

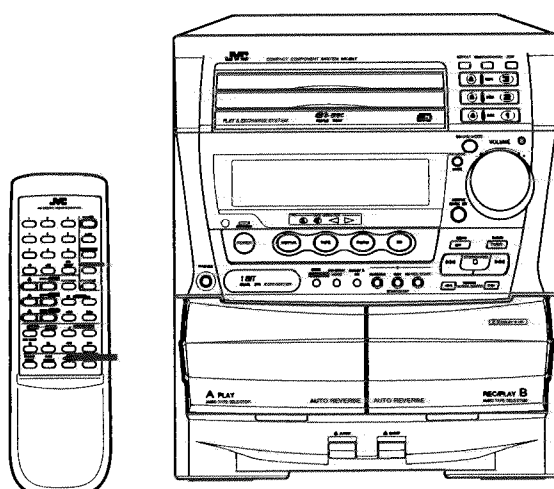
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-D4T

PICK UP	OPT-6S
Lsi	MN35510



Area Suffix

J	U.S.A
C	Canada
A	Australia
BS	the U.K.
E	Continental Europe
G	Germany
GI	Italy
VX	East Europe
US	Singapore
UT	Taiwan
UC	China
UB	Hong Kong
U	Other Area

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COMPACT
disc
DIGITAL AUDIO

Description of the ICs

■ MN172412J6N(IC701) : System Controller

1. Terminal layout

42 ~ 22
43 21
} }
63 1
64 ~ 84

2. Key matrix

	KEY IN 0 (49pin)	KEY IN 1 (50pin)	KEY IN2 (51pin)		KEY IN 0 (49pin)	KEY IN 1 (50pin)	KEY IN2 (51pin)
1G (3pin)	PROGRAM/ (S701)	EDIT (S702)	REPEAT RANDOM (S703)	6G (8pin)	CD (S716)	REC (S717)	⏮ (S718)
2G (4pin)	OPEN / CLOSE 1 (S704)	OPEN / CLOSE 2 (S705)	OPEN / CLOSE 3 (S706)	7G (9pin)	FM / AM (S719)	DUBBING (S720)	STOP / CLEAR (S721)
3G (5pin)	DISC 1 (S707)	DISC 2 (S708)	DISC 3 (S709)	8G (10pin)	TAPE (S722)	DOLBY B NR (S723)	⏭ (S724)
4G (6pin)	KARAOKE (S710)	SOUND MODE (S711)	BASS (S712)	9G (11pin)	AUX (S725)	REVERSE MODE (S726)	⏮⏭ (S727)
5G (7pin)	DEMO / SET (S713)	CD REC START (S714)	⏮⏭ (S715)	10G (12pin)	POWER (S728)	A/B (S729)	CLOCK TIMER (S730)

3. Terminal Function

Pin No.	Symbol	I/O	Functions and Operations	Pin No.	Symbol	I/O	Functions and Operations
1	S11	O	FL Segment control output	45	COMCLK	I	Clock signal input from IC751
2	S12	O	FL Segment control output	46	COMDT1	I	Data signal input from IC751
3	1G	O	FL Grid control output(Key matrix output)	47	COMDT2	O	Data signal output for IC751
4	2G	O	FL Grid control output(Key matrix output)	48	RMIN	I	Remote control signal input
5	3G	O	FL Grid control output(Key matrix output)	49	KI0	I	Key matrix input
6	4G	O	FL Grid control output(Key matrix output)	50	KI1	I	Key matrix input
7	5G	O	FL Grid control output(Key matrix output)	51	KI2	I	Key matrix input
8	6G	O	FL Grid control output(Key matrix output)	52	COMRDY	I	Redy signal input from IC851
9	7G	O	FL Grid control output(Key matrix output)	53	PRT	I	Protector signal input
10	8G	O	FL Grid control output(Key matrix output)	54	JOG IN 1	I	Input 1 of JOG Pulse
11	9G	O	FL Grid control output	55	JOG IN 2	I	Input 2 of JOG Pulse
12	10G	O	FL Grid control output	56	IFDATA	I	Data signal input from IC121
13	11G	O	FL Grid control output	57	TCLK	O	Clock signal output for IC121
14	12G	O	FL Grid control output	58	TDATA	O	Data signal output for IC121
15	13G	O	FL Grid control output	59	TCE	O	Thip eneble for IC121
16	14G	O	FL Grid control output	60	/INH	I	Inhibit signal input
19	S13	O	FL Segment control output	61	SPK	O	Speaker relay control signal output
20	S14	O	FL Segment control output	62	SCL	O	Clock signal output for IC401
21	S15	O	FL Segment control output	63	SDA	O	Data signal output for IC401
22	S16	O	FL Segment control output	64	CD,IND	O	'CD' indicator control signal
23	V _{PP}	—	Power supply(-V _{PP} ,...)	65	TUNER,IND	O	'TUNER' indicator control signal
24	S17	O	FL Segment control output	66	TAPE,IND	O	'TAPE' indicator control signal
25	S18	O	FL Segment control output	67	AUX,IND	O	'AUX' indicator control signal
26	S19	O	FL Segment control output	68	RESET	I	System reset signal signal input
30	STOP,IND	O	'STOP' indicator control signal	69	X1	—	Connection of the GND
31	SET,IND	O	'SET' indicator control signal	71	VSS	—	Connection of the GND
32	DISC1,IND	O	'DISC1' indicator control signal	72	OSC2	—	Oscillation terminal (6MHz)
33	DISC2,IND	O	'DISC2' indicator control signal	73	OSC1	—	Oscillation terminal (6MHz)
34	DISC3,IND	O	'DISC3' indicator control signal	74	V _{DD}	—	Power supply(+ 5V)
35	SKIP,IND	O	'SKIP' indicator control signal	75	S1	O	FL Segment control output
36	SURROUND	O	SURROUND control signal output	76	S2	O	FL Segment control output
37	V,MASK	O	Vocal masking control signal output	77	S3	O	FL Segment control output
38	ECHO1	O	Echo1 control signal output	78	S4	O	FL Segment control output
39	ECHO2	O	Echo2 control signal output	79	S5	O	FL Segment control output
40	T,MUTE	O	Tuner mute signal output	80	S6	O	FL Segment control output
41	S,MUTE	O	Sourse mute signal output	81	S7	O	FL Segment control output
42	POWER	O	Power control signal output	82	S8	O	FL Segment control output
43	H,PH,IN	I	Head phone detect signal input	83	S9	O	FL Segment control output
44	RMOUT	O	Infrared ray LED output for IllumiMagic compu play	84	S10	O	FL Segment control output

CA-D4T

■ MN172412K8D (IC751) : Deck & CD Controller

1. Terminal layout

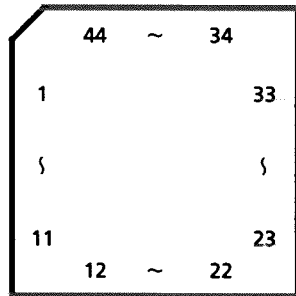
42 ~ 22	
43	21
}	}
63	1
64 ~ 84	

3. Pin Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	APACK	I	APACKswitch detect input	43	COMDT2	O	Data 2 signal for IC701
2	AEQ	O	Play equalizer control	44	NC	—	Pull down
3	DECKAI	O	Indication control	45	SQCK	O	Clock signal for sub code and Q register
4	DECKBI	O	Indication control	46	SUBQ	I	Sub code and Q register signal input
5	PLAYRI	O	Indication control	47	LSI POWER	O	CD LSI Power output control
6	PLAYFI	O	Indication control	48	STAT	I	Status signal input
7	RECI	O	Indication control	49	/RST	O	System reset signal output
8	STDBY	O	Indication control	50	NC	—	Non connection
9	NC	—	Non connection	51	NC	—	Non connection
10	NC	—	Non connection	52	/RESET SW	I	CD mech. rest switch input
11	NC	—	Non connection	53	MLD	O	μ-com comand road signal output
12	PBEQ	O	Play equalizer select output	54	MDATA	O	μ-com comand data signal output
13	MSIN	I	Music scan signal input	55	MCLK	O	μ-com comand clock signal output
14	NR	O	Dolby ON/OFF control	56	DATA	O	Data signal output for changer μ-com
15	CAPN	O	Capstan (ON/OFF) control	57	SCK	O	Clock signal output for changer μ-com
16	BPLZ	O	B mech.pranger control output	58	CHST	O	Strove signal output for changer μ-com
17	APLZ	O	A mech.pranger control output	59	REQI	I	Redy signal input from changer μ-com
18	FADE	O	FADE mode control	60	NC	—	Non connection
19	AMT	O	It is "H" when Deck A is not playing	61	NC	—	Non connection
20	BMT	O	It is "H" when Deck B is not playing	62	NC	—	Non connection
21	OMT	O	Deck P.B mute control signal	63	GND	—	GND
22	RMT	O	Rec. P.B select signal output	64	NC	—	Non connection
23	GND	—	GND	65	NC	—	Non connection
24	PB/REC	O	It is "H" when NR recording	66	NC	—	Non connection
25	REC	O	It is "H" when recording	67	NC	—	Non connection
26	BIAS	O	REC bias ON/OFF control	68	RESET	I	System reset signal input
27	NC	—	Non connection	69	GND	—	GND
28	NC	—	Non connection	70	NC	—	Non connection
29	NC	—	Non connection	71	GND	—	GND
30	NC	—	Non connection	72	OSC	—	Osilation terminal(6MHz)
31	NC	—	Non connection	73	OSC	—	Osilation terminal(6MHz)
32	GND	—	Connection to the ground	74	VDD	—	Power supply
33	GND	—	Connection to the ground	75	DCS OUT	O	DCS signal output
34	GND	—	Connection to the ground	76	DCS IN	I	DCS signal input
35	GND	—	Connection to the ground	77	APLS	I	A mech. reel pulse input
36	GND	—	Connection to the ground	78	PSWA	O	A mech. play switch output
37	GND	—	Connection to the ground	79	BEQ	O	Bias current and Playing EQ control
38	GND	—	Connection to the ground	80	PSWB	I	B mech. play switch output
39	GND	—	Connection to the ground	81	PBLS	I	B mech. reel pulse input
40	COMRDY	O	Redy signal output to IC701	82	FREC	I	FREC switch detect input
41	COMCLK	O	Clock signal for IC701	83	RREC	I	RREC switch detect input
42	COMDT1	I	Data 1 signal from IC701	84	BPACK	I	BPACKswitch detect input

■ UPD65612GB-165(IC801) : Changer Controller

1. Terminal Layout

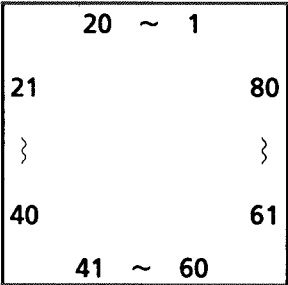


2. Pin Functions

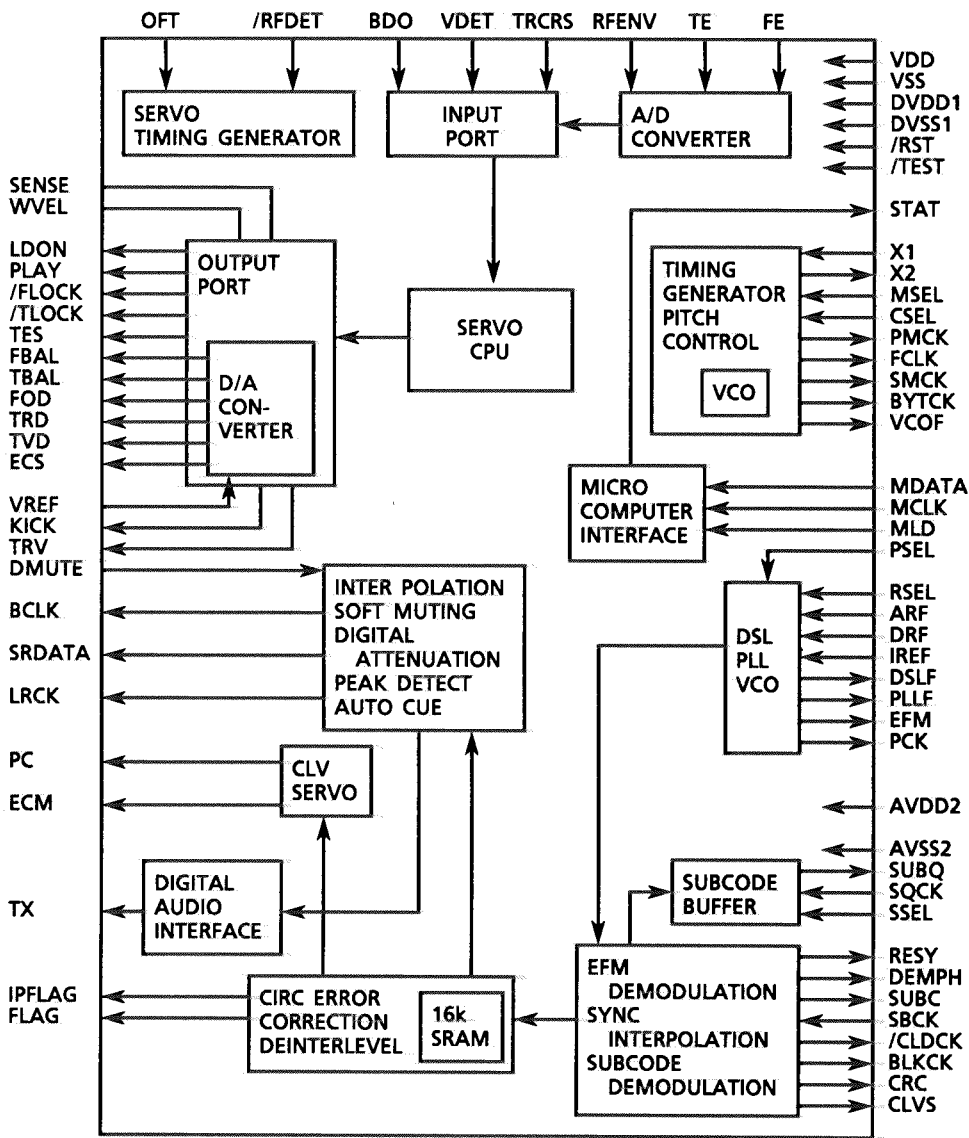
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	NC	--	Non connection	23	2SSW	I	TRAY2 switch input signal
2	NC	--	Non connection	24	1SSW	I	TRAY1 switch input signal
3	NC	--	Non connection	25	NC	--	Non connection
4	OS1I	I	Oscillation terminal	26	CAM0	I	Cam switch input signal for LCAM
5	OS1O	O	Oscillation terminal	27	CAM1	I	Cam switch input signal for LCAM
6	OS2I	I	Oscillation terminal	28	CAM2	I	Cam switch input signal for LCAM
7	OS2O	O	Oscillation terminal	29	CAM3	I	Cam switch input signal for LCAM
8	NC	--	Non connection	30	CAM4	I	Cam switch input signal for RCAM
9	C25IN	I	Connected to C25OUT	31	CAM5	I	Cam switch input signal for RCAM
10	C25OUT	O	Connected to C25IN	32	CAM6	I	Cam switch input signal for RCAM
11	RESET	I	Reset signal input	33	CAM7	I	Cam switch input signal for RCAM
12	REQ	O	Output the "mecha. data request"	34	FIT	O	Connected to C50
13	DATA	I/O	Control, Status data I/O	35	C50	I	Connected to FIT
14	ST	I	Strobe signal input	36	LMUP	O	L motor control signal
15	CKS	I	Clock input	37	LMDOWN	O	L motor control signal
16	SELECT	--	Connected to GND	38	C25	--	Non connection
17	GND	--	GND	39	VDD	--	Power supply terminal
18	CK	--	Connected to GND	40	C100	--	Non connection
19	1MSW	I	TRAY1 switch input signal	41	RMUP	O	R motor control signal
20	2MSW	I	TRAY2 switch input signal	42	RMDOWN	O	R motor control signal
21	3MSW	I	TRAY3 switch input signal	43	NC	--	Non connection
22	3SSW	I	TRAY3 switch input signal	44	NC	--	Non connection

■ MN35510 (IC603) : DIGITAL SERVO & DIGITAL SIGNAL PROCESSOR

1. Terminal Layout



2. Block Diagram



3. Description

Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Not used	41	TES	O	Tracking error shunt signal output (H;shunt)
2	LRCK	O	Not used	42	PLAY	—	Not used
3	SRDATA	O	Not used	43	WVEL	—	Not used
4	DVDD1	—	Power supply(Digital)	44	ARF	I	RF signal input
5	DVSS1	—	Not used	45	IREF	I	Reference current input pin
6	TX	O	Not used	46	DRF	I	Bias pin for DSL
7	MCLK	I	μ-com command clock signal input (Data is latched at signal's rising point)	47	DSLFL	I/O	Loop filter pin for DSL
8	MDATA	I	μ-com command data input	48	PLLFL	I/O	Loop filter pin for PLL
9	MLD	I	μ-com command load signal input	49	VCOF	—	Not used
10	SENSE	O	Not used	50	AVDD2	—	Power supply (Analog)
11	FLOCK	O	Not used	51	AVSS2	—	Connected to GND(Analog)
12	TLOCK	O	Not used	52	EFM	—	Not used
13	BLKCK	O	Subcode · block · clock signal output	53	PCK	—	Not used
14	SQCK	I	Outside lock for sub-code Q resister input	54	PDO	—	Not used
15	SUBQ	O	Sub-code Q-code output	55	SUBC	—	Not used
16	DMUTE	—	Connected to GND	56	SBCK	—	Not used
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	—	Connected to GND(for X'tal cscillation circuit)
18	RST	I	Reset signal input (L :Reset)	58	X1	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	—	Not used	59	X2	O	Output of X'tal oscillation circuit
20	PMCK	—	Not used	60	VDD	—	Power supply(for X'tal cscillation circuit)
21	TRV	O	Traverse enforced output	61	BYTCK	—	Not used
22	TVD	O	Traverse drive output	62	CLDCK	—	Not used
23	PC	—	Not used	63	FCLK	—	Not used
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	—	Not used
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	—	Not used
26	KICK	O	Kick pulse output	66	CLVS	—	Not used
27	TRD	O	Tracking drive output	67	CRC	—	Not used
28	FOD	O	Focus drive output	68	DEMPH	—	Not used
29	VREF	I	Reference voltage input pin for D/A output block(TVD,FOD,FBAL,TBAL)	69	RESY	—	Not used
30	FBAL	O	Focus Balance adjust signal output	70	IOSEL	—	Pull up
31	TBAL	O	Tracking Balance adjust signal output	71	TEST	—	Pull up
32	FE	I	Focus error signal input(Analog input)	72	AVDD1	—	Power supply (Digital)
33	TE	I	Tracking error signal input(Analog input)	73	OUT L	O	Lch audio output
34	RF ENV	I	RF envelope signal input(Analog input)	74	AVSS1	—	Connected to GND
35	VDET	I	Vibration detect signal input(H : detect)	75	OUT R	O	Rch audio output
36	OFT	I	Off track signal input(H : off track)	76	RSEL	—	Pull up
37	TRCRS	I	Track cross signal input	77	CSEL	—	Connected to GND
38	RFDET	I	RF detect signal input (L : detect)	78	PSEL	—	Connected to GND
39	BDO	I	BDO input pin (H : drop out)	79	MSEL	—	Connected to GND
40	LDON	O	Laser ON signal output (H : on)	80	SSEL	—	Not used

■ AN8806SB (IC601) : RF & SERVO AMP

PD	1	36 PDAC
LD	2	35 PDBD
LDON	3	34 PDE
LDP	4	33 PDF
VCC	5	32 PDER
RF-	6	31 PDFR
RF OUT	7	30 TBAL
RF IN	8	29 FBAL
C.AGC	9	28 FE-
ARF	10	27 FE OUT
C.ENV	11	26 TE-
C.EA	12	25 TE OUT
CS BDO	13	24 CROSS
BDO	14	23 TE BPF
CS BRT	15	22 VDTE
OFTR	16	21 LD OFF
/NRFDTE	17	20 VREF
GND	18	19 ENV

3. Functions

Pin No.	Symbol	I/O	Functions and operations
1	PD	I	APC amp input terminal
2	LD	O	APC amp output terminal
3	LD ON	I	APC ON/OFF control terminal
4	LDP	--	Connected to ground
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RF amp output
8	RF IN	I	RF input
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	RF output
11	C.ENV	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
12	C.EA	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
13	CS BDO	I/O	A capacitor is connected to detect the lower envelope of the RF signal
14	BDO	O	BDO output pin
15	CS BRT	I/O	A capacitor is connected to detect the lower envelope of the RF signal
16	OFTR	O	Of-track status signal output
17	/NRFDDET	O	RF detection signal output
18	GND	--	Ground
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output
21	LD OFF	--	Connect to ground
22	VDET	O	Vibration detection signal output
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output
25	TE OUT	O	Tracking error signal output
26	TE-	I	Inverse input pin for tracking error amp
27	FE OUT	O	Output pin of focus error
28	FE-	I	Inverse input pin for focus error amp
29	FBAL	I	Focus balance control
30	TBAL	I	Tracking balance control
31	PDFR	--	Non connection
32	PDER	--	Non connection
33	PDF	I	I-V amp input
34	PDE	I	I-V amp input
35	PD BD	I	I-V amp input
36	PD AC	I	I-V amp input

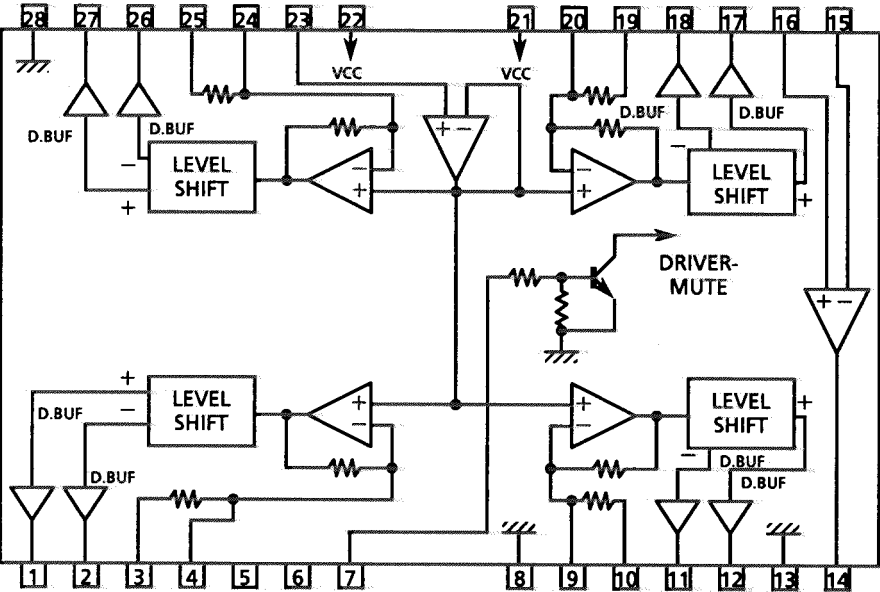
CA-D4T

BA6397FPW(IC602) : BTL DRIVER

1. Terminal Layout

CH1-OUT A	1	28	GND
CH1-OUT B	2	27	CH4-OUT A
CH1-IN A	3	26	CH4-OUT B
CH1-IN B	4	25	CH4-IN A
TR-B	5	24	CH4-IN B
VREG-OUT	6	23	BIAS IN
MUTE	7	22	VCC
GND	8	21	VCC
CH2-IN B	9	20	CH3-IN B
CH2-IN A	10	19	CH3-IN A
CH2-OUT B	11	18	CH3-OUT B
CH2-OUT A	12	17	CH3-OUT A
GND	13	16	OPIN+
OP OUT	14	15	OPIN-

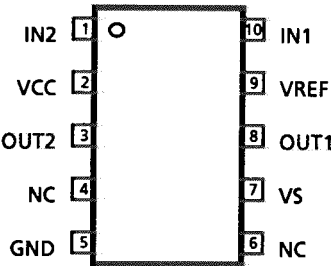
2. Block Diagram



3. Description

Pin No.	Symbol	I/O	Description	Pin No.	Symbol	I/O	Description
1	CH1-OUT A	O	Focus drive output	8,13,28	GND	—	GND
2	CH1-OUT B	O	Focus drive output	10	CH2-IN A	I	Spindle motor drive input
3	CH1-IN A	—	Non connection	14	OPOUT	—	Non connection
4	CH1-IN B	I	FOD input	15	OPIN-	—	Non connection
5	TR-B	O	Transistor control	16	OPIN+	—	Non connection
6	VREG-OUT	O	Reference voltage output	19	CH3-IN A	I	Feed motor drive input
7	MUTE	I	Mute signal input pin	25	CH4-IN A	I	Feed motor drive input
9	CH2-IN B	I	Spindle motor drive input	17	CH3-OUT A	O	Feed motor drive output
20	CH3-IN B	I	Feed motor drive input	18	CH3-OUT B	O	Feed motor drive output
11	CH2-OUT B	O	Spindle motor drive output	21,22	Vcc	—	Power supply
12	CH2-OUT A	O	Spindle motor drive output	23	BIAS IN	I	Input pin of Bias
24	CH4-IN B	I	Feed motor drive input	26	CH4-OUT B	O	Tracking drive output
				27	CH4-OUT A	O	Tracking drive output

TA8409F (IC802,IC803) : DC Motor driver



INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	stop
1	0	H	L	open
0	1	L	H	close
1	1	L	L	break

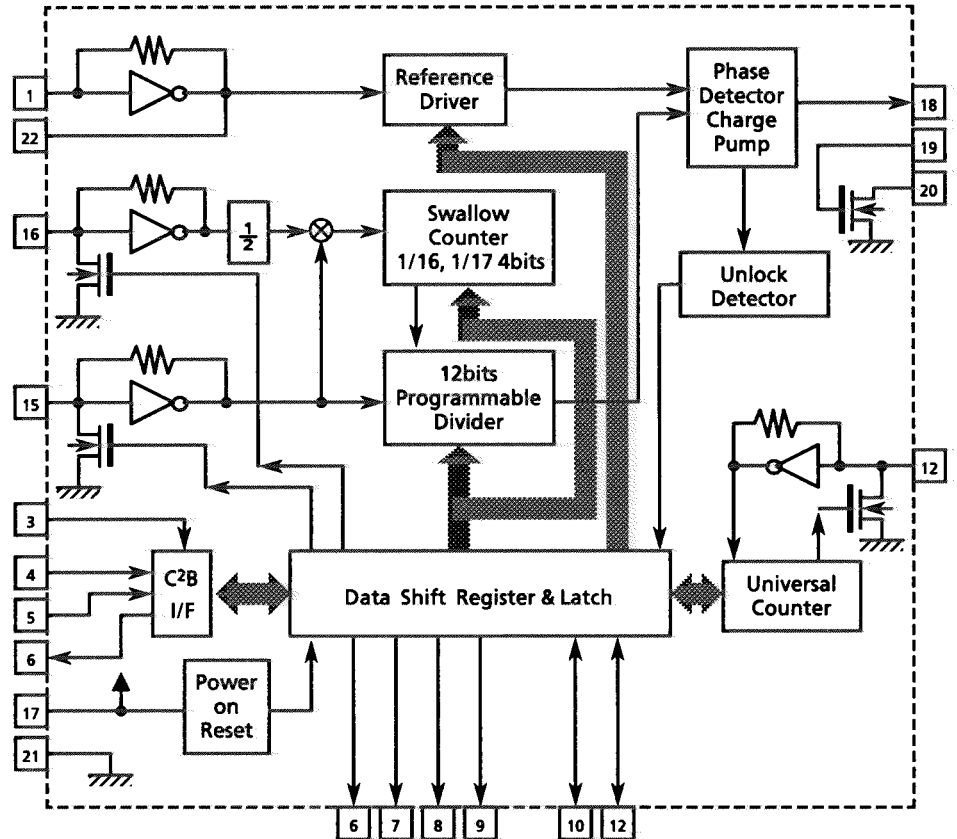
∞--High impedance

■ LC72131 (IC121) : PLL Synthesizer

1. Terminal Layout

XIN	1	22	XOUT
NC	2	21	VSS
CE	3	20	LPF OUT
DI	4	19	LPF IN
CK	5	18	PD
DO	6	17	VDD
$\overline{\text{FM}}$	7	16	FM OSC
$\overline{\text{AW}}$	8	15	AM OSC
LW	9	14	NC
AUTO/MONO	10	13	IF REQ
No use	11	12	FM/AM IF

2. Block Diagram



3. Pin Functions

Pin No.	Symbol	I/O	Functions	Pin No.	Symbol	I/O	Functions
1	X in	I	Crystal oscillator (7.2MHz).	12	FM/AM IF	I	Universal counter input
3	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.	13	IF REQ	O	Output the "IF-signal request" to IC102
4	DI	I	Receive the control data from the controller (IC701).	15	AM IN	I	Input the local oscillator signal of AM.
5	CK	I	This clock is used to synchronize data when transmitting the data of DI and DO.	16	FM IN	I	Input the local oscillator signal of FM.
6	DO	O	Transmit the data from LC72131 to the controller which is synchronized with CK.	17	VDD	—	This is a terminal of power supply.
7	$\overline{\text{FM}}$	O	It is "L" on FM mode.	18	PD	O	PLL charge pump output: When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
8	MW	O	It is "L" on MW mode.	19	LPF IN	I	Transistor used for the PLL active low-pass filter
9	LW	O	It is "H" on LW mode.	20	LPF OUT	O	Transistor used for the PLL active low-pass filter
10	$\overline{\text{AUTO/MONO}}$	O	It is "H" on monaural, "L" on auto.	21	VSS	—	Connected to GND
11	NO USE	O		22	X out	O	Crystal oscillator (7.2MHz).

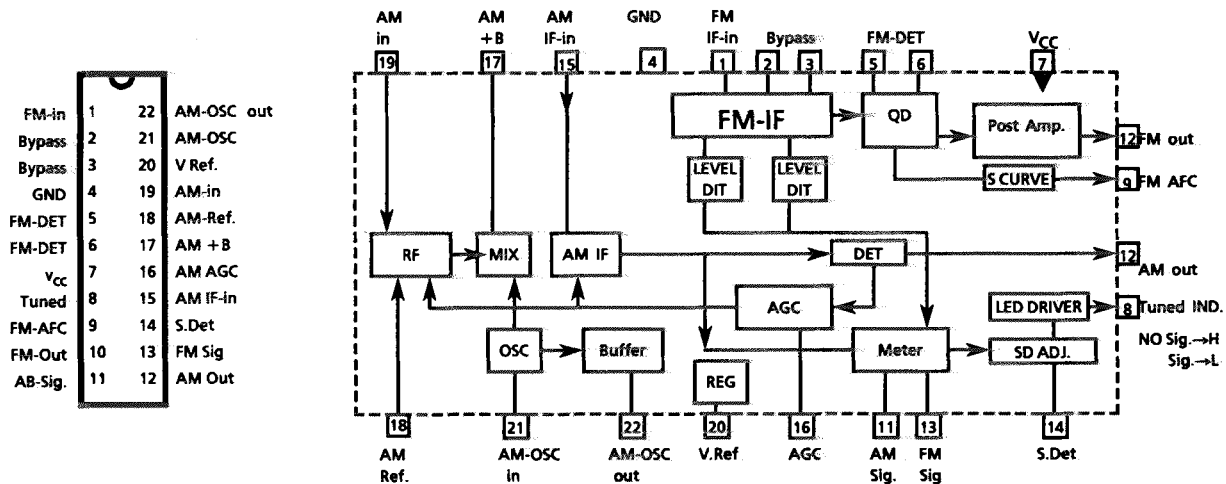
■ LA1266 (IC104) : FM AM IF AMP & detector

1. The main function descriptions

- (1) Amplify and detect of FM intermodulation frequencies.
- (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View

3. Block Diagram



4. Pin Function Description

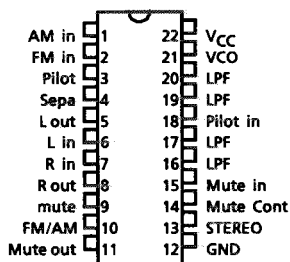
Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2,3	Bypass	--	Bypass of FM IF Amp.
4	GND	--	This is the device ground terminal.
5,6	FM DET	--	FM detect transformer.
7	V _{CC}	--	This is the power supply terminal.
8	SIG	O	Auto-stop drive signal output for mute and tune
9	FM AFC	O	This is an output terminal of voltage for FM - AFC.
10	FM IF out	O	When the signal of IF REQ of IC121(LC72131) applied to pin12, the signal of FM IF does output.
11	AM IF out	O	When the signal of IF REQ of IC121(LC72131) applied to pin12, the signal of AM IF does output.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM	--	Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj	--	For adjust the stop level (or mute level) of FM.
17	AM Adj	--	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	--	Resister value between pin9 and pin22 desides the frequency width of the inputsignal
23	AM-OSC	--	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ LA3401 (IC105) : FM MPX Detector

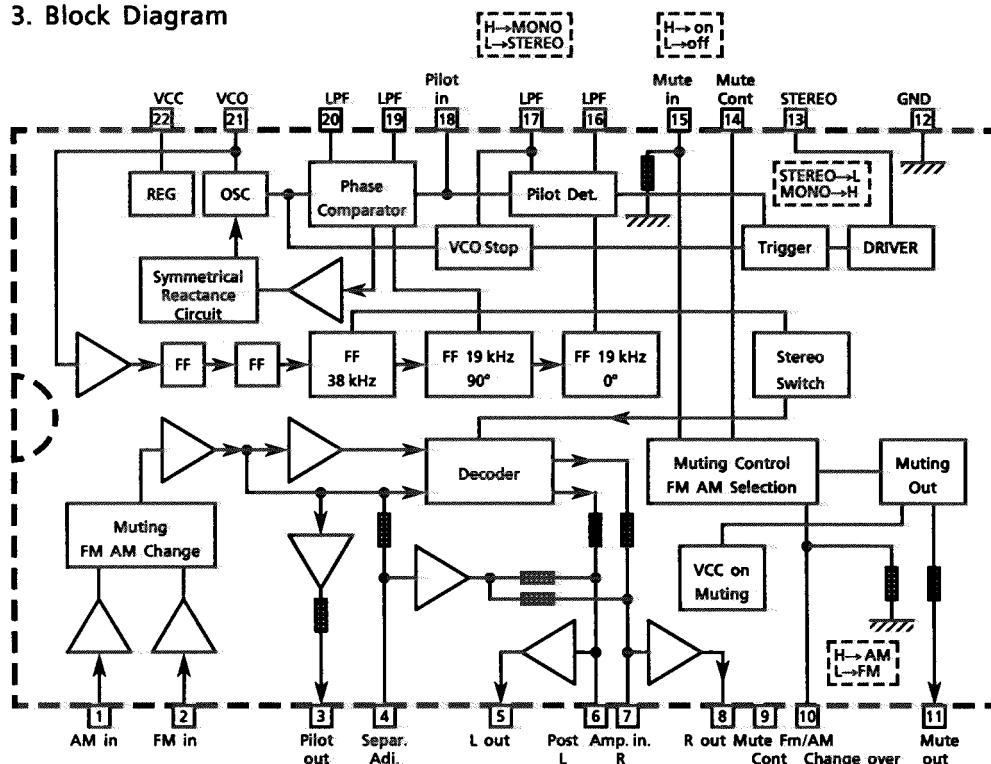
1. The main function descriptions

- (1) Detect the FM Multiplex Signal (Stereo signal).
- (2) When receiving FM Stereo Signal, it outputs the signal for indicator.
- (3) AM/FM Audio Amplifier.

2. Terminal Layout



3. Block Diagram



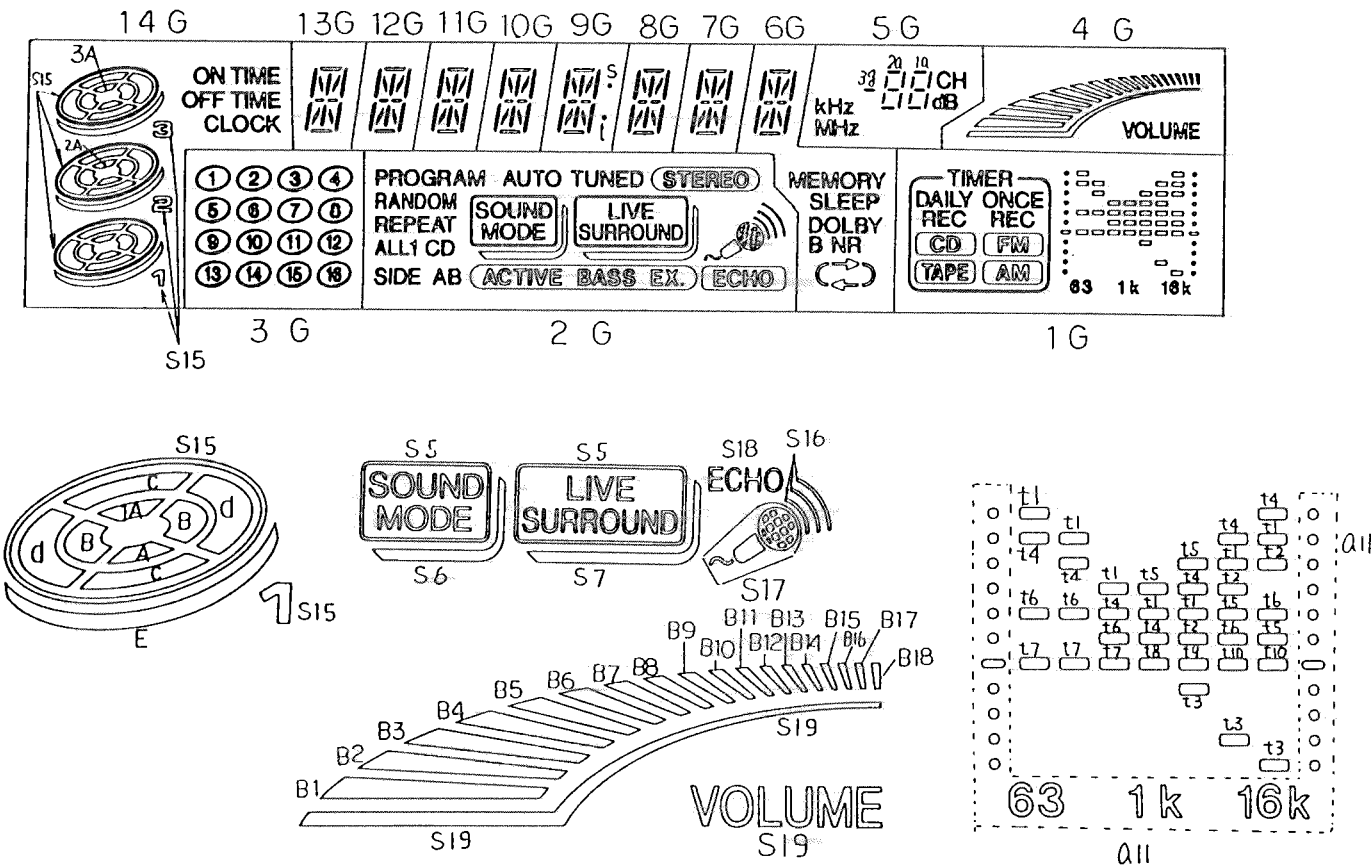
4. Pin Function Description

Pin No.	Symbol	I/O	Functions and Operations
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Pilot out	O	Output of MPX pilot signal (Connect to Pin18).
4	Sepa. Adj.	--	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	O	Reversal output of Pin5.
7	R	O	Reversal output of Pin8.
8	R out	O	Right channel signal output
9	Mute Cont	--	The mute time is controlled by the connected capacitor when turning the power switch on.
10	/FM, AM	I	Change over the FM / AM input. "H" : AM, "L" : FM
11	Mute out	--	Not use
12	GND	--	Ground terminal.
13	/Stereo	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	--	The mute time is controlled by the connected capacitor when changing over the FM / AM .
15	Mute in	I	Mute signal input. "H" : Mute on, "L" : Mute off.
16	LPF	--	Low pass filter of pilot detector.
17	LPF	--	While this terminal goes to "H", the VCO stop.
18	Pilot in	I	Pilot input.
19	LPF	--	Low-pass filter of PLL.
20	LPF	--	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	VCC	--	Power supply.

Internal Connections of FL Display

■ ELU0001-210 : (FL701)

1. Grid Layout



2. Pin Connections

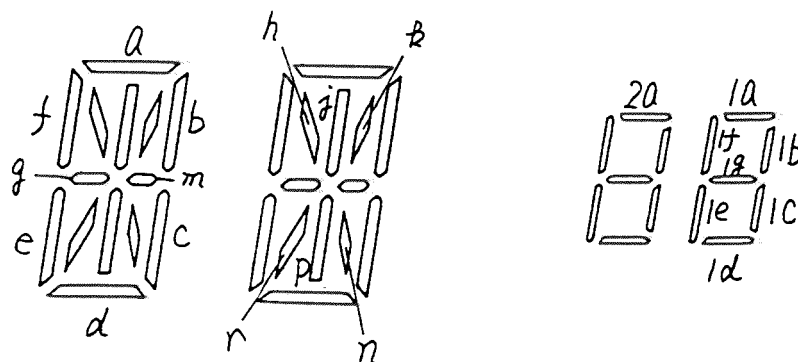
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
ELECTRODE	F1	F1	F1	NP	P	P	P	P	P	P	P	P	P	P	P	P
TERMINAL NO.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ELECTRODE	P	NP	NP	NP	NP	NP	NP	NP	P	1G	2G	3G	4G	5G	6G	7G
TERMINAL NO.																
ELECTRODE																

Notes F: Filament
G: Grid
P: Anode
NP: No Pin

(3) Anode Designation

	1 G	2 G	3 G	4 G	5 G
S1	DAILY	TUNED		B18	CH
S2	ONCE	AUTO	①	B17	dB
S3		PROGRAM	②	B16	1a
S4	CD	RANDOM	③	B15	1b
S5	REC (ONCE)	S5	④	B14	1f
S6	FM	S6 (SOUND MODE)	⑤	B13	1g
S7	TAPE	S7(LIVE SURROUND)	⑥	B12	1c
S8	AM	REPEAT	⑦	B11	1e
S9	t1	CD	⑧	B10	1d
S10	t2	I	⑨	B9	2a
S11	t3	ACTIVE BASS EX	⑩	B8	2b
S12	t4	ALL	⑪	B7	2f
S13	t5	B	⑫	B6	2g
S14	t6	A	⑬	B5	2c
S15	t7	SIDE	⑭	B4	2e
S16	t8	S16)))	⑮	B3	2d
S17	t9	S17()	⑯	B2	KHz
S18	t10	ECHO		B1	MHz
S19	TIME	STEREO		S19	3g
all	all				

	6 G	7~8 G	9 G	10~ 13 G	14 G
S1	a	a	a	a	3A
S2	b	b	b	b	3B
S3	j	j	j	j	3C
S4	h	h	h	h	3D
S5	k	k	k	k	3E
S6	f	f	f	f	2A
S7	g	g	g	g	2B
S8	m	m	m	m	2C
S9	c	c	c	c	2D
S10	n	n	n	n	2E
S11	p	p	p	p	1A
S12	r	r	r	r	1B
S13	e	e	e	e	1D
S14	d	d	d	d	1E
S15	SLEEP		t		s15
S16	DOLBY B NR				ON TIME
S17	≡				OFF TIME
S18	()				CLOCK
S19	MEMORY		s		1C
all					



Disassembly Procedures

(1) Top cover and heatsink cover removal

1. Remove 6 screws (A) on the rear side and 2 screws (A) on both sides of the cover.
2. Remove the 2 screws (B) holding the heatsink cover
3. Remove the top cover and heatsink cover.

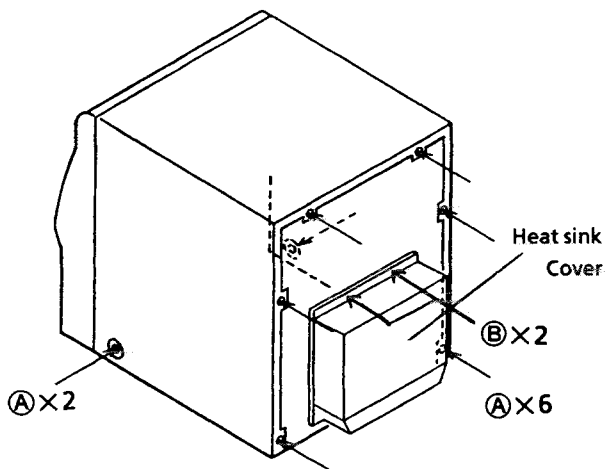


Fig1

(2) Rear panel removal

1. Remove the top cover.
2. Remove the 2 screws (C) holding the CD changer mech. ass'y.
3. Remove the 10 screws (B).
4. Remove the rear panel.

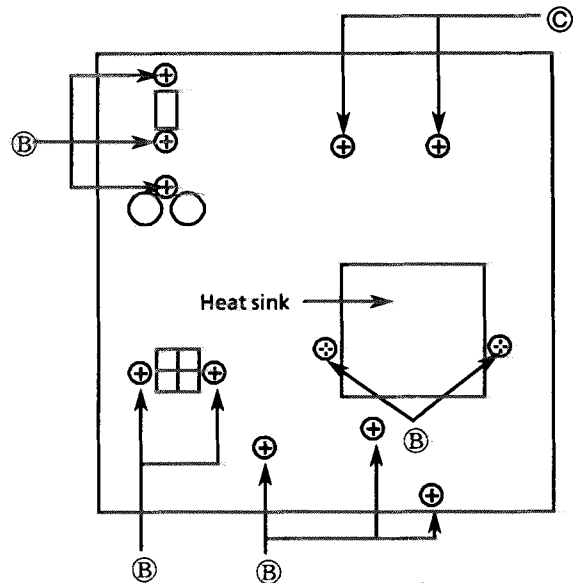


Fig 2 Rear view

(3) CD changer mech. removal

1. Remove the rear panel.
2. Disconnect the CN603, CN604, CN801.
3. Remove the 2 screws (D) holding the CD changer mech. .
4. Remove the CD changer mech. ass'y.

(4) Tuner & Audio PCB (FMC-002-1) removal

1. Remove the CD changer mech. ass'y.
2. Remove the plastics rivet and Remove the FMC-002-4 .
3. Disconnect CN401(Flat wire) , CN514.
4. Disconnect CN513 and CN514.
5. Remove the Tuner & Audio PCB (FMC-002-1).

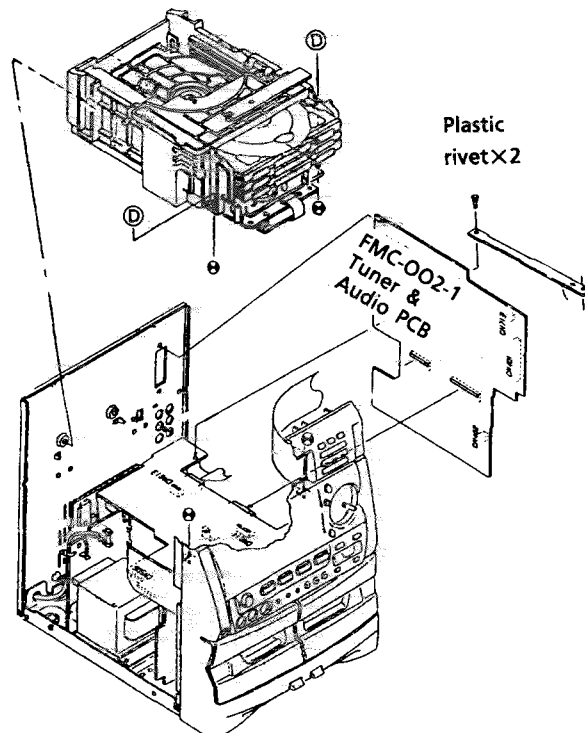


Fig 3 FRont view

[Note]

Changer mech.ass'y needed connect the main PCB When servicing, so that the set can be movement.

(A) .. SD SG3006M (B) E73273-003 (C) ... SBSF3008Z (D) ... SBSG3008Z

(5) Deck & CD control PCB (FMH-005-1) removal

1. Remove the (1)(2)(3)(4).
2. Disconnect the CN901.
3. Remove the 3 screws **Ⓔ** holding the PCB and Remove the plastics rivet.
4. Raise up the PCB for disconnecting and you can remove the Deck & CD control PCB with the power AMP PCB.

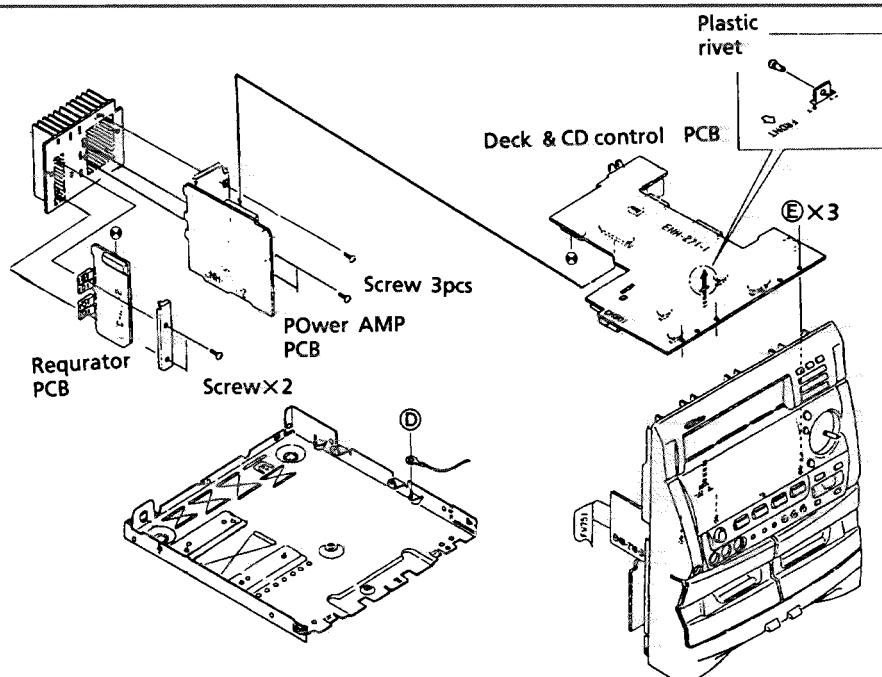


Fig 4

(6) Front PCB (FMB-006-1) removal.

1. Remove the (1)(2)(3) and (4) (5).
2. Remove the 3 Fook of the bottom side and both side and Remove the Front panel ass'y.
3. Remove the 15 screws **Ⓔ** holding the bracket.
4. Remove the Bracket and Front PCB.

(7) Switch PCB(FMB-006-2) removal .

1. Remove the (1)(2)(3) and (4)(5)(6).
2. Remove the 7 screws holding the PCB .
3. Remove the Switch PCB with the headphone PCB .

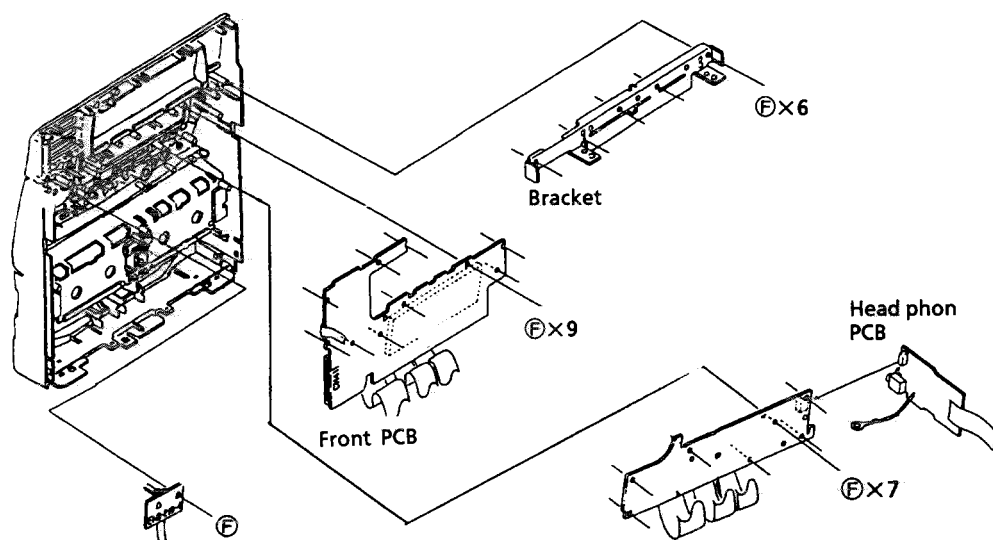


Fig 5

Ⓔ .. SPST2604Z

Ⓕ ... CDSF2608Z

(8) Cassette mechanism with the PCB (FMC-002-3) removal

1. Remove the (1)(2)(3)and (4)(5).
2. Remove the 4screws ⑥ and 4screws ⑦.
3. Remove the Cassette mechanism.

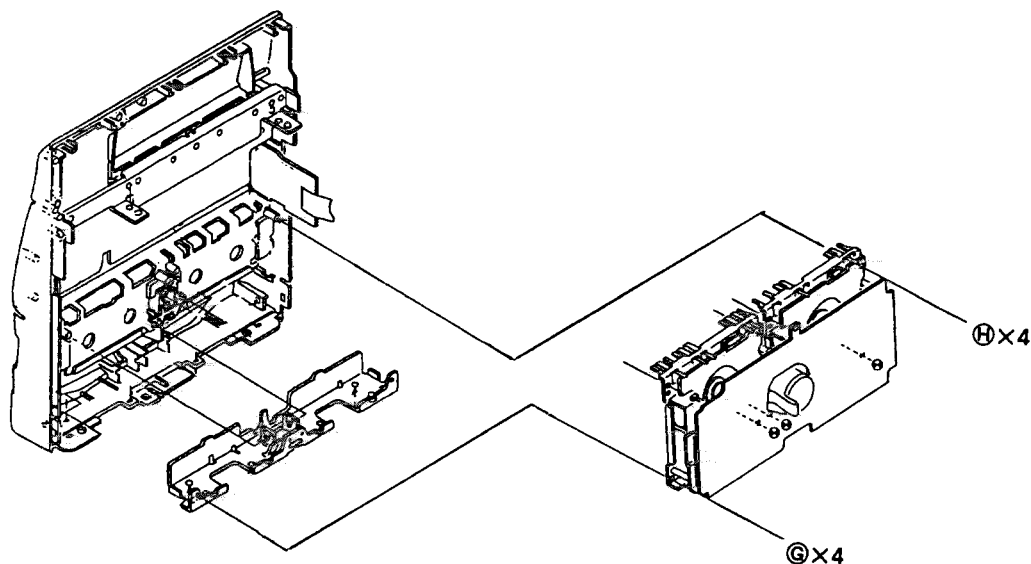
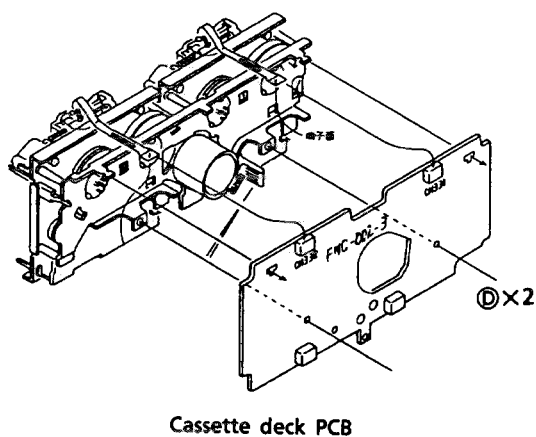


Fig 6

(9) Cassette deck PCB (FMC-002-3) removal

1. Remove the (1),(2),(3)and (4),(5),(8).
2. Disconnect the CN331 and CN332.
3. Remove the 2 screws ⑩ holding the PCB.
4. Remove the Cassette deck PCB .



Cassette deck PCB

Fig 7

(10) Cassette door lock plate removal

1. Remove the (1)(2)(3)and (4),(5),(8) .
2. Remove the spring.
3. Push up the Elever as shown in the figure below(Fig . 8) and remove the door lock plate.

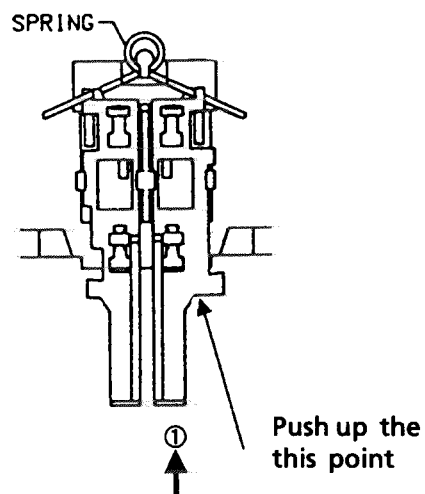


Fig 8

(13) Damper removal

1. Remove the cassette mechanism.
2. Remove the spring holding the cassette holder.
3. Press the tab which secures the damper to remove the damper. (See the arrow shown in the figure below)

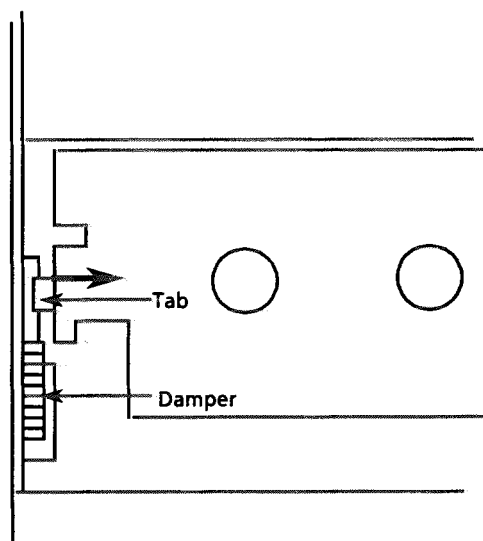


Fig 9

(14) Cassette holder removal

1. Remove the Cassette mechanism assembly.
2. Remove the spring holding the cassette holder.
3. Remove the Cassette holder.

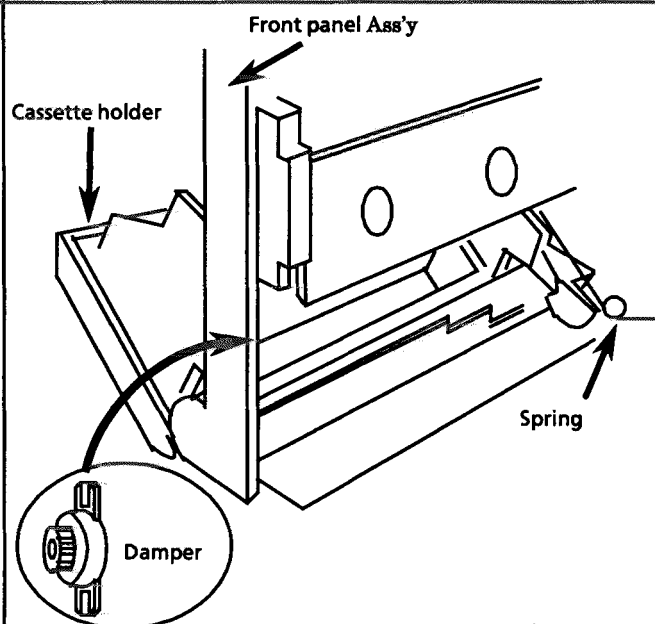


Fig 10

Cassette Mech. Ass'y removal

(13) Head assembly removal

1. Remove the Cassette mech. ass'y.
2. Remove the Flexible wire from the cassette deck and remove the 3 screws ① holding the head Ass'y.

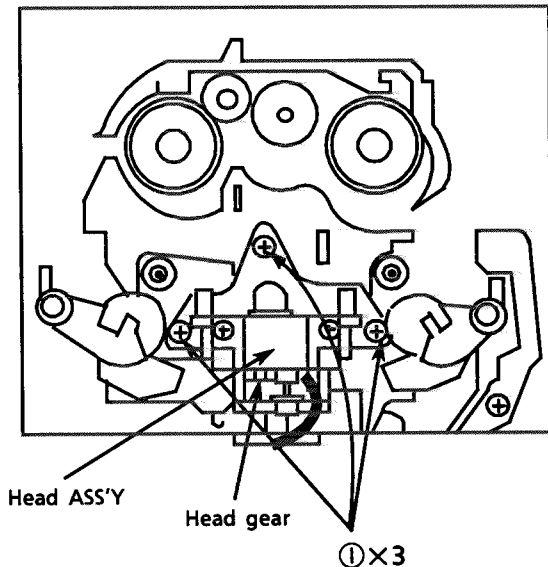


Fig11 Cassettem mech. bottom view

(15) Pinch roller(FWD/REV) removal

1. Remove the cassette mech. assembly.
2. Remove the hook holding the pinch roller.
3. Remove the pinch roller ass'y.

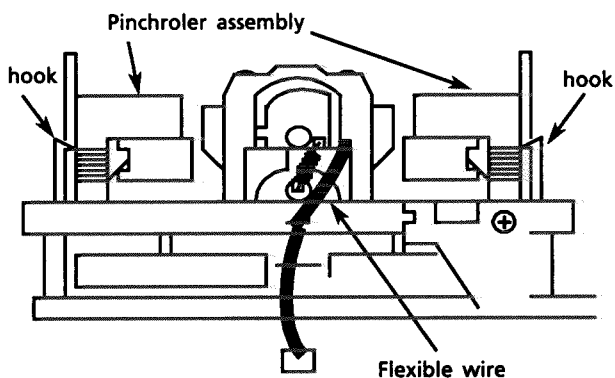


Fig 13 Cassette mechanism bottom view

(14) Head assembly

1. The direction of the head is changed with the direction lever. When servicing, install the direction lever according to the direction of the head assembly.

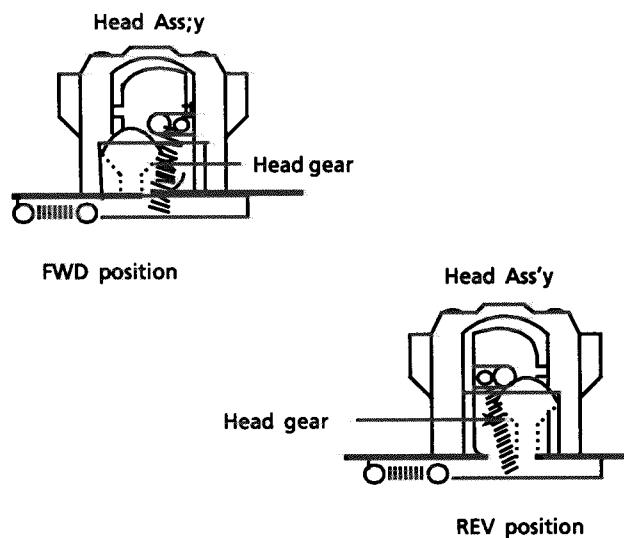


Fig.12-A Head Ass'y side view

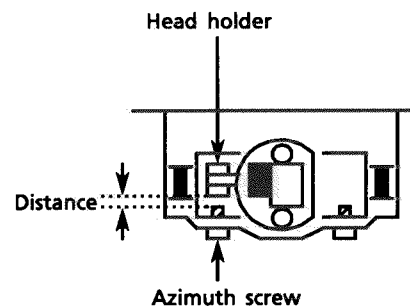


Fig.12-B A distance of between head older and azimuth screw

(16) Capstan motor removal.

1. Remove the cassette mechanism.
2. Remove the cassette deck control PCB.
3. Remove the 6 screws ① holding the bracket.
4. Remove the hooks (■) of the bracket.
5. Put the cutting on the flywheel A together the bracket's pawl as shown in Fig. 16(Flywheel A) and check that the flywheel B is removed from the bracket's pawl(Fig. 16-Flywheel B).
6. Remove the capstan motor with the bracket.
7. Unsolder the broken flat wire of the capstan motor.
8. Remove the 2 screws fixing the motor and the bracket.

* To remove the bracket, it is easier to remove mech."B" first.
Vice versa, assembling mech."A" is easier for reassembly.

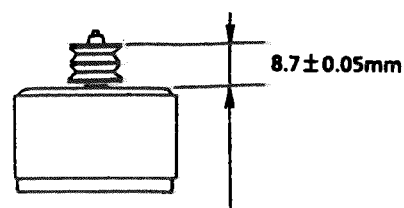


Fig 14 Capstan motor pulley installation

(17) Flywheel removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette amp PCB.
3. Remove the 6 screws ① and the bracket.
4. Remove the 4 hooks of the bracket.
5. Remove the bracket.
6. Remove the flywheels.

*The oil on the capstan must be wiped out after re-assembling.

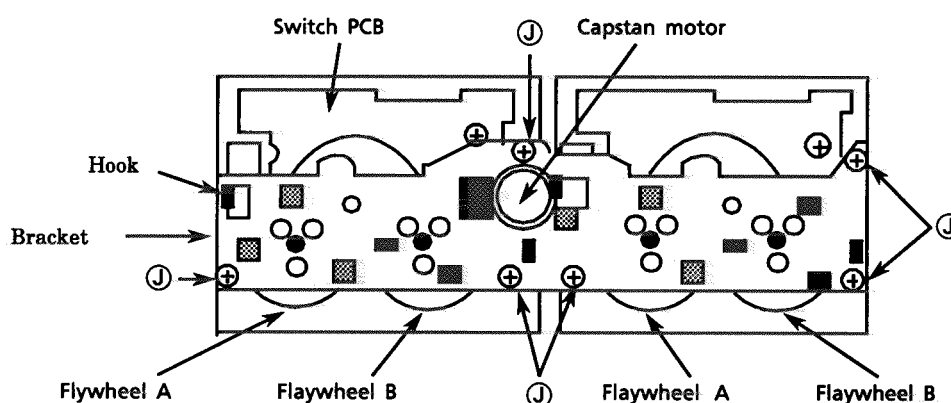
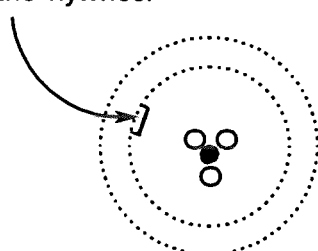
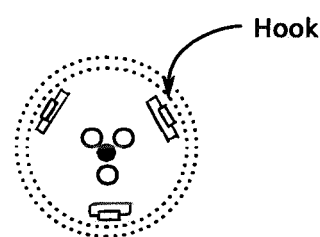


Fig. 15 Cassette mech. bottom view

Cutting on the flywheel



Flywheel A



Flywheel B

Fig 16 Hook and Cutting on the flywheel

(18) How to install the belts

1. Install the flywheels and belts as shown in the figure below . (Fig 17)
When putting the belts, put the long belt first.
2. Install the main reels to put the belts on the flywheels.

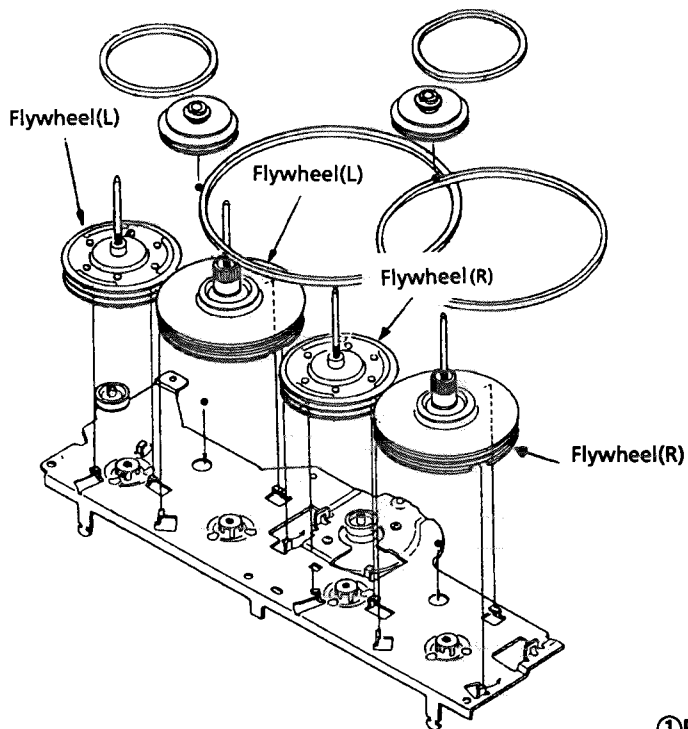


Fig 17-A Install the Braket and flywheels

REEL BELTS

After hooking reel belts, no twist .

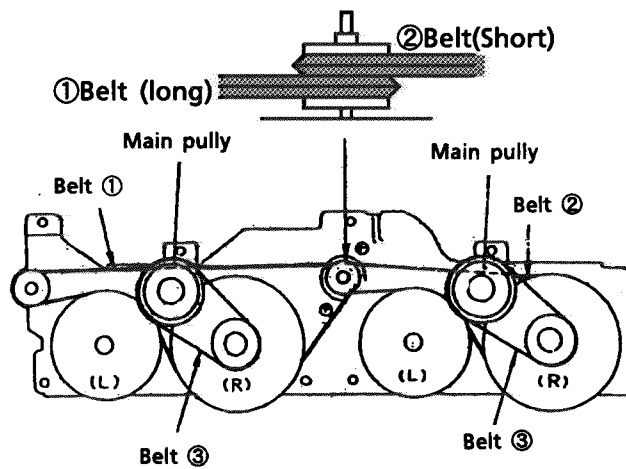


Fig 17-B Install the Belts

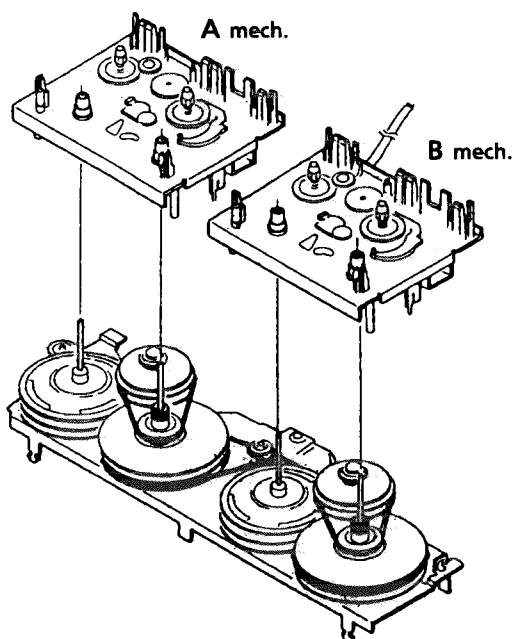


Fig 17-C Insdtall the cassette emch.

(19) Switch PCB removal

1. Remove the flywheel.
2. Remove the 1 screw ①.
3. Unsolder the broken solenoid.
4. Release the 4 hooks holding the Switch PCB.
5. Remove it.

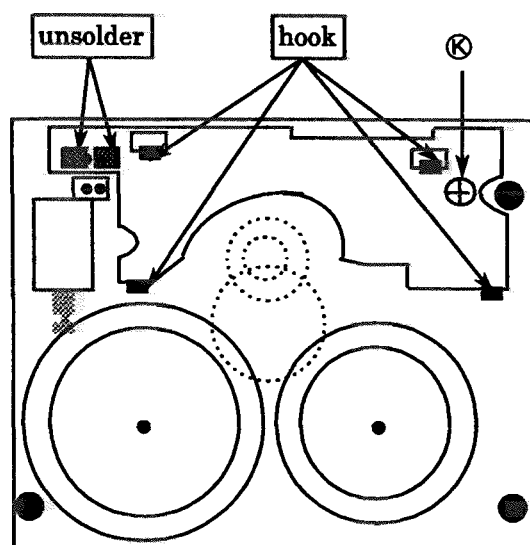


Fig 18 Cassette mech. bottom view

(20) How to install the cassette mechanism

Install the parts as shown in the Fig.19 .

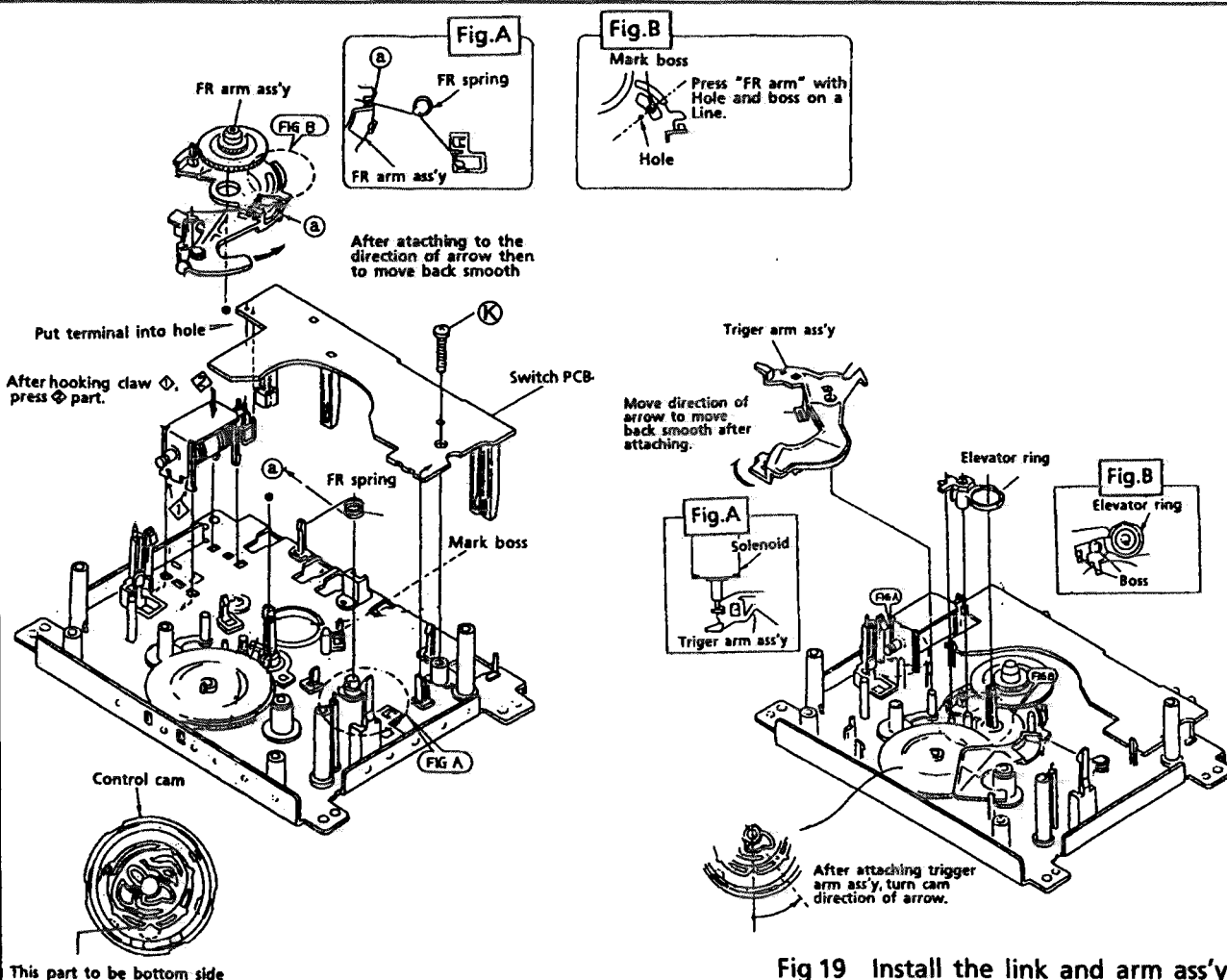


Fig 19 Install the link and arm ass'y

CD changer mech. Ass'y removal

(21) CD Tray assembly removal

1. Disassemble the changer mech..
 2. Remove the screw ① holding the stopper blacket.(See Fig.20) --- (U.S.A and CANADA only)
 3. Remove the rod from both ends' hooks which are secured on T.Bracket ③ and clamber base⑥. [See Fig. 20]
 4. Remove 3 screws① securing T.Bracket.(See Fig. 22.)
 5. Remove a screw ④securing center of the clamperass'y. (See Fig. 21)
 6. Remove the clamper ass'y from ★ screw fixing side.
 7. Remove a screw ①which secures the return spring and lock levers from the chassis ass'y.(See Fig. 23.)
 8. Remove 2 pawls④ which slightly secure the return spring to remove it.
 9. Remove 3 lock levers.
 10. Check that the lifter unit stopper is inserted into hole ⑤ located on CD tray ass'y. (See Fig. 24.)
 11. Check that the driver unit elevator is seen from a hole (marked ⑤) on left side of the CD changer mech..(See Fig. 25 and 26.)
- [NOTE] Set the elevator in correct position (Fig. 26) by rotating the pulley gear with finger if it is not positioned correctly (Fig. 27.).
12. Rotate the motor pulley clockwise with finger until the lifter unit's stopper is lowered from ⑤hole located on the CD tray ass'y. (See Fig. 27.)
 13. And, pull all 3 CD tray assemblies forward until they stop. (See Fig. 25.)
 14. Press 2 pawls(f, f') located rear side of the CD tray ass'y according to an arrow⑥ to remove the CD tray ass'y. (See Fig. 28.)
At first, removing the lowest tray is easier.

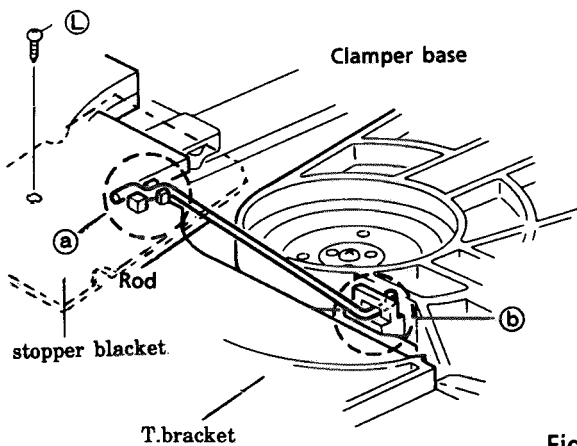


Fig. 20

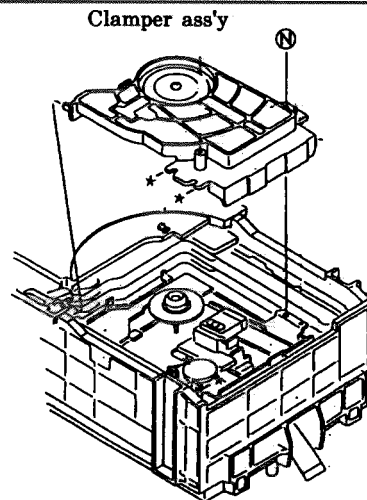


Fig.21

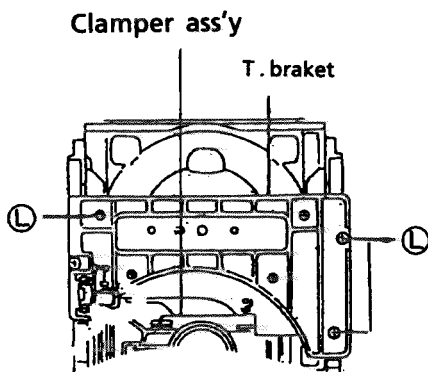


Fig.22

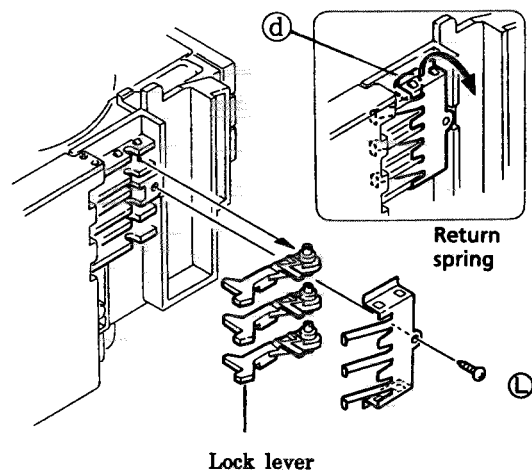


Fig.23

① .. SBSF2608Z ④ ... SPST2606Z

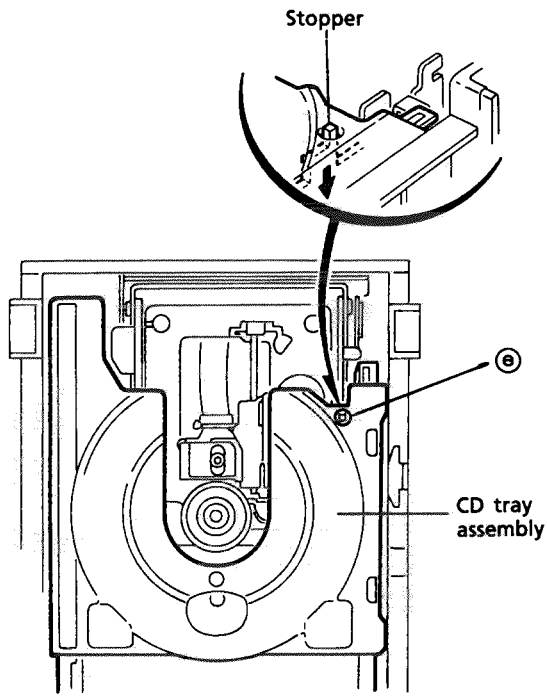
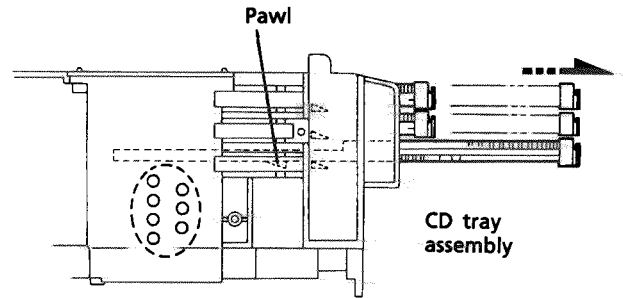


Fig. 24



See Fig.26
assembly

Fig. 25

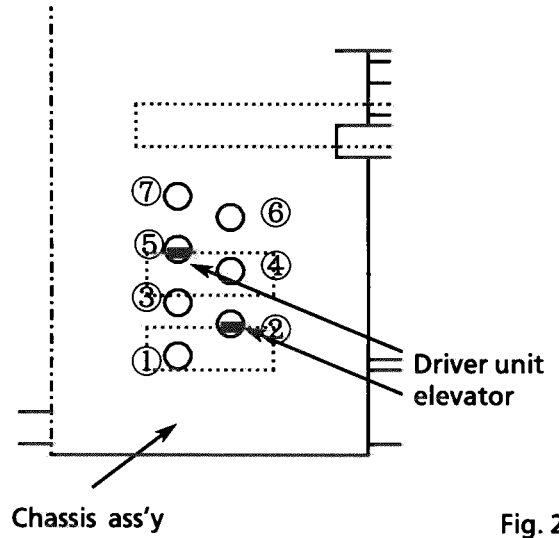


Fig. 26

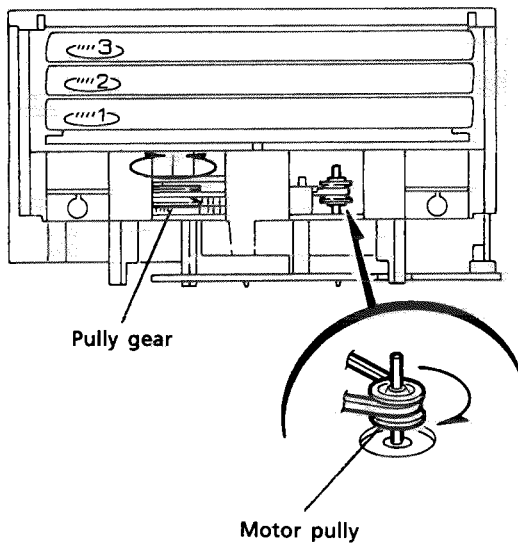


Fig. 27

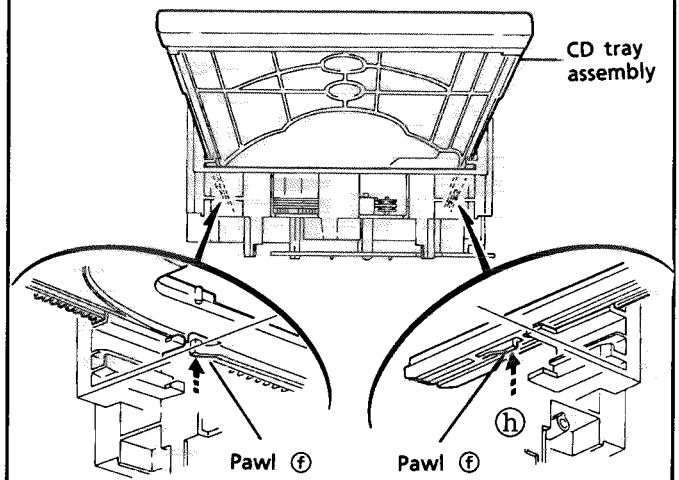


Fig. 28

(22) CD mechanism removal

1. Remove the CD tray ass'y.
2. Rotate the Cam R1, R2 ass'y counterclockwise so that CD mech. ass'y's shaft ⑧ is positioned as shown in Fig. 29.
3. Remove 4 screws ⑨ securing CD mech. ass'y. (See Fig. 29.)

*How to replace pick-up unit

1. If CD mech. is removed without disassembling CD mech. ass'y, rotate the Cam R1, R2 ass'y clockwise to set the CD mech. ass'y's shaft(L) as shown in Fig. 30.
2. Lift the CD mech. ass'y toward the direction ⑩ to remove it from the lifter unit. (See Fig. 31.)

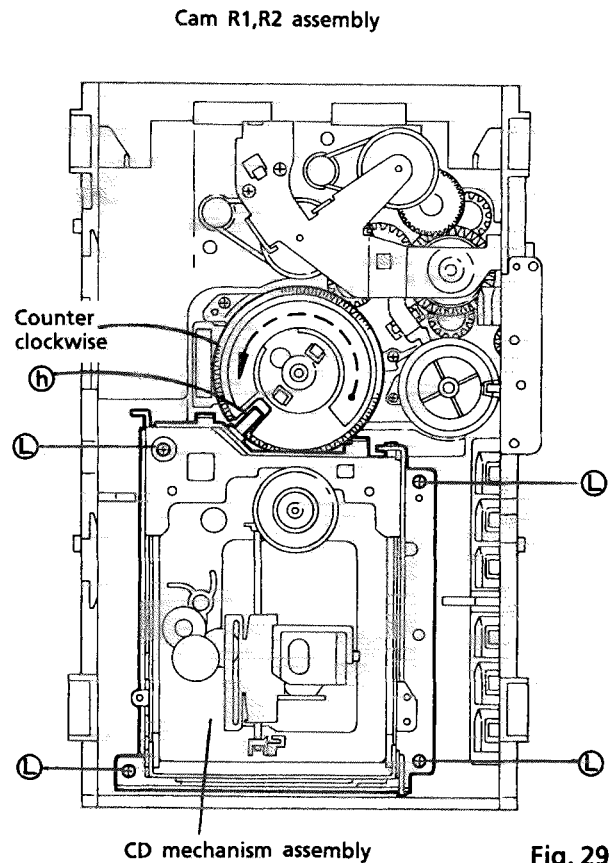


Fig. 29

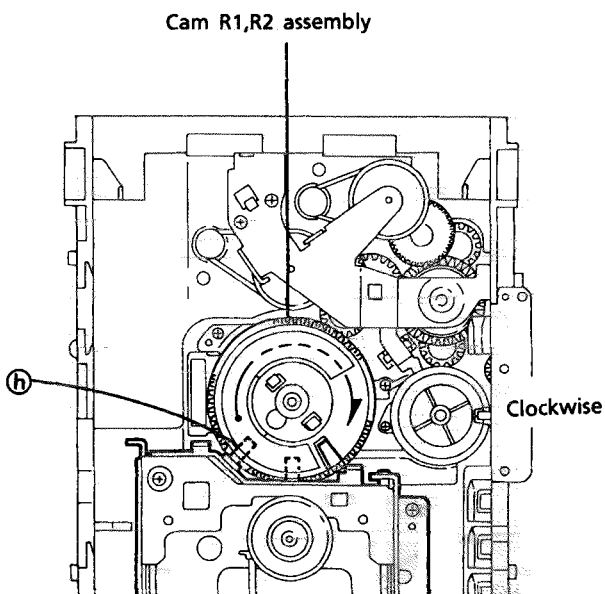


Fig. 30

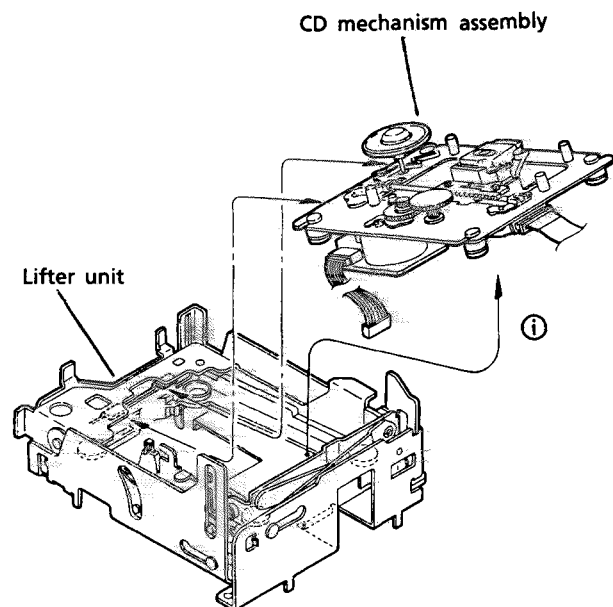
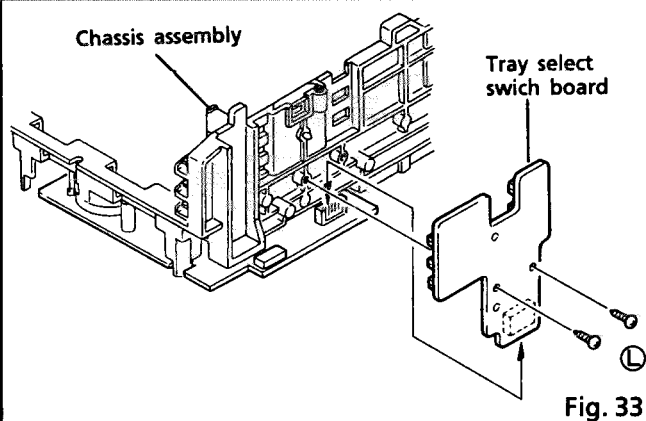


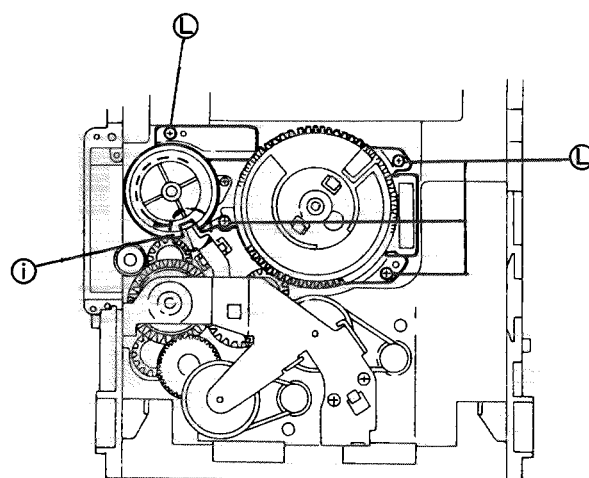
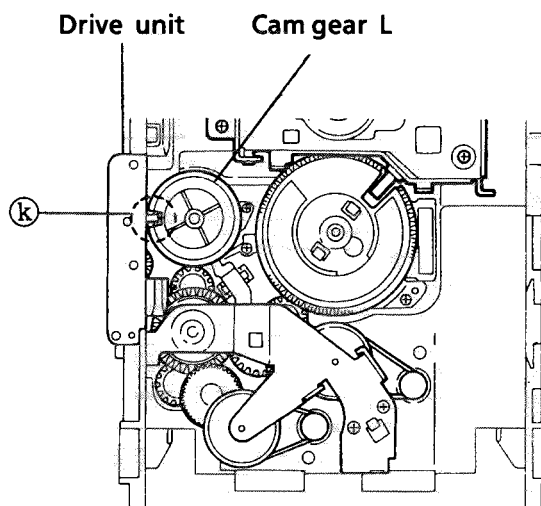
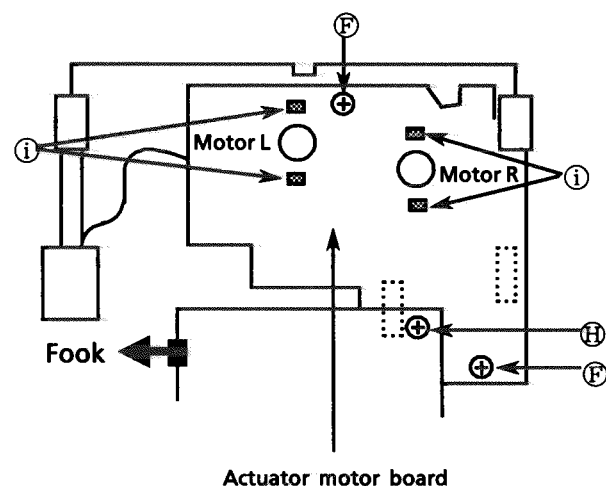
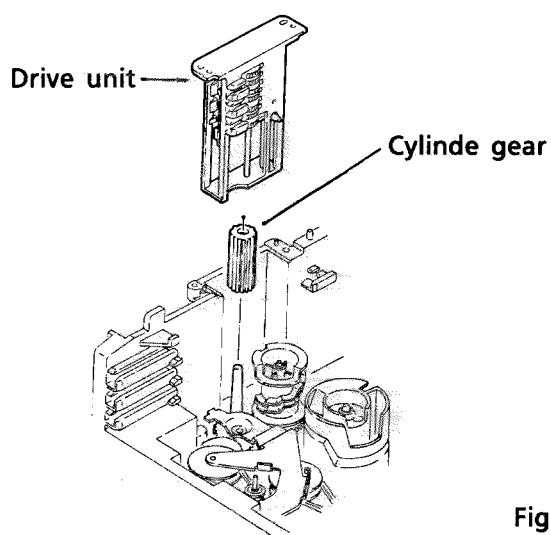
Fig. 31

(23) Actuator motor board removal

1. Unsolder 4 soldered point ① for both motors. (See Fig. 32.)
2. Remove a screw ④ securing the CD servo board. (See Fig. 32.)
3. Press the hook and release it to remove the CD servo board.
4. Remove 2 screws ② securing the actuator motor board. (See Fig. 32.)
5. Remove 2 screws ③ securing the tray select switch board. (See Fig. 33.)

**(24) Cam unit removal**

1. Disassemble CD mech. ass'y.
2. Rotate the Cam gear L so that the drive unit's pawl ⑥ is positioned as shown in Fig. 34.
3. Remove the drive unit and cylinder gear. (See Fig. 35.)
4. Rotate the Cam gear L so that the select gear's ① is positioned as shown in Fig. 36.
5. Remove 4 screws ② securing the cam unit which includes the cam gear L and Cam R1, R2 ass'y. (See Fig. 36.)



② .. SBSF2608Z

④ ... SBSF3008Z

(25) Removal for actuator motor and belt

1. Remove 2 screws ⑤ securing the gear bracket.
(See Fig. 37.)
2. Press the pawl ④ securing the gear bracket to the arrow in the figure to remove the gear bracket. (See Fig. 37.)
3. Remove the gear bracket from the chassis ass'y's ③ securing top of the gear bracket. (See Fig. 38.)
4. Remove each belts from the both actuator motor pulleys and the pulley gears. (See Fig. 37.)
5. Reverse the chassis ass'y and widen 4 pawls ② which secure both actuator motors to its arrows to remove the actuator motors. (See Fig. 39.)

[NOTE] The pulley gears and other gears which consist the gear unit may drop separately if the chassis ass'y is reversed without gear bracket and belt.
See Fig. 40 to assemble them again.

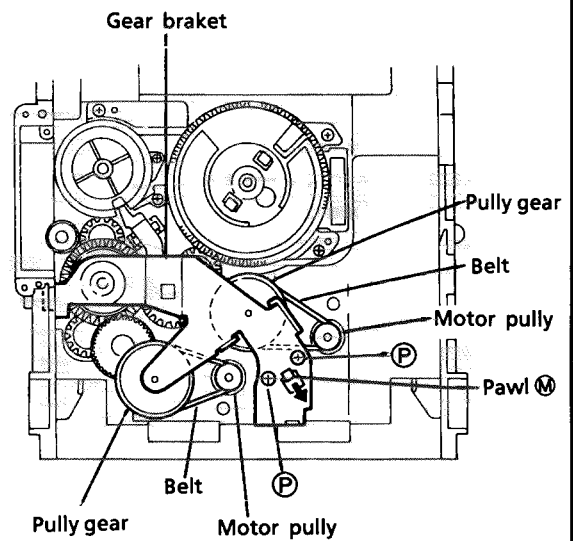


Fig. 37

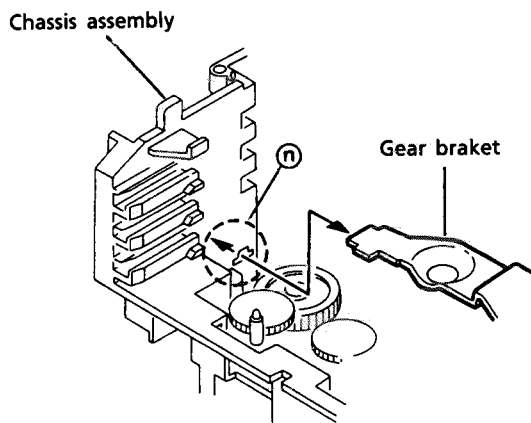


Fig. 38

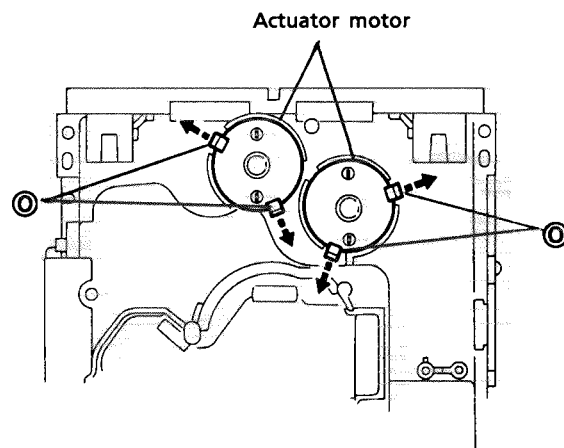


Fig. 39

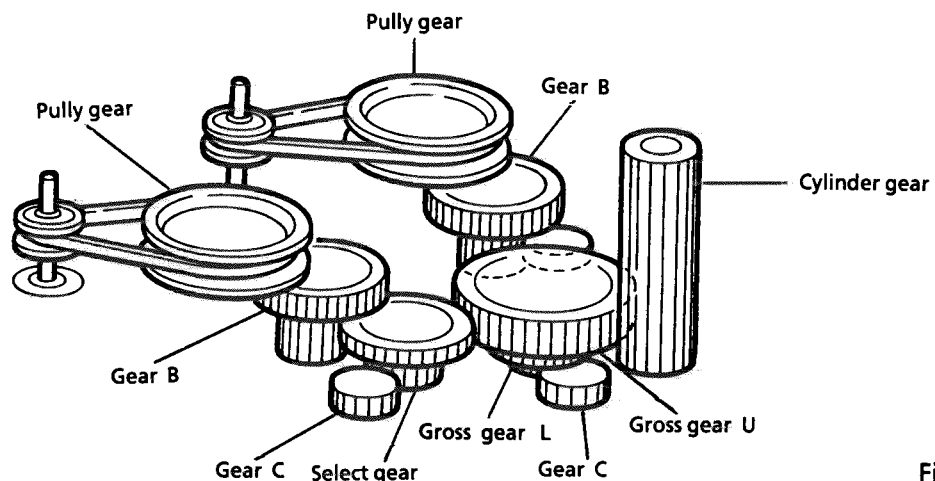


Fig. 40

(26) Removal of cam R1, R2 ass'y and cam gear L

1. Remove the slit washer securing Cam R1, R2 ass'y.
(See Fig. 41.)
2. Remove 2 pawls ④ securing Cam R1 to remove Cam R2 from Cam R1.
3. Remove the slit washer securing Cam gear L.
4. Remove Cam gear L from the C.G. base ass'y.

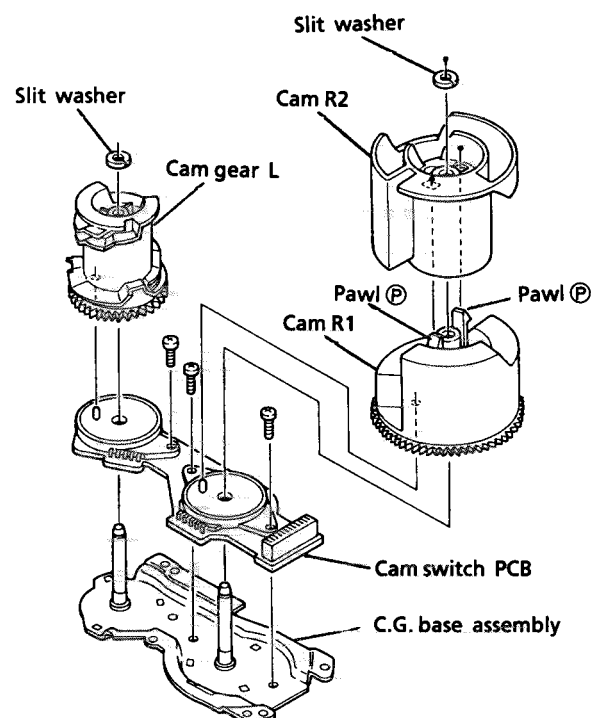


Fig. 41

(27) Removal of C.G base ass'y

Remove 3 screws ④ securing the C.G. base ass'y. (See Fig. 41 and 42.)

[NOTE] Set the drive unit's pawl ④ so that it is positioned as shown in Fig. 42.
Confirm that the cam gear L engages with the gear unit by rotating the cam gear L.

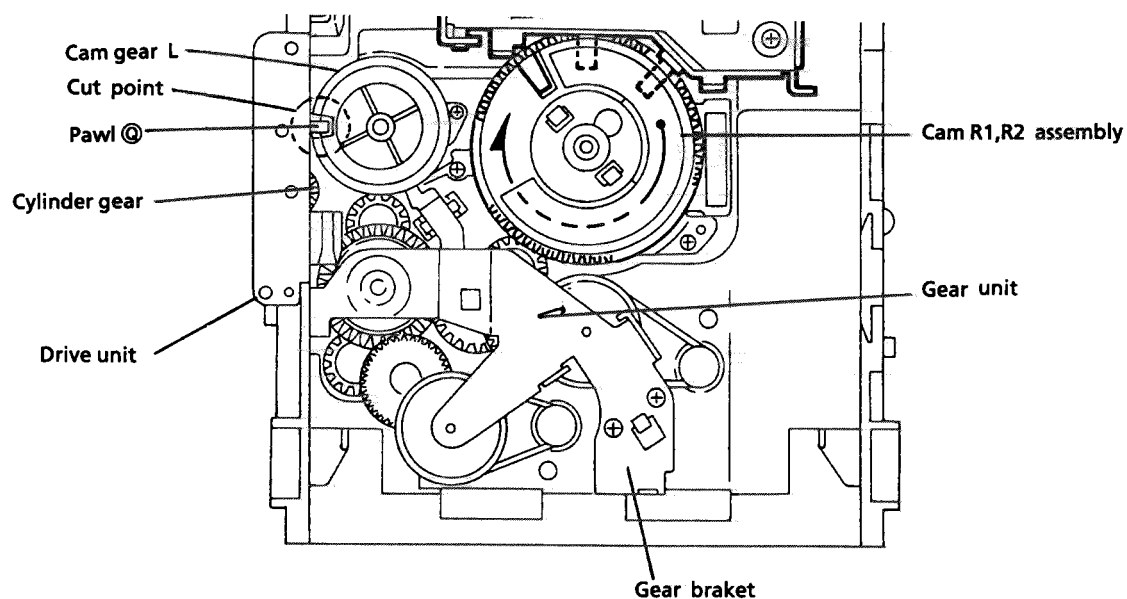


Fig. 42

④ .. SPST2606Z

(28) Removing the Pickup

1. Remove the CD mech. assembly.
2. Release the shaft to remove the pickup.

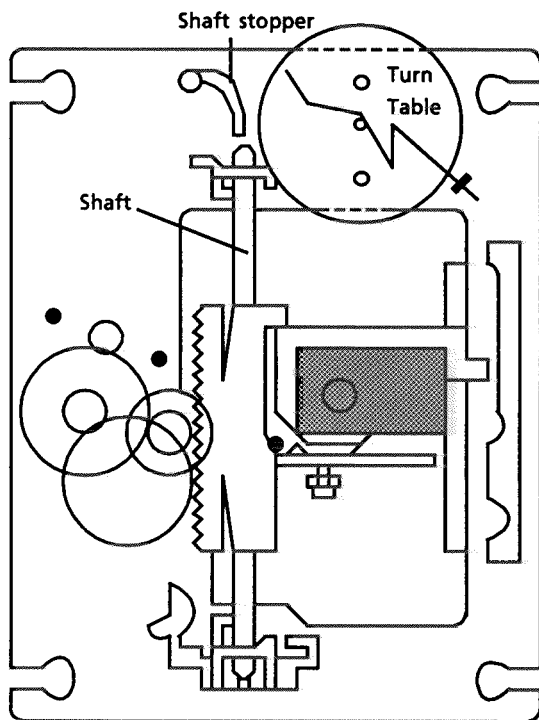


Fig. 43

(29) Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mech. base to the turntable is exactly $19.4 \pm 0.1\text{mm}$.

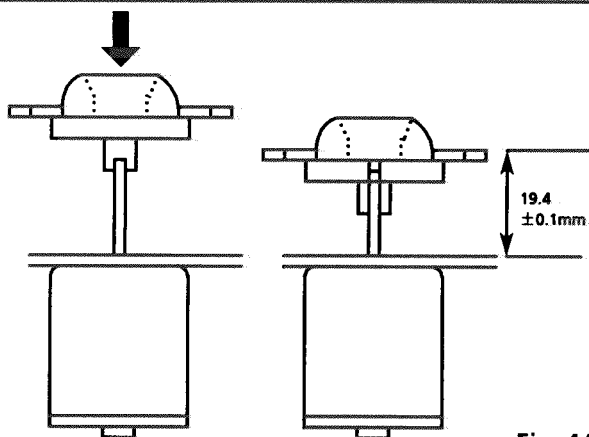


Fig. 44

(30) Removing the Spindle motor

1. Remove the CD mech. assembly.
2. Remove the turntable, and remove the 2 screws ⊗ retaining the spindle motor.
3. Remove the screw retaining the spindle and feed motor circuit board and unsolder it.

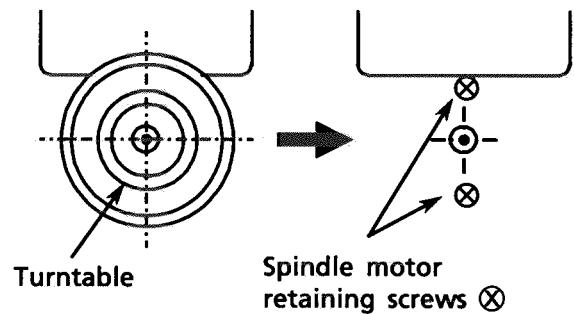


Fig. 45

- (31)** After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 46 on the left below).

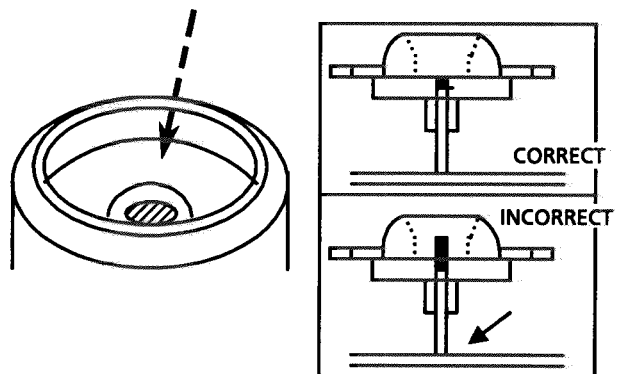


Fig. 46

- (32)** Use "LOCKTITE" #460 bonding agent, and apply as little as possible.

Take care not to allow any excess bonding agent to get onto the turntable.

Be extremely careful not to allow bonding agent to adhere to the motor bearing (the section marked by an arrow in fig 46 on the right).

Adjustment procedures

■ Tuner section

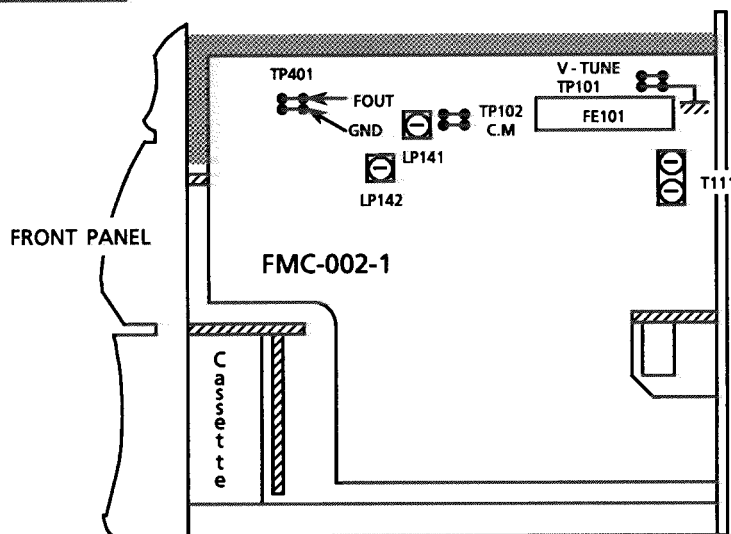
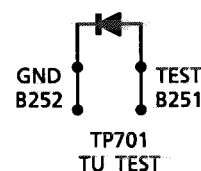


Fig.1

Clock Adjustment

1. After connecting B251 and B252 with some wire as shown in the figure below, connect the AC power cord into an AC outlet.
2. Confirm that the display is off and remove the wire.
3. Connect a frequency counter to TP401 B178 and B179.
4. Confirm the frequency $50000 \pm 0.29\text{Hz}$.



FMB-006-1(Front PCB)

(1) Tuning voltage

Confirm the voltages at TP101 is within the standard values shown in the table below. If the voltages are not satisfied, replace T111 for MW and for LW or FE101 for FM.

FM Tuning voltage (Unit : V)

Area	Frequency			
	64.0MHz	74.0MHz	87.5MHz	108MHz
East Europe	$1.8 \pm 1.0 (V)$	$1.8 \pm 1.0 (V)$	$9 \sim 10.5 (V)$	$9 \sim 10.5 (V)$
the U.K. , Continental Europe, U.S.A. , Canada, Australia, Universal	—	—	$1.6 \pm 1.0 (V)$	$8.0 \pm 2.0 (V)$

AM Tuning voltage (Unit : V)

Area	Frequency (MW)							Frequency (LW)	
	522KHz	530KHz	531KHz	1600KHz	1602KHz	1629KHz	1710KHz	144kHz	288kHz
BS,EF,EN,G,GI,VX	>0.7	—	—	—	—	<8.3	—	$0.5 <$	>7.5
C,J	—	>0.8	—	—	—	—	<8.8	—	—
U,UT,UB,UP,US(Channel Space 9kHz)	—	—	>0.8	—	<7.9	—	—	—	—
Universal(Channel Space 10kHz)	—	>0.8	—	<7.9	—	—	—	—	—
A	>0.7	—	—	—	—	<8.3	—	—	—

(2) FM center meter

Receive a broadcast which understanding the frequency by using the function of 'MANUAL SEARCH'. Adjust T105 (detector coil) so that the voltage at TP102 becomes $0 \pm 1.5\text{mV}$.

The Marks for Designated Areas

J the U.S.A.	A Australia	C Canada	VX East Europe
G Germany	U Universal	US Singapore	UT Taiwan
EF Continental Europe	EN Scandinavia	GI Italy	BS the U.K.
UB Hong Kong	UP Korea	No mark indicates all area.	

■ Deck Adjust point

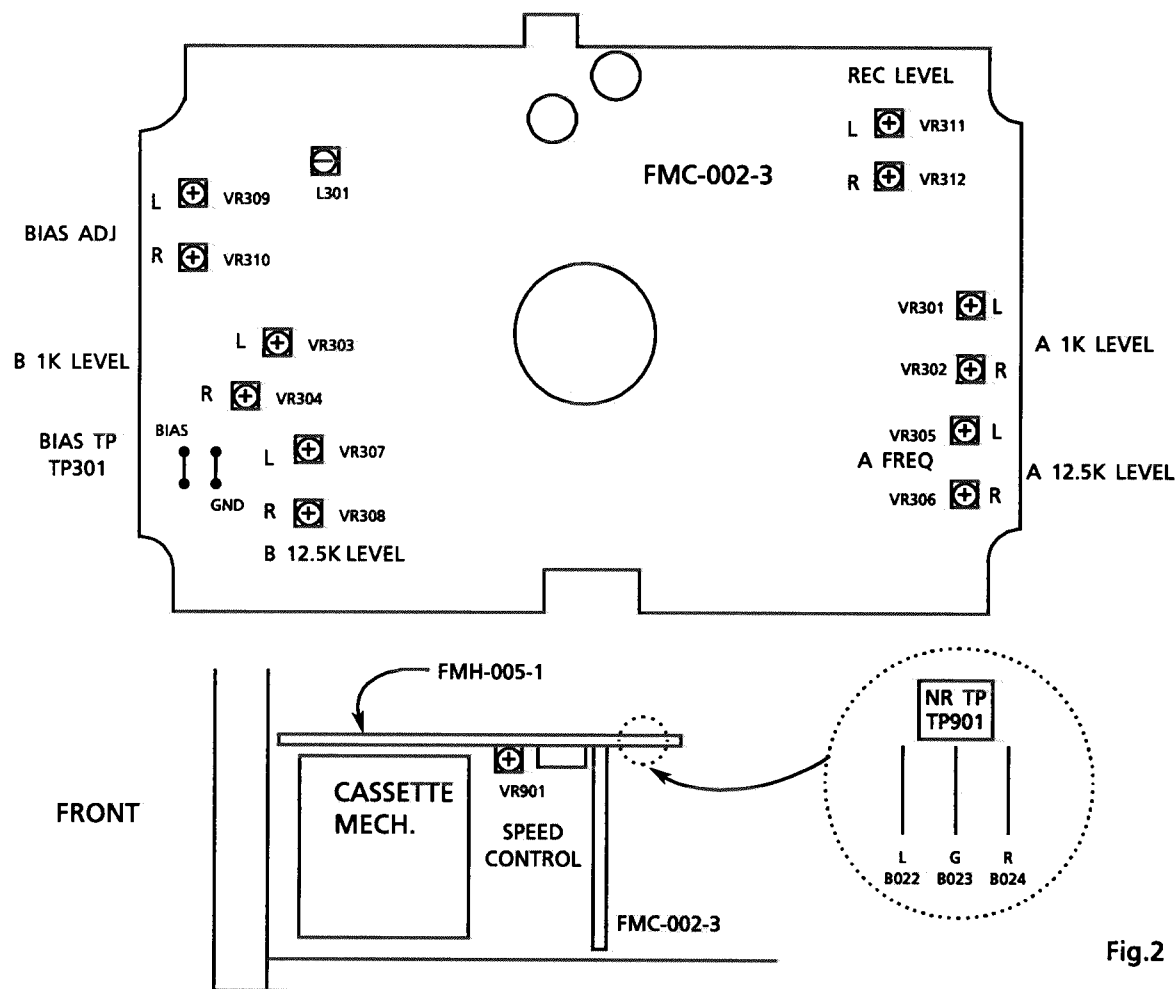


Fig.2

Deck section

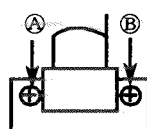
1. Measuring instruments

- Audio frequency signal generator (0dbS output at the 600 ohm output terminal from 50Hz to 20KHz)
- Electronic voltmeter
- Frequency counter
- Wow & Flutter meter
- Distortion Meter with band pass filter
- Attenuator (600 ohm impedance)
- A resistor with 600Ω

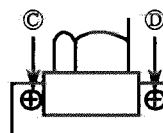
Tape No.	Frequency	Level (Wow & Flutter)	Purpose
VTT-703L	10kHz	- 10dBs	Head azimuth , Frequency Response
VTT-712	3000Hz	0dBs 0.025%WRMS	Tape Speed , Wow & Flutter
VTT-724	1kHz	- 4dBs	Standard Level
TMT-6447	—	—	Blank Skip
TMT-6247 , TMT-6237	—	—	Music Scan
TMT-70885	—	—	Recording standard Normal : UR
AC-712	—	—	Recording standard METAL :MA
AC-513	—	—	Recording standard CrO ₂ :SA
TW-2111, TW-2121	—	—	Forward / reverse play torque measuring
TW-2231	—	—	Feed forward / rewind torque measuring
C-120 Tape	—	—	Comfirming the tape running

Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	Deck A 1. Connect an electronic voltmeter to the NR TP901 (figure 1) to playback VTT-703L. 2. Adjust screw ① so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 3. Adjust screw ② so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. Deck B 4. Adjust screw ③ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 5. Adjust screw ④ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. 6. After making the adjustment, apply screw lock to prevent screws ①, ②, ③ and ④ coming loose.	Maximum	1. Refer to figure 3. 2. When the specified characteristic cannot be obtained because of head wear, excessive magnetization, etc., replace the head assembly and adjust the head azimuth. Also, perform the electric adjustment. 3. When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head assembly to avoid complaints.
Playback torque	1. Measure the torque in the playback mode by the torque meter.	26 ~ 72 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	1. Measure the torque in the fast forward mode by the torque meter.	75 ~ 175 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Rewind torque	1. Measure the torque in the rewind mode by the torque meter.	75 ~ 175 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Wow & flutter	1. Connect the wow & flutter meter to the DOLBY TP (figure 1) and play back VTT-712. 2. Its reading should be within 0.25% (WTD).	Less than 0.25%	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.



Deck A



Deck B

Fig.3

3. Electrical Adjustments (Make the following adjustments after adjusting the head azimuth.)

In principle, the adjustments should be made in the following sequence.

Set the NR switch to OFF and the BEAT CUT switch to "1".

Adjustments marked with an asterisk (*) should always be made after the head is replaced

0dBs=0.775V

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Tape Speed	1. Connect a frequency counter to the NR TP 901 (figure 1) and play back VTT-712. 2. Adjust the semi-fixed resistor VR901 on FMH-005 - 1 (figure 1).	VR901	3,000 Hz $\pm 10\text{Hz}$	Connect a wow & flutter meter with a built-in frequency counter to the speaker terminals.
Standard level (Playback Level)	1. Connect an electronic voltmeter to the NR TP901 (figure 1). Play back VTT-724 (1 kHz : -4dBs) to adjust the semi-fixed resistors.	Deck A L: VR301 R: VR302 Deck B L: VR303 R: VR304	488mV (-4dBs)	1) The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 k Ω or more.
Playback Frequency Response	1. Connect an electronic voltmeter to the NR TP 901 (figure 1). 2. Play VTT-703L (10kHz : -10dBs) and adjust semi-fixed resistors to obtain the standard values.	Deck A L: VR305 R: VR306 Deck B L: VR307 R: VR308	245mV (-10dBs)	—
Recording Bias Frequency	1. Connect a frequency counter to the BIAS TP (figure 1), and perform a recording to adjust bias frequency.	L301	105 kHz $\pm 5\text{ kHz}$	Set the BEAT CUT SWITCH to "1". (BS,EF,EN,G,GI,VX only)
Record / Play Frequency Response (Bias current)	1. Supply 1kHz and 12.5kHz with 30mV signals to AUX terminals respectively to record them. 2. Connect an electronic voltmeter to the NR TP901 (figure 1) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the recorded values.	L: VR309 R: VR310	0 ± 2 dB with 1 kHz as the standard.	Refer to figure 4 below. 1) The recording and playback frequency response of a cassette deck are adjusted by adjusting the bias. 2) Perform the adjustment with normal tape and confirm that the values are within the range for metal tape.

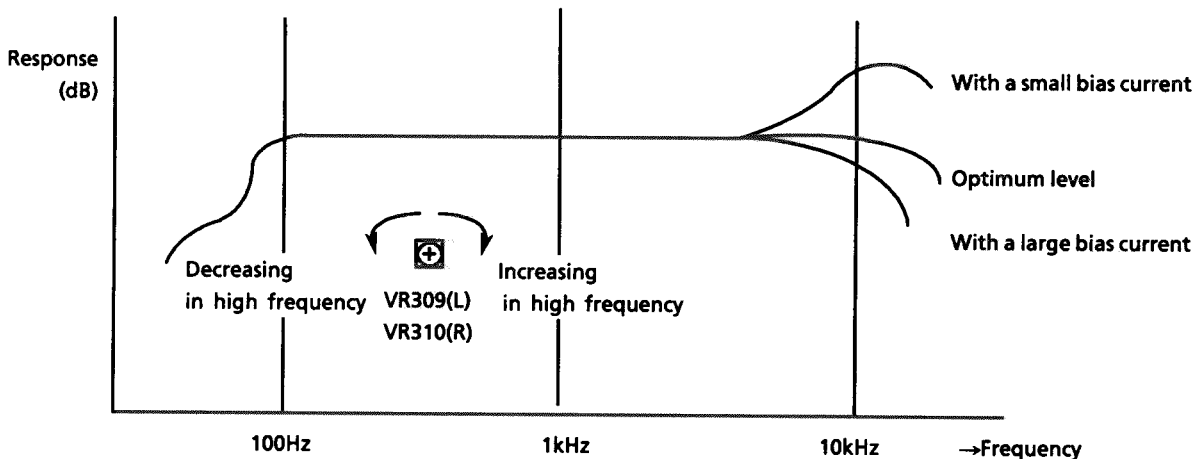
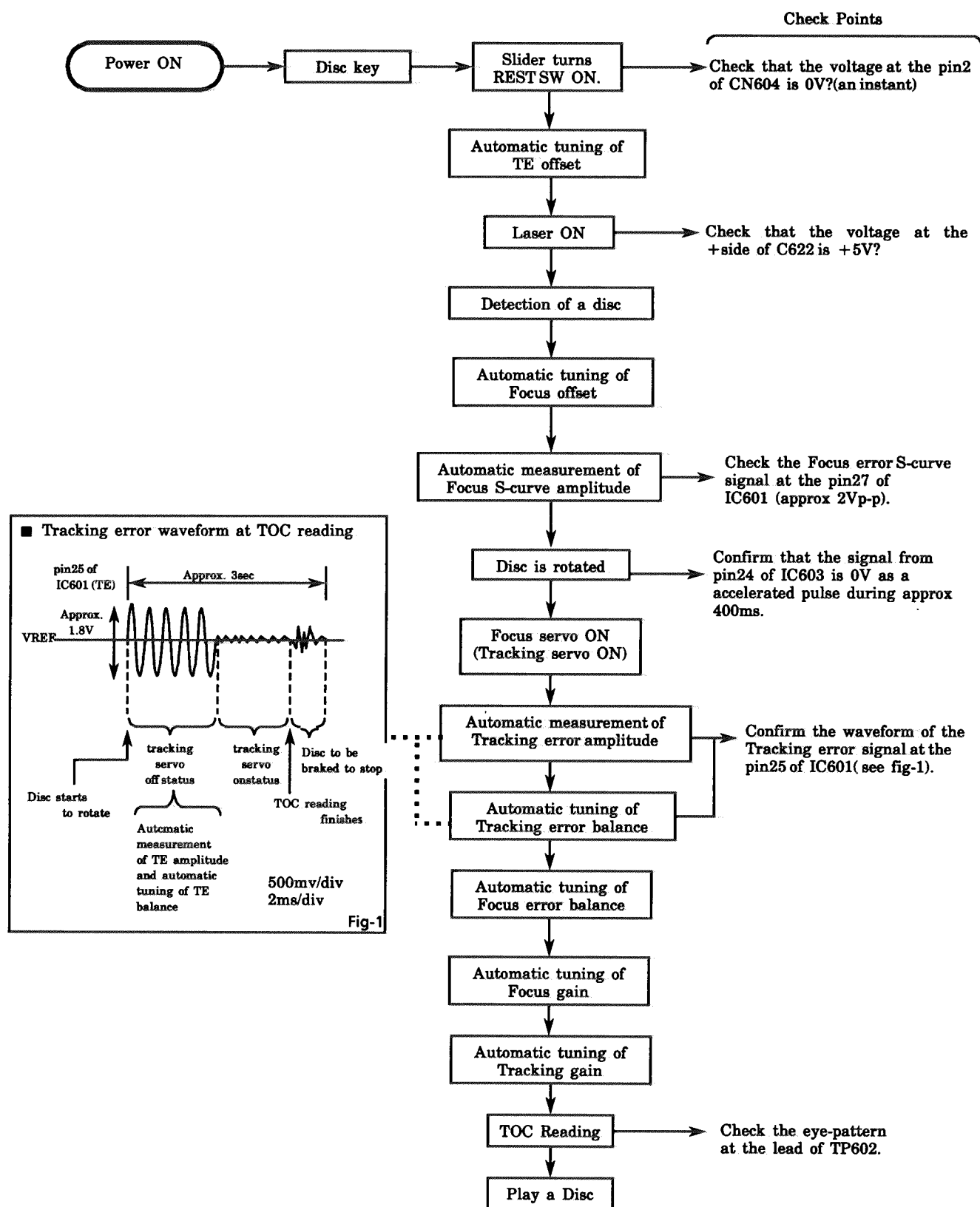


Fig.4

Flow of Functional Operation Until TOC is Read



Maintenance of Laser Pickup

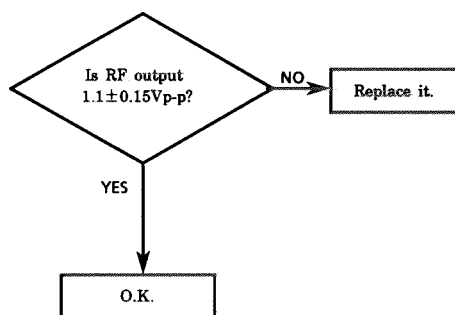
(1) Cleaning the pick up lens

Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

(2) Life of the laser diode (Fig.1)

When the life of the laser diode has expired, the following symptoms will appear.

The level of RF output (EFM output: amplitude of eye pattern) will be low.



(3) Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup

Turn off the power switch and, disconnect the power cord from the ac outlet.

Replace the pickup with a normal one. (Refer to "Pickup Removal" on the previous page)

Plug the power cord in, and turn the power on. At this time, check that the laser emits for about 3seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.

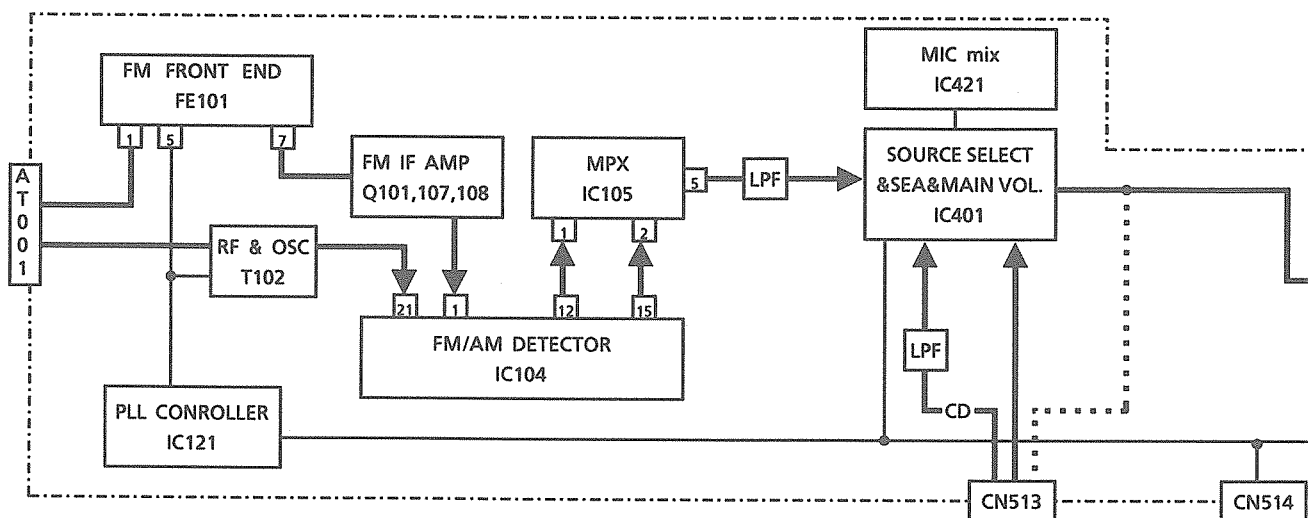
Play a disc.

Check the eye-pattern at TP2.

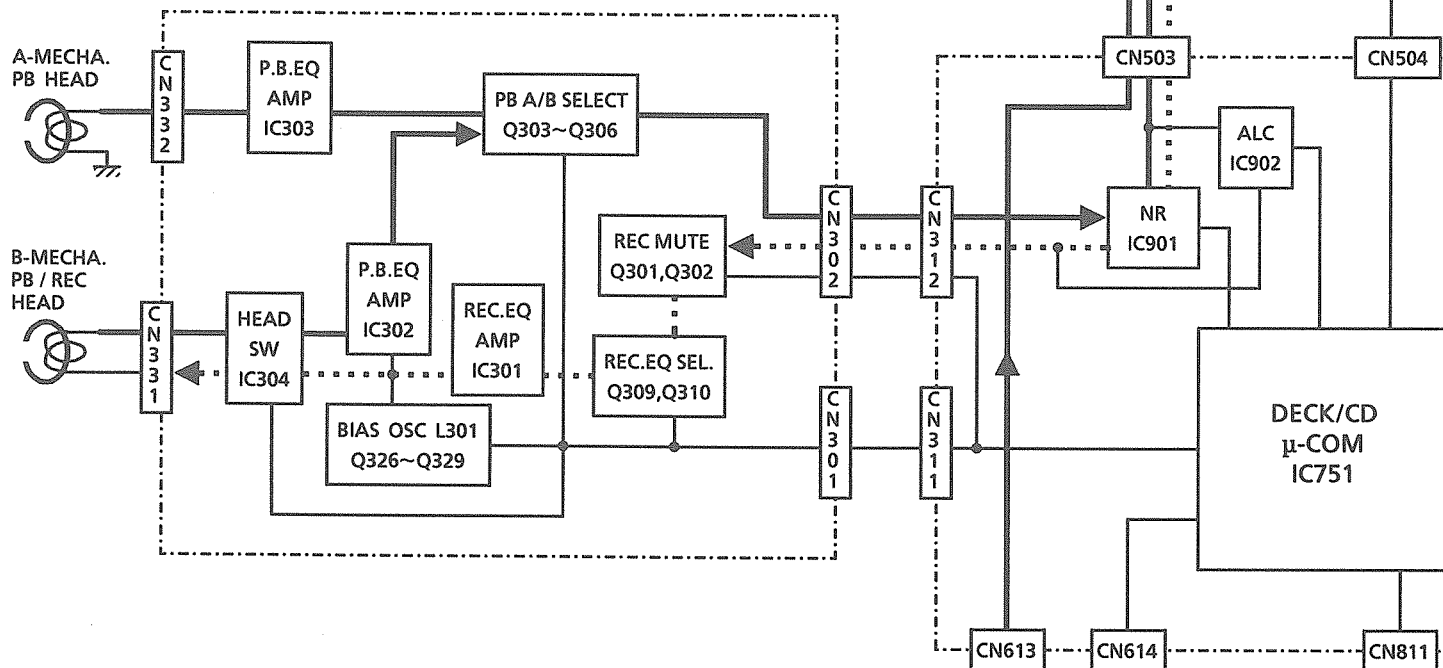
Finish.

Block Diagram

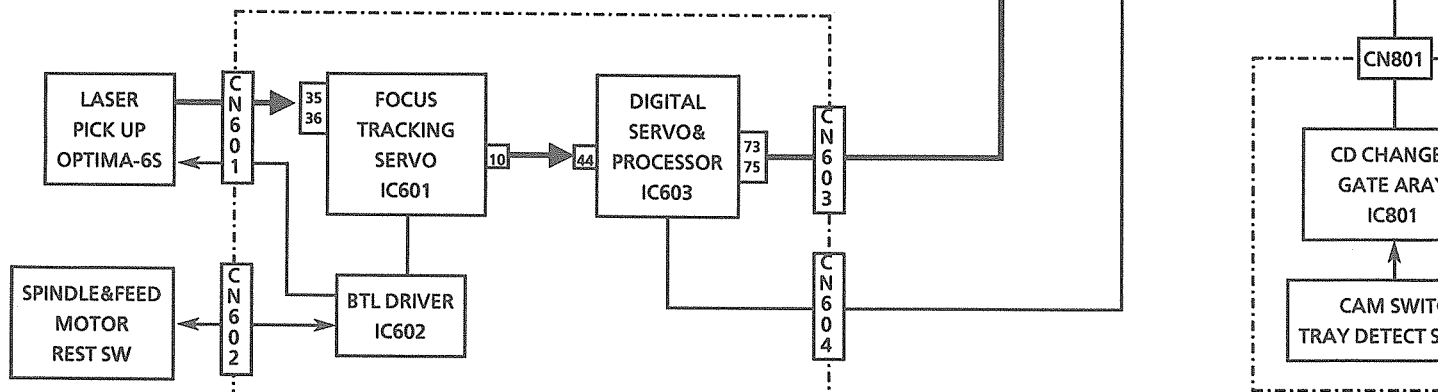
TUNER, SOURCE SELECT & SEA SECTION

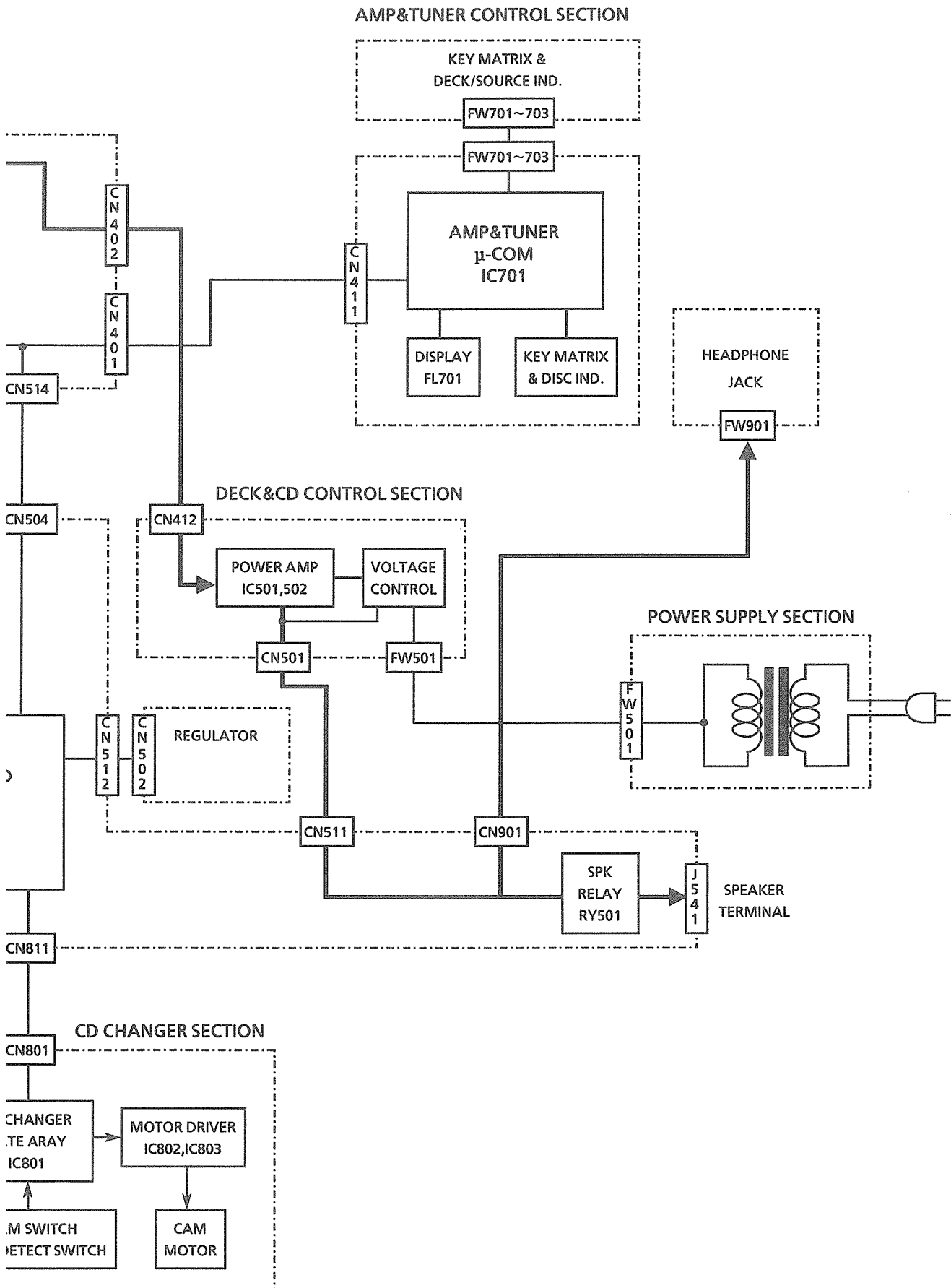


CASSETTE DECK SECTION



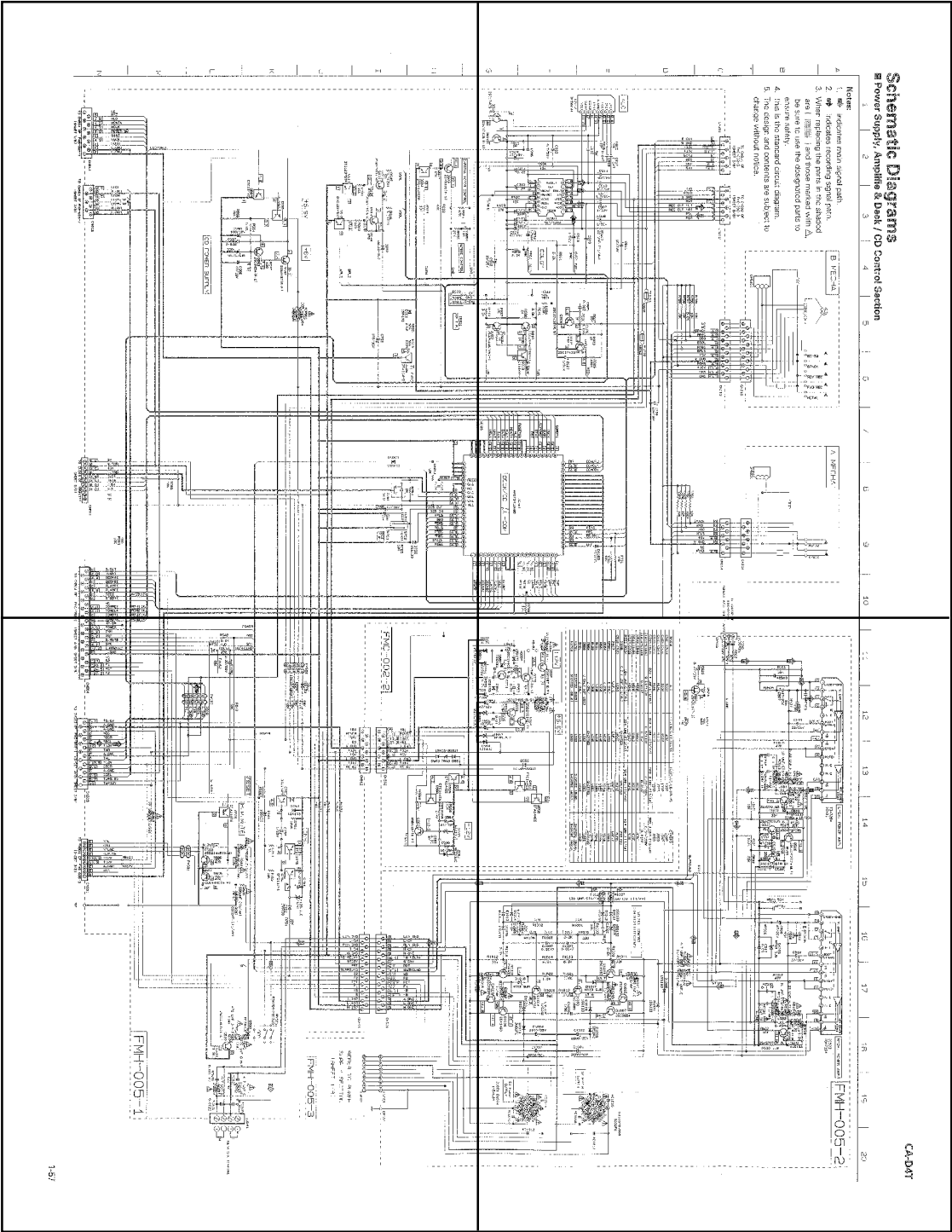
CD SERVO SECTION





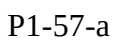
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P1-57-b



P1-57-c

P1-57-d

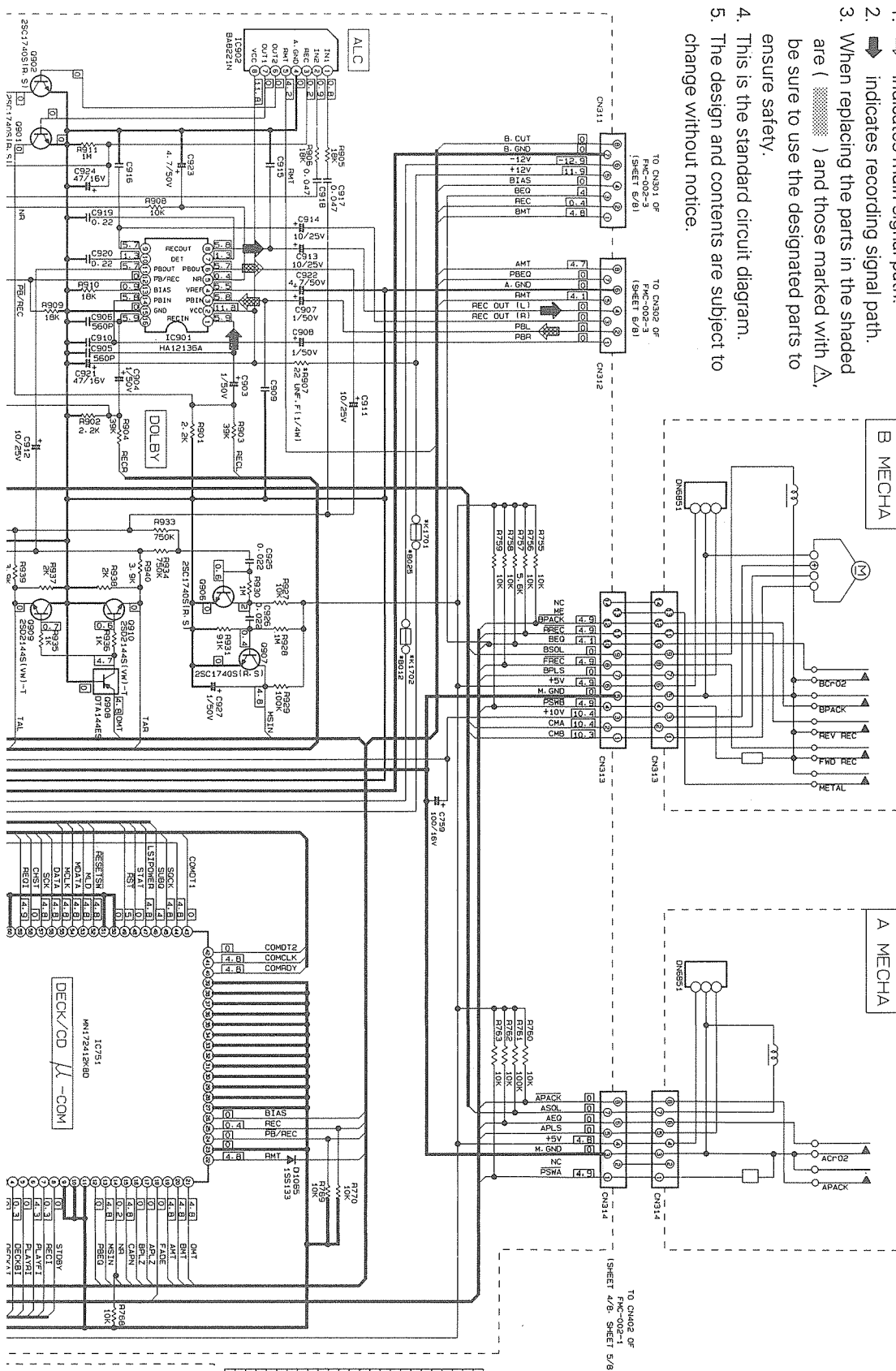


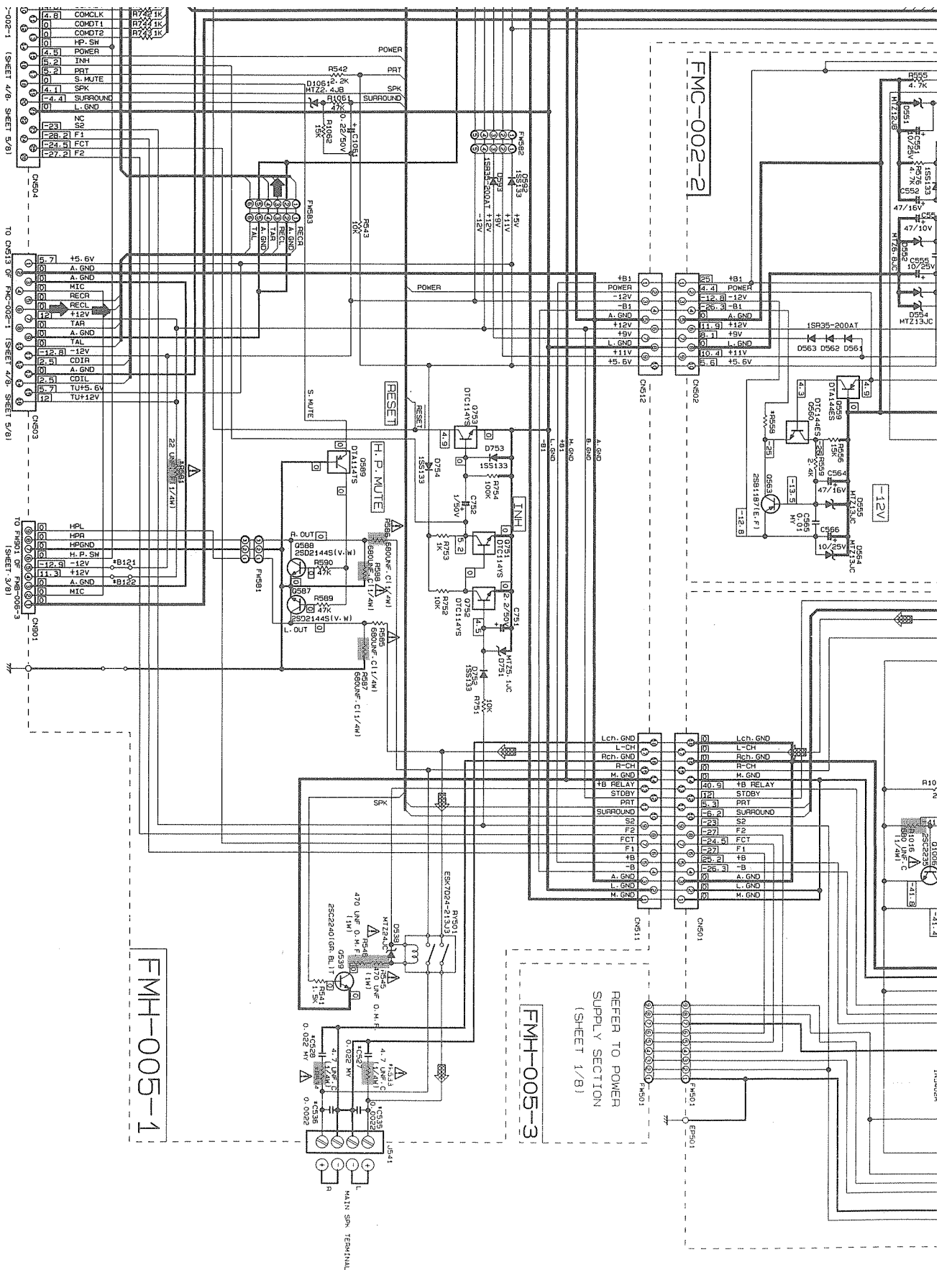
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■ Power Supply, Amplifier & Deck / CD Control Section

Notes:

1.  indicates main signal path.
2.  indicates recording signal path.
3. When replacing the parts in the shaded area () and those marked with  be sure to use the designated parts to ensure safety.
4. This is the standard circuit diagram.
5. The design and contents are subject to change without notice.

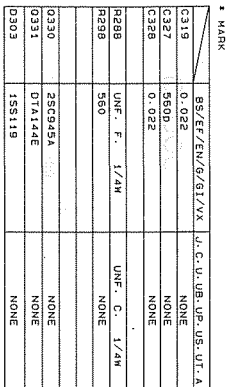






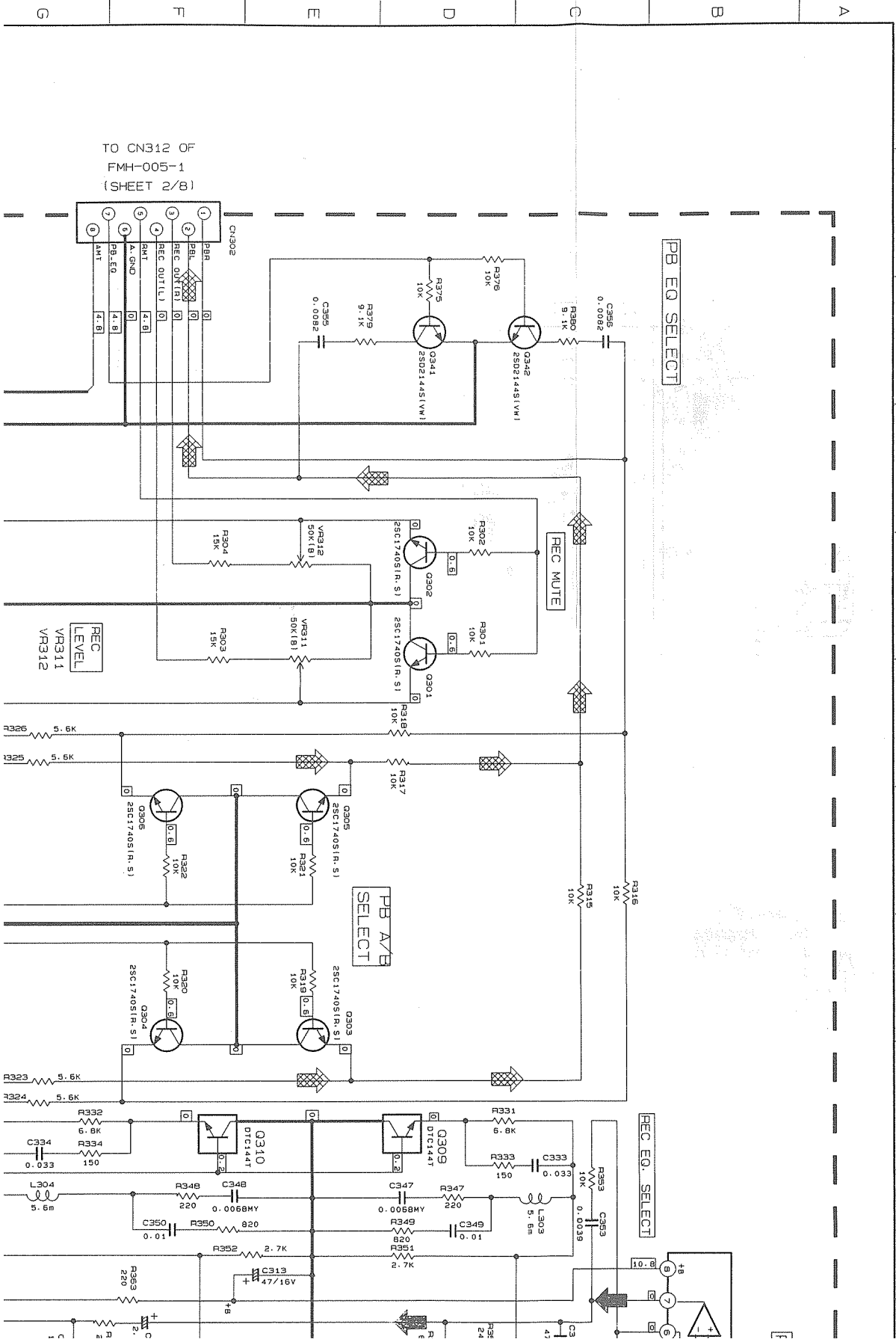
CADAT
 Block Section
 1-88

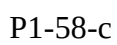
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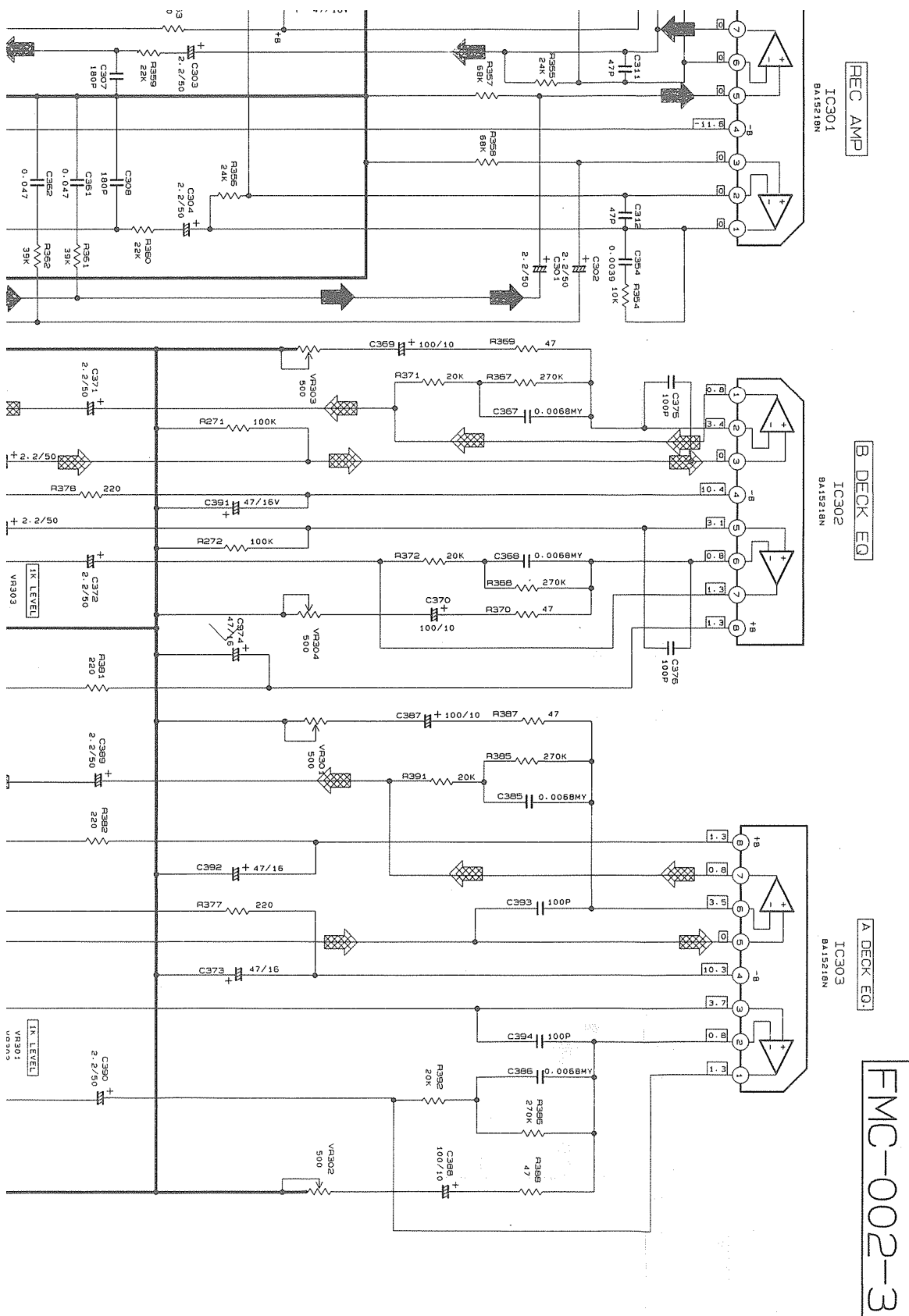


Deck Section

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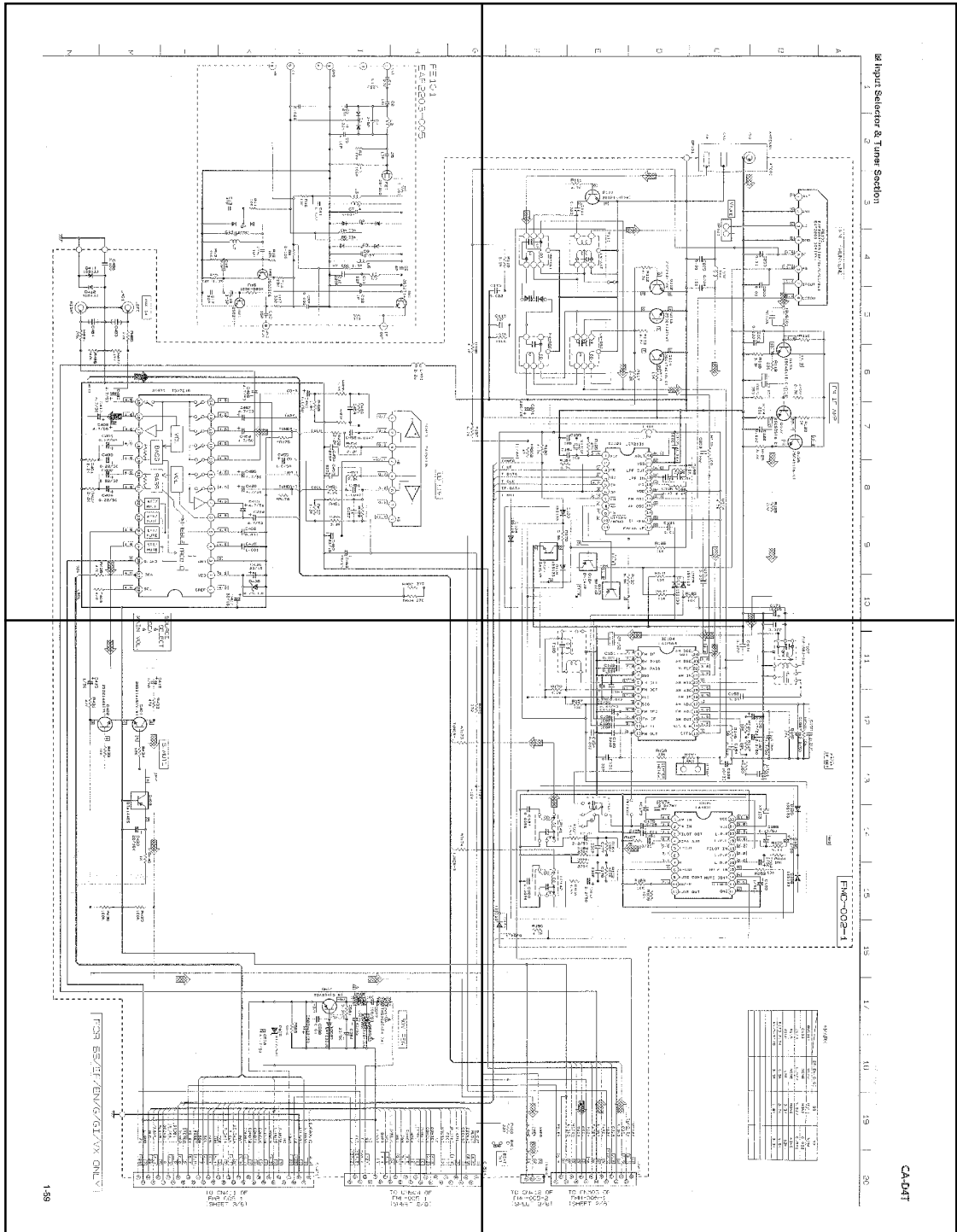






P1-59-a

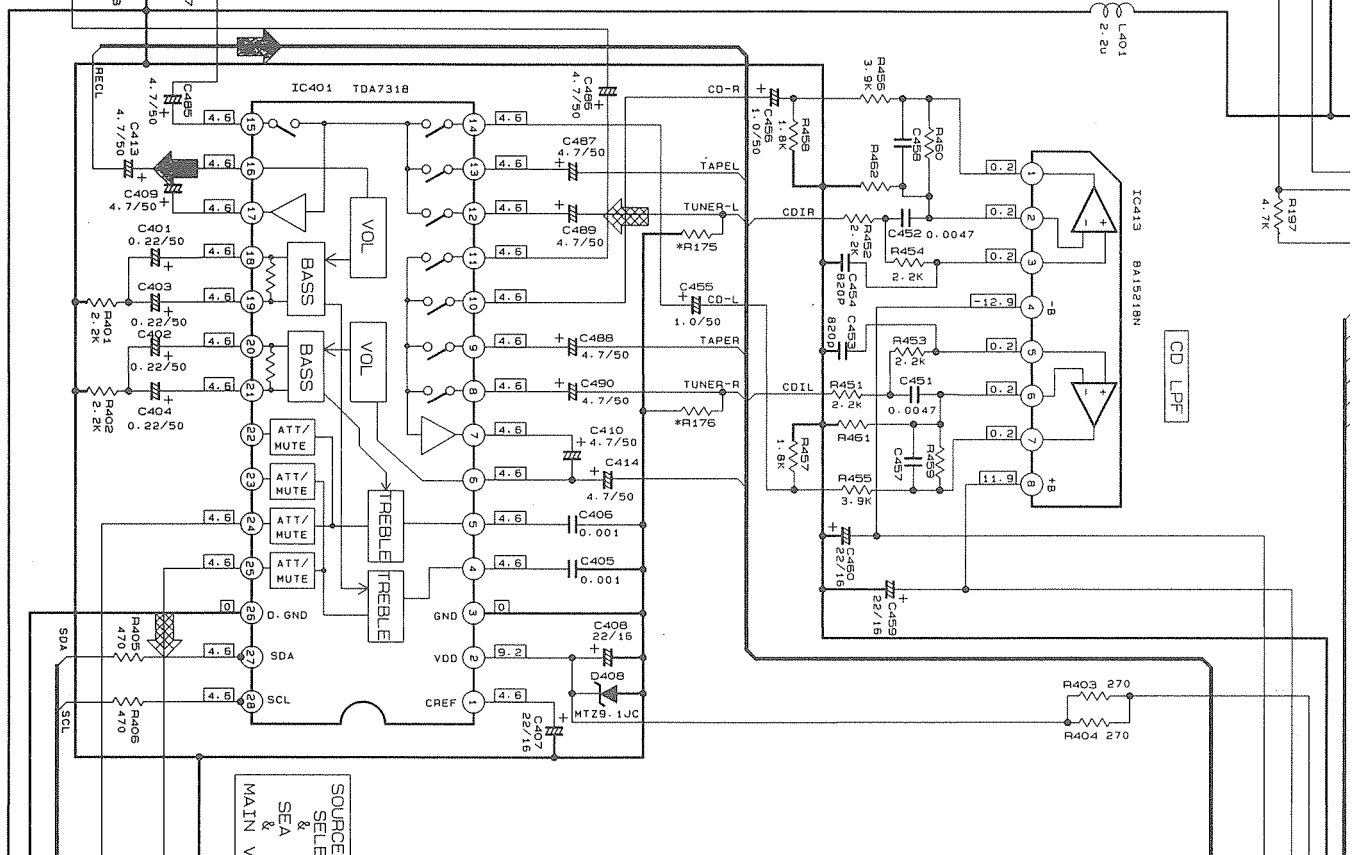
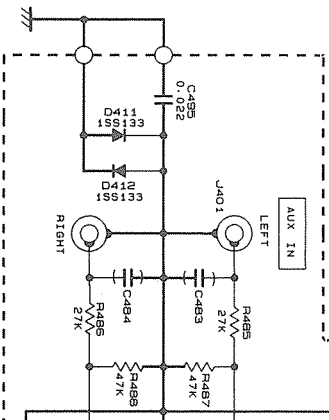
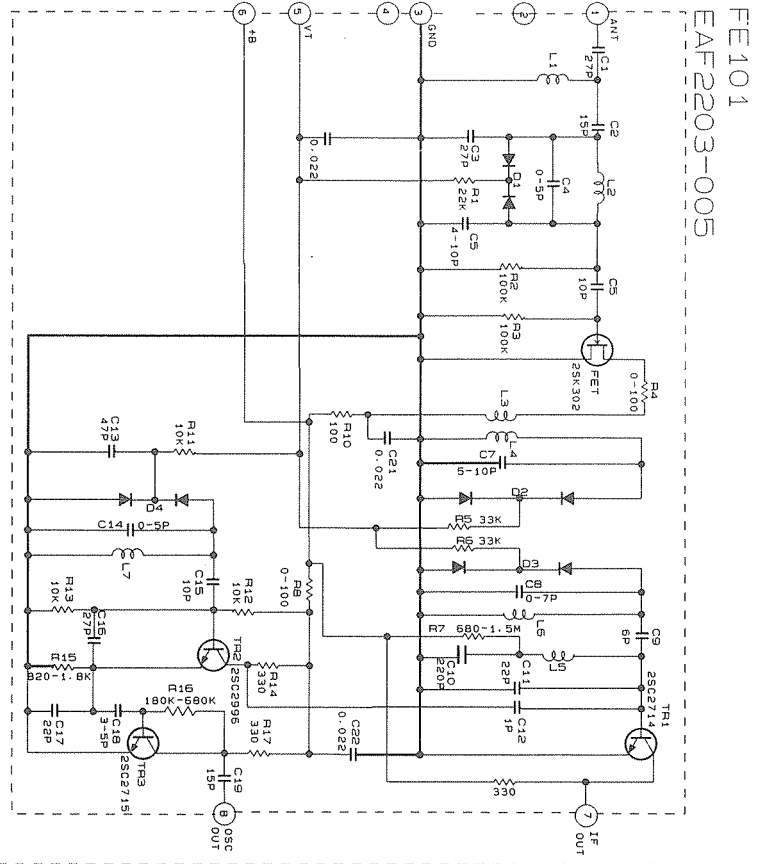
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P1-59-c

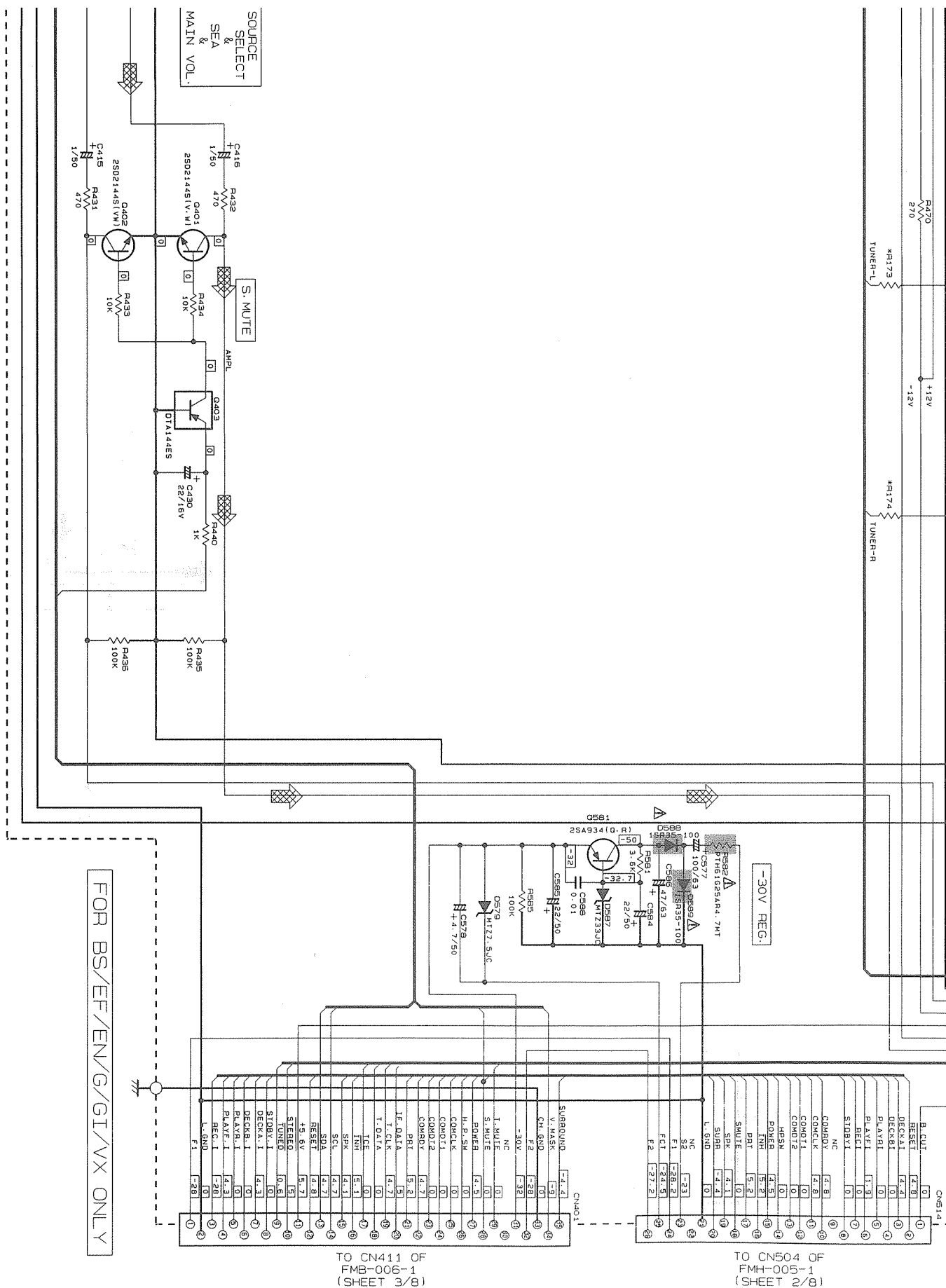
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FE101 EAF2203-005



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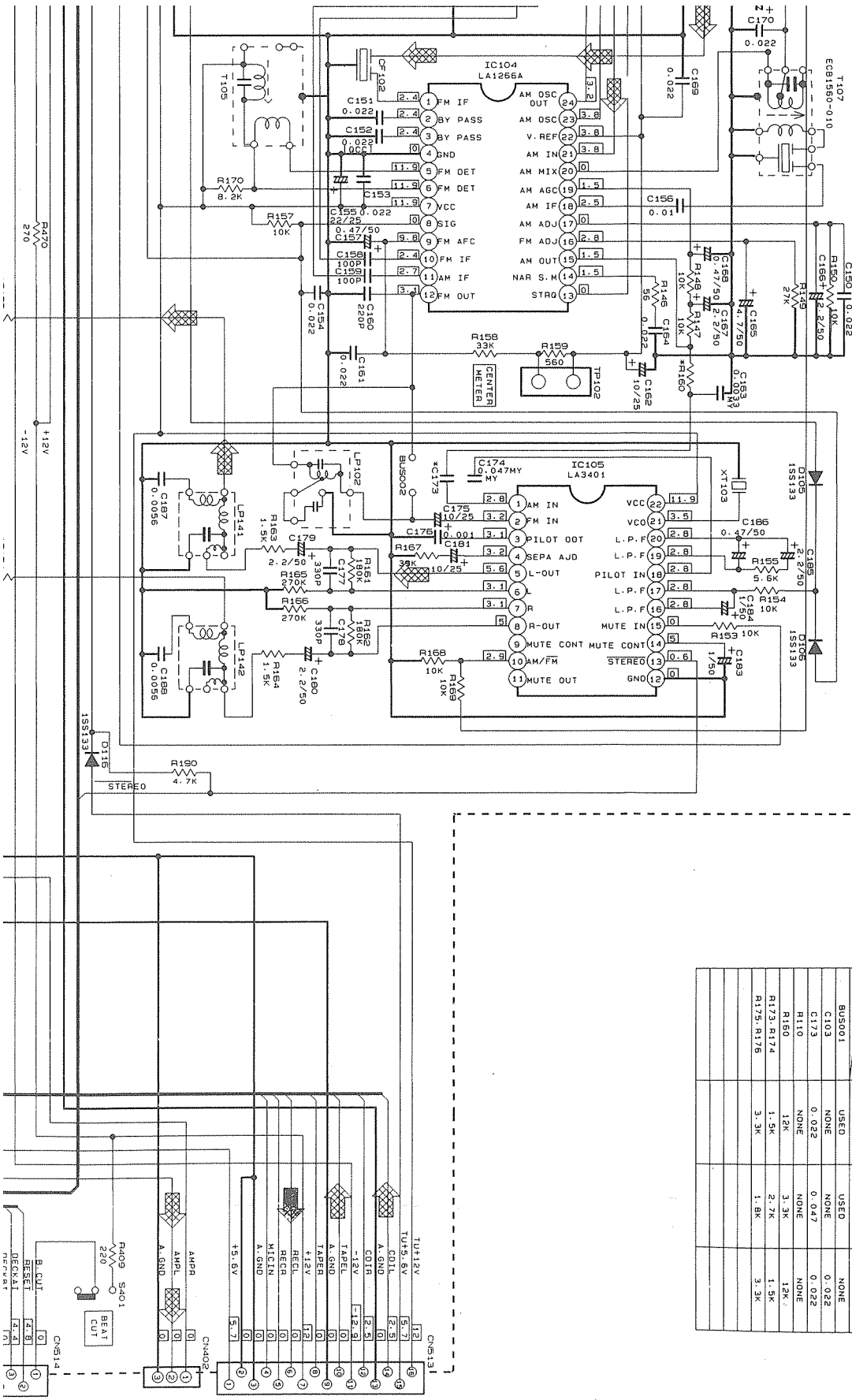
FMC-002-1

FM/AM
IF DET

MPX

*MARK

	EF-EN-6.61	BS	VX
BUS001	USED	USED	NONE
C103	NONE	NONE	0.022
C173	0.022	0.047	0.022
R110	NONE	NONE	12K
R160	12K	3.3K	1.5K
R173, R174	1.5K	2.7K	1.5K
R175, R176	3.3K	1.8K	3.3K



TO CN412 OF
FMH-005-2
(SHEET 2/8)

TO CN503 OF
FMH-005-1
(SHEET 2/8)

[illegible]

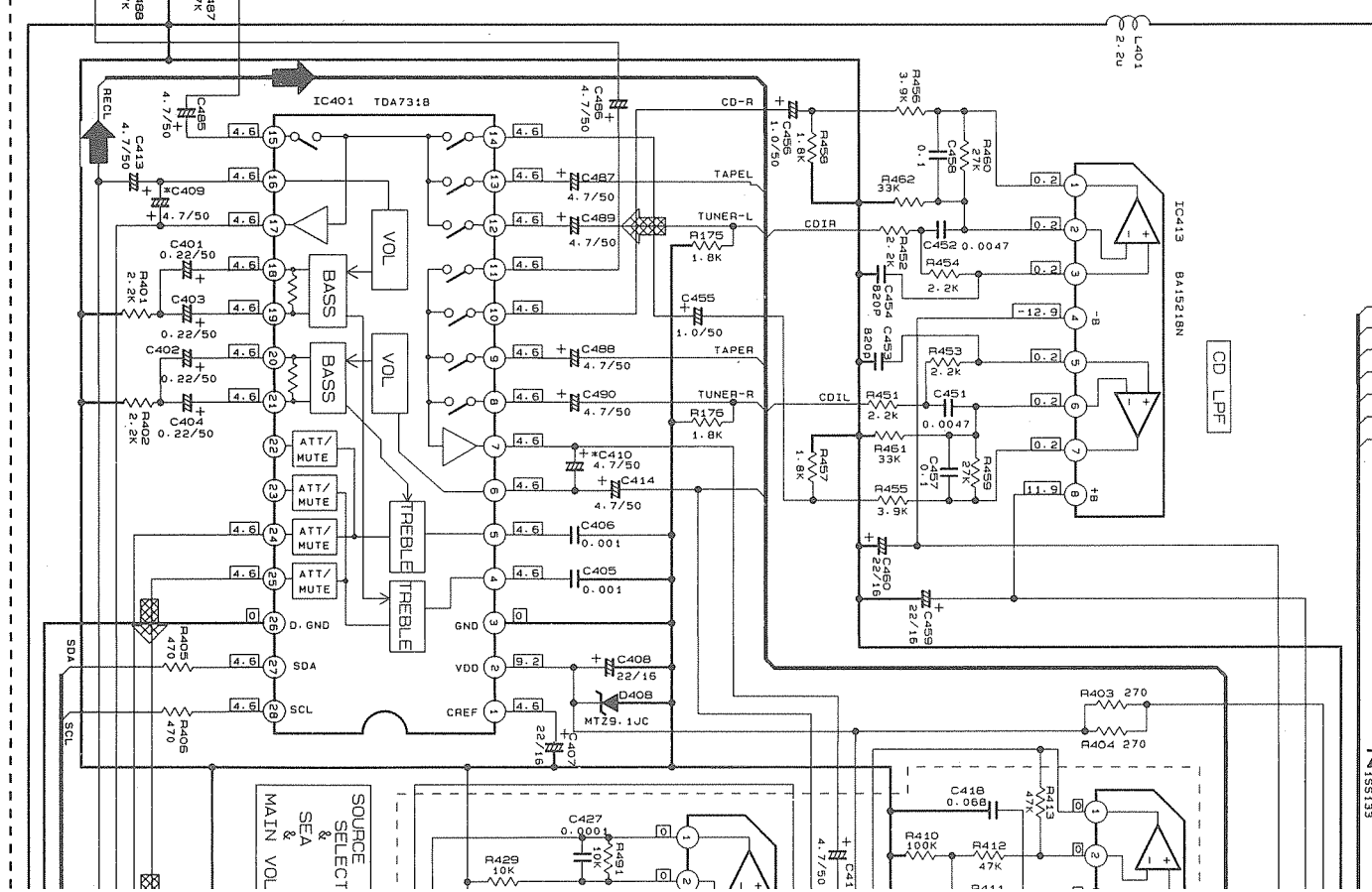
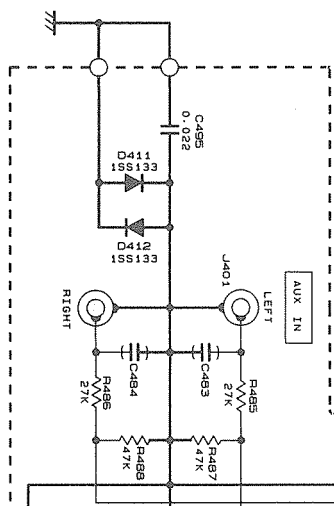
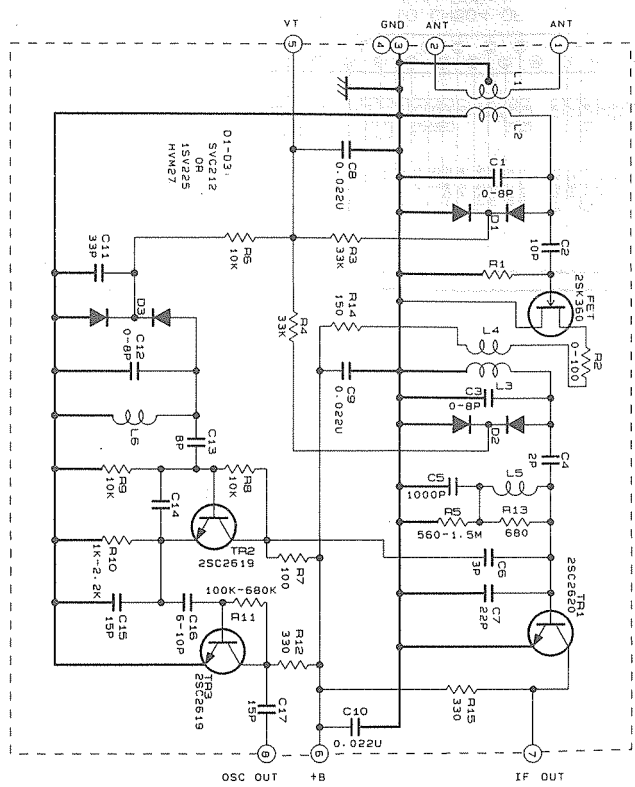
CA-DAT

Input Selector & Tune Section (For U, UT, UC, UB, UP, US)

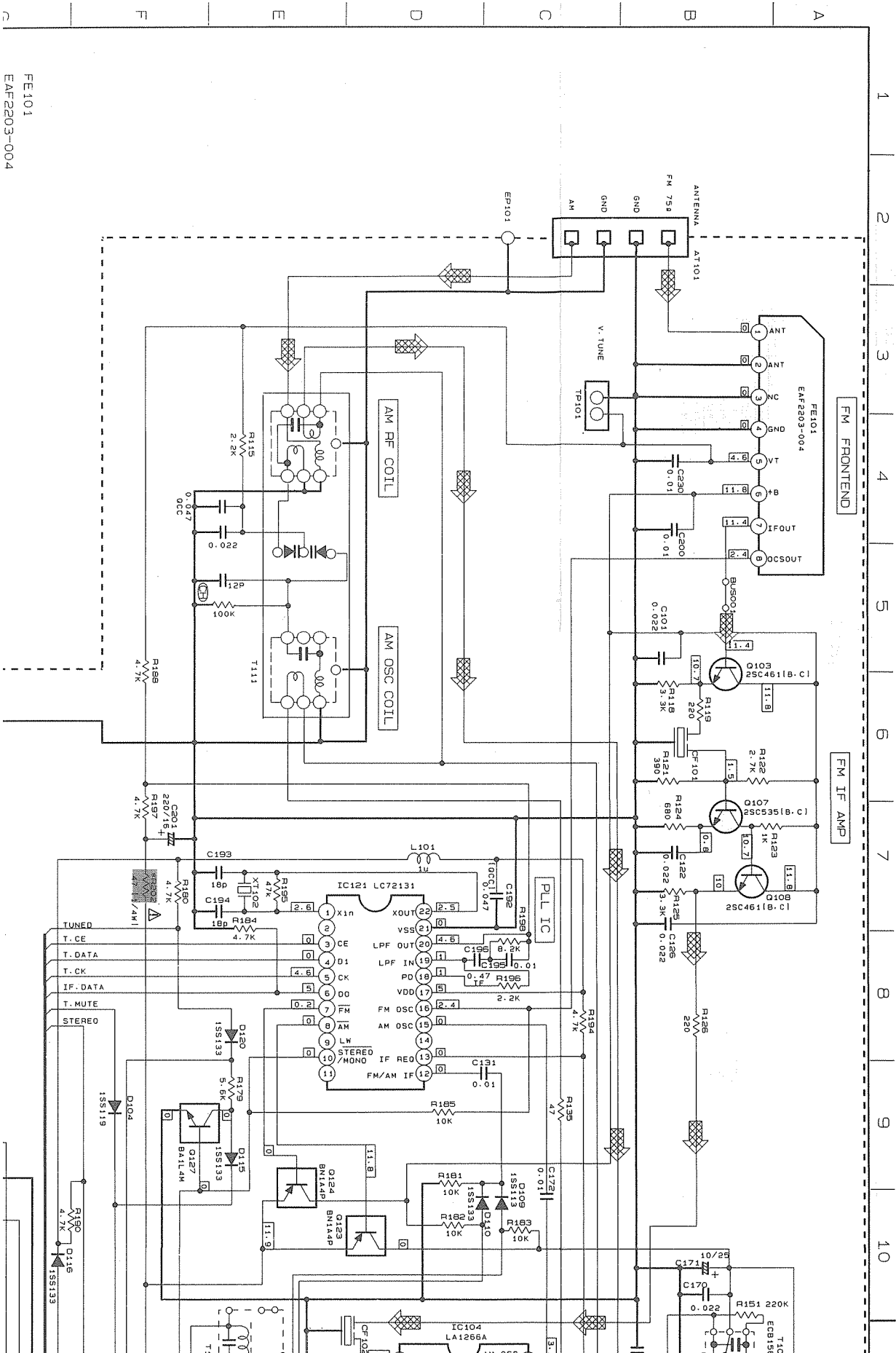


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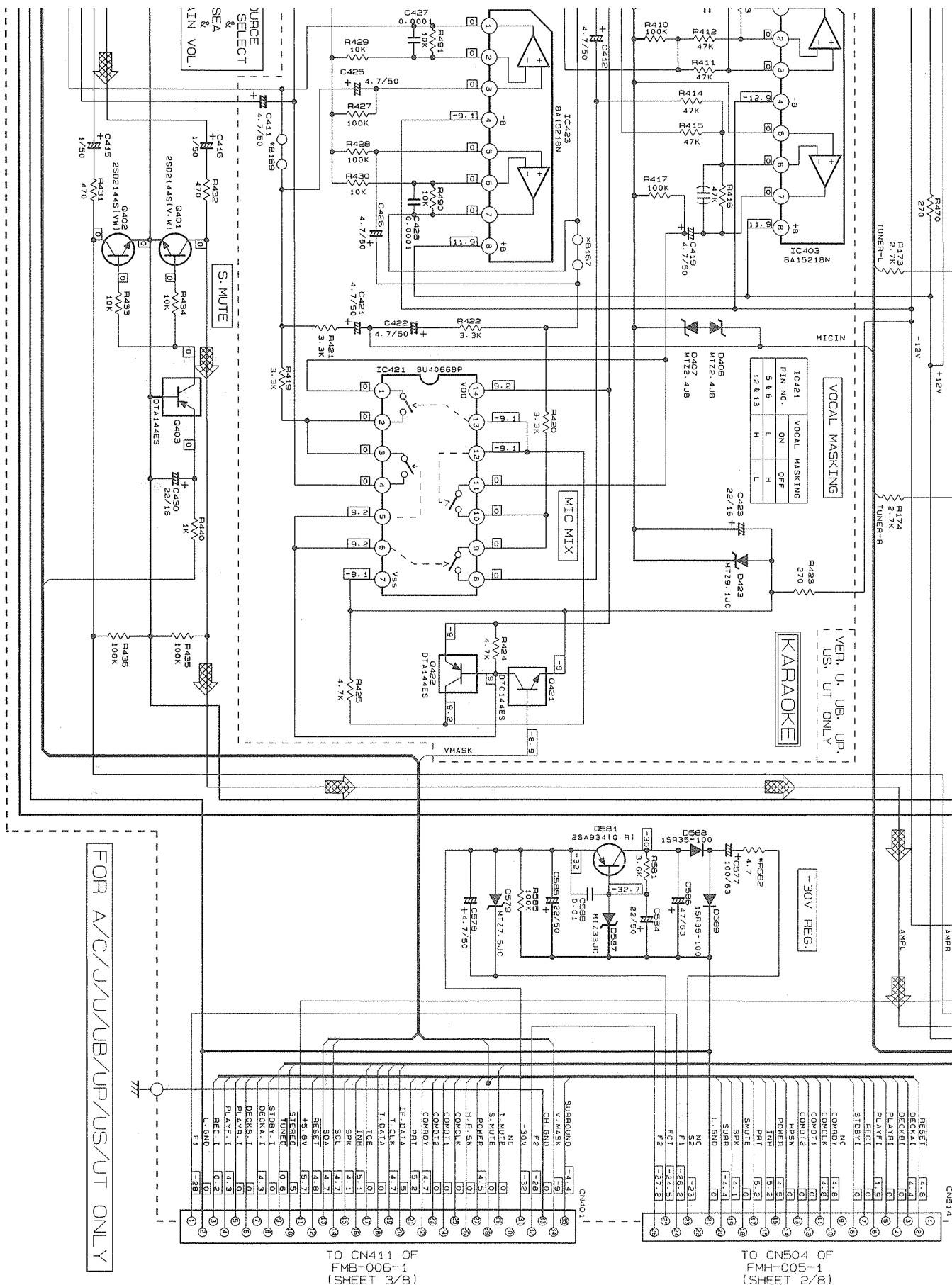
FE101
EAF2203-004

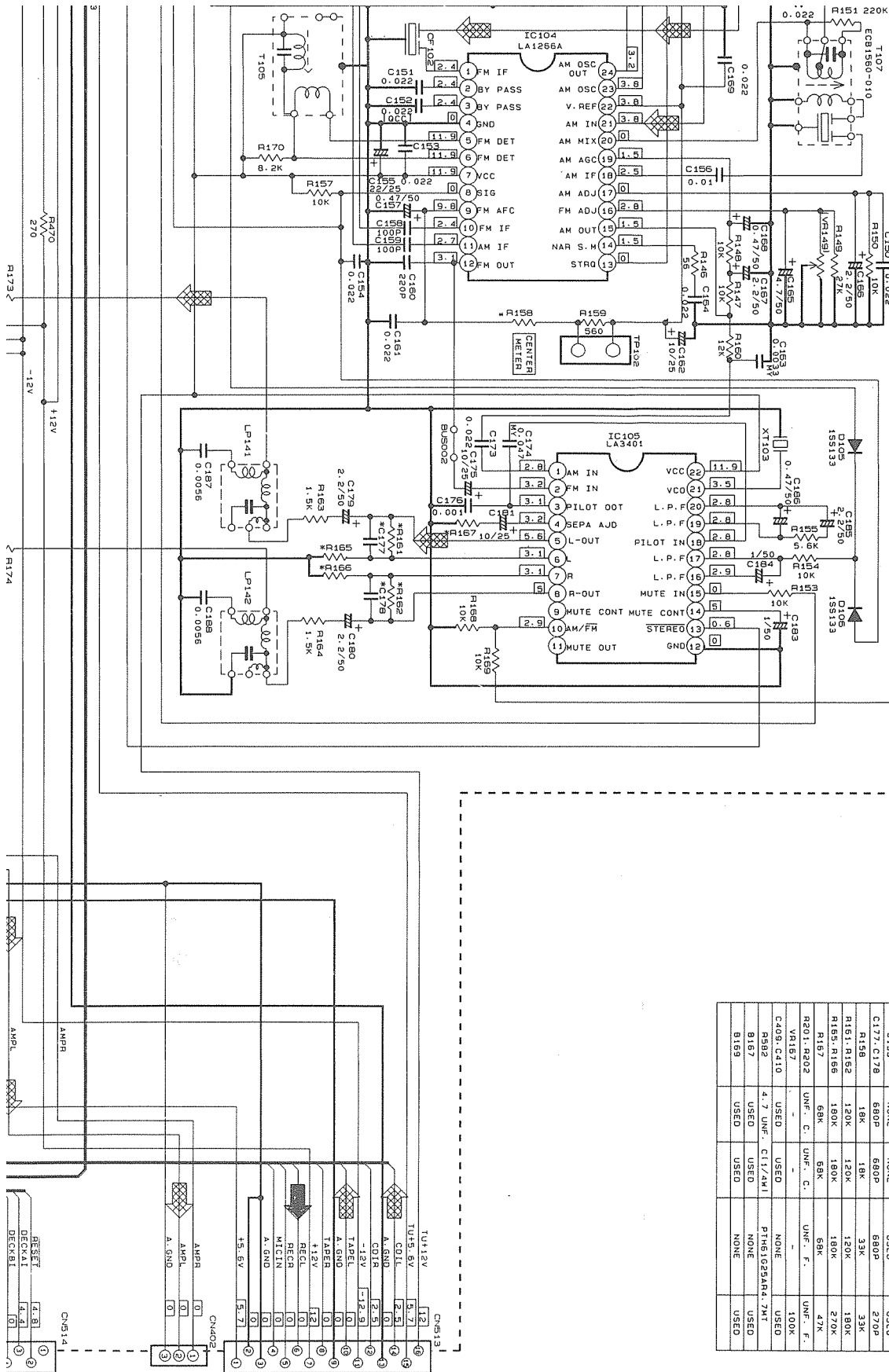


Input Selector & Tuner Section (For U, UT, UC, UB, UP, US)



FE101
EAF2203-004





FM/AM
IF DET

MPX

FMC-002-1

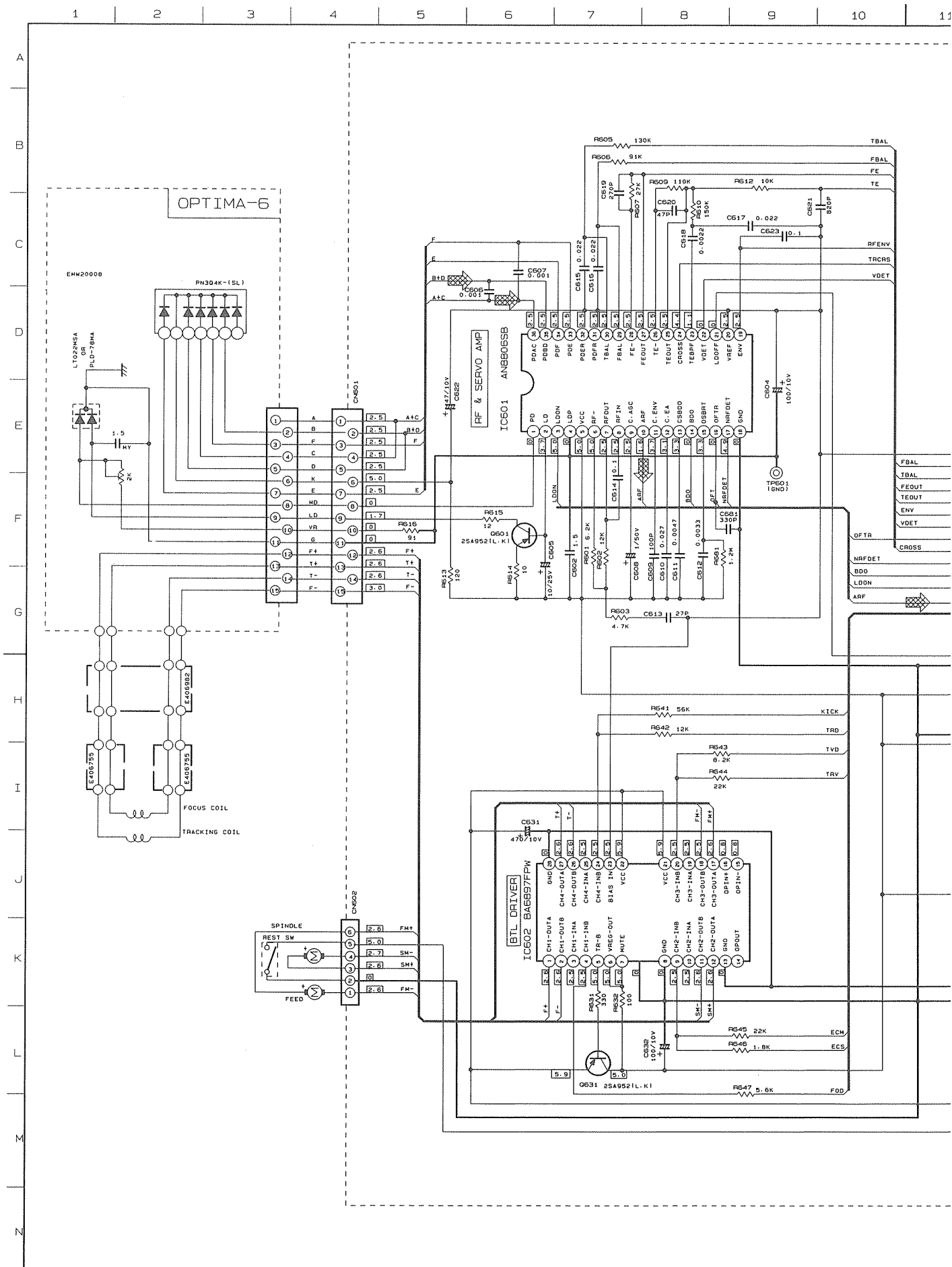
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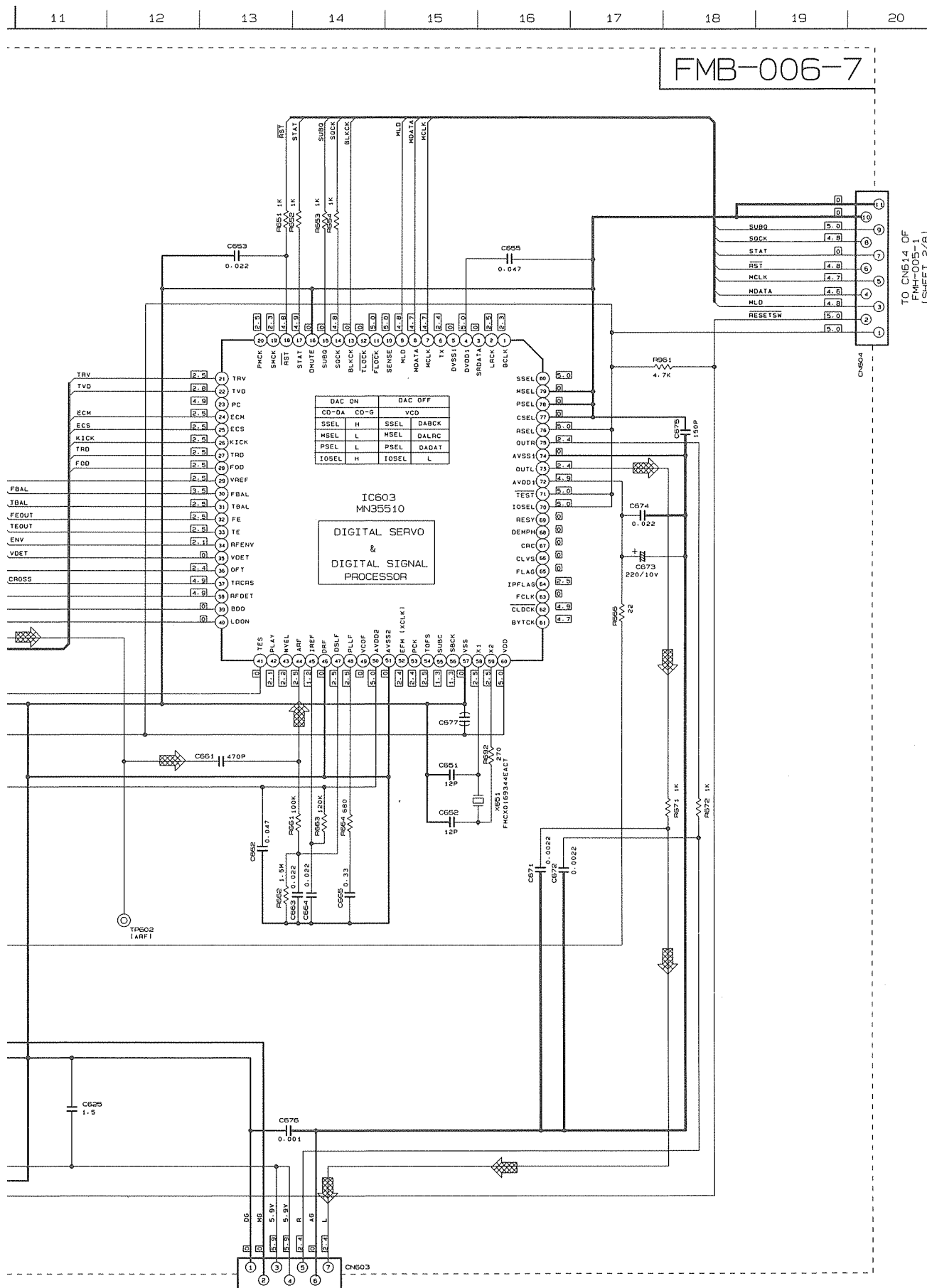
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C155	NONE	NONE	USED	USED
C177, C178	680P	680P	680P	270P
R158	18K	18K	33K	33K
R151, R152	120K	120K	180K	180K
R155, R156	180K	180K	180K	270K
R157	68K	68K	68K	47K
R201, R202	UNF. C.	UNF. C.	UNF. F.	UNF. F.
VR157	-	-	100K	100K
C409, C410	USED	USED	NONE	USED
R582	4.7 UNF. C11/4M1	USED	PTHE1G25AR4, 7M1	USED
B157	USED	USED	NONE	USED
B159	USED	USED	NONE	USED

TO CN412 OF
FMH-005-2
(SHEET 2/8)

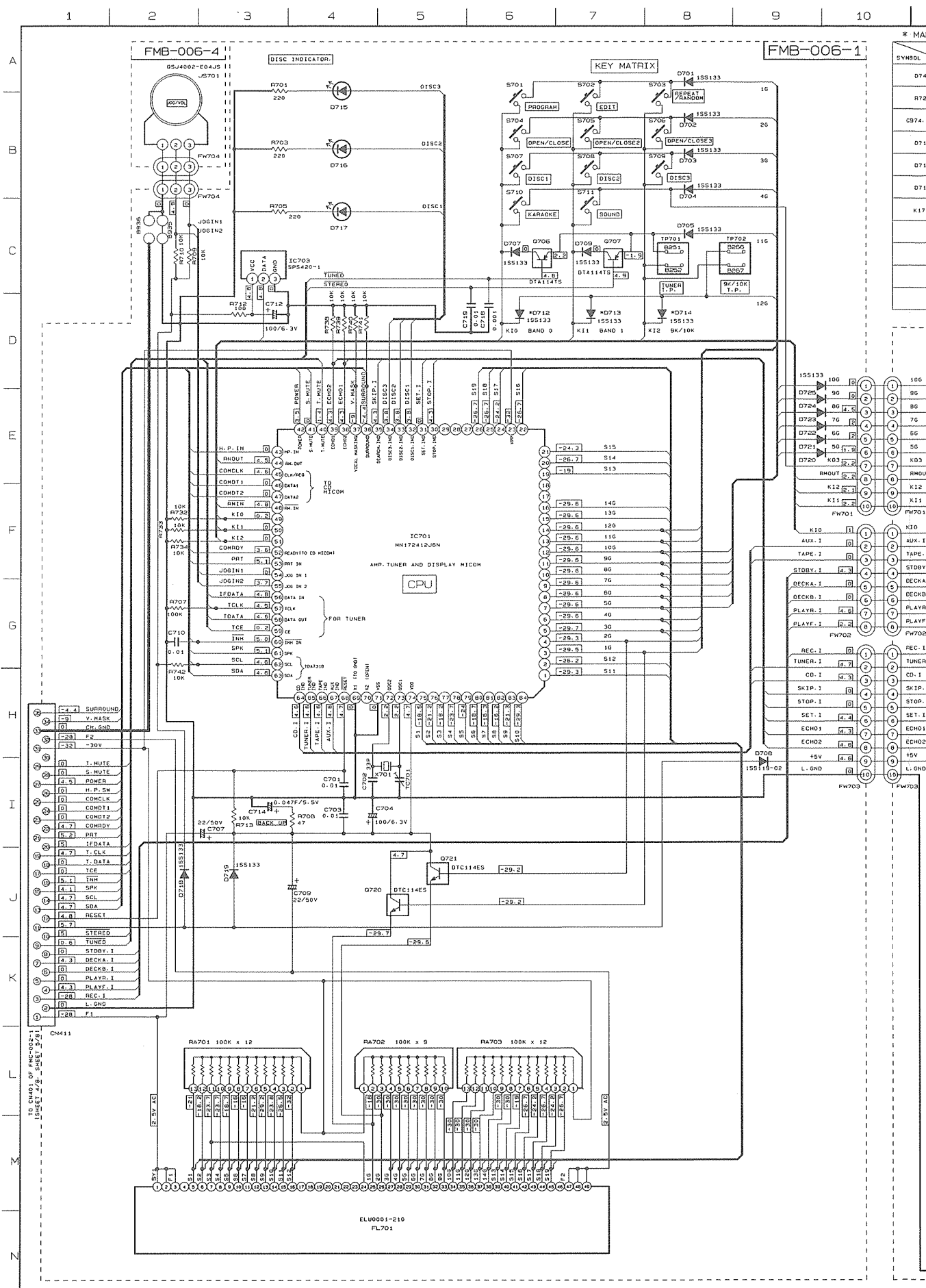
TO CN503 OF
FMH-005-1
(SHEET 2/8)

■ CD Section





■ **Front & MIK AMP (For U, UT, UC, UB, UP, US)**



* MARK

SYMBOL	VER	BS	G-GI-EP-EN-VX	OTHERS
D743	SLA-380LT47	SLR342VCA47	SLR342VCA47	
R729	470	220	220	
C974, C975	470P	470P	NONE	
D712	NONE	ONLY VX USED	ONLY U-UB-UP- US-UT USED	
D713	NONE	ONLY VX USED	ONLY C-J USED	
D714	NONE	NONE	ONLY A USED	
K1703	USED	USED	B1703 SHDRT	

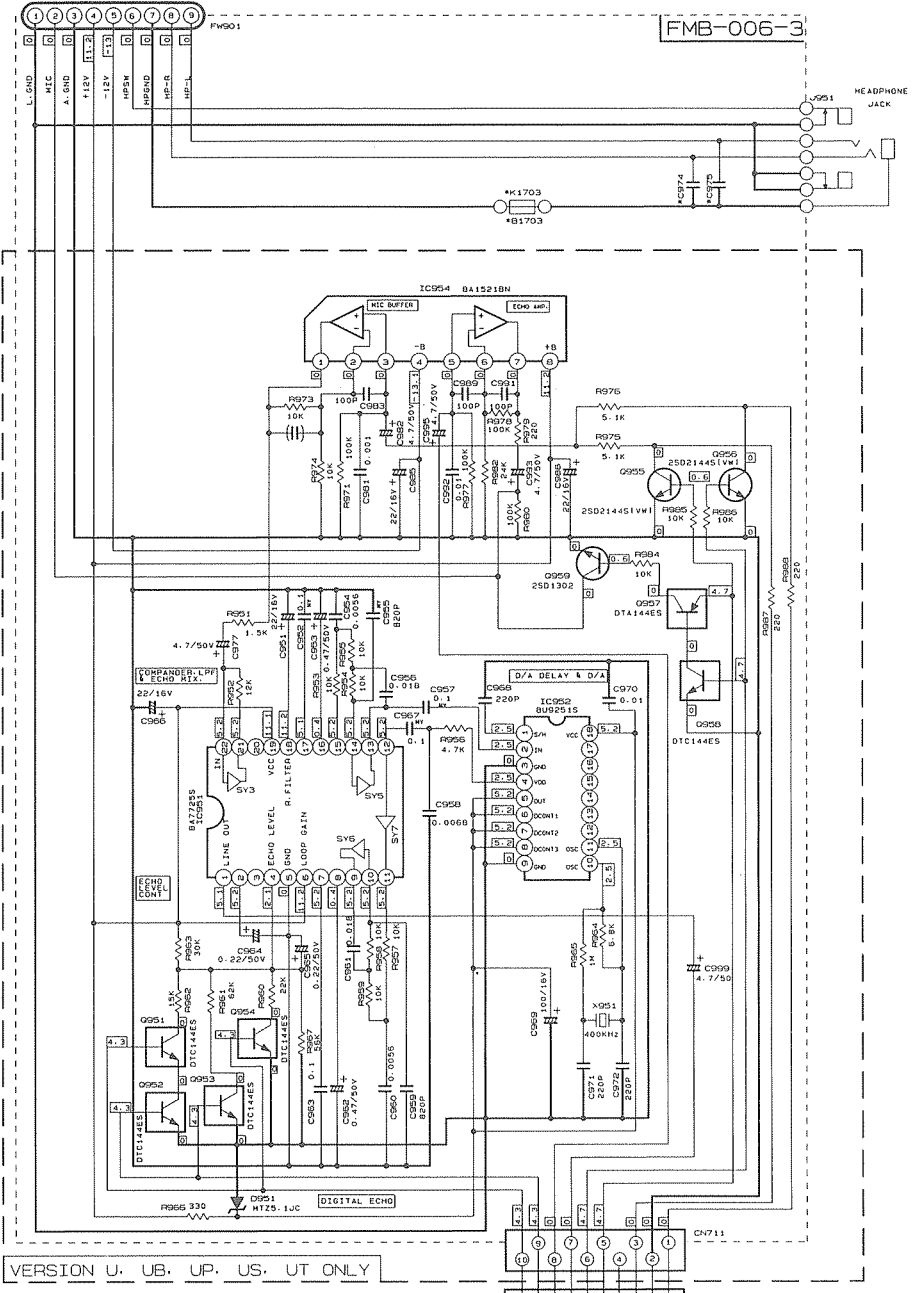
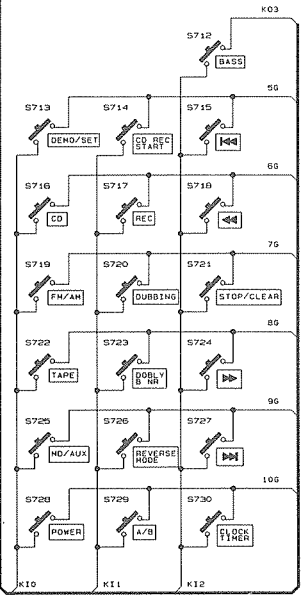
TO CH901 OF
PRE-005-1
(SHEET 2/81)

FMB-006-3

FMB-006-2

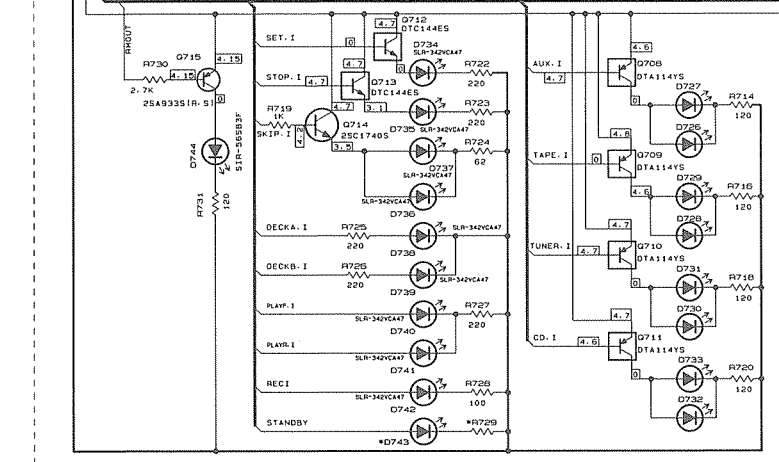
- 10G
- 9G
- 8G
- 7G
- 6G
- 5G
- X03
- RMOUT
- K12
- X11
- FW701
- K10
- AUX. I
- TAPE. I
- STDBY. I
- DECKA. I
- DECKB. I
- PLAYR. I
- PLAYF. I
- FW702
- REC. I
- TUNER. I
- CD. I
- SKIP. I
- STOP. I
- SET. I
- ECHO1
- ECHO2
- +5V
- L.GND
- FW703

KEY MATRIX

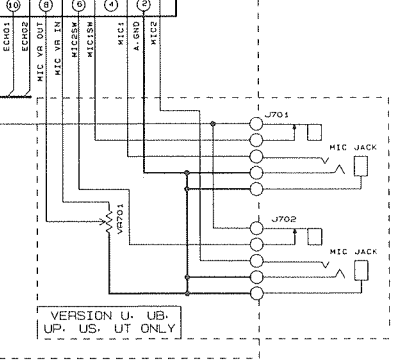


VERSION U. UB. UP. US. UT ONLY

VERSION U. UB.
UP. US. UT ONLY



SOURCE SELECT INDICATOR



■ Changer Mech. Control Section

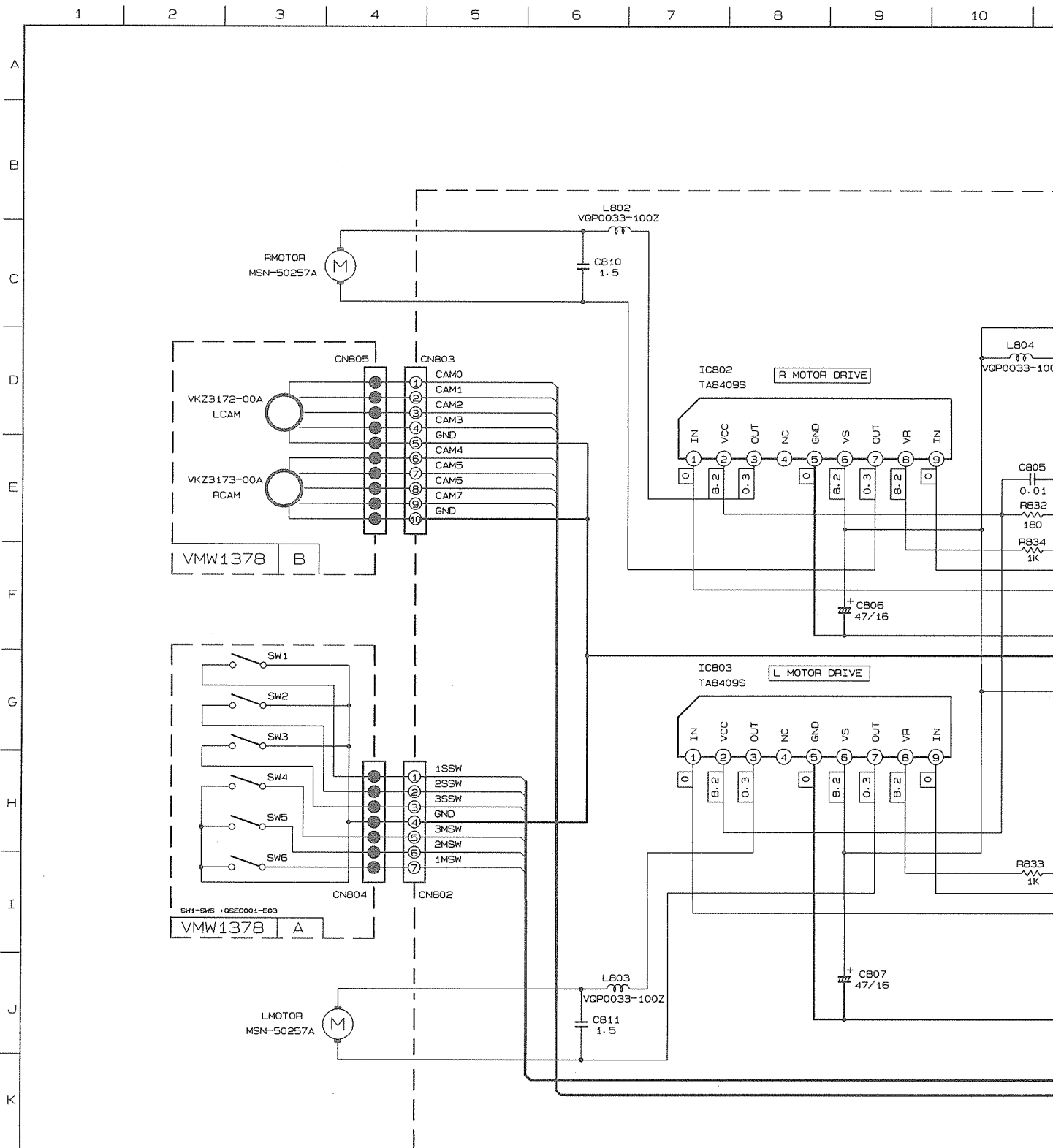


TABLE 1 CAM PATTERN LIST

CAM NO	LCAM				RCAM				POSITION
POSITION	0	1	2	3	4	5	6	7	POSITION
MAIN TRAY1	0	1	1	1	0	1	1	1	EMERGENCY
SUB TRAY1	0	0	1	1	0	1	1	0	TRAY1 STANDBY
CAM1	0	1	0	1	0	1	0	1	TRAY1 CHECKING
MAIN TRAY2	1	0	0	1	0	1	0	1	TRAY2 STANDBY
SUB TRAY2	1	1	1	0	0	0	1	1	TRAY2 CHECKING
CAM2	1	0	1	0	0	0	1	0	TRAY3 STANDBY
MAIN TRAY3	1	1	0	0	0	0	1	1	TRAY3 CHECKING
SUB TRAY3	1	0	0	0	0	0	1	1	TRAY3 STANDBY
OFF	1	1	1	1	0	1	1	1	OFF

0=0V
1=5V

11

12

13

14

15

16

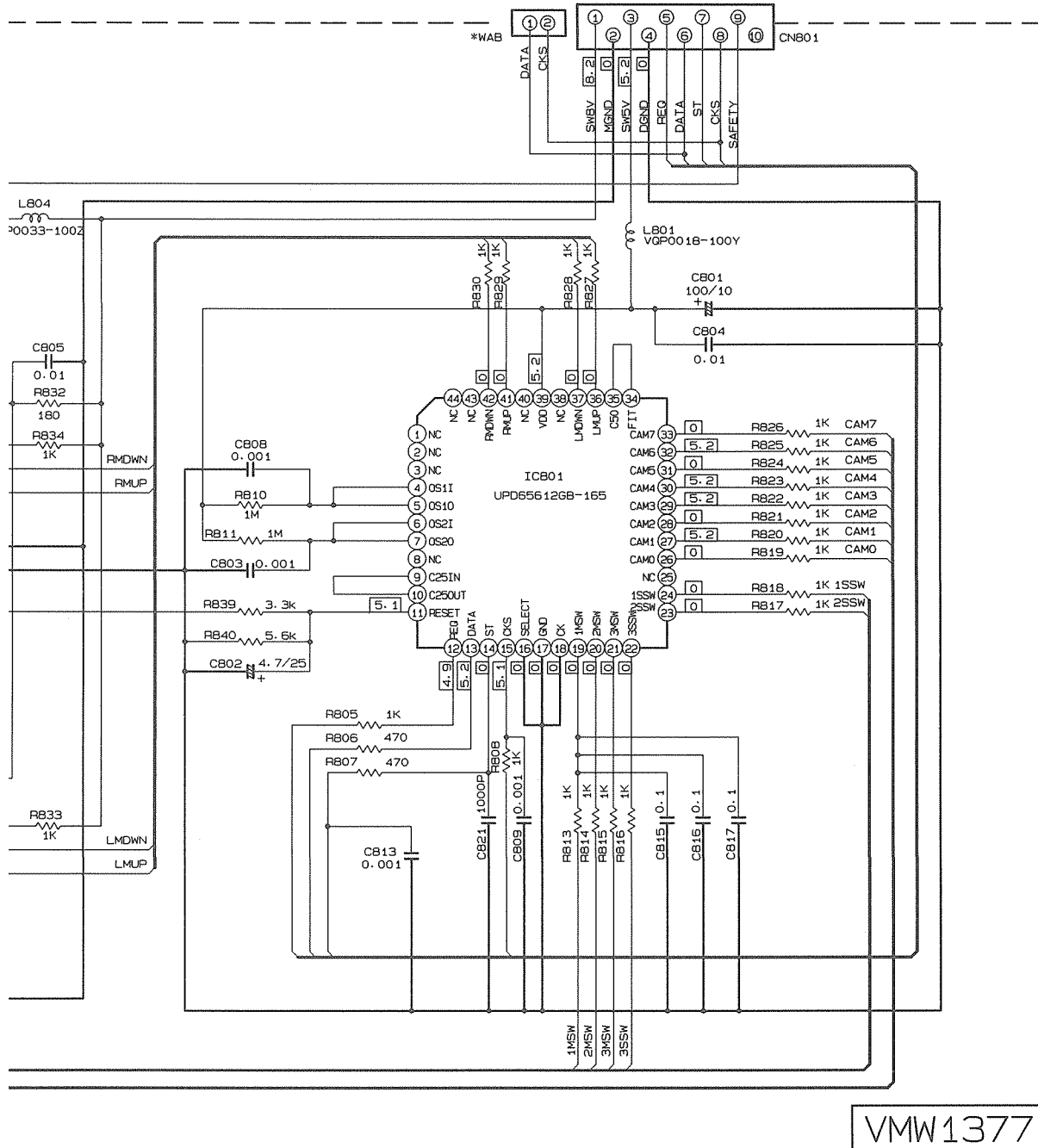
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18

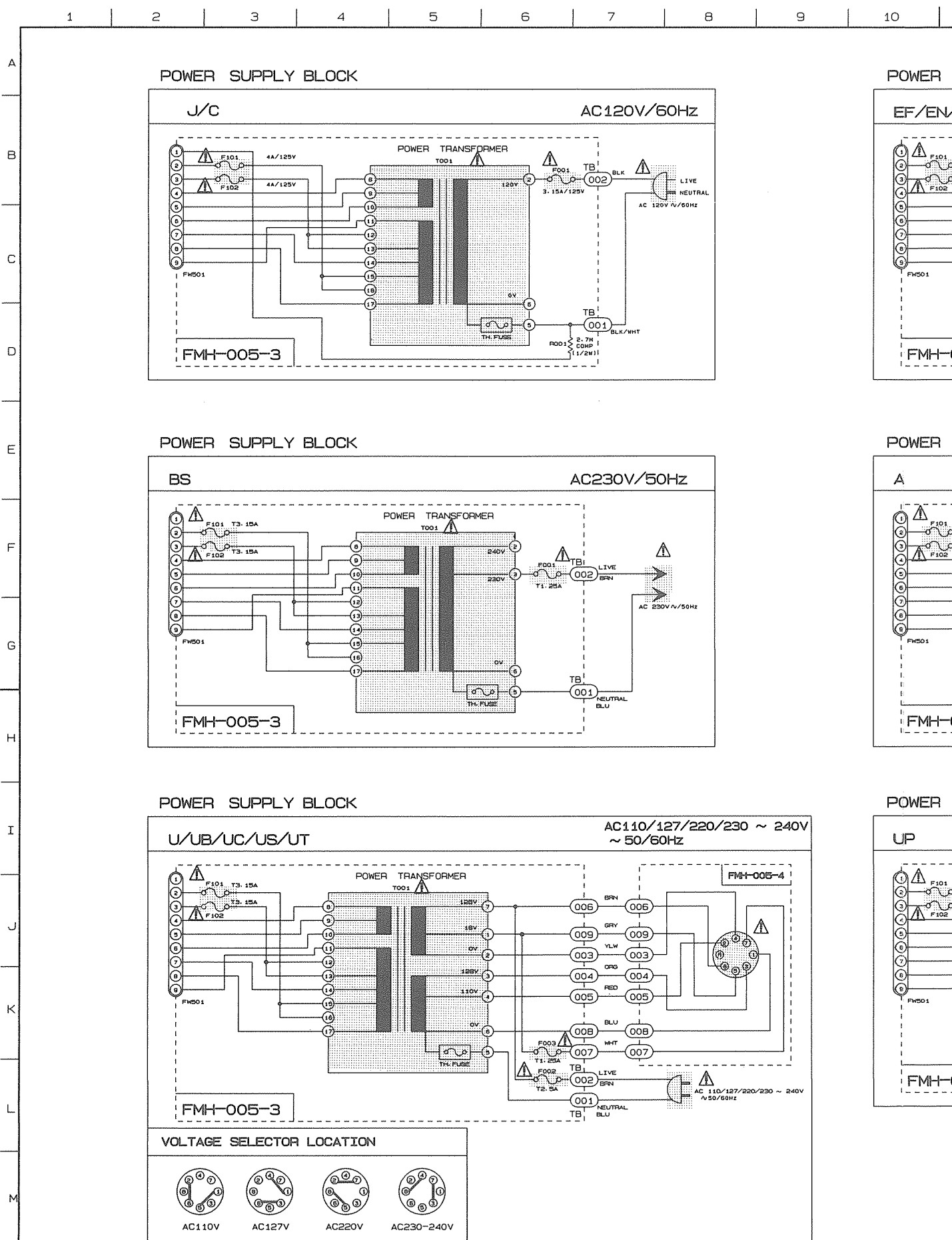
19

20

TO CN811 OF
FMH-005-1
(SHEET 2/8)



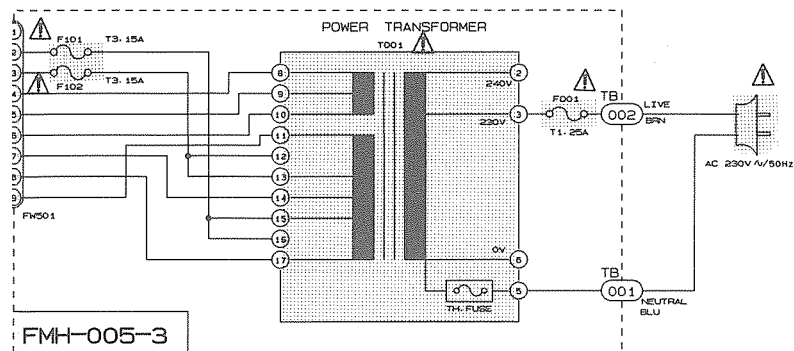
■ Power Supply BLOCK.



POWER SUPPLY BLOCK

EF/EN/G/GI/VX

AC230V/50Hz

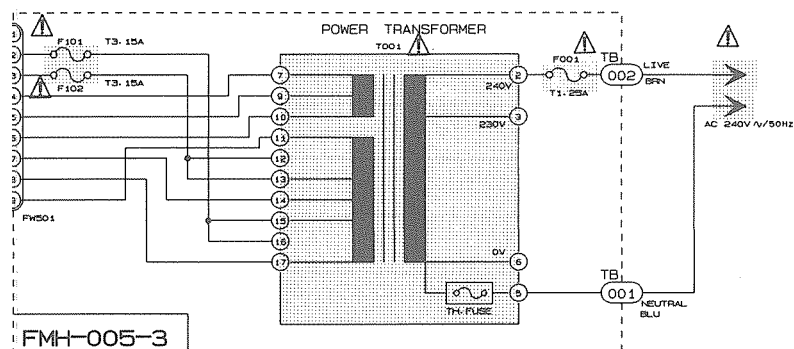


VERSION CODES:

J : U. S. A.
 C : CANADA
 EN : NORDIC COUNTRIES
 EF : CONTINENTAL EUROPE EXCEPT GERMANY AND ITALY
 G : GERMANY
 GI : ITALY
 VX : EASTERN EUROPE
 BS : U. K.
 A : AUSTRALIA
 UP : KOREA
 UB : HONG KONG
 US : SINGAPORE
 UT : TAIWAN
 U : UNIVERSAL EXCEPT ALL OF ABOVE

POWER SUPPLY BLOCK

AC240V/50Hz



EXPLANATION OF OVERALL SCHEMATIC

MODEL CA-D4T

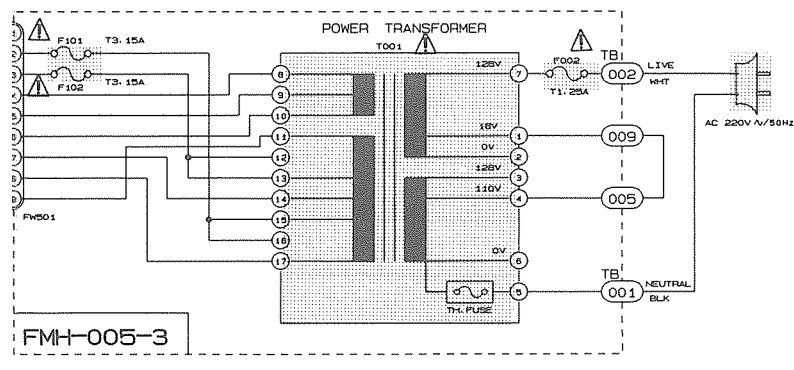
SHEET NUMBER	MODEL NUMBERS	CIRCUITS DESCRIPTION
1/8	CA-D4T	PRIMARY WITH MAINS TRANSFORMER
2/8	CA-D4T	• DECK/CD CONTROL MICOM • POWER AMPLIFIER • DC REGULATORS
3/8	CA-D4T	• AMP. TUNER AND DISPLAY CONTROL MICOM • FL AND USER CONTROL KEYS • DIGITAL ECHO (ONLY FOR U/UB/UP/US/UT)
4/8	CA-D4T	• TUNER RF/IF/FM MULTIPLEX (ONLY FOR A/C/J/U/UB/UP/US/UT) • SIGNAL INPUT JACK, SOURCE SELECT, SEA AND MAIN VOL. • KARAOKE (ONLY FOR U/UB/UP/US/UT) • -30V REGULATOR
5/8	CA-D4T	• TUNER RF/IF/FM MULTIPLEX (ONLY FOR BS/EF/EN/G/GI/VX) • SIGNAL INPUT JACK, SOURCE SELECT, SEA AND MAIN VOL. • -30V REGULATOR
6/8	CA-D4T	MISCELLANEOUS CIRCUIT FOR TAPE DECK SUCH AS AMPLIFIER, SWITCH, BIAS AND OTHERS
7/8	CA-D4T	DIGITAL SERVO AND DIGITAL SIGNAL PROCESSOR FOR CD
8/8	CA-D4T	CD MECHANISM CONTROL

NOTES:

1. MARK (*) IS TO SHOW DEVIATION IN VERSIONS.
 DETAILS ARE EXPLAINED NEAR THE MARK.

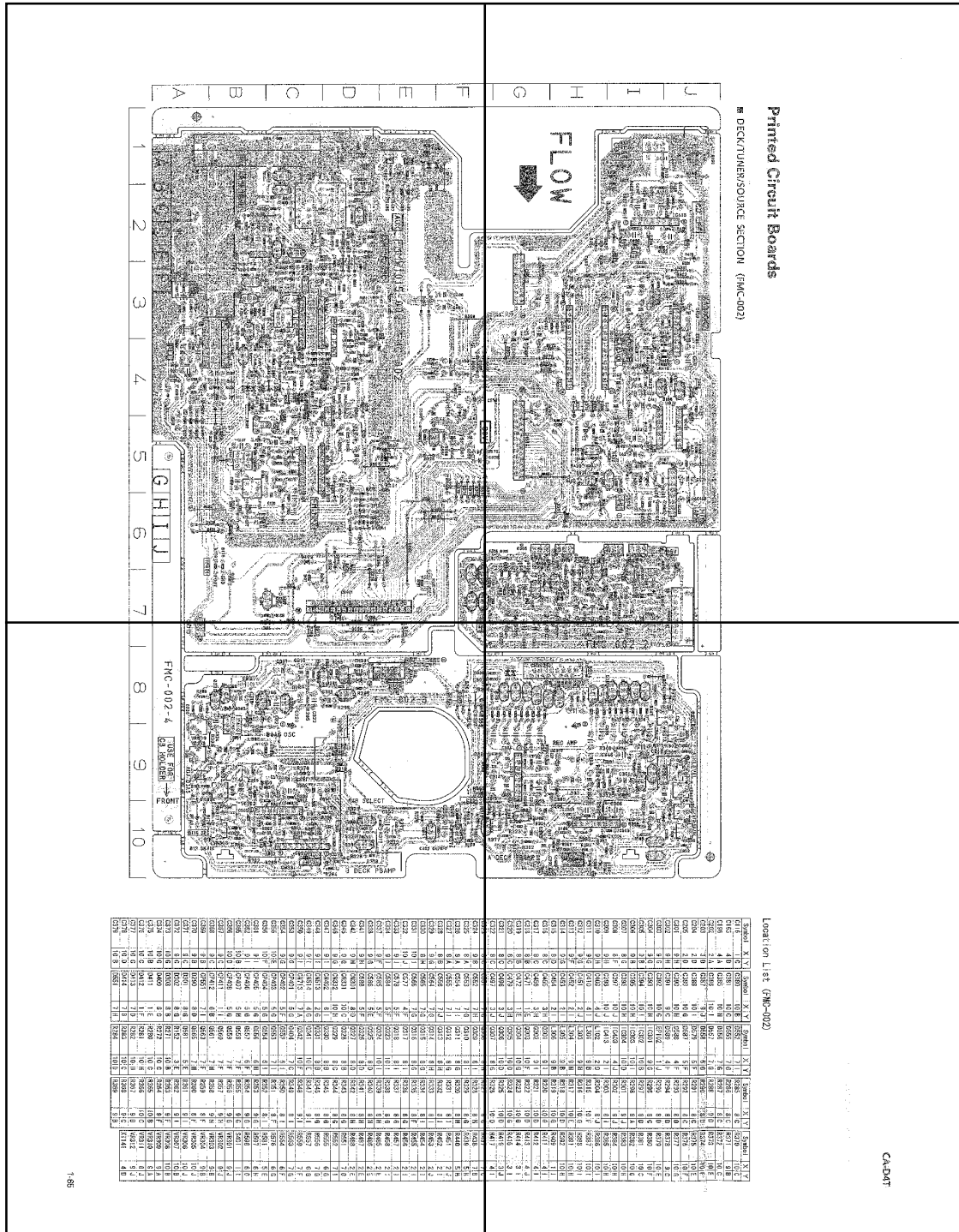
POWER SUPPLY BLOCK

AC220V/50Hz



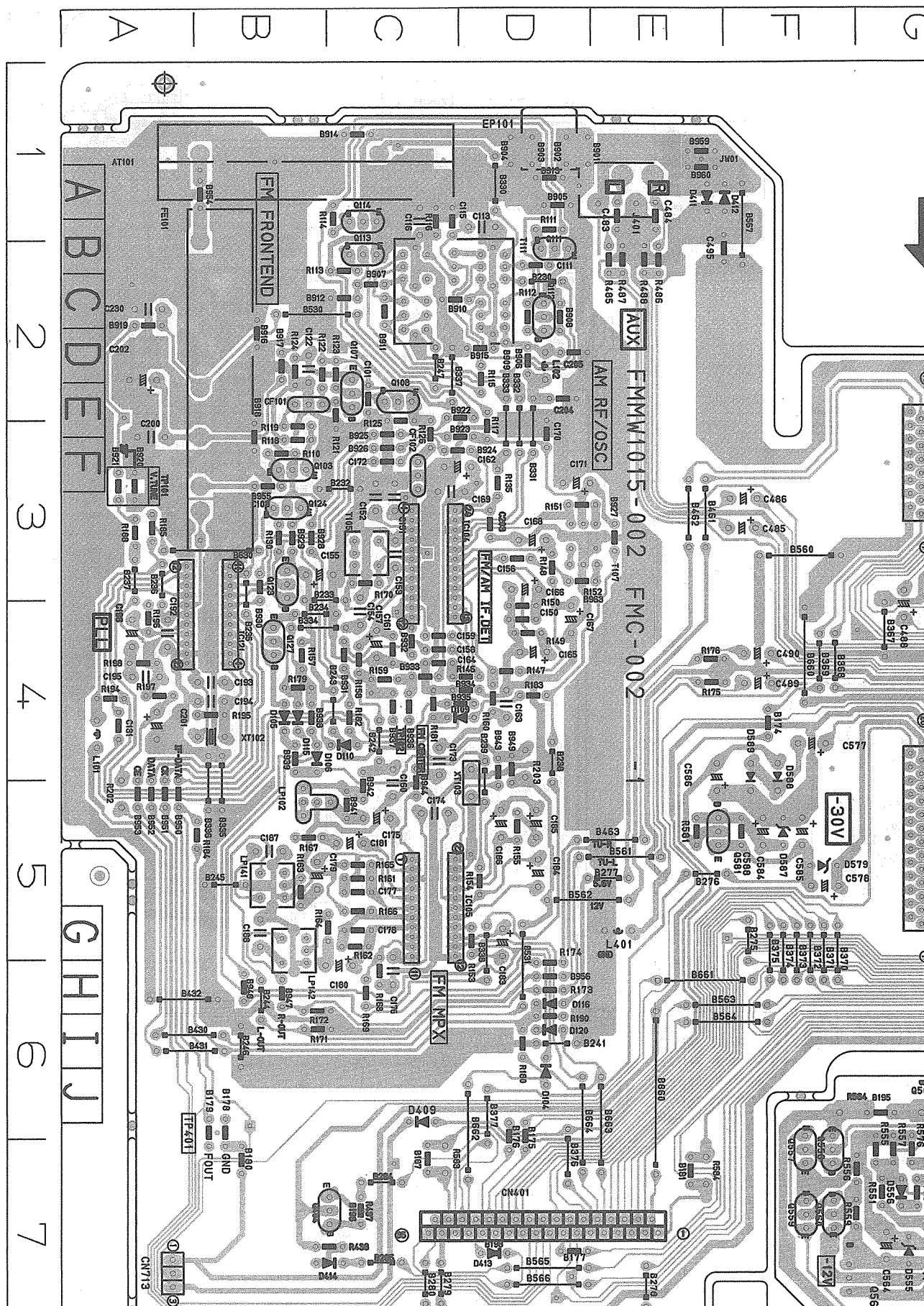
P1-65-a

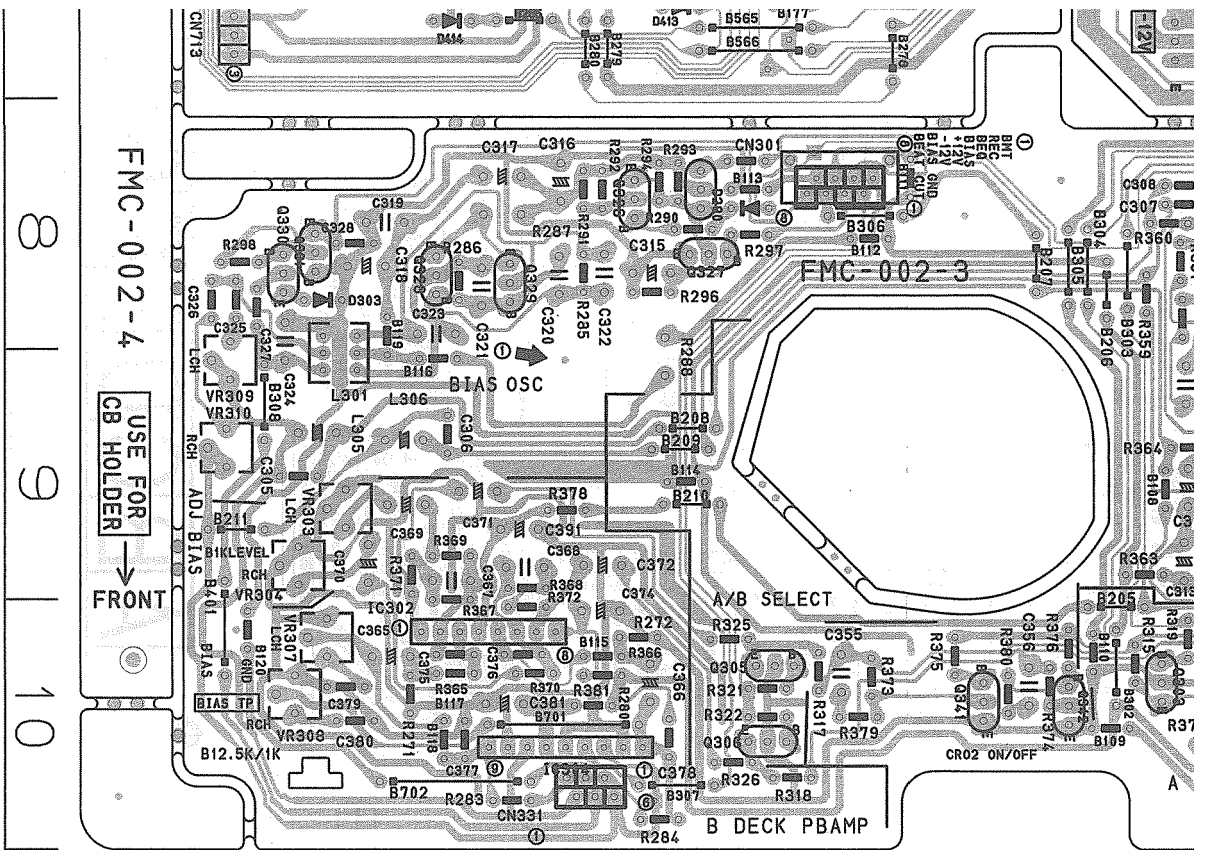
P1-65-b



P1-65-c

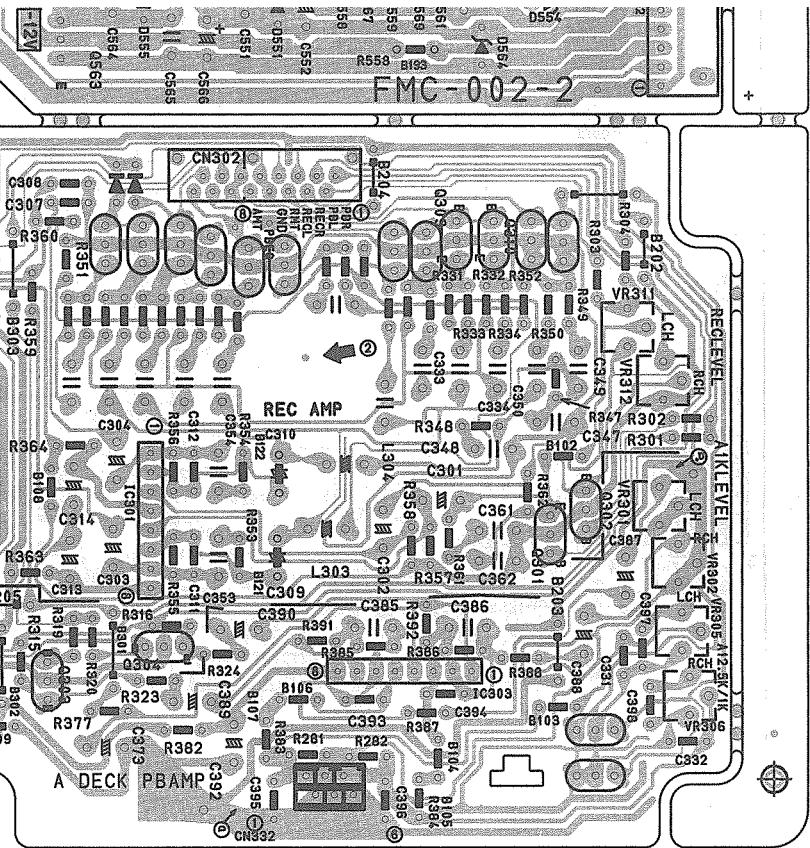
P1-65-d





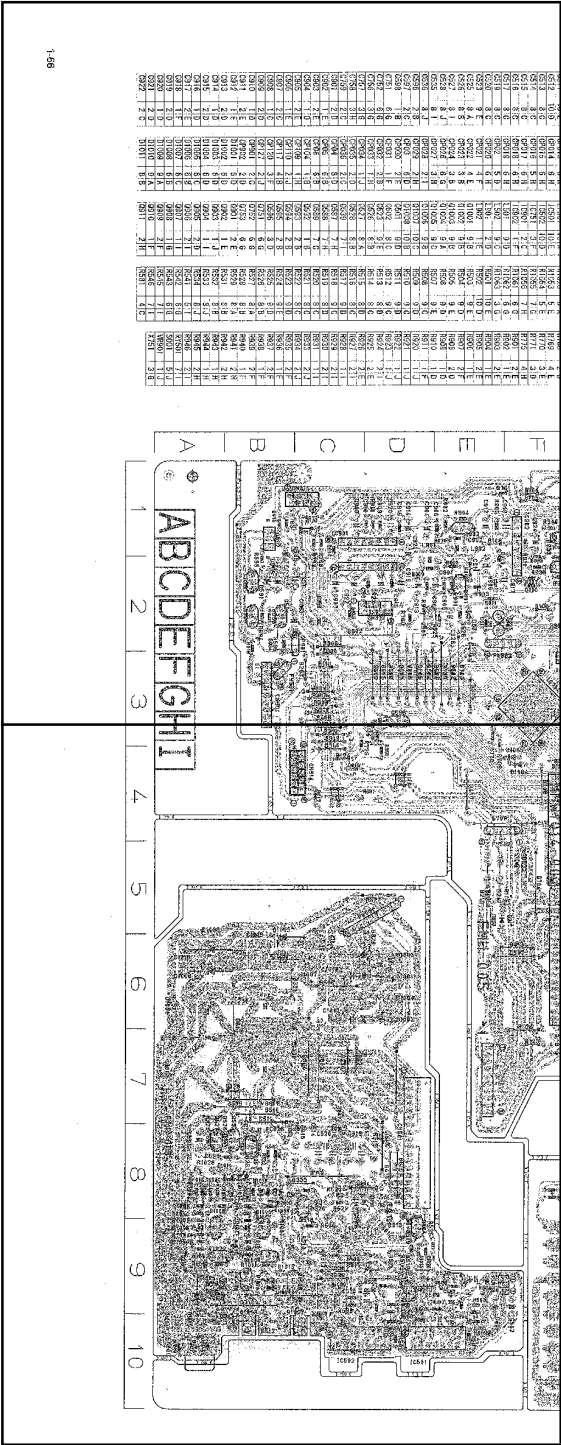
C322	8 C	C497	3 J	Q307	8 G	R326	10 D	R417	4 I
C323	8 C	C551	7 G	Q308	8 H	R327	8 G	R437	7 C
C324	9 B	C552	7 H	Q309	8 I	R328	8 H	R438	7 B
C325	8 A	C553	7 G	Q310	8 I	R329	8 G	R439	5 H
C326	8 A	C554	7 I	Q311	8 G	R330	8 H	R440	5 H
C327	8 A	C555	7 I	Q312	8 G	R331	8 I	R451	2 J
C328	8 B	C556	7 J	Q313	8 H	R332	8 I	R452	2 I
C329	9 G	C564	7 G	Q314	8 H	R333	8 I	R453	2 J
C330	8 H	C565	7 G	Q315	8 G	R334	8 I	R454	2 I
C331	10 I	C566	7 G	Q316	8 G	R335	8 F	R455	2 I
C332	10 J	C577	4 F	Q317	8 I	R336	8 G	R456	2 I
C333	9 I	C578	5 F	Q318	8 I	R337	8 G	R457	2 I
C334	9 I	C584	5 F	Q323	10 I	R338	8 G	R458	2 I
C337	9 F	C585	5 F	Q324	10 I	R339	8 H	R485	2 E
C338	9 G	C586	5 E	Q325	8 D	R340	8 H	R486	2 E
C341	9 H	C588	5 F	Q326	8 D	R341	8 H	R487	2 E
C342	9 H	CN301	8 D	Q327	8 D	R342	8 H	R488	2 E
C345	9 G	CN331	10 C	Q328	8 B	R343	8 G	R551	7 G
C346	9 G	CN332	10 H	Q329	8 C	R344	8 G	R552	7 I
C347	9 I	CN402	6 I	Q330	8 B	R345	8 G	R555	6 G
C348	9 I	CN513	2 G	Q331	8 B	R346	8 G	R556	7 G
C349	9 I	CN514	4 G	Q341	10 E	R347	9 I	R557	6 G
C350	9 I	CN713	7 A	Q342	10 F	R348	9 I	R559	7 F
C353	9 G	CP401	5 G	Q404	7 C	R349	8 I	R563	7 G
C354	9 G	CP402	5 F	Q552	6 I	R350	8 I	R564	6 F
C355	10 E	CP403	5 G	Q553	7 I	R351	8 F	R576	6 G
C356	10 F	CP404	5 G	Q554	6 I	R352	8 I	R581	5 E
C361	9 I	CP405	5 G	Q556	6 H	R353	9 G	R597	6 H
C362	9 I	CP406	5 G	Q557	6 F	R354	9 G	R598	6 G
C365	10 B	CP407	5 H	Q558	7 F	R355	9 G	S401	1 I
C366	10 D	CP408	5 G	Q559	7 F	R356	9 G	VR301	9 J
C367	9 C	CP411	1 I	Q560	7 F	R357	9 H	VR302	9 J
C368	9 C	CP412	6 B	Q561	7 H	R358	9 H	VR303	9 B
C369	9 B	CP551	7 I	Q563	7 F	R359	8 F	VR304	9 B
C370	9 B	D290	8 D	Q565	7 H	R360	8 F	VR305	10 J
C371	9 C	D301	8 G	Q581	5 E	R361	9 I	VR306	10 J
C372	9 C	D302	8 G	R152	3 E	R362	9 I	VR307	10 B
C373	10 G	D303	8 B	R271	10 B	R363	9 F	VR308	10 B
C374	10 C	D409	6 C	R272	10 C	R364	9 F	VR309	9 A
C375	10 B	D411	1 E	R280	10 C	R365	10 B	VR310	9 A
C376	10 C	D412	1 F	R281	10 H	R366	10 C	VR311	8 J
C377	10 C	D413	7 D	R282	10 H	R367	9 B	VR312	9 J
C378	10 D	D414	7 B	R283	10 C	R368	9 C	XT141	4 D
C379	10 B	D551	7 H	R284	10 D	R369	9 B		

Location List (FMC-002)

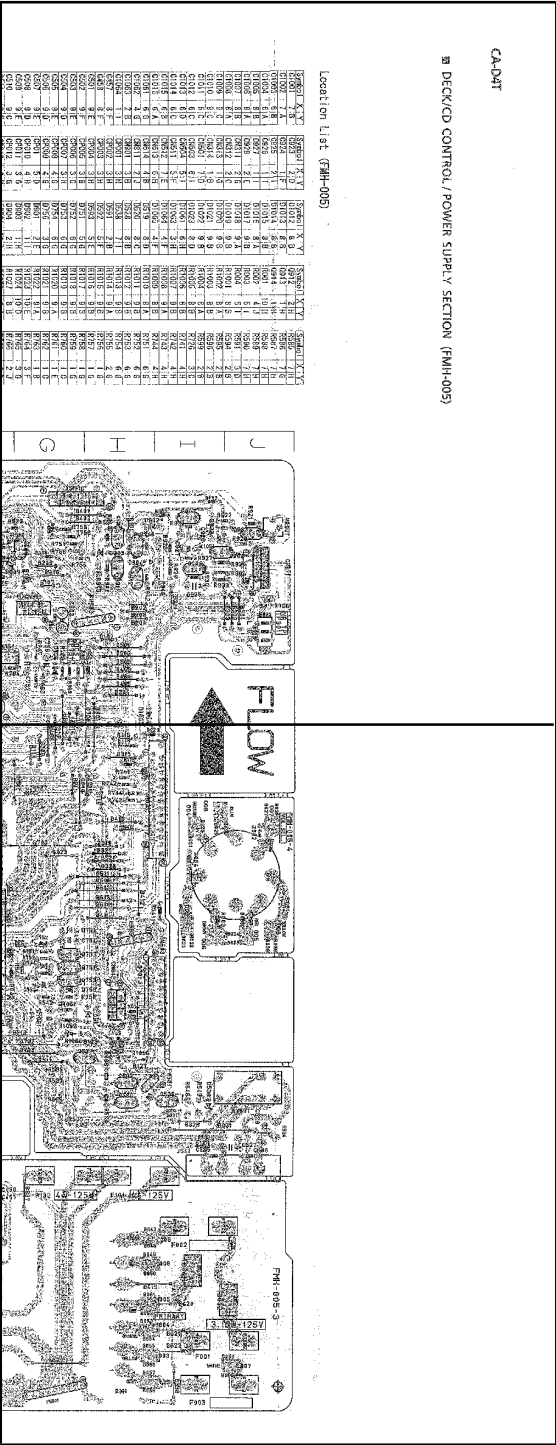


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C116	1 C		C380	10 B		D552	7 I		R285	8 C	R370	10 C
C163	4 D		C381	10 C		D555	7 G		R286	8 C	R371	9 B
C196	4 A		C385	10 H		D556	7 G		R287	8 C	R372	10 C
C202	2 A		C386	10 I		D557	7 G		R288	9 D	R373	10 E
C203	3 D		C387	9 J		D558	6 G		R290	8 D	R374	10 F
C204	2 D		C388	10 I		D579	5 F		R291	8 C	R375	10 E
C205	2 D		C389	10 G		D587	5 F		R292	8 C	R376	10 F
C301	9 H		C390	10 H		D588	4 F		R293	8 D	R377	10 G
C302	9 H		C391	9 C		D589	4 F		R294	8 D	R378	9 C
C303	9 G		C392	10 G		EP102	1 J		R295	8 D	R379	10 E
C304	9 G		C393	10 H		IC301	9 G		R296	8 C	R380	10 F
C305	9 B		C394	10 I		IC302	10 B		R297	8 D	R381	10 C
C306	9 B		C395	10 H		IC303	10 I		R298	8 A	R382	10 G
C307	8 G		C396	10 H		IC304	10 D		R301	9 J	R383	10 H
C308	8 F		C397	10 J		IC403	4 J		R302	9 J	R384	10 H
C309	9 H		C398	10 J		IC413	2 I		R303	8 I	R385	10 H
C310	9 H		C409	4 J		L102	2 D		R304	8 J	R386	10 I
C311	9 G		C410	4 I		L301	9 B		R315	10 F	R387	10 I
C312	9 G		C451	2 J		L303	9 H		R316	10 G	R388	10 I
C313	9 F		C452	2 I		L304	9 H		R317	10 E	R391	10 H
C314	9 G		C453	2 I		L305	9 B		R318	10 D	R392	10 H
C315	8 D		C454	2 I		L306	9 B		R319	10 G	R409	1 I
C316	8 C		C455	3 H		Q301	9 I		R320	10 G	R411	4 I
C317	8 C		C456	3 H		Q302	9 I		R321	10 D	R412	4 I
C318	8 B		C471	1 E		Q303	10 F		R322	10 D	R413	4 J
C319	8 B		C472	1 E		Q304	10 G		R323	10 G	R414	3 I
C320	8 C		C479	3 H		Q305	10 D		R324	10 G	R415	3 I
C321	8 C		C496	3 J		Q306	10 D		R325	10 D	R416	3 J
C322	8 C		C497	3 J		Q307	8 G		R326	10 D	R417	4 I
C323	8 C		C551	7 G		Q308	8 H		R327	8 G	R437	7 C
C324	9 B		C552	7 H		Q309	8 I		R328	8 H	R438	7 B

P1-66-a



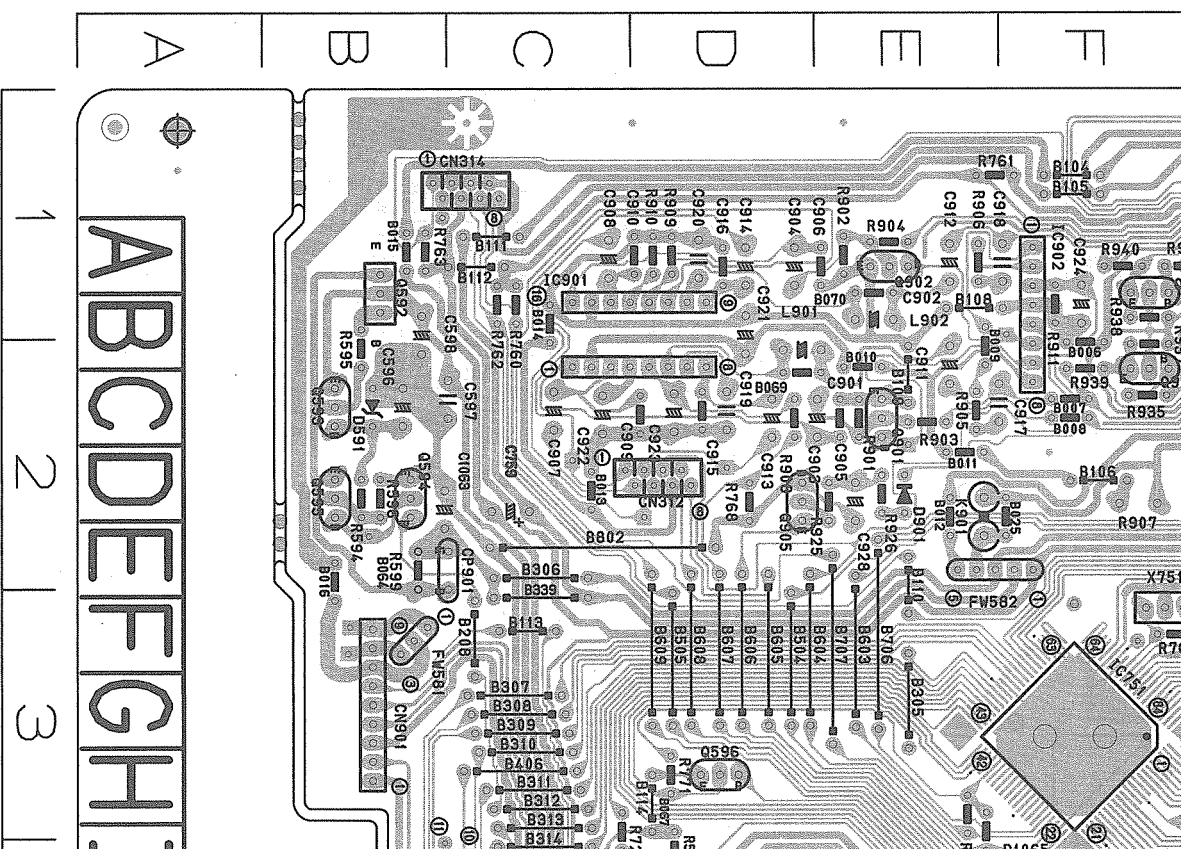
P1-66-b



P1-66-c

P1-66-d

C510	9 C	CP012	3 G	D904	2 H	R1027	8 B	R766	2 J
C511	10 E	CP013	6 H	EP501	10 A	R1028	8 A	R768	2 D
C512	10 D	CP014	6 H	IC501	10 E	R1053	5 E	R769	4 E
C513	8 C	CP015	6 H	IC502	10 D	R1054	5 E	R770	3 E
C514	8 C	CP016	5 H	IC501	3 F	R1055	7 G	R771	3 D
C515	8 C	CP017	6 H	IC901	2 C	R1056	7 H	R775	4 H
C516	8 C	CP018	6 H	IC902	1 F	R1061	6 G	R901	2 E
C517	8 C	CP019	6 H	L501	9 D	R1062	6 G	R902	1 E
C519	8 C	CP02	5 D	L502	9 C	R1063	3 G	R903	2 E
C520	8 C	CP020	6 H	L901	2 D	R501	10 E	R904	1 E
C523	9 E	CP021	4 F	L902	1 E	R502	10 D	R905	2 E
C525	8 A	CP022	4 E	Q1001	9 B	R503	9 E	R906	1 E
C526	8 B	CP023	3 B	Q1002	9 B	R504	9 D	R907	2 F
C527	8 I	CP024	3 B	Q1003	9 B	R505	9 E	R908	2 D
C528	8 I	CP026	6 G	Q1004	9 A	R506	9 D	R909	1 D
C535	8 J	CP027	3 H	Q1005	9 C	R507	9 E	R910	1 D
C536	8 J	CP028	2 I	Q1006	9 B	R508	9 C	R911	1 F
C596	2 B	CP029	2 H	Q1007	10 C	R509	9 D	R920	1 J
C597	2 C	CP03	6 D	Q1008	10 B	R510	9 C	R921	1 J
C598	1 B	CP030	2 E	Q501	9 D	R511	9 D	R922	1 J
C751	6 G	CP031	1 F	Q502	8 C	R512	9 C	R923	1 J
C752	6 G	CP032	2 B	Q523	9 E	R513	8 D	R924	2 I
C756	3 G	CP033	1 H	Q526	8 B	R514	8 C	R925	2 E
C757	3 G	CP034	1 J	Q527	8 A	R515	8 D	R926	2 E
C758	3 H	CP035	2 D	Q528	8 B	R516	8 C	R927	2 I
C759	2 C	CP036	2 C	Q539	7 I	R517	9 D	R928	1 I
C901	2 D	CP04	8 D	Q587	7 H	R518	9 C	R929	2 I
C902	1 E	CP05	6 B	Q588	7 H	R519	8 D	R930	2 I
C903	2 E	CP06	6 B	Q589	7 G	R520	8 C	R931	1 I
C904	1 D	CP104	1 B	Q592	1 B	R521	8 C	R933	2 J
C905	2 E	CP109	1 H	Q593	2 B	R522	8 C	R934	2 J
C906	1 E	CP110	2 J	Q594	2 B	R523	9 D	R935	2 F
C907	2 C	CP117	4 B	Q595	2 B	R524	9 E	R936	1 F
C908	1 C	CP120	3 F	Q596	3 D	R525	9 D	R937	2 F
C909	2 D	CP127	2 J	Q751	6 G	R526	8 B	R938	1 F
C910	1 D	CP901	2 C	Q752	6 G	R527	8 A	R939	2 F
C911	2 E	CP902	2 D	Q753	6 G	R528	8 B	R940	1 F
C912	1 E	DI001	6 D	Q901	2 E	R529	8 A	R941	2 H
C913	2 D	DI002	6 D	Q902	1 E	R531	8 B	R942	2 H
C914	1 D	DI003	6 D	Q903	1 J	R532	8 B	R943	1 H
C915	2 D	DI004	6 D	Q904	1 I	R533	8 J	R944	1 H
C916	1 D	DI005	6 C	Q905	2 D	R534	8 J	R945	2 H
C917	2 E	DI006	6 B	Q906	2 I	R541	5 I	R946	2 I
C918	1 F	DI007	6 C	Q907	1 I	R542	6 G	R9501	7 I
C919	2 D	DI008	6 B	Q908	1 G	R543	6 G	S001	5 J
C920	1 D	DI009	9 A	Q909	2 F	R545	7 I	VR901	1 J
C921	2 D	DI010	9 A	Q910	1 F	R546	7 I	X751	3 G
C922	2 C	DI011	8 B	Q911	2 H	R581	4 C		

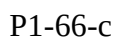


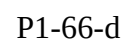
CA-D4T

■ DECK/CD CONTROL / POWER SUPPLY SECTION (FMH-005)

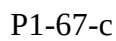
Location List (FMH-005)

Symbol	X	Y	Symbol	X	Y	Symbol	X	Y	Symbol	X	Y	Symbol	X	Y
C1001	7	B	C923	2	D	D1012	8	B	R985	7	H	R985	7	H
C1002	7	A	C924	1	F	D1013	8	B	R986	7	G	R986	7	G
C1003	6	B	C925	2	I	D1014	8	B	R987	7	H	R987	7	H
C1004	6	A	C926	1	I	D1015	8	B	R988	7	H	R988	7	H
C1005	8	B	C927	1	I	D1016	8	A	R989	7	H	R989	7	H
C1006	8	A	C928	2	E	D1017	9	B	R990	7	H	R990	7	H
C1007	8	B	C929	2	G	D1018	9	A	R991	3	D	R991	3	D
C1008	8	A	C930	2	C	D1019	9	B	R992	2	B	R992	2	B
C1009	9	C	C931	1	G	D1020	9	B	R993	2	B	R993	2	B
C1010	9	C	C932	1	B	D1021	9	B	R994	2	B	R994	2	B
C1011	6	C	C933	1	D	D1022	9	B	R995	2	B	R995	2	B
C1012	6	C	C934	1	D	D1023	8	D	R996	2	B	R996	2	B
C1013	6	D	C935	6	I	D1024	8	D	R997	2	B	R997	2	B
C1014	6	C	C936	5	F	D1025	8	D	R998	2	B	R998	2	B
C1015	6	B	C937	7	E	D1026	8	D	R999	2	B	R999	2	B
C1016	6	A	C938	6	H	D1027	8	D	R1000	8	B	R1000	8	B
C1017	6	G	C939	4	B	D1028	8	D	R1001	8	B	R1001	8	B
C1018	4	G	C940	2	J	D1029	8	C	R1002	8	A	R1002	8	A
C1019	2	B	C941	3	B	D1030	8	B	R1003	8	B	R1003	8	B
C1020	1	I	C942	3	H	D1031	7	I	R1004	8	A	R1004	8	A
C1021	1	I	C943	3	H	D1032	7	I	R1005	8	B	R1005	8	B
C1022	1	I	C944	3	H	D1033	7	I	R1006	8	B	R1006	8	B
C1023	1	I	C945	3	H	D1034	7	I	R1007	9	B	R1007	9	B
C1024	1	I	C946	3	H	D1035	7	I	R1008	9	A	R1008	9	A
C1025	1	I	C947	3	H	D1036	7	I	R1009	9	A	R1009	9	A
C1026	1	I	C948	3	H	D1037	7	I	R1010	9	A	R1010	9	A
C1027	1	I	C949	3	H	D1038	7	I	R1011	9	B	R1011	9	B
C1028	1	I	C950	3	H	D1039	7	I	R1012	9	B	R1012	9	B
C1029	1	I	C951	3	H	D1040	7	I	R1013	9	B	R1013	9	B
C1030	1	I	C952	3	H	D1041	7	I	R1014	9	A	R1014	9	A
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C1033	1	I	C955	3	H	D1044	7	I	R1017	9	B	R1017	9	B
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C1036	1	I	C958	3	H	D1047	7	I	R1020	9	A	R1020	9	A
C1037	1	I	C959	3	H	D1048	7	I	R1021	9	B	R1021	9	B
C1038	1	I	C960	3	H	D1049	7	I	R1022	9	A	R1022	9	A
C1039	1	I	C961	3	H	D1050	7	I	R1023	10	E	R1023	10	E
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C1041	1	I	C963	3	H	D1052	7	I	R1025	10	D	R1025	10	D
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C1051	1	I	C973	3	H	D1062	7	I	R1035	8	A	R1035	8	A
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C1055	1	I	C977	3	H	D1066	7	I	R1039	8	A	R1039	8	A
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C1103	1	I	C1025	3	H	D1114	7	I	R1087	8	A	R1087	8	A
C1104	1	I	C1026	3	H	D1115	7	I	R1088	8	A	R1088	8	A
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C1109	1	I	C1031	3	H	D1120	7	I	R1093	8	A	R1093	8	A
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C1112	1	I	C1034	3	H	D1123	7	I	R1096	8	A	R1096	8	A
C1113	1	I	C1035	3	H	D1124	7	I	R1097	8	A	R1097	8	A
C1114	1	I	C1036	3	H	D1125	7	I	R1098	8	A	R1098	8	A
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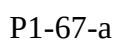


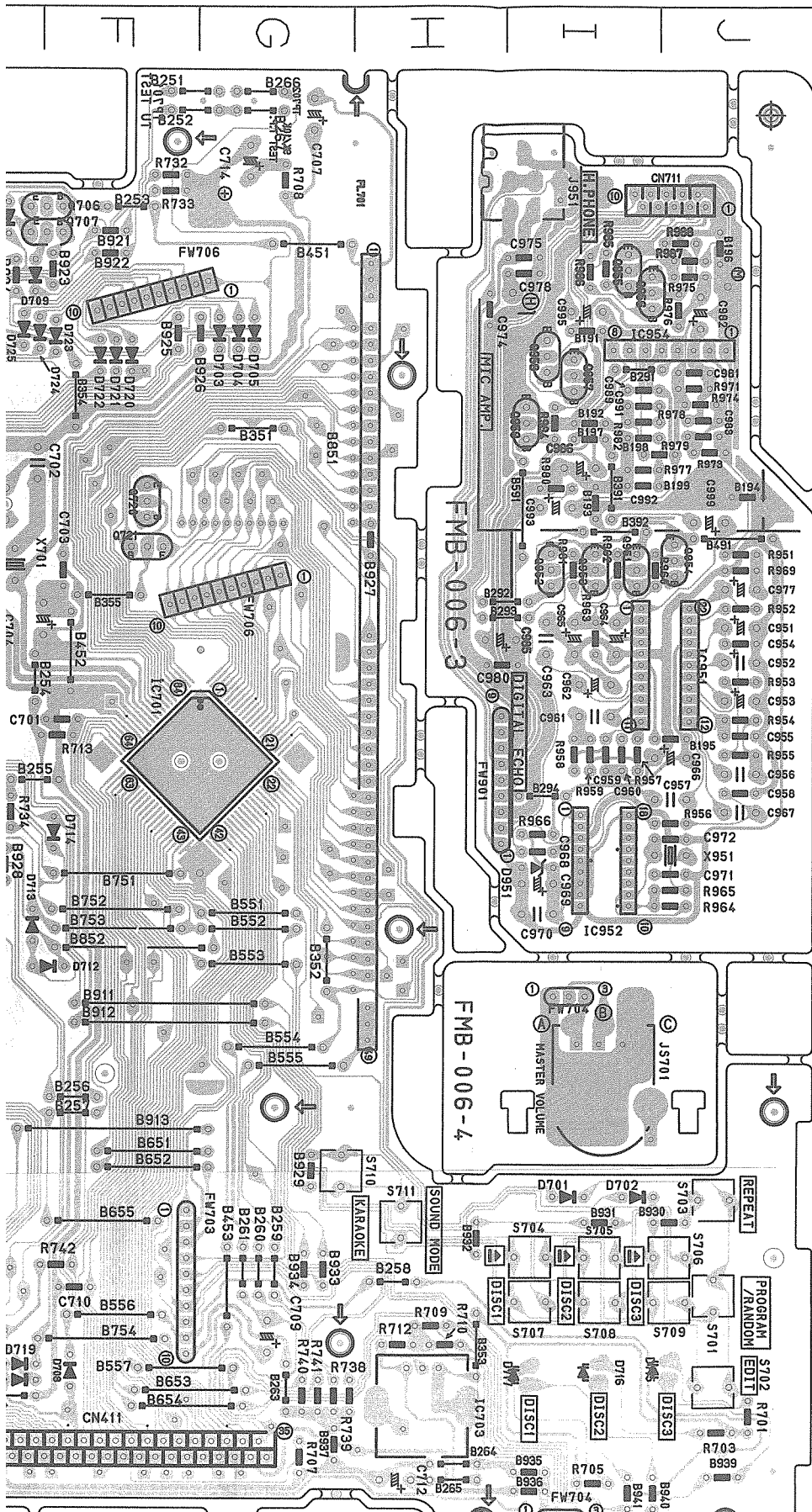


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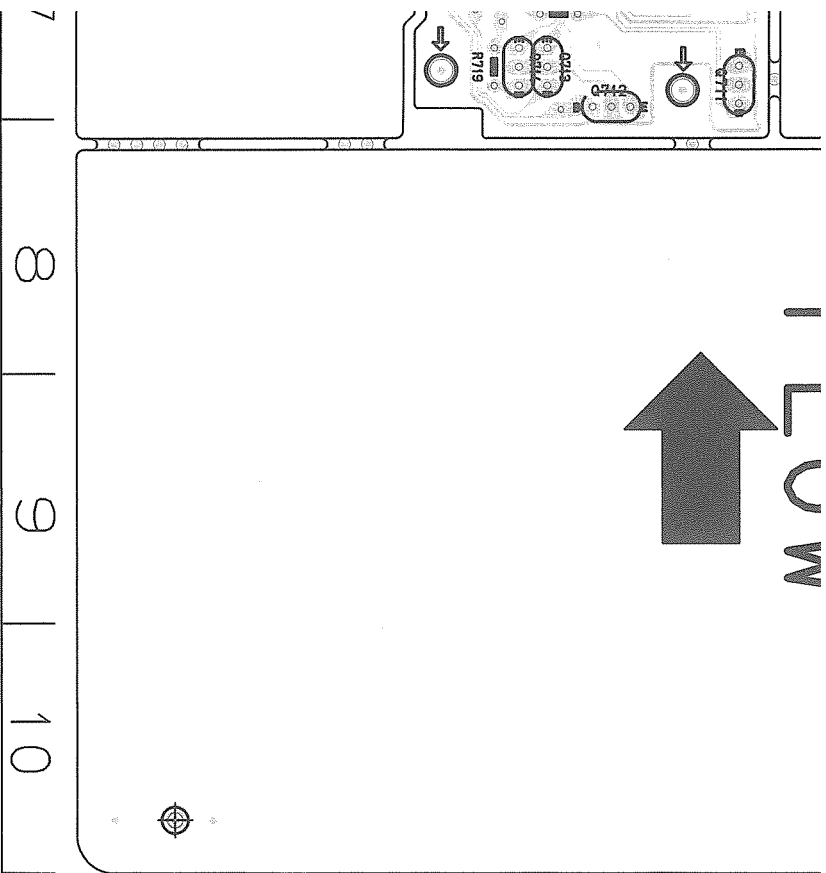


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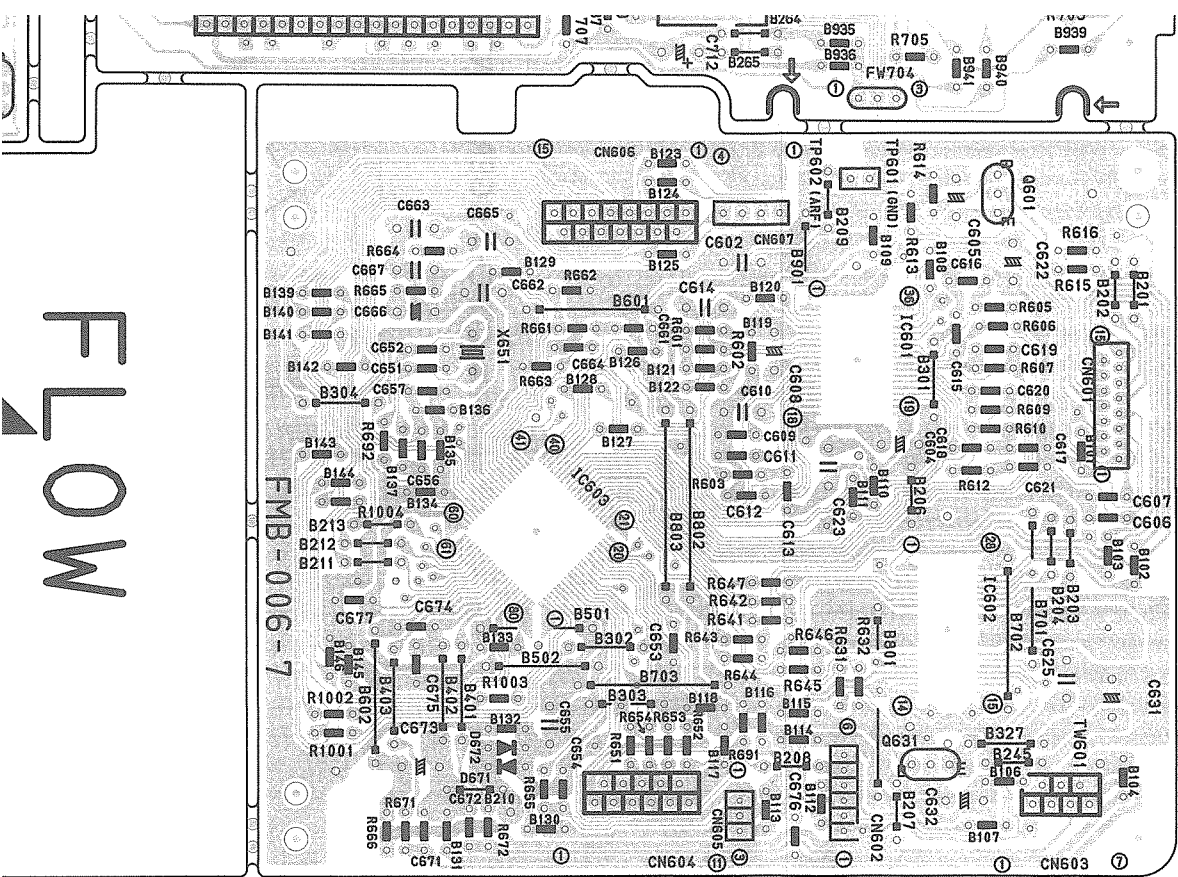


■ CD / FRONT SECTION (FMB-006)



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C677	9 F	CP0J	10 H	D719	7 E	R641	9 H	S707	6 I
C701	4 F	CP0K	9 G	D720	2 F	R642	9 H	S708	6 I
C702	2 E	CP0L	9 H	D721	2 F	R643	10 H	S709	6 J
C703	3 F	CP0M	9 H	D722	2 F	R644	10 H	S710	6 G
C704	3 F	CP0N	9 H	D723	2 F	R645	10 I	S711	6 H
C707	1 G	CP0P	10 J	D724	2 E	R646	10 I	S712	6 D
C712	7 H	CP0Q	10 J	D725	2 E	R647	9 H	S713	6 D
C714	1 G	CP0R	9 J	D734	6 D	R651	10 H	S714	5 C
C718	2 E	CP0S	10 I	D735	6 C	R652	10 H	S715	5 C
C719	2 E	CP0V	9 J	D736	6 C	R653	10 H	S716	5 D
C951	3 J	CP0X	9 J	D737	7 C	R654	10 H	S717	5 C
C952	3 J	CP0Y	8 J	D738	3 D	R655	10 G	S718	6 C
C953	3 J	CP0Z	9 H	D739	3 D	R661	8 G	S719	4 D
C954	3 J	CP10	5 F	D740	4 D	R662	8 G	S720	4 C
C955	4 J	CP101	9 I	D741	3 D	R663	8 G	S721	6 C
C956	4 J	CP102	1 C	D742	5 C	R664	8 G	S722	4 D
C957	4 J	CP11	9 H	D743	2 D	R665	8 F	S723	4 C
C958	4 J	CP110	5 I	D744	1 D	R666	10 F	S724	6 C
C959	4 I	CP111	5 I	D791	1 B	R671	10 F	S725	3 D
C960	4 I	CP112	5 I	D951	4 I	R672	10 G	S726	3 C
C961	4 I	CP113	6 D	FL701	1 H	R691	10 H	S727	7 C
C962	3 I	CP114	7 F	FW701	3 C	R692	9 F	S728	2 D
C963	3 I	CP12	5 F	FW701B	3 E	R701	7 J	S729	3 C
C966	4 J	CP120	1 I	FW702B	6 F	R703	7 J	S730	7 D
C967	4 J	CP121	10 H	FW704A	5 I	R705	7 I	TC701	3 E
C968	4 I	CP122	6 D	FW704B	7 I	R707	7 G	TP601	8 I
C969	4 I	CP13	7 D	FW712	4 B	R708	1 G	TW601	10 J
C970	5 I	CP131	7 F	FW712A	4 B	R709	6 H	VR701	3 C
C971	4 I	CP141	1 D	FW713	4 B	R710	7 H	X651	8 G
C972	4 I	CP17	10 I	FW901	4 H	R713	4 E	X701	3 E
C974	2 H	CP171	7 F	FNB	3 G	R714	4 C	X951	4 J
C975	1 I	CP18	10 J	H001	3 G	R715	3 D		
C976	3 J	CP181	7 F	I0601	8 I	R716	3 D		
C977	3 J	CP20	7 E	I0602	10 I	R719	7 C		
C978	1 I	CP21	7 F	I0603	9 G	R720	5 C		
C980	3 I	CP22	6 F	I0701	4 G	R722	6 D		
C981	2 J	CP23	7 F	I0703	7 H	R723	6 D		
C982	2 J	CP24	4 G	I0951	3 I	R724	6 C		
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C989	2 I	CP41	5 G	J702	2 C	R729	5 D		
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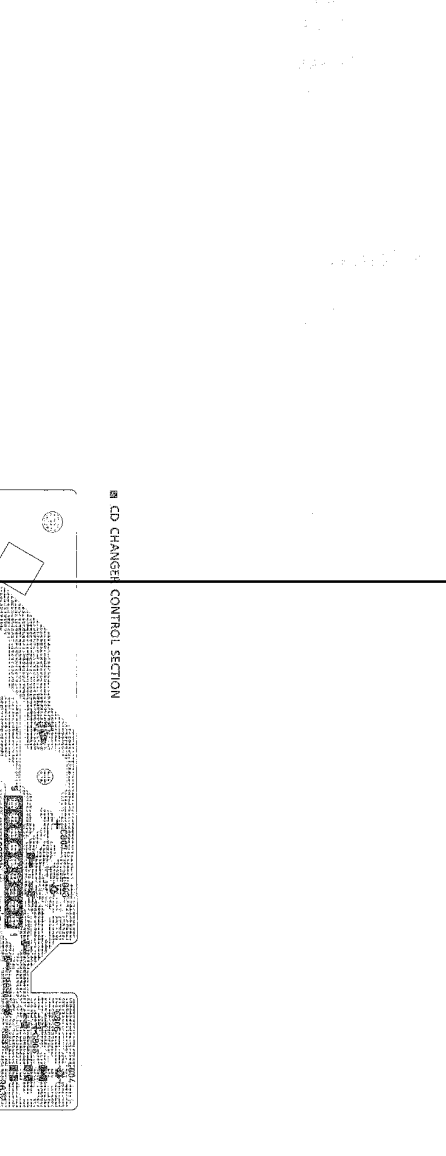
CA-D4T



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G604	9 I		GM601	8 J		CP49	4 G		G631	10 I		R791	2 B		R969	3 J	
G605	8 I		GK602	10 I		CP51	5 G		G706	1 F		R951	3 J		R971	2 J	
G606	9 J		GK603	10 J		CP52	5 H		G707	1 F		R952	3 J		R973	2 J	
G607	9 J		GM604	10 G		CP53	3 G		G708	2 D		R953	3 J		R974	2 J	
G608	8 H		GM605	10 H		CP54	3 G		G709	3 C		R954	4 J		R975	1 J	
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G610	9 H		GM607	8 H		CP56	2 G		G711	7 D		R956	4 J		R977	2 I	
G611	9 H		GM701	1 D		CP57	3 G		G712	7 C		R957	4 I		R978	2 I	
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G613	9 H		CP01	7 C		CP59	2 G		G714	7 C		R959	4 I		R980	2 I	
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G615	8 I		CP012	10 I		CP61	3 G		G720	3 F		R961	3 I		R982	2 I	
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G619	8 J		CP031	10 G		CP68	2 H		G952	3 I		R965	4 J		R986	4 I	
G620	9 J		CP032	7 C		CP69	2 G		G953	3 I		R966	4 I		R969	3 J	
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G625	10 J		CP05	4 F		CP73	2 F		G957	2 I		R978	2 I		R979	2 J	
G631	10 J		CP051	10 H		CP74	2 G		G958	2 I		R980	2 I		R981	2 I	
G632	10 I		CP052	1 C		CP76	2 G		G959	2 I		R982	2 I		R983	2 I	
G635	8 I		CP06	2 C		CP77	7 H		R1001	10 F		R984	2 I		R985	1 I	
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G654	10 G		CP07	5 F		CP793	4 B		R1004	9 F		R990	2 I		R991	2 I	
G655	10 G		CP072	8 I		CP794	6 I		R601	8 H		R992	2 I		R993	2 I	
G656	9 F		CP08	5 F		D671	10 G		R602	8 H		R994	2 I		R995	1 I	
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G661	8 H		CP082	2 D		D701	6 I		R605	8 J		R998	2 I		R999	2 I	
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G664	8 G		CP092	9 F		D704	2 G		R609	9 J							
G665	8 G		CP0A	9 F		D705	2 G		R610	9 J							
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G672	10 G		CP0E	9 G		D712	5 E		R615	8 J							
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G674	9 F		CP0G	9 G		D714	4 F		R631	10 I							
G675	10 F		CP0H	9 G		D718	7 E		R632	10 I							
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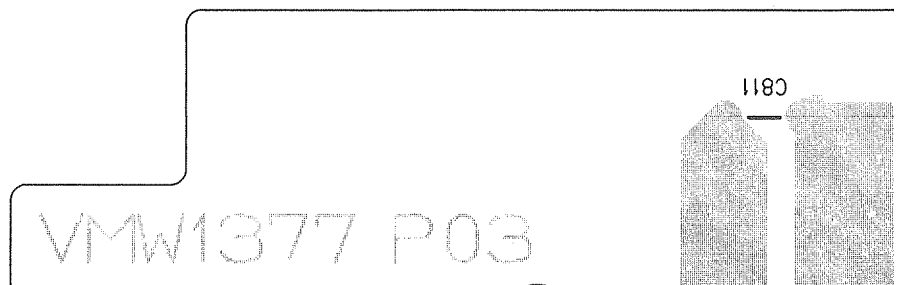
CA-DAT

CD CHANGE CONTROL SECTION



P1-68-c

P1-68-d



CA-D4T

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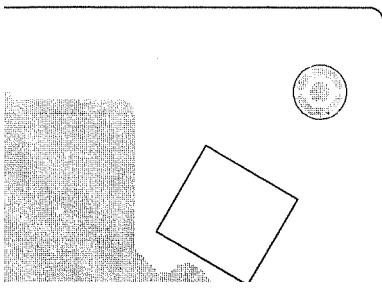
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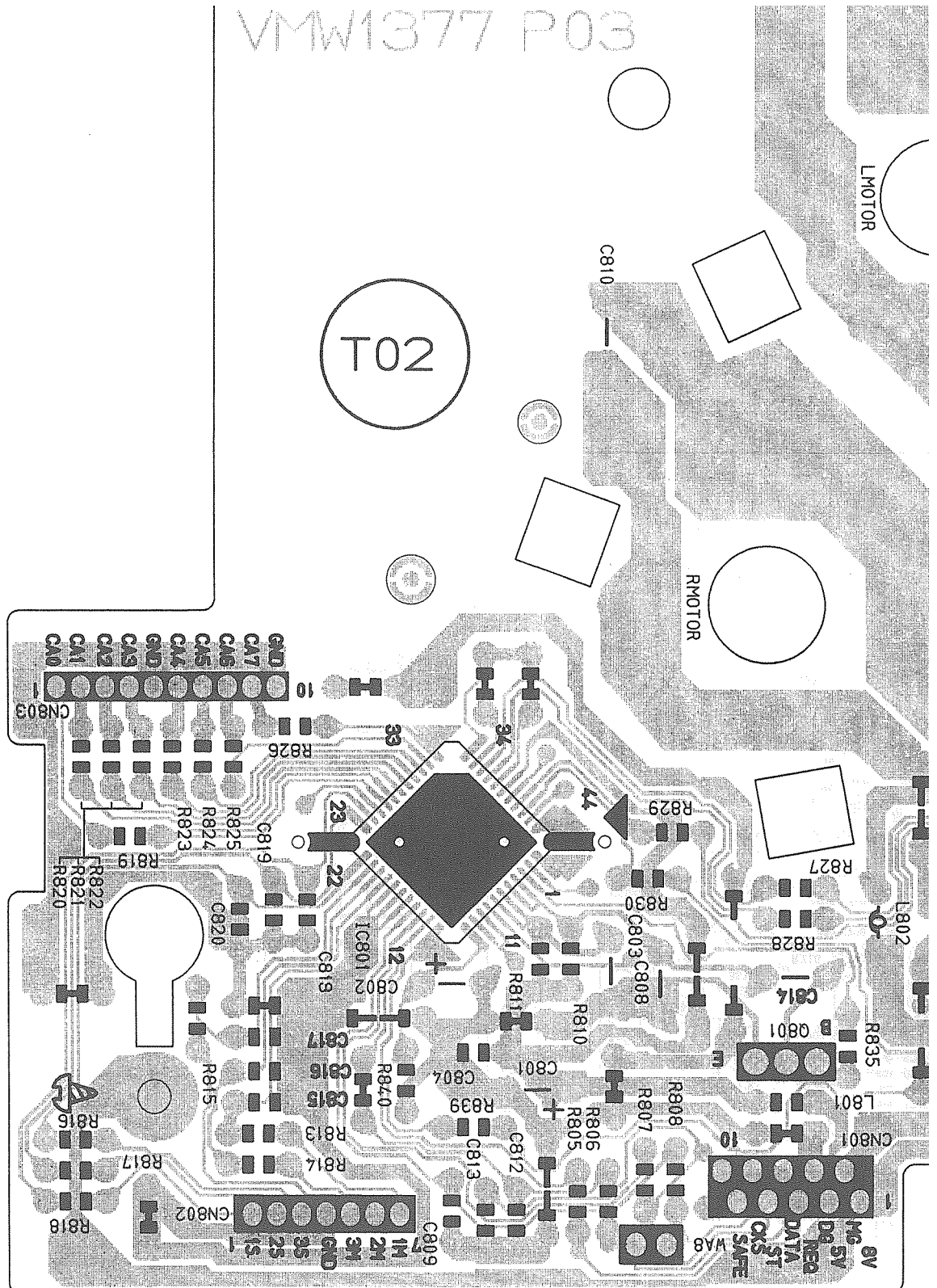
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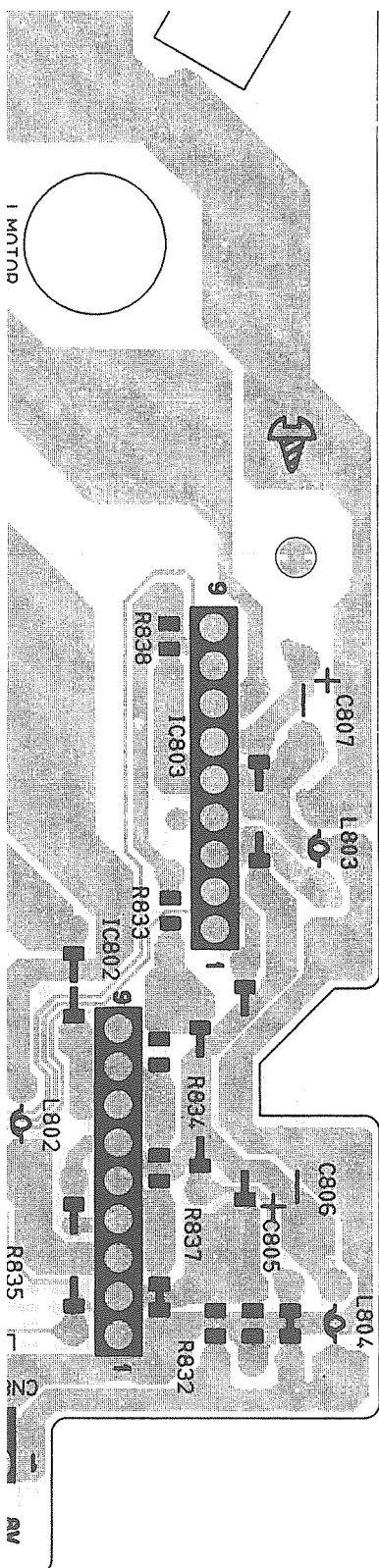
■ CD CHANGER C



VMW1377 P03



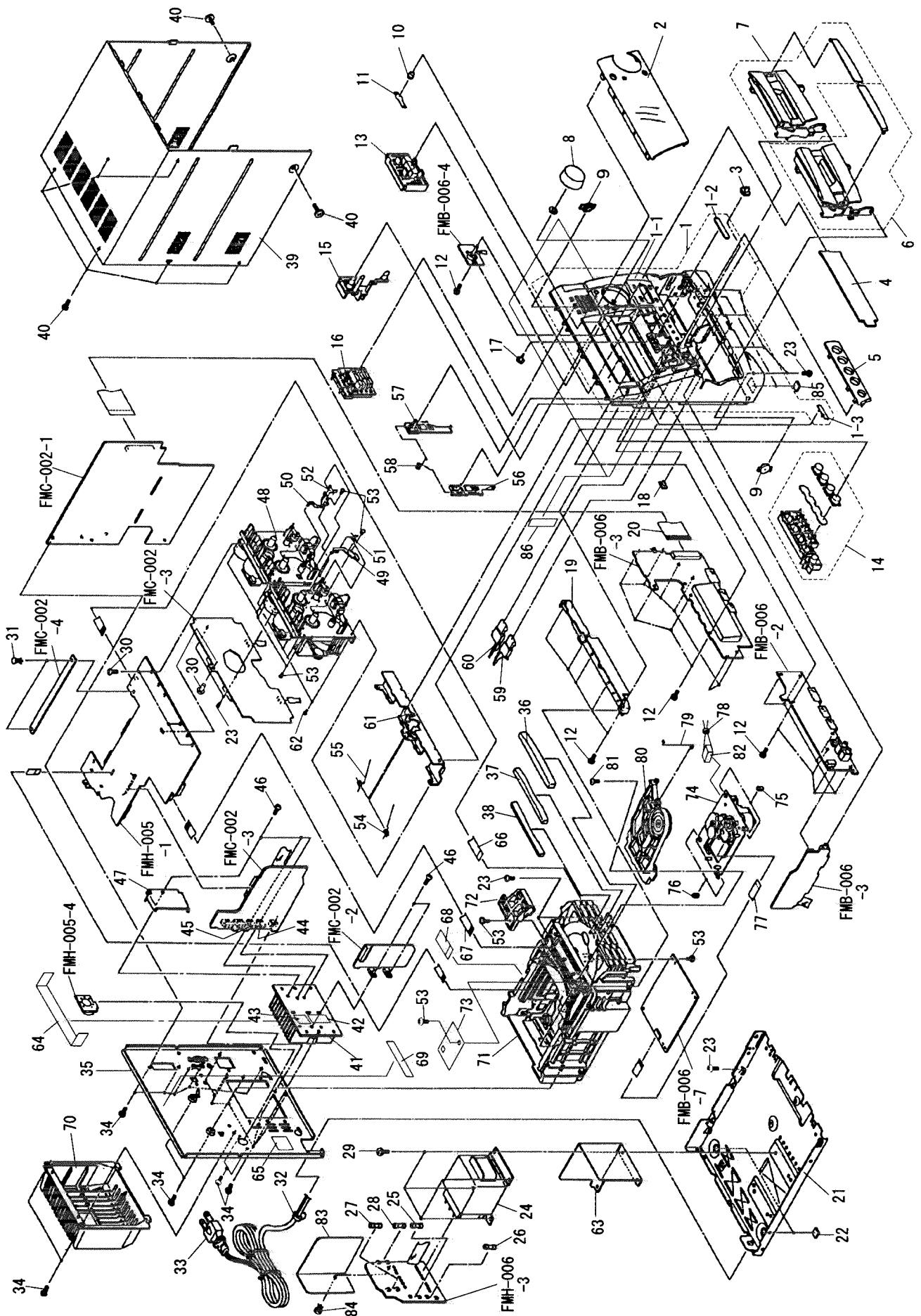
3ER CONTROL SECTION



General Exploded View and Parts List

Block No.

M	1	M	M
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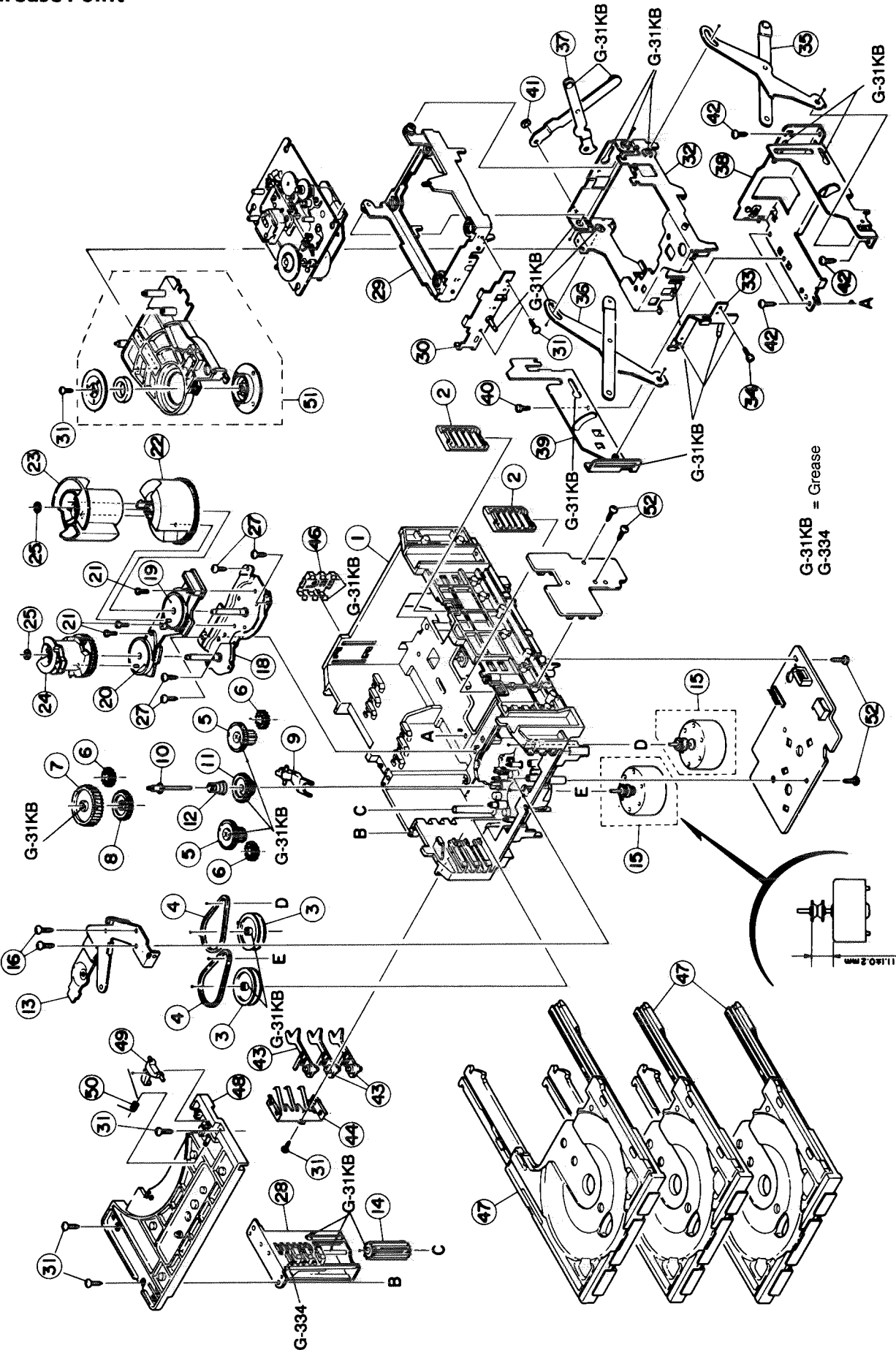


Changer Mechanism Ass'y and Parts List

■ Grease Point

Block No.

M	2	M	M
---	---	---	---

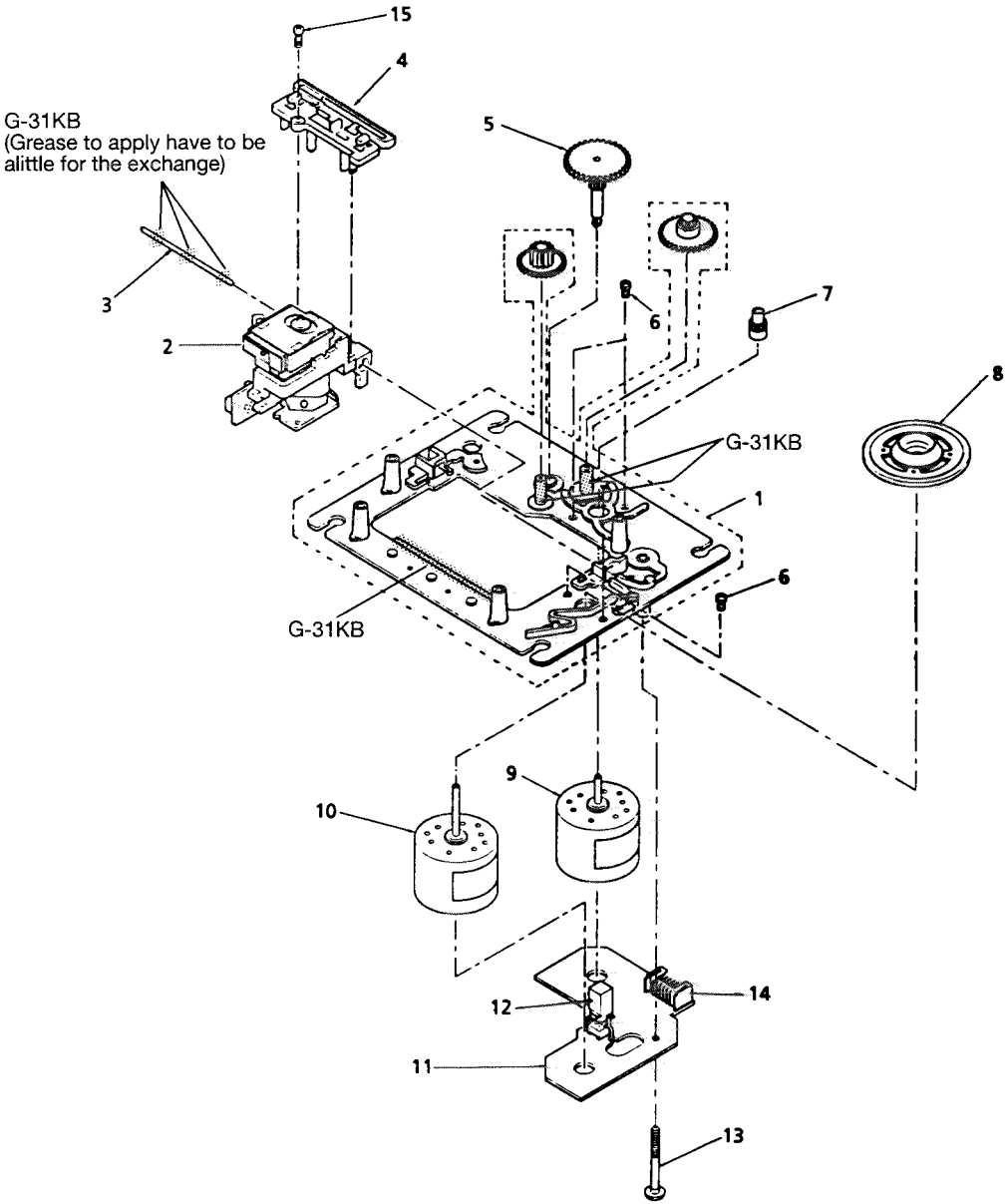


CD Mechanism Ass'y and Parts List

Block No.

M	4	M	M
---	---	---	---

■ Grease Point

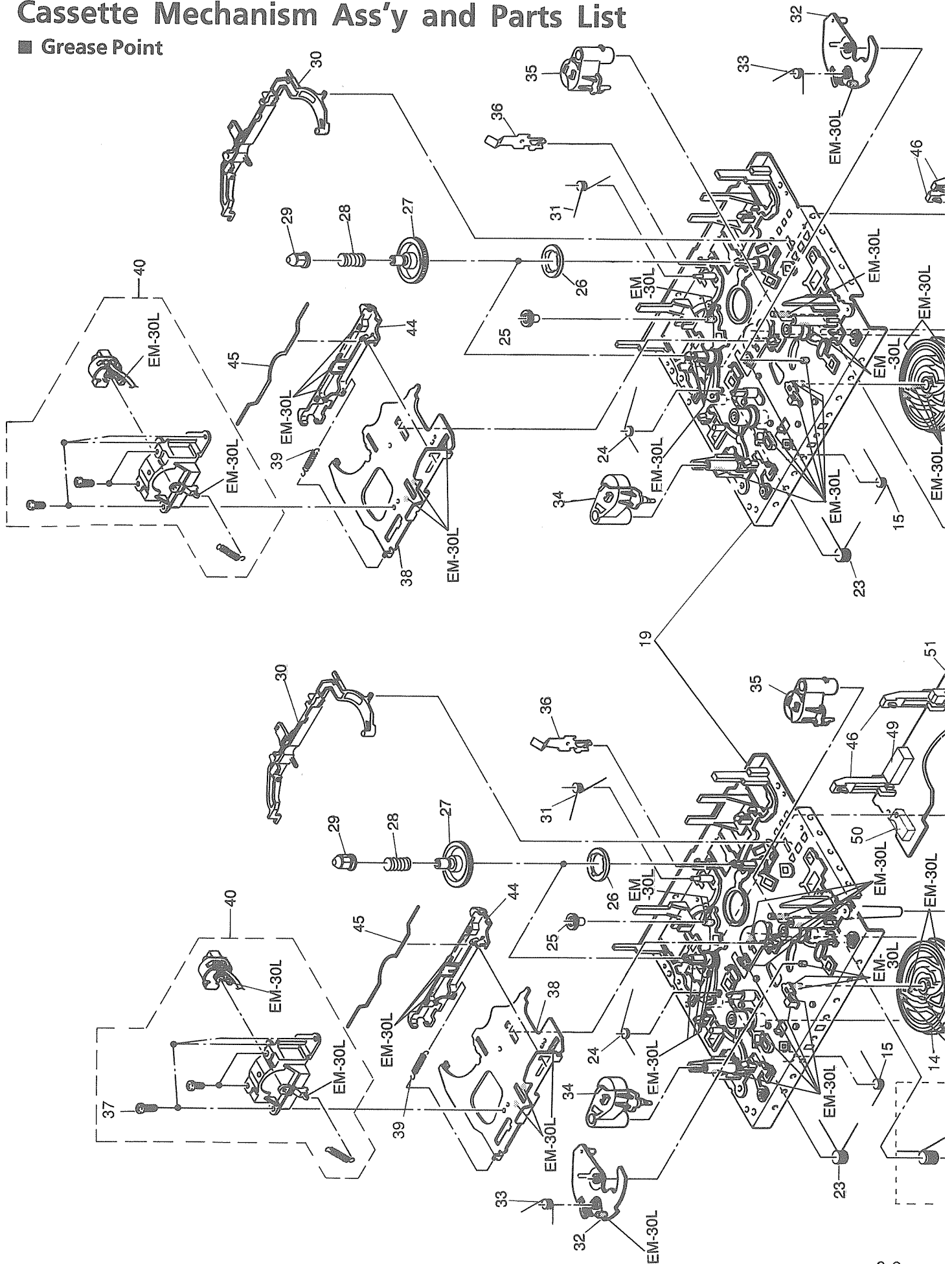


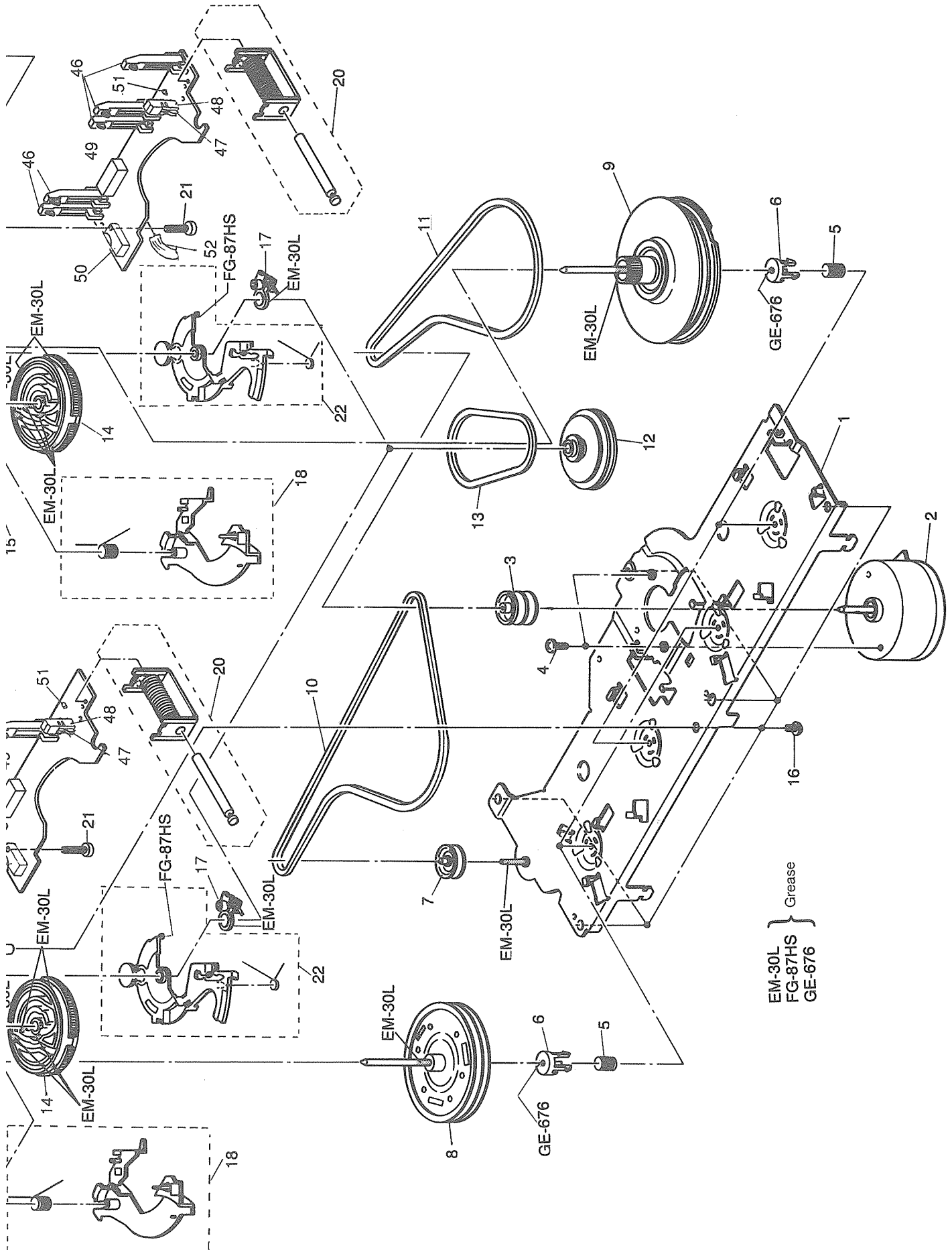
■ Parts List (CD Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASSY	1		
3	E406777-001	SHAFT	1		
4	E307746-001	CD RACK	1		
5	E307745-221SS	GEAR (3)	1		
6	SDSP2003N	SCREW	4		
7	E406750-001	PINION GEAR	1		
8	EPB309173A	TURN TABLE	1		
9	E406784-001	FEED MOTOR	1		
10	E406783-001	SPINDLE MOTOR	1		
11	EW10190-001(S)	CIRCUIT BOARD	1		
12	ESB1100-005	LEAF SWITCH	1		
13	E75832-001	SCREW	1		
14	EMV5109-006B	PLUG ASSY	1	6PIN	
15	SDSF2006Z	SCREW	1		

Cassette Mechanism Ass'y and Parts List

■ Grease Point





CA-D4T



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