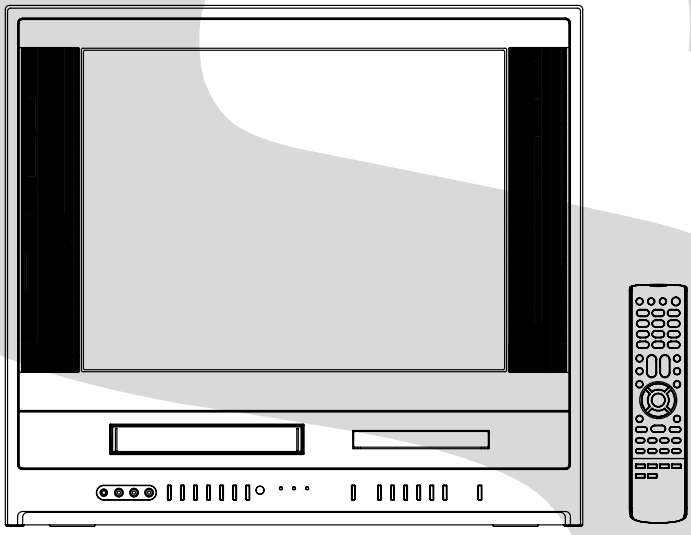
TOSHIBA

FILE NO. 810-200709GR
REVISED: 01

CIRCUIT DIAGRAMS

COMBINATION FLAT COLOR TELEVISION AND VIDEO CASSETTE RECORDER/ DVD VIDEO PLAYER

MW20H63

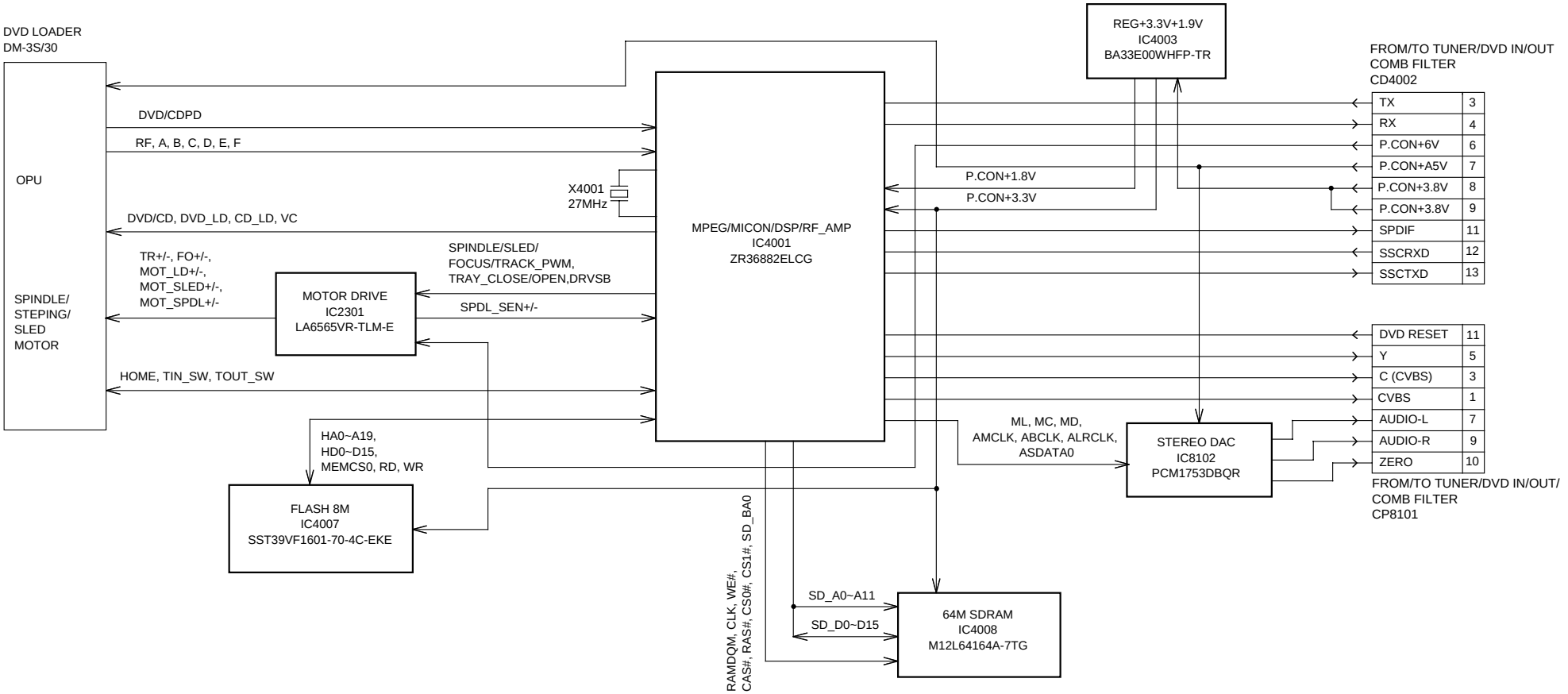


The above model is classified as a green product (*1), as indicated by the underlined serial number. This Service Manual describes replacement parts for the green product. When repairing this green product, use the part(s) described in this manual and lead-free solder (*2).

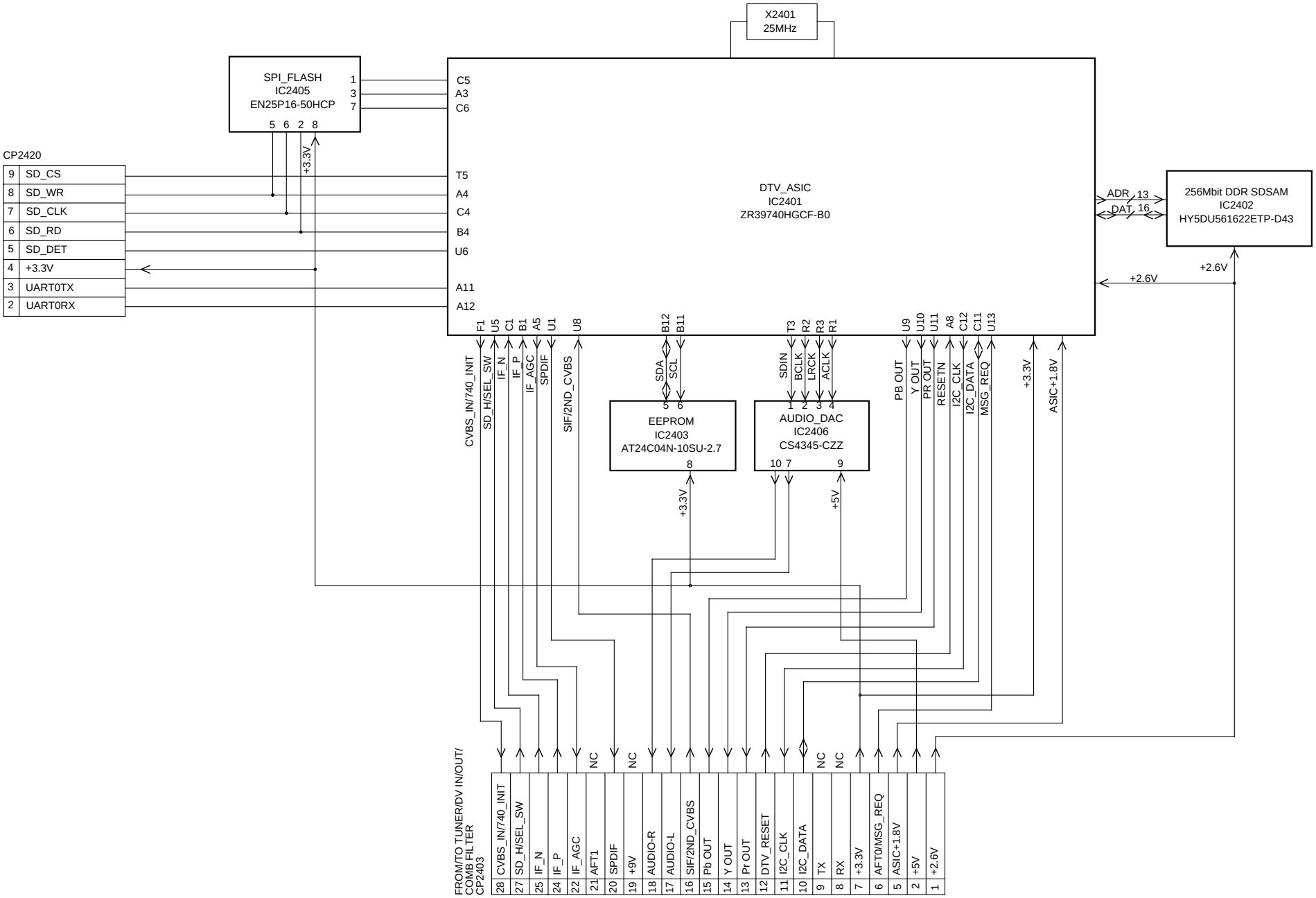
For (*1) and (*2), see the next page.

DOCUMENT CREATED IN JAPAN, March, 2007 GREEN

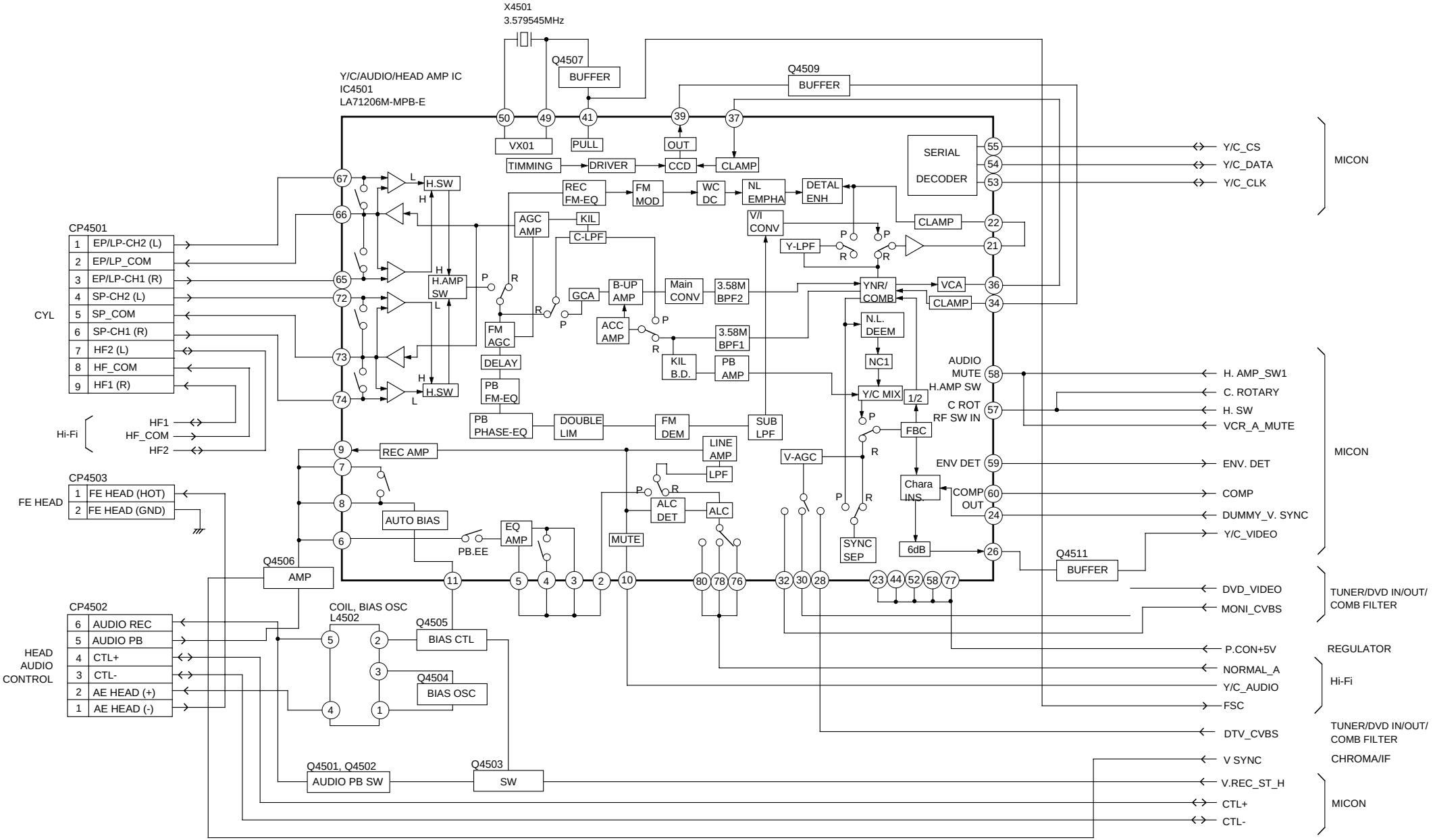
DVD BLOCK DIAGRAM



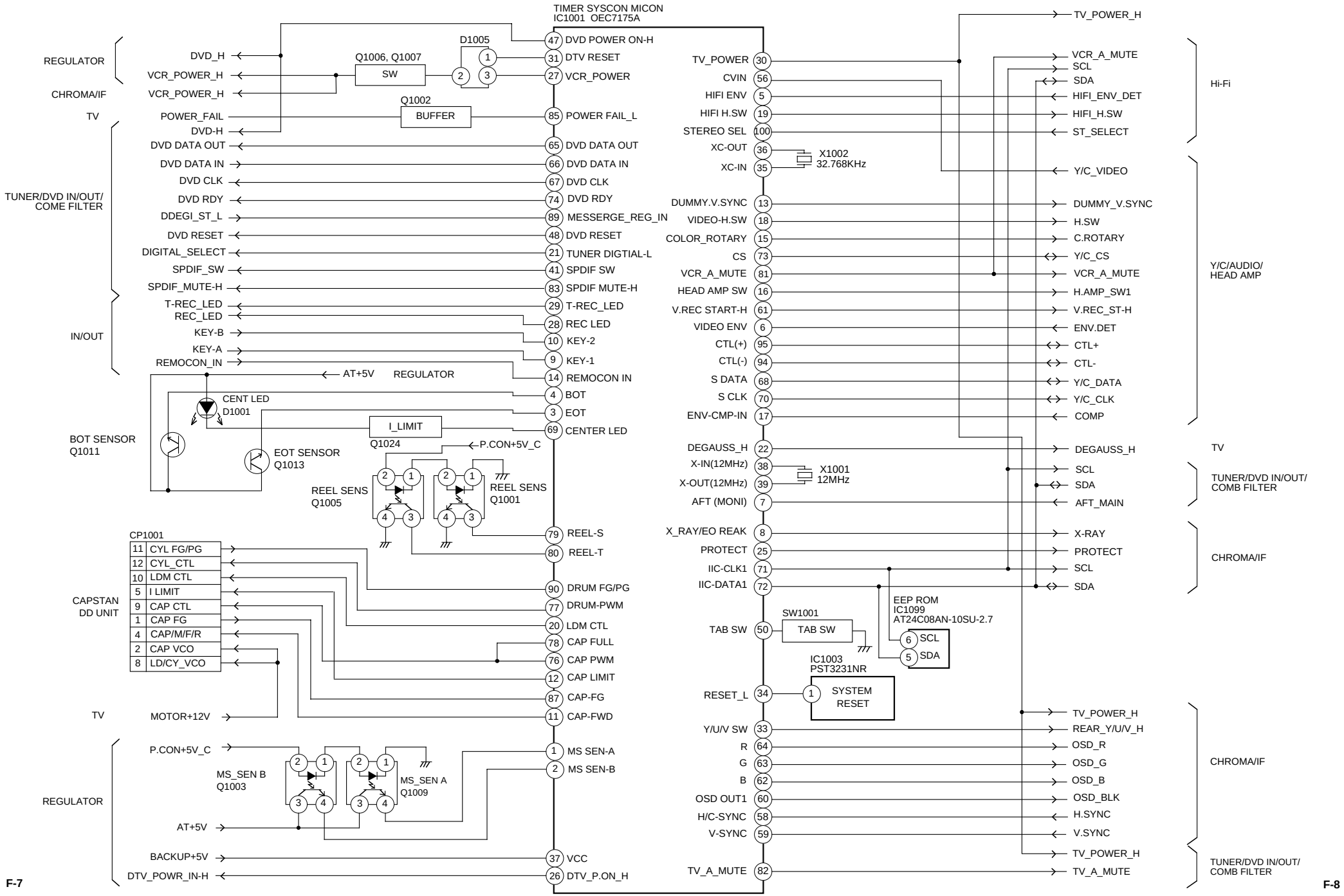
DIGITAL MODULE BLOCK DIAGRAM



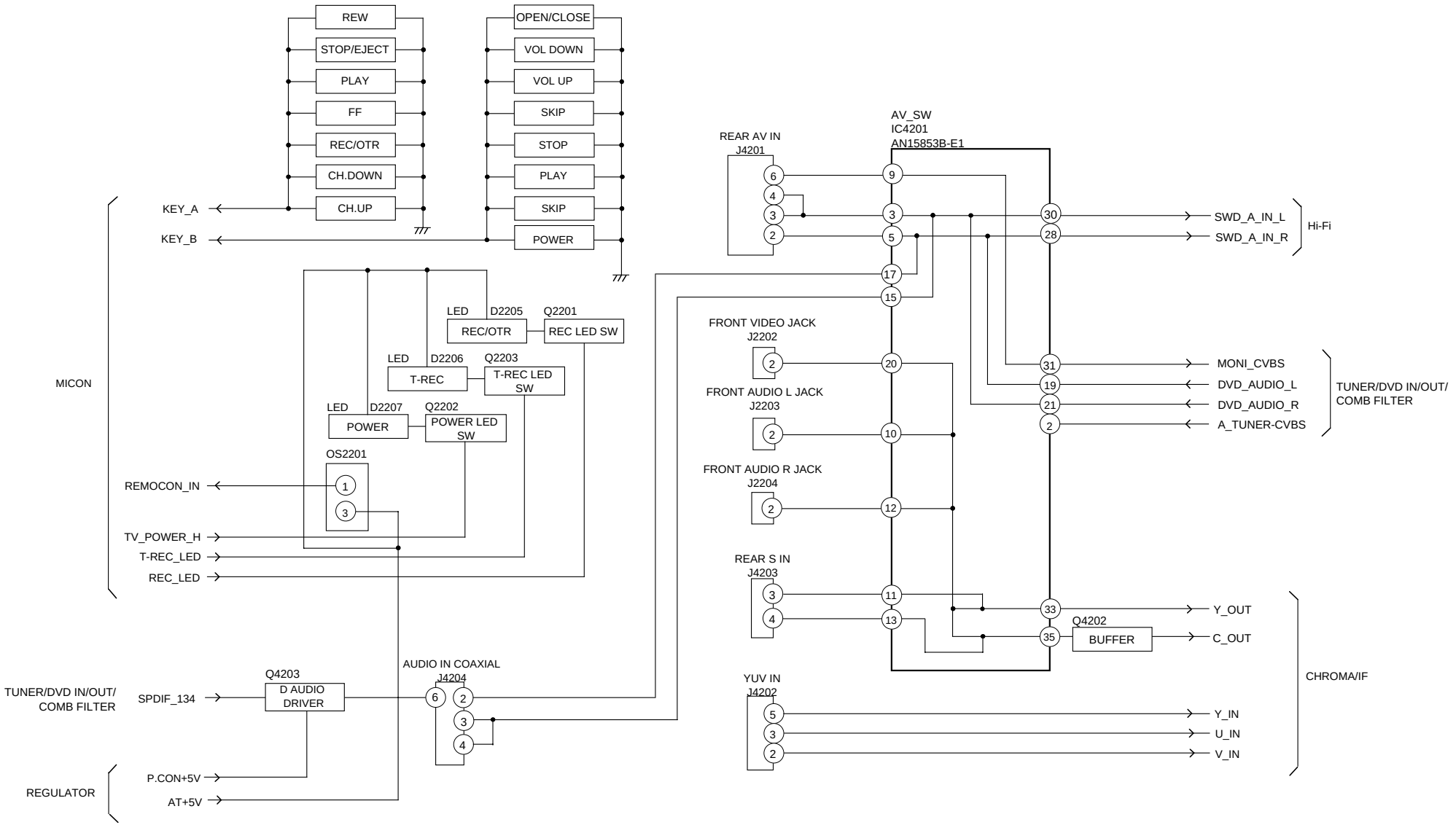
Y/C/AUDIO/HEAD AMP BLOCK DIAGRAM



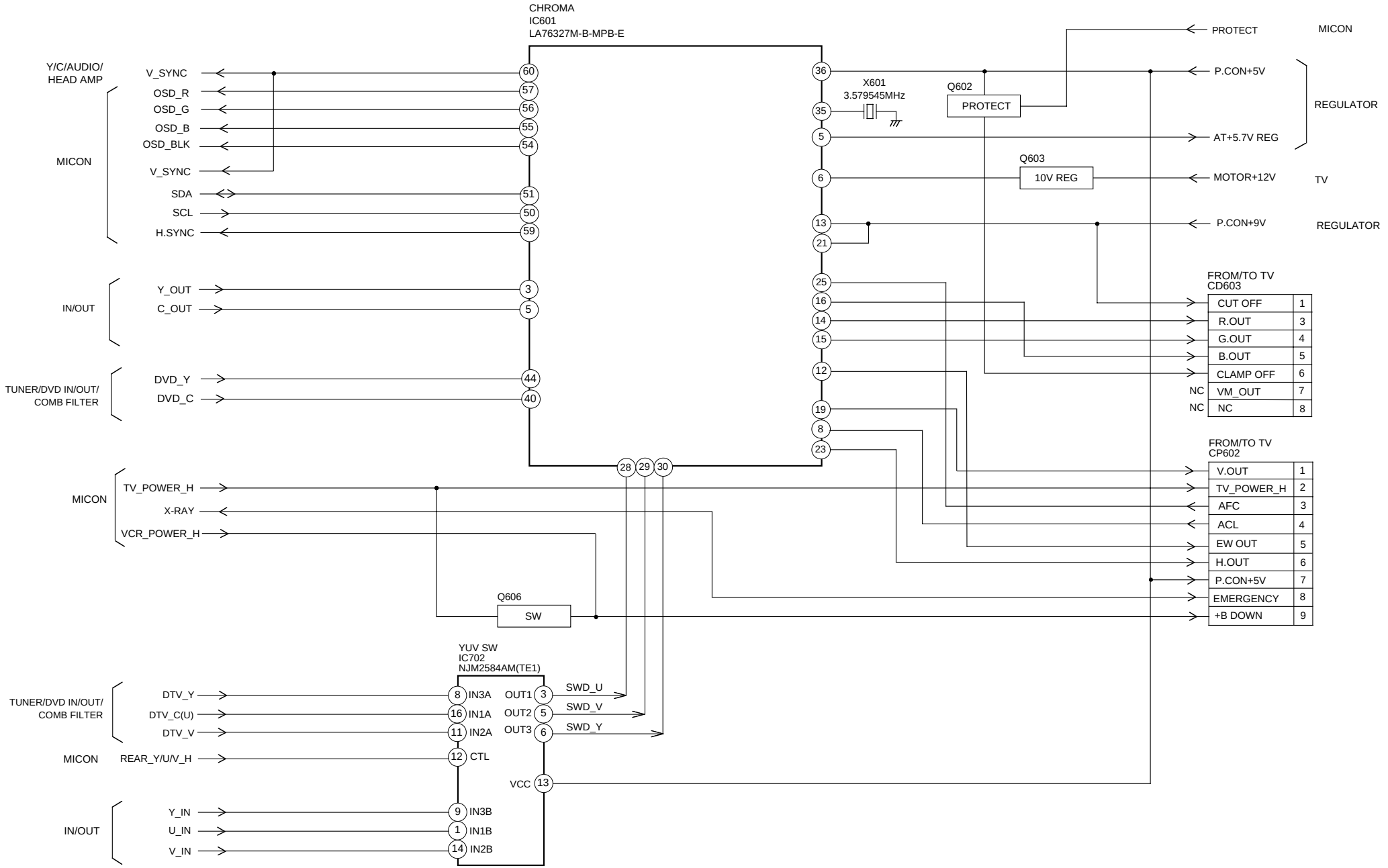
MICON BLOCK DIAGRAM



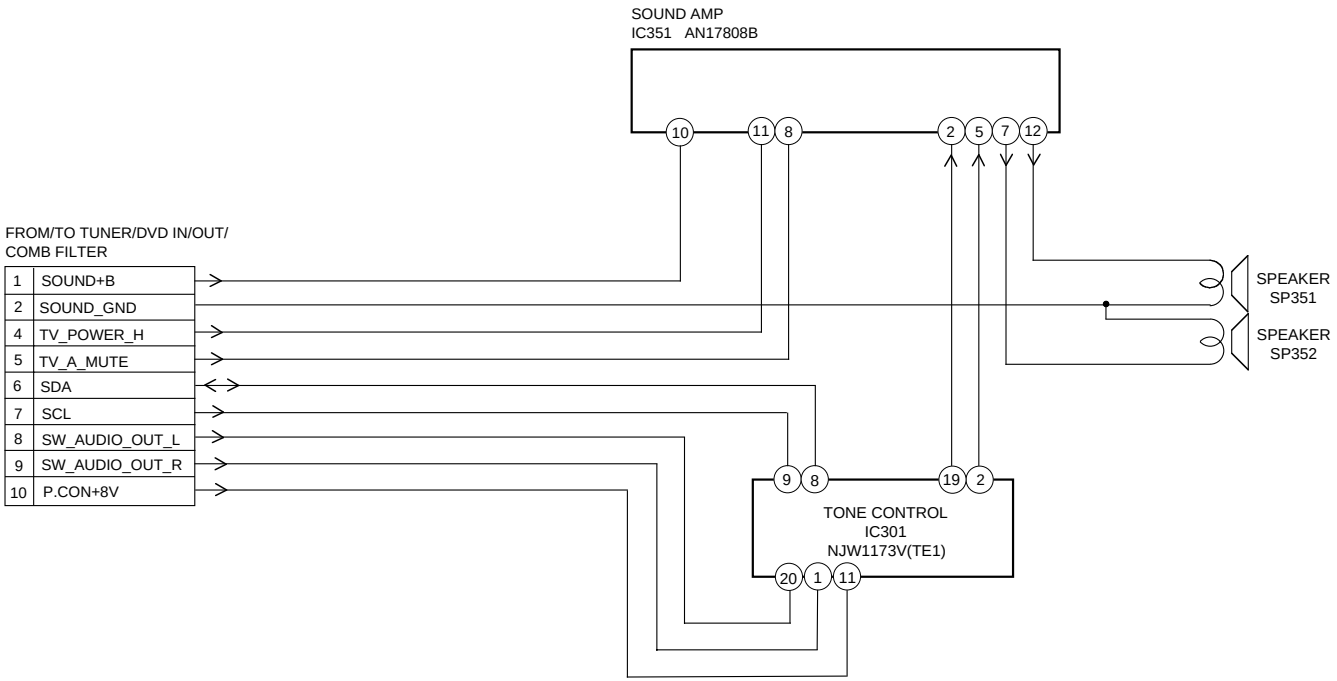
IN/OUT BLOCK DIAGRAM



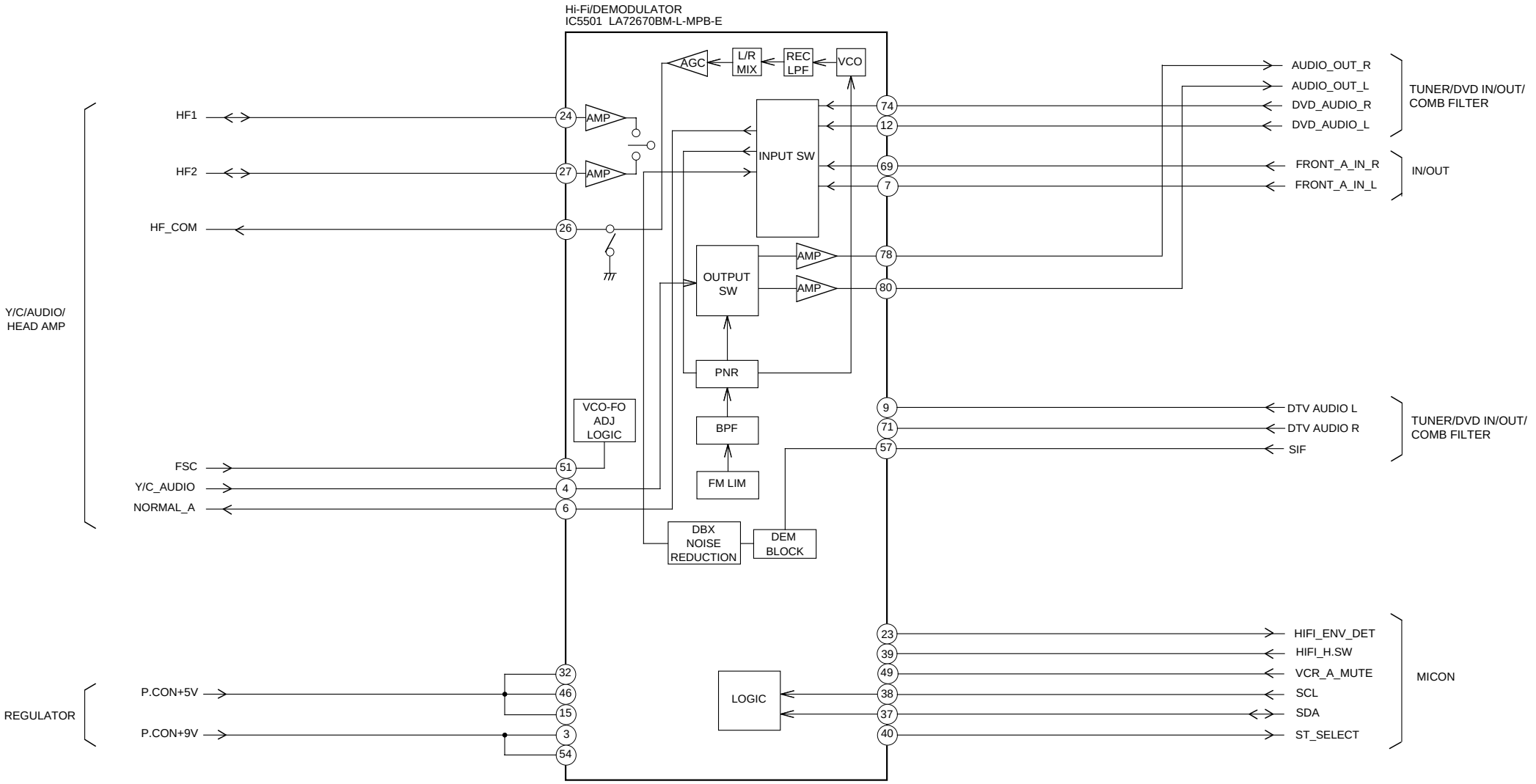
CHROMA/IF BLOCK DIAGRAM



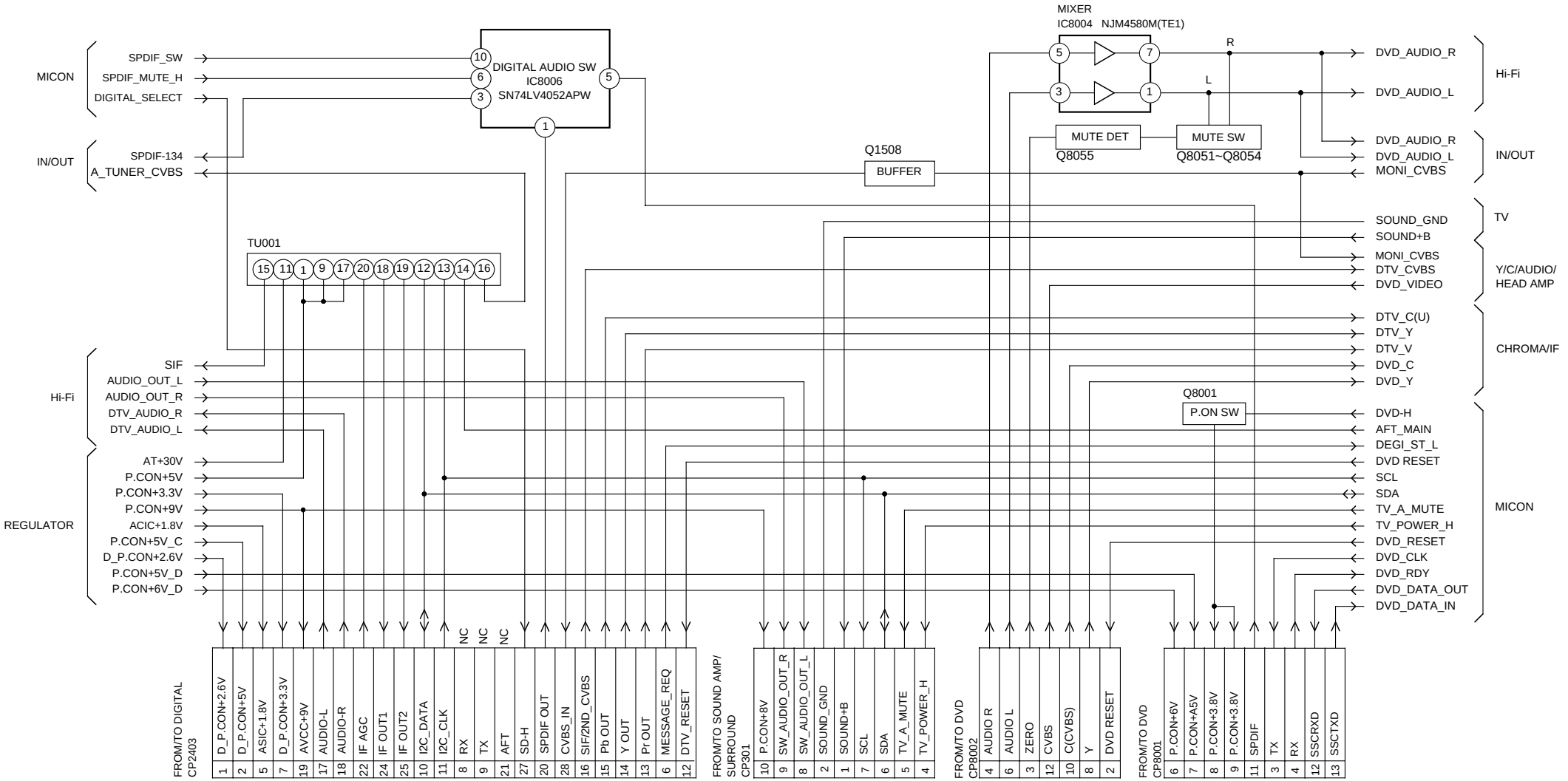
SOUND AMP/SURROUND BLOCK DIAGRAM



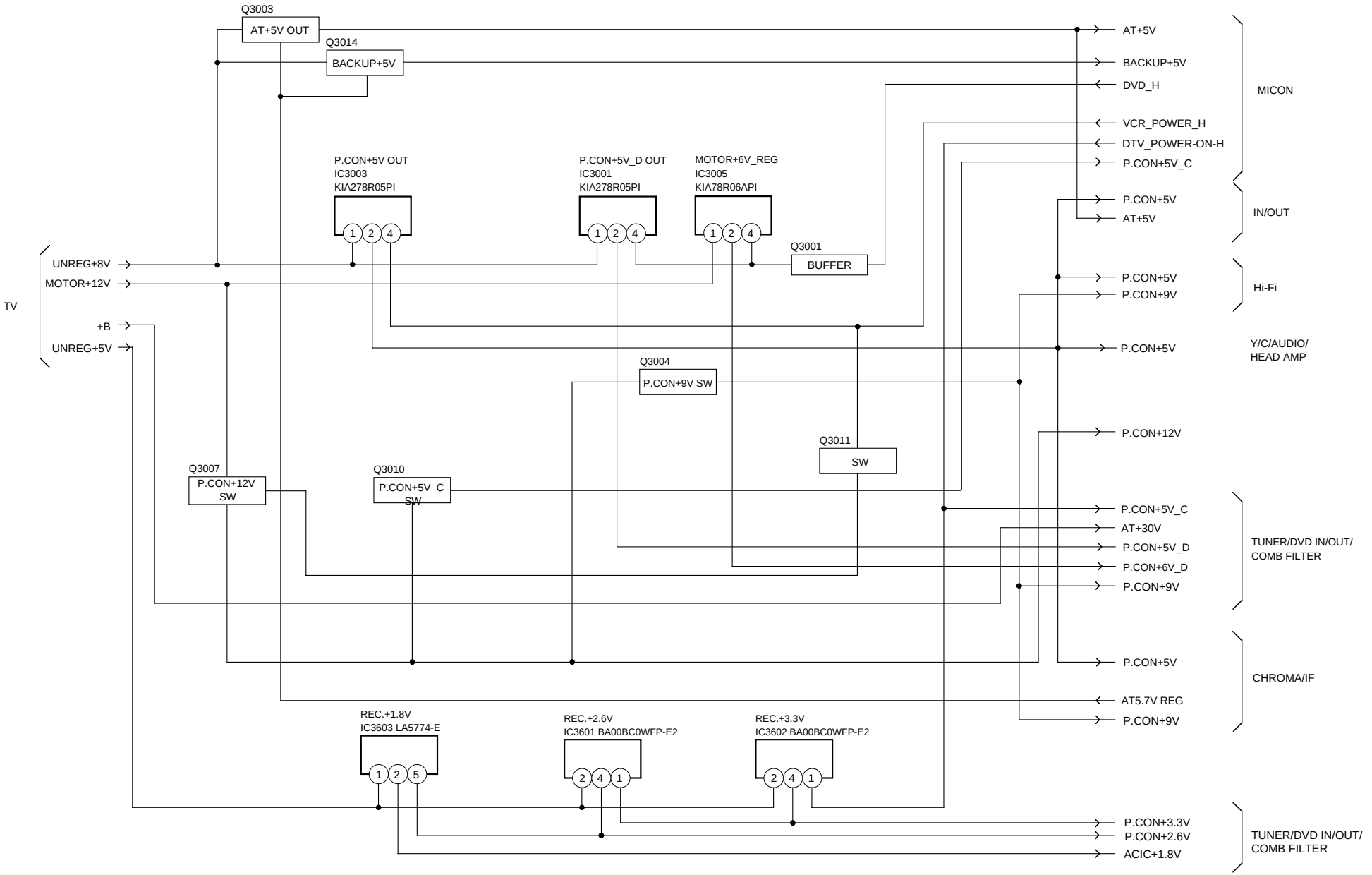
Hi-Fi/DEMODULATOR BLOCK DIAGRAM



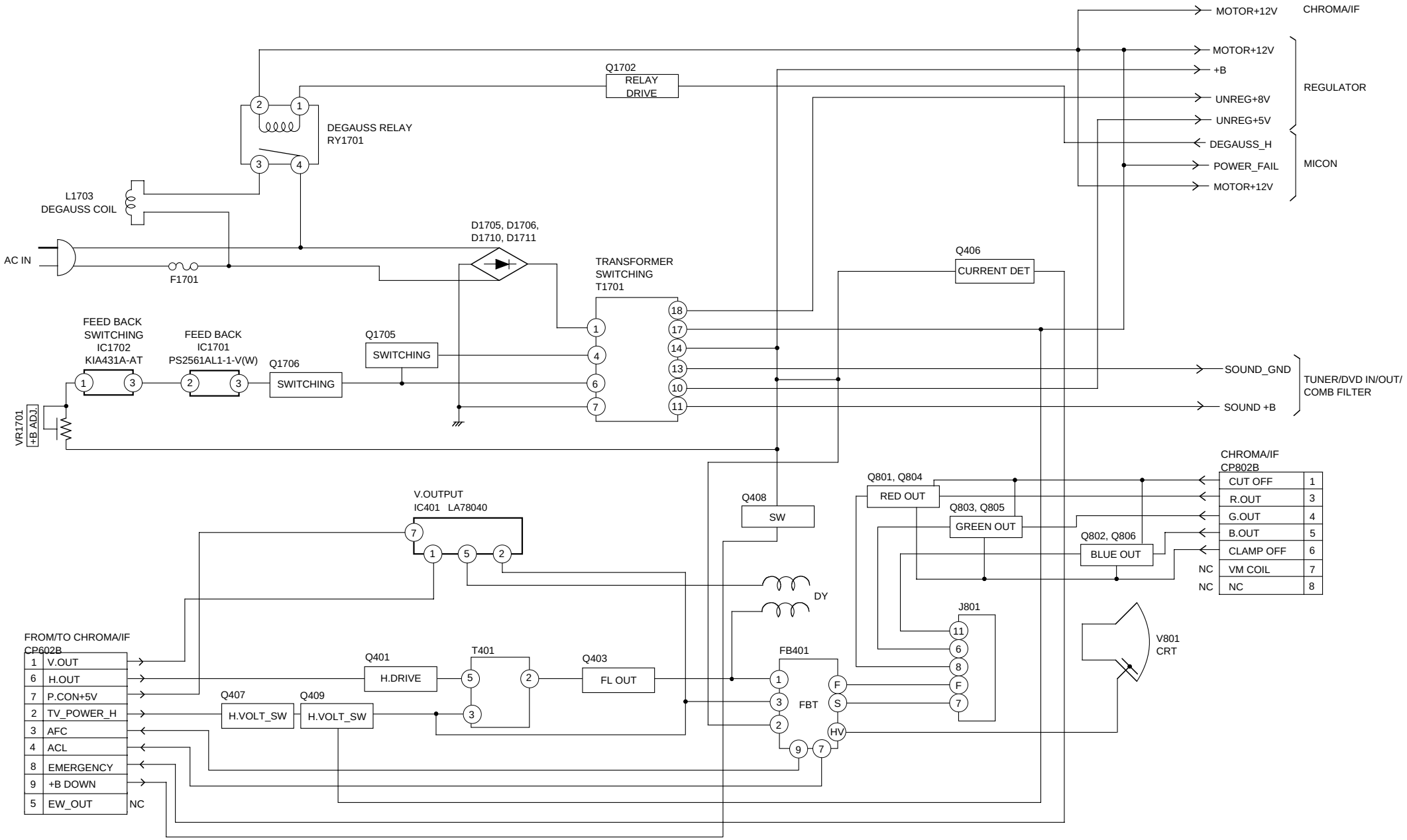
TUNER/DVD IN/OUT/COMB FILTER BLOCK DIAGRAM



REGULATOR BLOCK DIAGRAM

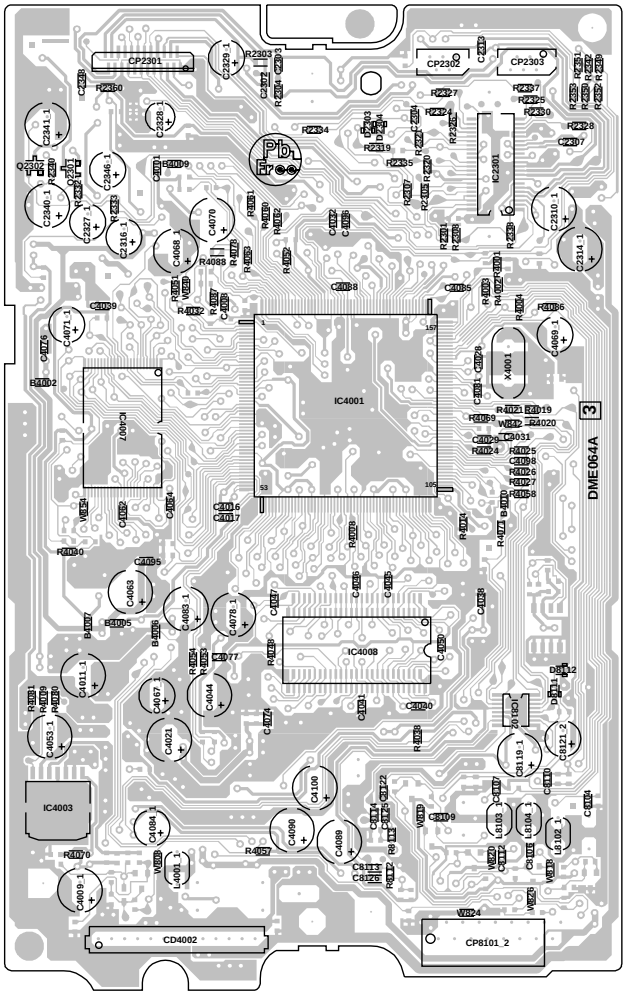


TV BLOCK DIAGRAM

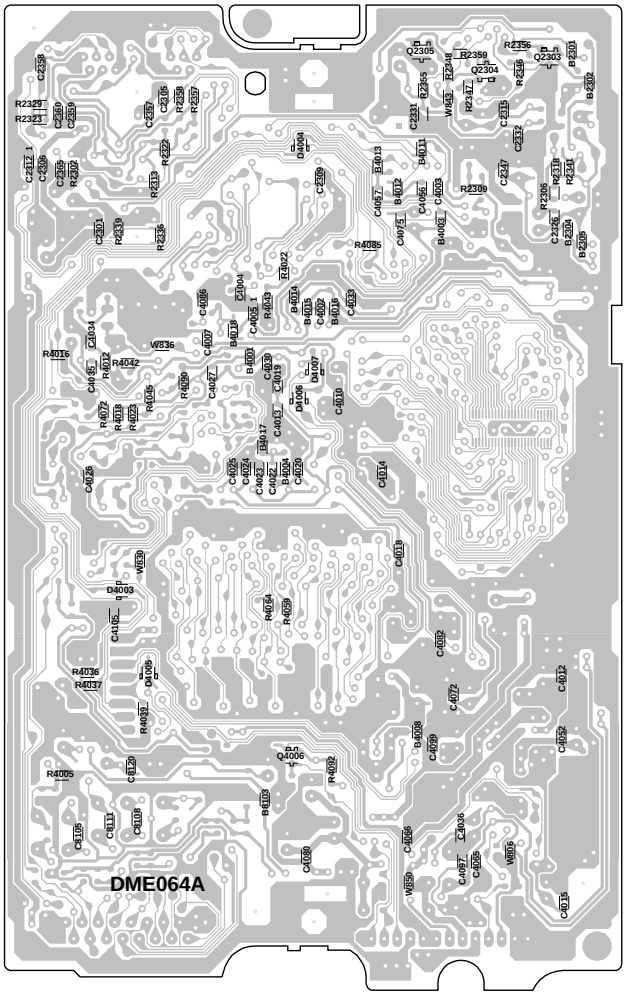


PRINTED CIRCUIT BOARDS

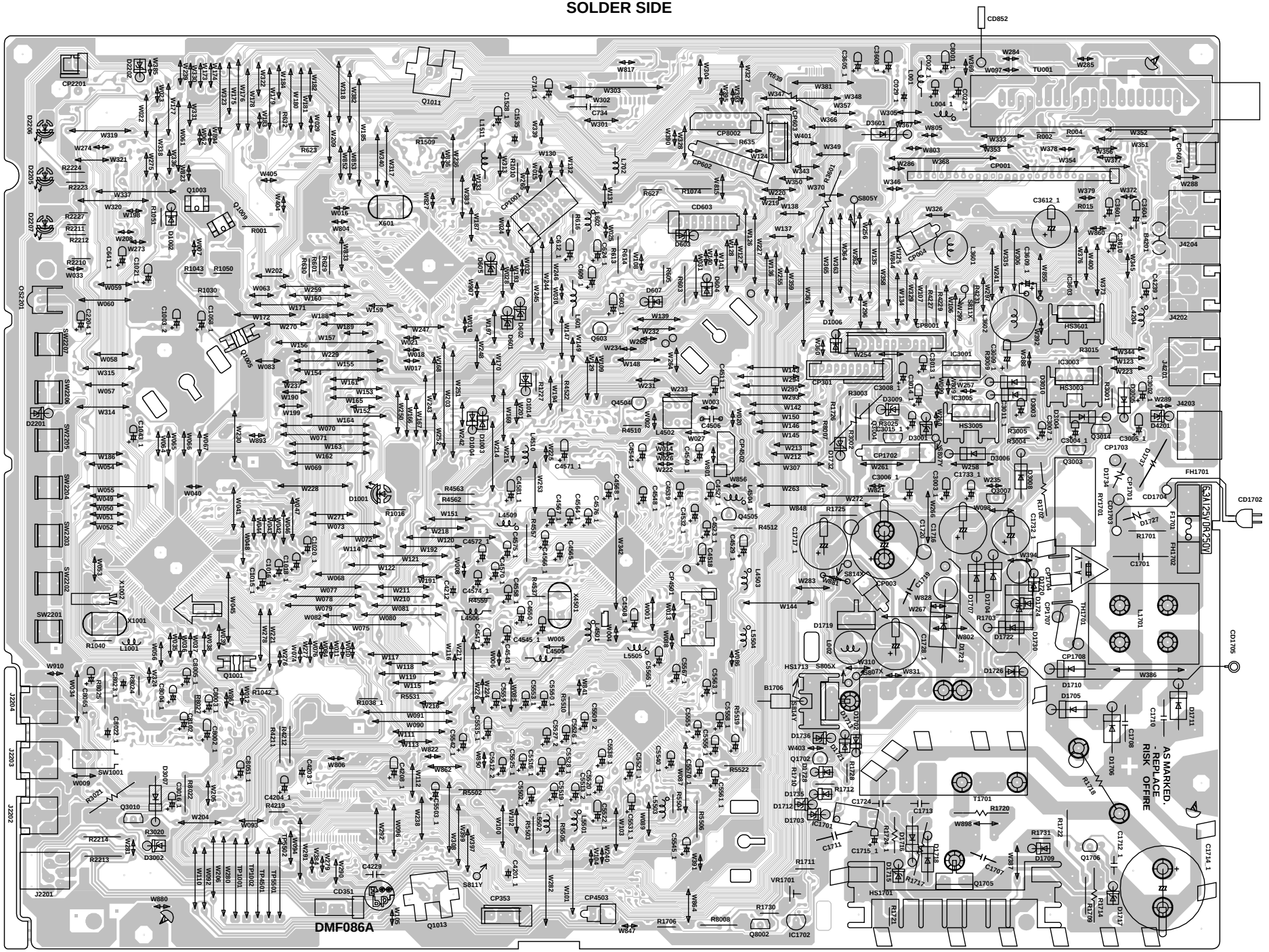
DVD MT (TOP SIDE)



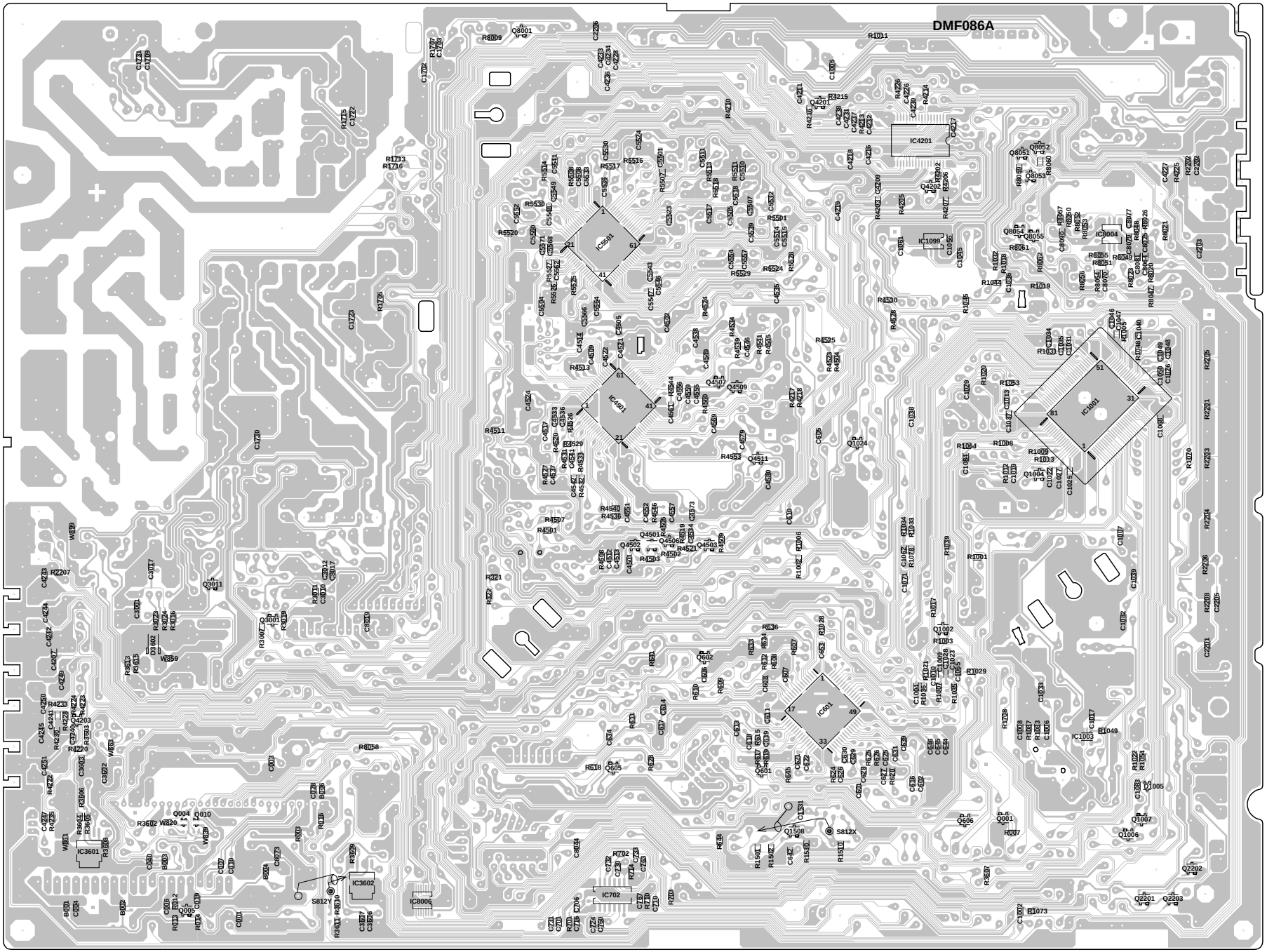
DVD MT (BOTTOM SIDE)



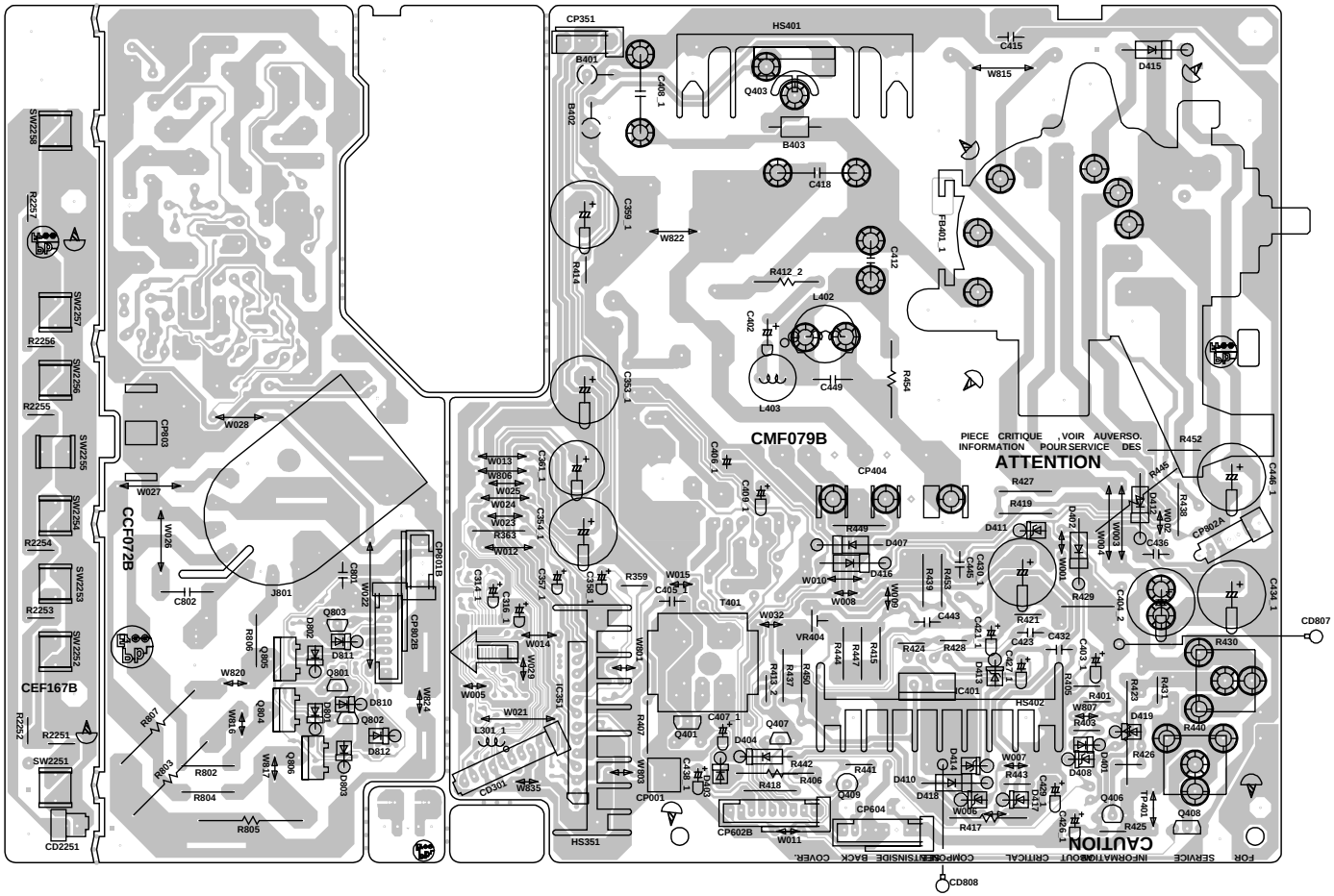
PRINTED CIRCUIT BOARDS
VCR MT (INSERTED PARTS)
SOLDER SIDE



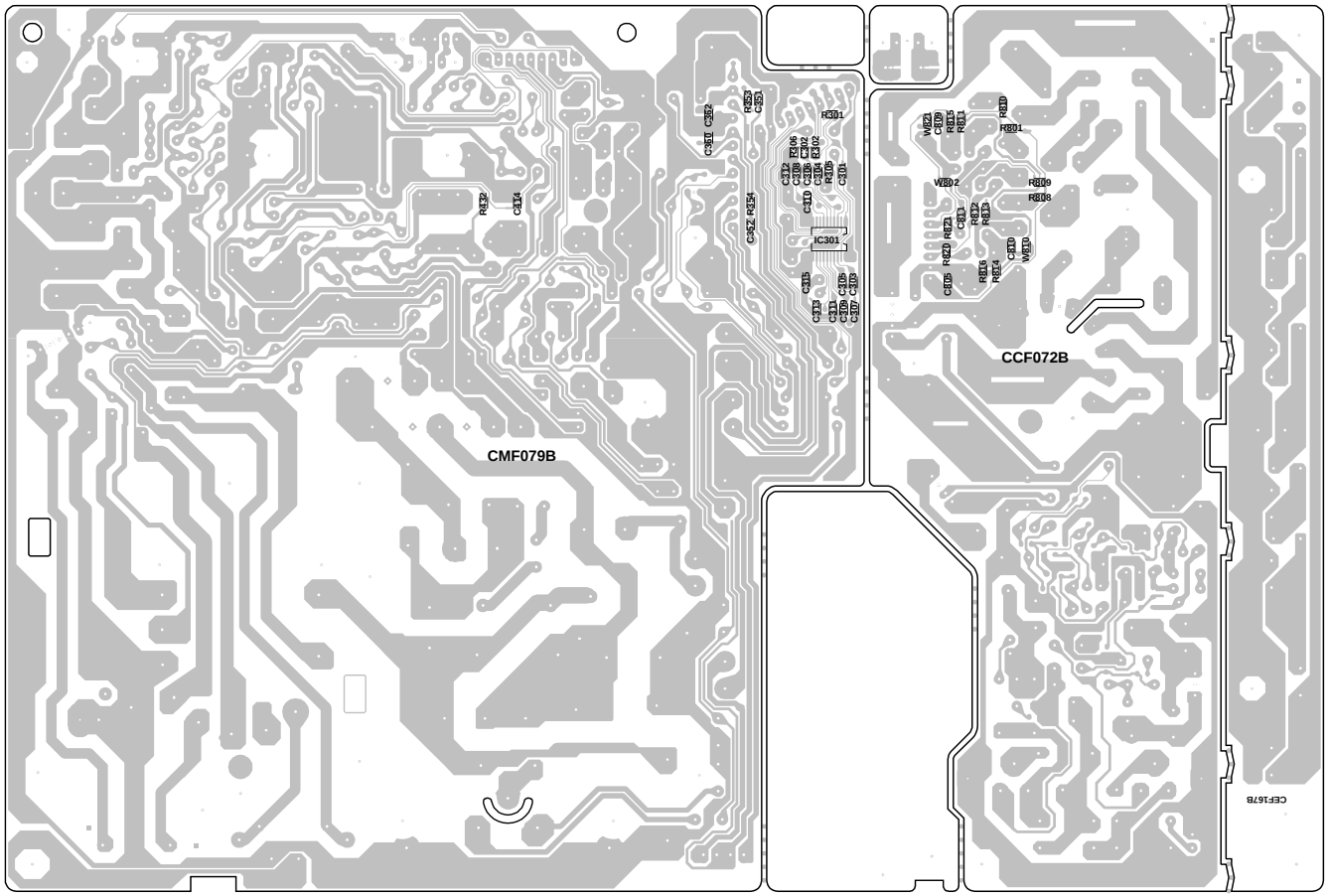
PRINTED CIRCUIT BOARDS
VCR MT (CHIP MOUNTED PARTS)
SOLDER SIDE



PRINTED CIRCUIT BOARDS
DEFLECTION/CRT/OPERATION (INSERTED PARTS)
SOLDER SIDE

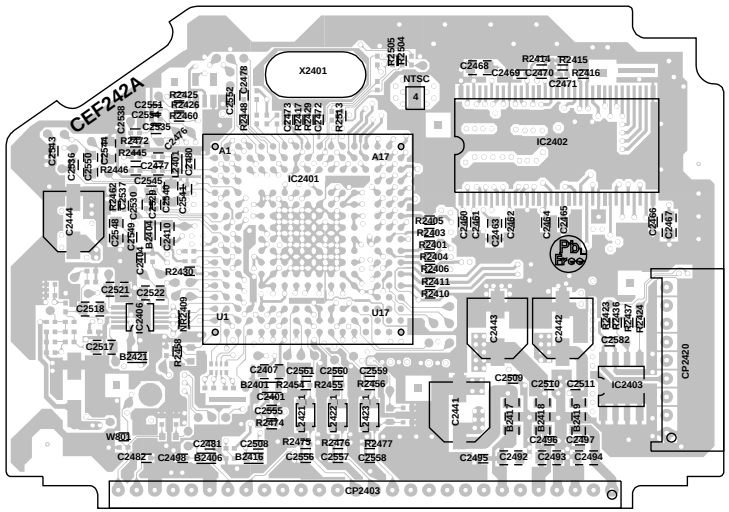


PRINTED CIRCUIT BOARDS
DEFLECTION/CRT (CHIP MOUNTED PARTS)
SOLDER SIDE

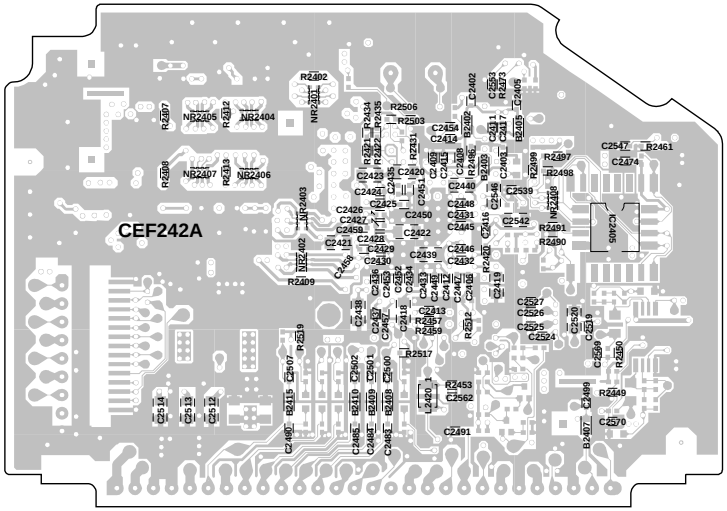


PRINTED CIRCUIT BOARDS

DIGITAL (TOP SIDE)

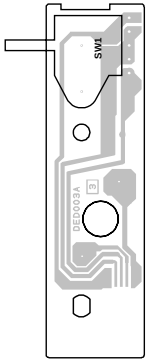


DIGITAL (BOTTOM SIDE)

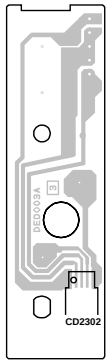


PRINTED CIRCUIT BOARDS

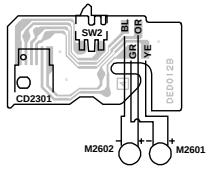
LOADING MOTOR (INSERTED PARTS)
SOLDER SIDE



LOADING MOTOR (CHIP MOUNTED PARTS)
SOLDER SIDE

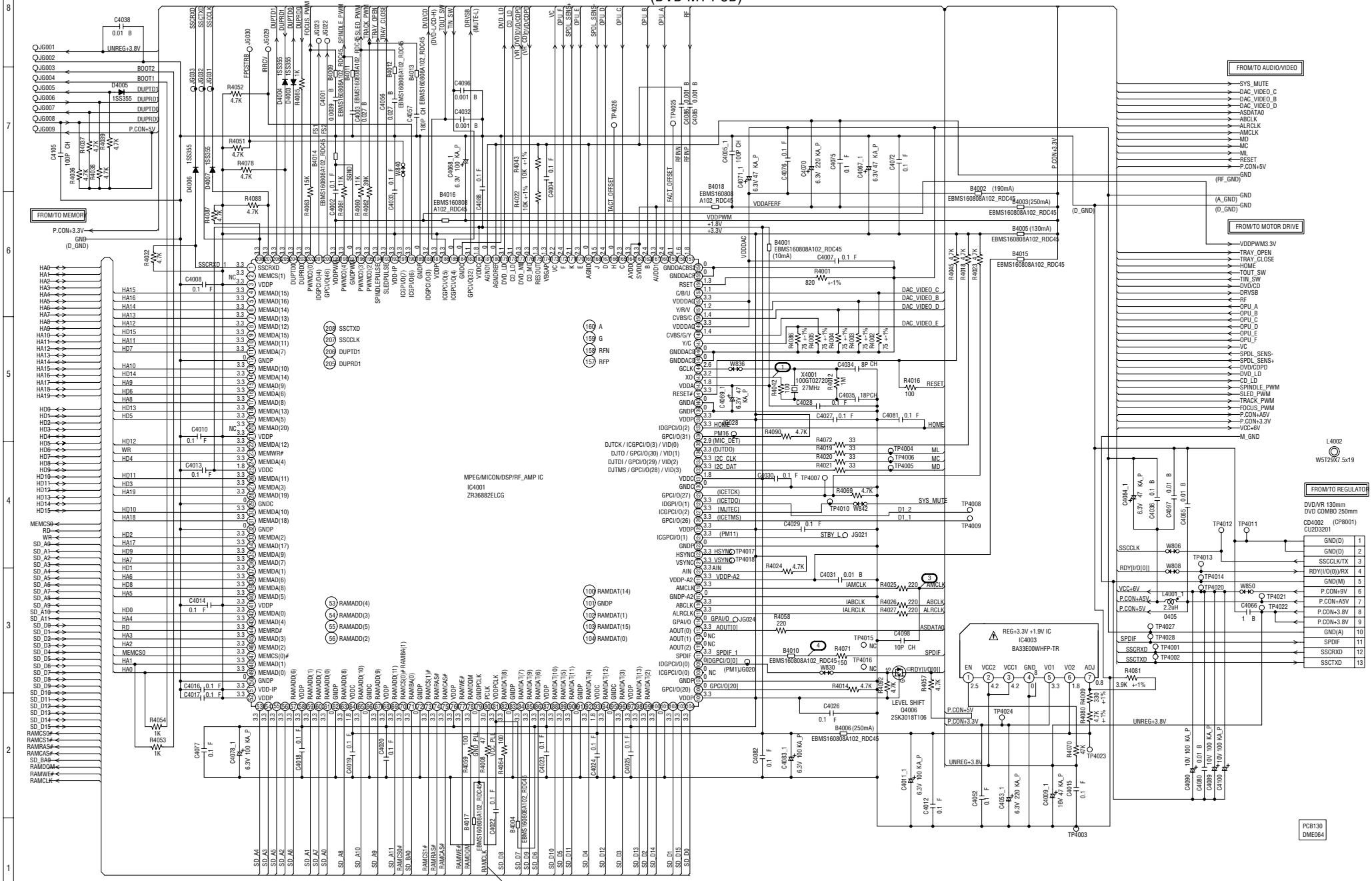


SW
SOLDER SIDE



MPEG/MICON/DSP SCHEMATIC DIAGRAM

(DVD MT PCB)



NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

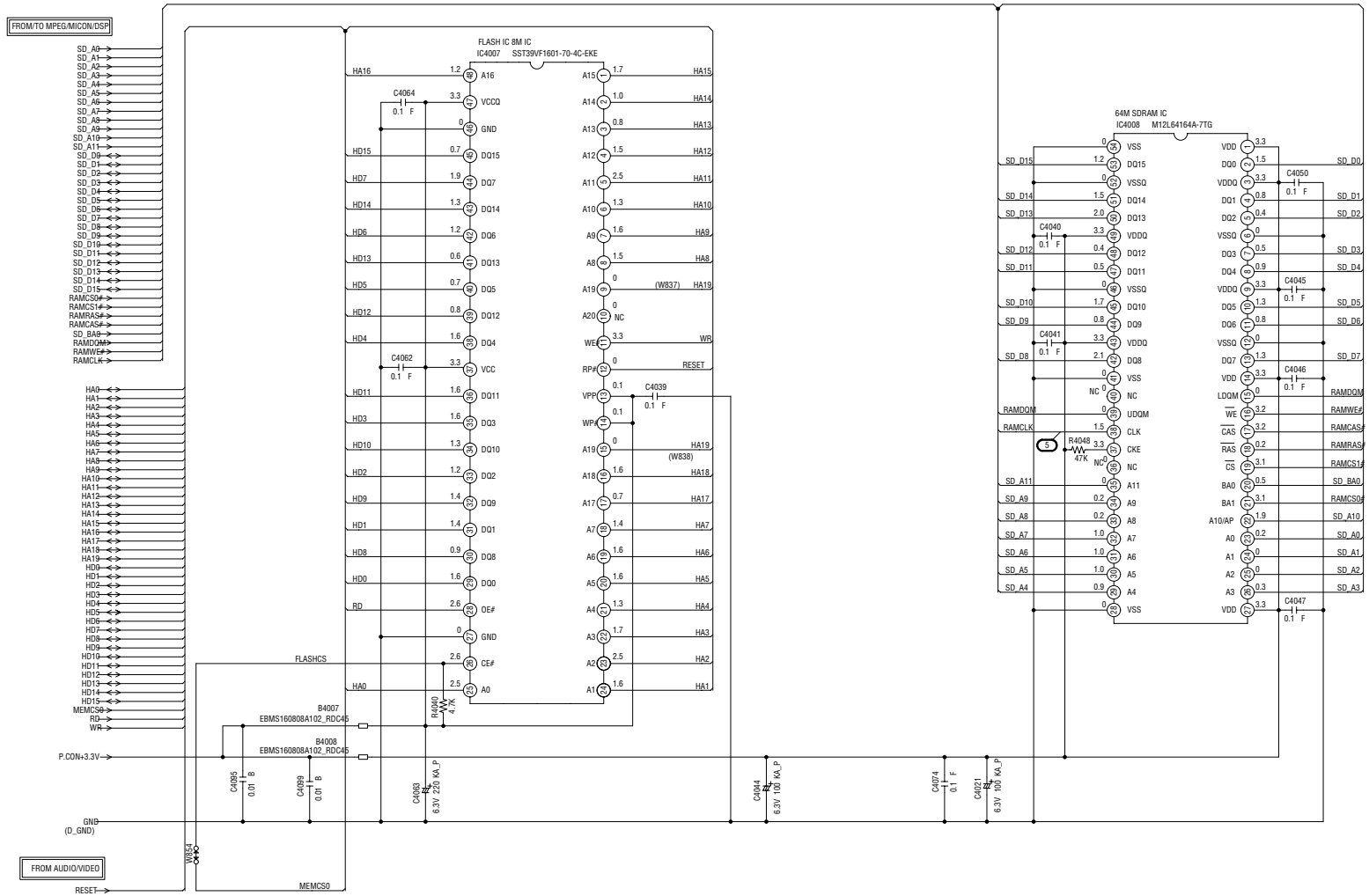
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

MEMORY SCHEMATIC DIAGRAM

(DVD MT PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

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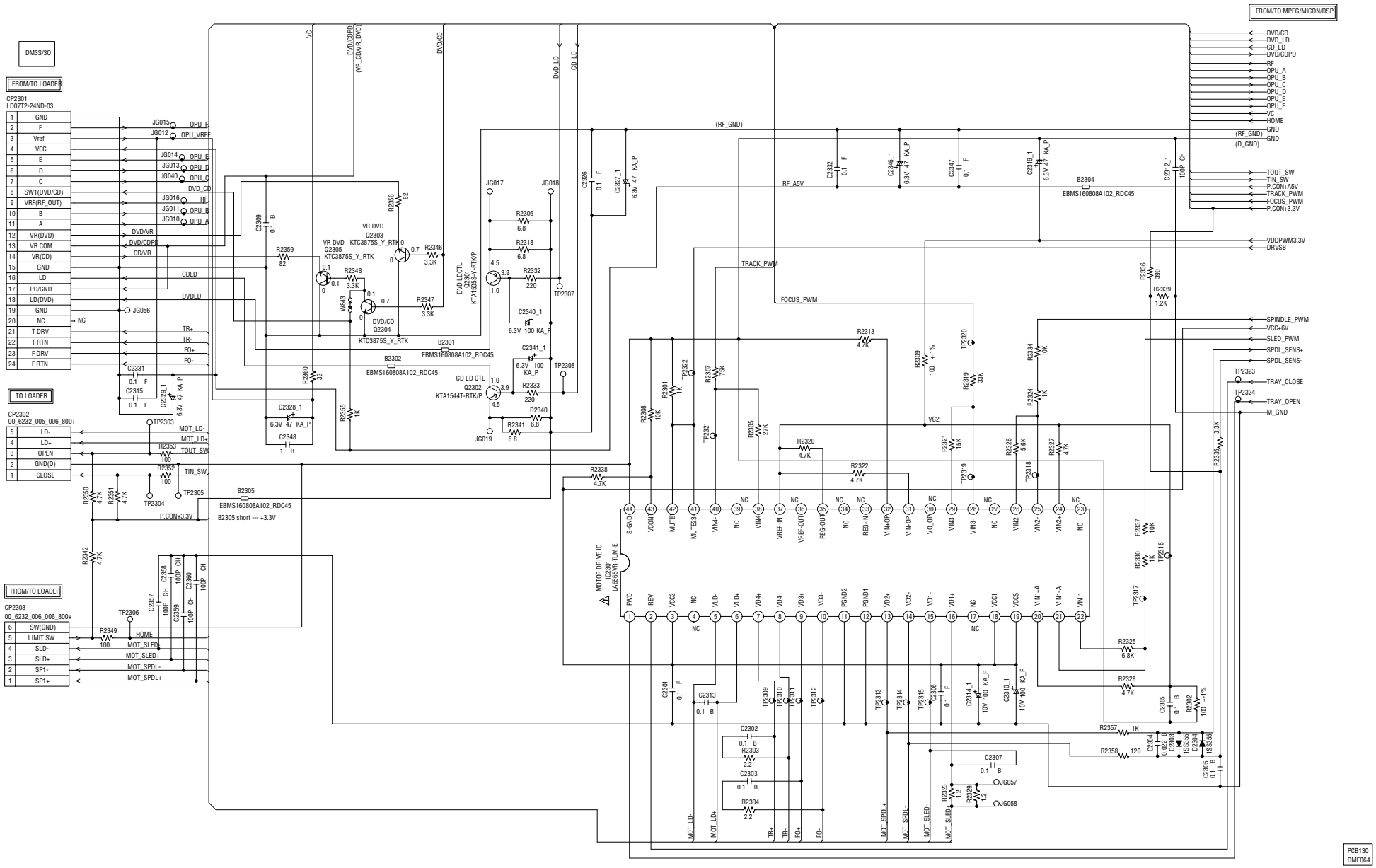
MOTOR DRIVE SCHEMATIC DIAGRAM

(DVD MT PCB)



NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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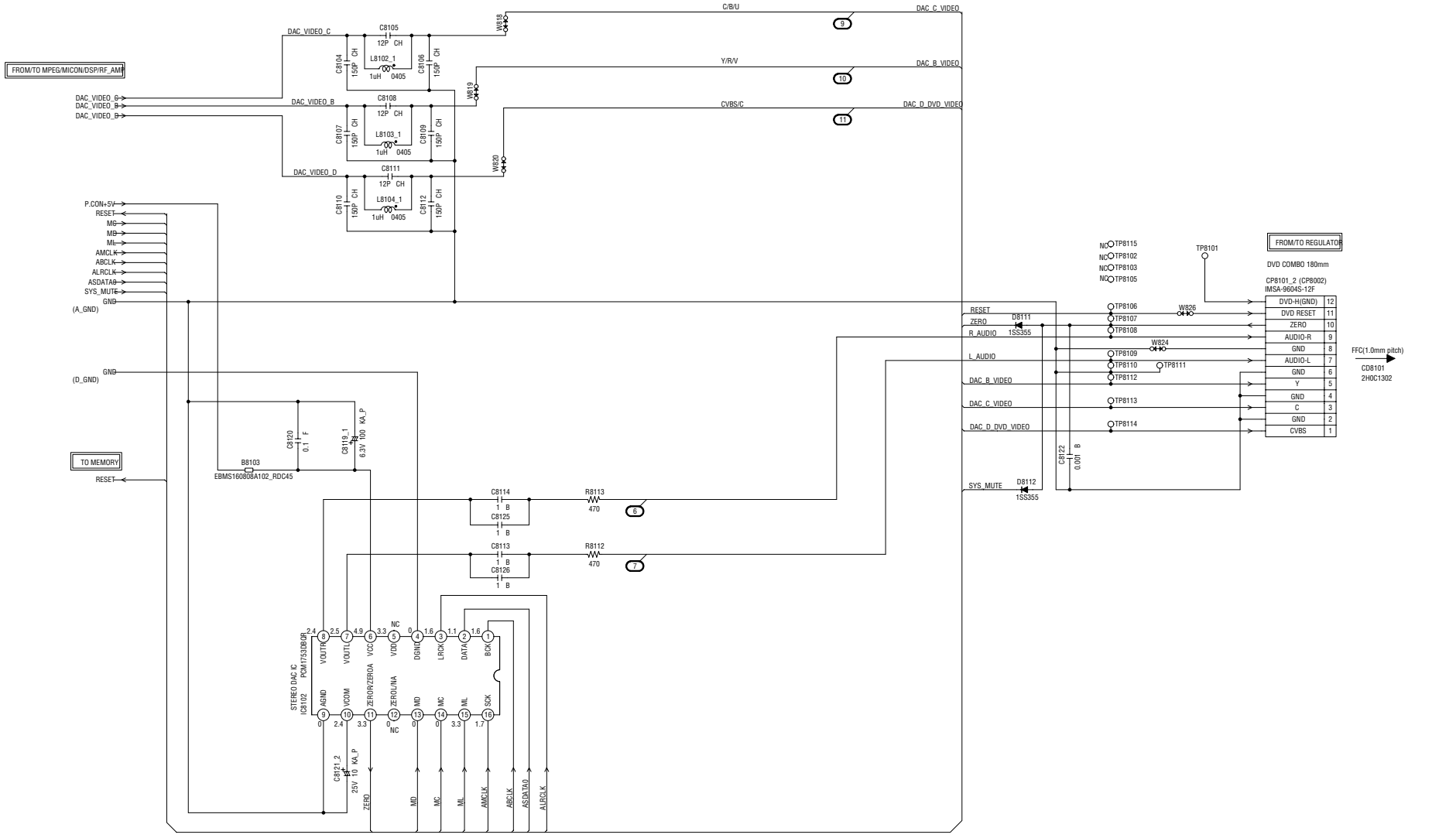
AUDIO/VIDEO SCHEMATIC DIAGRAM

(DVD MT PCB)

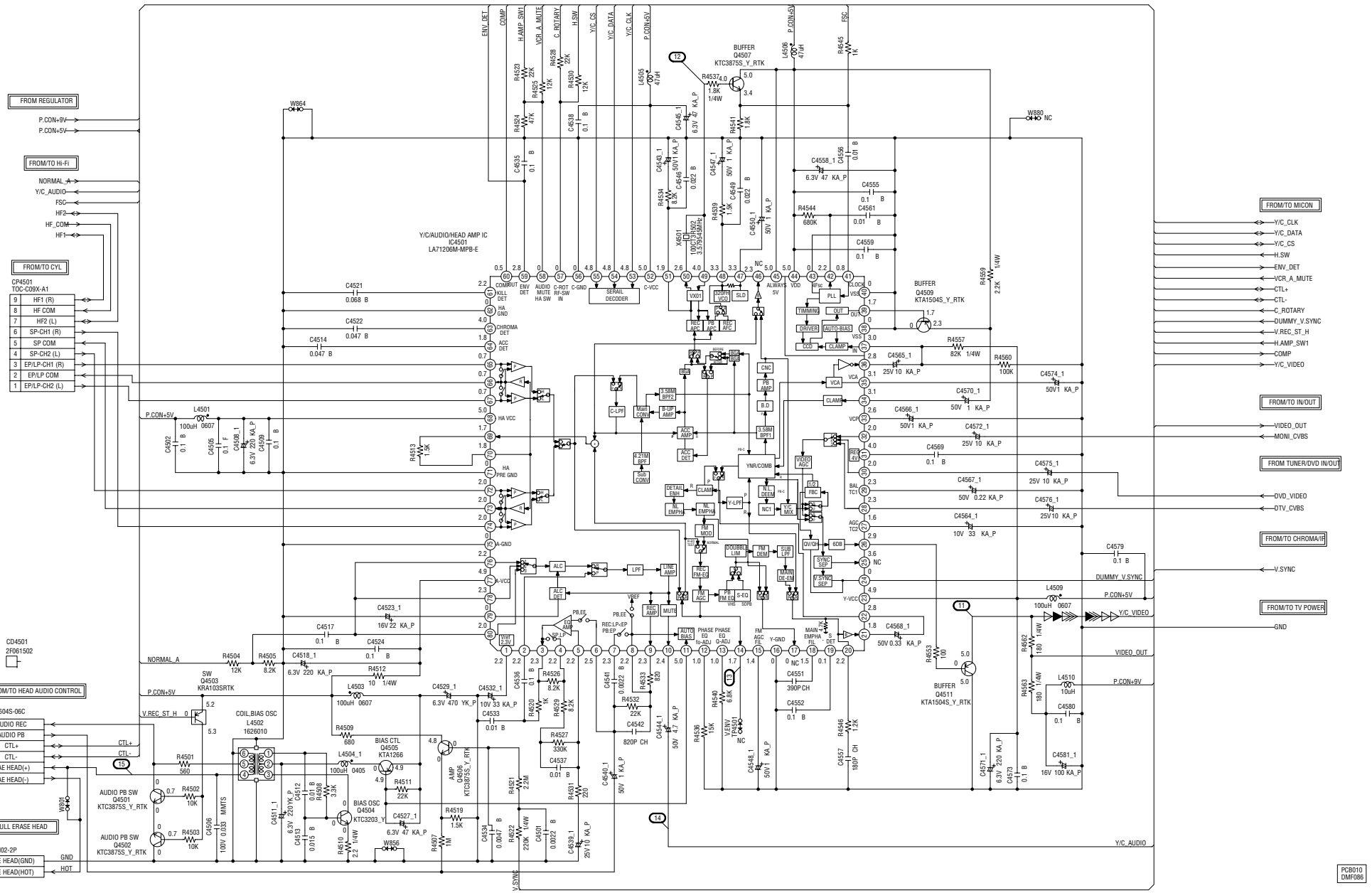


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

Y/C/AUDIO/HEAD AMP SCHEMATIC DIAGRAM

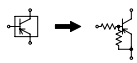
(VCR MT PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

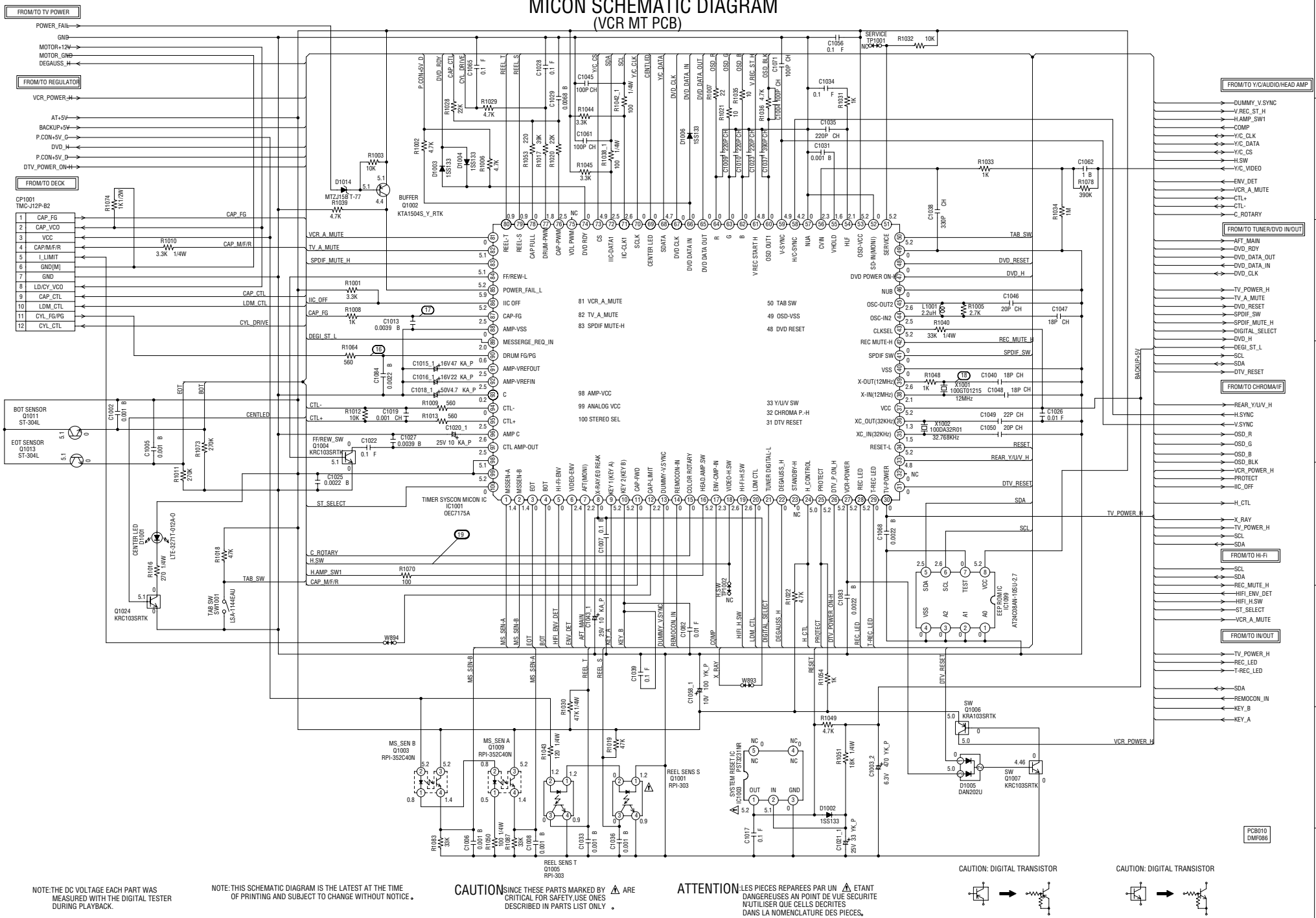
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION: DIGITAL TRANSISTOR



MICON SCHEMATIC DIAGRAM

(VCR MT PCB)



NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

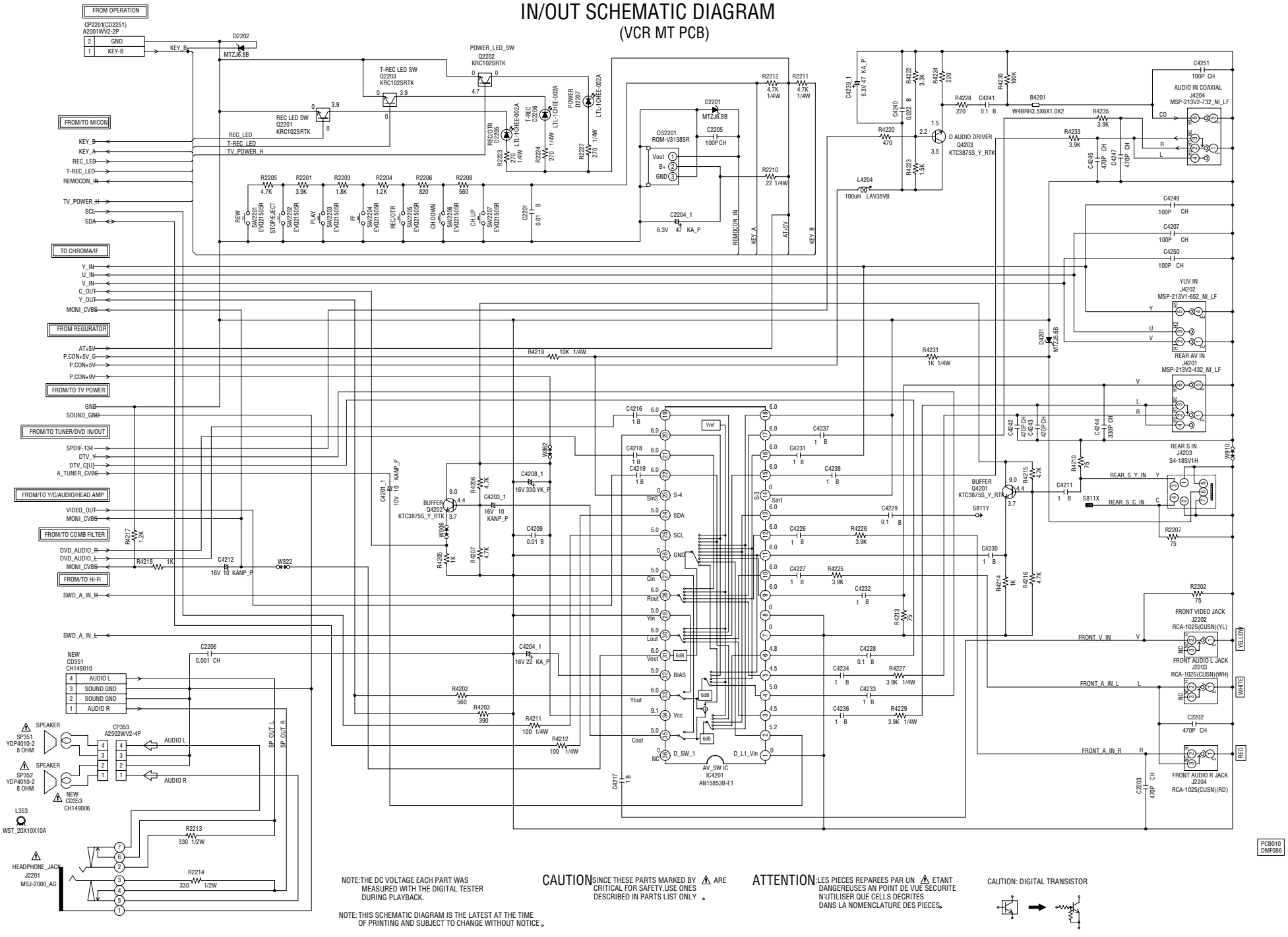
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

IN/OUT SCHEMATIC DIAGRAM

(VCR MT PCB)



NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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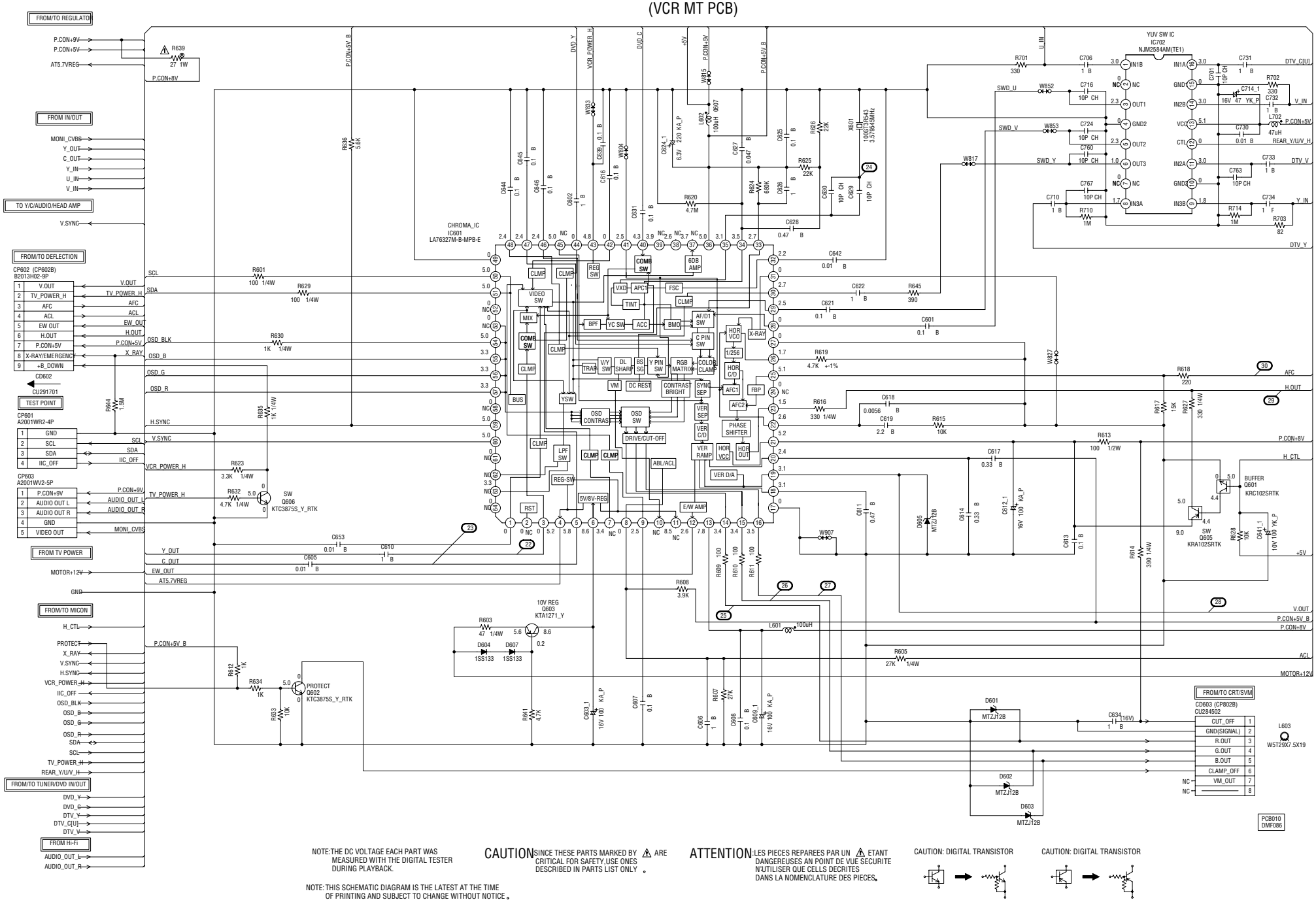
CAUTION: DIGITAL TRANSISTOR

CHROMA/IF SCHEMATIC DIAGRAM

(VCR MT PCB)



NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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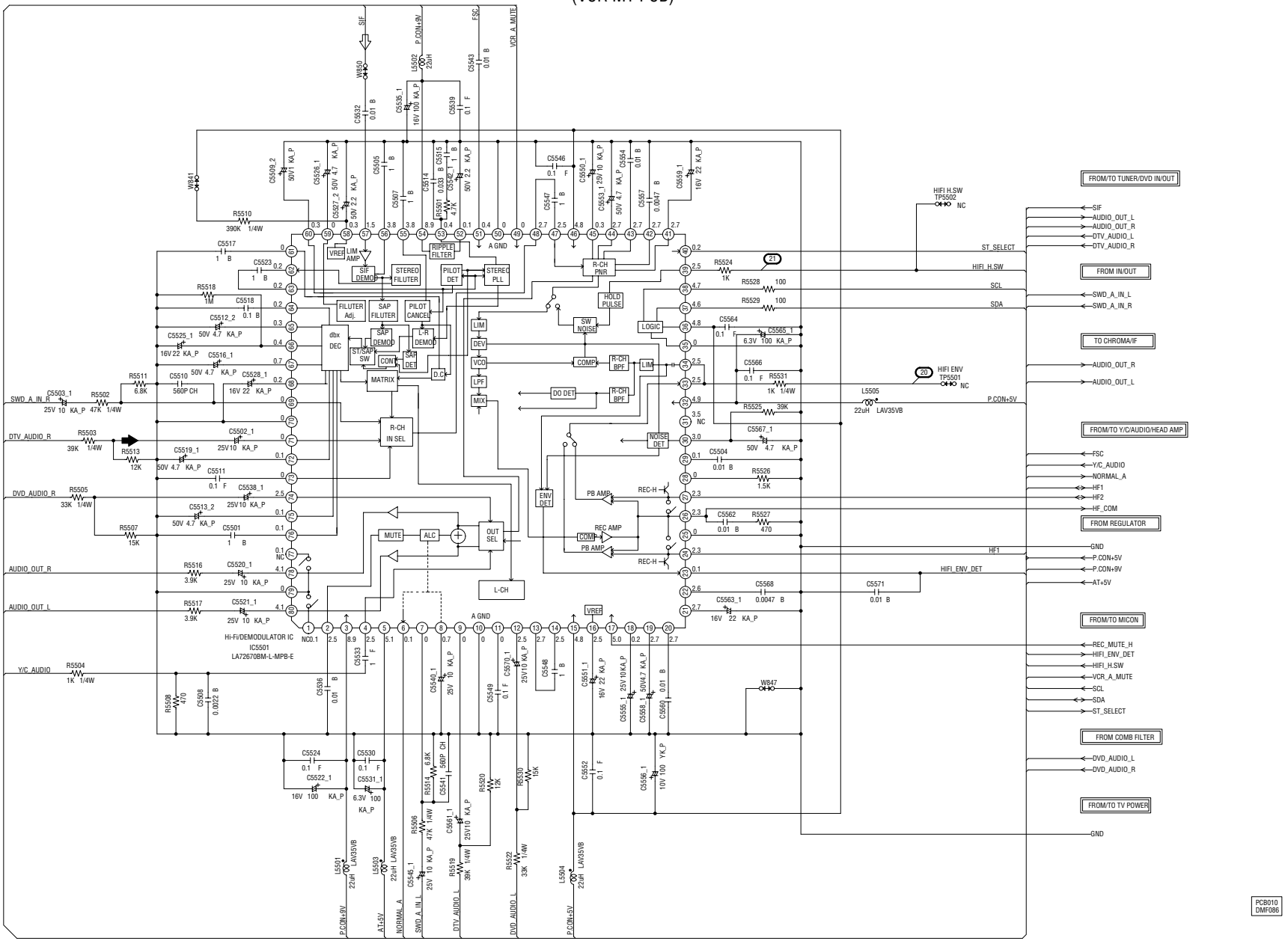
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

Hi-Fi SCHEMATIC DIAGRAM

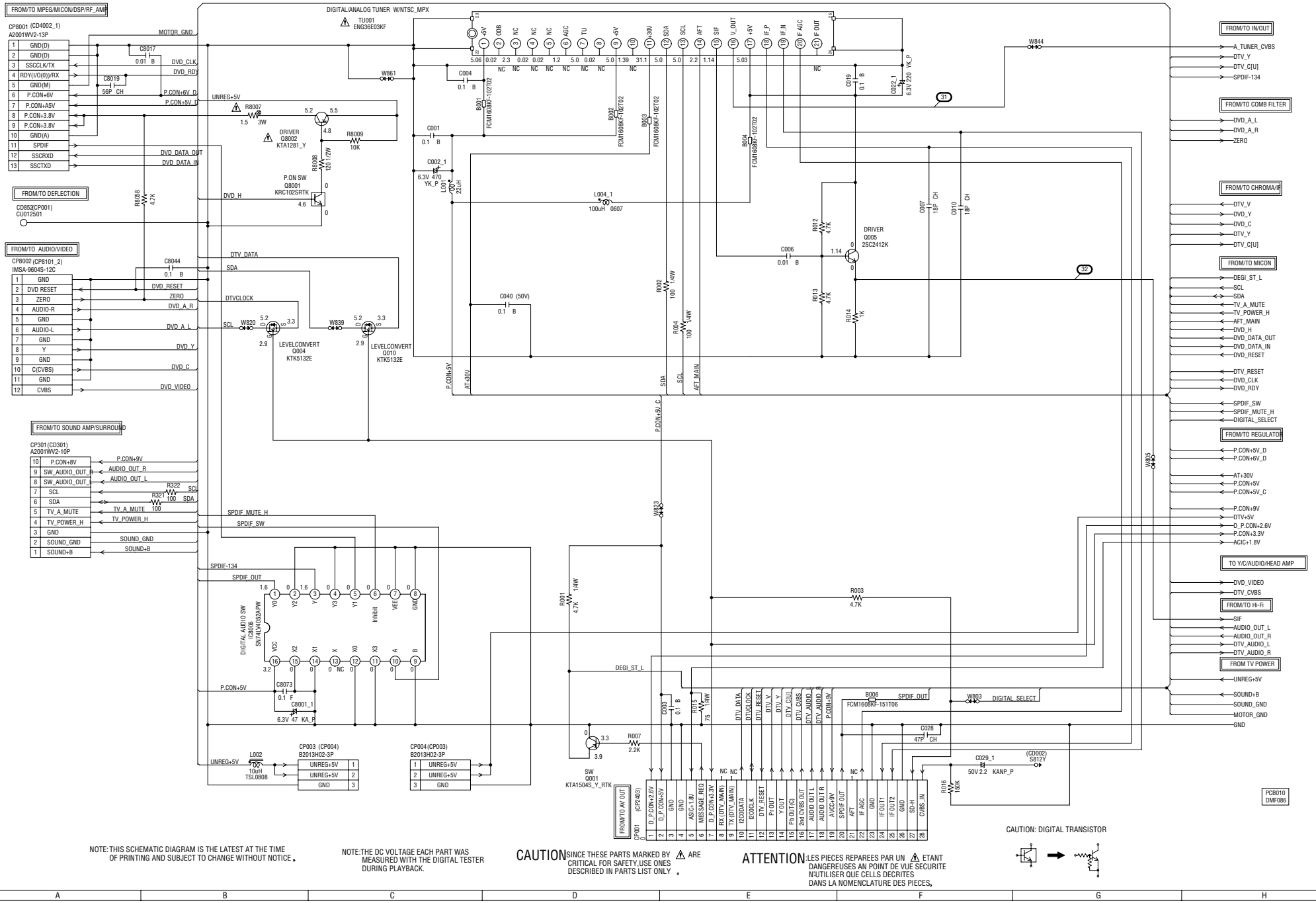
(VCR MT PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

TUNER/DVD IN/OUT SCHEMATIC DIAGRAM
(VCR MT PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

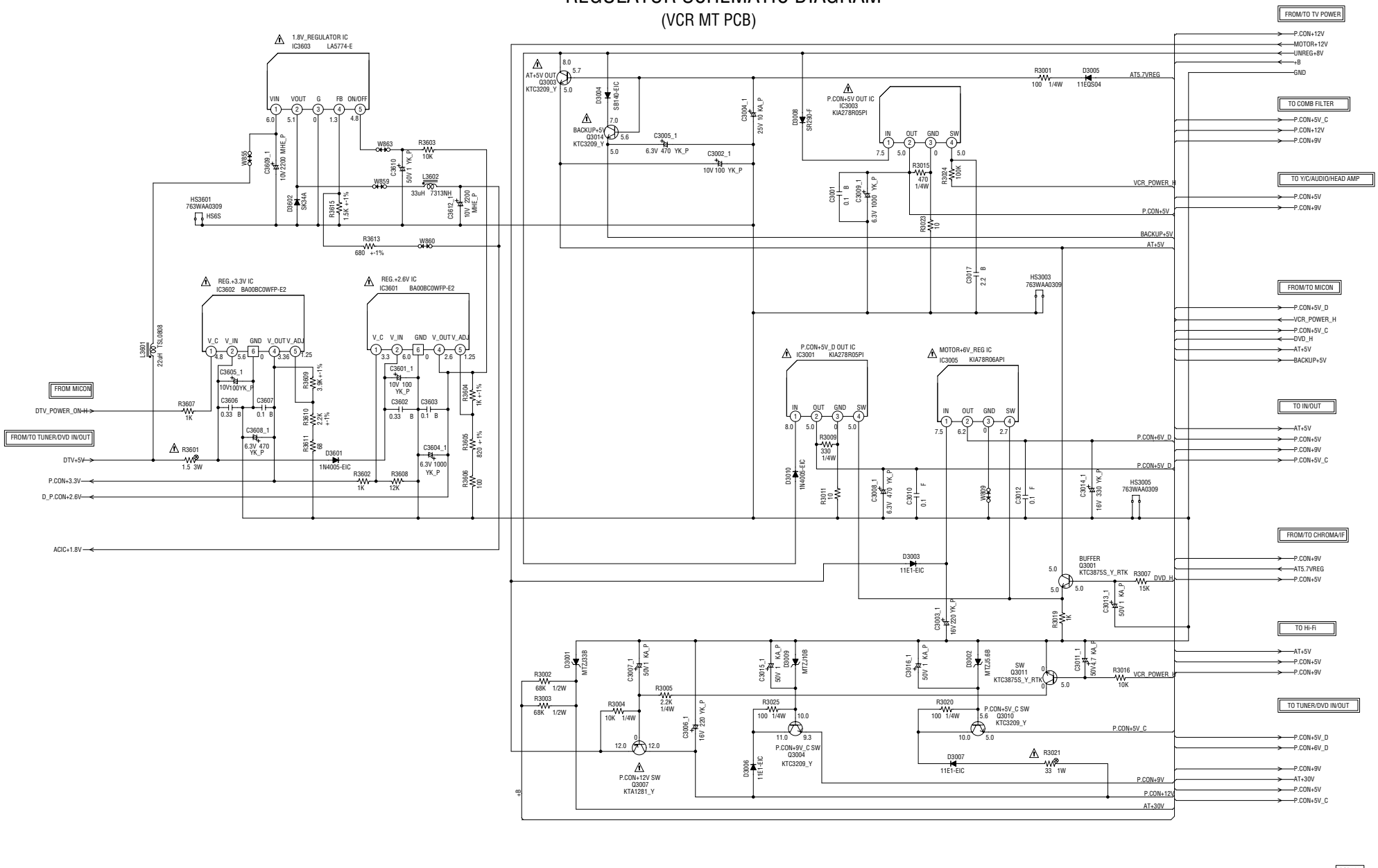
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

REGULATOR SCHEMATIC DIAGRAM

(VCR MT PCB)



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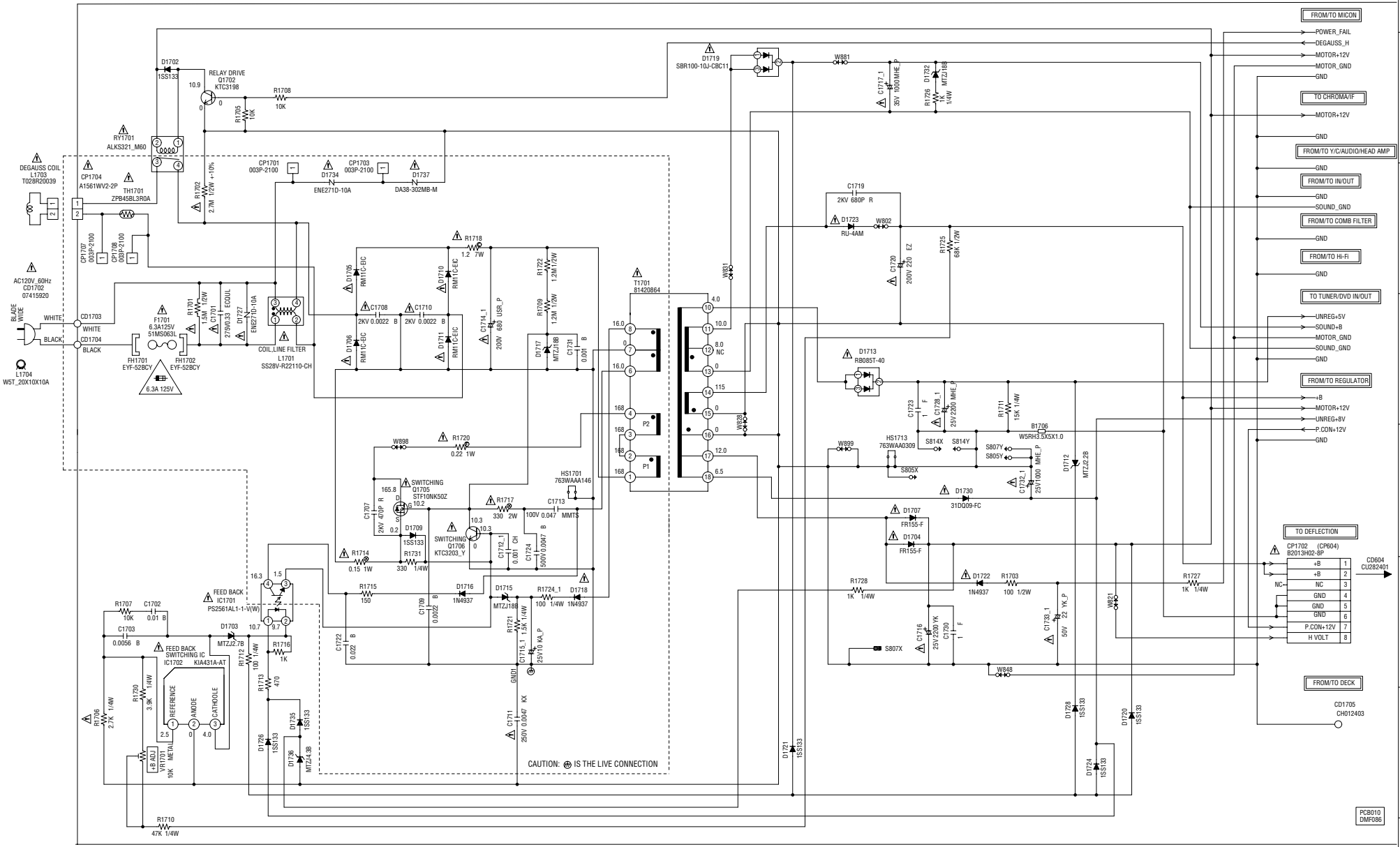
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY 。

TV POWER SCHEMATIC DIAGRAM

(VCR MT PCB)



6.3A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 6.3A 125V (F1701)

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 6.3A 125V (F1701)

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

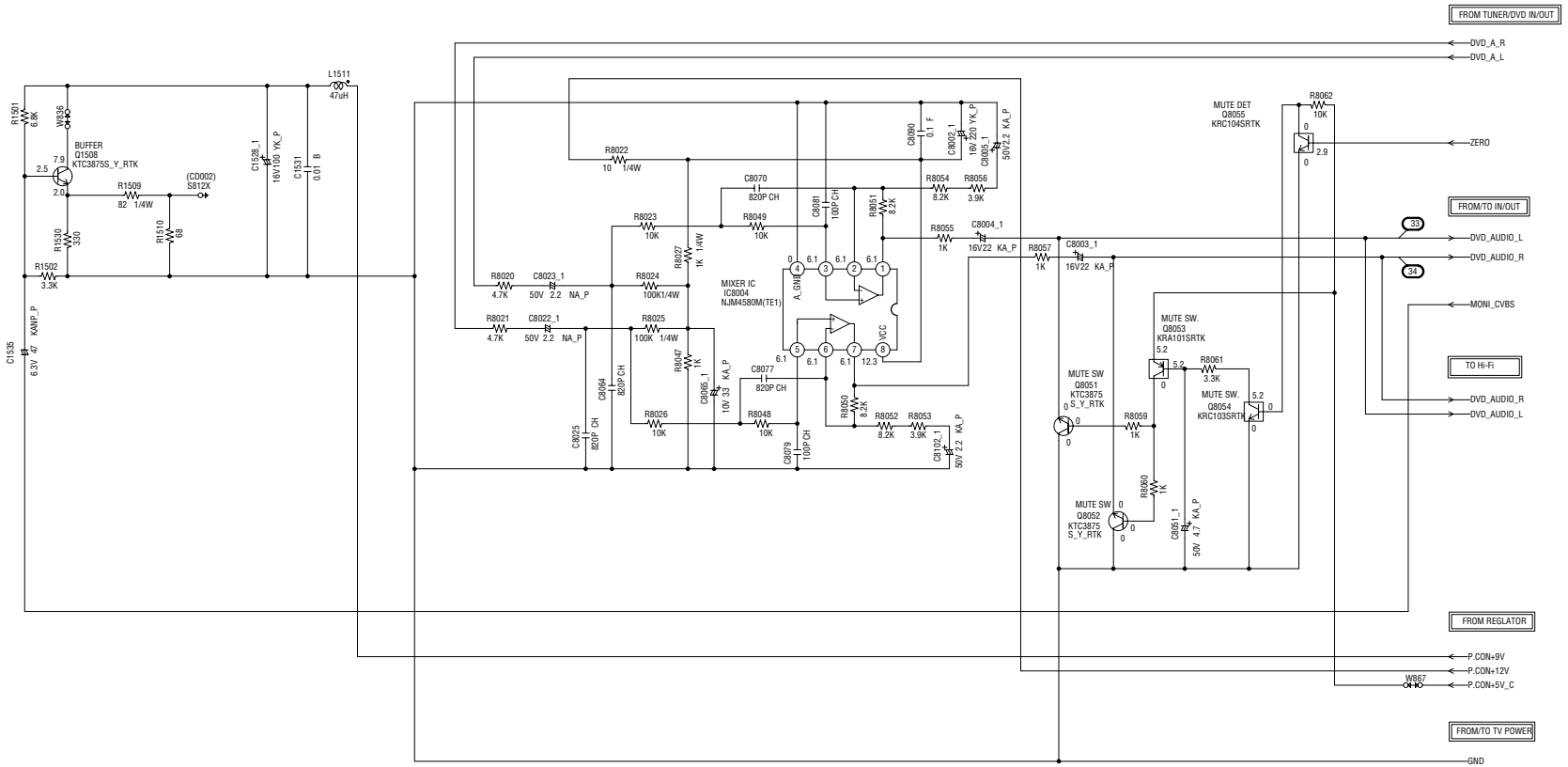
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

COMB FILTER SCHEMATIC DIAGRAM

(VCR MT PCB)



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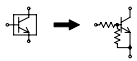
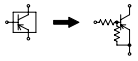
NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

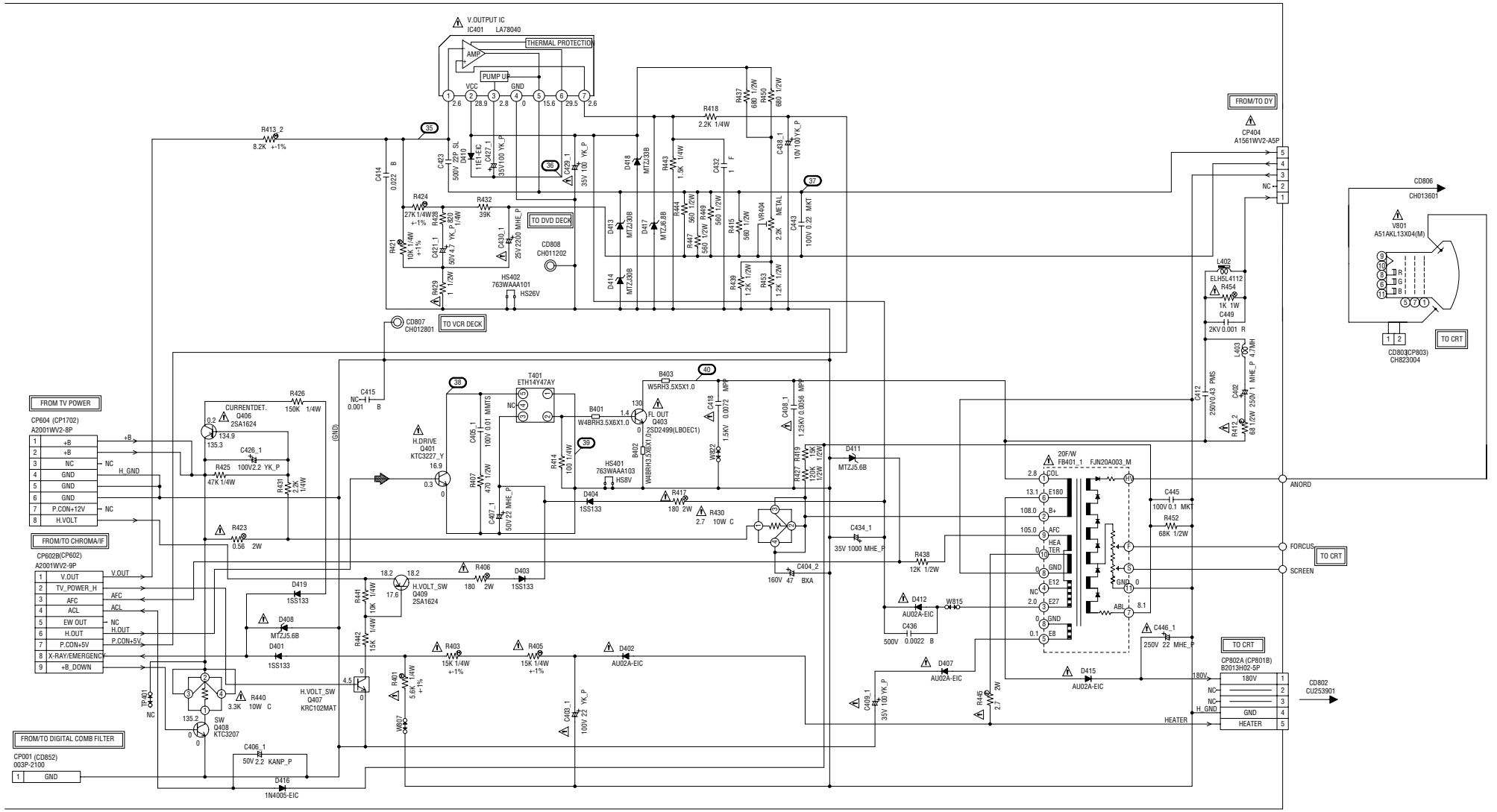


CAUTION: DIGITAL TRANSISTOR



DEFLECTION SCHEMATIC DIAGRAM

(DEFLECTION PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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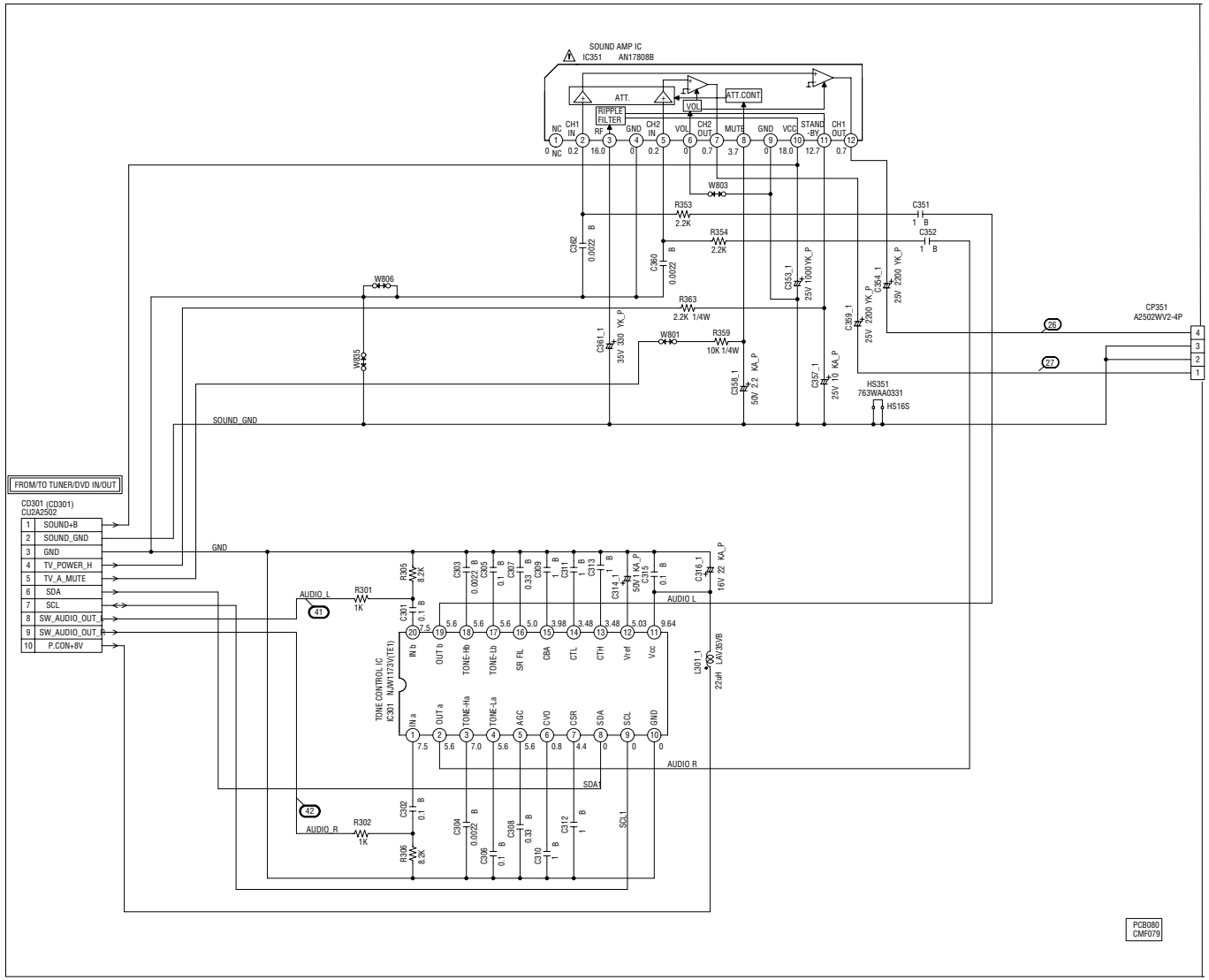
ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

CAUTION: DIGITAL TRANSISTOR

SOUND AMP/SURROUND SCHEMATIC DIAGRAM

(DEFLECTION PCB)



ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

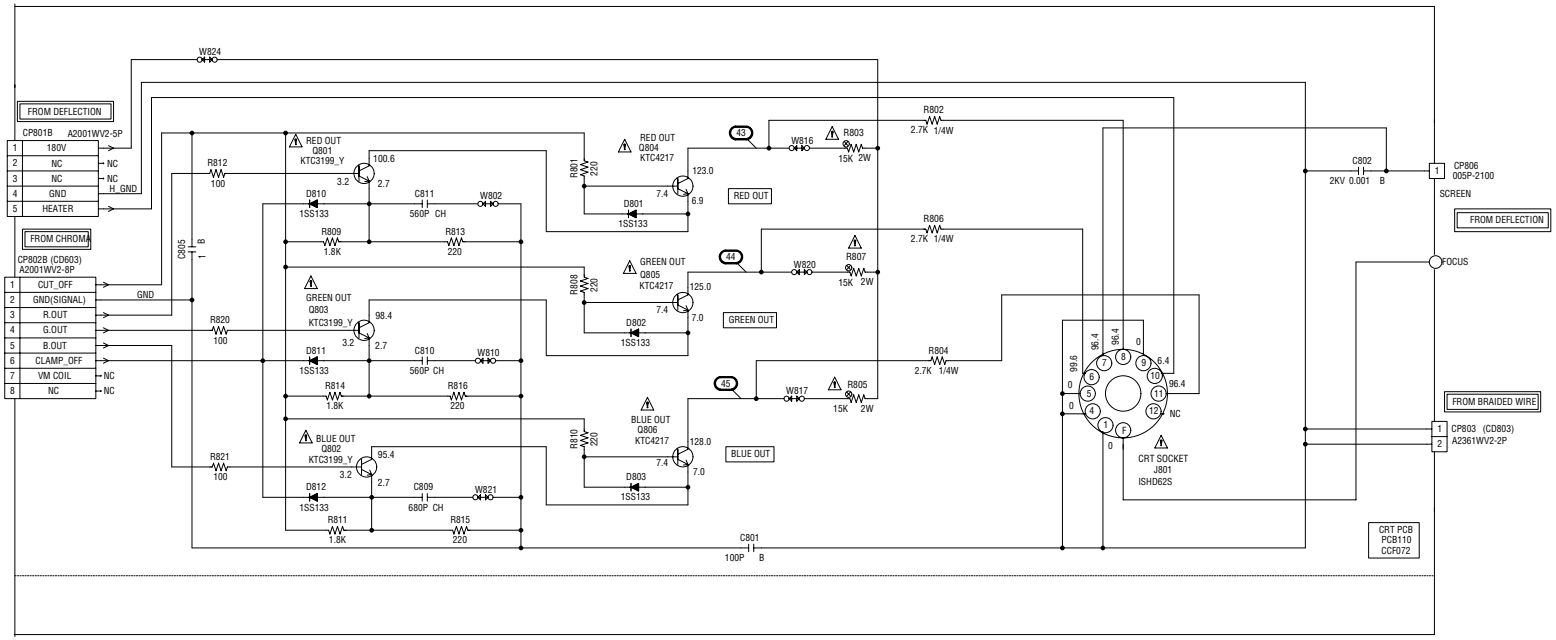
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CRT/SVM SCHEMATIC DIAGRAM

(CRT PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

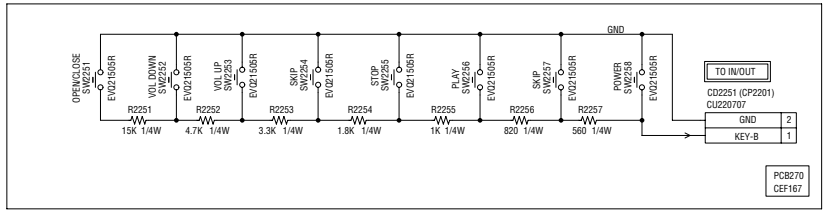
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

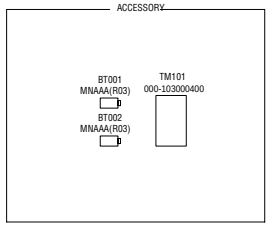
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

OPERATION SCHEMATIC DIAGRAM

(OPERATION PCB)



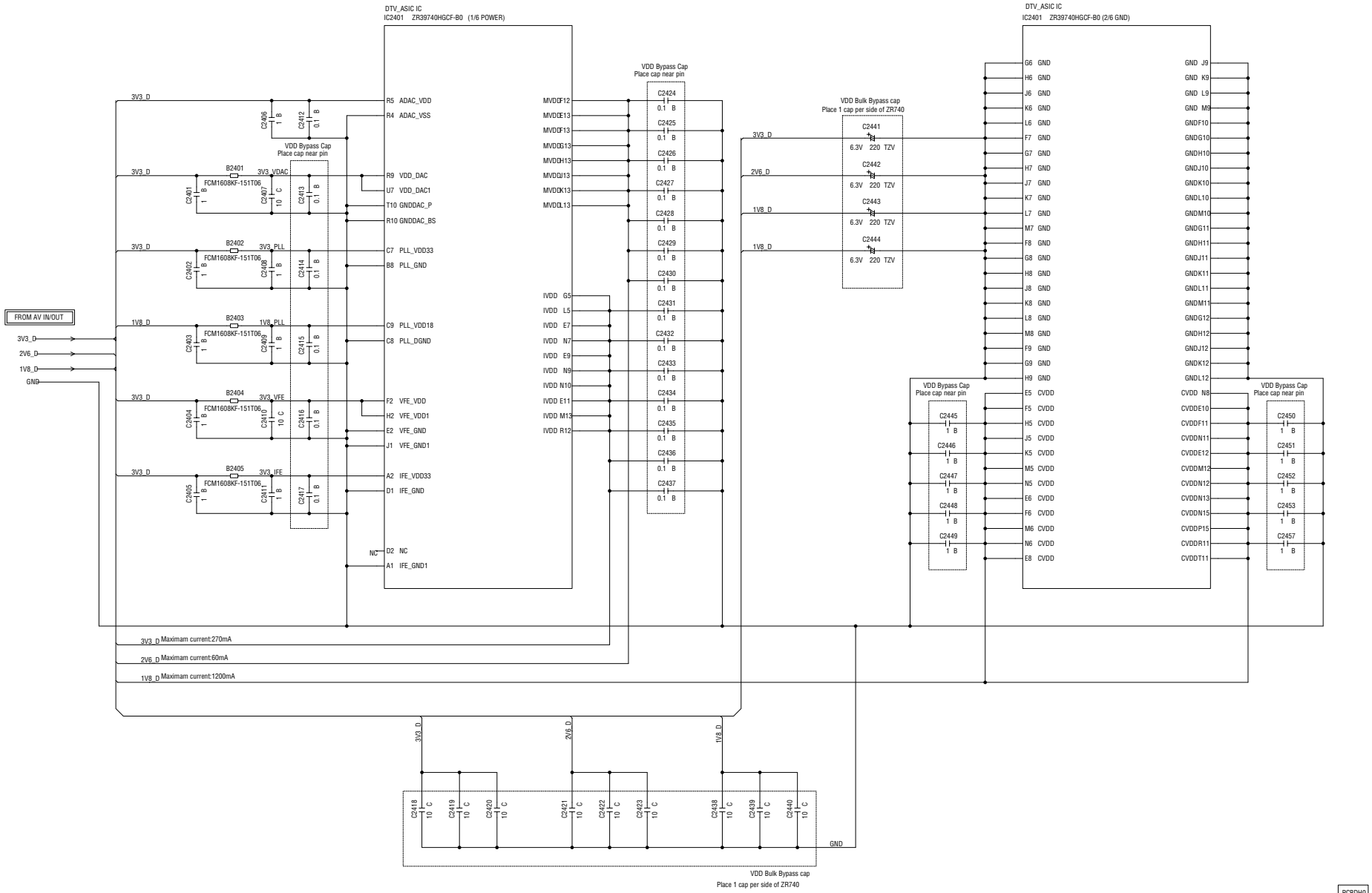


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

POWER & GROUND SCHEMATIC DIAGRAM

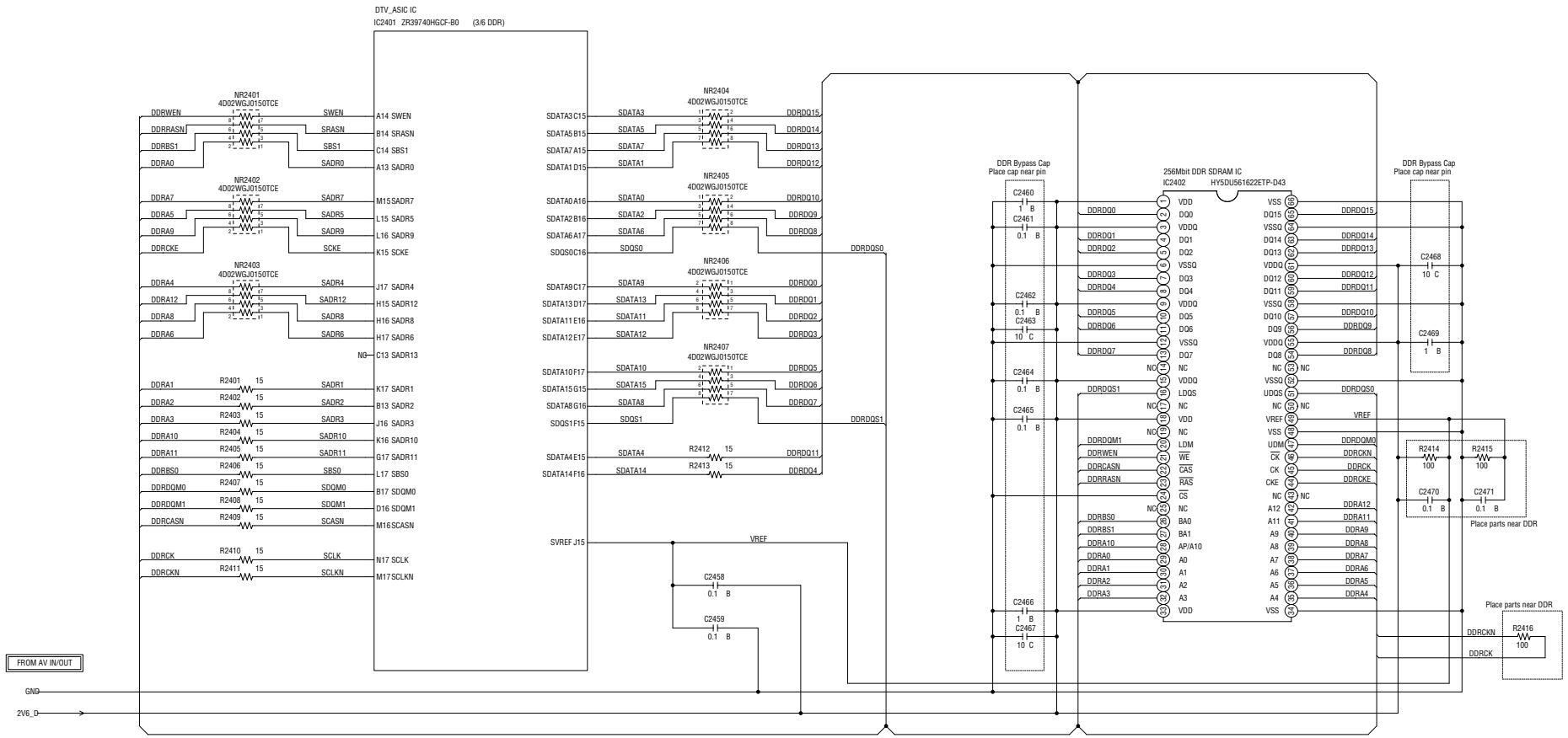
(DIGITAL PCB)



NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

SDRAM SCHEMATIC DIAGRAM
(DIGITAL PCB)

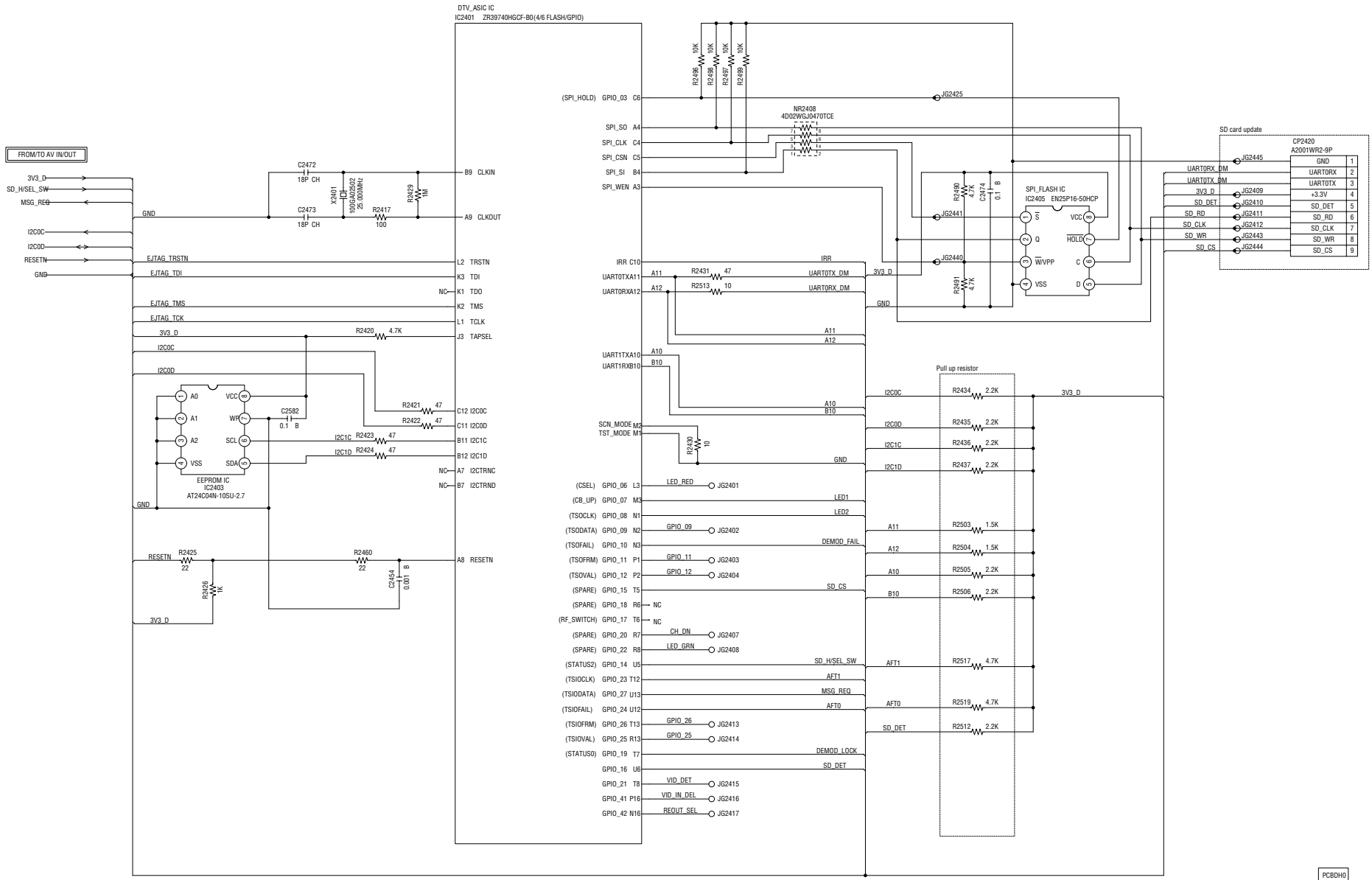


NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

FLASH/GPIO SCHEMATIC DIAGRAM

(DIGITAL PCB)

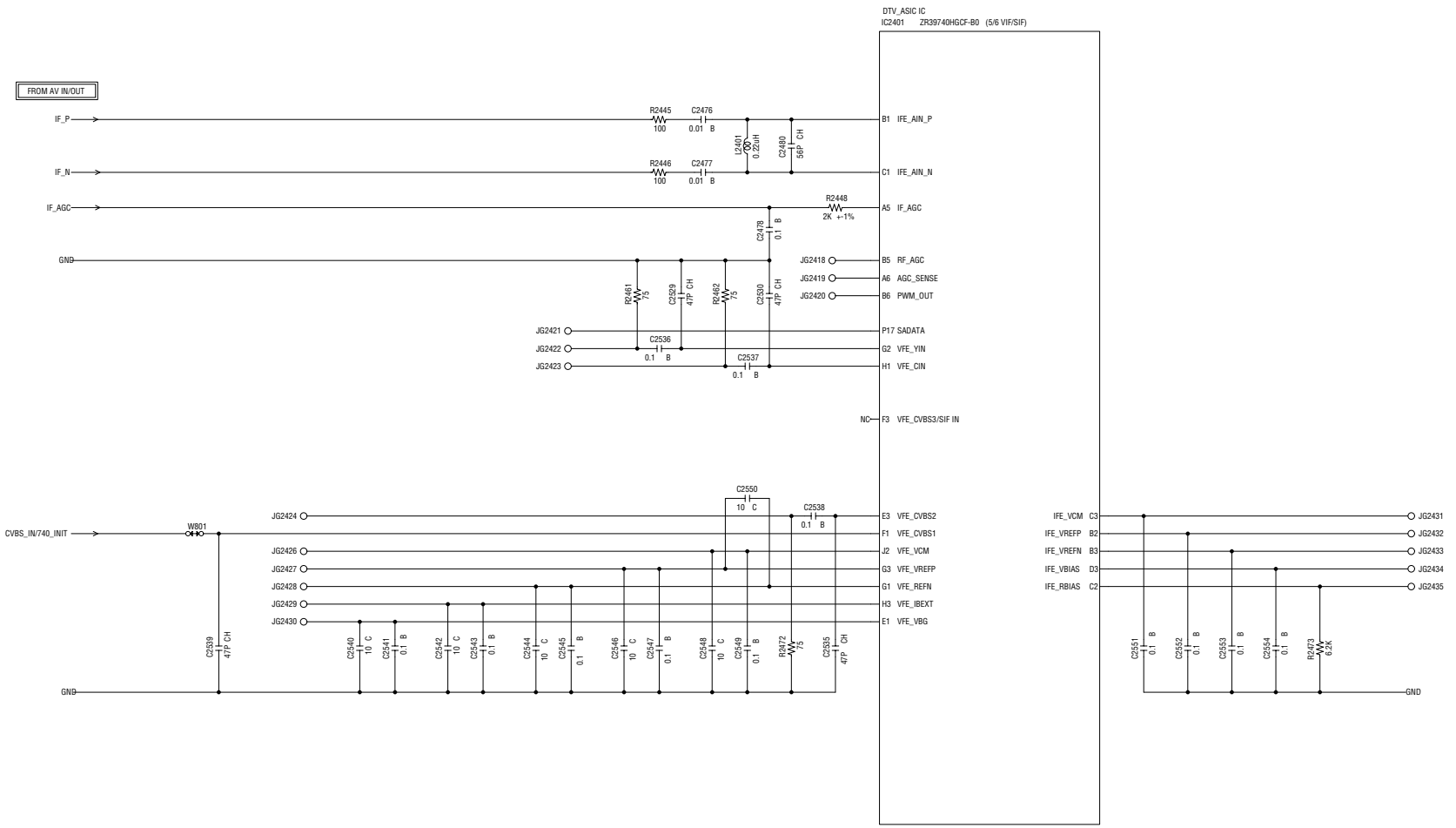


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

VIF/SIF SCHEMATIC DIAGRAM

(DIGITAL PCB)

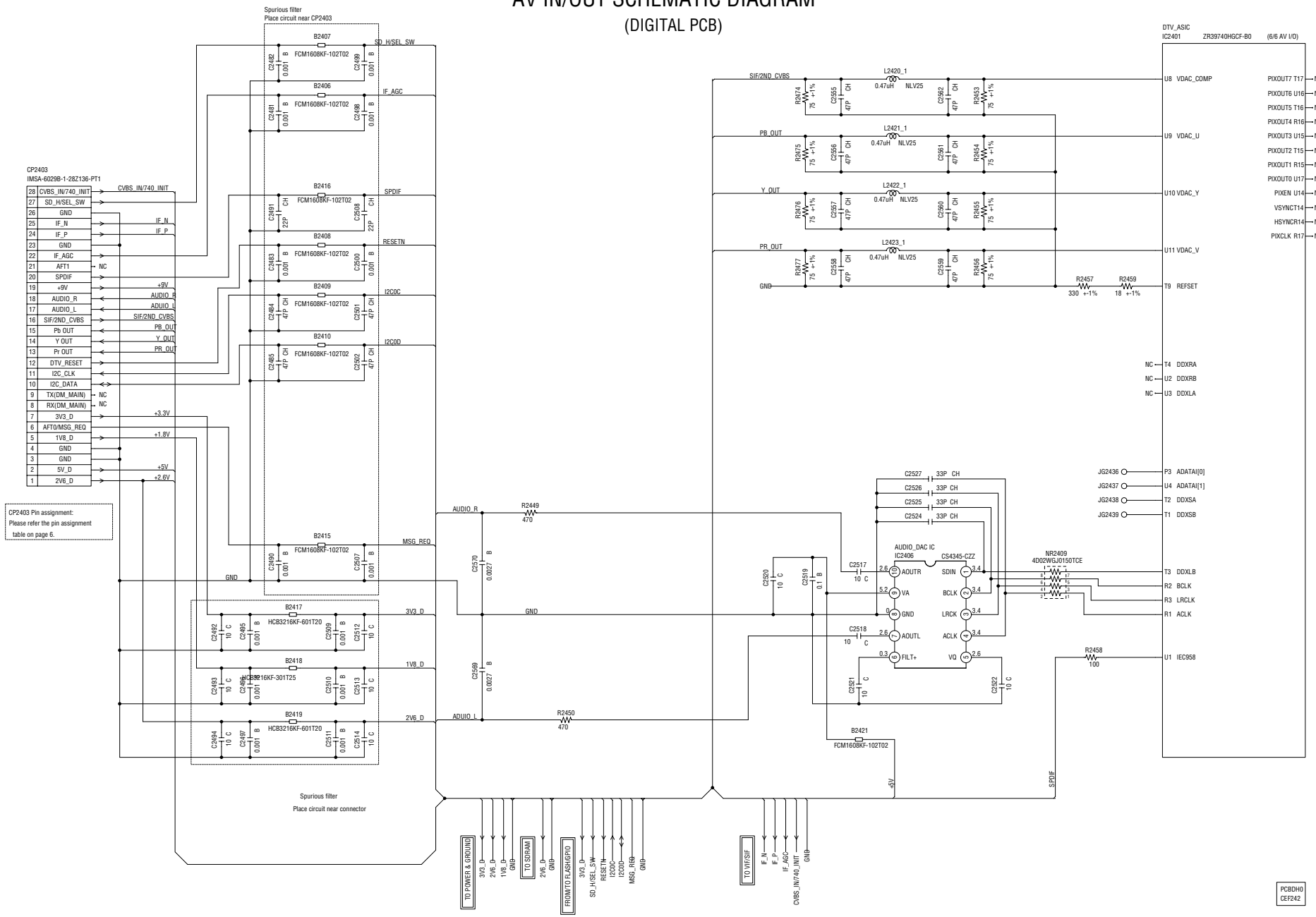


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

AV IN/OUT SCHEMATIC DIAGRAM

(DIGITAL PCB)

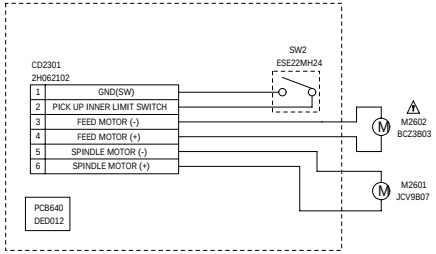


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

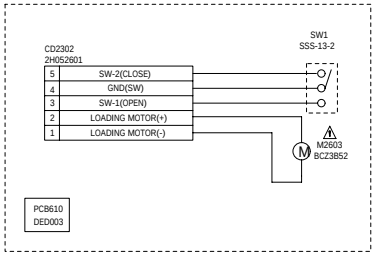
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

LOADING MOTOR/SW SCHEMATIC DIAGRAM

(SW PCB)



(LOADING MOTOR PCB)

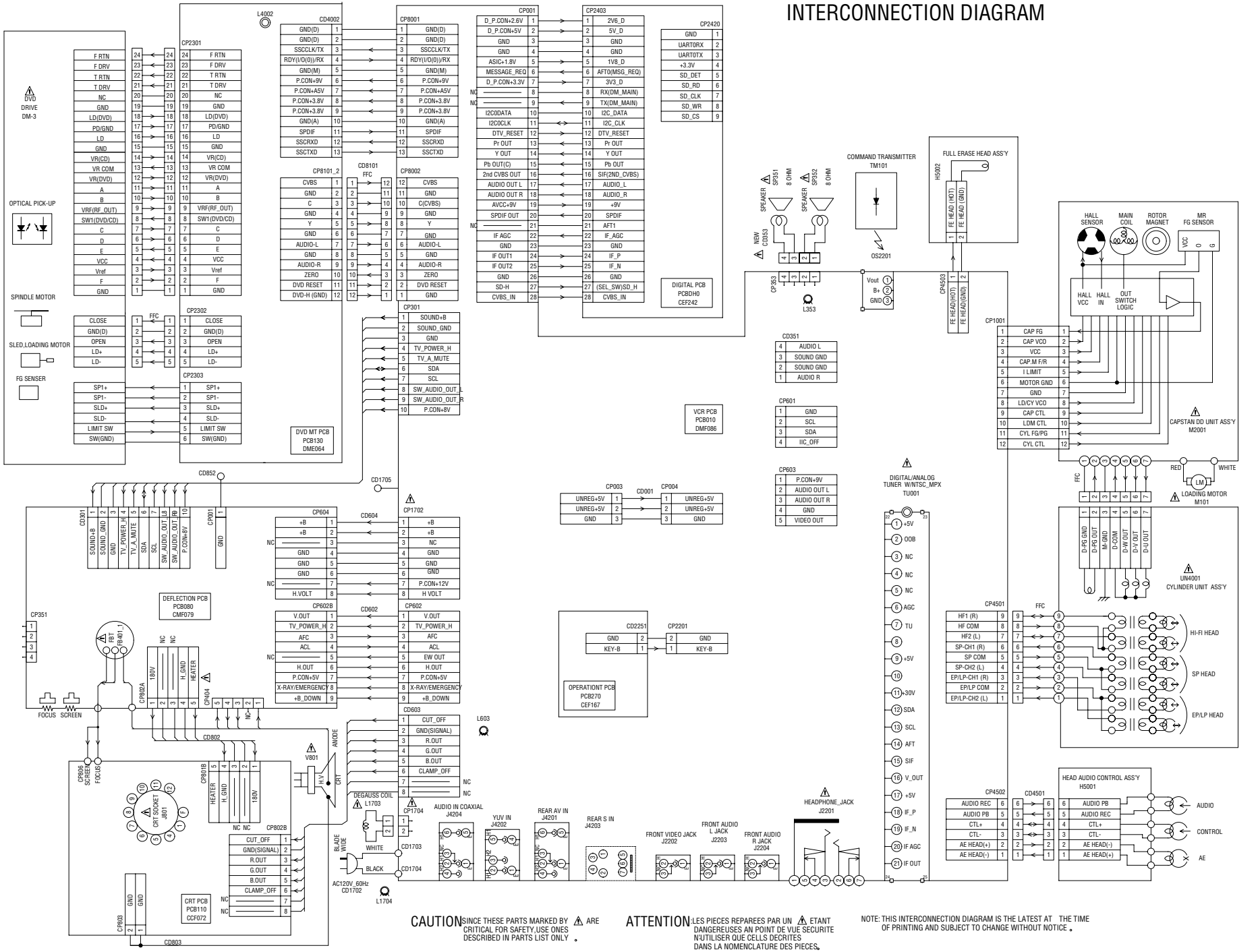


CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION :LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

INTERCONNECTION DIAGRAM



CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

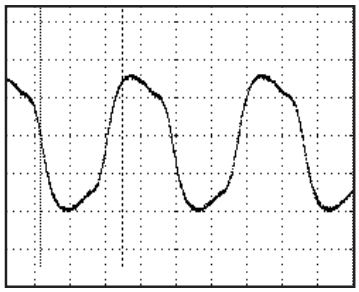
ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

WAVEFORMS

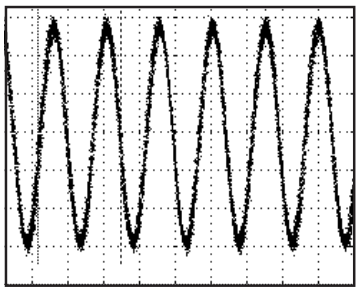
MPEG/MICON/DSP

10ns
100mV



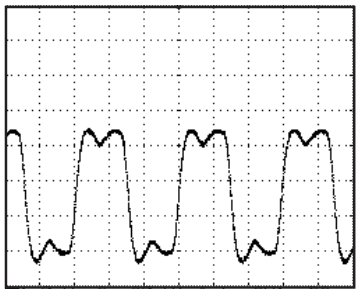
1

5ns
20mV



2

20ns
1.0V



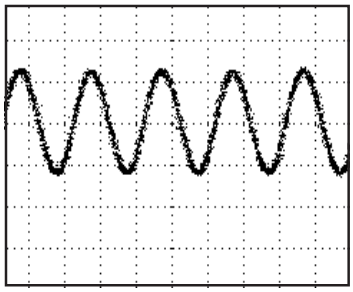
3

200ns
1.0V

4

MEMORY

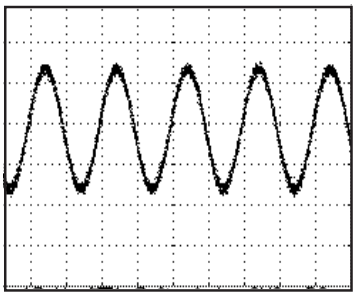
200µs
500mV



5

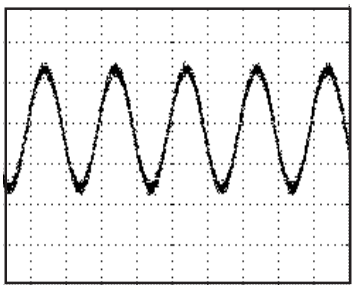
AUDIO/VIDEO

500µs
1.0V



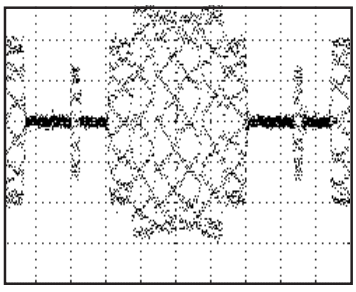
6

500µs
1.0V



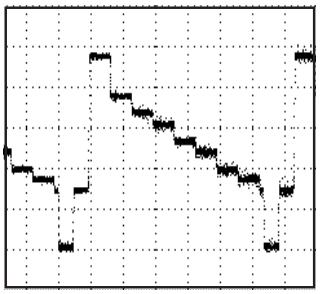
7

10µs
100mV



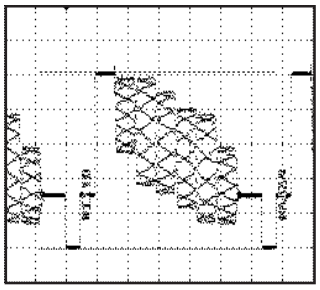
8

10µs
200mV



9

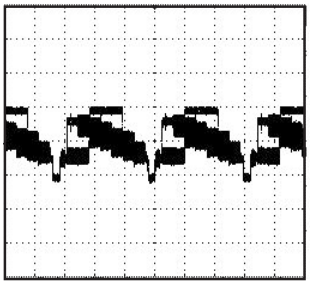
10µs
200mV



10

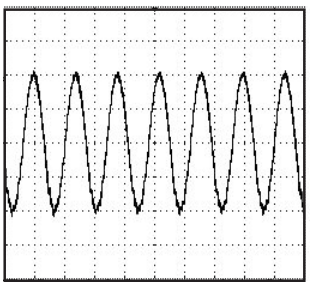
Y/C/AUDIO/HEAD AMP

20µs
1.0V



11

2µs
1.0V



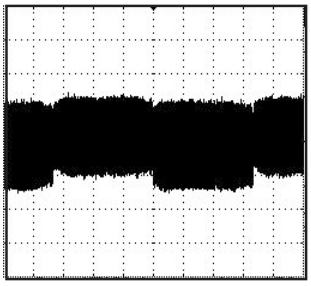
12

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

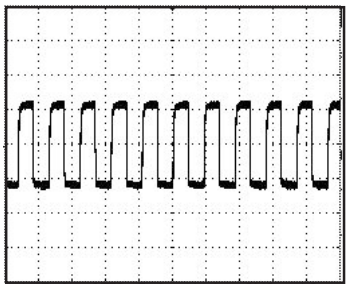
1ms
1.0V

⑬



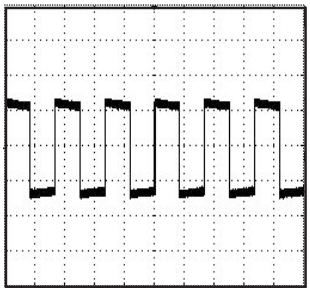
1ms
2.0V

⑰



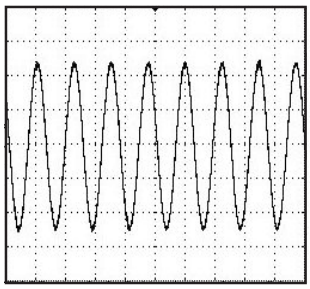
1ms
1.0V

㉑



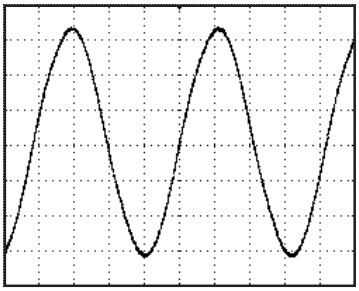
5ms
2.0V

⑭



20ns
50mV

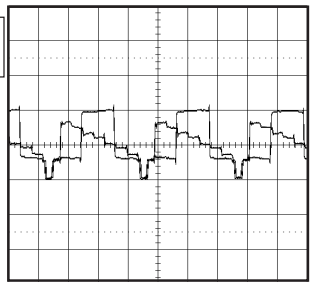
⑱



CHROMA/IF

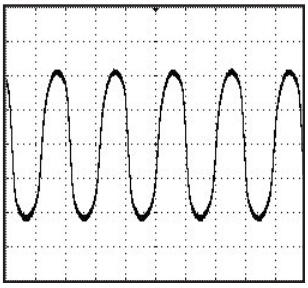
20µs
0.5V

㉒



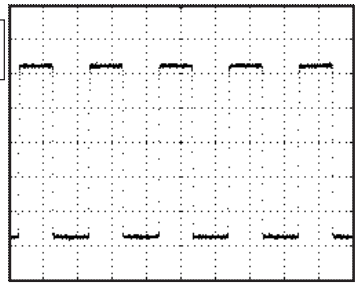
20µs
20V

⑮



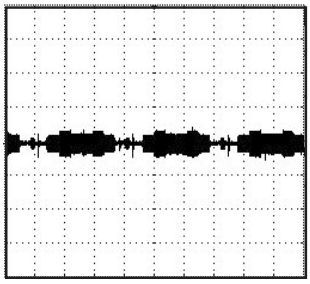
500ms
1.0V

⑲



20µs
0.5V

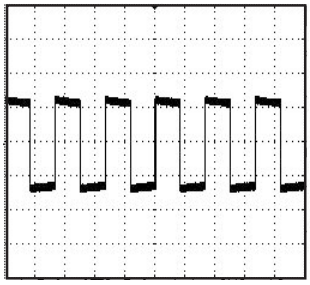
㉓



MICON

20ms
2.0V

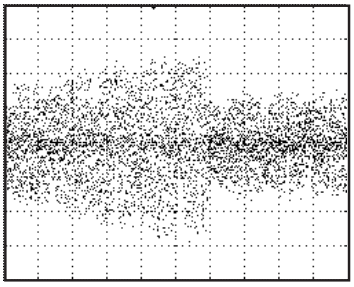
⑯



Hi-Fi

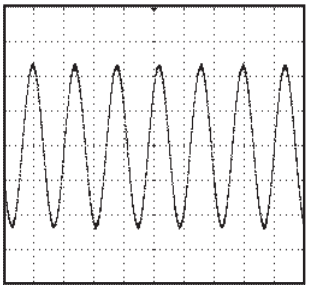
2ms
200mV

⑳



200ns
200mV

㉔

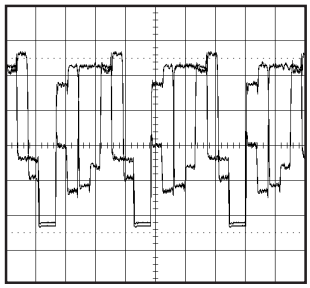


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

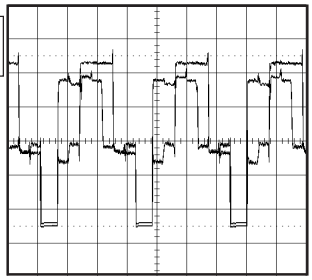
20µs
1.0V

25



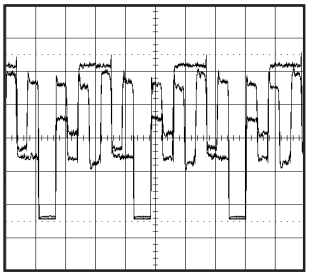
20µs
1.0V

26



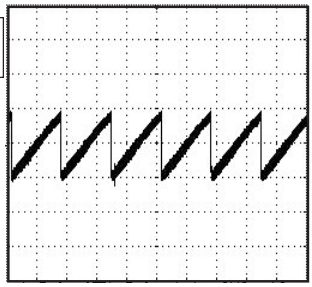
20µs
1.0V

27



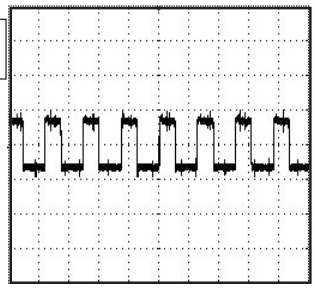
10ms
1.0V

28



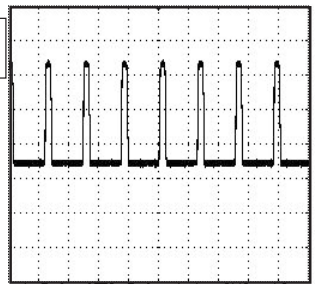
50µs
0.5V

29



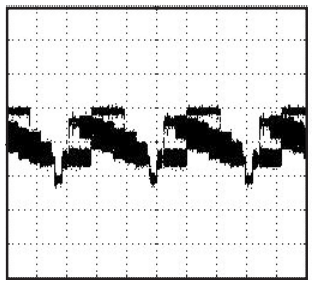
50µs
2.0V

30



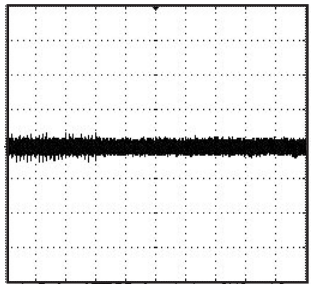
20µs
0.5V

31



0.5ms
0.5V

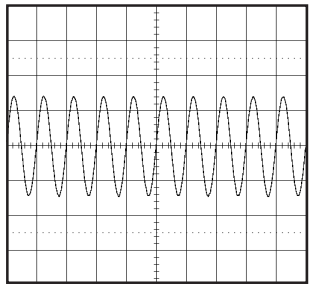
32



COMB FILTER

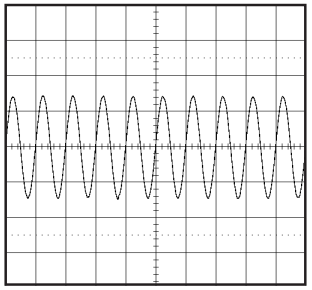
1ms
2.0V

33



1ms
2.0V

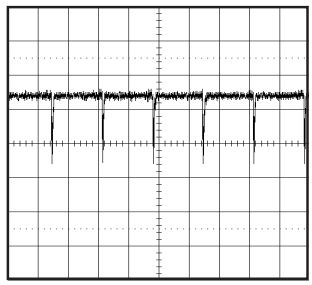
34



DEFLECTION

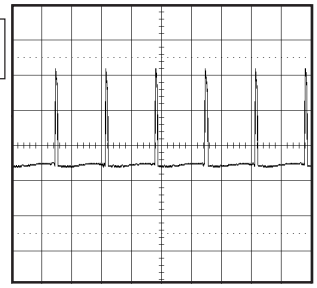
10ms
0.2V

35



10ms
10V

36



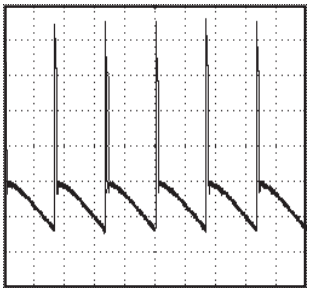
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

SOUND AMP/ SURROUND

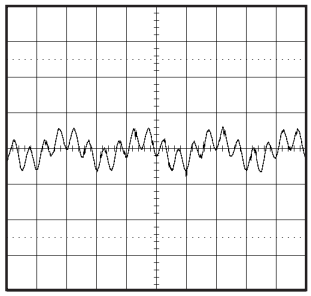
10ms
10V

37



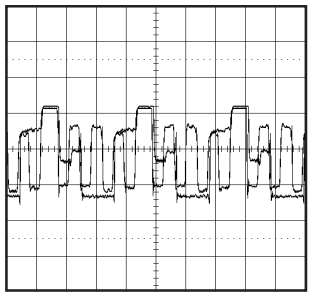
1ms
2.0V

41



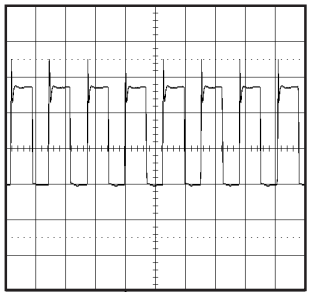
20µs
50V

45



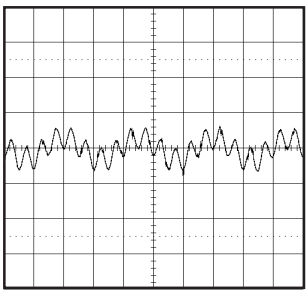
50µs
10V

38



1ms
2.0V

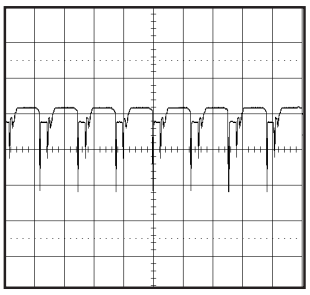
42



CRT

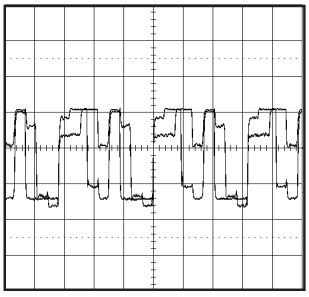
50µs
5.0V

39



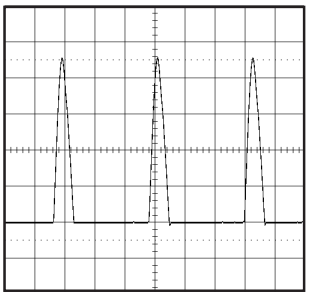
20µs
50V

43



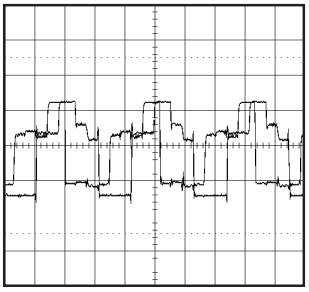
20µs
200V

40



20µs
50V

44



NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN