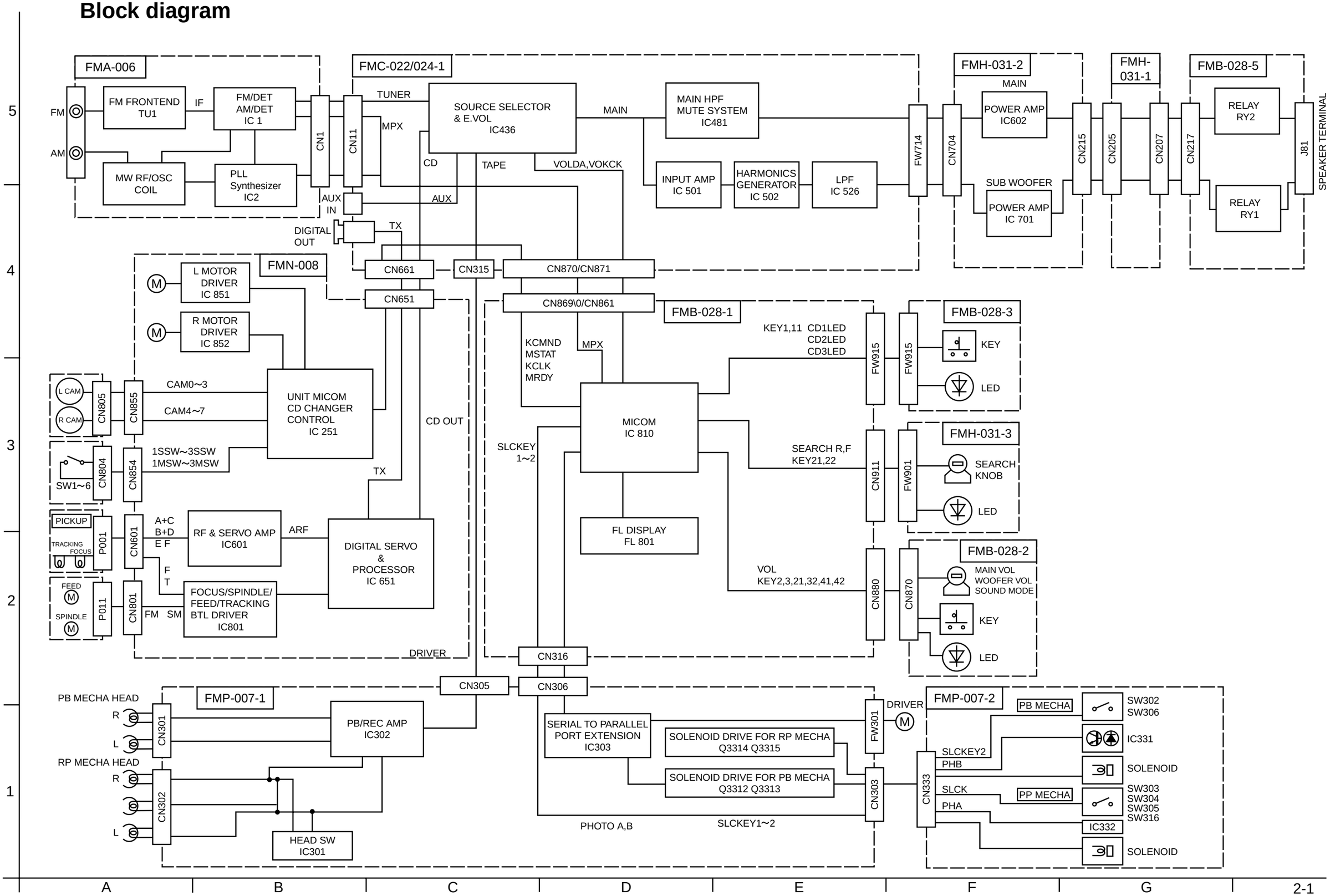
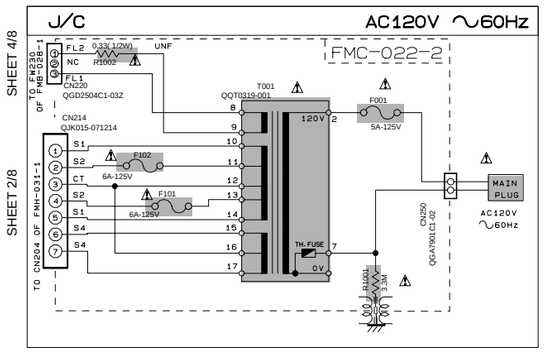
Block diagram



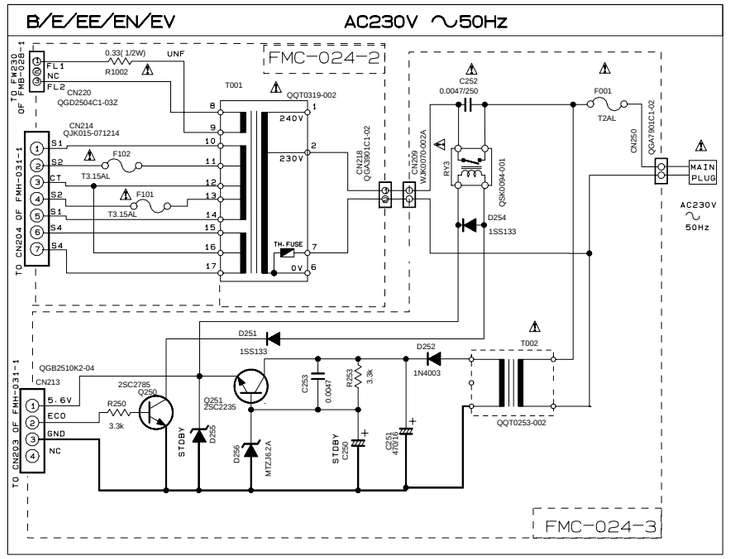
Standard schematic diagrams

■ Power supply section

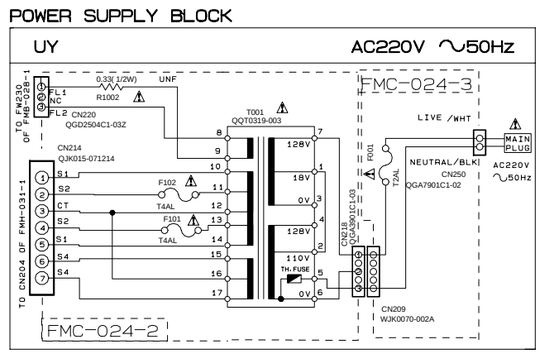
POWER SUPPLY BLOCK



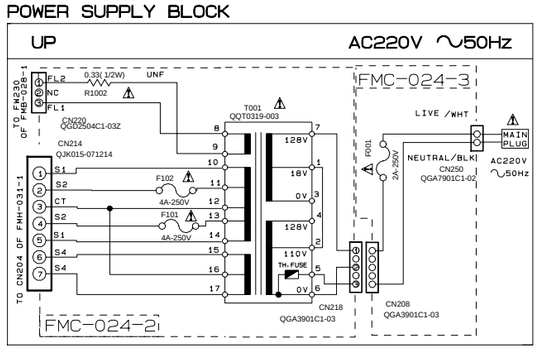
POWER SUPPLY BLOCK



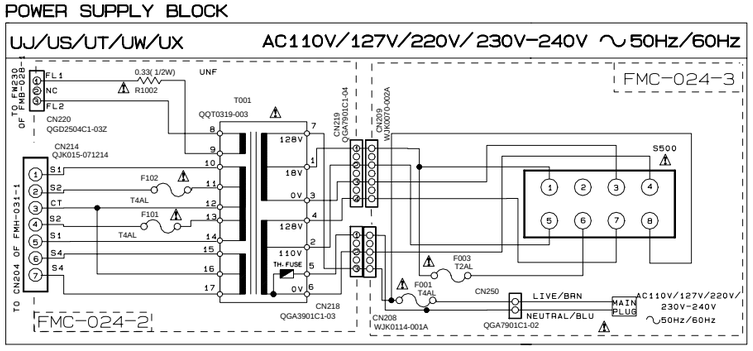
POWER SUPPLY BLOCK



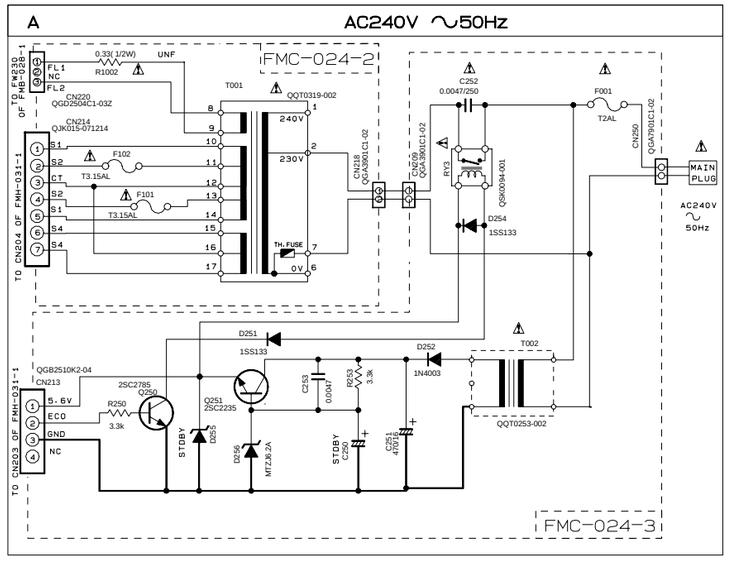
POWER SUPPLY BLOCK



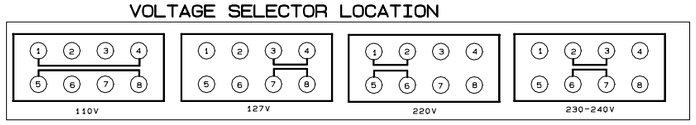
POWER SUPPLY BLOCK



POWER SUPPLY BLOCK



VOLTAGE SELECTOR LOCATION



EXPLANATION OF OVERALL OF SCHEMA.	
MODEL	MX-G70 J/C

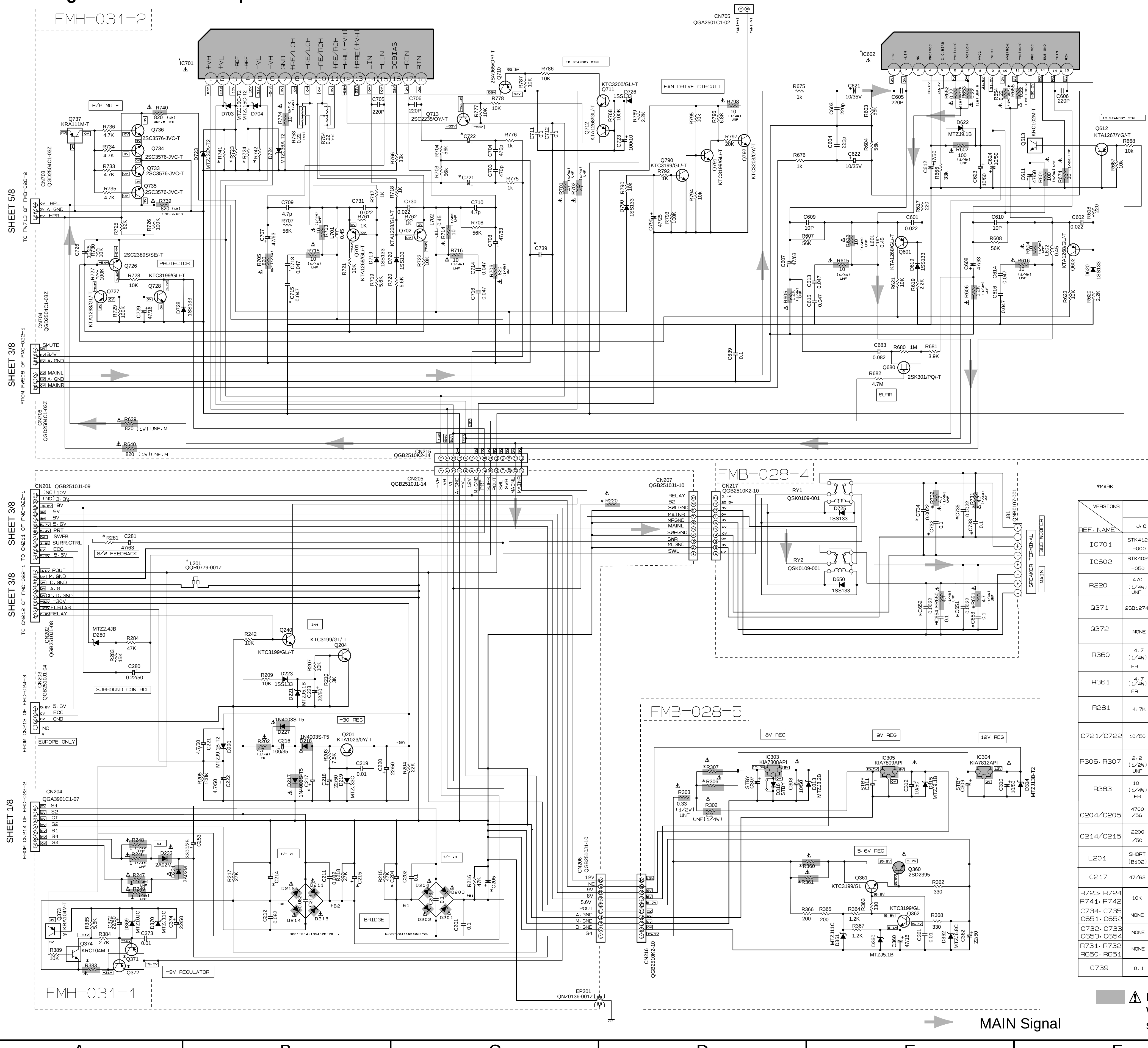
SHEET NUMBER	MODEL NUMBERS TO BE APPLIED	CIRCUITS DESCRIPTION
1/8	MX-G70	. PRIMARY WITH MAINS TRANSFORMER
2/8	MX-G70	. DC REGULATORS/AUDIO OUTPUT
3/8	MX-G70	. EXTERNAL INPUT, SOURCE SELECTOR SWITCH
4/8	MX-G70	. FL DISPLAYS, SYSTEM CONTROL LSI
5/8	MX-G70	. USER CONTROL KEYS, MIC AMP
6/8	MX-G70	. CD SERVO AND CD SYSTEM CONTROL . CD CHANGER MECHANISM CONTROL
7/8	MX-G70	. TAPE DECK MECHANISM CONTROL . TAPE CIRCUITS SUCH AS PRE-AMP AND BIAS
8/8	MX-G70	. TUNER RF/IF/FM MULTIPLEX

VERSION CODES

J	: U.S.A.
C	: CANADA
B	: U.K.
E	: CONTINENTAL EUROPE
EE	: RUSSIA
EN	: NORDIC COUNTRIES
EV	: EASTERN EUROPE
A	: AUSTRALIA
UJ	: MILITARY
UP	: KOREA
UT	: TAIWAN
UX	: SAUDI ARABIA
UY	: ARGENTINA
UW	: SOUTH AMERICA EXCEPT ARGENTINA
US	: SINGAPORE AND UNIVERSAL EXCEPT ALL OF ABOVES

⚠ Parts are safety assurance parts.
When replacing those parts make sure to use the specified one.

■ DC regulation & Audio output section



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- AUX MODE, VOL MIN, BASS OFF
2. UNLESS OTHERWISE SPECIFIED
   RESISTORS ARE 1/4W ± 5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN µF(P=pF).
   ALL INDUCTANCE VALUES ARE IN µH(m=mH).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (µF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133

*MARK

VERSIONS / REF. NAME	MX-G70				MX-GT80				MX-GT90			
	J.C	A.E	U	UT	J.C	A.E	U	UT	J.C	A	U	UT
IC701	STK412 -000	STK412 -000	STK412 -090	STK412 -090	STK412 -010	STK412 -010	STK412 -000	STK412 -000	STK412 -020	STK412 -010	STK412 -010	STK412 -010
IC602	STK402 -050	STK402 -030	STK402 -030	STK402 -030	STK402 -050	STK402 -030	STK402 -030	STK402 -030	STK402 -070	STK402 -050	STK402 -050	STK402 -050
R220	470 (1/4W) UNF	150 (1/4W) UNF	150 (1/4W) UNF	150 (1/4W) UNF	470 (1/4W) UNF	150 (1/4W) UNF	150 (1/4W) UNF	150 (1/4W) UNF	470 (1/4W) UNF	150 (1/4W) UNF	150 (1/4W) UNF	150 (1/4W) UNF
Q371	2SB1274	NONE	NONE	NONE	2SB1274	NONE	NONE	NONE	2SB1274	NONE	NONE	NONE
Q372	NONE	KTA1023	KTA1023	KTA1023	NONE	KTA1023	KTA1023	KTA1023	NONE	KTA1023	KTA1023	KTA1023
R360	4.7 (1/4W) FR	2.2 (1/4W) FR	2.2 (1/4W) FR	2.2 (1/4W) FR	4.7 (1/4W) FR	2.2 (1/4W) FR	2.2 (1/4W) FR	2.2 (1/4W) FR	4.7 (1/4W) FR	2.2 (1/4W) FR	2.2 (1/4W) FR	2.2 (1/4W) FR
R361	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR	4.7 (1/4W) FR
R281	4.7K	4.7K	4.7K	4.7K	7.5K	5.6k	5.6k	5.6k	8.2K	5.6k	5.6k	5.6k
C721/C722	10/50	10/50	10/50	10/50	10/50	10/50	10/50	10/50	10/35	10/35	10/35	10/35
R306, R307	2.2 (1/2W) UNF	SHORT	SHORT	SHORT	2.2 (1/2W) UNF	SHORT	SHORT	SHORT	2.2 (1/2W) UNF	SHORT	SHORT	SHORT
R383	10 (1/4W) FR	SHORT (B123)	SHORT (B123)	SHORT (B123)	10 (1/4W) FR	SHORT (B123)	SHORT (B123)	SHORT (B123)	10 (1/4W) FR	SHORT (B123)	SHORT (B123)	SHORT (B123)
C204/C205	4700 /56	4700 /56	4700 /56	4700 /56	4700 /63	4700 /63	4700 /56	4700 /56	4700 /63	4700 /63	4700 /63	4700 /63
C214/C215	2200 /50	2200 /35	2200 /35	2200 /35	2200 /50	2200 /35	2200 /35	2200 /35	2200 /50	2200 /50	2200 /50	2200 /50
L201	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)	SHORT (B102)
C217	47/63	47/63	47/63	47/63	47/63	47/63	47/63	47/63	47/100	47/100	47/100	47/100
R723, R724 R741, R742	10K	6.8K	6.8K	6.8K	10K	6.8K	6.8K	6.8K	10K	6.8K	6.8K	6.8K
C734, C735 C651, C652	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE
C732, C733 C653, C654	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE
R731, R732 R650, R651	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE
C739	0.1	1/50	1/50	1/50	0.1	1/50	1/50	1/50	0.1	1/50	1/50	1/50

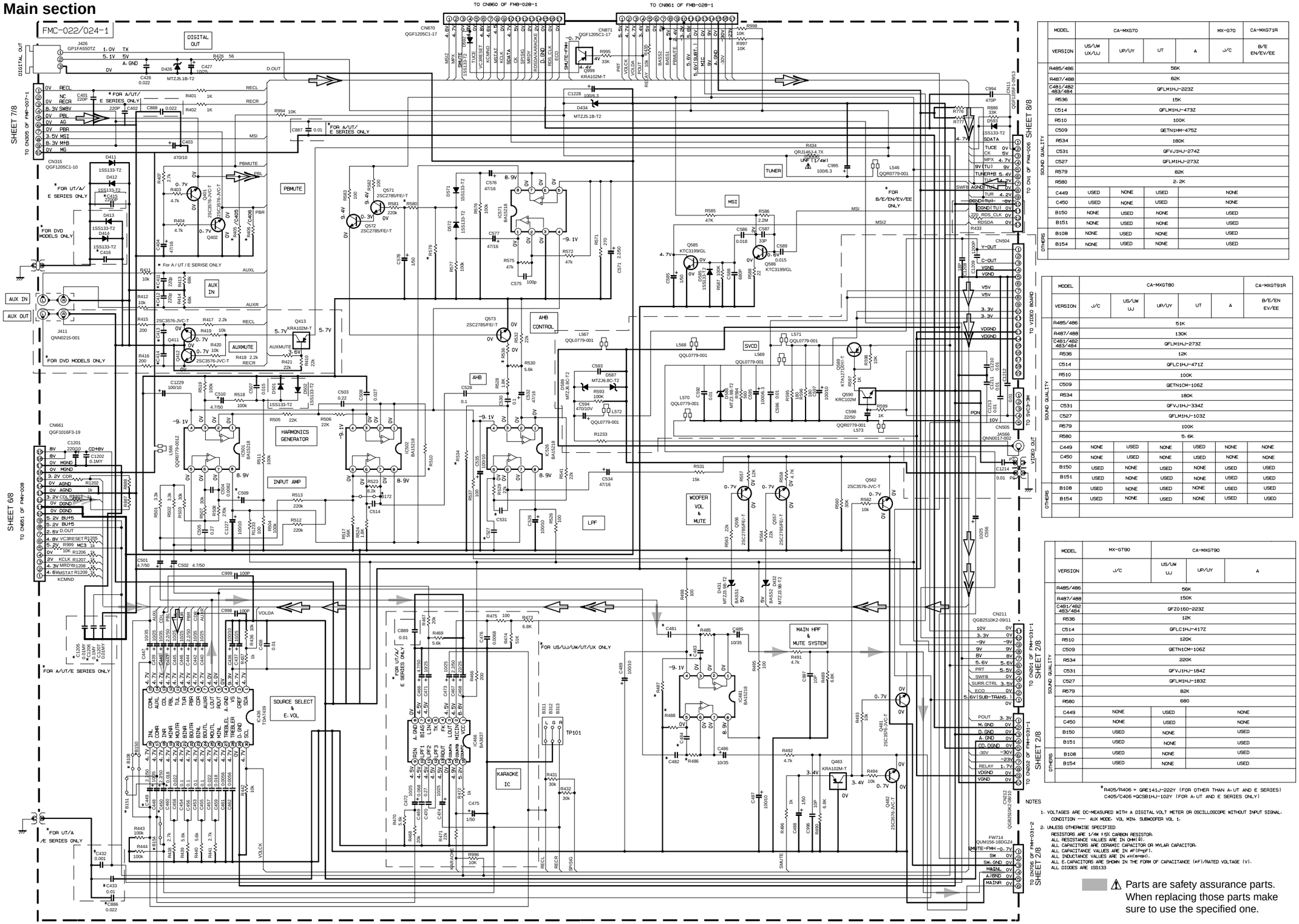
▨ ⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

➡ MAIN Signal

SHEET 2/8

A B C D E F G

■ Main section



	MODEL	CA-MXG70				MX-G70	CA-MXG71R
	VERSION	US/UW UX/UJ	UP/UY	UT	A	J/C	B/E EN/EV/EE
SOUND QUALITY	R485/486	56K					
	R487/488	82K					
	C481/482 483/484	QFLM1HJ-223Z					
	R536	15K					
	C514	QFLM1HJ-473Z					
	R510	100K					
	C509	QETN1HM-475Z					
	R534	180K					
	C531	QFVJ1HJ-274Z					
	C527	QFLM1HJ-273Z					
	R579	82K					
	R580	2.2K					
	C449	USED	NONE	USED		NONE	
	C450	USED	NONE	USED		NONE	
	B150	NONE	USED	NONE		USED	
	B151	NONE	USED	NONE		USED	
OTHERS	B108	NONE	USED	NONE		USED	
	B154	NONE	USED	NONE		USED	

	MODEL	CA-MXGTB0					CA-MXGT91R
	VERSION	J/C	US/UW UJ	UP/UY	UT	A	B/E/EN EV/EE
SOUND QUALITY	R485/486	51K					
	R487/488	130K					
	C481/482 483/484	QFLM1HJ-273Z					
	R536	12K					
	C514	QFLC1HJ-471Z					
	R510	100K					
	C509	QETN1CM-106Z					
	R534	180K					
	C531	QFVJ1HJ-334Z					
	C527	QFLM1HJ-103Z					
	R579	100K					
	R580	5.6K					
	C449	NONE	USED	NONE	USED	NONE	NONE
	C450	NONE	USED	NONE	USED	NONE	NONE
	B150	USED	NONE	USED	NONE	USED	USED
	B151	USED	NONE	USED	NONE	USED	USED
OTHERS	B108	USED	NONE	USED	NONE	USED	USED
	B154	USED	NONE	USED	NONE	USED	USED

	MODEL	MX-GT90	CA-MXGT90		
	VERSION	J/C	US/UW UJ	UP/UY	A
SOUND QUALITY	R485/486	56K			
	R487/488	150K			
	C481/482 483/484	QFZ0160-223Z			
	R536	12K			
	C514	QFLC1HJ-417Z			
	R510	120K			
	C509	QETN1CM-106Z			
	R534	220K			
	C531	QFVJ1HJ-184Z			
	C527	QFLM1HJ-183Z			
	R579	82K			
	R580	680			
	C449	NONE	USED	NONE	
	C450	NONE	USED	NONE	
	B150	USED	NONE	USED	
	B151	USED	NONE	USED	
OTHERS	B108	USED	NONE	USED	
	B154	USED	NONE	USED	

*R405/R406 = QRE141J-222Y (FOR OTHER THAN A,UT AND E SERIES)
C405/C406 =QCSB1HJ-102Y (FOR A,UT AND E SERIES ONLY)

NOTES

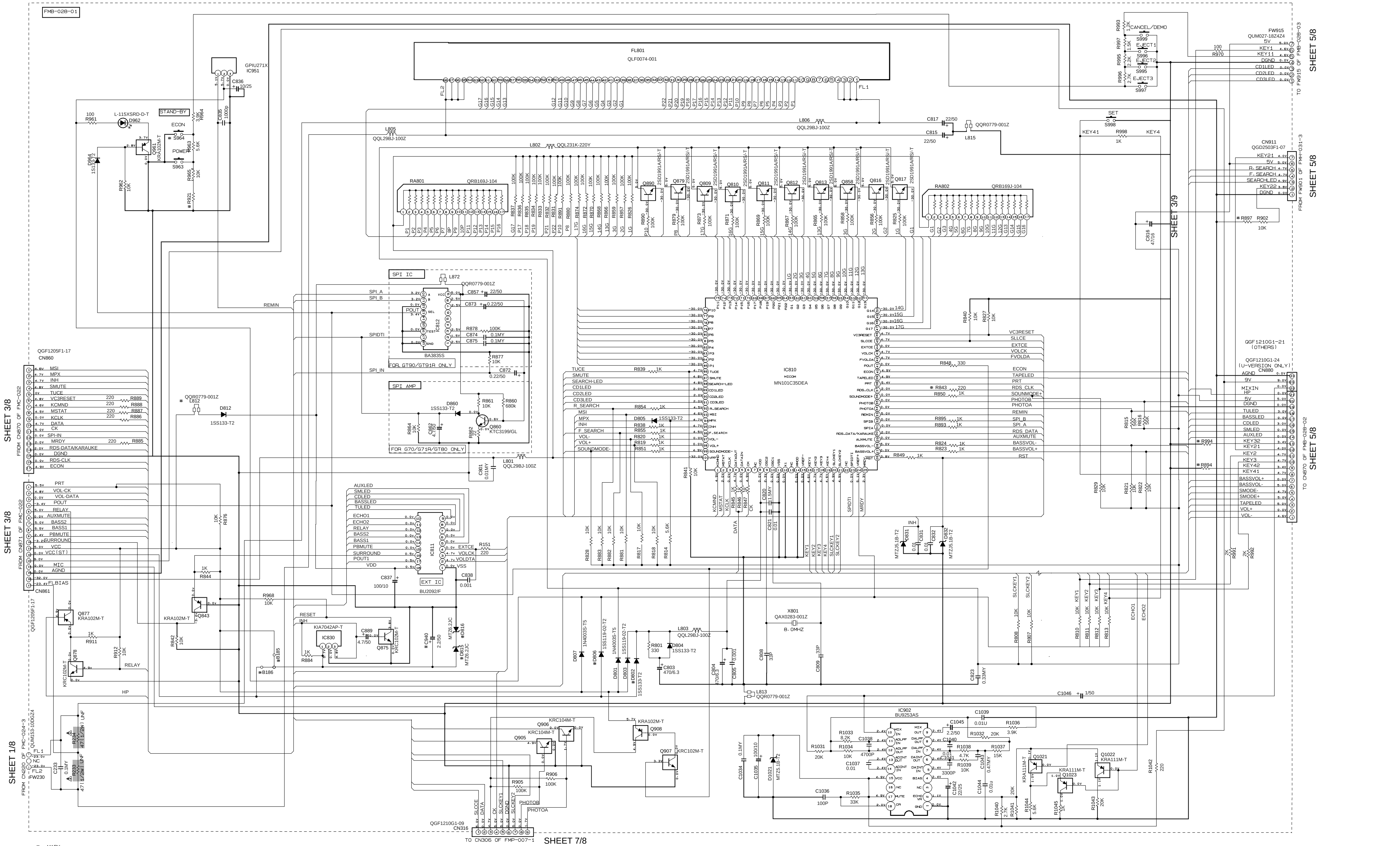
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION ---- AUX MODE, VOL MIN. SUBWOOFER VOL 1.
2. UNLESS OTHERWISE SPECIFIED
   RESISTORS ARE 1/4W ±5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN Ω(W)(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133

⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

MAIN signal TAPE P.B. signal CD signal TUNER signal

SHEET 3/8

■ FL & System control section



※ MARK

	CA-MXG71R B, E, EN, EV	CA-MXG70 A	MX-G70 J, C	CA-MXG70 UX	CA-MXG70 UJ, UP, US, UT, UW	CA-MXG70 UY	MX-G71R EE	CA-MXGT80 UJ, UP, US UT, UW	MX-GT80 C, J	CA-MXGT91R B, E, EN, EV	MX-GT91R EE	CA-MXGT80 A	CA-MXGT80 UY	CA-MXGT90 UJ, UP, US, UW	MX-GT90 C, J	MX-GT90 A	MX-GT90 UY
R921	330K	330K	330K	330K	330K	330K	330K	75K	75K	75K	75K	75K	75K	18K	18K	18K	18K
R897	330K	75K	75K	75K	75K	75K	330K	75K	75K	330K	330K	75K	75K	75K	75K	75K	75K
R994	75K	330K	75K	18K	75K	75K	330K	75K	75K	75K	330K	330K	75K	75K	75K	330K	75K
R894	330K	330K	75K	18K	330K	18K	75K	330K	75K	330K	75K	330K	18K	330K	75K	330K	18K
R843	USE	NONE	NONE	NONE	NONE	NONE	USE	NONE	NONE	USE	USE	NONE	NONE	NONE	NONE	NONE	NONE
X801	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z	QAX0283-001Z
S964	QSW0674-001Z	QSW0674-001Z	NONE	NONE	NONE	NONE	QSW0674-001Z	NONE	NONE	QSW0674-001Z	QSW0674-001Z	QSW0674-001Z	NONE	NONE	NONE	NONE	NONE
D802	1SS133-T2	1SS133-T2	NONE	NONE	NONE	NONE	1SS133-T2	NONE	NONE	1SS133-T2	1SS133-T2	1SS133-T2	NONE	NONE	NONE	1SS133-T2	NONE
D806	1SS119-02-T2	1SS119-02-T2	NONE	NONE	NONE	NONE	1SS119-02-T2	NONE	NONE	1SS119-02-T2	1SS119-02-T2	1SS119-02-T2	NONE	NONE	NONE	1SS119-02-T2	NONE
B185	NONE	NONE	USE	USE	USE	USE	NONE	USE	USE	NONE	NONE	NONE	USE	USE	USE	NONE	USE
B186	USE	USE	NONE	NONE	NONE	NONE	USE	NONE	NONE	USE	USE	USE	NONE	NONE	NONE	USE	NONE
C940	NONE	2.2/50	NONE	NONE	NONE	NONE	2.2/50	NONE	NONE	2.2/50	2.2/50	2.2/50	NONE	NONE	NONE	2.2/50	NONE
D815, D816	NONE	MTZJ6.2C-T2	NONE	NONE	NONE	NONE	MTZJ6.2C-T2	NONE	NONE	MTZJ6.2C-T2	MTZJ6.2C-T2	MTZJ6.2C-T2	NONE	NONE	NONE	MTZJ6.2C-T2	NONE

NOTES

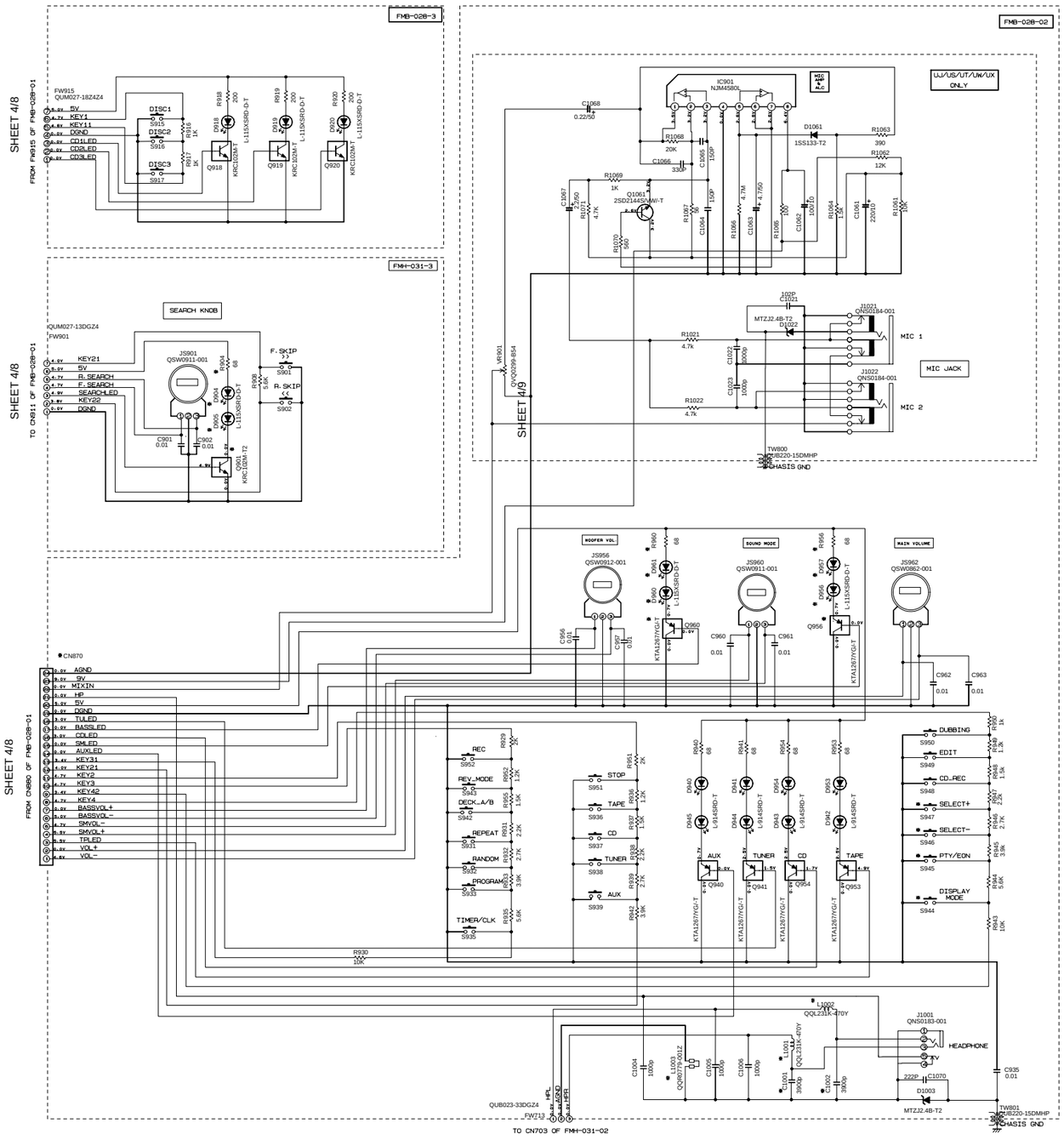
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- AUX MODE, VOL MIN, BASS LEVEL 1
2. UNLESS OTHERWISE SPECIFIED
   RESISTORS ARE 1/4W ± 5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133

⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

SHEET 4/8

A B C D E F G

■ Front key section



SHEET 2/8

* MARK

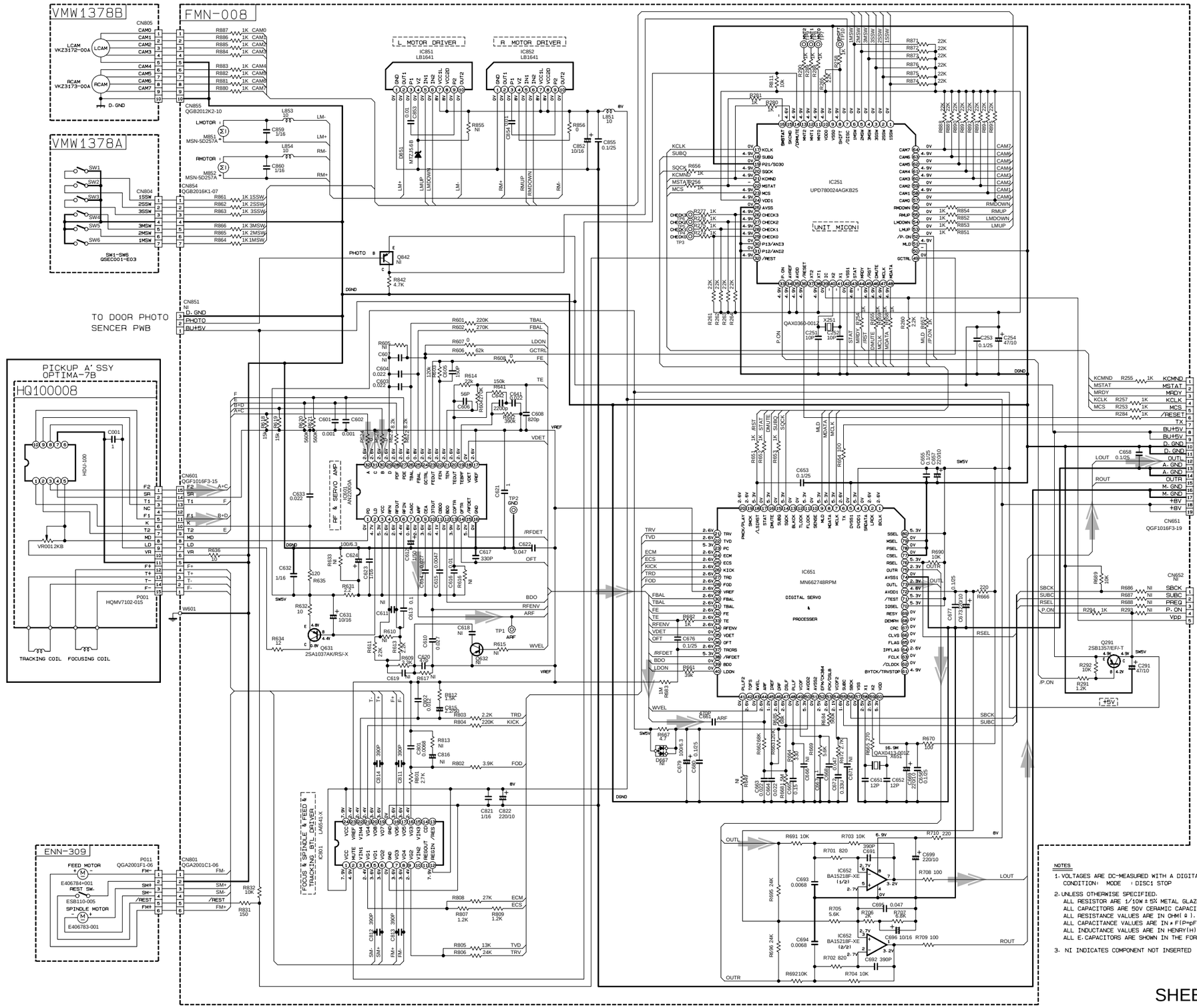
	CA-MXG71R B. E. EN. EV	CA-MXG70 A	MX-G70 J. C	CA-MXG70 UX	CA-MXG70 UJ. UP. US. UT. UW	CA-MXG70 UY	MX-G71R EE	CA-MXGT80 UJ. UP. US UT. UW	MX-GT80 C. J	CA-MXGT91R B. E. EN. EV	MX-GT91R EE	CA-MXGT80 A	CA-MXGT80 UY	CA-MXGT90 UJ. UP. US. UW	MX-GT90 C. J	MX-GT90 A	MX-GT90 UY
D904. D905. D956. D957 D960. D961	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	L-115XSRD-D-T	L-115XSRD-D-T	L-115XSRD-D-T	NONE	NONE	L-115XSRD-D-T	L-115XSRD-D-T	L-115XSRD-D-T	L-115XSRD-D-T
S944. S945. S946. S947	QSW0825-001Z	NONE	NONE	NONE	NONE	NONE	QSW0825-001Z	NONE	NONE	QSW0825-001Z	QSW0825-001Z	NONE	NONE	NONE	NONE	NONE	NONE
L1001. L1002	QQL231K-470Y	QQL231K-470Y	SHORT	SHORT	SHORT	SHORT	QQL231K-470Y	SHORT	SHORT	QQL231K-470Y	QQL231K-470Y	SHORT	SHORT	SHORT	SHORT	QQL231K-470Y	SHORT
C1001. C1002	3900P	3900P	NONE	NONE	NONE	NONE	3900P	NONE	NONE	3900P	3900P	3900P	NONE	NONE	NONE	3900P	3900P
L1003	QQR0779-001Z	QQR0779-001Z	QQL231K-2R2Y	QQL231K-2R2Y	QQL231K-2R2Y	QQL231K-2R2Y	QQR0779-001Z	QQL231K-2R2Y	QQL231K-2R2Y	QQR0779-001Z	QQR0779-001Z	QQR0779-001Z	QQL231K-2R2Y	QQL231K-2R2Y	QQL231K-2R2Y	QQL231K-2R2Y	QQL231K-2R2Y
R904. R956. R960	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	68	68	68	NONE	NONE	68	68	68	68
Q901	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	KRC102M-T	KRC102M-T	KRC102M-T	NONE	NONE	KRC102M-T	KRC102M-T	KRC102M-T	KRC102M-T
CN870	GGF1205F1-22	GGF1205F1-22	GGF1205F1-22	GGF1205F1-24	GGF1205F1-24	GGF1205F1-24	GGF1205F1-22	GGF1205F1-24	GGF1205F1-22	GGF1205F1-22	GGF1205F1-22	GGF1205F1-22	GGF1205F1-22	GGF1205F1-22	GGF1205F1-22	GGF1205F1-22	GGF1205F1-24
Q956. Q960	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	KTA1266/YG/-T	NONE	KTA1267/YG/-T	KTA1267/YG/-T	NONE	KTA1267/YG/-T	KTA1267/YG/-T	KTA1267/YG/-T	KTA1267/YG/-T

NOTES

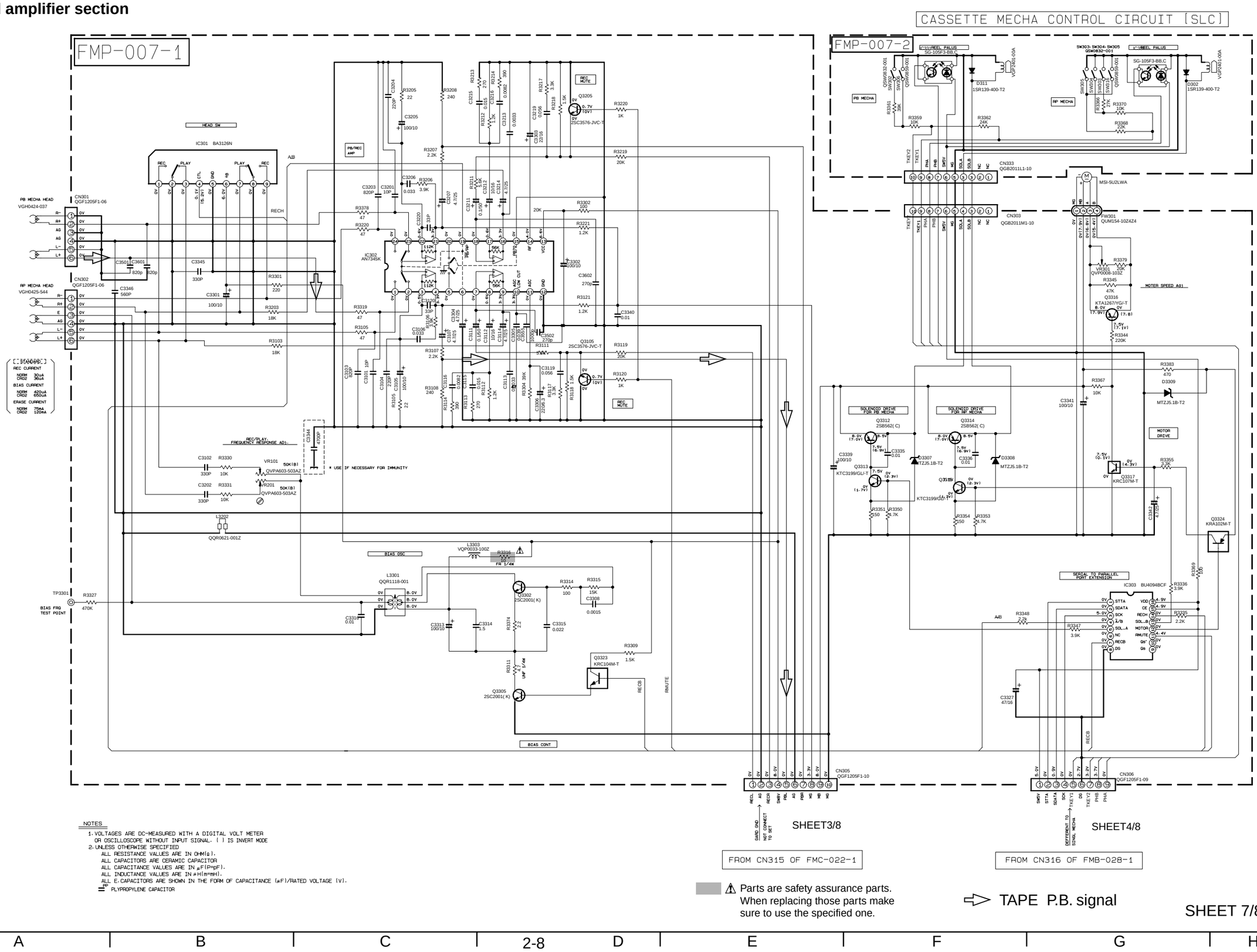
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION —— AUX MODE. VOL MIN. BASS OFF
2. UNLESS OTHERWISE SPECIFIED
   RESISTORS ARE 1/4W ± 5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (uF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133

SHEET 5/8

■ CD servo control section



■ Head amplifier section



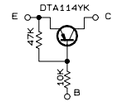
NOTES

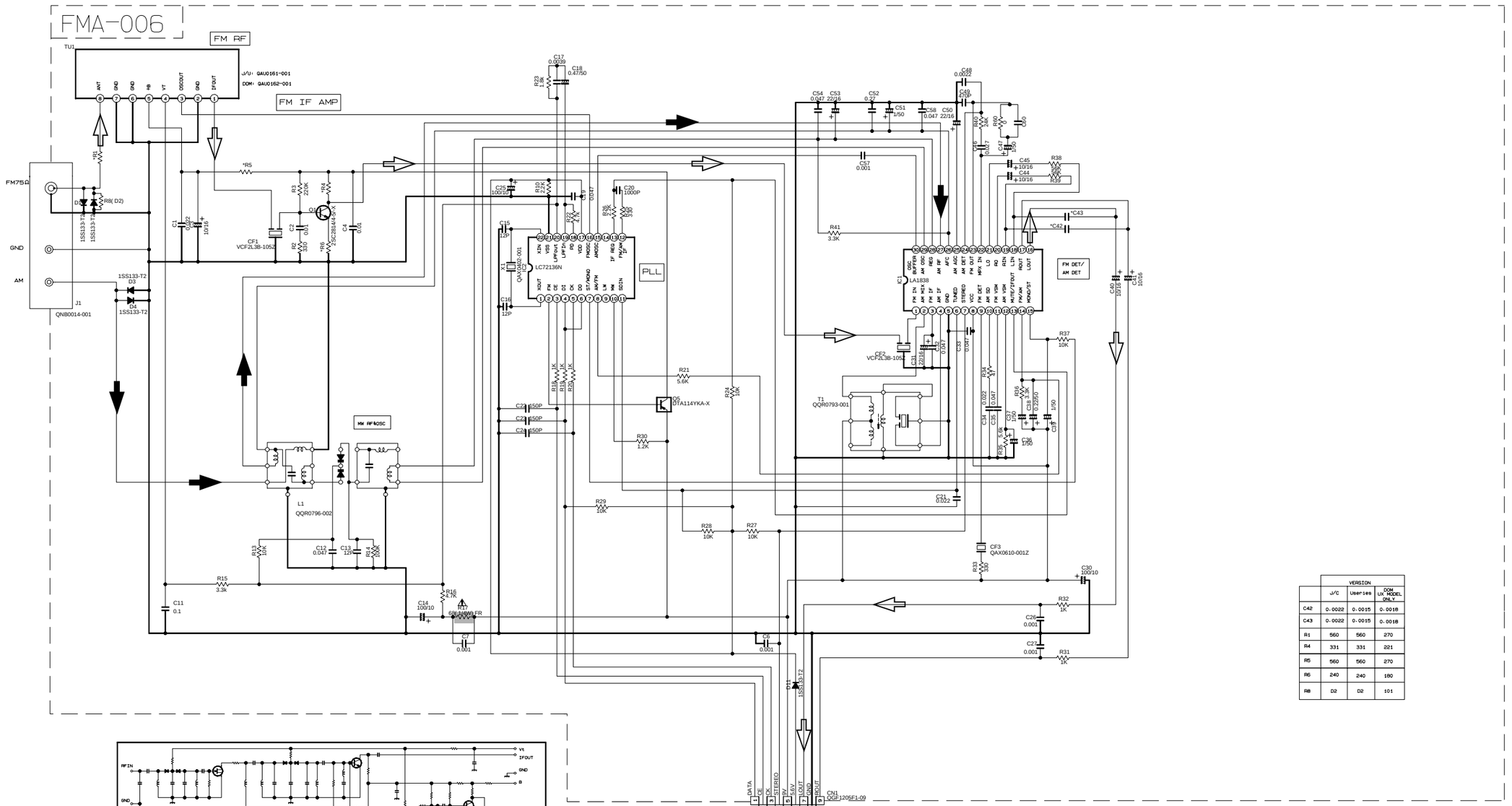
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL. ( ) IS INVERT MODE
2. UNLESS OTHERWISE SPECIFIED
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
   PP PLYPROPYLENE CAPACITOR

■ Tuner section

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER.
2. ALL RESISTORS ARE 1/8W ±5% METAL GLAZE RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM(Ω).
4. ALL CAPASITANCE VALUES ARE IN μF(P=pF).
5. ALL E.CAPASITORS ARE SHOWN IN THE FORM OF CAPASITANCE (μF)/RATED VOLTAGE (V).
6. SI DIODES (▶) ARE ALL 1SS133-T THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS MA165 OR HSS104J.
7. PARTS NO. OF TRANSISTORS ARE AS FOLLOWS.
   Q1 2SC2814/4-5/-X Q2.Q3 2SC2412K/R/-X
   Q4.Q5 DTA114YKA-X
8. INSIDE OF DIGITAL TRANSISTORS ARE SHOWN AS FOLLOWS.





	VERSION		
	J/C	Usaries	CDN UK MODEL ONLY
C42	0.0022	0.0015	0.0018
C43	0.0022	0.0015	0.0018
R1	560	560	270
R4	331	331	221
R5	560	560	270
R6	240	240	180
R8	D2	D2	101

	CONDITION PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
IC1	FM NO SIGNAL	3.6	8.9	3.6	3.6	0	5.0	5.0	8.9	8.9	1.3	0.1	0	0.9	7.8	7.8	4.3	4.3	4.3	4.3	3.4	3.4	2.8	3.4	0	0	3.5	3.5	3.6	3.6	2.7
	FM 60dB STEREO	3.6	8.9	3.6	3.6	0	0	5.0	8.9	8.9	1.3	4.3	0	0.9	7.8	7.8	4.3	4.3	4.3	4.3	3.4	3.4	2.8	3.4	0	0	3.6	3.6	3.6	3.6	2.7
	AM NO SIGNAL	3.5	9.0	3.5	3.5	0	5.0	5.1	9.0	2.6	1.3	0	0	0.9	4.7	5.5	4.3	4.3	4.3	4.3	3.3	3.2	2.8	ust	0.7	0.7	3.6	3.6	3.6	3.6	2.1
IC2	FM NO SIGNAL	2.5	0	0	5.0	4.9	5.0	7.9	7.8	3.6	6.1	5.1	0	0	0	0	2.5	5.1	0.9	0.9	3.8	0	2.3								

Tr NO.	Q1			Q5					
PIN NO.	E	C	B	E	C	B			
FM 87.5MHz NO SIGNAL	0	7.1	0.85	8.9	8.8	0			
AM 522KHz NO SIGNAL	0	0	0	9.0	0	8.9			
Tr NO.	Q2			Q3			Q4		
PIN NO.	E	C	B	E	C	B	E	C	B
AM 522KHz NO SIGNAL	0	0	0.7	0	0	0.7	0	3.6	0.7
AM 144KHz NO SIGNAL	0	0	0.3	0	0.3	0.3	3.6	3.6	3.6

⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

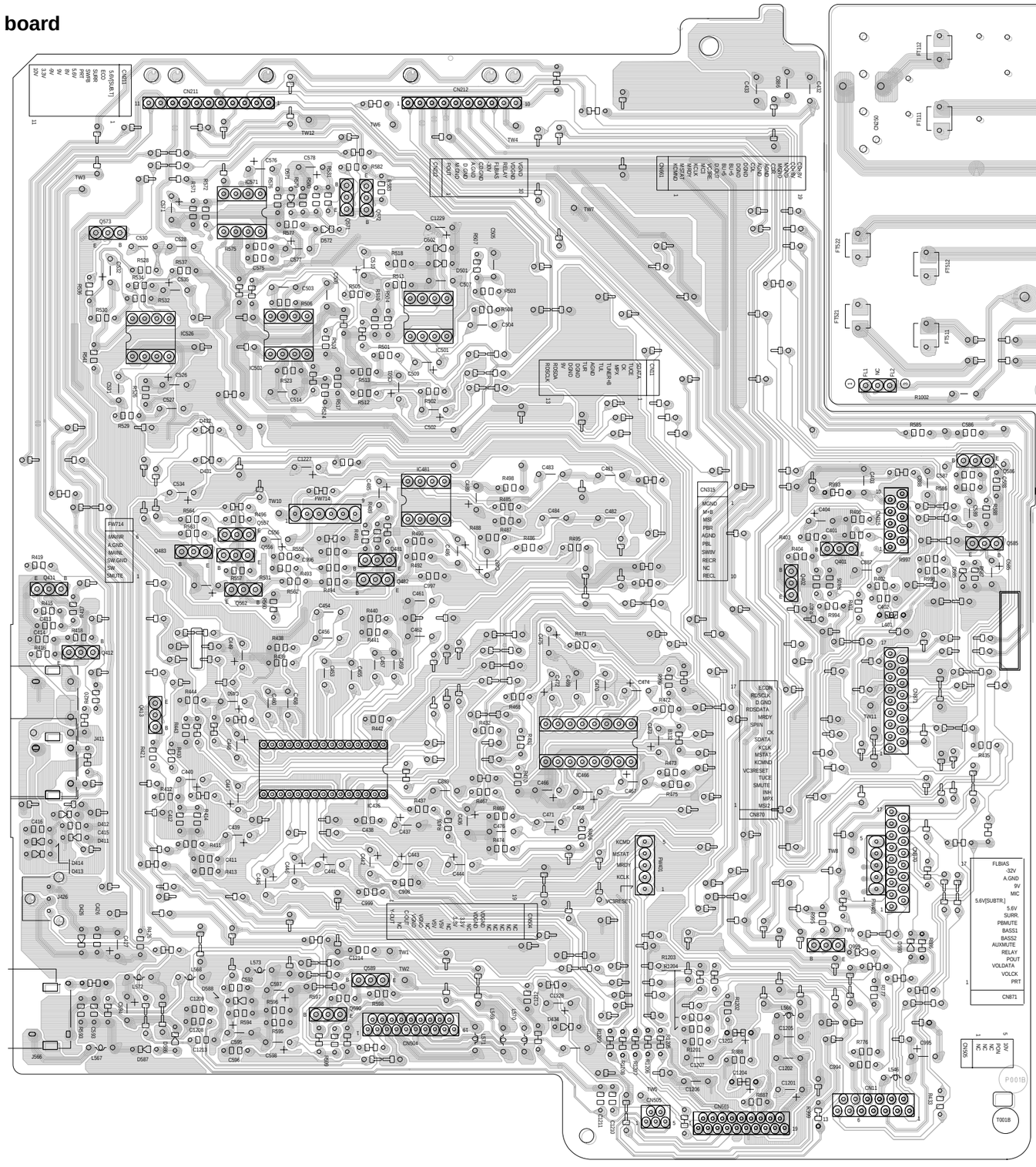
⇨ FM/TUNER signal

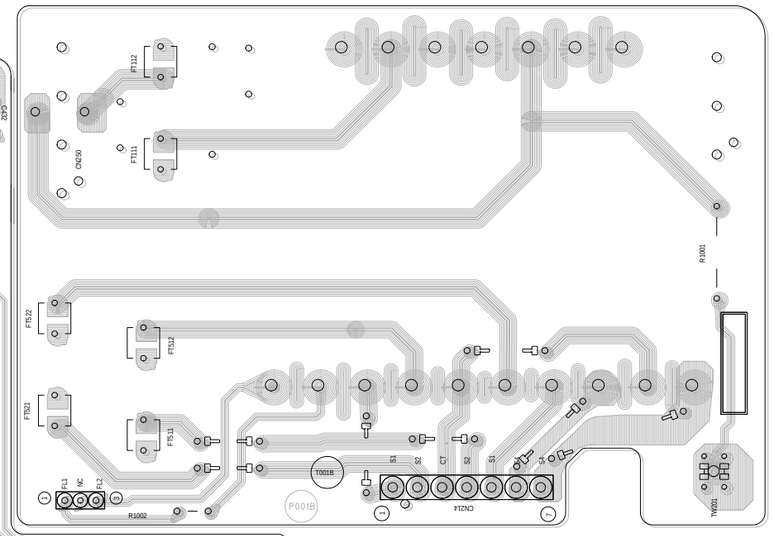
➡ AM signal

SHEET 8/8

Printed circuit boards

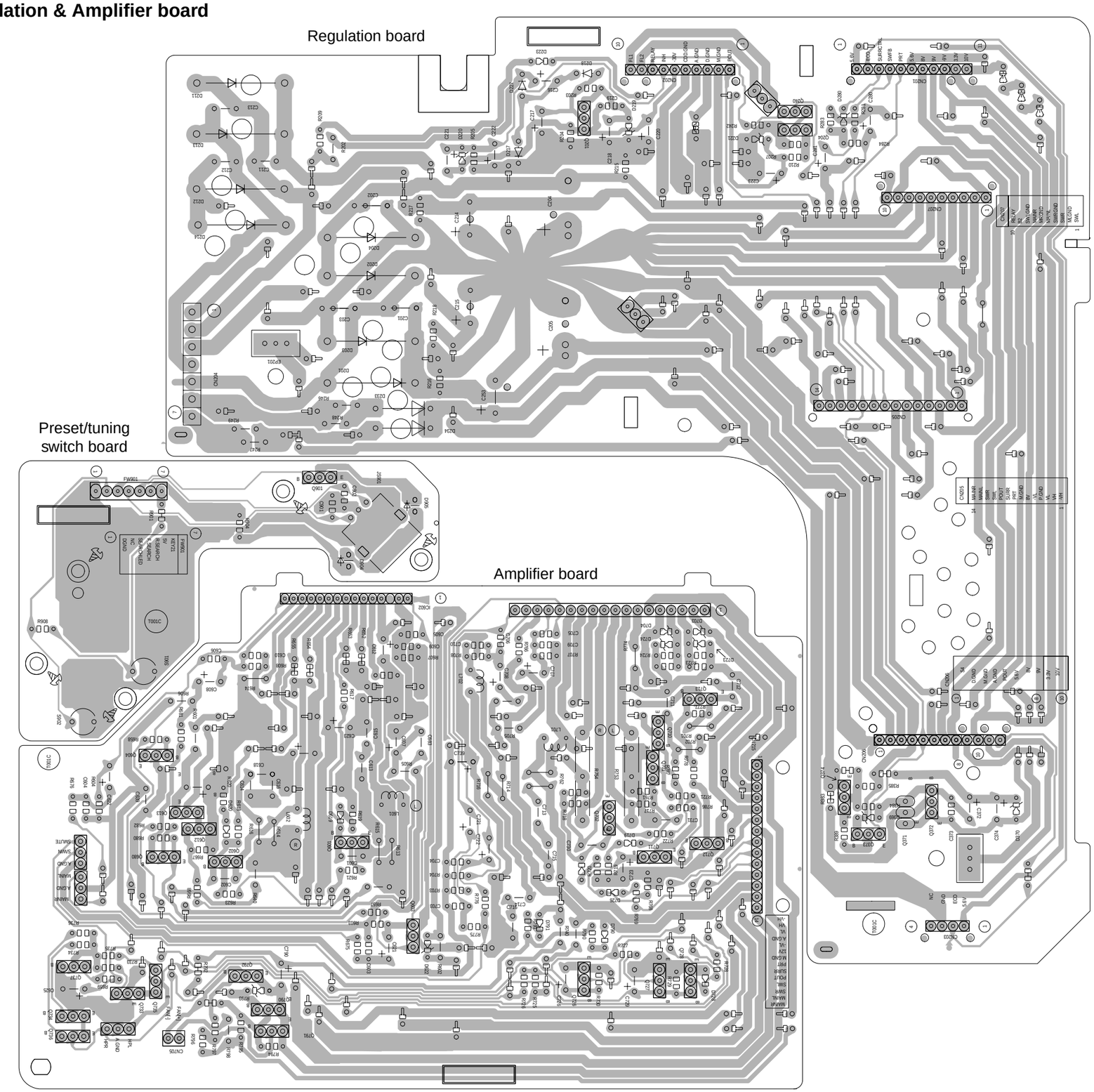
■ Main board





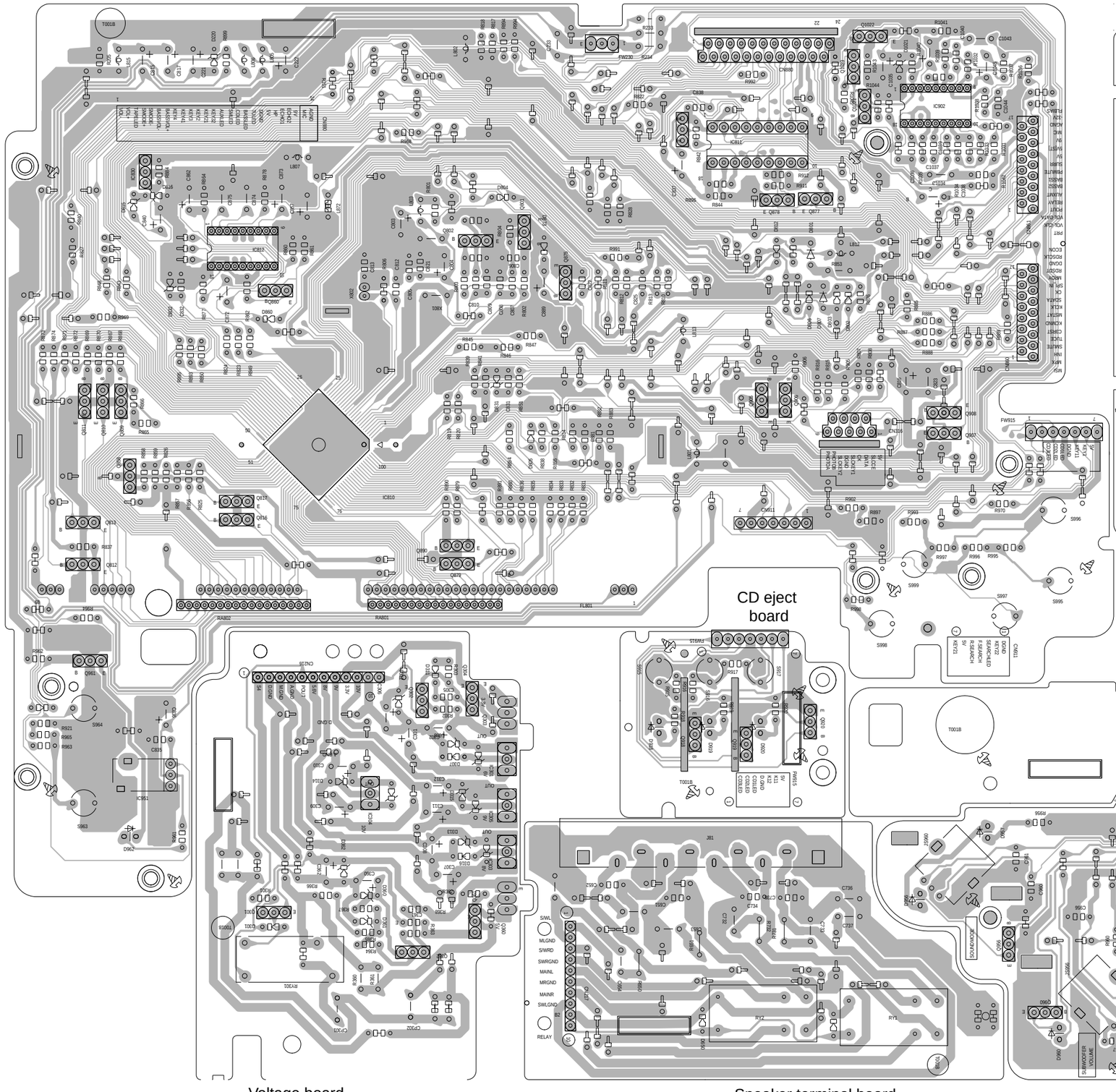
Transformer board

■ Regulation & Amplifier board

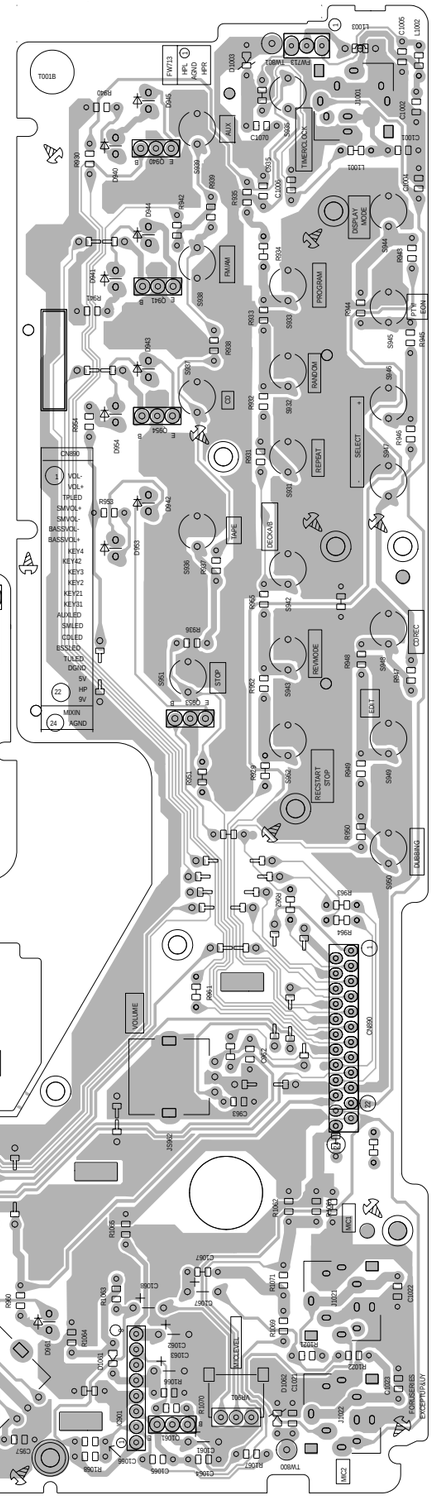


■ Front board

Display & system control board



Operation swicth board

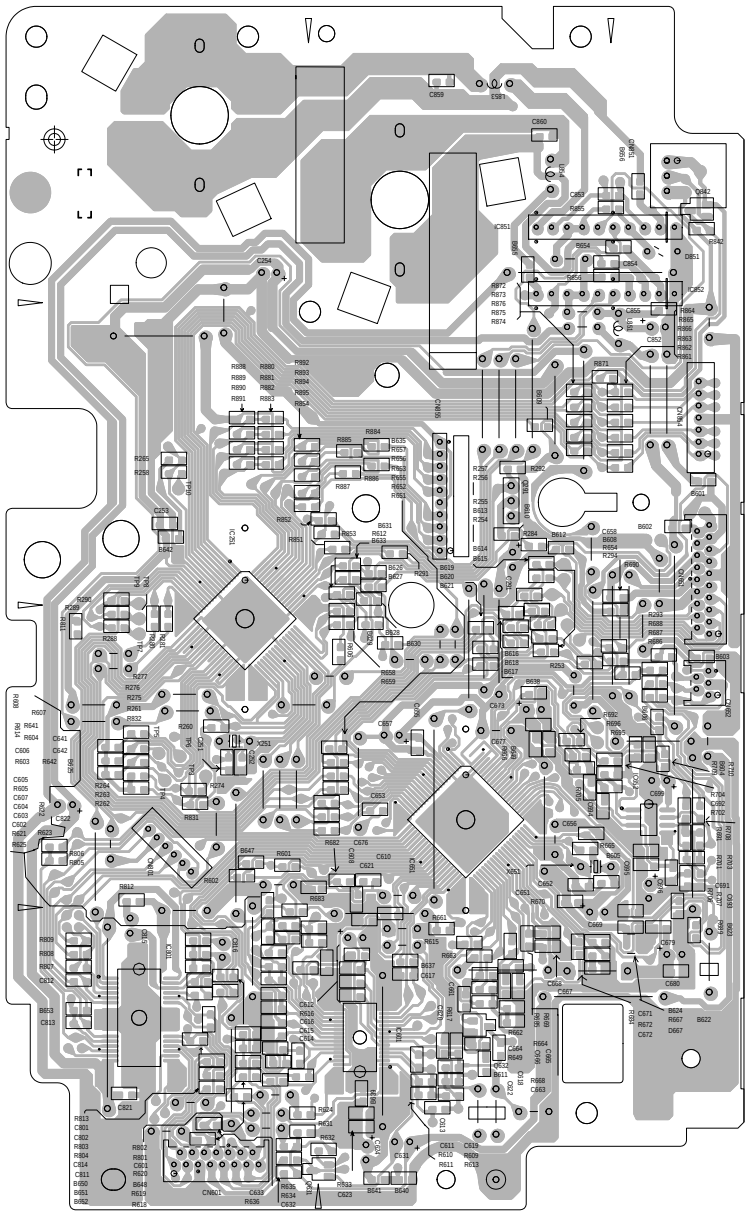


CD eject board

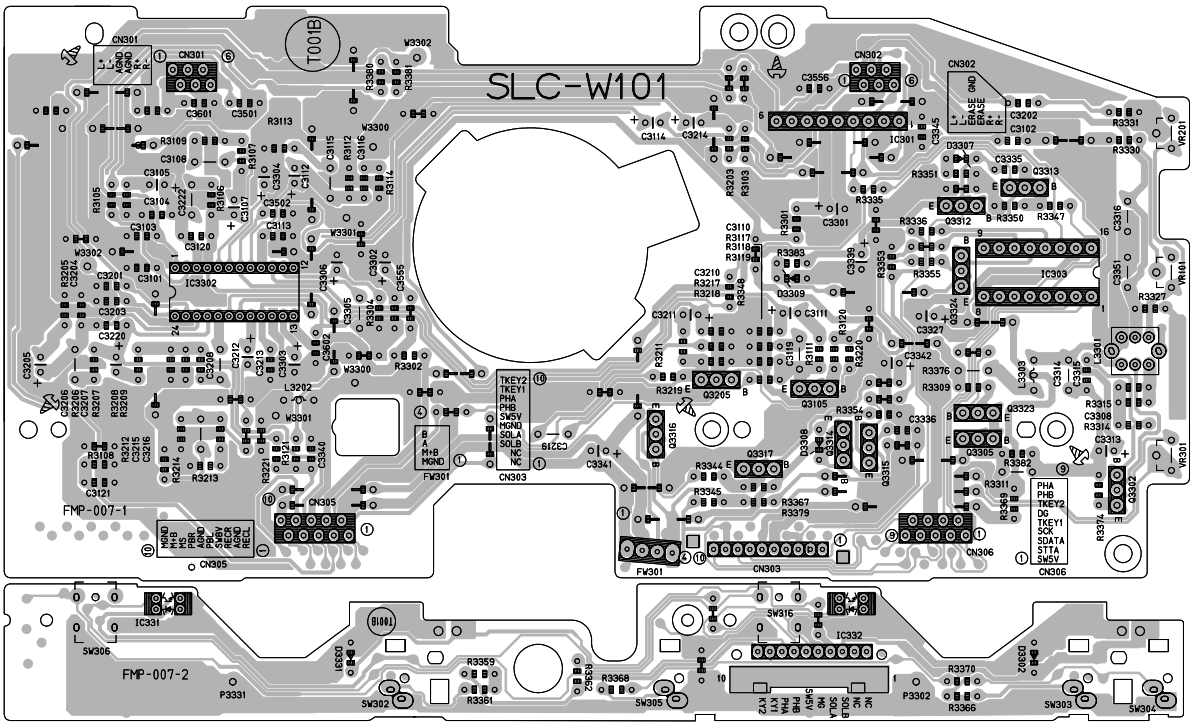
Voltage board

Speaker terminal board

■ CD servo control boad



■ Head amplifer & Mmechanism control board



■ Tuner board