN C.B BT407
BT407
F602 F605 F606 F607
T601(P.T)
T.F

IC DESCRIPTION (MX – D10)

IC, LC6554H – 3883

Pin No.	Pin Name	I/O	Description
1	G9	O	Grid pin to light the FL display.
2~5	G5~G8	O	Unused.
6~9	G1~G4	O	Grid pins to light the FL display.
10	VOL IN A	I	These pins receive pulses generated by the rotary encoder.
11	VOL IN B	I	
12	S1	I	These pins discriminate the digital input sampling frequency display.
13	S2	I	⑫ / ⑬ / Display frequency: L / L / 44.1kHz; L / H / 48kHz; H / H / 32kHz; H / L / —— When pin ⑭ DIGITAL INPUT is "L", the sampling frequency of the digital input is displayed regardless of the function.
14	DIGITAL INPUT	I	When this pin is "H" (without a digital input) : ◦ When the function is set to CD, DAT or LD/AUX, "H" is output from pin ㊳ MUTE to mute the signal. ◦ Displays the frequency according to the function (CD, DAT, LD/AUX). CD 44.1kHz; DAT 48kHz; LD/AUX 32kHz. When this pin is "L" (with digital input) ◦ Displays the frequency according to the inputs at pins ⑫ S1 and ⑬ S2.
15	REMOTE	I	Remote signal input.
16		–	Unused.
17	CD REC	I	"H" is input when the deck is set to the CD REC mode to fix the function to CD.
18~20			Unused.
21	SURROUND CONT A	O	Surround on/off switching output. "H" turns the surround effect on.
22		O	Unused.
23	FUNCTION CONT A	O	Function switching outputs. ⑬ ⑭ ⑮: AUX H L L; VCR1 L H L; TAPE H H L; CDV/VCR2 H L H; TUNER L H H; PHONO H H H; CD / DAT / LD/AUX L L H. DIGITAL is selected for the function switching IC.
24	FUNCTION CONT B	O	
25	FUNCTION CONT C	O	
26	DIGITAL CONT A	O	Digital switching outputs. ⑯ ⑰: CD H H; DAT L H; LD/AUX H L; Others H H
27	DIGITAL CONT B	O	

Pin No.	Pin Name	I/O	Description
28	FUNCTION CD	–	Unused.
29	SET SELECT	–	Program select pin. To be connected to ground in the MX-D10.
30	TEST	–	Test pin to be connected to ground.
31	VSS	–	GND pin.
32	OSC1	–	Clock oscillation pins.
33	OSC2		
34	$\overline{\text{RESET}}$	I	Reset pin. "L" input resets the IC.
35	VOL OUT ST	O	Strobe signal outpuut for electronic volume.
36	VOL OUT DATA	O	Data signal output for electronic volume.
37	VOL OUT CK	O	Clock signal output for electronic volume.
38	MUTE	O	MUTE output. Goes "H" to mute the signal.
39	BBE	O	BBE on/off switching output. Goes "L" when BBE is turned on.
40	DSL	O	DSL on/off switching output. Goes "L" when DSL is turned on.
41	DIRECT	O	DIRECT on/off switching output. Goes "L" when DIRECT is turned on.
42	POWER CONT	O	Power on/off output. Goes "H" when power is off.
43	TU CONT	I	Power on/off input. "H" input turns the power on.
44 ~ 48	DATA0 ~ DATA4		LED DATA output ("L" lights) / KEY, SIGNAL input: 48 DATA4: D-TAPE, D-VCR1, K-TAPE, K-VCR1, K-DIRECT, S-TAPE; 47 DATA3: D-TUNER, D-LD/AUX, K-TUNER, K-LD/AUX, K-SURROUND, S-TUNER; 46 DATA2: D-PHONO, D-AUX, K-PHONO, K-AUX, K-BBE, S-PHONO; 45 DATA1: D-OPT CD, D-CDV/VCR2, K-OPT CD, K-CDV/VCR2, K-DSL, S-OMCD CDV/VCR2; 44 DATA0: D-OPT DAT, D-MUTE, K-OPT DAT, K-MUTE, S-GEQ MUTE, S-OPT DAT
49	KSCAN0	O	Data key scan outputs.
50	KSCAN1		
52	KSCAN2		
53	KSCAN3		
51	VP	–	-30V.
54	DISP0	O	Data LED scan outputs.
55	DISP1		
56 ~ 63	S1 ~ S8	O	Segment outputs to light the FL display.
64	VDD	–	+5V.

IC, YM3623B

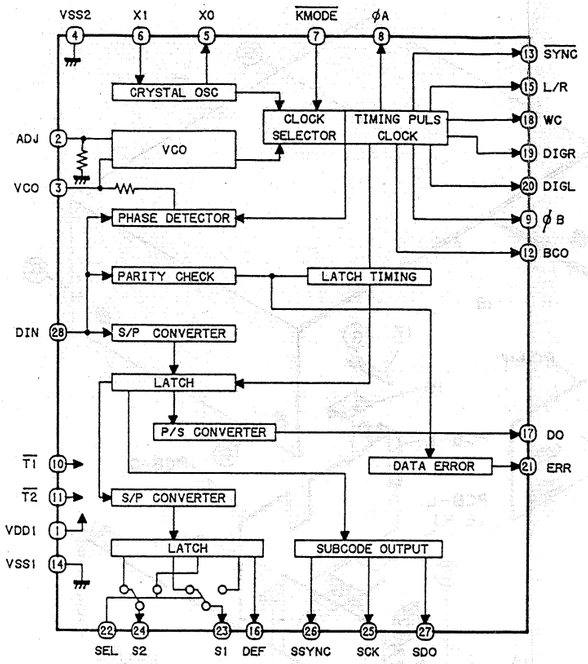
YM3623B is a receiver (decoder) with digital inputs. It outputs the L/R clock signals necessary for D/A conversion, the bit clock signal and the master clock signal for the digital filter, matching the sampling frequency of the digital input. When there is no digital input, the IC is operated using a clock signal generated by a crystal oscillator. When a digital signal is input, the clock signal generated by the VCO is used. The VCO is locked to the digital input signal by the PLL circuit. Pins (23) S1 and (24) S2 output the following signals according to the sampling frequency of the digital input signal. This signal enters microprocessor IC6 and switches the frequency display.

(23) S1	(24) S2	
L	L	44.1kHz
L	H	48kHz
H	H	32kHz
H	L	——

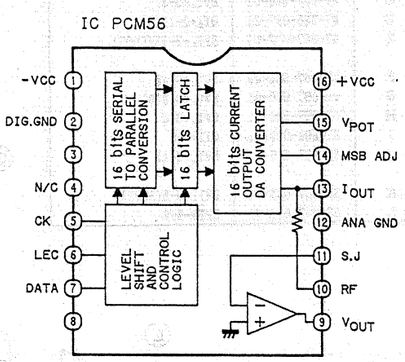
Pins marked (PU) are pulled up internally.

Pin No.	Pin Name	I/O	Description
1	VDD1	—	System power supply (+5V).
2	ADJ	I	Adjusts the VCO oscillation frequecy. Not connected.
3	VCO	I/O	An external capacitor is connected for the VCO circuit.
4	VSS2	—	Ground of VCO circuit. Connect this in common to VSS1. (This is not connected to VSS1 inside the LSI.)
5	XO	O	For a crystal oscillator.
6	XI	I	For a crystal oscillator.
7	$\overline{\text{KMODE}}$	I(PU)	H : Activates the PLL circuit when an input is applied to the DIN pin, and uses a crystal oscillator if no input is applied. L : Operated by a XI clock signal regardless of the DIN pin (waiting state).
8	ϕA	O	When a crystal oscillator is used, this pin outputs a frequency generated by the oscillator, and when the PLL circuit operated, the output is varied by the speed of data input to the DIN terminal. (The frequency is input Fs×384 when the PLL is locked.)
9	ϕB	O	Output obtained by deviding ϕA by 3. Unused.
10	$\overline{\text{T1}}$	I(PU)	Checks the internal circuit. Not connected.
11	$\overline{\text{T2}}$	I(PU)	Checks the internal circuit. Not connected.
12	BCO	O	Bit clock of the signal output from the DO pin.
13	$\overline{\text{SYNC}}$	O	Sync signal of DO output. Unused.
14	VSS1	O	System ground (+10V).
15	L/R	O	L/R latch signal of DO output. When it goes "H"("L"), the L(R) channel data is output from DO.
16	DEF	O	Deemphasis output played back by the user bit. When it goes "H", the input data is emphasized, and when it goes "L", the data is not emphasized.
17	DO	O	16-bit audio data output.
18	WC	O	DO output word clock. Unused.
19	DIGR	O	R-channel deglitcher signal. Unused.
20	DIGL	O	L-channel deglitcher signal. Unused.
21	ERR	O	"H" = parity error or operated by the crystal oscillator "L" = No error
22	SEL	I(PU)	S1 and S2 control pins.
23	S1	O	Sampling frequency display control pins.
24	S2	O	
25	SCK	O	Bit clock for sub-code output. Unused.
26	SSYNC	O	Sync signal for sub-code. Unused.
27	SDO	O	Sub-code data output. Unused.
28	DIN	I(PU)	Data input pin (receives an EIAJ format signal).

IC YM3623B



IC PCM56

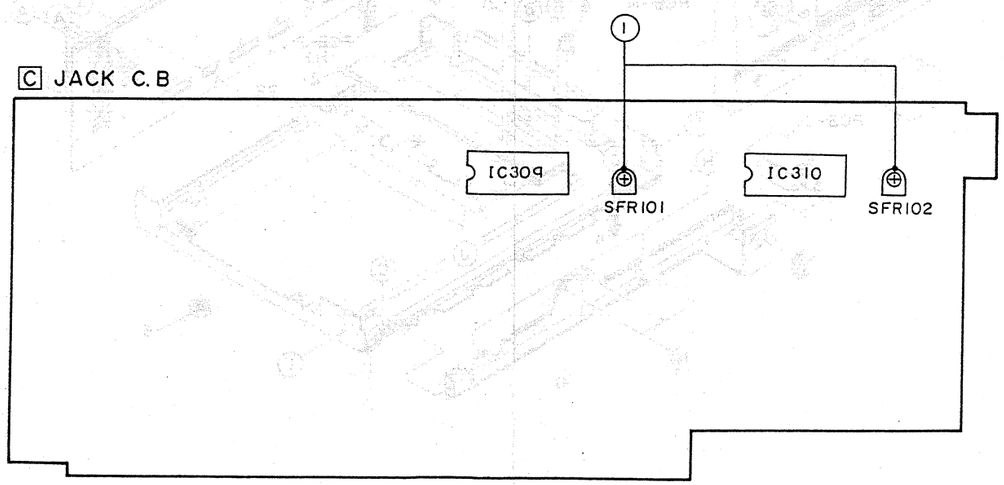


ADJUSTMENT (MX – D10)

1. BBE Level Adjustment

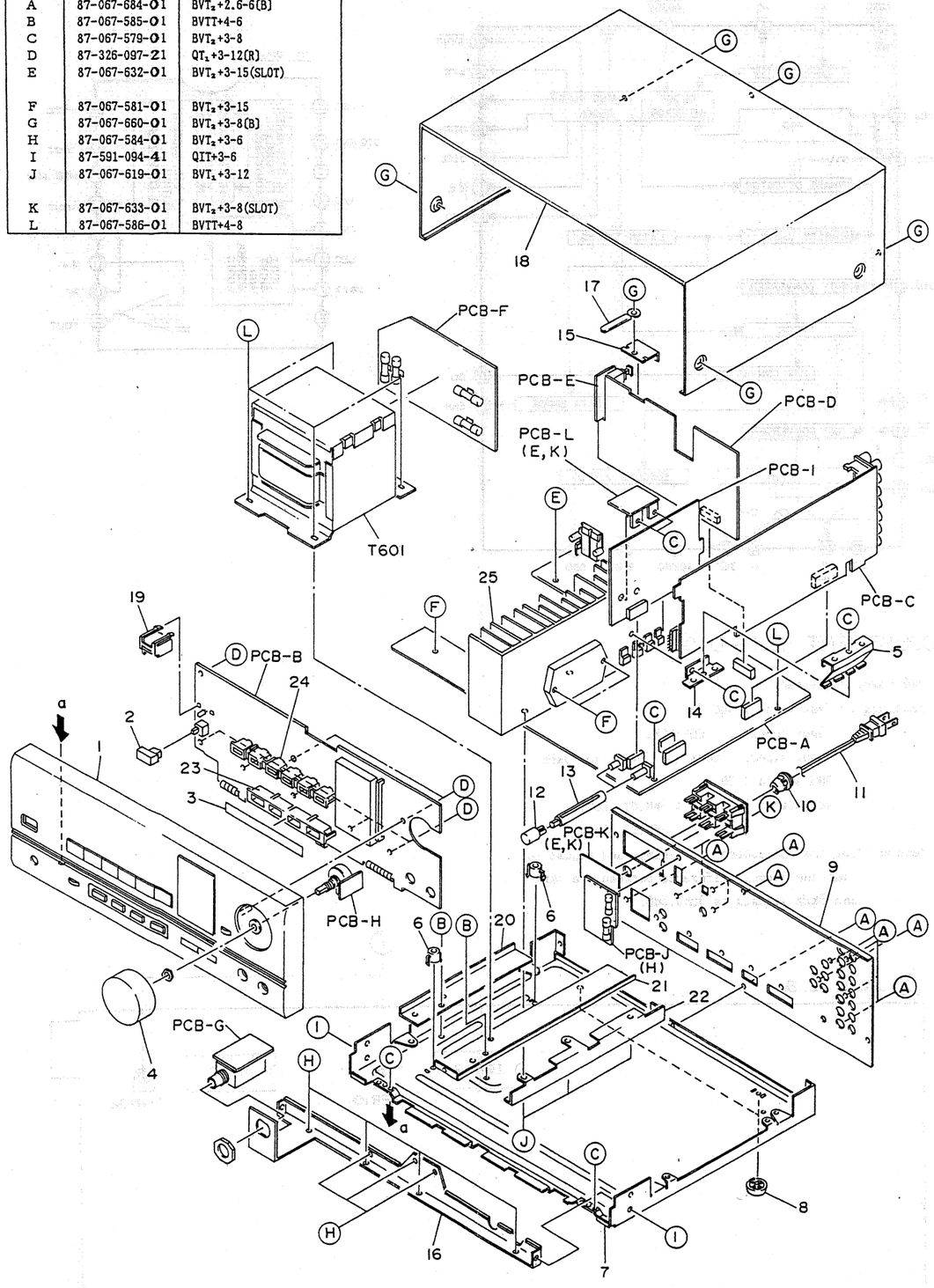
Settings : • Test point : REC OUT
• Input terminal : CDV/VCR2
• Input signal : 0dBm (0.775V), 1kHz/5kHz
• BBE switch : ON
• Adjustment location : SFR101 (Lch)
SFR102 (Rch)

Method : Set the BBE control to minimum and adjust so that the output difference between the 1kHz and 5kHz signals is 0±0.5dB.



EXPLODED VIEW – 1 (MX – D10)

REF.NO.	PART NO.	DESCRIPTION
A	87-067-684-01	BVT_2+2.6-6(B)
B	87-067-585-01	BVTT+4-6
C	87-067-579-01	BVT_2+3-8
D	87-326-097-21	QT_1+3-12(R)
E	87-067-632-01	BVT_2+3-15(SLOT)
F	87-067-581-01	BVT_2+3-15
G	87-067-660-01	BVT_2+3-8(B)
H	87-067-584-01	BVT_2+3-6
I	87-591-094-41	QIT+3-6
J	87-067-619-01	BVT_1+3-12
K	87-067-633-01	BVT_2+3-8(SLOT)
L	87-067-586-01	BVTT+4-8



MECHANICAL PARTS LIST (MX – D10)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	1-1	★09-047-501-010	CABINET FRONT(H)	*	1
	1-1	★09-047-502-010	CABINET FRONT(E,K)	*	1
	1-2	★81-669-014-010	PUSH BUTTON POWER	*	1
	1-3	★81-663-211-010	SHEET OPT		1
	1-4	★81-669-004-010	KNOB VOLUME ASSY	*	1
	1-5	★81-669-210-010	HOLDER,TRANSISTOR	*	1
	1-6	★81-664-202-010	HOLDER,PCB		2
	1-7	---	CHASSIS AMP		1
	1-8	★81-669-025-010	FOOT H11	*	2
	1-9	★81-669-030-010	PANEL,REAR(H)	*	1
	1-9	★81-669-034-010	PANEL,REAR(E)	*	1
	1-9	★81-669-026-010	PANEL,REAR(K)	*	1
	1-10	★87-085-184-010	BUSHING AC CORD(H)		1
	1-10	★87-085-185-010	BUSHING AC CORD(E,K)		1
	1-11	★87-034-732-010	AC CORD(H)		1
	1-11	★87-187-797-019	AC CORD(E)		1
	1-11	★87-034-734-010	AC CORD(K)		1
	1-12	★81-669-005-010	KNOB,BALANCE	*	2
	1-13	★81-669-208-010	SHAFT,BALANCE	*	2
	1-14	★81-669-217-010	HOLDER,L	*	1
	1-15	★81-663-210-010	HOLDER,DEG		1
	1-16	★81-669-215-010	HOLDER,FRONT	*	1
	1-17	---	WIRE BINDER		1
	1-18	★81-669-016-010	CABINET,STEEL	*	1
	1-19	★81-669-212-010	GUIDE,LED POWER	*	1
	1-20	★81-663-205-010	HOLDER,PT L		1
	1-21	★81-663-206-010	HOLDER,PT R		1
	1-22	★81-669-219-010	HOLDER,HS ASSY	*	1
	1-23	★81-663-209-010	GUIDE,LED OPT		1
	1-24	★81-669-204-010	GUIDE,LED FUNCTION	*	1
	1-25	★81-669-656-110	HEAT SINK MAIN	*	1

MODEL NO.

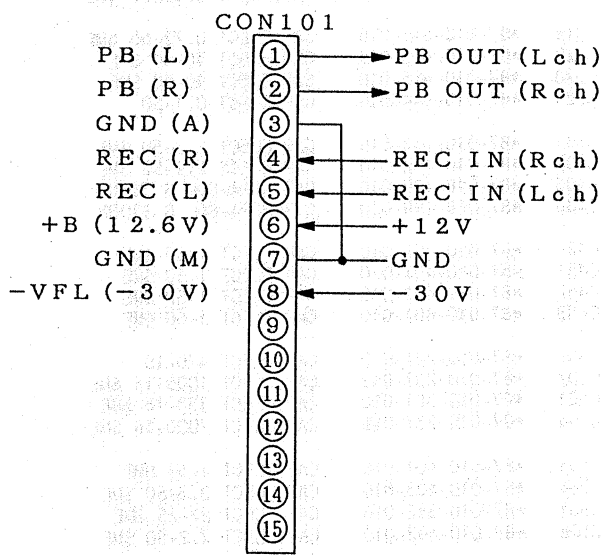
FX – W10

CAUTIONS WHEN SERVICING (FX – W10)

The FX-W10 does not have a power circuit. Power is supplied to the FX-W10 and also signals are input and output to/from it through a 15-pin flat cable. When servicing the FX-W10, connect it to the MX-D10 and this supplies power to the FX-W10.
If the MX-D10 is not available, follow the procedure below.

(When servicing the unassembled FX-W10)

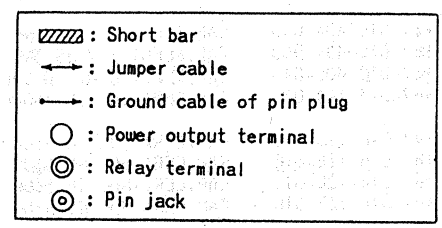
① Supply the following voltages to each terminal from an external power supply.

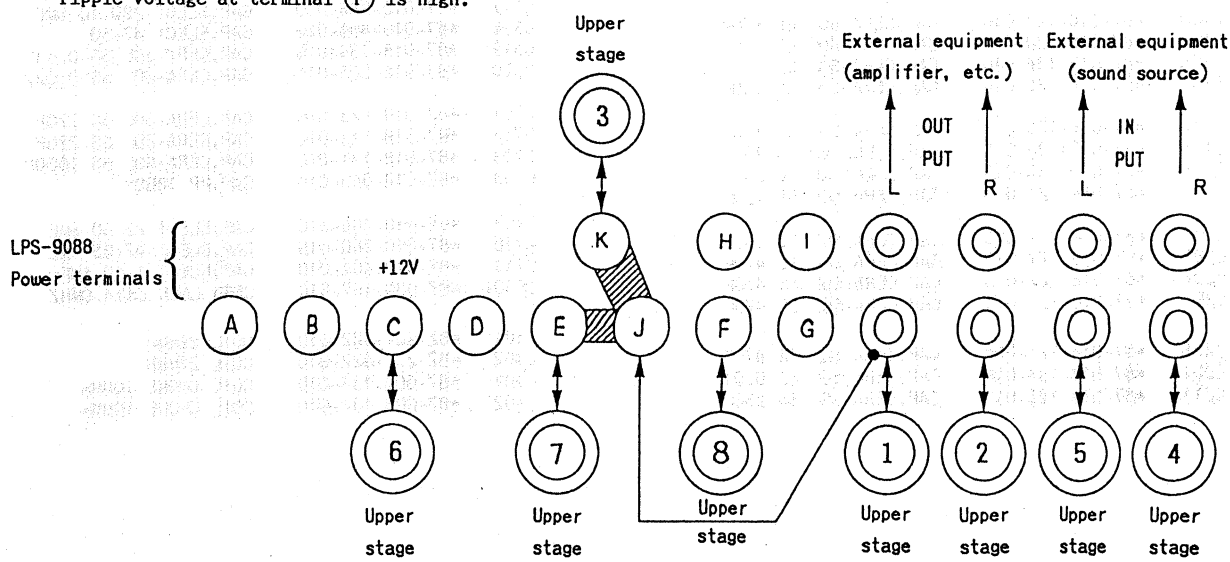


② Connection diagram when using a multi power unit (LPS-9088).

- Connect the multi conversion harness for the B connector to J1.

Note : Flickering occures in the FL display, but this does not indicate a fault. This is because the ripple voltage at terminal (F) is high.





ELECTRICAL MAIN PARTS LIST (FX－W10)

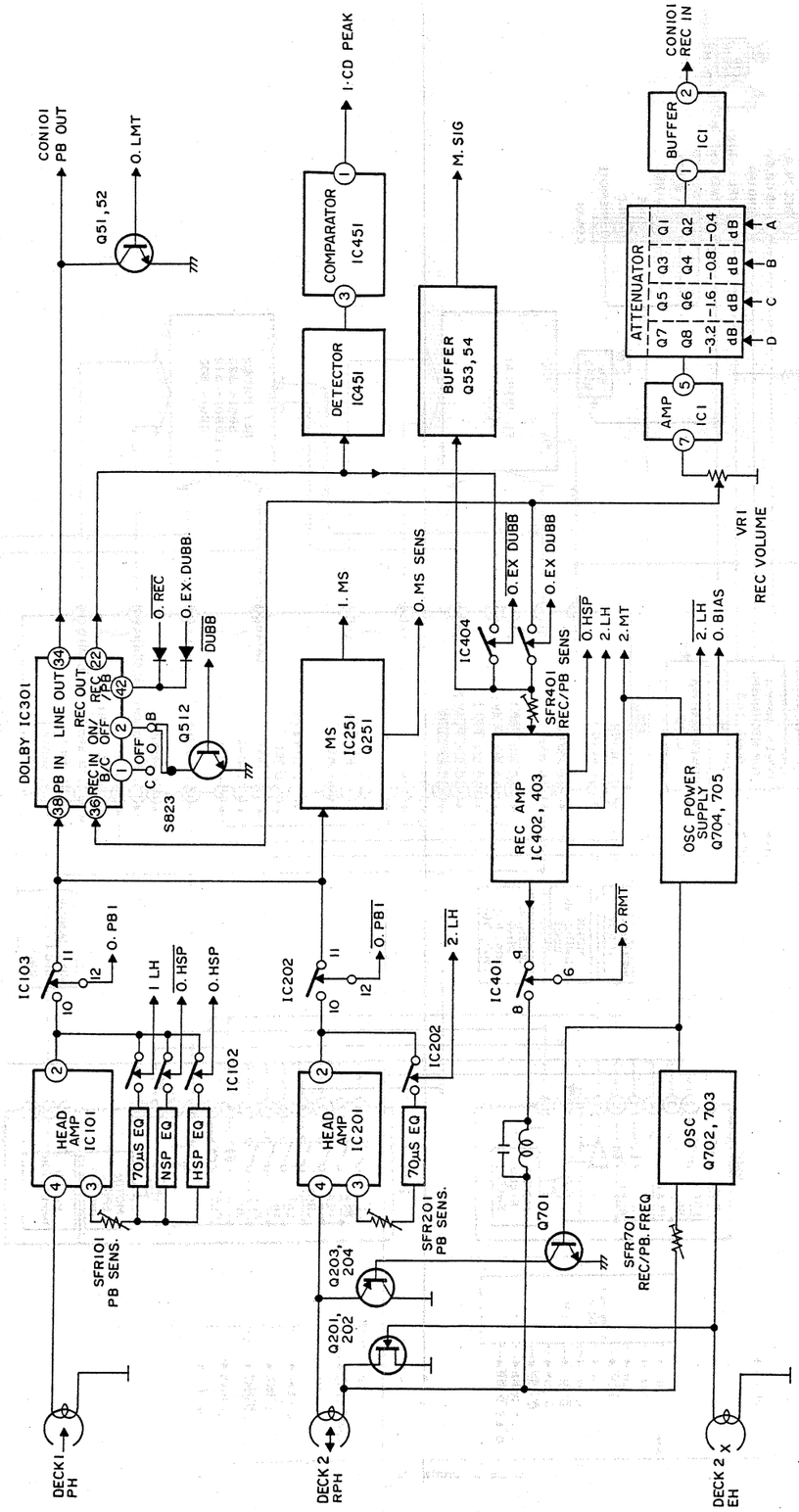
REF.NO.	PART NO.	DESCRIPTION
=== IC ===		
	87-001-143-010	IC,CX20187
	S6-804-060-020	IC,LB9050A
	81-665-602-010	IC,LC6568H-3915
	87-020-533-010	IC,M4069UBP
	87-020-548-010	IC,M5228P
	87-020-680-010	IC,NJM2068S
	87-020-758-010	IC,NJM2068SD
	87-020-633-010	IC,NJU4052BP
	87-020-908-010	IC,NJU4066BD
=== TRANSISTOR ===		
	89-503-735-010	FET,2SK373GR
	89-109-521-010	TRANSISTOR,2SA952K
	89-110-155-010	TRANSISTOR,2SA1015(GR)
	89-112-965-010	TRANSISTOR,2SA1296 GR
	89-210-154-510	TRANSISTOR,2SB1015 Y/GR
	89-318-155-010	TRANSISTOR,2SC1815 GR
	89-320-011-010	TRANSISTOR,2SC2001K
	89-413-023-010	TRANSISTOR,2SD1302S
	S6-804-050-040	TRANSISTOR,ESA1266(GR)
=== DIODE ===		
	87-020-691-010	DIODE,1SS132
	87-020-123-010	DIODE,DS446
	87-027-365-010	DIODE,S5277B
	87-027-181-010	DIODE,ZENER HZ12C2
	87-027-555-010	DIODE,ZENER HZ5C2
	87-027-552-010	DIODE,ZENER HZ6B3L
	87-027-606-010	DIODE,ZENER HZ7C2L
=== MAIN CIRCUIT BOARD SECTION ===		
C1	*87-010-404-010	CAP,ELECT 4.7-50 SME
C2	*87-010-404-010	CAP,ELECT 4.7-50 SME
C3	*87-010-382-010	CAP,ELECT 22-25 SME
C4	*87-010-382-010	CAP,ELECT 22-25 SME
C5	*87-018-120-010	CAP,CERA-SOL SS 120P
C6	*87-018-120-010	CAP,CERA-SOL SS 120P
C51	*87-010-404-010	CAP,ELECT 4.7-50 SME
C52	*87-010-404-010	CAP,ELECT 4.7-50 SME
C53	*87-010-404-010	CAP,ELECT 4.7-50 SME
C54	*87-010-404-010	CAP,ELECT 4.7-50 SME
C55	*87-010-400-010	CAP,ELECT 0.47-50 SME
C57	*87-018-196-010	CAP,CERA-SOL SS 1500P
C58	*87-018-196-010	CAP,CERA-SOL SS 1500P
C101	*87-018-128-010	CAP,CERA-SOL SS 560P
C102	*87-018-128-010	CAP,CERA-SOL SS 560P
C103	*87-018-127-010	CAP,CERA-SOL SS 470P
C104	*87-018-127-010	CAP,CERA-SOL SS 470P
C105	*87-018-134-010	CAP,CERA-SOL SS 0.01
C106	*87-018-134-010	CAP,CERA-SOL SS 0.01
C109	*87-018-125-010	CAP,CERA-SOL SS 330P
C110	*87-018-125-010	CAP,CERA-SOL SS 330P
C115	*87-010-135-010	CAP,ELECT BP 10-25
C116	*87-010-135-010	CAP,ELECT BP 10-25
C201	*87-018-121-010	CAP,CERA-SOL SS 150P
C202	*87-018-121-010	CAP,CERA-SOL SS 150P
C203	*87-018-127-010	CAP,CERA-SOL SS 470P
C204	*87-018-127-010	CAP,CERA-SOL SS 470P
C205	*87-018-127-010	CAP,CERA-SOL SS 470P
C206	*87-018-127-010	CAP,CERA-SOL SS 470P
C207	*87-018-134-010	CAP,CERA-SOL SS 0.01
C211	*87-018-125-010	CAP,CERA-SOL SS 330P
C212	*87-018-125-010	CAP,CERA-SOL SS 330P
C213	*87-010-135-010	CAP,ELECT BP 10-25
C214	*87-010-135-010	CAP,ELECT BP 10-25
C218	*87-018-205-010	CAP,CERA-SOL SS 0.022
C251	*87-018-133-010	CAP,CERA-SOL SS 4700P
C252	*87-018-167-010	CAP,CERA-SOL SS 4.7P UJ
C253	*87-018-132-010	CAP,CERA-SOL SS 2200P
C255	*87-018-121-010	CAP,CERA-SOL SS 150P
C256	*87-010-374-010	CAP,ELECT 47-10
C257	*87-010-401-010	CAP,ELECT 1-50 SME
C301	*87-010-405-010	CAP,ELECT 10-50 SME
C302	*87-010-405-010	CAP,ELECT 10-50 SME
C303	*87-010-101-010	CAP,ELECT 220-16 SME
C304	*87-010-101-010	CAP,ELECT 220-16 SME
C306	*87-018-128-010	CAP,CERA-SOL 560P
C311	*87-010-400-010	CAP,ELECT 0.47-50 SME
C312	*87-010-400-010	CAP,ELECT 0.47-50 SME
C313	*87-010-677-010	CAP,ELECT 0.15-50
C314	*87-010-677-010	CAP,ELECT 0.15-50
C317	*87-010-545-010	CAP,ELECT 0.22-50 SME
C318	*87-010-545-010	CAP,ELECT 0.22-50 SME
C327	*87-010-405-010	CAP,ELECT 10-50 SME
C328	*87-010-405-010	CAP,ELECT 10-50 SME
C329	*87-010-544-010	CAP,ELECT 0.1-50
C401	*87-010-402-010	CAP,ELECT 2.2-50 SME
C402	*87-010-402-010	CAP,ELECT 2.2-50 SME
C405	*87-018-199-010	CAP,CERA-SOL S 3300P
C406	*87-018-199-010	CAP,CERA-SOL S 3300P
C421	*87-010-401-010	CAP,ELECT 1-50 SME
C451	*87-010-401-010	CAP,ELECT 1-50 SME
C452	*87-010-401-010	CAP,ELECT 1-50 SME
C453	*87-010-401-010	CAP,ELECT 1-50 SME
C501	*87-010-221-010	CAP,ELECT 470-10
C502	*87-010-237-010	CAP,ELECT 1000-16 SME
C503	*87-010-381-010	CAP,ELECT 330-16 SME
C504	*87-010-237-010	CAP,ELECT 1000-16 SME
C505	*87-010-401-010	CAP,ELECT 1-50 SME
C506	*87-010-403-010	CAP,ELECT 3.3-50 SME
C507	*87-010-382-010	CAP,ELECT 22-25 SME
C508	*87-010-402-010	CAP,ELECT 2.2-50 SME
C509	*87-018-133-010	CAP,CERA-SOL SS 4700P
C510	*87-010-260-010	CAP,ELECT 47-25 SME
C511	*87-010-381-010	CAP,ELECT 330-16 SME
C512	*87-015-695-010	CAP,ELECT 1-50
C513	*87-010-221-010	CAP,ELECT 470-10
C514	*87-018-205-010	CAP,CERA-SOL SS 0.022
C515	*87-018-205-010	CAP,CERA-SOL SS 0.022
C516	*87-018-205-010	CAP,CERA-SOL SS 0.022
C517	*87-010-248-010	CAP,ELECT 220-10 SME
C518	*87-010-408-010	CAP,ELECT 47-50
C519	*87-018-134-010	CAP,CERA-SOL SS 0.01
C520	*87-018-205-010	CAP,CERA-SOL SS 0.022
C701	*87-018-123-010	CAP,CERA-SOL SS 220P
C702	*87-018-123-010	CAP,CERA-SOL SS 220P
C703	*87-018-131-010	CAP,CERA-SOL SS 1000P
C704	*87-014-063-010	CAP,PP 1800P
C709	*87-010-406-010	CAP,ELECT 22-50 SME
C710	*87-010-260-010	CAP,ELECT 47-25 SME
C711	*87-010-401-010	CAP,ELECT 1-50 SME
CF501	*87-030-167-010	CERA LOCK CST4.0MHZ
L301	*82-231-622-010	COIL 22MMH
L302	*82-231-622-010	COIL 22MMH
L401	*87-003-131-010	COIL CHOKE 10MMH
L402	*87-003-131-010	COIL CHOKE 10MMH

REF.NO.	PART NO.	DESCRIPTION
L403	★87-003-128-010	COIL 5.6MMHJ
L404	★87-003-128-010	COIL 5.6MMHJ
L501	★81-760-621-010	COIL 130UH
L701	★82-196-603-010	COIL TRAP 100K
L702	★82-196-603-010	COIL TRAP 100K
R563	87-025-406-010	RES,MF 68-1W
R564	87-025-406-010	RES,MF 68-1W
R565	87-025-406-010	RES,MF 68-1W
RB501	★82-202-653-010	RES,ARRAY 47K 8P
SFR101	★87-024-167-010	SFR 470
SFR102	★87-024-167-010	SFR 470
SFR201	★87-024-167-010	SFR 470
SFR202	★87-024-167-010	SFR 470
SFR401	★87-024-171-010	SFR 4.7K
SFR402	★87-024-171-010	SFR 4.7K
SFR701	★87-024-176-010	SFR 100K
SFR702	★87-024-176-010	SFR 100K
T701	★81-670-609-010	COIL OSC BIAS 100K
VR1	81-665-603-010	VOLUME 10KA(2)(REC LEVEL)
=== FRONT CIRCUIT BOARD SECTION ===		
FL801	81-665-601-010	FL,BG605GK(COUNTER,PEAK METER)
LED801	82-234-620-010	LED,SLZ981C50,R(DUBBING,NORMAL)
LED802	82-234-620-010	LED,SLZ981C50,R(DUBBING,HIGH)
LED803	82-234-620-010	LED,SLZ981C50,R(CSRS)
LED805	82-234-620-010	LED,SLZ981C50,R(D2,RECORD)
LED806	82-234-620-010	LED,SLZ981C50,R(D2,REC MUTE)
LED807	82-234-606-010	LED,SLZ381C50,G(D1,PLAY ▶)
LED808	82-234-606-010	LED,SLZ381C50,G(D1,PLAY ◀)
LED809	82-234-606-010	LED,SLZ381C50,G(D2,PLAY ▶)
LED810	82-234-606-010	LED,SLZ381C50,G(D2,PLAY ◀)
LED811	82-234-607-010	LED,SLZ481C50,Y(D2,PAUSE)
LED812	82-234-609-010	LED,SLP277B,G(DOLBY NR-B)
LED813	82-234-608-010	LED,SLP177B,R(DOLBY NR-C)
S801	87-036-142-010	TACT SW(TAPE DUBBING,NORMAL)
S802	87-036-142-010	TACT SW(TAPE DUBBING,HIGH)
S803	87-036-142-010	TACT SW(D1,COUNTER RESET)
S804	87-036-142-010	TACT SW(D2,COUNTER RESET)
S805	87-036-142-010	TACT SW(CD)
S807	87-036-142-010	TACT SW(D1,MS ▶▶)
S808	87-036-142-010	TACT SW(D1,PLAY ▶)
S809	87-036-142-010	TACT SW(D1,PLAY ◀)
S810	87-036-142-010	TACT SW(D1,MS ◀◀)
S811	87-036-142-010	TACT SW(S1,STOP)
S812	87-036-142-010	TACT SW(D2,STOP)
S813	87-036-142-010	TACT SW(D2,MS ▶▶)
S814	87-036-142-010	TACT SW(D2,PLAY ▶)
S815	87-036-142-010	TACT SW(D2,PLAY ◀)
S816	87-036-142-010	TACT SW(D2,MS ◀◀)
S817	87-036-142-010	TACT SW(D2,RECORD)
S818	87-036-142-010	TACT SW(D2,REC MUTE)
S819	87-036-142-010	TACT SW(D2,PAUSE)
S820	87-036-148-010	SLIDE SW(B SKIP/STSD,CBRS EDIT)
S821	87-036-113-010	SLIDE SW(TIMER)
S822	87-036-113-010	SLIDE SW(REVERSE MODE)
S823	87-036-148-010	SLIDE SW(DOLBY NR)
=== CONNECT CIRCUIT BOARD SECTION ===		
=== DECK-1 CIRCUIT BOARD SECTION ===		
S1	S6-401-011-740	LEAF SW(PLAY)
S2	S6-401-011-750	LEAF SW(FR)
S3	S6-401-011-730	LEAF SW(CST)
S4	S6-401-011-730	LEAF SW(CRO2)
SFR1	★S6-816-010-010	SFR 4.7K
SFR2	★S6-816-010-010	SFR 4.7K
SOL1	S1-880-210-130	SOLENOID(PLAY)
SOL2	S1-880-210-130	SOLENOID(FR)
=== DECK-2 CIRCUIT BOARD SECTION ===		
S1	S6-401-011-740	LEAF SW(PLAY)
S2	S6-401-011-750	LEAF SW(FR)
S3	S6-401-011-730	LEAF SW(CST)
S4	S6-401-011-730	LEAF SW(CRO2)
S5	S6-401-011-730	LEAF SW(REA)
S6	S6-401-011-730	LEAF SW(REB)
S7	S6-401-011-730	LEAF SW(MT)
SFR1	★S6-816-010-010	SFR 4.7K
SFR2	★S6-816-010-010	SFR 4.7K
SOL1	S1-880-210-130	SOLENOID(PLAY)
SOL2	S1-880-210-130	SOLENOID(FR)
=== RELAY(D1) CIRCUIT BOARD SECTION ===		
=== RELAY(D2) CIRCUIT BOARD SECTION ===		
=== SENSOR(D2) CIRCUIT BOARD SECTION ===		
CP1	S6-804-080-010	PHOTO SENSOR SPI-315-05
=== MISCELLANEOUS ===		
M1	S6-005-030-420	MOTOR MMI-6H2LWK(D1)
M2	S6-005-030-420	MOTOR MMI-6H2LWK(D2)
PH	S6-201-070-150	PB HEAD(D1)
RPEH	S6-201-060-100	REC/PB/ERASE HEAD(D2)

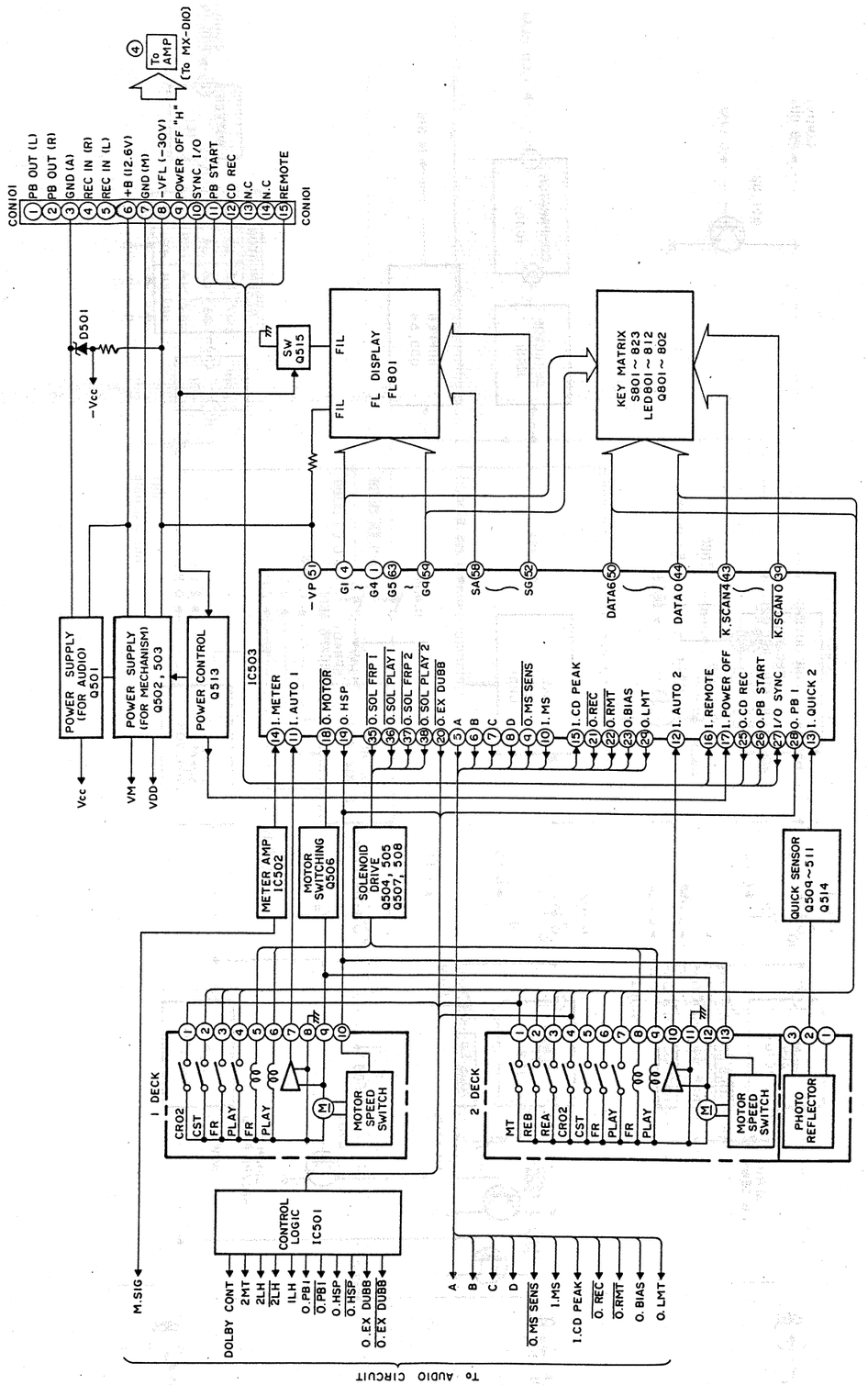
PRACTICAL SERVICE FIGURE (FX – W10)

PB output level :	540mV±1dB
	TTS-200 (TCC-130, TTA-161)(PB OUT)
REC/PB output level :	390mV±1.5dB (PB OUT -13dBV 1kHz)
Distortion (REC/PB) :	Less than 2.5% (NORM., MT, CrO_2)
Noise (PB) :	Less than 1.5mV (CrO_2)
	Less than 1.8mV (NORM.)
Erasing ratio :	More than 60dB (125Hz)
Channel separation :	More than 30dB (1kHz, 0VU)
Recording bias frequency:	100kHz
Noise (REC/PB) :	More than 46dB/38dB
	(DOLBY C NR ON/OFF MT, CrO_2)
	More than 46dB/37dB
	(DOLBY C NR ON/OFF NORM.)
Crosstalk :	More than 30dB (1kHz, 0VU)
Wow & flutter (W-RMS):	Less than 0.13% (DECK 1, 2)
Tape speed :	3000Hz±1.5%
	TTA-100 (TTA-111S)
Take-up torque :	30~60 g-cm (DECK 1, 2)
F.F & REW torque :	55~120 g-cm (DECK 1, 2)
Back tension :	2~5 g-cm (DECK 1, 2)
Test tape :	NORMAL TTA-600 (TTA-119K)
	CrO_2 TTA-610 (TTA-119H)
	MT TTA-620 (TTA-119MP)

BLOCK DIAGRAM – 1 (FX – W10)



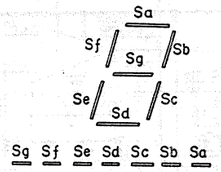
BLOCK DIAGRAM – 2 (FX – W10)



IC DESCRIPTION (FX – W10)

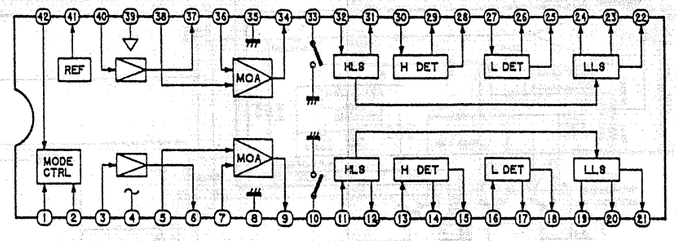
IC, LC6568H – 3915

Pin No.	Pin Name	Description
10	I·MS	MS signal input.
11	I·AUTO 1	Deck 1 reel disk pulse input.
12	I·AUTO 2	Deck 2 reel disk pulse input.
13	I·QUICK 2	Quick reverse signal input.
14	I·METER	Level meter signal input.
15	I·CD PEAK	CD peak signal input during CSRS.
16	I·REMOTE	Remote control serial input.
17	I·POWER OFF	POWER OFF signal input. (Goes "L" when off)
18	$\overline{O\cdot MOTOR}$	Motor on/off control output.
19	O·HSP	Motor high-speed switching output.
20	$\overline{O\cdot EX\ DUBB}$	Dubbing internal/external switching output. Goes "H" when dubbing using the PLAY and REC buttons, and goes "L" in other modes.
21	$\overline{O\cdot REC}$	Dolby NR circuit REC/PB switching output. Goes "H" when dubbing using the dubbing button.
22	$\overline{O\cdot RMT}$	REC MUTE output.
23	O·BIAS	Recording bias oscillation on/off control output.
24	O·CD HSP	Unused.
25	O·CD REC	Output to switch the function of the amplifier to CD.
26	O·PB START	Output to switch the function of the amplifier to TAPE.
27	I/O SYNC	Sync recording, CBRS control input/output.
28	O·PB 1	Deck 1 PLAY output.
29	O·LMT	Line-out muting output.
30	TEST	MPU test pin connected to VSS.
31	VSS	Common terminal for the inputs/outputs and power supply of the MPU.
32	OSC 1	These pins generate a 4MHz clock signal.
33	OSC 2	
34	$\overline{RESET}$	MPU reset input. "L" input resets the MPU.
35	$\overline{O\cdot SOL\ FRP\ 1}$	Deck 1 FRP plunger control output.
36	$\overline{O\cdot SOL\ PLAY\ 1}$	Deck 1 PLAY plunger control output.
37	$\overline{O\cdot SOL\ FRP\ 2}$	Deck 2 FRP plunger control output.
38	$\overline{O\cdot SOL\ PLAY\ 2}$	Deck 2 PLAY plunger control output.
39	$\overline{K\cdot SCAN\ 0}$	DATA 0 ~ DATA 5 key scan outputs which go "H" when reset.
40	$\overline{K\cdot SCAN\ 1}$	
41	$\overline{K\cdot SCAN\ 2}$	
42	$\overline{K\cdot SCAN\ 3}$	
43	$\overline{K\cdot SCAN\ 4}$	

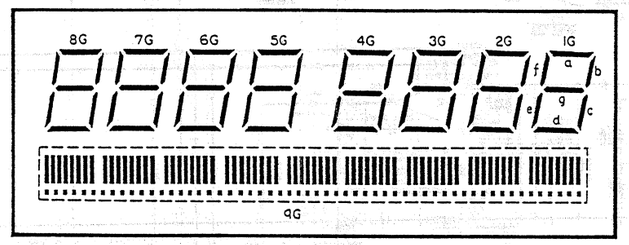
Pin No.	Pin Name	Description						
		Matrix key input (input at "L")					LED display output (lights at "L")	
		K·SCAN 4 is "L"	K·SCAN 3 is "L"	K·SCAN 2 is "L"	K·SCAN 1 is "L"	K·SCAN 0 is "L"	G2,3,8 are "H"	G4,5,6,7,0, 1 are "H"
44	DATA 0	MT 2 SW IN	CrO_2 2 SW IN	PAUSE 2 KEY IN	CAST 1 SW IN	PLAY 1 SW IN		PAUSE 2 INDI
45	DATA 1		STOP 2 KEY IN	RMT 2 KEY IN	SW IN	FR 1 SW IN	RMT 2 INDI	R·PLAY 2 INDI
46	DATA 2	CD REC KEY IN	STOP 1 KEY IN	REC 2 KEY IN	SW IN	PLAY 2 SW IN	REC 2 INDI	F·PLAY 2 INDI
47	DATA 3	C·RESET 2 KEY IN	RWD 1 KEY IN	RWD 2 KEY IN	TM REC SW IN	FR 2 SW IN		
48	DATA 4	C·RESET 1 KEY IN	R·PLAY 1 KEY IN	R·PLAY 2 KEY IN	TM PLAY SW IN	CAST 2 SW IN	CD REC INDI	R·PLAY 1 INDI
49	DATA 5	H·DUBB KEY IN	F·PLAY 1 KEY IN	F·PLAY 2 KEY IN	CBRS/STSD SW IN	REC A2 SW IN	H·DUBB INDI	F·PLAY 1 INDI
50	DATA 6	N·DUBB KEY IN	FF 1 KEY IN	FF 2 KEY IN	B·SKIP SW IN	REC B2 SW IN	N·DUBB INDI	
64	V_{DD}	Power supply (+5V).						
51	$-V_{FL}$	Power supply of pull-down resistor (-22V).						
52	Sg	Segment data outputs. 						
53	Sf							
54	Se							
55	Sd							
56	Sc							
57	Sb							
58	Sa							
59	G9	Digit scan signal outputs.	Meter: Counter 2 — 10^3 digit; 10^2 digit; 10^1 digit; 10^0 digit. Counter 1 — 10^3 digit; 10^2 digit; 10^1 digit; 10^0 digit.					
60	G8							
61	G7							
62	G6							
63	G5							
1	G4							
2	G3							
3	G2							
4	G1							
5	A	Auto level data outputs CSRS auto level outputs. "H" output turns the attenuator on. The gain of the attenuator is attenuated by a step (-0.4dB) every time "H" is input to pin ⑮ I.CD PEAK. All pins are "L" (0dB) when CSRS starts. The maximum attenuation is -6dB. The gain is set to -3dB when CSRS is turned off.						
6	B							
7	C							
8	D							
9	O·MS SENS	MS sensitivity switching terminal.						

IC BLOCK DIAGRAM (FX – W10)

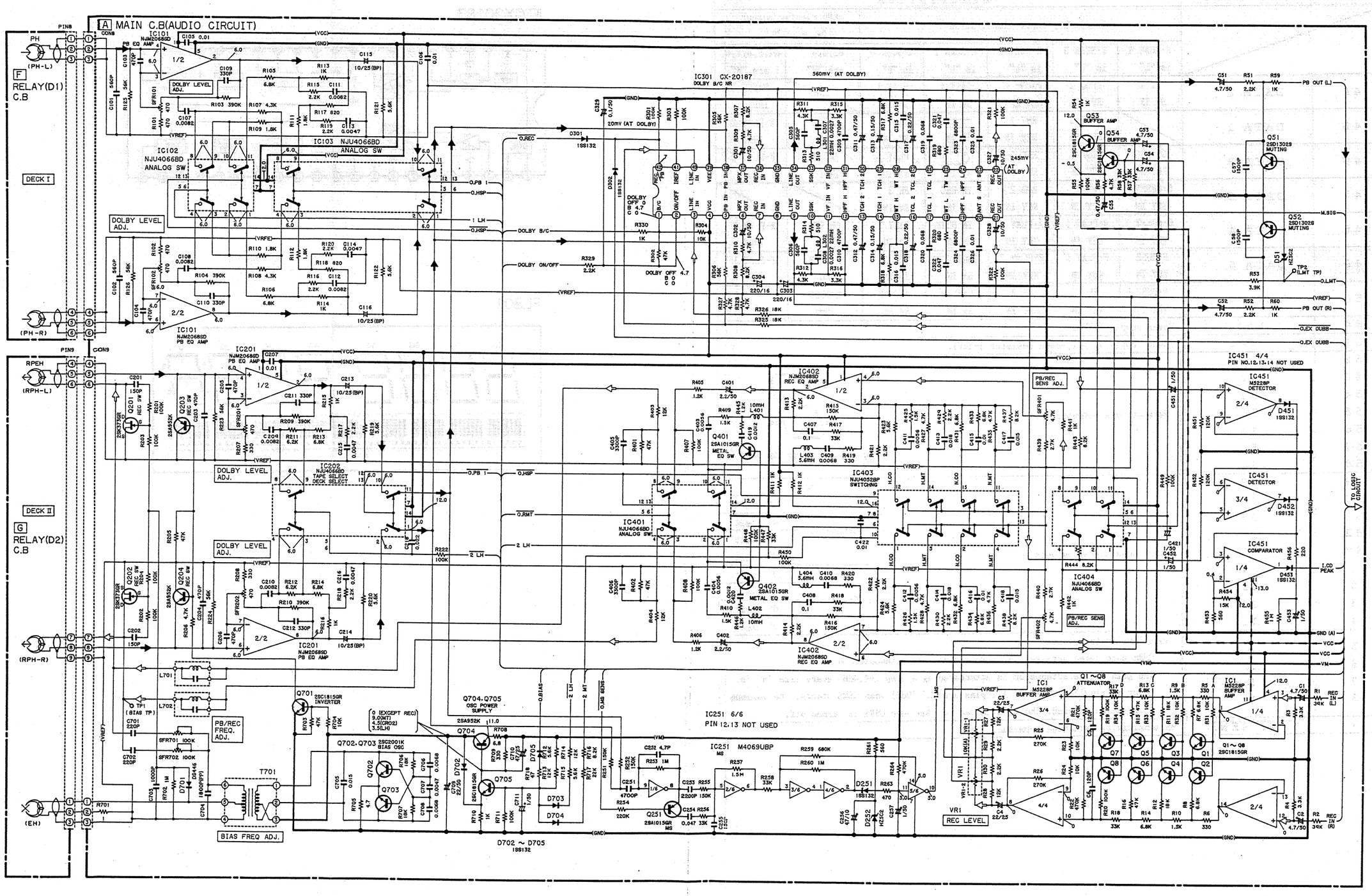
IC,CX20187

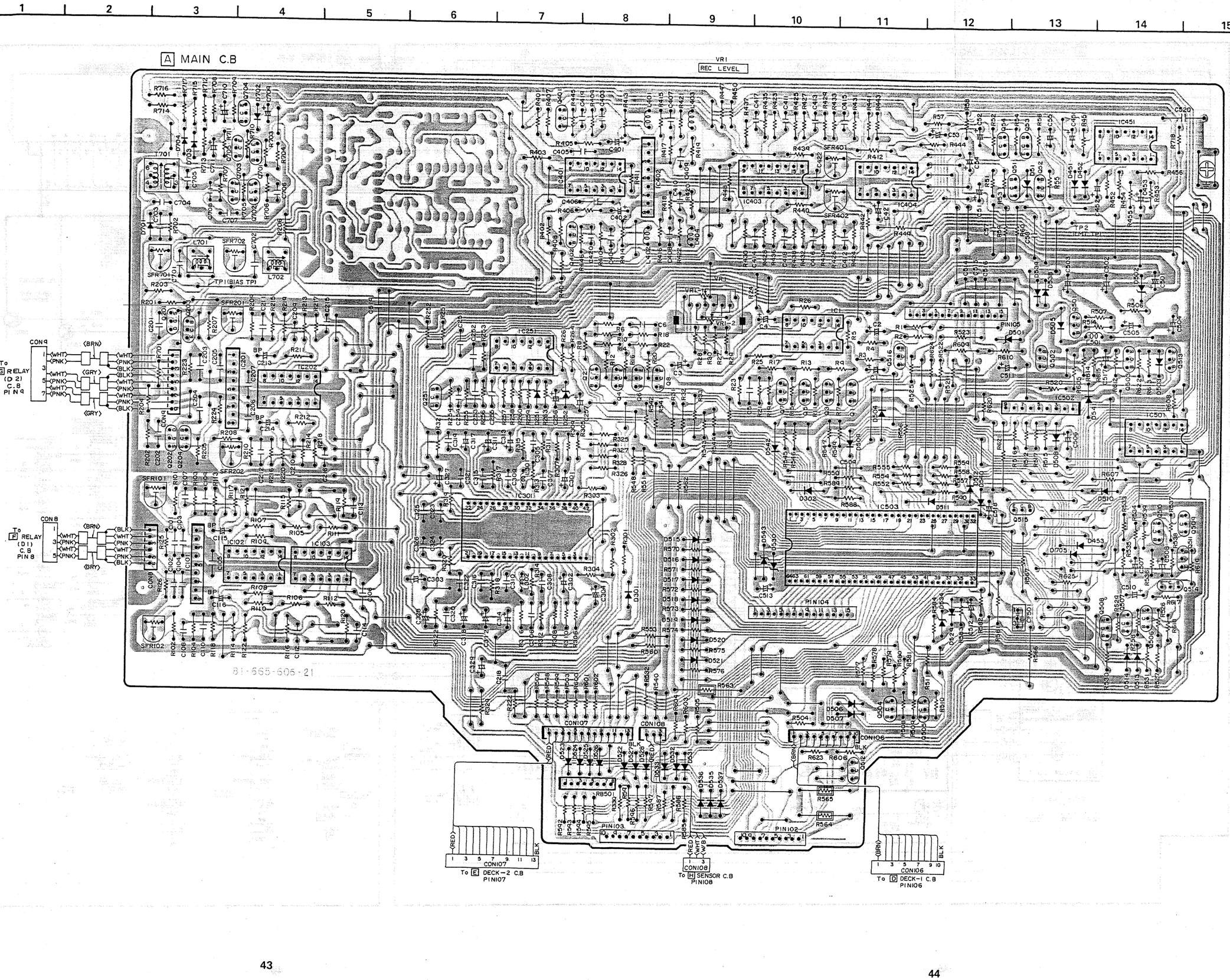


FL801

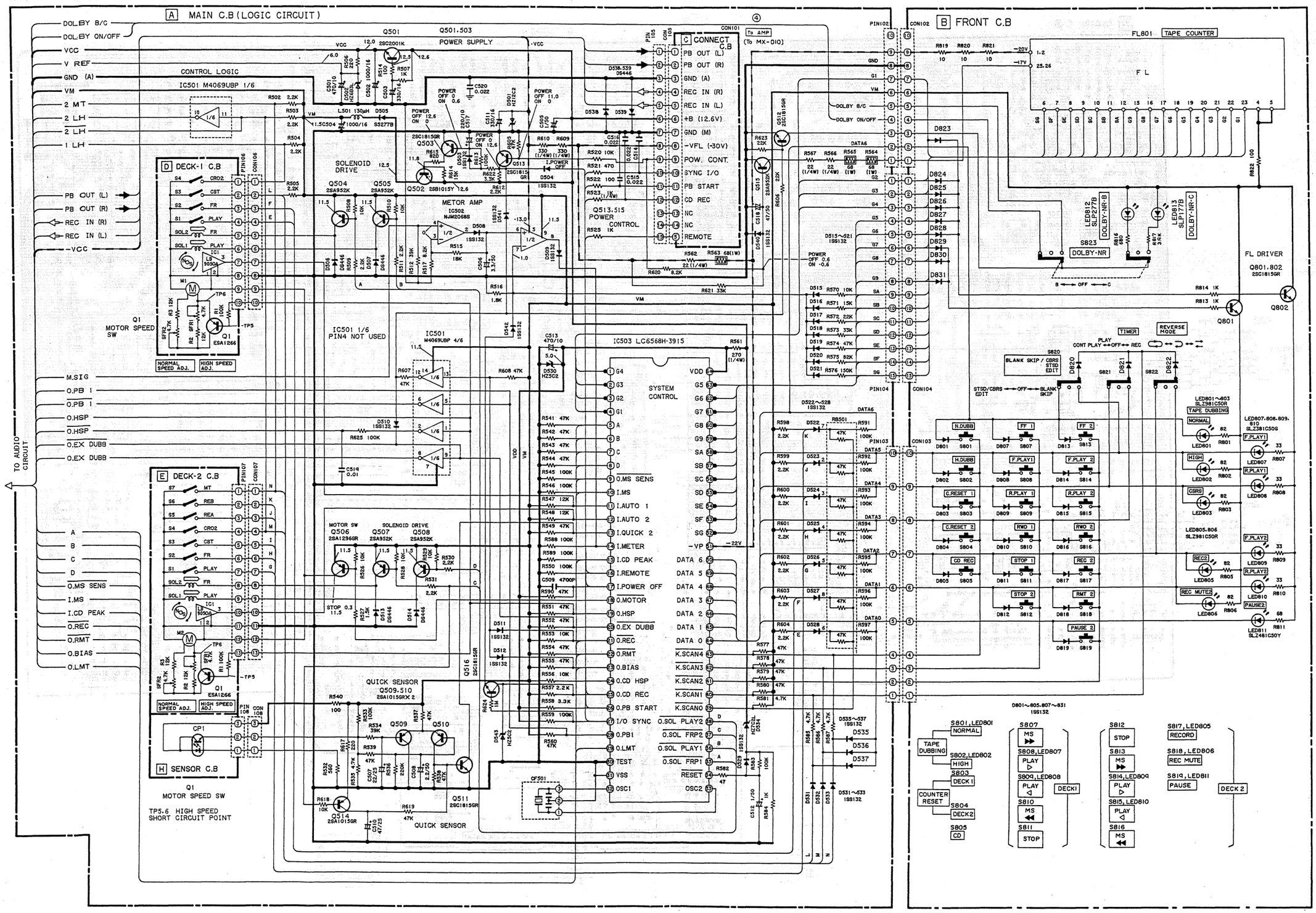


SCHEMATIC DIAGRAM – 1 (FX – W10)

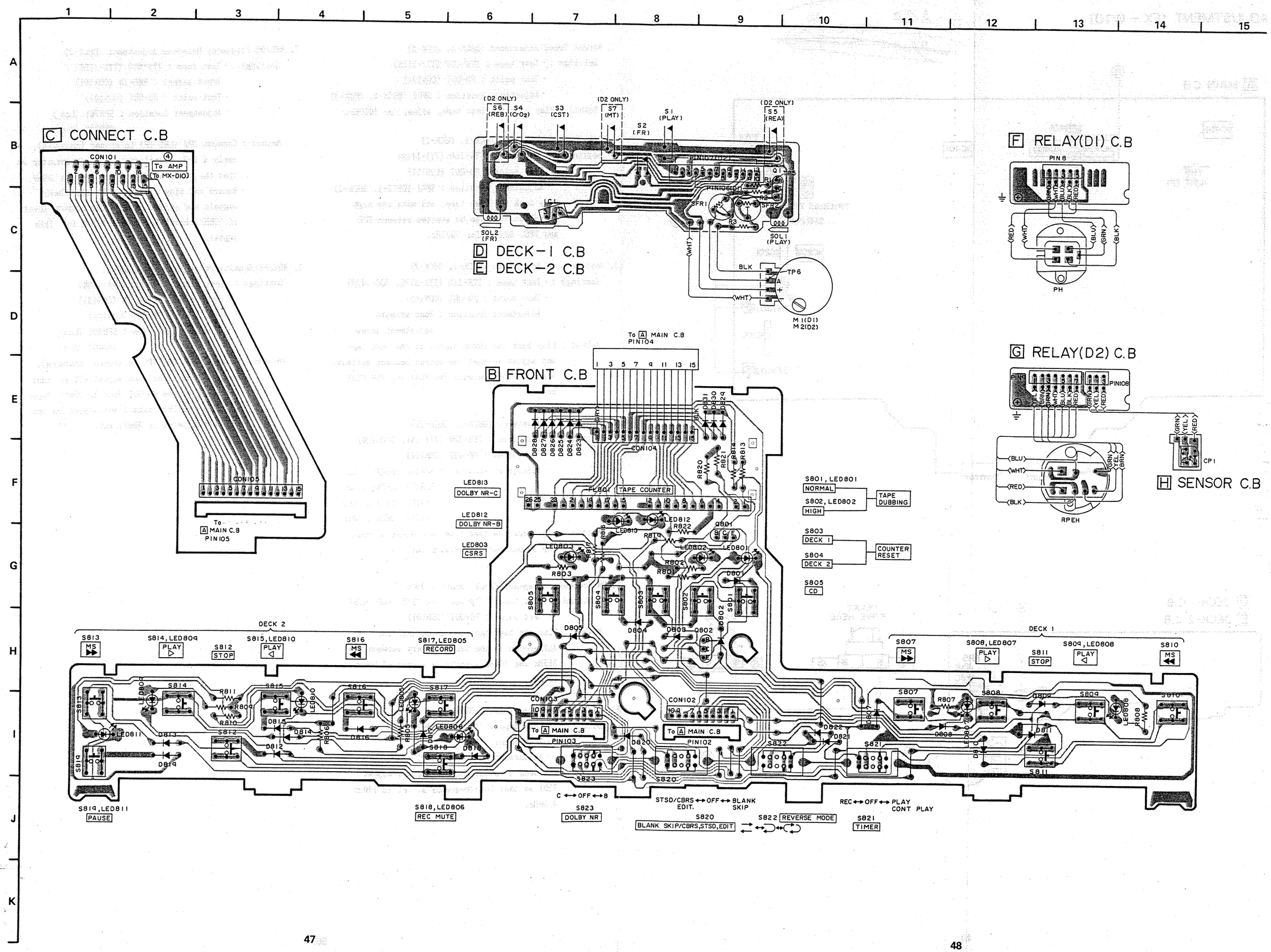


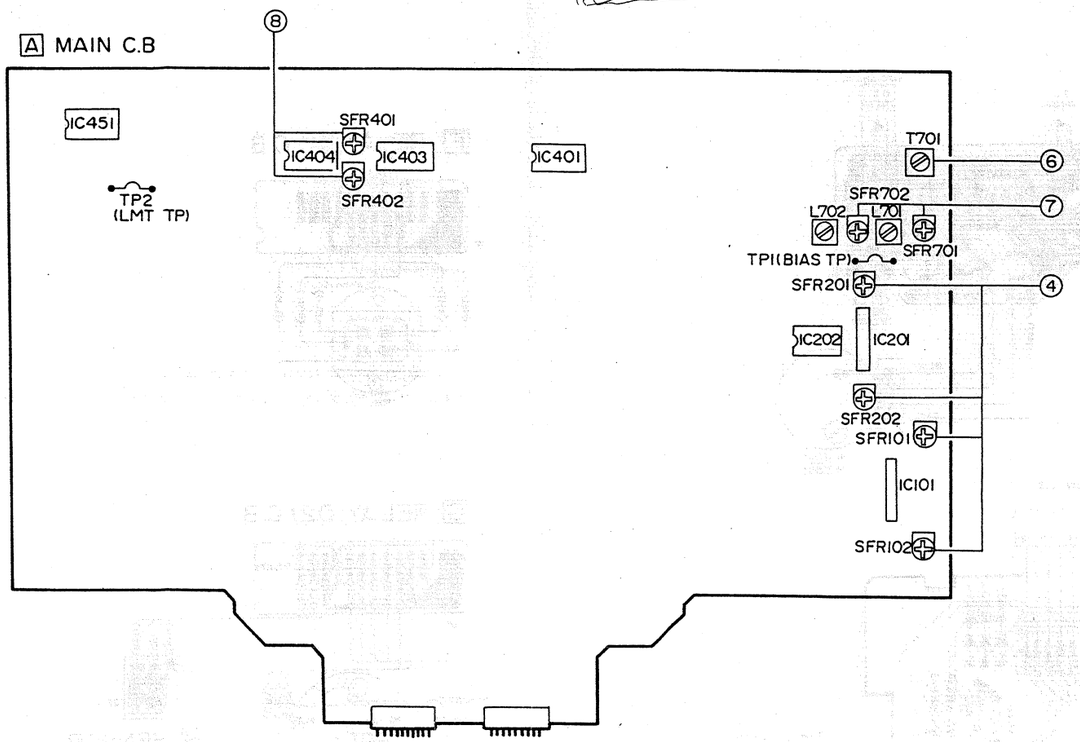

A MAIN C.B
VR1
REC LEVEL
81-565-605-21
To G RELAY (D2) C.B PIN 9
To F RELAY (D1) C.B PIN 8
To E DECK-2 C.B PIN107
To H SENSOR C.B PIN108
To D DECK-1 C.B PIN106
CON9
CON8
CON107
CON108
CON106
PIN105
PIN104
PIN103
PIN102
TP1(BIAS TP)
TP2
IC1
IC201
IC202
IC301
IC401
IC402
IC403
IC404
IC451
IC501
IC502
IC503
SFR201
SFR202
SFR401
SFR402
SFR701
SFR702
SFR101
SFR102
L701
L702
RB501

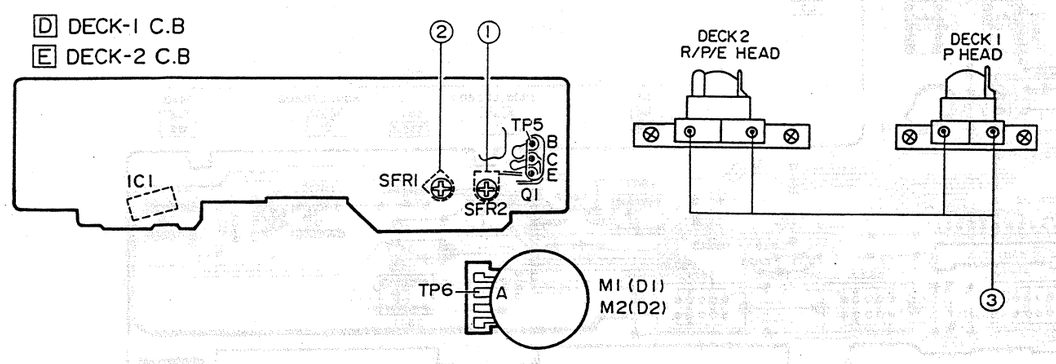
SCHEMATIC DIAGRAM – 2 (FX – W10)



WIRING – 2 (FX – W10)







1. Normal Speed Adjustment (DECK-1, DECK-2)
   Settings : · Test tape : TTA-100 (TTA-111S)
   · Test point : PB-OUT (CON101)
   · Adjustment location : SFR2 (DECK-1, DECK-2)
   Method : Play back the test tape, adjust for 3000Hz.

2. High Speed Adjustment (DECK-1, DECK-2)
   Settings : · Test tape : TTA-100 (TTA-111S)
   · Test point : PB-OUT (CON101)
   · Adjustment location : SFR1 (DECK-1, DECK-2)
   Method : Play back the test tape, and make the high speed condition to be shorted between TP5 and TP6. Adjust for 6000Hz.

3. Head Azimuth Adjustment (DECK-1, DECK-2)
   Settings : · Test tape : TTS-310 (TTA-317E, SCC-1429)
   · Test point : PB-OUT (CON101)
   · Adjustment location : Head azimuth adjustment screw
   Method : Play back the 10kHz signal of the test tape and adjust so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

4. Dolby Level Adjustment (DECK-1, DECK-2)
   Settings : · Test tape : TTS-200 (TTA-161, TCC-130)
   · Test point : PB-OUT (CON101)
   · Adjustment location : SFR101 (DECK-1, Lch)
   SFR102 (DECK-1, Rch)
   SFR201 (DECK-2, Lch)
   SFR202 (DECK-2, Rch)
   Method : Play back the test tape and adjust so that the output becomes 540mV±10mV.

5. PB Frequency Response Check (DECK-1, DECK-2)
   Settings : · Test tape : TTS-310 (TTA-317E, SCC-1429)
   · Test point : PB-OUT (CON101)
   Method : Play the test tape and check that the difference in the output levels between the 315Hz and 10kHz signals is within -0.5dB± 3.0dB.

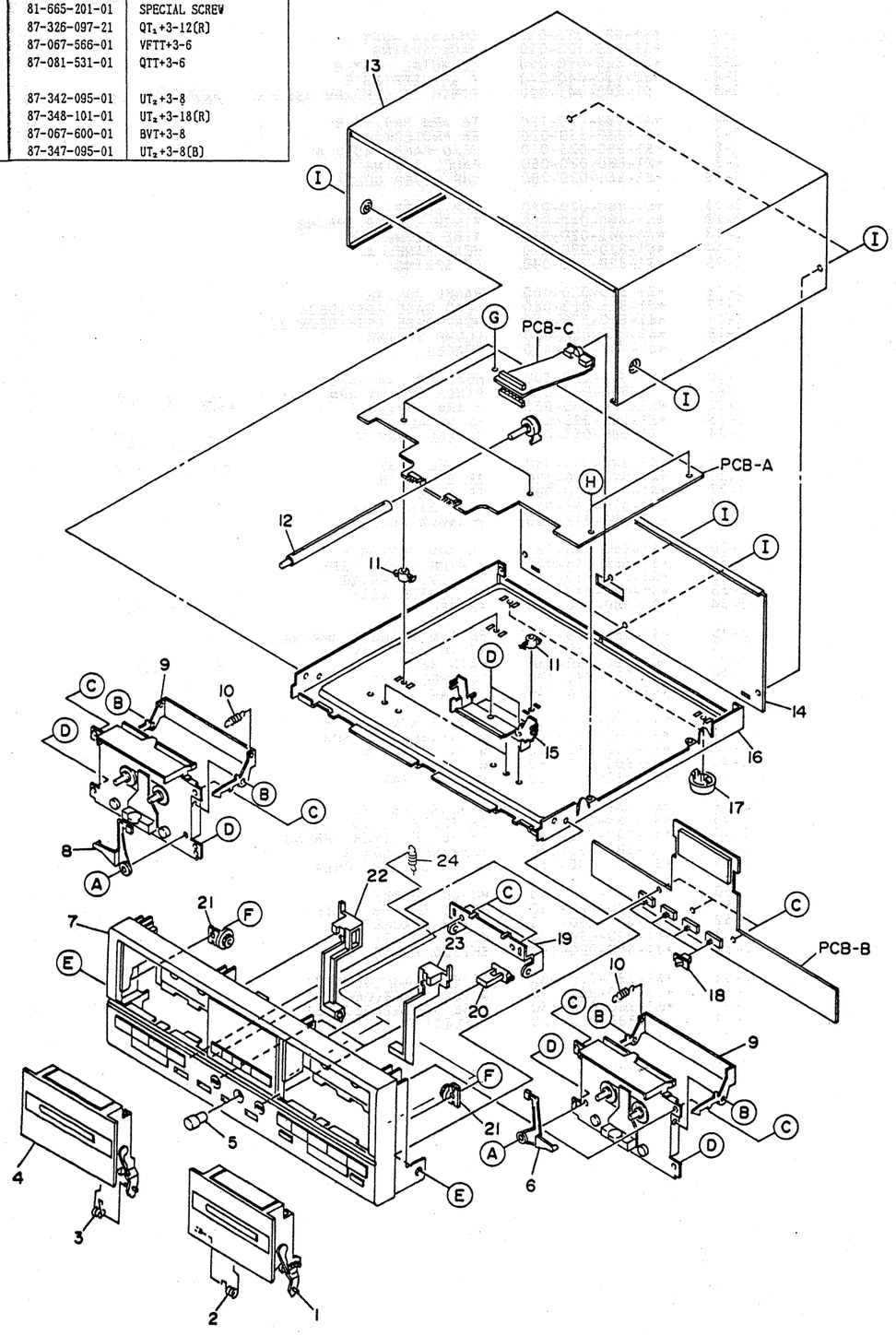
6. Bias Frequency Adjustment (DECK-2)
   Settings : · Test tape : TTA-620 (TTA-119MP)
   · Test point : TP1
   · Adjustment location : T701
   Method : Set DECK 2 to the record mode and adjust T701 so that the frequency at TP1 is 100± 0.5kHz.

7. REC/PB Frequency Response Adjustment (DECK-2)
   Settings : · Test tape : TTA-600 (TTA-119K)
   · Input signal : REC-IN (CON101)
   · Test point : PB-OUT (CON101)
   · Adjustment location : SFR701 (Lch)
   SFR702 (Rch)
   Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the PB OUT jack is 39mV. Record and play back the 1kHz and 10kHz signals and adjust so that the output level of 10kHz signal is +0.5dB±0.5dB for 1kHz signal.

8. REC/PB Sensitivity Adjustment (DECK-2)
   Settings : · Test tape : TTA-600 (TTA-119K)
   · Input signal : REC IN (CON101)
   · Test point : PB-OUT (CON101)
   · Adjustment location : SFR401 (Lch)
   SFR402 (Rch)
   Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust ATT so that the level at the PB OUT jack is 39mV. Record and play the 1kHz signal and adjust so that the output level is 39mV±2mV.

EXPLODED VIEW – 1 (FX – W10)

REF.NO.	PART NO.	DESCRIPTION
A	81-653-213-01	SPECIAL SCREW
B	81-665-201-01	SPECIAL SCREW
C	87-326-097-21	QT_1+3-12(R)
D	87-067-566-01	VFTT+3-6
E	87-081-531-01	QTT+3-6
F	87-342-095-01	UT_2+3-8
G	87-348-101-01	UT_2+3-18(R)
H	87-067-600-01	BVT+3-8
I	87-347-095-01	UT_2+3-8(B)

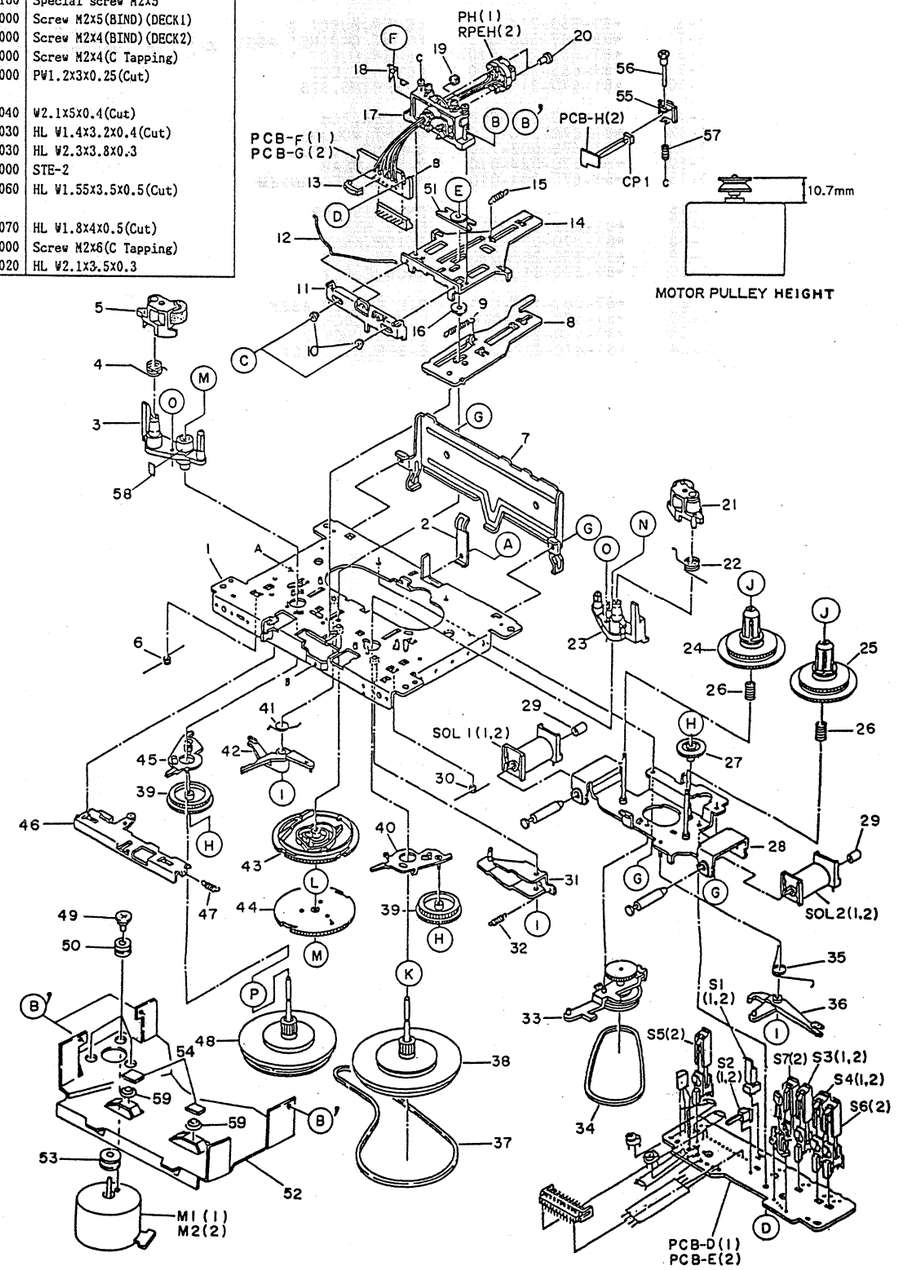


MECHANICAL PARTS LIST (FX – W10)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1-1	★09-047-437-010	CASSETTE BOX 2 ASSY	*	1
	1-2	★81-670-207-010	T-SPRING,EJECT 2		1
	1-3	★81-670-206-010	T-SPRING,EJECT 1		1
	1-4	★09-047-504-010	CASSETTE BOX 1 ASSY	*	1
	1-5	★81-669-005-010	KNOB,BALANCE		1
	1-6	★81-653-214-110	LEVER,EJECT 2		1
	1-7	★09-047-503-010	FRONT CABINET ASSY	*	1
	1-8	★81-653-212-010	LEVER,EJECT 1		1
	1-9	★81-665-202-010	LEVER,EJECT	*	2
	1-10	★81-670-211-110	E-SPRING,STB		2
	1-11	★81-670-214-010	HOLDER,PCB		3
	1-12	★81-670-208-010	SHAFT,VOLUME		1
	1-13	★81-670-003-110	CABINET,STEEL		1
	1-14	★81-670-024-010	PANEL,REAR		1
	1-15	★81-670-204-010	HOLDER,MECHANISM		2
	1-16	---	CHASSIS AMP		1
	1-17	★81-669-025-010	FOOT H11		2
	1-18	★81-670-013-010	SLIDE,KNOB		4
	1-19	★81-670-205-010	HOLDER,BOX		1
	1-20	★81-670-012-010	KNOB,EJECT		2
	1-21	★87-063-142-010	OIL DAMPER ASSY		2
	1-22	★81-670-209-010	LEVER,LOCK 1		1
	1-23	★81-670-210-110	LEVER,LOCK 2		1
	1-24	★81-670-211-010	E-SPRING,EJECT		2

EXPLODED VIEW – 2 (FX – W10)

REF.NO.	PART NO.	DESCRIPTION
A	S9-178-000-000	Special screw M2X3(C Tapping)
B	S9-078-000-000	Screw M2X5(Tams)(DECK1)
B'	S9-077-000-000	Screw M2X4(Tams)(DECK2)
C	S9-547-000-000	Screw M1.7X3(Camera)
D	S9-999-200-200	Screw M2X5(S Tapping Tams)
E	S9-999-180-160	Special screw M2X5
F	S9-117-000-000	Screw M2X5(BIND)(DECK1)
F'	S9-116-000-000	Screw M2X4(BIND)(DECK2)
G	S9-180-000-000	Screw M2X4(C Tapping)
H	S9-421-000-000	PW1.2X3X0.25(Cut)
I	S9-999-700-040	W2.1X5X0.4(Cut)
J	S9-999-700-030	HL W1.4X3.2X0.4(Cut)
K	S9-999-600-030	HL W2.3X3.8X0.3
L	S9-502-000-000	STE-2
M	S9-999-700-060	HL W1.55X3.5X0.5(Cut)
N	S9-999-700-070	HL W1.8X4X0.5(Cut)
O	S9-182-000-000	Screw M2X6(C Tapping)
P	S9-999-600-020	HL W2.1X3.5X0.3



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	*S1-880-015-010	CHASSIS ASSY		1
	2-2	*S1-829-100-010	PACK SPRING		1
	2-3	*S1-880-090-090	FL METAL ASSY R		1
	2-4	*S1-880-040-040	P ARM SPRING R		1
	2-5	S1-880-043-020	PINCH ROLLER ARM ASSY R	368 B. 60.	1
	2-6	*S1-880-050-190	TG ARM SPRING R		1
	2-7	*S1-880-530-020	SW PROTECTOR		1
	2-8	*S1-880-025-010	HEAD PANEL ASSY B		1
	2-9	*S1-880-020-050	PANEL SPRING		1
	2-10	*S1-865-020-280	CHP LEVER COLLAR		2
	2-11	*S1-880-020-060	CHP LEVER		1
	2-12	*S1-880-040-050	PINCH ROLLER SPRING		1
	2-13	*81-865-020-490	WIRE CLUMP		1
	2-14	*S1-880-020-010	HEAD PANEL A		1
	2-15	*S1-880-020-040	RC SPRING		1
	2-16	*S1-880-020-100	PANEL COLLAR		1
	2-17	*S1-865-023-060	HEAD BASE ASSY(DECK 1)		1
	2-17	*S1-880-020-170	HEAD BASE ASSY(DECK 2)		1
	2-18	*S1-865-020-600	CLUMP SPRING		1
	2-19	*S1-865-090-610	SPACER		1
	2-20	*S1-865-020-350	HEAD COLLAR SCREW		2
	2-21	S1-880-043-010	PINCH ROLLER ARM ASSY F	543 B. 60	1
	2-22	*S1-880-040-030	P ARM SPRING F		1
	2-23	*S1-880-090-080	FL METAL ASSY		1
	2-24	S1-880-053-020	T REEL ASSY R	74 C 150	1
	2-25	S1-880-053-060	T REEL ASSY F	80 C. 170.	1
	2-26	*S1-880-050-220	BT SPRING R		2
	2-27	*S1-880-050-080	FF GEAR		1
	2-28	*S1-880-055-010	REEL BASE ASSY		1
	2-29	*S1-880-210-060	PLANGER HOLDER		2
	2-30	*S1-880-050-180	TG ARM SPRING F		1
	2-31	*S1-880-215-020	P KICK LEVER ASSY		1
	2-32	*S1-880-210-110	PK LEVER SPRING		1
	2-33	*S1-880-073-020	RF CLUTCH ASSY		1
	2-34	*S1-880-070-080	RF BELT	255 N. 95	1
	2-35	*S1-880-050-170	FR ARM TRIGGER SPRING		1
	2-36	*S1-880-050-150	RF TRIGGER ARM		1
	2-37	*S1-880-090-380	MAIN BELT	264 C 50.0	1
	2-38	S1-880-093-070	FLYWHEEL ASSY F		1
	2-39	*S1-880-050-140	T GEAR	24 C 120	2
	2-40	*S1-880-055-020	T GEAR ARM ASSY F		1
	2-41	*S1-880-010-060	M TRIGGER ARM SPRING		1
	2-42	*S1-880-210-030	M TRIGGER ARM		1
	2-43	*S1-880-210-150	M GEAR		1
	2-44	*S1-880-210-160	RF CAM GEAR		1
	2-45	*S1-880-055-030	T GEAR ARM ASSY R		1
	2-46	*S1-880-215-010	CH SLIDE LEVER ASSY		1
	2-47	*S1-880-210-080	CH SLIDE LEVER SPRING		1
	2-48	S1-880-093-080	FLYWHEEL ASSY R		1
	2-49	*S1-851-140-180	MOTOR COLLAR SCREW		3
	2-50	*S1-821-120-660	MOTOR RUBBER		3
	2-51	*S1-880-020-160	PANEL SPRING PLATE		1
	2-52	*S1-880-090-110	MOTOR BRACKET		1
	2-53	*S1-880-090-370	MOTOR PULLEY		1
	2-54	*S1-880-020-180	SHIELD PLATE		1
	2-55	*S1-880-020-090	DETECT BASE(DECK 2)		1
	2-56	*S1-880-020-130	GUIDE SCREW(DECK 2)		1
	2-57	*S1-880-020-150	BASE SPRING(DECK 2)		1
	2-58	*S1-880-090-220	REFLECT PLATE(DECK 2)		1

MODEL NO.

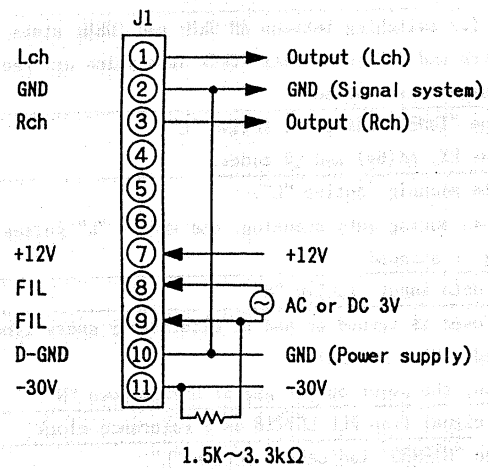
TX – D10

CAUTIONS WHEN SERVICING (TX – D10)

Model TX-D10 does not have a power supply circuit. Power is supplied to it through a 11-pin flat cable and the signal inputs/outputs are also performed through this cable.
When servicing the TX-D10, connect it to the MX-D10 so that power is supplied to the TX-D10. If the MX-D10 is not available, follow the procedure below.

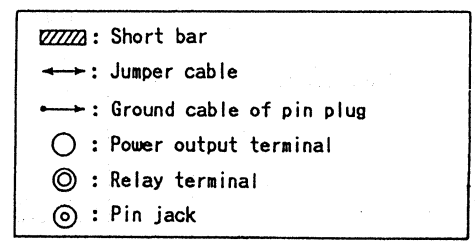
(When servicing the unassembled TX-D10)

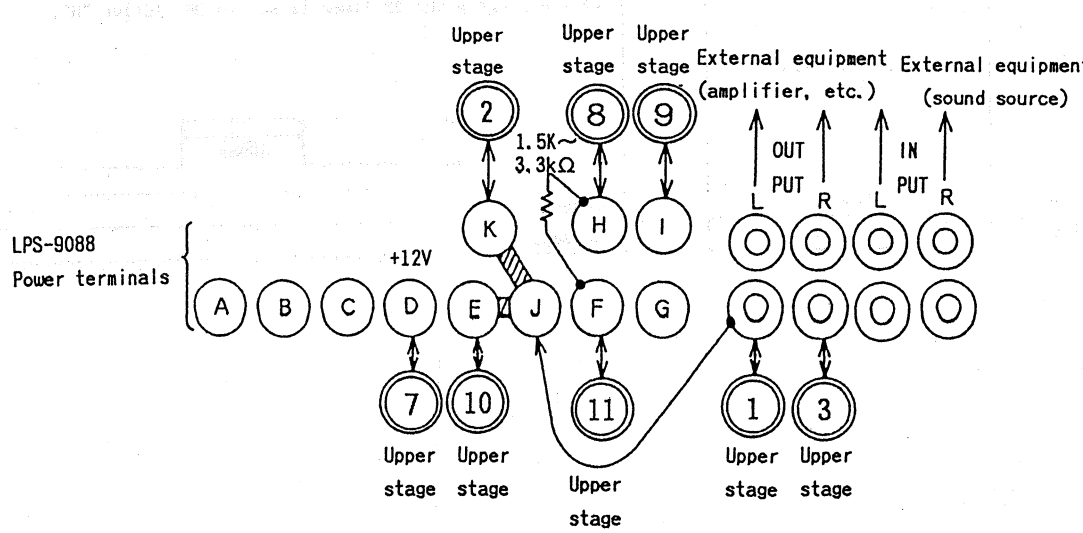
① Supply the following voltages to each J1 terminal from an external power supply.



② Connection diagram of multi-power unit (LPS-9088)

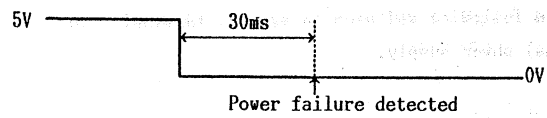
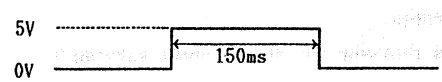
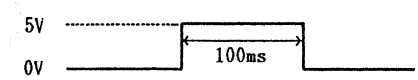
- Connect the TX-D10 to J1 of the LPS-9088 via multi-conversion harness.
- Connect a bias resistor for the filament between H and F.





IC DESCRIPTION (TX – D10)

1.IC, μ PD75208CW – 290

Pin No.	Pin Name	I/O	Description
4 ∫ 1	Sa ∫ Sd	O	Segment signal outputs. Key scan signal outputs.
63 ∫ 58	Se ∫ Sj		
56 ∫ 50	Sk ∫ So		
5	$\overline{\text{POWER FAILURE}}$	I	Input port to detect power failures. When "L" continues for 30ms, a power failure is detected and the power backup mode is entered. 
6	9K/$\overline{\text{10K}}$	I	Initial setting input for switching between AM 9kHz and 10kHz steps. "H" input sets 9kHz step and "L" input sets 10kHz step which are read every time the reset signal is applied.
7	$\overline{\text{TUNE}}$	I	Input port to light the "TUNE" indicator. Active "L". This is accepted in the FM, AM(MW) and LW modes.
8	$\overline{\text{SD}}$	I	Input port to stop auto scannig. Active "L". SD is detected every 5ms during auto scanning, and when 4 "L" pulses are counted, auto scanning is stopped.
9	REMOTE CONT.	I	Remote control serial data input. Active "H".
10	POW SW	I	Power control input. Power is turned on and of alternately every time the power switch is pressed. (Rise detection) When power is turned on, the power output pin of LC7218 goes "H".
11	T. BASE	I	Receives an 8Hz clock signal from PLL LC7218 as a reference clock.
12	$\overline{\text{STEREO}}$	I	Input port to light the "STEREO" indicator. Active "L". This input is not accepted in a mode other than FM.
13	START/CUT	O	Outputs "H" when the START/CUT operation for the turntable is performed from the remote control. 
14	FUNCTION	O	Outputs a function signal when the BAND, PRESET or UP/DOWN key is pressed or the program on/off timer is set to ON. Active "H". 
15	DX	–	Unused.
16	LOCAL	–	Unused.

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>17</td><td>FL SW</td><td>I</td><td>Initial setting input port to switch between the "MONO" and "STEREO" indicators in the display and the specifications of the FM MONO output port.
<table>
<tr><th>FL SW</th><th>"MONO"/"STEREO" in FL Display</th><th>FM MONO output port</th></tr>
<tr><td>"L"</td><td>The indicator lights depending on the settings of the FM MONO switch and $\overline{\text{STEREO}}$ input port.</td><td>Switches between "L" and "H" alternately in FM and is set to "H" in AM (MW,LW).</td></tr>
<tr><td>"H"</td><td>The indicator does not light regardless of the settings of the FM MONO switch and $\overline{\text{STEREO}}$ input port.</td><td>Switches between "L" and "H" alternately in FM and is set to "L" in AM (MW,LW).</td></tr>
</table>
This pin is set to "L".</td></tr>
<tr><td>18
〜
20</td><td>TEST 1
〜
TEST 3</td><td>I</td><td>Test mode setting input ports.</td></tr>
<tr><td>21
〜
24</td><td>K0
〜
K3</td><td>I</td><td>Key scan inputs. Active "H".</td></tr>
<tr><td>25
26
27</td><td>CE
DATA
CLK</td><td>O</td><td>Output ports which transfer serial data to PLL LC7218. Active "H".</td></tr>
<tr><td>28</td><td>$\overline{\text{K. MUT}}$</td><td>O</td><td>Outputs a muting signal when the BAND, PRESET, UP/DOWN, FM /MODE, LOCAL/DX, IF-WIDTH or HI-BLEND key is pressed. Active "L".</td></tr>
<tr><td>29</td><td>FM MONO</td><td>O</td><td>Outputs "H" and "L" alternately every time the FM MONO key is pressed. Active "H".</td></tr>
<tr><td>30, 31</td><td>X1, X2</td><td>—</td><td>Ceramic oscillator which generates a main system clock signal is connected. (4.19MHz)</td></tr>
<tr><td>32
64</td><td>Vss
VDD</td><td>—</td><td>5V±10% is applied to VDD, and no voltage is applied to Vss.</td></tr>
<tr><td>33, 34</td><td>XT1, XT2</td><td>I</td><td>Unused.</td></tr>
<tr><td>35</td><td>WIDE</td><td>—</td><td>Unused.</td></tr>
<tr><td>36</td><td>NARROW</td><td>—</td><td>Unused.</td></tr>
<tr><td>37</td><td>TIMER ON</td><td>—</td><td>Unused.</td></tr>
<tr><td>38</td><td>HI-BLEND</td><td>—</td><td>Unused.</td></tr>
<tr><td>39</td><td>$\overline{\text{RESET}}$</td><td>I</td><td>Reset input.</td></tr>
<tr><td>40
〜
48</td><td>D_1
〜
D_9</td><td>O</td><td>Digit signal output. Active "H".</td></tr>
<tr><td>56</td><td>VLOAD</td><td>—</td><td>Pull-down resistor of driver of high dielectric strength port is connected.</td></tr>
<tr><td>57</td><td>VPRE</td><td>—</td><td>Power supply of output buffer of high dielectric strength port.</td></tr>
</table>

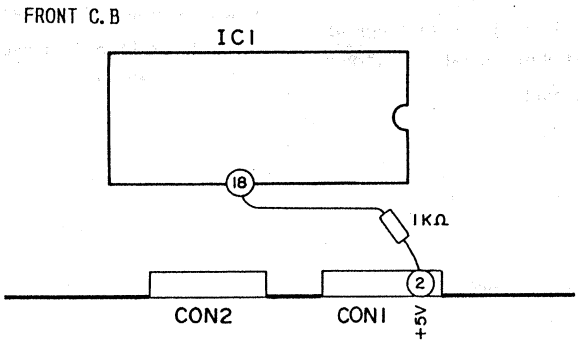
2. TEST MODE OF CONTROLLER

〔To use the test mode〕

Set IC1, μPD75208CW-290 (controller) to the test mode to judge whether the program in the controller, key input and FL display ports are normal or not.

〔To set to the test mode〕

1. Turn the power switch off.
2. Connect IC1 pin 18 (TEST 1) and +5V line via a 1kΩ resistor.



〔Test mode operation〕

The following is performed in the test mode.

1. The all segments of the FL display light for 3 minutes.
2. The FL display goes out.
3. When an operation key is pressed, the corresponding numeral is shown in the FL display.

Displayed numeral	Operation key	Displayed numeral	Operation key
1	PRESET 1	13	UP
2	PRESET 2	14	DOWN
3	PRESET 3	15	FM
4	PRESET 4	16	AM(MW)
5	PRESET 5	17	LW
6	PRESET 6	18	DISPLAY
7	PRESET 7	19	FM MONO
8	PRESET 8	20	MONO
9	PRESET 9	21	STANDBY
10	PRESET 10	22	SET
11	PRESET 11	23	TIMER
12	PRESET 12	24	SLEEP
		25	CLOCK

If the above operations are normal, the program, key input ports, FL display ports and the tact switches are normal.

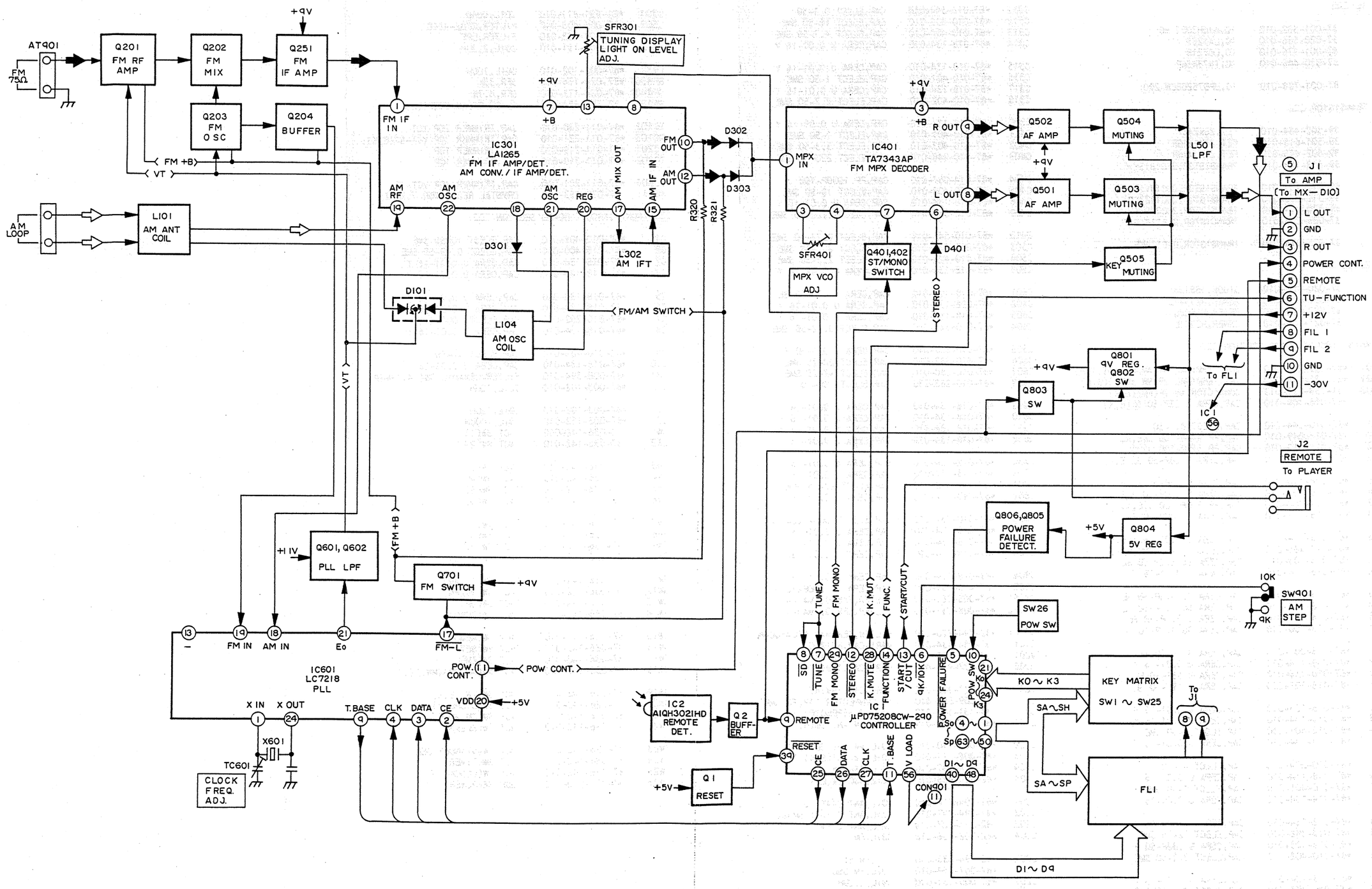
3. IC,LC7218

Pin No.	Pin Name	I/O	Description
1 24	X IN X OUT	—	Clock oscillation pins. A 7.2MHz crystal oscillator is connected.
2 3 4	CE DATA CLK	—	When a key is operated, the corresponding signal is transferred from CPU. Active "H".
5 ∫ 8	——	—	Set to open.
9	T. BASE	—	Outputs an 8MHz signal which is transferred to CPU as a reference clock.
10	NC	—	Set to open.
11	POW. CONT.	O	Power control output. Outputs "H" when the power is turned on.
12	NC	—	Set to open.
13	$\overline{\text{MW-L}}$	O	Outputs "L" in the AM (MW) mode.
14	NC	—	Set to open.
15 16	——	—	Set to open.
17	$\overline{\text{FM-L}}$	O	Outputs "L" when an FM signal is received.
18	AM IN	I	AM local oscillation input.
19	FM IN	I	FM local oscillation input.
20	V_{DD}	—	Power supply (5V±10%).
21	E_0	O	PLL error output.
22	——	—	Set to open.
23	Vss	—	GND.

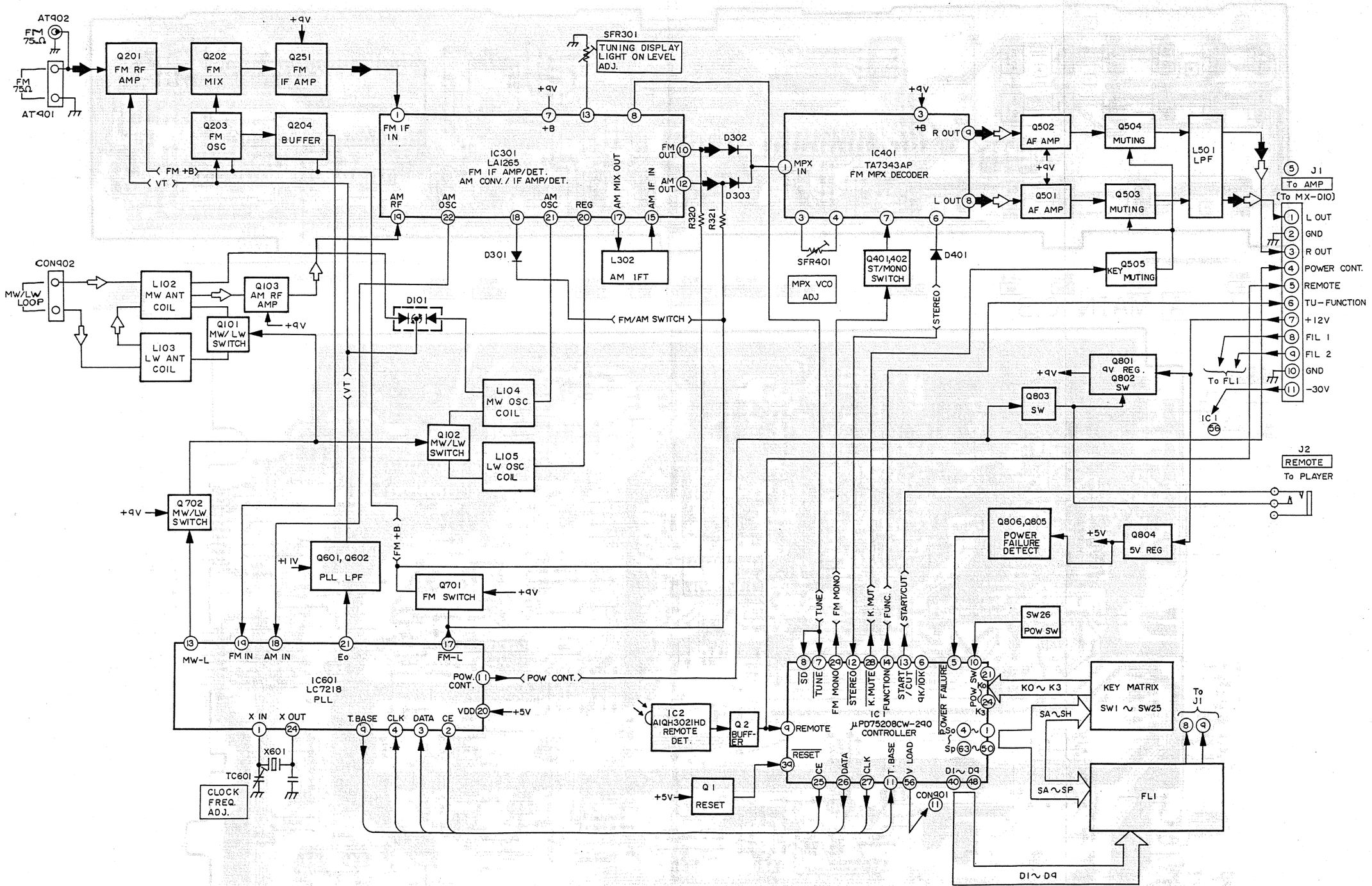
ELECTRICAL MAIN PARTS LIST (TX – D10)

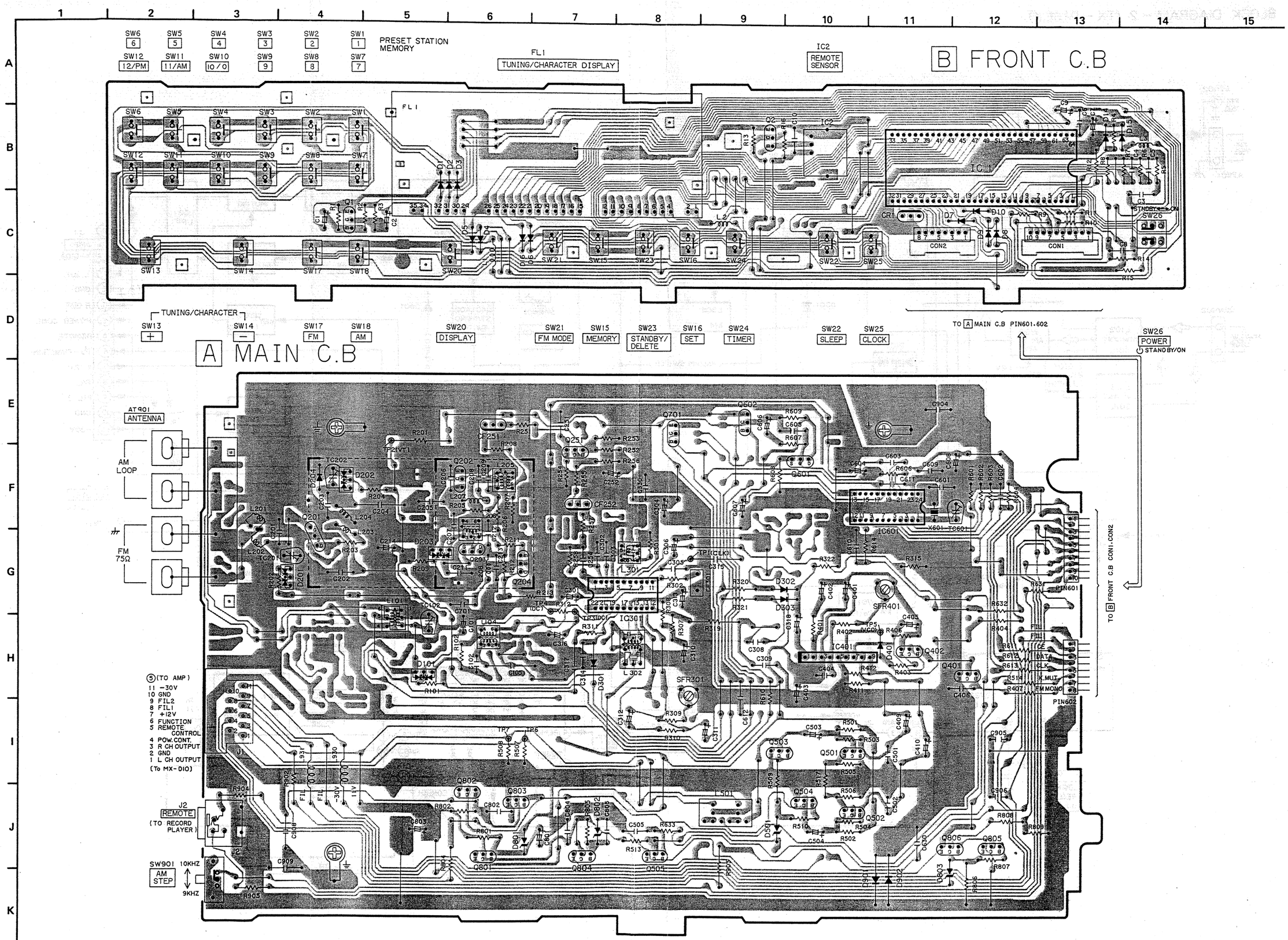
REF.NO.	PART NO.	DESCRIPTION
=== I C ===		
	87-001-532-010	IC,A1QH3021 H0
	87-020-566-010	IC,LA1265
	87-001-376-010	IC,LC7218
	87-020-446-010	IC,TA7343AP
	87-001-728-010	IC,UPD75208CW-290
=== TRANSISTOR ===		
	89-502-464-010	FET,2SK246Y
	89-501-615-010	FET,2SK161GR
	89-502-415-010	FET,2SK241GR
	89-318-154-010	TRANSISTOR,2SC1815Y
	89-318-155-010	TRANSISTOR,2SC1815GR
	89-319-233-010	TRANSISTOR,2SC1923(0)
	89-320-011-010	TRANSISTOR,2SC2001K
	87-026-214-010	TRANSISTOR,DTA114YS
	87-026-215-010	TRANSISTOR,DTC114YS
=== DIODE ===		
	87-020-465-010	DIODE,1SS133
	87-027-417-010	ZENER,HZ11A1L
	87-027-702-010	ZENER,HZ6C2L
	87-027-584-010	ZENER,HZ9C1L
=== MAIN CIRCUIT BOARD SECTION ===		
AT901	*87-033-202-010	ANT.TERMINAL 4P(AM/FM ANT.)(H)
AT901	*81-631-646-010	ANT.TERMINAL 2P(MW ANT.)(E,K)
AT902	81-754-629-010	CONNECTOR XH 2P(FM)(E,K)
C30	*87-018-109-010	CAP,CERA U 22P-50 SL(E,K)
C101	*87-010-544-010	CAP,ELECT 0.1-50
C102	*87-014-049-010	CAP,PP 470P-100 J(E,K)
C102	*87-014-050-010	CAP,PP 510P-100 J(H)
C105	*87-018-108-010	CAP,CERA U 20P-50 SL(E,K)
C105	*87-018-110-010	CAP,CERA U 24P-50 SL(H)
C106	*87-018-121-010	CAP,CERA U 150P-50 B(E,K)
C107	*87-014-050-010	CAP,PP 510P-100 J(E,K)
C108	*87-018-119-010	CAP,CERA U 100P-50 B
C108	*87-018-134-010	CAP,CERA U 0.01-16 Y(E,K)
C109	*87-010-405-010	CAP,ELECT 10-50 SME(E,K)
C201	*87-018-103-010	CAP,CERA SS 8.2P-50 SL
C202	*87-018-134-010	CAP,CERA U 0.01-16 Y
C203	*87-018-102-010	CAP,CERA SS 6.8P-50 SL
C204	*87-018-102-010	CAP,CERA SS 6.8P-50 SL
C205	*87-018-098-010	CAP,CERA U 3.3P-50 SL
C206	*87-018-100-010	CAP,CERA SS 4.7P-50 SL
C207	*87-018-001-010	CAP,CERA S 1P-50 SL
C209	*87-018-134-010	CAP,CERA U 0.01-16 Y
C210	*87-018-116-010	CAP,CERA U 56P-50 SL
C211	*87-018-107-010	CAP,CERA U 18P-50 SL
C212	*87-018-134-010	CAP,CERA U 0.01-16 Y
C213	*87-018-134-010	CAP,CERA U 0.01-16 Y
C214	*87-010-401-010	CAP,ELECT 1-50 SME
C251	*87-018-134-010	CAP,CERA U 0.01-16 Y
C252	*87-010-374-010	CAP,ELECT 47-10
C254	*87-018-134-010	CAP,CERA U 0.01-16 Y
C301	*87-010-401-010	CAP,ELECT 1-50 SME
C302	*87-018-134-010	CAP,CERA U 0.01-16 Y
C303	*87-018-134-010	CAP,CERA U 0.01-16 Y
C304	*87-010-382-010	CAP,ELECT 22-25 SME
C305	*87-018-125-010	CAP,CERA U 330P-50 B
C306	*87-010-402-010	CAP,ELECT 2.2-50 SME
C309	*87-018-134-010	CAP,CERA U 0.01-16 Y
C310	*87-010-403-010	CAP,ELECT 3.3-50 SME
C311	*87-010-544-010	CAP,ELECT 0.1-50
C312	*87-010-405-010	CAP,ELECT 10-50 SME
C313	*87-010-404-010	CAP,ELECT 4.7-50 SME
C314	*87-018-134-010	CAP,CERA U 0.01-16 Y
C315	*87-018-134-010	CAP,CERA U 0.01-16 Y
C316	*87-010-401-010	CAP,ELECT 1-50 SME
C317	*87-018-134-010	CAP,CERA U 0.01-16 Y
C318	*87-010-402-010	CAP,ELECT 2.2-50 SME
C330	*87-018-134-010	CAP,CERA U 0.01-16 Y
C401	*87-010-401-010	CAP,ELECT 1-50 SME
C402	*87-010-403-010	CAP,ELECT 3.3-50 SME
C403	*87-010-248-010	CAP,ELECT 220-10 SME
C404	*87-014-057-010	CAP,PP 1000P-100 J
C405	*87-010-405-010	CAP,ELECT 10-50 SME
C406	*87-018-134-010	CAP,CERA U 0.01-16 Y
C409	*87-010-545-010	CAP,ELECT 0.22-50 SME
C410	*87-010-545-010	CAP,ELECT 0.22-50 SME
C503	*87-010-402-010	CAP,ELECT 2.2-50 SME
C504	*87-010-402-010	CAP,ELECT 2.2-50 SME
C505	*87-018-134-010	CAP,CERA U 0.01-16 Y
C601	*87-018-106-010	CAP,CERA U 15P-50 SL
C602	*87-018-134-010	CAP,CERA U 0.01-16 Y
C603	*87-018-134-010	CAP,CERA U 0.01-16 Y
C604	*87-010-545-010	CAP,ELECT 0.22-50 SME
C605	*87-018-209-010	CAP,CERA U 0.1-50 F
C606	*87-010-382-010	CAP,ELECT 22-25 SME
C607	*87-010-260-010	CAP,ELECT 47-25 SME
C608	*87-010-263-010	CAP,ELECT 100-10
C609	*87-018-134-010	CAP,CERA U 0.01-16 Y
C610	*87-018-134-010	CAP,CERA U 0.01-16 Y
C611	*87-018-134-010	CAP,CERA U 0.01-16 Y
C612	*87-018-134-010	CAP,CERA U 0.01-16 Y
C630	*87-018-134-010	CAP,CERA U 0.01-16 Y
C701	*87-018-134-010	CAP,CERA U 0.01-16 Y
C801	*87-010-382-010	CAP,ELECT 22-25 SME
C802	*87-018-134-010	CAP,CERA U 0.01-16 Y
C803	*87-010-237-010	CAP,ELECT 1000-16SME
C804	*87-018-134-010	CAP,CERA U 0.01-16 Y
C805	*87-018-134-010	CAP,CERA U 0.01-16 Y
C904	*87-018-134-010	CAP,CERA U 0.01-16 Y
C908	*87-018-134-010	CAP,CERA U 0.01-16 Y
C909	*87-018-131-010	CAP,CERA U 1000P-50 B
CF251	*87-008-261-010	FILTER,SFE10.7MA5-A
CF252	*87-008-261-010	FILTER,SFE10.7MA5-A
CF301	*82-794-670-010	FILTER,CERAMIC BFU450C4N
D101	81-754-634-010	VARI-CAP,KV1260
D201	87-027-900-010	VARI-CAP,1SV147
D202	87-027-900-010	VARI-CAP,1SV147
D203	87-027-900-010	VARI-CAP,1SV147
J1	87-009-063-010	FG CONNECTOR 11P(TO AMP)
J2	84-131-617-010	JACK 3.5(REMOTE)
L101	*87-006-182-019	COIL,AM ANT 2B(H)
L102	*87-006-190-010	COIL,MW ANT 3B(E,K)
L103	*87-006-177-010	COIL,LW ANT(E,K)
L104	*82-794-687-010	COIL,OSC MW
L105	*82-794-688-010	COIL,OSC LW(E,K)
L201	*81-794-716-010	COIL,ANT 3/4T
L202	*81-794-717-019	COIL,ANT 2-3/4T SPACE
L203	*82-791-627-010	COIL,ANT 2 FM
L204	*82-702-638-010	COIL,FM
L205	*82-794-683-010	IFT,FM 6T
L206	*87-007-259-010	COIL,FM OSC
L207	*87-005-151-010	COIL,2.2UH
L208	*87-005-151-010	COIL,2.2UH
L301	*81-631-611-010	COIL,QUAD
L302	*87-008-405-010	FILTER,CFBZ-450D
L501	*87-008-253-010	FILTER,LPF
L930	*87-005-151-010	COIL,2.2UH
L931	*87-003-102-010	COIL,10UH
SFR301	*87-024-174-010	SFR,33K
SFR401	*87-024-171-010	SFR,4.7K
SW901	82-795-624-010	SLIDE SW(AM STEP)(H)
TC102	*87-011-220-010	CAP,TRIMMER 20P YCT
TC103	*87-011-221-010	CAP,TRIMMER 30P VCT-51(E,K)
TC201	*87-011-219-010	CAP,TRIMMER 10P
TC202	*87-011-219-010	CAP,TRIMMER 10P
TC601	*87-011-221-010	CAP,TRIMMER 30P VCT-51
X601	87-030-163-010	CRYSTAL RESONATOR 7.2MHZ
=== FRONT CIRCUIT BOARD SECTION ===		
C1	*87-010-405-010	CAP,ELECT 10-50 SME
C2	*87-010-400-010	CAP,ELECT 0.47-50 SME
C3	*87-018-134-010	CAP,CERA U 0.01-16 Y
C4	*87-018-134-010	CAP,CERA U 0.01-16 Y
C5	*87-018-134-010	CAP,CERA U 0.01-16 Y
C6	*87-018-134-010	CAP,CERA U 0.01-16 Y
C7	*87-010-252-010	CAP,ELECT 1000-6.3
C8	*87-018-134-010	CAP,CERA U 0.01-16 Y
C9	*87-010-408-010	CAP,ELECT 47-50
C10	*87-018-134-010	CAP,CERA U 0.01-16 Y
CR1	*87-008-394-010	FILTER,CERAMIC CST 4.19MGW
L1	*87-003-102-010	COIL,10UH
L2	*87-003-102-010	COIL,10UH
L3	*87-003-152-010	COIL,100UH
SW1	87-036-142-010	TACT SW(1)
SW2	87-036-142-010	TACT SW(2)
SW3	87-036-142-010	TACT SW(3)
SW4	87-036-142-010	TACT SW(4)
SW5	87-036-142-010	TACT SW(5)
SW6	87-036-142-010	TACT SW(6)
SW7	87-036-142-010	TACT SW(7)
SW8	87-036-142-010	TACT SW(8)
SW9	87-036-142-010	TACT SW(9)
SW10	87-036-142-010	TACT SW(10/0)
SW11	87-036-142-010	TACT SW(11/AM)
SW12	87-036-142-010	TACT SW(12/PM)
SW13	87-036-142-010	TACT SW(UP)
SW14	87-036-142-010	TACT SW(DOWN)
SW15	87-036-142-010	TACT SW(MEMO)
SW16	87-036-142-010	TACT SW(SET)
SW17	87-036-142-010	TACT SW(FM)
SW18	87-036-142-010	TACT SW(AM)(H)(MW)(E,K)
SW19	87-036-142-010	TACT SW(LW)(E,K)
SW20	87-036-142-010	TACT SW(DISPLAY)
SW21	87-036-142-010	TACT SW(FM MODE)
SW22	87-036-142-010	TACT SW(SLEEP)
SW23	87-036-142-010	TACT SW(STANDBY/DEL)
SW24	87-036-142-010	TACT SW(TIMER)
SW25	87-036-142-010	TACT SW(CLOCK)
SW26	87-031-750-010	PUSH SW(POWER)

BLOCK DIAGRAM – 1 (TX – D10H)

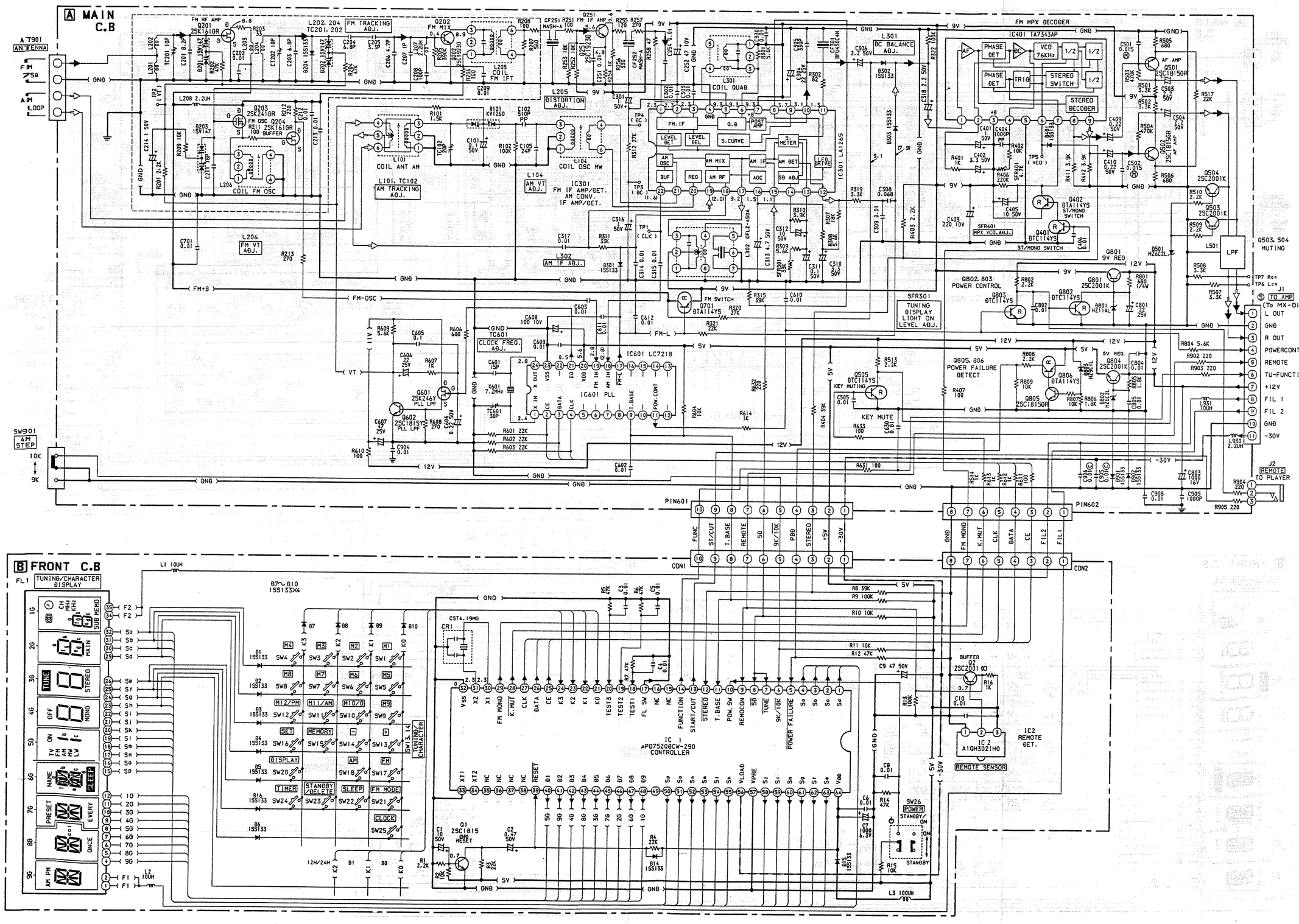


BLOCK DIAGRAM – 2 (TX – D10E,K)

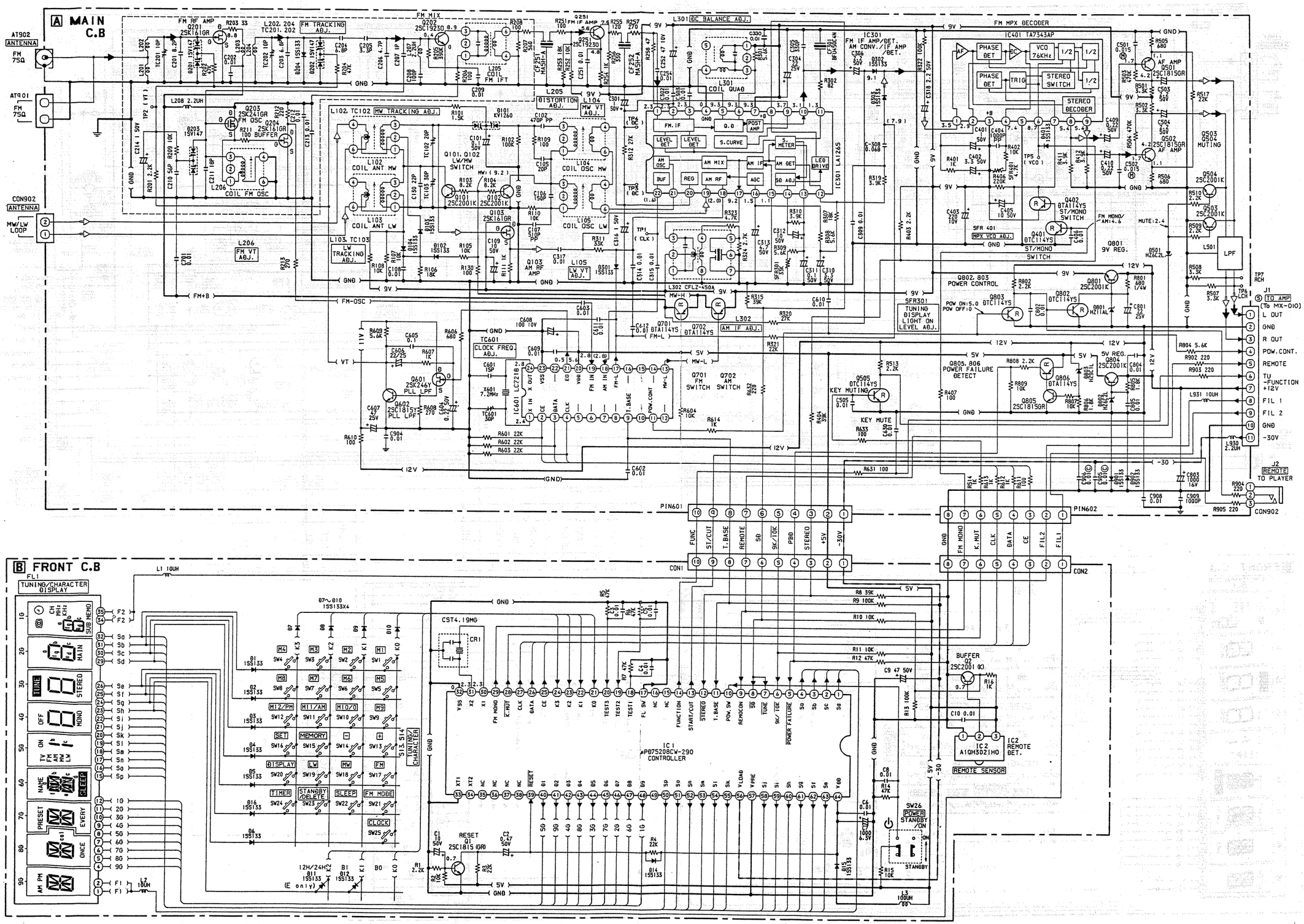


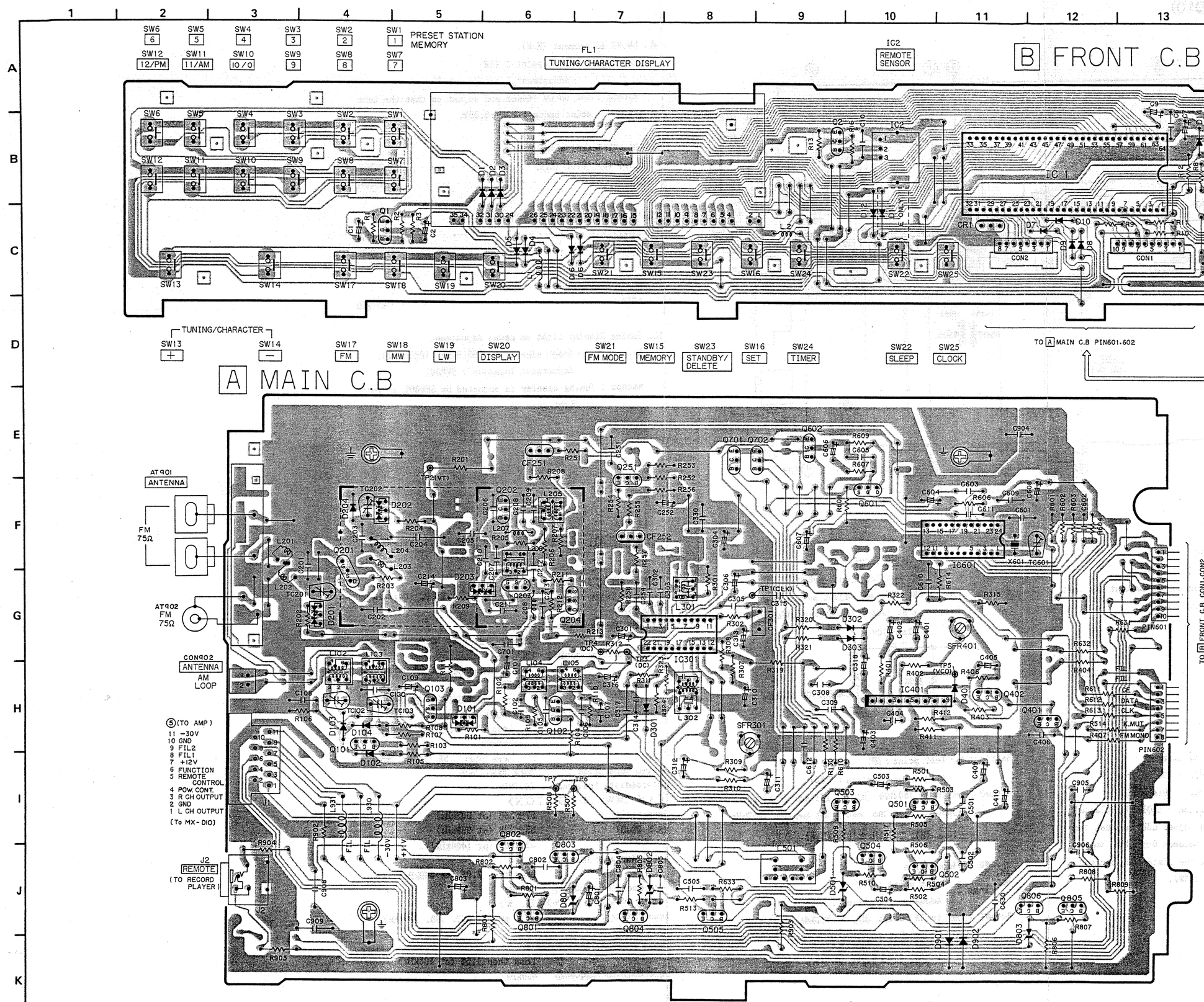

B FRONT C.B
PRESET STATION MEMORY
SW6 6
SW5 5
SW4 4
SW3 3
SW2 2
SW1 1
SW12 12/PM
SW11 11/AM
SW10 10/0
SW9 9
SW8 8
SW7 7
FL1
TUNING/CHARACTER DISPLAY
IC2
REMOTE SENSOR
IC1
CON1
CON2
SW13
SW14
SW17
SW18
SW20
SW21
SW15
SW23
SW16
SW24
SW22
SW25
SW26
POWER
STANDBY/ON
TO A MAIN C.B PIN601.602
TUNING/CHARACTER
SW13 +
SW14 –
SW17 FM
SW18 AM
SW20 DISPLAY
SW21 FM MODE
SW15 MEMORY
SW23 STANDBY/ DELETE
SW16 SET
SW24 TIMER
SW22 SLEEP
SW25 CLOCK
A MAIN C.B
AT901 ANTENNA
AM LOOP
FM 75Ω
TO B FRONT C.B CON1.CON2
PIN601
PIN602
⑤(TO AMP)
11 –30V
10 GND
9 FIL2
8 FIL1
7 +12V
6 FUNCTION
5 REMOTE CONTROL
4 POW.CONT.
3 R CH OUTPUT
2 GND
1 L CH OUTPUT
(To MX-D10)
J2 REMOTE
(TO RECORD PLAYER)
SW901 AM STEP
10KHZ
9KHZ

SCHEMATIC DIAGRAM – 1 (TX – D10H)

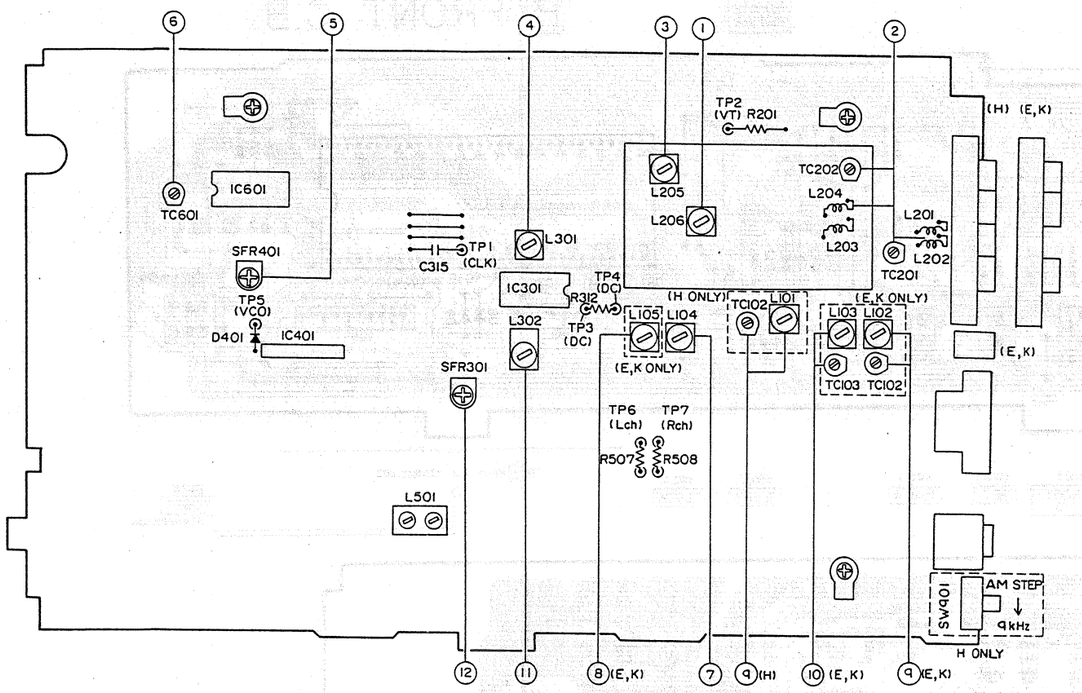


SCHEMATIC DIAGRAM – 2 (TX – D10E,K)




B FRONT C.B
SW6 6
SW5 5
SW4 4
SW3 3
SW2 2
SW1 1
PRESET STATION MEMORY
SW12 12/PM
SW11 11/AM
SW10 10/0
SW9 9
SW8 8
SW7 7
FL1
TUNING/CHARACTER DISPLAY
IC2
REMOTE SENSOR
IC1
CON1
CON2
SW26
STNDBY ON
TO A MAIN C.B PIN601.602
TUNING/CHARACTER
SW13 +
SW14 –
SW17 FM
SW18 MW
SW19 LW
SW20 DISPLAY
SW21 FM MODE
SW15 MEMORY
SW23 STANDBY/ DELETE
SW16 SET
SW24 TIMER
SW22 SLEEP
SW25 CLOCK
A MAIN C.B
SW26 POWER
STANDBY/ON
AT901 ANTENNA
FM 75Ω
AT902 FM 75Ω
CON902 ANTENNA AM LOOP
⑤(TO AMP)
11 –30V
10 GND
9 FIL2
8 FIL1
7 +12V
6 FUNCTION
5 REMOTE CONTROL
4 POW. CONT.
3 R CH OUTPUT
2 GND
1 L CH OUTPUT
(To MX-D10)
J2 REMOTE
(TO RECORD PLAYER)
TO B FRONT C.B CON1.CON2
PIN601
PIN602
IC601
IC401
IC301
SFR301
SFR401
X601
TP1(CLK)
TP2(VT)
TP5(VCO)
CE
DATA
CLK
K.MUT
FM MONO

ADJUSTMENT (TX – D10)



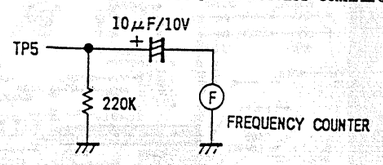
1. FM VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L206
   Method : Set to FM 87.5MHz and adjust so that the test point becomes 3.0±0.05V.

2. FM Tracking Adjustment
   L202, 204 · 87.5MHz
   TC201, 202 · · · · · · · · · · · · · · · · · · · 108MHz

3. FM IF Adjustment
   L205 · 10.7MHz

4. DC Balance/MONO Distortion Adjustment
   Settings : · Test point : TP3, 4 (DC balance)
   TP6, 7 (Distortion)
   · Adjustment location : L301 (DC balance)
   Method : Set to FM 98MHz and adjust L301 so that the test points output becomes 0±0.02V. Next, adjust L301 so that the distortion becomes minimum (less than 0.8%).

5. MPX VCO Adjustment
   Settings : · Test point : TP5
   · Adjustment location : SFR401
   Method : Set to FM 98MHz and adjust so that the frequency at test point becomes 38kHz±50Hz.



6. Clock Frequency Adjustment
   Settings : · Test point : TP1
   · Adjustment location : TC601
   Method : Set to AM 1602kHz (H), MW 1611kHz (E,K) and adjust so that the test point becomes 2052kHz ±10Hz (H), 2061kHz±10Hz (E,K).

7. AM, MW VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L104
   Method : Set to AM 531kHz (H), MW 522kHz (E,K) and adjust so that the test point becomes 1.1± 0.05V (H), 1.0±0.05V (E,K).

8. LW VT Adjustment (E,K)
   Settings : · Test point : TP2
   · Adjustment location : L105
   Method : Set to LW 144kHz and adjust so that the test point becomes 1.5±0.05V.

9. AM, MW Tracking Adjustment
   L101 (H), L102 (E,K) · · · · · · · · · · · · · · · 603kHz
   TC102 · 1404kHz

10. LW Tracking Adjustment (E,K)
    L103 · 144kHz
    TC103 · 290kHz

11. AM IF Adjustment
    L302 · 450kHz

12. Tuning Display Light on Level Adjustment
    Settings : · Input signal : FM 98.0MHz, 18dB±3dB.
    · Adjustment location : SFR301
    Method : Tuning display is adjusted by SFR301 as make it light on.

PRACTICAL SERVICE FIGURE (TX – D10)

〈FM SECTION〉

IHF Sensitivity : (THD 3%)	2±4dB (at 87.5, 98.0, 108.0MHz)
S/N 50dB Quieting Sensitivity :	28±6dB (at 87.5, 90.0, 108.0MHz)
Signal to Noise ratio :	(MONO.) More than 68dB (at 98.0MHz) (STEREO) More than 62dB (at 98.0MHz)
Total Harmonic Distortion :	(MONO.) Less than 0.8% (at 98.0MHz) (STEREO) Less than 1.5% (at 98.0MHz)
Stereo Separation :	More than 25dB
Intermediate Frequency :	10.7MHz

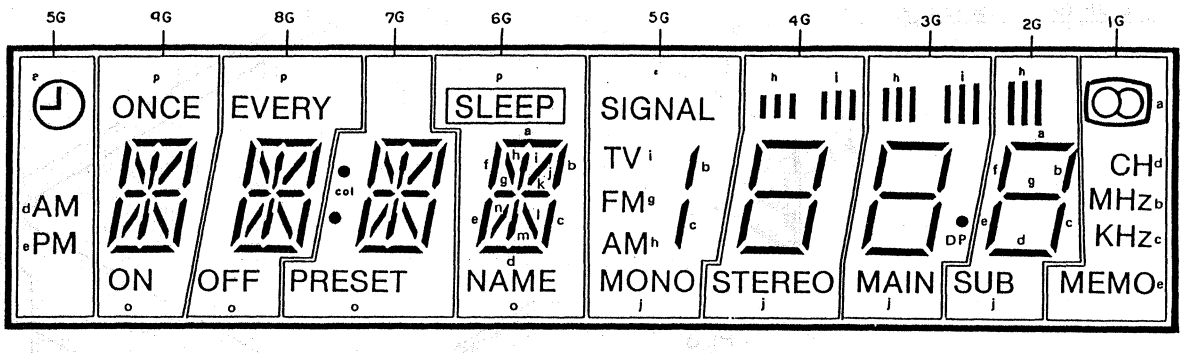
〈AM (MW) SECTION〉

Sensitivity : (S/N 20dB)	57±3dB (at 603kHz) 55±3dB (at 999kHz) 52±3dB (at 1404kHz)
Total Harmonic Distortion :	Less than 2.0% (at 999kHz)
Intermediate Frequency :	450kHz

〈LW SECTION〉(E, K)

Sensitivity : (S/N 20dB)	64±5dB (at 162, 198, 290kHz)
Total Harmonic Distortion :	Less than 1.5% (at 198kHz)
Intermediate Frequency :	450kHz

FL DISPLAY, 9 – BT – 44GK ANODE CONNECTION (TX – D10)

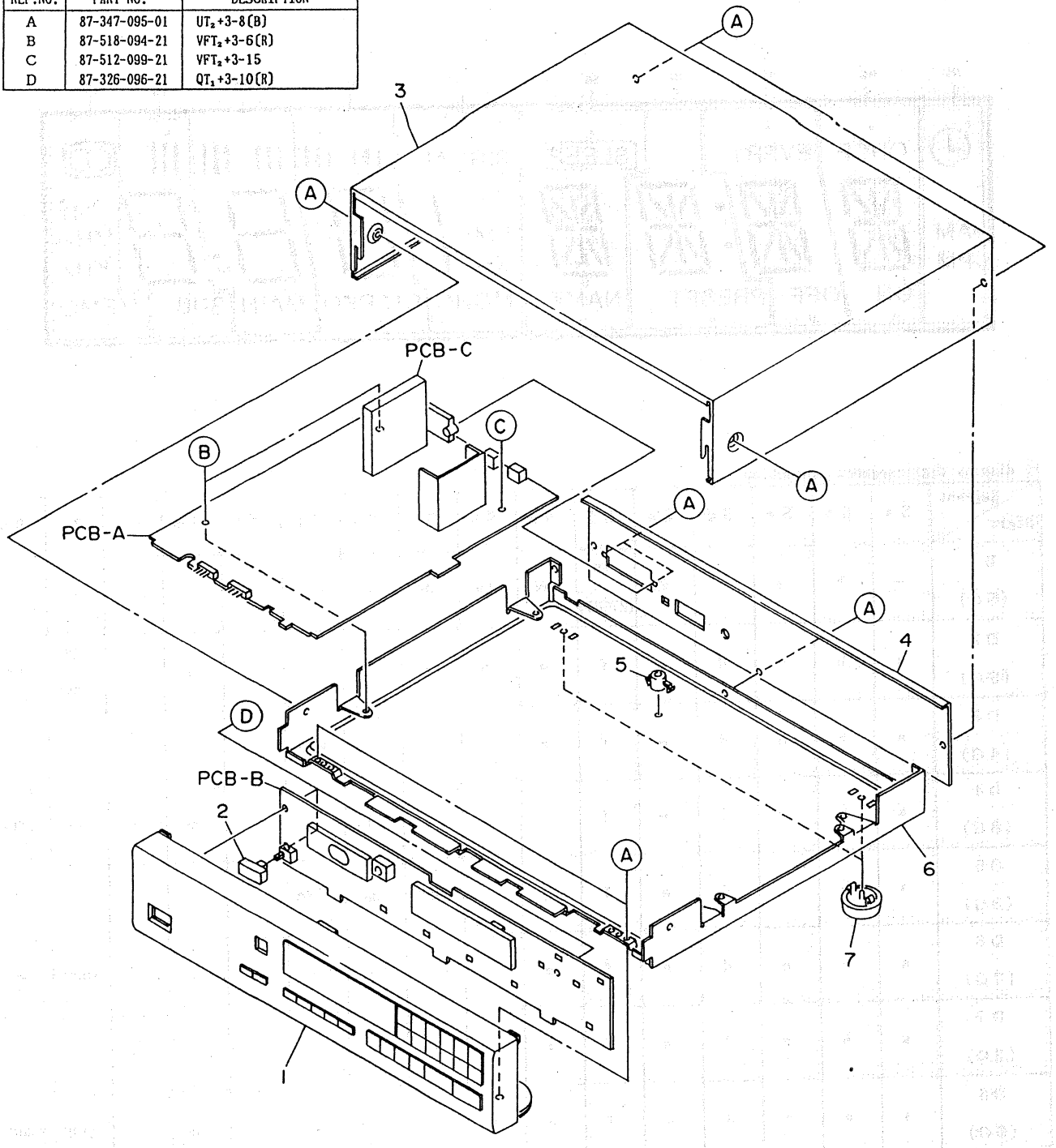


FL display digit-segment connection

Segment / Digit	Sa	Sb	Sc	Sd	Se	Sf	Sg	Sh	Si	Sj	Sk	Sℓ	Sm	Sn	So	Sp
D1 (5G)	–	b	c	–	FM	AM (RIGHT)	MW	LW	ON	–	–	–	–	–	–	–
D2 (9G)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	AM (LEFT)	PM
D3 (4G)	a	b	c	d	e	f	g	–	OFF	–	MONO	–	–	–	–	–
D4 (8G)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	col	ONCE
D5 (3G)	a	b	c	d	e	f	g	–	TUNE	Dp	STEREO	–	–	–	–	–
D6 (7G)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	PRESET	EVERY
D7 (2G)	a	b	c	d	e	f	g	–	–	–	–	–	–	–	–	–
D8 (6G)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	NAME	SLEEP
D9 (1G)	a	b	c	⏲	–	MHz	kHz	MEMO	–	–	–	–	–	–	–	–

EXPLODED VIEW – 1 (TX – D10)

REF.NO.	PART NO.	DESCRIPTION
A	87-347-095-01	UT_2+3-8(B)
B	87-518-094-21	VFT_2+3-6(R)
C	87-512-099-21	VFT_2+3-15
D	87-326-096-21	QT_1+3-10(R)



MECHANICAL PARTS LIST (TX – D10)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★09-047-499-010	CABINET FRONT ASSY(FY)	*	1
	1-1	★09-047-500-010	CABINET FRONT ASSY(LY)	*	1
	1-1	★09-047-527-010	CABINET FRONT ASSY(LEY)	*	1
	1-2	★81-669-014-010	PUSH-BUTTON POWER		1
	1-3	★81-664-006-210	CABINET,STEEL(LY,FY)	*	1
	1-3	★81-690-022-010	CABINET,STEEL(LEY)		1
	1-4	★81-664-016-010	PANEL,REAR(LY)	*	1
	1-4	★81-664-023-019	PANEL,REAR(LEY)	*	1
	1-4	★81-664-017-110	PANEL,REAR(FY)	*	1
	1-5	★81-664-202-010	HOLDER,PCB	*	1
	1-6	---	CHASSIS AMP		1
	1-7	★81-669-025-010	FOOT		2

MODEL NO.

GE – D10

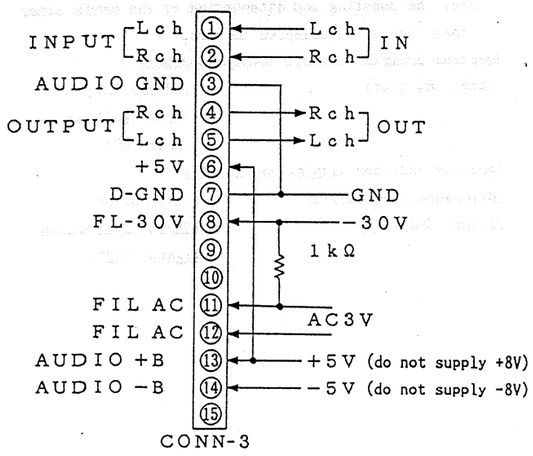
CAUTIONS WHEN SERVICING (GE – D10)

Cautions when servicing the GE-D10

The GE-D10 does not have a power circuit. Through a 15-pin flat cable, power is supplied to the GE-D10 and also signals are input and output to/from it. When servicing the GE-D10, connect it to the MX-D10 amplifier.
If the amplifier is not available, follow the procedure below.

〔When servicing the unassembled MX-D10〕

1 Supply the following voltages to each terminal from an external power supply.



Caution: Supply ±5V and AC 3V simultaneously; otherwise, the controller IC may not be reset correctly.

Fig-1

2 When using a multi power unit (LPS-9088)

○Set the multi power unit as shown in Figure-3 and connect the multi conversion harness to J1 to supply power.

※If the FL display of the GE-D10 shows erroneous indications and the GE-D10 cannot be operated, perform the following operations. (Figure-2)

1 Turn off the power switch of the multi power unit.
2 Unsolder jumper J27 from the front circuit board in the graphic equalizer.
3 Connect a tester or oscilloscope to pin ⑲ (RESET) of controller IC1. (DC range)
4 Press the power switch of the multi power unit several times so that the DC voltage at pin ⑲ of IC1 is 4V or more. (If it is less than 4V, IC1 is not fully reset and will not operate.)

Cautions:

1) After servicing, be sure to re-solder jumper J27.
2) If the FL display is dim, unsolder jumper J2 or J49 to switch off one FL display; the other display will become bright.
3) The reset circuit operation is required and the FL display is dim because of the voltage drop occurs across terminals H and I (AC voltage) of the multi power unit.

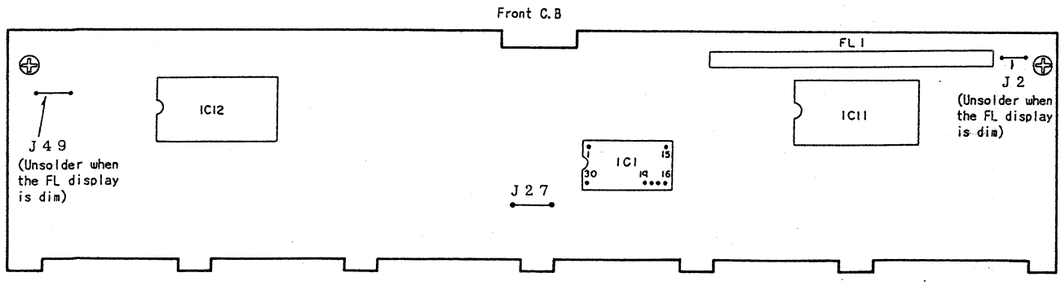
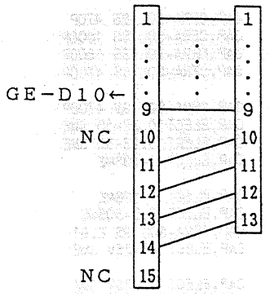


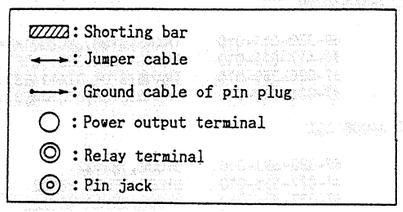
Fig-2

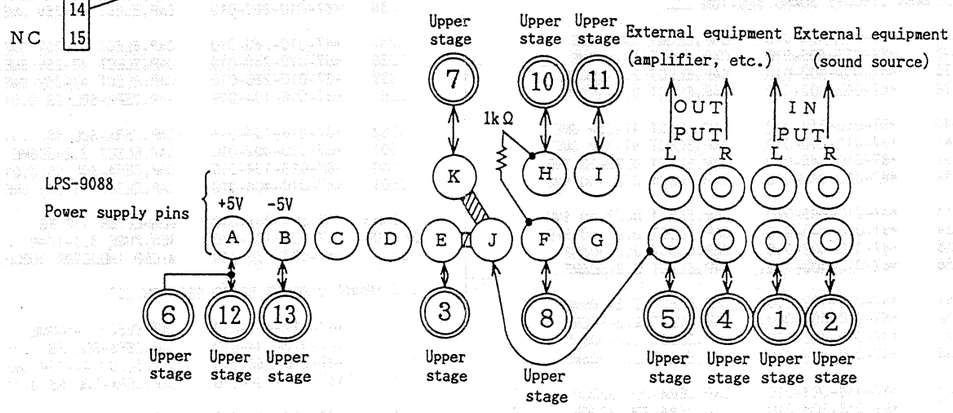
Multi power unit (LPS-9088) connection diagram

・Connect the multi conversion harness of the B connector to J1.

Connection diagram of conversion harness





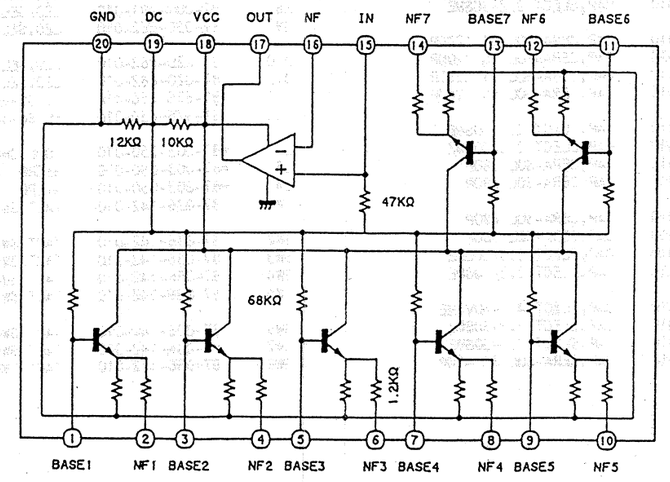


The 1kΩ resistor is provided for the bias voltage of the FL display.

Fig-3

IC BLOCK DIAGRAM (GE – D10)

IC,LA3607



PRACTICAL SERVICE FIGURE (GE－D10)

REF.NO.	PART NO.	DESCRIPTION
	=== IC ===	
	87-001-530-010	IC,LA3607
	81-675-621-010	IC,LC6543H-3882
	87-001-528-010	IC,LC7522
	87-001-529-010	IC,LC7565
	87-001-131-010	IC,NJM2058BD
	87-001-133-010	IC,NJU4052BD
	=== TRANSISTOR ===	
	89-320-011-010	TRANSISTOR,2SC2001K
	89-417-613-010	TRANSISTOR,2SD1761F
	87-026-269-010	TRANSISTOR,DTA114ES
	87-026-218-010	TRANSISTOR,DTC144ES
	=== DIODE ===	
	87-020-691-010	DIODE,1SS132
	87-027-555-010	DIODE,ZENER HZ5C2
	87-027-606-010	DIODE,ZENER HZ7C2L
	=== MAIN CIRCUIT BOARD SECTION ===	
C31	★87-010-405-010	CAP,ELECT 10-50SME
C32	★87-010-405-010	CAP,ELECT 10-50SME
C33	★87-010-402-010	CAP,ELECT 2.2-50SME
C34	★87-010-402-010	CAP,ELECT 2.2-50SME
C40	★87-010-260-010	CAP,ELECT 47-25V SME
C41	★87-010-260-010	CAP,ELECT 47-25V SME
C51	★87-010-545-010	CAP,ELECT 0.22-50 SME
C52	★87-010-545-010	CAP,ELECT 0.22-50 SME
C53	★87-010-545-010	CAP,ELECT 0.22-50 SME
C54	★87-010-545-010	CAP,ELECT 0.22-50 SME
C55	★87-010-402-010	CAP,ELECT 2.2-50SME
C56	★87-010-402-010	CAP,ELECT 2.2-50SME
C61	★87-010-402-010	CAP,ELECT 2.2-50SME
C62	★87-010-402-010	CAP,ELECT 2.2-50SME
C67	★87-010-402-010	CAP,ELECT 2.2-50SME
C68	★87-010-402-010	CAP,ELECT 2.2-50SME
C69	★87-018-203-010	CAP,CERA-SOL 8200P
C70	★87-018-203-010	CAP,CERA-SOL 8200P
C71	★87-018-203-010	CAP,CERA-SOL 8200P
C72	★87-018-203-010	CAP,CERA-SOL 8200P
C73	★87-010-402-010	CAP,ELECT 2.2-50SME
C74	★87-010-402-010	CAP,ELECT 2.2-50SME
C75	★87-018-133-010	CAP,CERA-SOL SS 4700P
C76	★87-018-133-010	CAP,CERA-SOL SS 4700P
C77	★87-018-133-010	CAP,CERA-SOL SS 4700P
C78	★87-018-133-010	CAP,CERA-SOL SS 4700P
C79	★87-010-402-010	CAP,ELECT 2.2-50SME
C80	★87-010-402-010	CAP,ELECT 2.2-50SME
C81	★87-018-195-010	CAP,CERA-SOL SS 1200P
C82	★87-018-195-010	CAP,CERA-SOL SS 1200P
C83	★87-018-195-010	CAP,CERA-SOL SS 1200P
C84	★87-018-195-010	CAP,CERA-SOL SS 1200P
C85	★87-010-402-010	CAP,ELECT 2.2-50SME
C86	★87-010-402-010	CAP,ELECT 2.2-50SME
C87	★87-018-129-010	CAP,CERA-SOL 680P
C88	★87-018-129-010	CAP,CERA-SOL 680P
C89	★87-018-129-010	CAP,CERA-SOL 680P
C90	★87-018-129-010	CAP,CERA-SOL 680P
C91	★87-010-402-010	CAP,ELECT 2.2-50SME
C92	★87-010-402-010	CAP,ELECT 2.2-50SME
C126	★87-010-421-010	CAP,ELECT 4.7-50VSME
C201	★87-010-403-010	CAP,ELECT 3.3-50SME
C202	★87-010-403-010	CAP,ELECT 3.3-50SME
C203	★87-018-127-010	CAP,CERA-SOL SS 470P
C204	★87-018-127-010	CAP,CERA-SOL SS 470P
C205	★87-010-403-010	CAP,ELECT 3.3-50SME
C206	★87-010-403-010	CAP,ELECT 3.3-50SME
C207	★87-018-133-010	CAP,CERA-SOL SS 4700P
C208	★87-018-133-010	CAP,CERA-SOL SS 4700P
C209	★87-018-124-010	CAP,CERA-SOL SS 270P
C210	★87-018-124-010	CAP,CERA-SOL SS 270P
C213	★87-018-127-010	CAP,CERA-SOL SS 470P
C214	★87-018-127-010	CAP,CERA-SOL SS 470P
C217	★87-018-197-010	CAP,CERA-SOL SS 1800P
C218	★87-018-197-010	CAP,CERA-SOL SS 1800P
C221	★87-018-133-010	CAP,CERA-SOL SS 4700P
C222	★87-018-133-010	CAP,CERA-SOL SS 4700P
C223	★87-010-545-010	CAP,ELECT 0.22-50 SME
C224	★87-010-545-010	CAP,ELECT 0.22-50 SME
C227	★87-010-401-010	CAP,ELECT 1-50SME
C228	★87-010-401-010	CAP,ELECT 1-50SME
C232	★87-010-402-010	CAP,ELECT 2.2-50SME
C235	★87-018-134-010	CAP,CERA-SOL SS 0.01
C236	★87-010-260-010	CAP,ELECT 47-25V SME
C237	★87-010-260-010	CAP,ELECT 47-25V SME
C238	★87-010-260-010	CAP,ELECT 47-25V SME
C239	★87-010-260-010	CAP,ELECT 47-25V SME
C281	★87-018-134-019	CAP,CERA-SOL SS 0.01
C282	★87-018-134-019	CAP,CERA-SOL SS 0.01
C301	★87-010-402-010	CAP,ELECT 2.2-50SME
C500	★87-018-134-010	CAP,CERA-SOL SS 0.01
C501	★87-010-408-010	CAP,ELECT 47-50V SME
CONN3	87-009-065-010	CONNECTOR 15P FG
⚠FR101	87-029-107-010	RES,FUSE 3.3-1/4W
L2	★87-003-136-010	MICRO INDUCTOR 100UH
	=== FRONT CIRCUIT BOARD SECTION ===	
C1	★87-010-401-010	CAP,ELECT 1-50SME
C2	★87-018-134-010	CAP,CERA-SOL SS 0.01
C3	★87-010-260-010	CAP,ELECT 47-25V SME
C5	★87-018-134-010	CAP,CERA-SOL SS 0.01
C121	★87-010-404-010	CAP,ELECT 4.7-50SME
C122	★87-010-404-010	CAP,ELECT 4.7-50SME
C123	★87-018-196-010	CAP,CERA-SOL SS 1500P
C124	★87-018-196-010	CAP,CERA-SOL SS 1500P
C125	★87-010-404-010	CAP,ELECT 4.7-50SME
D3	87-020-862-010	LED,SEL-2213C(MEMORY)
D4	87-001-291-010	LED SEL2413E TP45(M1)
D5	87-001-291-010	LED SEL2413E TP45(M2)
D6	87-001-291-010	LED SEL2413E TP45(M3)
D7	87-001-291-010	LED SEL2413E TP45(M4)
D8	87-001-291-010	LED SEL2413E TP45(M5)
D9	87-020-862-010	LED,SEL-2213C(PROGRAM)
D10	87-020-862-010	LED,SEL-2213C(MANUAL)
D11	87-020-862-010	LED,SEL-2213C(GEQ)
FL1	81-675-650-010	FL BG-606GK(LEFT CHANNEL)
FL2	81-675-650-010	FL BG-606GK(RIGHT CHANNEL)
L1	★87-003-050-010	COIL,CHOKE 47UH
L3	★87-003-050-010	MICRO INDUCTOR 47UH
L4	★87-003-050-010	MICRO INDUCTOR 47UH
SW1	87-036-142-010	TACT SW(GEQ OFF/ON)
SW2	87-036-142-010	TACT SW(40HZ UP)
SW3	87-036-142-010	TACT SW(40HZ DOWN)
SW4	87-036-142-010	TACT SW(2.5KHZ UP)
SW5	87-036-142-010	TACT SW(2.5KHZ DOWN)
SW6	87-036-142-010	TACT SW(1)
SW7	87-036-142-010	TACT SW(FLAT)
SW8	87-036-142-010	TACT SW(125KHZ UP)
SW9	87-036-142-010	TACT SW(125KHZ DOWN)
SW10	87-036-142-010	TACT SW(6.3KHZ UP)
SW11	87-036-142-010	TACT SW(6.3KHZ DOWN)
SW12	87-036-142-010	TACT SW(2)
SW13	87-036-142-010	TACT SW(PRGM/MANUAL)
SW14	87-036-142-010	TACT SW(330HZ UP)
SW15	87-036-142-010	TACT SW(330HZ DOWN)
SW16	87-036-142-010	TACT SW(15KHZ UP)
SW17	87-036-142-010	TACT SW(15KHZ DOWN)
SW18	87-036-142-010	TACT SW(3)
SW19	87-036-142-010	TACT SW(MEMORY)
SW20	87-036-142-010	TACT SW(1KHZ UP)
SW21	87-036-142-010	TACT SW(1KHZ DOWN)
SW22	87-036-142-010	TACT SW(GEQ SPECTRUM)
SW23	87-036-142-010	TACT SW(5)
SW24	87-036-142-010	TACT SW(4)
X1	★87-030-167-010	CERALOCK CST 4.0MHZ

PRACTICAL SERVICE FIGURE (GE－D10)

S/N Ratio :	More than 72dB
(1kHz, -10dBm, GEQ flat A CURVES)	
Distortion :	Less than 0.05%
(1kHz, -10dBm, GEQ OFF)	
Distortion :	Less than 0.05%
(1kHz, -10dBm, GEQ flat)	
Separation :	More than 63dB
(1kHz, -10dBm, GEQ flat)	
Frequency response :	-1.5dB±2dB
(20Hz, -10dBm, GEQ flat)	
Frequency response :	0±2dB
(30kHz, -10dBm, GEQ flat)	
Graphic equalizer characteristic :	40Hz～15kHz
(Boost level)	More than 9dB
Graphic equalizer characteristic :	40Hz～15kHz
(Attenuation level)	More than 9dB

○Set the boosting and attenuation of the bands other than that to be measured to zero.

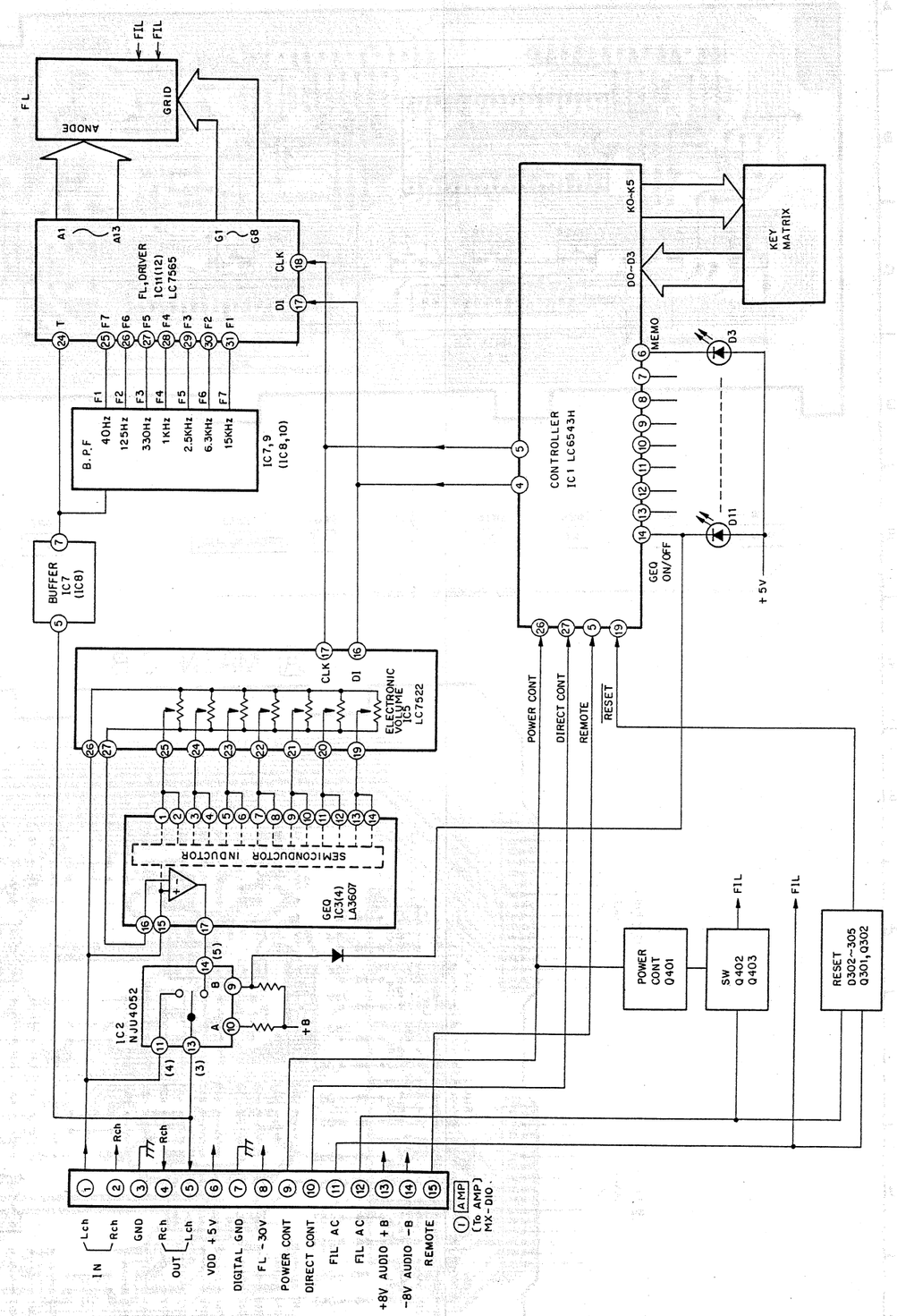
Spectrum analyzer overall level adjustment :	
(1kHz, GEQ flat)	0.38V±0.15V (Input level which lights "0")
Spectrum analizer display sensitivity :	
(Resonance frequency of filter, GEQ flat)	0.27V±0.15V (Input level which lights "+12")

IC DESCRIPTION (GE – D10)

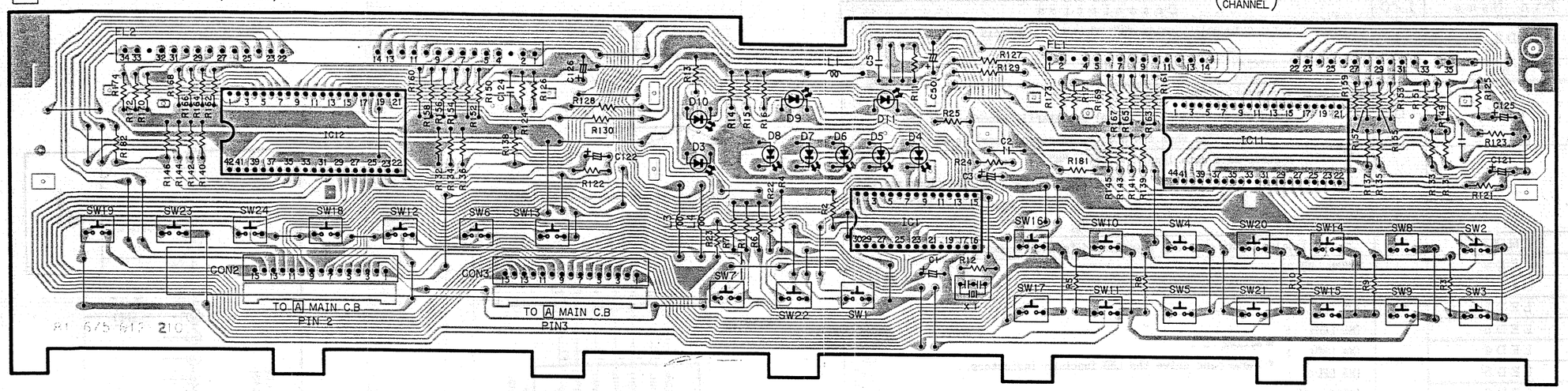
IC LC6543H – 3882

Pin No.	Pin Name	I/O	Description
1	D3	I	(Data-3 line) : ●Normally set to "H". When a key on this line is pressed, the key scan data is read.
2	V_{DD}	–	●Power supply pin.
3	CLK	O	(Clock line) : ●Active "H". ●Generates a clock signal momentarily accompanying key operation when the GEQ (graphic equalizer) is on.
4	DI	O	(Function control main data line) : ●Active "H". ●Operate together with the clock signal to control the functions of IC7522 and IC7565.
5	REMOTE	I	(Remote line) : Reads the data transferred from the remote control.
6	LED9	O	(MEMO LED) :
7	LED1		(M1 LED) :
8	LED2		(M2 LED) :
9	LED3		(M3 LED) :
10	LED4		(M4 LED) : ●Active "L".
11	LED5	O	(M5 LED) : ●These pins drive the LED function indicators.
12	LED6		(PROG LED) :
13	LED7		(MANU LED) :
14	LED8		(GE ON/OFF LED) :
15	OSC_2	–	Clock oscillating pins, connected to a ceramic oscillator.
16	OSC_1		
17	TEST	–	Connected to Vss.
18	Vss	–	Digital ground of the microprocessor's power supply.
19	$\overline{RES}$	I	●Initializes the microprocessor. ●Active "L".
20	K0	O	(K-scan 0 line) :
21	K1		(K-scan 1 Line) :
22	K2		(K-scan 2 line) : ●These pins output key scan pulses to be supplied to
23	K3		(K-scan 3 line) : the K-scan lines of the key matrix.
24	K4		(K-scan 4 line) :
25	K5		(K-scan 5 line) :
26	POWER CONT	I	(Power control line) : ●Active "H". ●"H" input switches off the indicators, etc.
27	DIRECT	I	(Direct control line) : ●Active "L". ●Goes "L" when the DIRECT button of the amplifier is turned on, and no audio signal passes through the GEQ circuit. No operation key inputs are accepted from the GEQ.
28	D0	I	(Data 0 line) :
29	D1		(Data 1 line) : ●Normally set to "H". Receives key scan data when the keys
30	D2		(Data 2 line) : on these lines of the matrix are pressed.

BLOCK DIAGRAM (GE – D10)



B FRONT C.B (FL2 RIGHT CHANNEL) (FL1 LEFT CHANNEL)



SW19 MEMORY · SW23 5 · SW24 4 · SW18 3 · SW12 2 · SW6 1 · SW13 PRGM/MANUAL

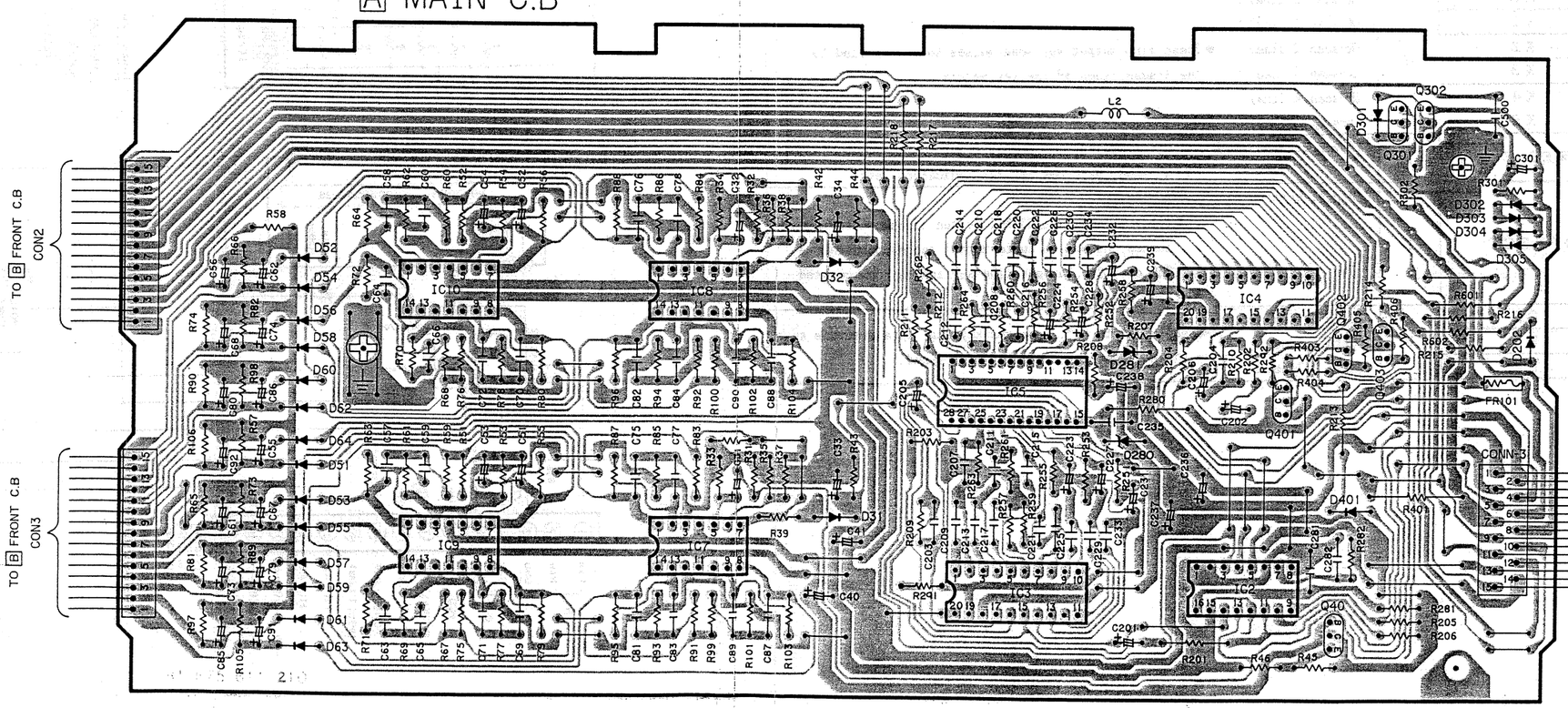
GEQ PROGRAM MEMORY

SW7 FLAT · SW22 GEQ SPECTRUM · SW1 GEQ OFF/ON

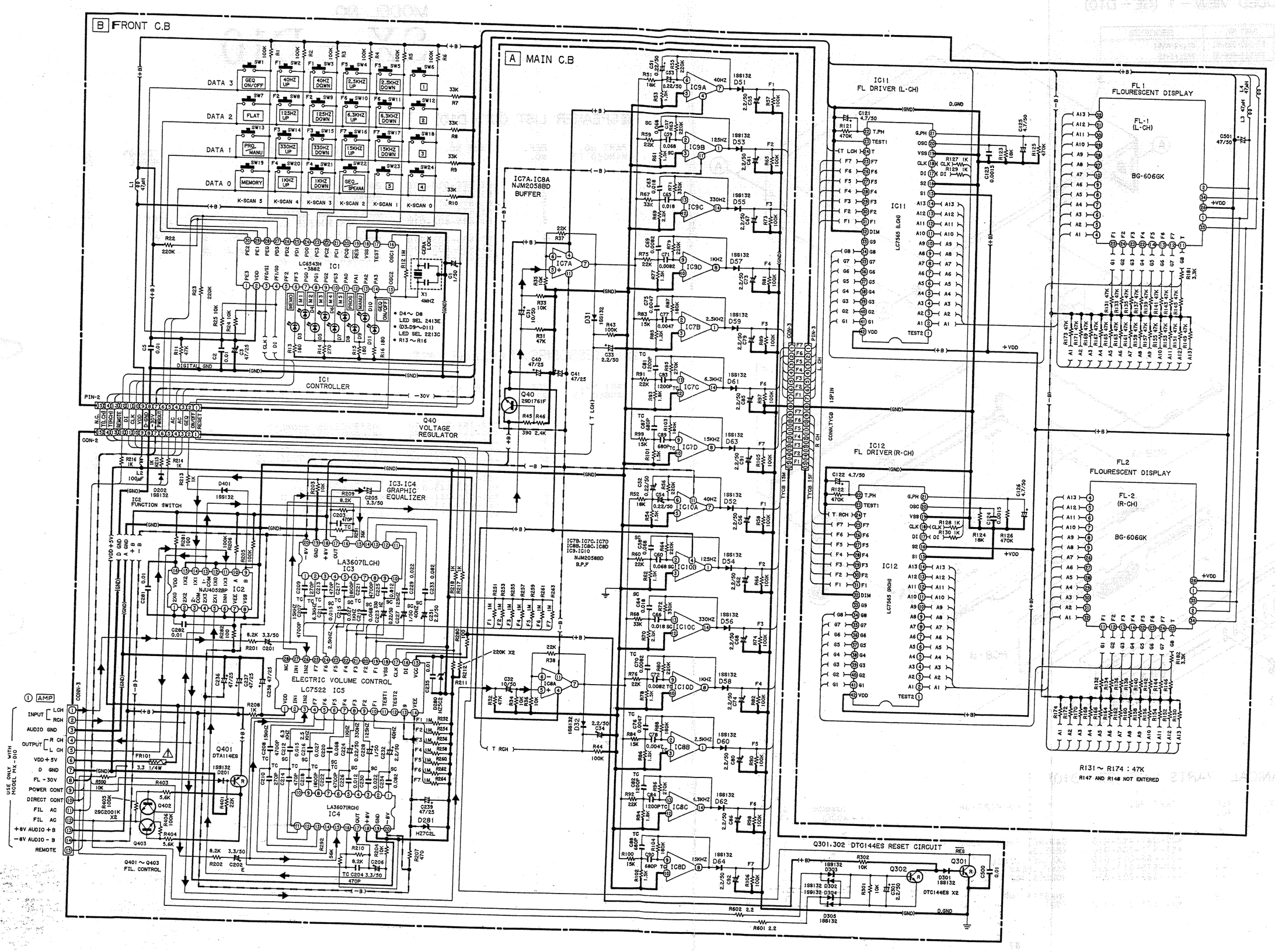
SW16 15KHZ (SW17) · SW10 6.3KHZ (SW11) · SW4 2.5KHZ (SW5) · SW20 1KHZ (SW21) · SW14 330HZ (SW15) · SW8 125HZ (SW9) · SW2 40HZ (SW3) · UP / DOWN

GRAPHIC EQUALIZER

A MAIN C.B

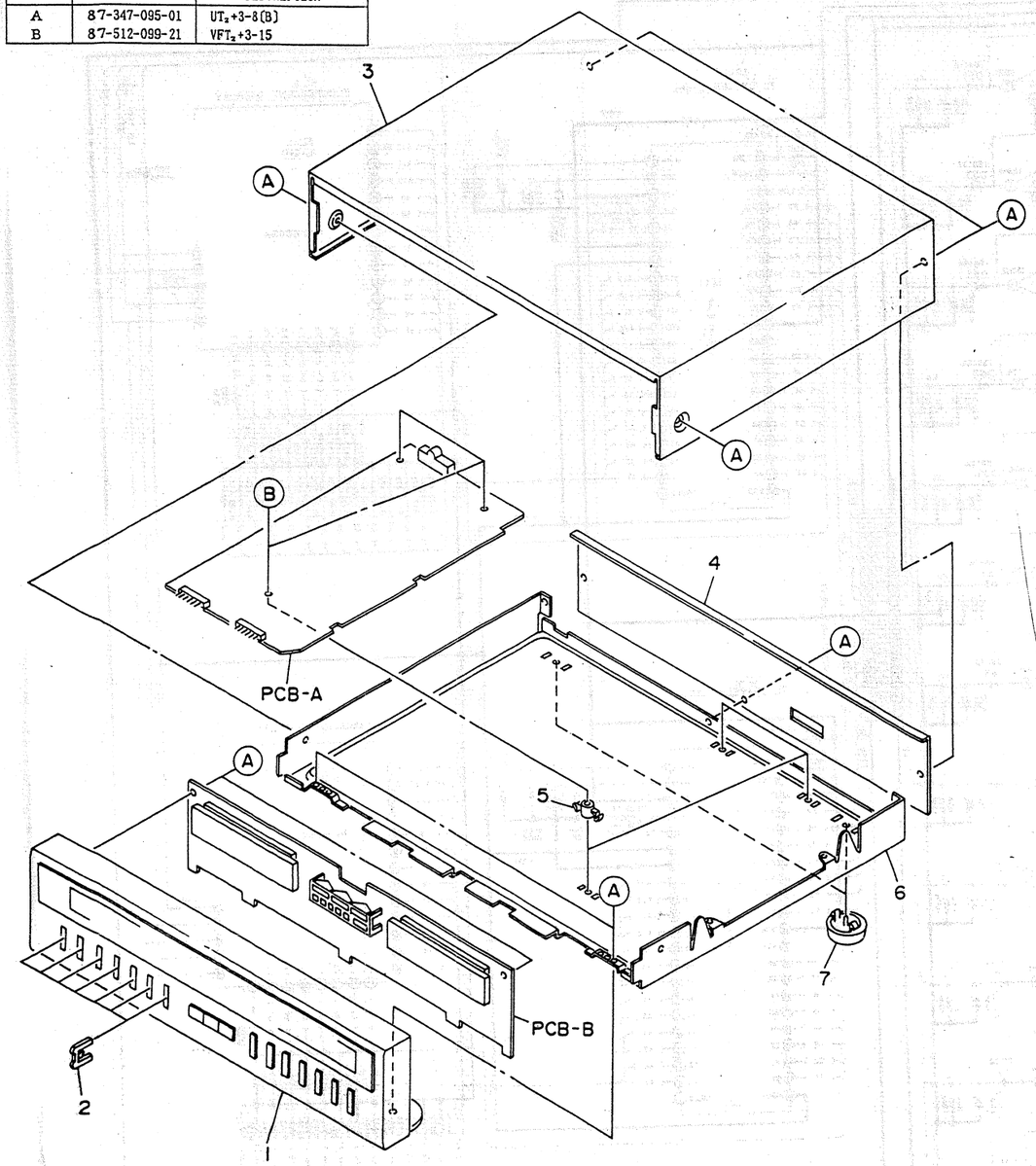


SCHEMATIC DIAGRAM (GE – D10)



EXPLODED VIEW – 1 (GE – D10)

REF.NO.	PART NO.	DESCRIPTION
A	87-347-095-01	UT_2+3-8(B)
B	87-512-099-21	VFT_2+3-15



MECHANICAL PARTS LIST (GE – D10)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1-1	*09-047-492-010	CABINET FRONT ASSY	*	1
	1-2	*81-675-006-010	KNOB,GE	*	7
	1-3	*81-666-015-010	CABINET STEEL		1
	1-4	*81-675-011-010	PANEL,REAR	*	1
	1-5	*81-664-202-010	HOLDER,PCB		3
	1-6	---	CHASSIS AMP		1
	1-7	*81-675-011-010	FOOT	*	2

MODEL NO.

SX – D10

■ SPEAKER LIST (SX – D10)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1	*81-672-014-010	PANEL W ASSY		1
	2	*81-672-015-010	PANEL S ASSY		1
	3	*81-672-016-010	PANEL T ASSY		1
	4	*81-672-026-010	GRILL FRAME ASSY		1
	5	81-695-602-010	SPEAKER WOOFER		1
	6	81-695-603-010	SPEAKER TWEETER		1
	7	81-654-605-010	TWEETER CERAMIC		1
	8	*81-672-612-010	SPEAKER CORD		1

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1	*83-349-904-010	INSTRUCTION BOOKLET		1
	2	*81-653-645-010	AM-LOOP ANT(6T)NC(H)		1
	3	*81-653-647-010	AM-LOOP ANT(6T)CON(E,K)		1
	4	*81-664-619-110	FG CONNECTOR ASSY 11P		1
	5	*81-675-625-110	FG CONNECTOR ASSY 15P		2
	6	*81-748-632-010	FEEDER-ANT,FM N		1
	7	*87-032-845-010	PLUG SIEMENS(H)		1
	8	*81-673-011-010	RC-T10EYB(H)		1
	9	*81-673-013-010	RC-T10LEYB(E)		1
	10	*81-673-012-010	RC-T10LYB(K)		1