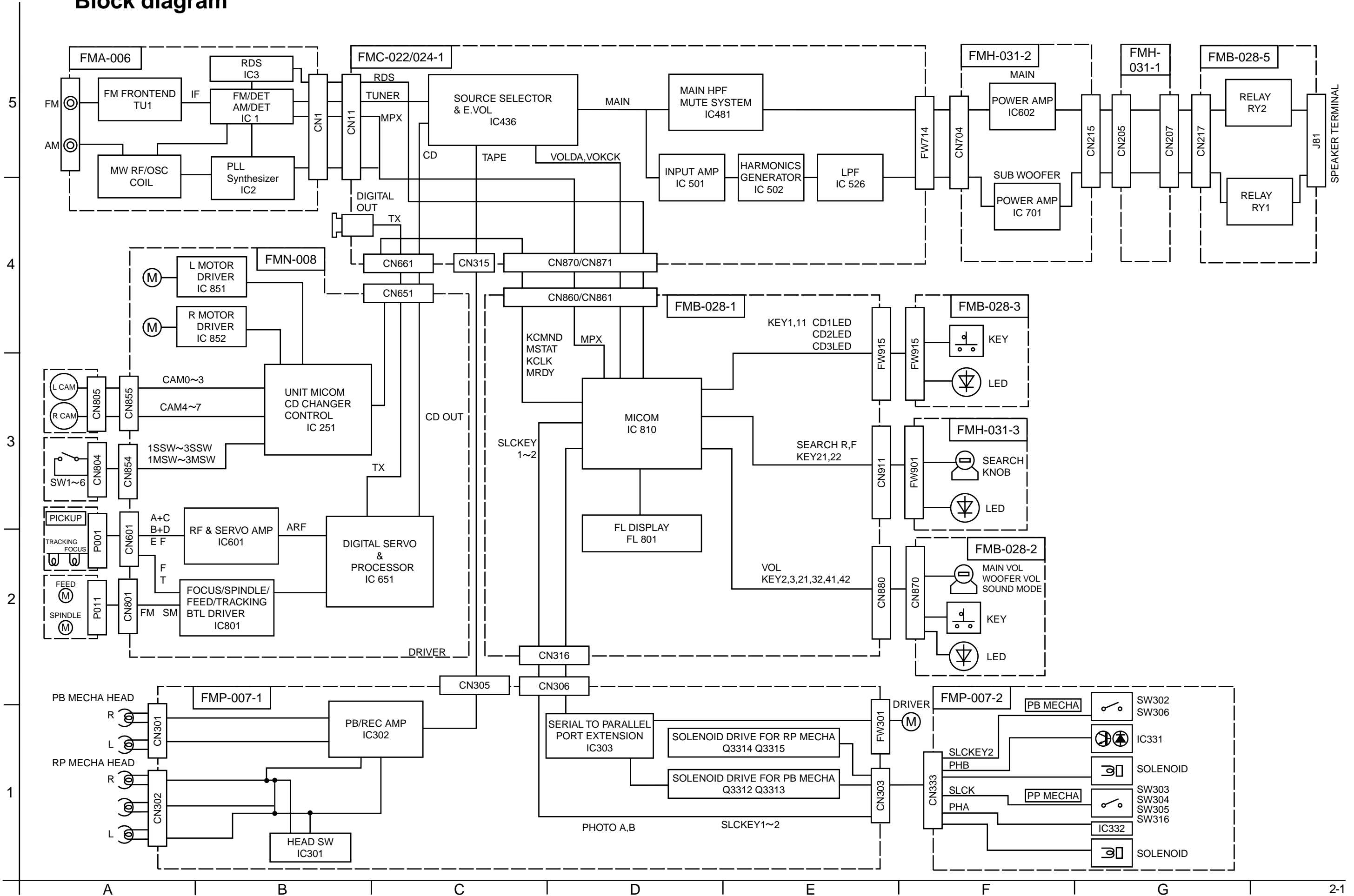


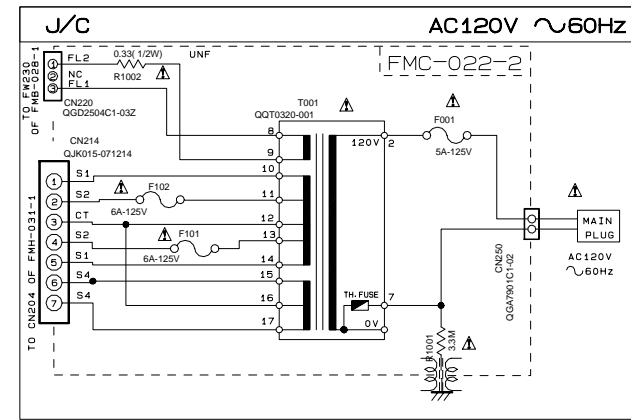
# Block diagram



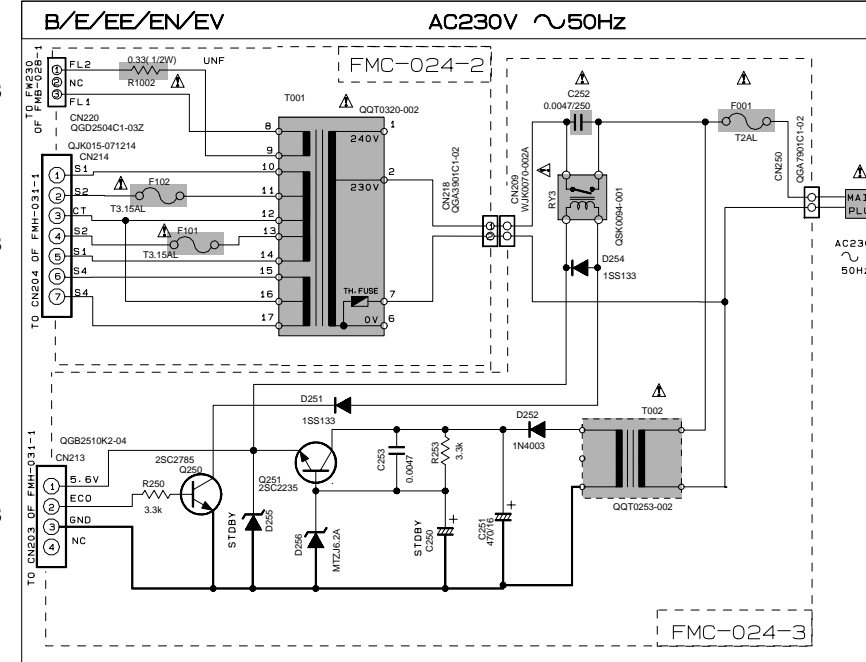
# Standard schematic diagrams

## Power supply section

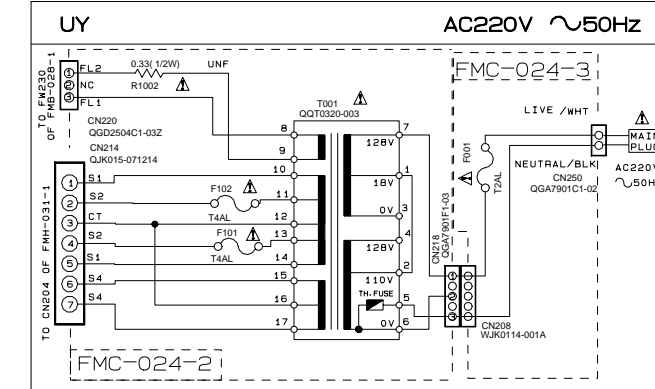
POWER SUPPLY BLOCK



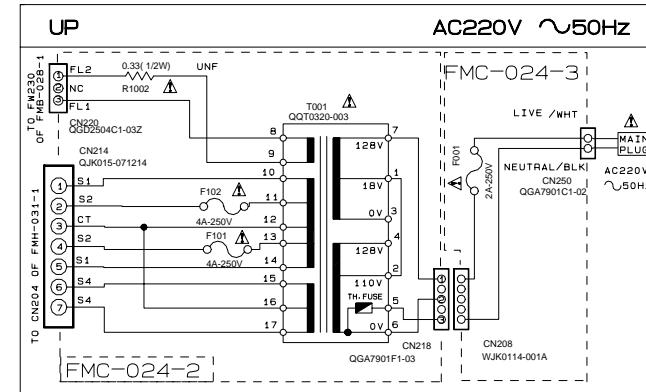
POWER SUPPLY BLOCK



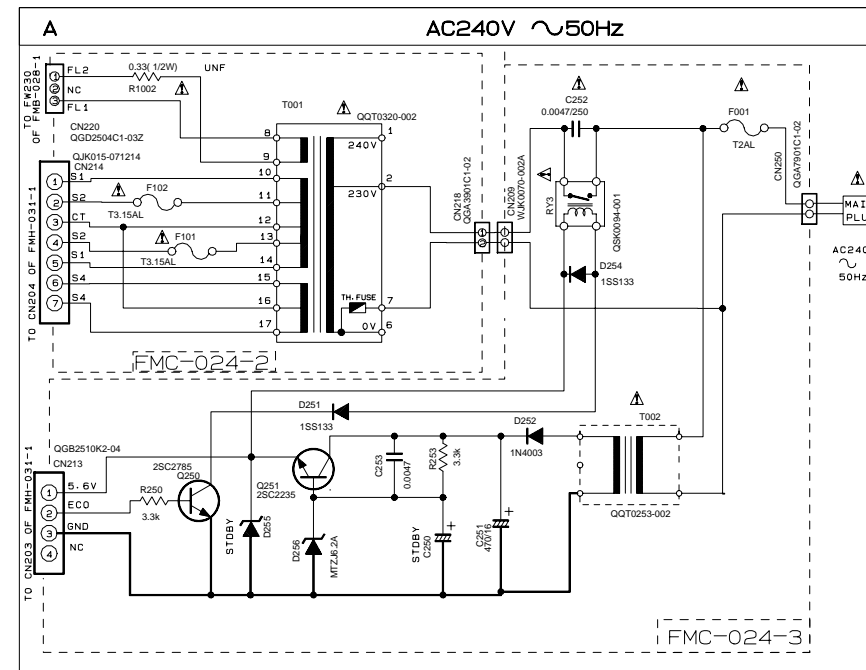
POWER SUPPLY BLOCK



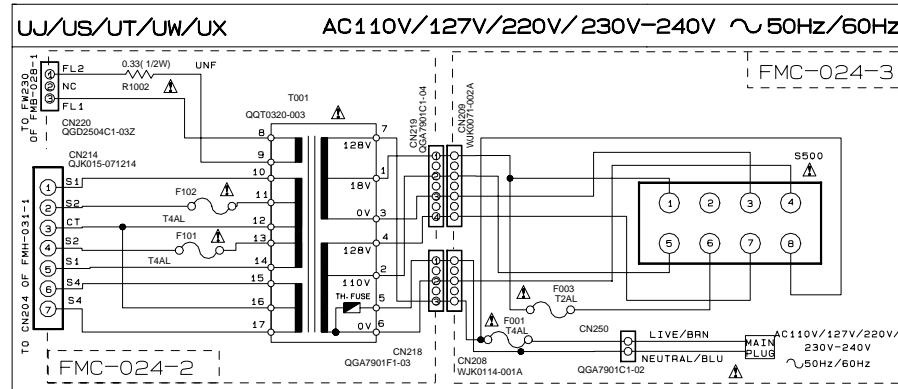
POWER SUPPLY BLOCK



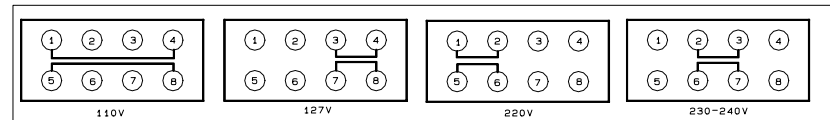
POWER SUPPLY BLOCK



POWER SUPPLY BLOCK



VOLTAGE SELECTOR LOCATION

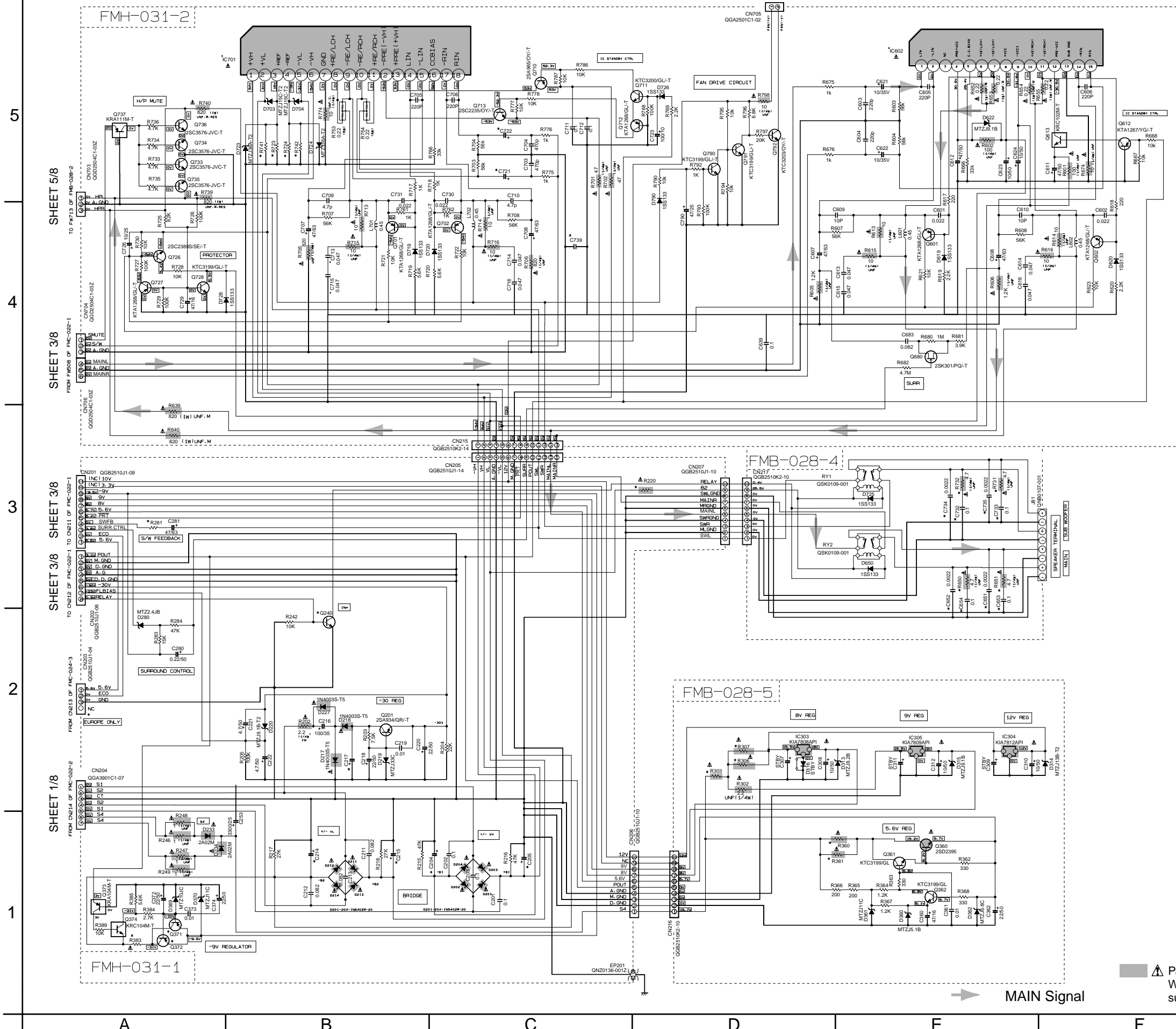


SHEET NUMBER	CIRCUITS DESCRIPTION
1/8	. PRIMARY WITH MAINS TRANSFORMER
2/8	. DC REGULATORS/AUDIO OUTPUT
3/8	. EXTERNAL INPUT SOURCE SELECTOR SWITCH
4/8	. FL DISPLAYS SYSTEM CONTROL LSI
5/8	. USER CONTROL KEYS MIC AMP
6/8	. CD SERVO AND CD SYSTEM CONTROL . CD CHANGER MECHANISM CONTROL
7/8	. TAPE DECK MECHANISM CONTROL . TAPE CIRCUITS SUCH AS PRE-AMP AND BIAS
8/8	. 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 ABOVE

▲ 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. 10% 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 POLYMER CAPACITOR.  
 ALL CAPACITANCE VALUES ARE IN nF (n=1000).  
 ALL INDUCTANCE VALUES ARE IN mH (m=1000).  
 ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).  
 ALL DIODES ARE 1SS133

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	STK412	STK412	STK412	STK412	STK412	STK412	STK412	STK412	STK412	STK412	STK412
IC602	STK402	STK402	STK402	STK402	STK402	STK402	STK402	STK402	STK402	STK402	STK402	STK402
R220	47	47	47	47	47	47	47	47	47	47	47	47
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	2.2	2.2	2.2	4.7	2.2	2.2	2.2	4.7	2.2	2.2	2.2
R361	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
R281	4.7K	5.6K	4.7K	4.7K	7.5K	10K	5.6K	6.8K	8.2K	5.6K	5.6K	5.6K
C721/C722	10/50	10/50	10/50	10/50	10/50	10/50	10/50	10/35	10/35	10/35	10/35	
R306	2.2	0.33	0.33	0.33	2.2	0.33	0.33	0.33	2.2	0.33	0.33	
R307	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
R383	10	SHORT	SHORT	SHORT	10	SHORT	SHORT	SHORT	10	SHORT	SHORT	
C204/C205	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	
C214/C215	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	
R303	0.33	SHORT	SHORT	SHORT	0.33	SHORT	SHORT	SHORT	0.33	SHORT	SHORT	
C217	47/63	47/63	47/63	47/63	47/63	47/63	47/63	47/63	47/100	47/100	47/100	
R723, R724	10K	6.8K	6.8K	6.8K	10K	6.8K	6.8K	6.8K	10K	6.8K	6.8K	
R741, R742	10K	6.8K	6.8K	6.8K	10K	6.8K	6.8K	6.8K	10K	6.8K	6.8K	
C734, C735	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	
C651, C652	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	
C732, C733	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	
C653, C654	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	
R731, R732	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	
R550, R551	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	
C739	0.1	1/50	1/50	1/50	0.1	1/50	1/50	1/50	0.1	1/50	1/50	
Q240	KTC3000	KTC3199	KTC3199	KTC3199	KTC3000	KTC3199	KTC3199	KTC3199	KTC3000	KTC3199	KTC3199	

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

Main section

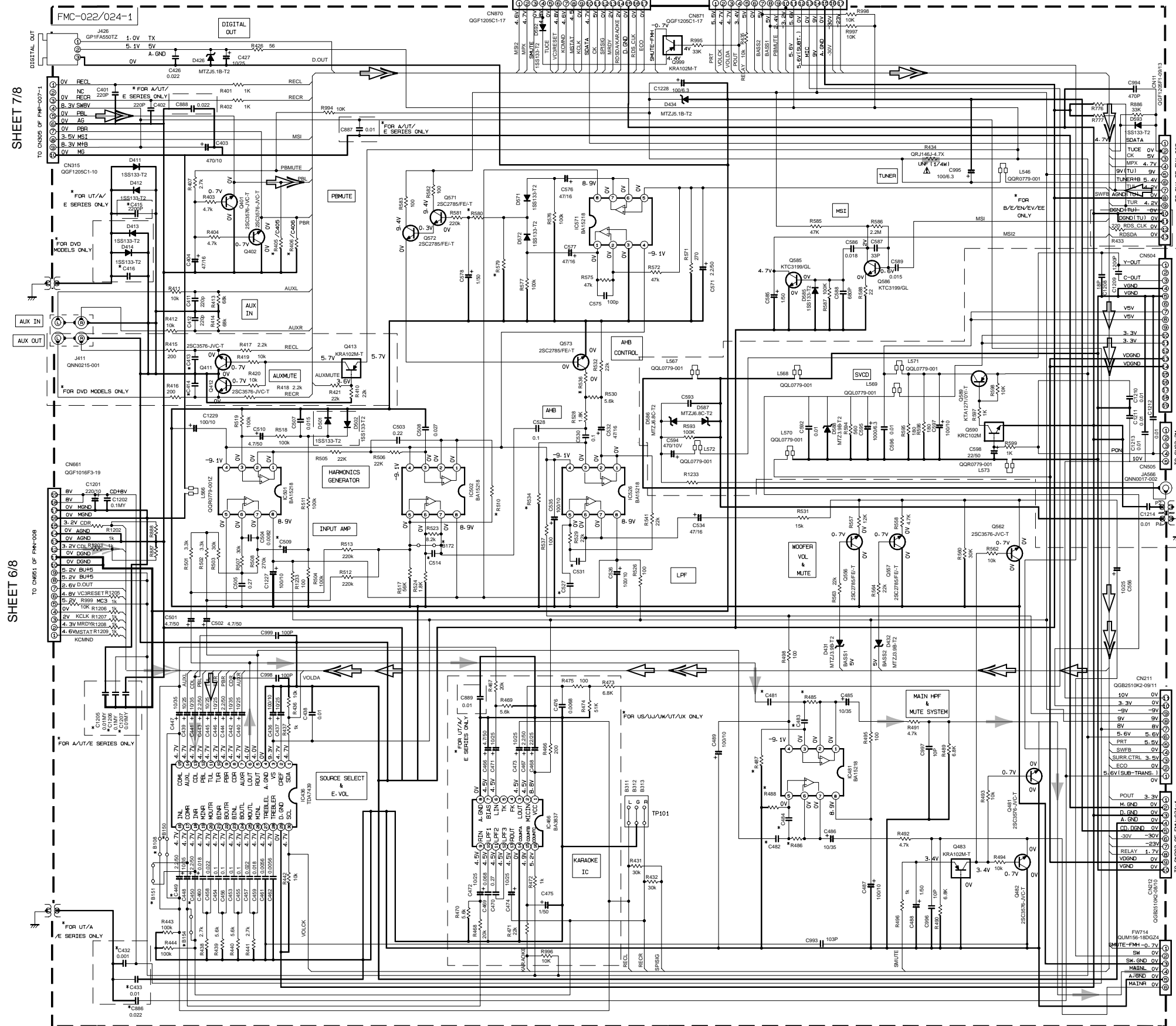
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SHEET 6/8

SHEET 7/8

SHEET 8/8

SHEET 2/8

SHEET 2/8

SHEET 2/8



MODEL	CA-MXG70				MX-G70		CA-MXG71R	
	US/LW UX/UJ	UP/UY	UT	A	J/C	B/E EN/EE	A	B/E EN/EE
R485/486				56K				
R487/488				80K				
C481/482 483/484				QFLM1HJ-223Z				
R536				15K				
C514				QFLM1HJ-473Z				
R510				100K				
C509				QETN1H-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		
B108	NONE	USED	NONE			USED		
B154	NONE	USED	NONE			USED		

MODEL	CA-MXG780				CA-MXG791R	
	J/C	US/LW UJ	UP/UY	UT	A	B/E EN/EE
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
C450	NONE	USED	NONE	USED		NONE
B150	USED	NONE	USED	NONE		USED
B151	USED	NONE	USED	NONE		USED
B108	USED	NONE	USED	NONE		USED
B154	USED	NONE	USED	NONE		USED

MODEL	MX-GT90		CA-MXG790	
	J/C	A	US/LW UJ	UP/UY
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
B108	USED		NONE	USED
B154	USED		NONE	USED

NOTES

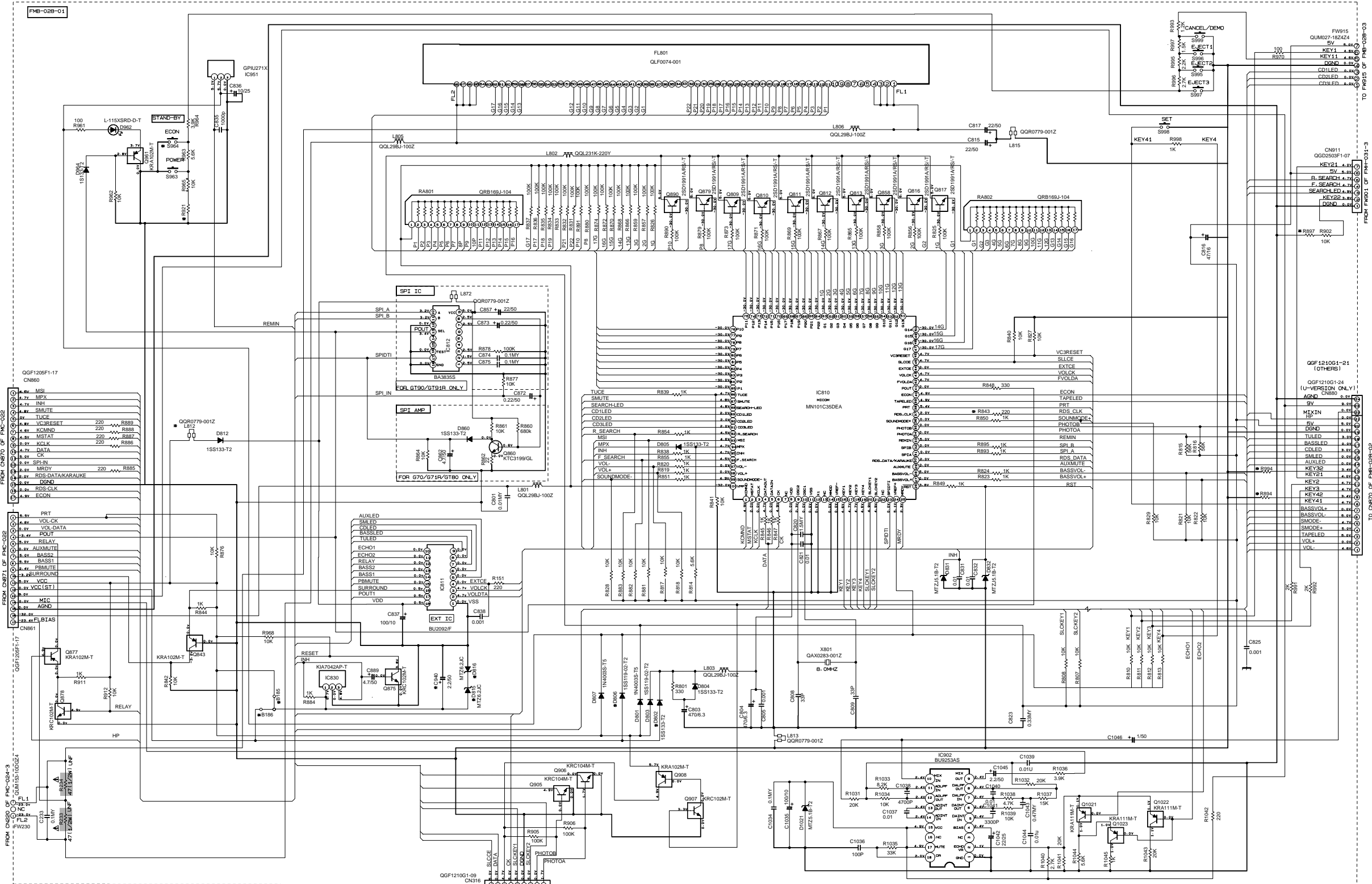
\*R405/R406 = QRE141J-222Y (FOR OTHER THAN A-UT AND E SERIES)  
 C405/C406 = QCSB1HJ-102Y (FOR A-UT AND E SERIES ONLY)

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 OHM(S).  
 ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.  
 ALL CAPACITANCE VALUES ARE IN P(F)P(P).  
 ALL INDUCTANCE VALUES ARE IN MH(MH).  
 ALL CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (P/F)/RATED VOLTAGE (V).  
 ALL DIODES ARE 1SS133

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

FL & system control section



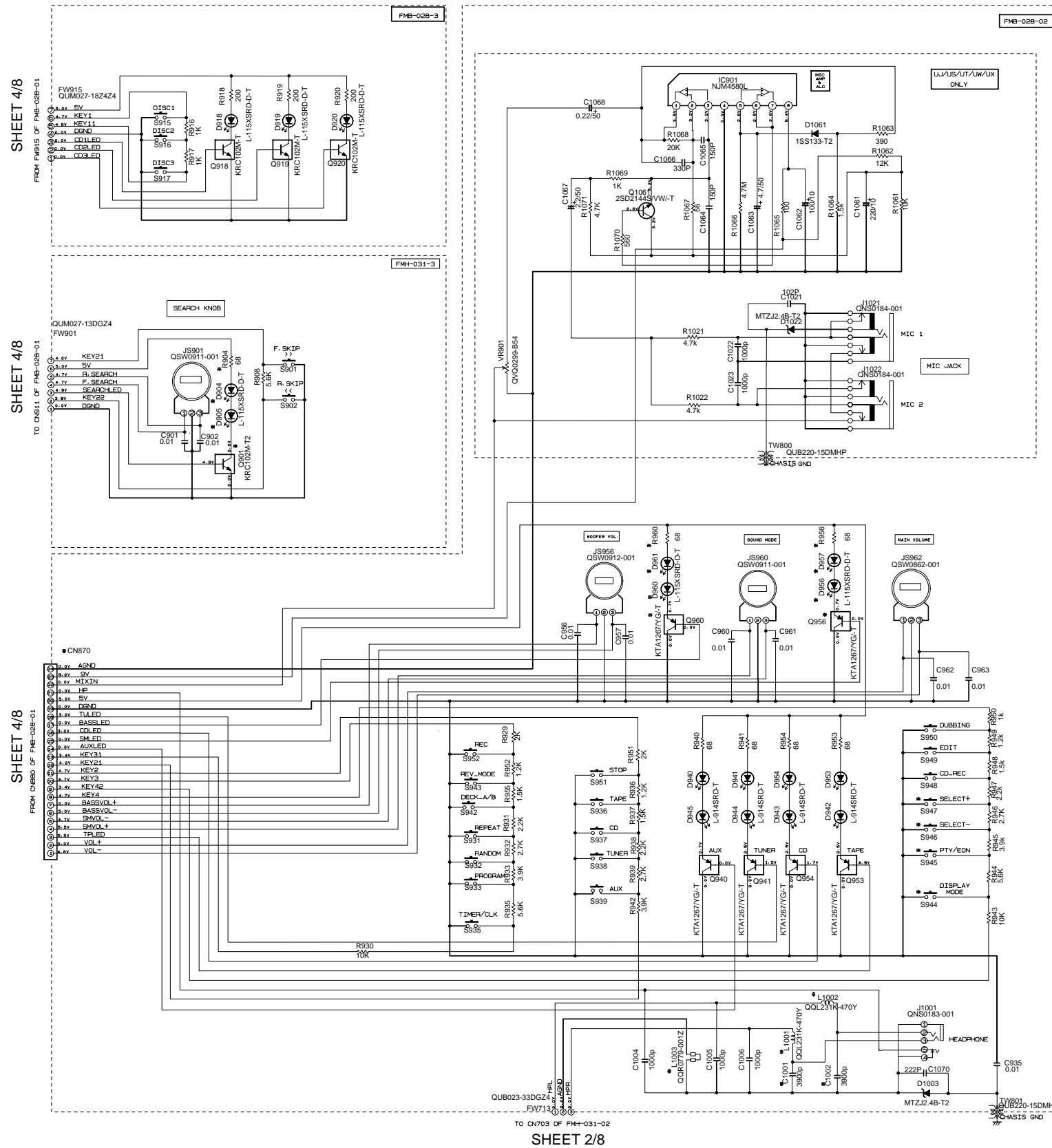
MARK

MARK	CA-MXGT91R B-E-EN-EV	CA-MXG70 A	MX-G70 U-C	CA-MXG70 UX	CA-MXG70 UJ-UP-US-UT-UM	CA-MXG70 UY	MX-G71R EE	CA-MXGT91R UJ-UP-US-UT-UM	MX-G71R C-J	CA-MXGT91R B-E-EN-EV	MX-G71R EE	CA-MXGT91R A	CA-MXGT91R UY	CA-MXGT90 UJ-UP-US-UM	MX-GT90 C-J	MX-GT90 A	MX-GT90 UY
R821	330K	330K	330K	330K	330K	330K	75K	75K	75K	75K	75K	75K	75K	18K	18K	18K	18K
R897	330K	75K	75K	75K	75K	75K	330K	75K	330K	330K	75K	75K	75K	75K	75K	75K	75K
R994	75K	330K	75K	75K	75K	75K	330K	75K	330K	330K	75K	75K	75K	75K	75K	75K	75K
R994	330K	330K	75K	18K	330K	18K	75K	330K	75K	330K	18K	330K	75K	75K	330K	18K	18K
R843	USE	NONE	NONE	NONE	NONE	NONE	USE	NONE	NONE	NONE	USE	NONE	NONE	NONE	NONE	NONE	NONE
R901	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012	QAX0293-0012
S964	GSW0674-0012	GSW0674-0012	NONE	NONE	NONE	NONE	GSW0674-0012	NONE	NONE	GSW0674-0012	GSW0674-0012	GSW0674-0012	NONE	NONE	NONE	NONE	NONE
D802	1SS133-T2	1SS133-T2	NONE	NONE	NONE	1SS133-T2	NONE	NONE	NONE	1SS133-T2	1SS133-T2	NONE	NONE	NONE	1SS133-T2	NONE	NONE
D806	1SS119-02-T2	1SS119-02-T2	NONE	NONE	NONE	1SS119-02-T2	NONE	NONE	NONE	1SS119-02-T2	1SS119-02-T2	NONE	NONE	NONE	1SS119-02-T2	NONE	NONE
B185	USE	USE	NONE	NONE	NONE	USE	USE	USE	USE	USE	USE	USE	USE	USE	USE	USE	USE
B186	USE	USE	NONE	NONE	NONE	USE	USE	USE	USE	USE	USE	USE	USE	USE	USE	USE	USE
C840	NONE	2.2/50	NONE	NONE	NONE	NONE	2.2/50	NONE	NONE	2.2/50	2.2/50	NONE	NONE	NONE	2.2/50	NONE	NONE
DB15-DB16	NONE	MTZJ6-2C-T2	NONE	NONE	NONE	NONE	MTZJ6-2C-T2	NONE	NONE	MTZJ6-2C-T2	MTZJ6-2C-T2	NONE	NONE	NONE	MTZJ6-2C-T2	NONE	NONE

NOTES  
 1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.  
 2. UNLESS OTHERWISE SPECIFIED  
 RESISTORS ARE 1/4W ±5% CARBON RESISTOR.  
 ALL RESISTANCE VALUES ARE IN OHMS.  
 ALL CAPACITORS ARE CERAMIC CAPACITOR OR POLYMER CAPACITOR.  
 ALL CAPACITANCE VALUES ARE IN PICO-FARAD (PF).  
 ALL INDUCTANCE VALUES ARE IN MICRO-HENRY (μH).  
 ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).  
 ALL CODES ARE 1SS133

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

Front section



SHEET 4/8

SHEET 4/8

SHEET 4/8

SHEET 2/8

MARK	CA-MXG71R B, E, EN, EV	CA-MXG70 A	MX-G70 J, C	CA-MXG70 A	CA-MXG70 UJ, UP, US, UT, UW	CA-MXG70 UY	MX-G71R EE	CA-MXG71R UJ, UP, US, UT, UW	MX-G70R C, J	CA-MXG71R B, E, EN, EV	MX-G71R EE	CA-MXG71R UJ, UP, US, UT, UW	MX-G71R EE	CA-MXG71R A	CA-MXG71R UY	CA-MXG71R UJ, UP, US, UT, UW	MX-G71R C, J	MX-G71R A	MX-G71R 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	L-115XSRD-D-T	
S944, S945, S946, S947	GSW0825-001Z	GSW0825-001Z	NONE	NONE	NONE	NONE	GSW0825-001Z	GSW0825-001Z	NONE	GSW0825-001Z	GSW0825-001Z	GSW0825-001Z	NONE	NONE	NONE	NONE	NONE	NONE	
L1001, L1002	GQL231K-470Y	GQL231K-470Y	SHORT	SHORT	SHORT	SHORT	GQL231K-470Y	GQL231K-470Y	GQL231K-470Y	GQL231K-470Y	GQL231K-470Y	SHORT	SHORT	SHORT	GQL231K-470Y	SHORT	SHORT	SHORT	
C1001, C1002	3900P	NONE	NONE	NONE	NONE	NONE	3900P	3900P	NONE	3900P	3900P	NONE	NONE	NONE	3900P	3900P	3900P	3900P	
L1003	GGR0779-001Z	GGR0779-001Z	GQL231K-2R2Y	GQL231K-2R2Y	GQL231K-2R2Y	GQL231K-2R2Y	GGR0779-001Z	GQL231K-2R2Y	GGR0779-001Z	GGR0779-001Z	GGR0779-001Z	GGR0779-001Z	GQL231K-2R2Y	GQL231K-2R2Y	GQL231K-2R2Y	GQL231K-2R2Y	GQL231K-2R2Y	GQL231K-2R2Y	
R904, R956, R960	NONE	NONE	NONE	NONE	NONE	NONE	NONE	68	68	68	68	NONE	NONE	68	68	68	68	68	
Q901	NONE	NONE	NONE	NONE	NONE	NONE	NONE	KRC102M-T	KRC102M-T	KRC102M-T	KRC102M-T	NONE	NONE	KRC102M-T	KRC102M-T	KRC102M-T	KRC102M-T	KRC102M-T	
CN870	GQF1205F1-22	GQF1205F1-22	GQF1205F1-22	GQF1205F1-24	GQF1205F1-24	GQF1205F1-22	GQF1205F1-22	GQF1205F1-24	GQF1205F1-22	GQF1205F1-24	GQF1205F1-22	GQF1205F1-22	GQF1205F1-22	GQF1205F1-24	GQF1205F1-22	GQF1205F1-24	GQF1205F1-22	GQF1205F1-24	
G956, G960	NONE	NONE	NONE	NONE	NONE	NONE	NONE	KTA1267/YG/-T	NONE	KTA1267/YG/-T	KTA1267/YG/-T	NONE	NONE	KTA1267/YG/-T	KTA1267/YG/-T	KTA1267/YG/-T	KTA1267/YG/-T	KTA1267/YG/-T	

NOTES

- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL. CONDITION --- AUX MODE, VOL, M24, BASS OFF.
- 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 pF (pF). ALL INDUCTANCE VALUES ARE IN mH (mH). ALL CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (4F/RATED VOLTAGE (V)). ALL DIODES ARE 1SS133.

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CD serbo section

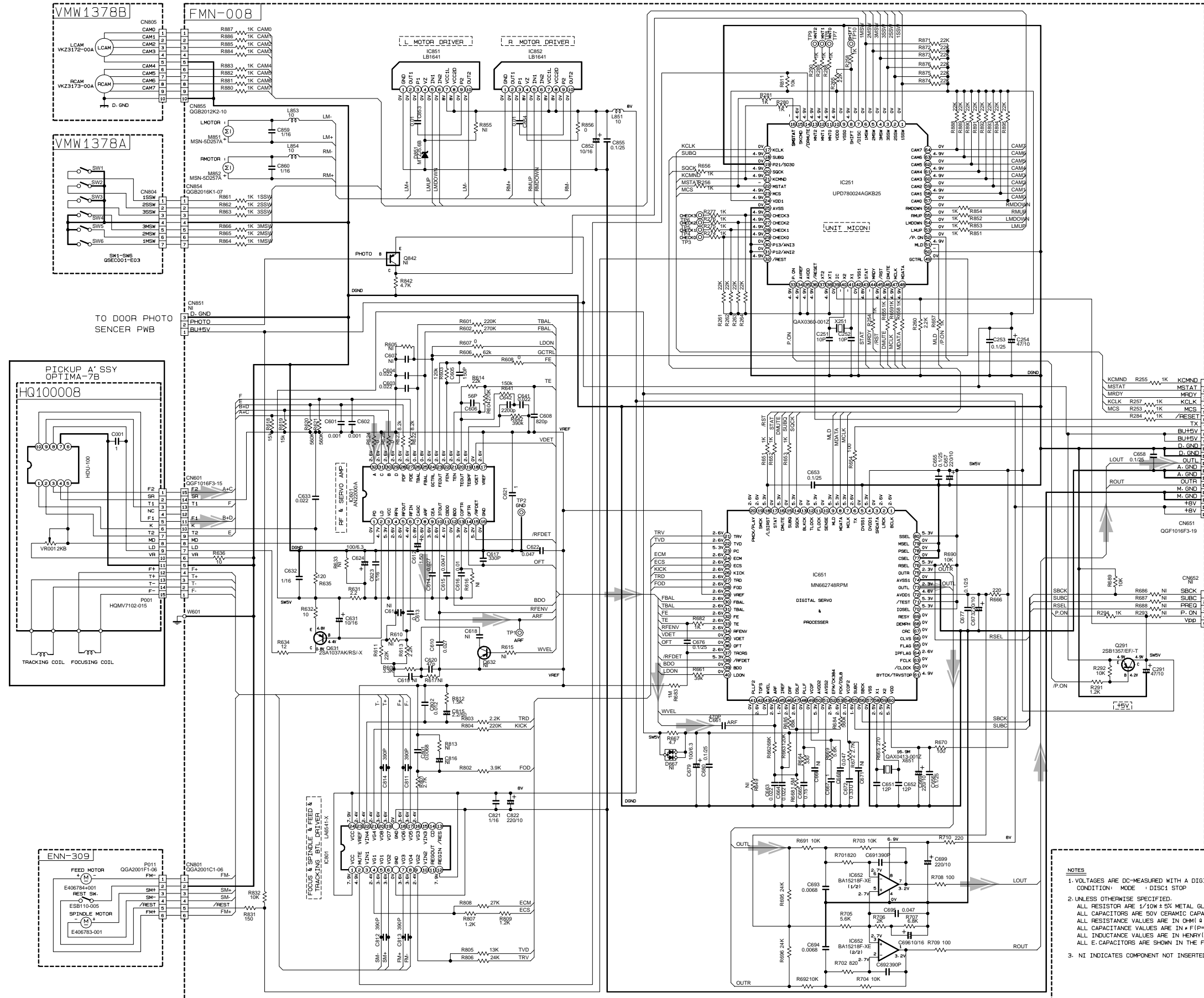
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TO CN661 OF FMC-022-1 SHEET 3/8

CD signal

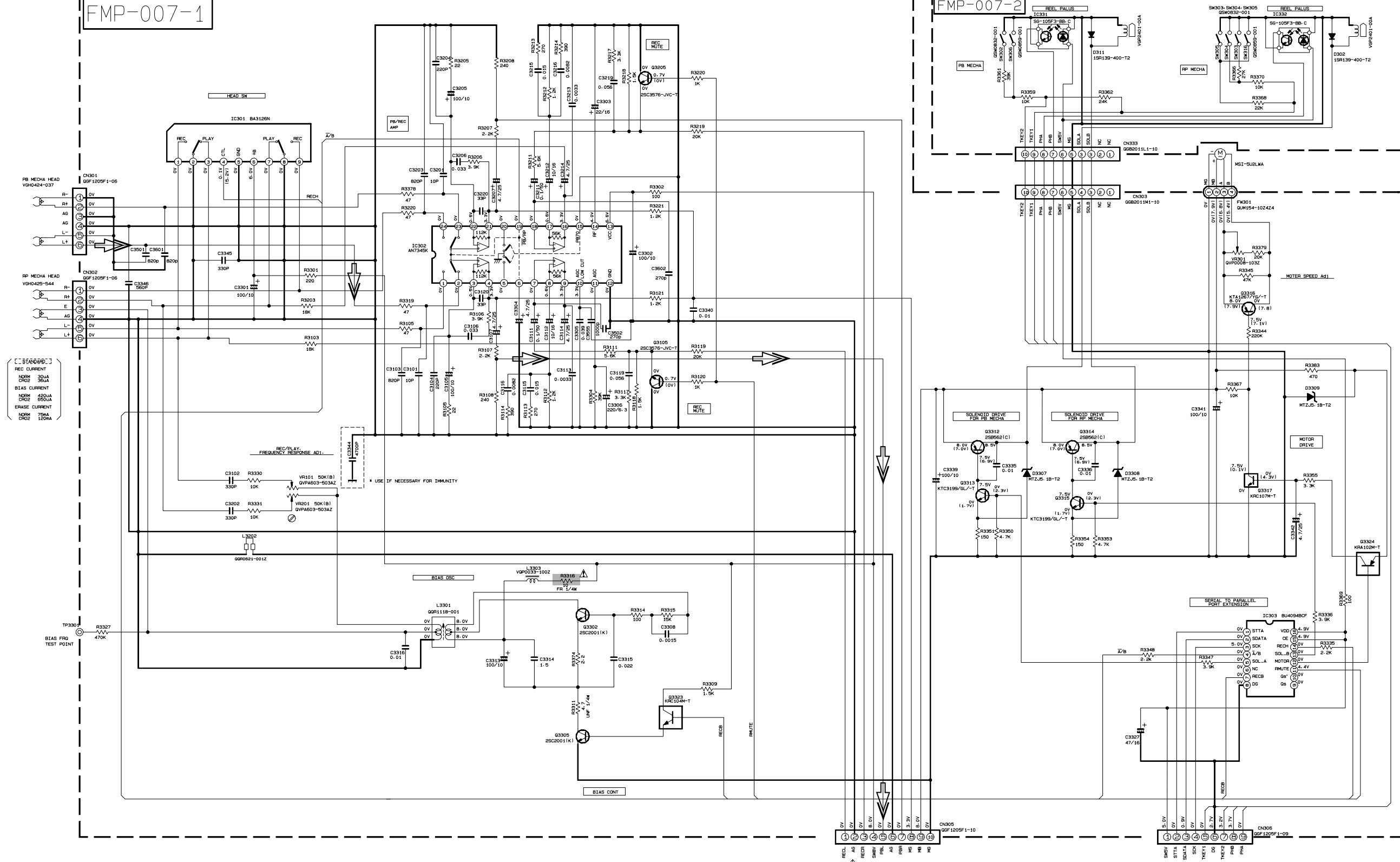
- NOTES**
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER CONDITION: MODE 1 DISC1 STOP
  2. UNLESS OTHERWISE SPECIFIED, ALL RESISTOR ARE 1/10W ± 5% METAL GLAZE RESISTOR. ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR. ALL RESISTANCE VALUES ARE IN Ω (Ω), K (K), M (M), P (P). ALL CAPACITANCE VALUES ARE IN F (P, F). ALL INDUCTANCE VALUES ARE IN HENRY (H). ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF) / RATED VOLTAGE (V).
  3. NI INDICATES COMPONENT NOT INSERTED

Head amplifier section

CASSETTE MECHA CONTROL CIRCUIT [SLC]

FMP-007-1

FMP-007-2



- 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( $\Omega$ ).
    - ALL CAPACITANCE VALUES ARE IN  $\mu$ F(Pmpf).
    - ALL INDUCTANCE VALUES ARE IN  $\mu$ H(mppH).
    - ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE ( $\mu$ F)/RATED VOLTAGE (V).
    - PP PLYPROPYLENE CAPACITOR

SHEET 3/8

SHEET 4/8

FROM CN315 OF FMC-022-1

FROM CN316 OF FMB-028-1

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

➡ TAPE P.B. signal  
SHEET 7/8

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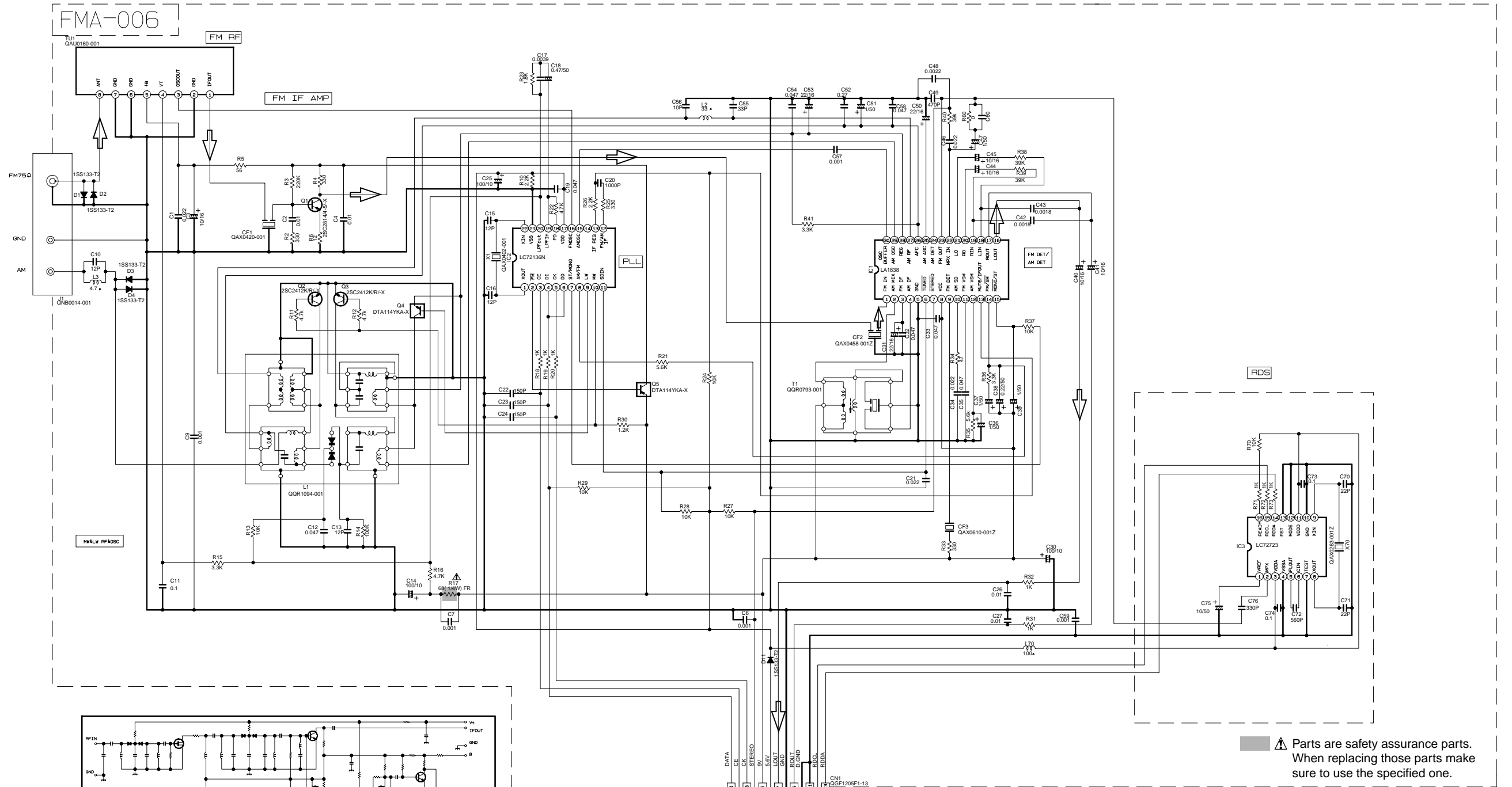
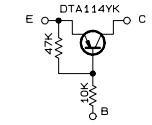


■ Tuner section

NOTES

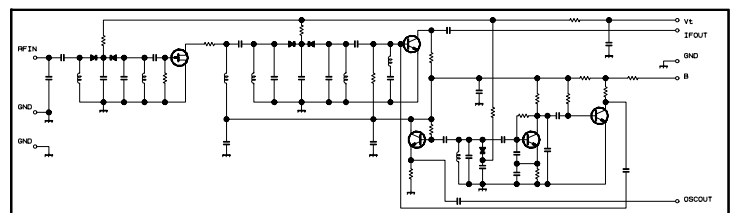
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER.
2. ALL RESISTORS ARE 1/8W ±5% METAL GLAZE RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM(Ω).
4. ALL CAPACITANCE VALUES ARE IN \*F(P=pF).
5. ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (\*F)/RATED VOLTAGE (V).
6. SI DIODES (▶) ARE ALL 1SS133-T 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.



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

➔ FM/TUNER signal



FROM CN11 OF FMC-022

SHEET 3/8

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
IC1	FM 60dB STEREO	3.6	8.9	3.6	3.6	0	5.0	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
IC1	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								

T <sub>n</sub> 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 52kHz NO SIGNAL	0	0	0	9.0	0	8.9

T <sub>n</sub> NO.	Q2	Q3	Q4			
PIN NO.	E	C	B	E	C	B
AM 52kHz NO SIGNAL	0	0	0.7	0	0.7	0
AM 144kHz NO SIGNAL	0	0	0.3	0	0.3	0.3

# Printed circuit boards

■ Main board

Main board

Transformer board

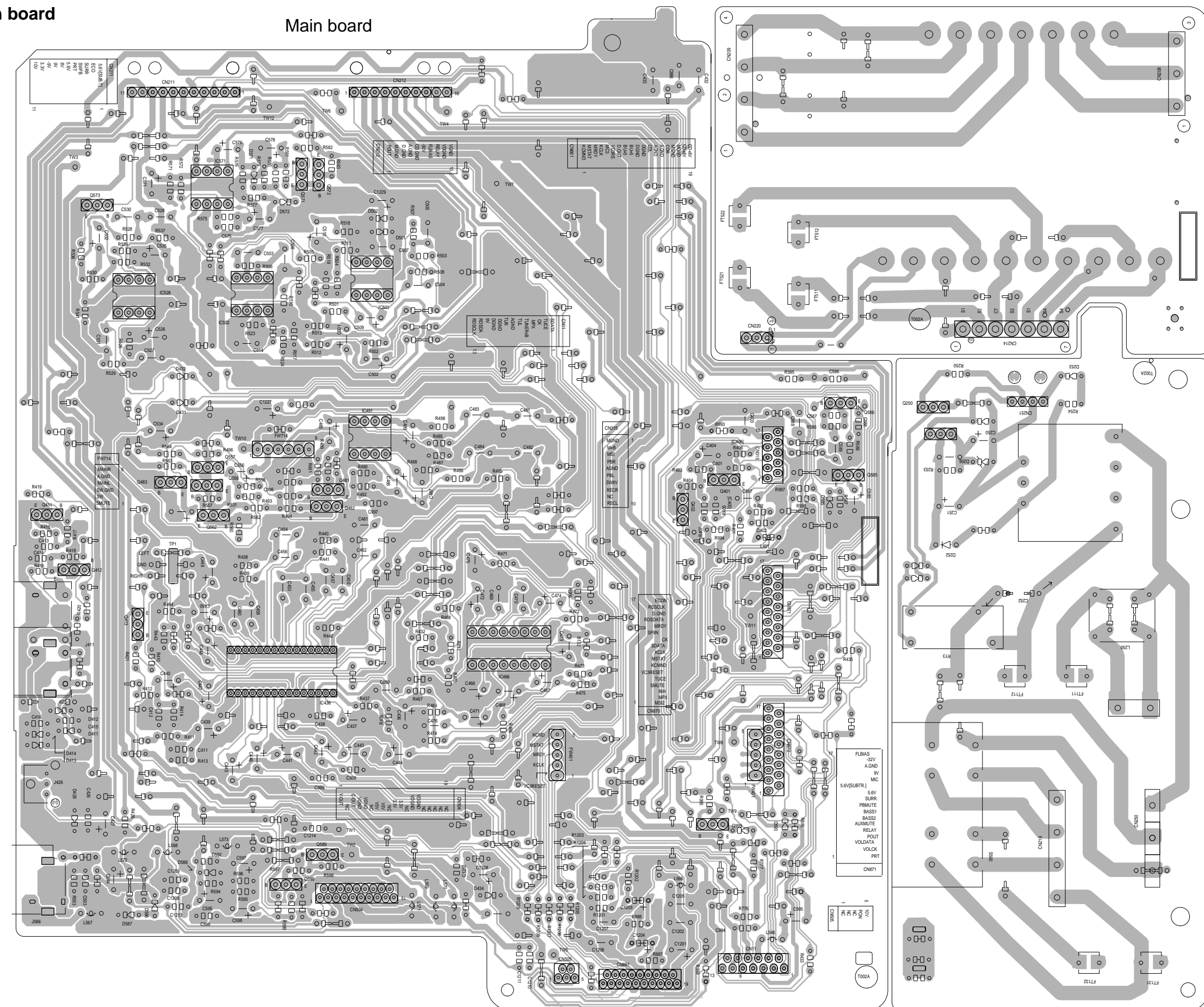
5

4

3

2

1

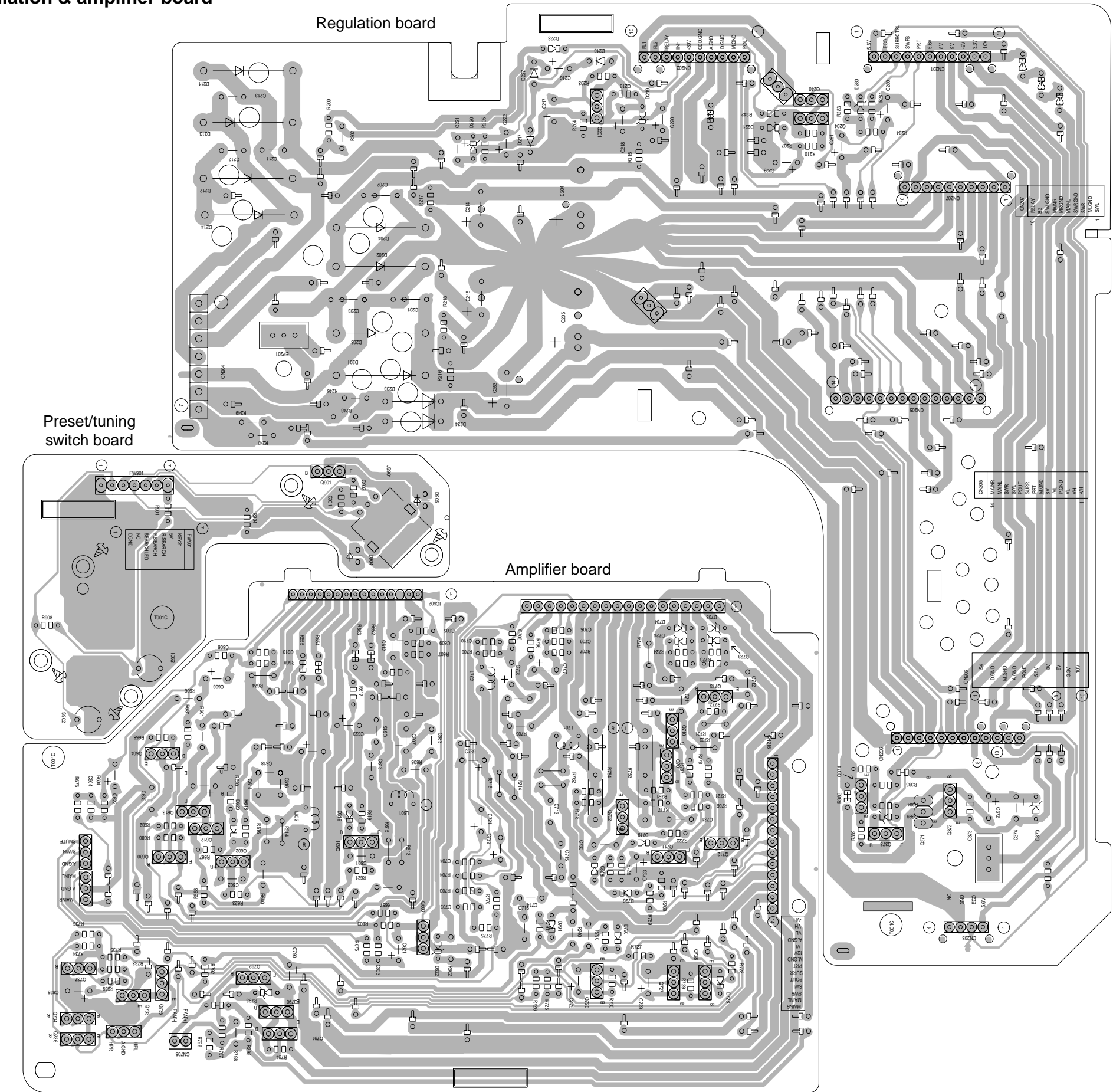


Transformer board

A B C 2-10 D E F G H

■ Regulation & amplifier board

5  
4  
3  
2  
1



A B C D E F G 2-11

MX=GT91R

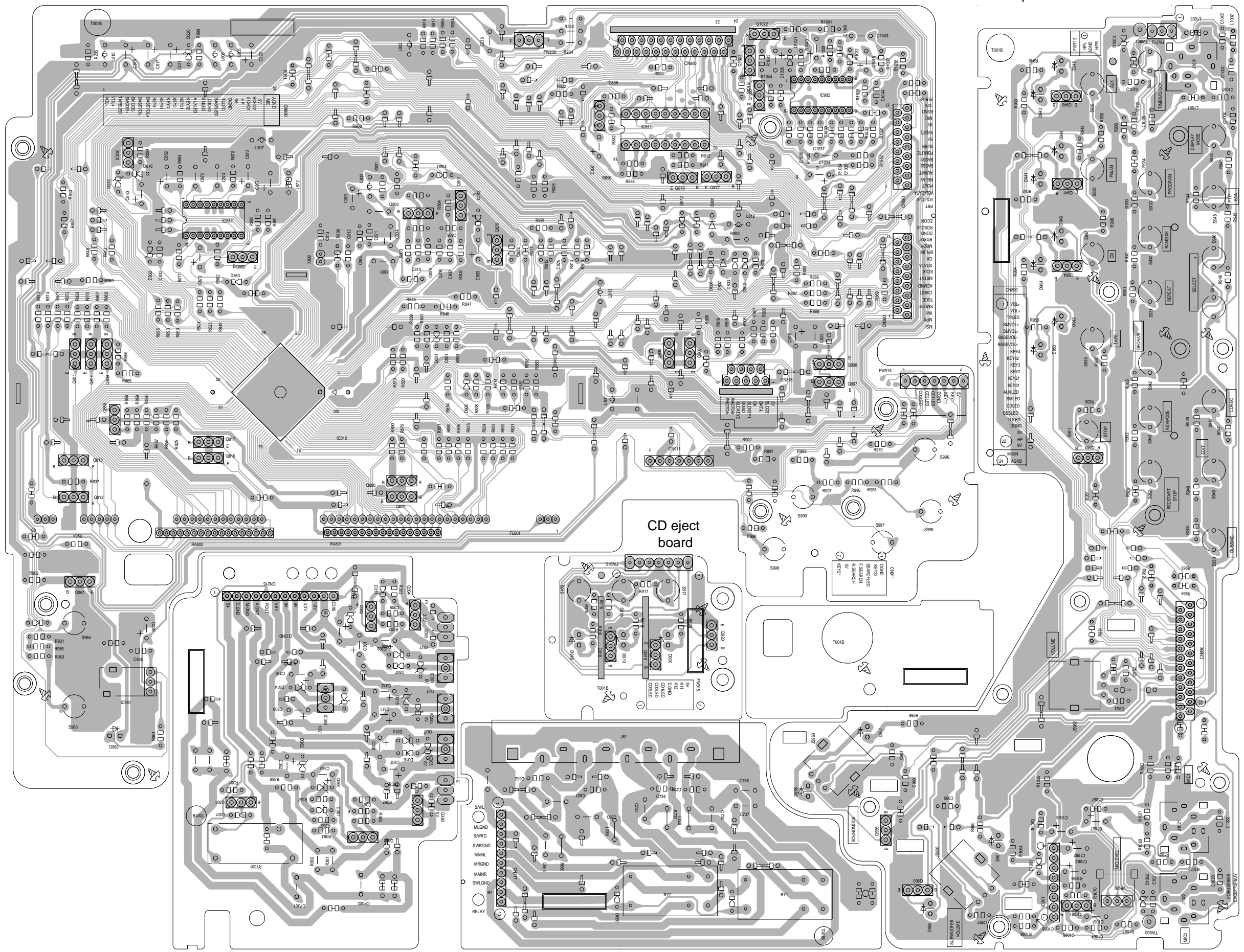
MX=GT91R

■ Front board

Display & system control board

Operation switch board

5  
4  
3  
2  
1



A B C 2-12 D E F G H

Voltage board

Speaker terminal board

CD eject board