

TOSHIBA

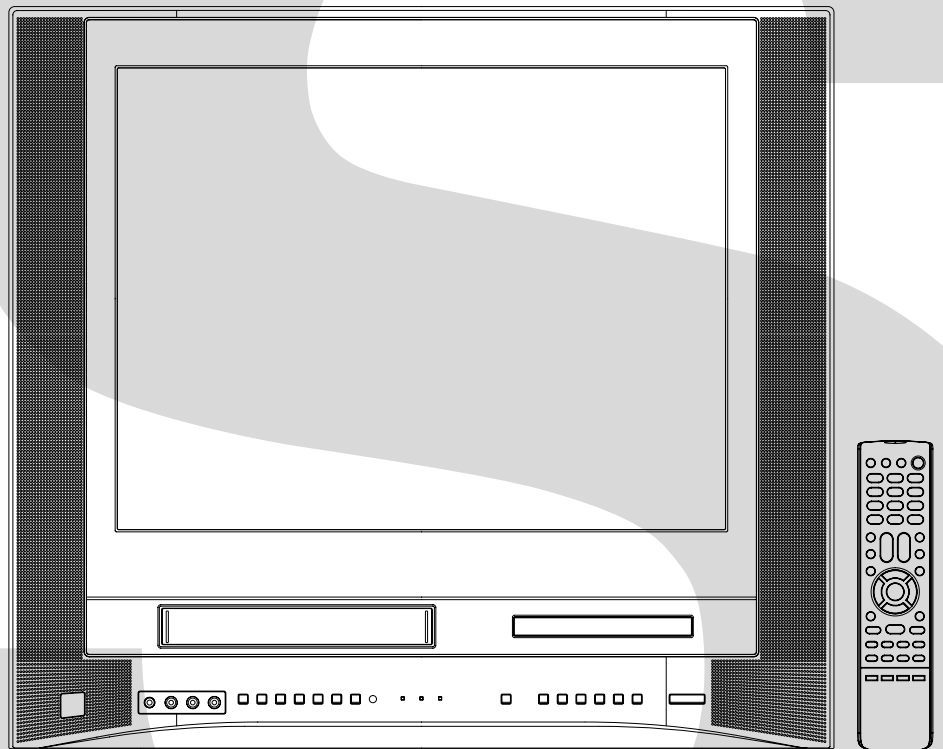
FILE NO. 810-200551

SERVICE MANUAL

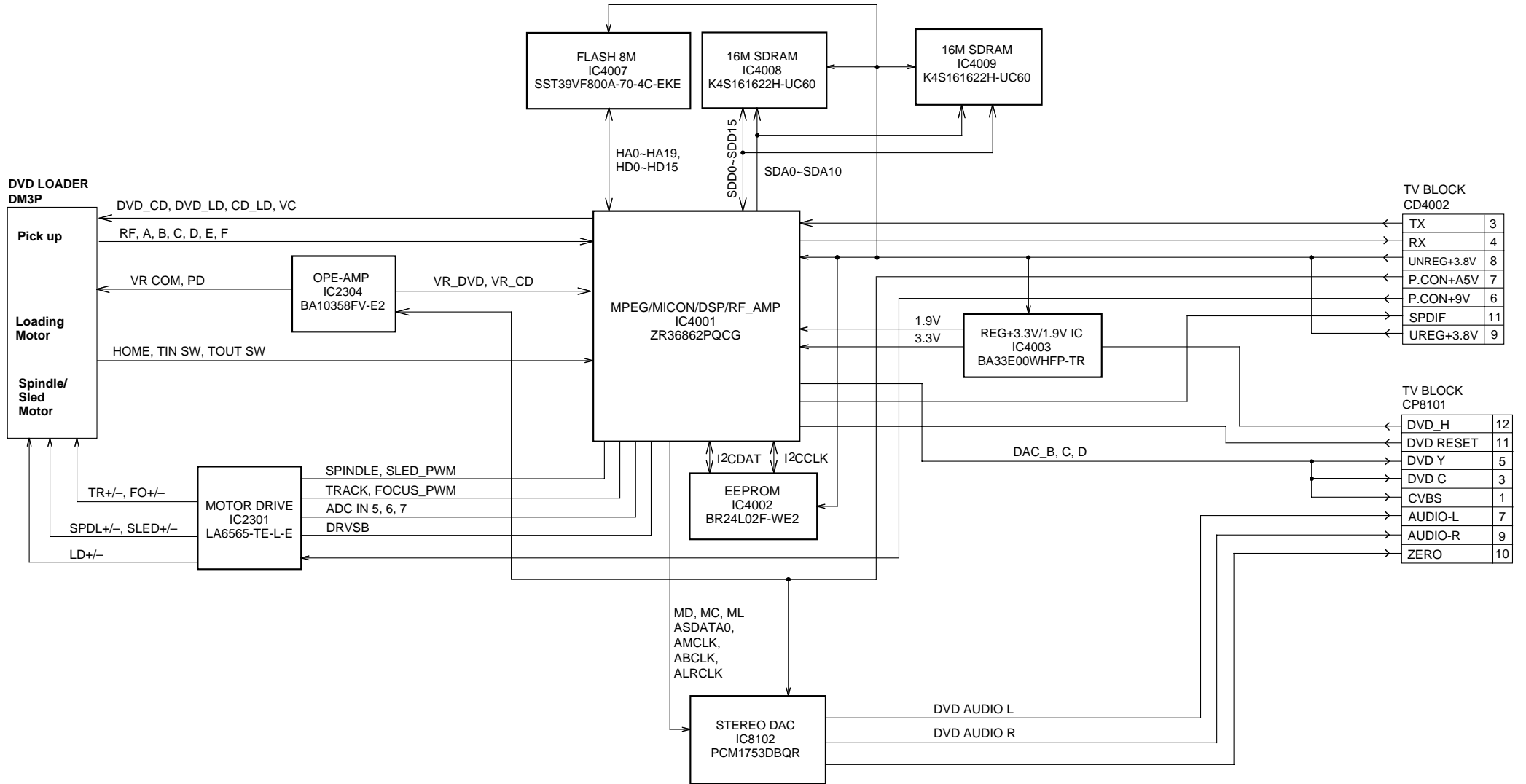


COMBINATION 21" FLAT TV AND VIDEO CASSETTE RECORDER/DVD VIDEO PLAYER TELE TEXT

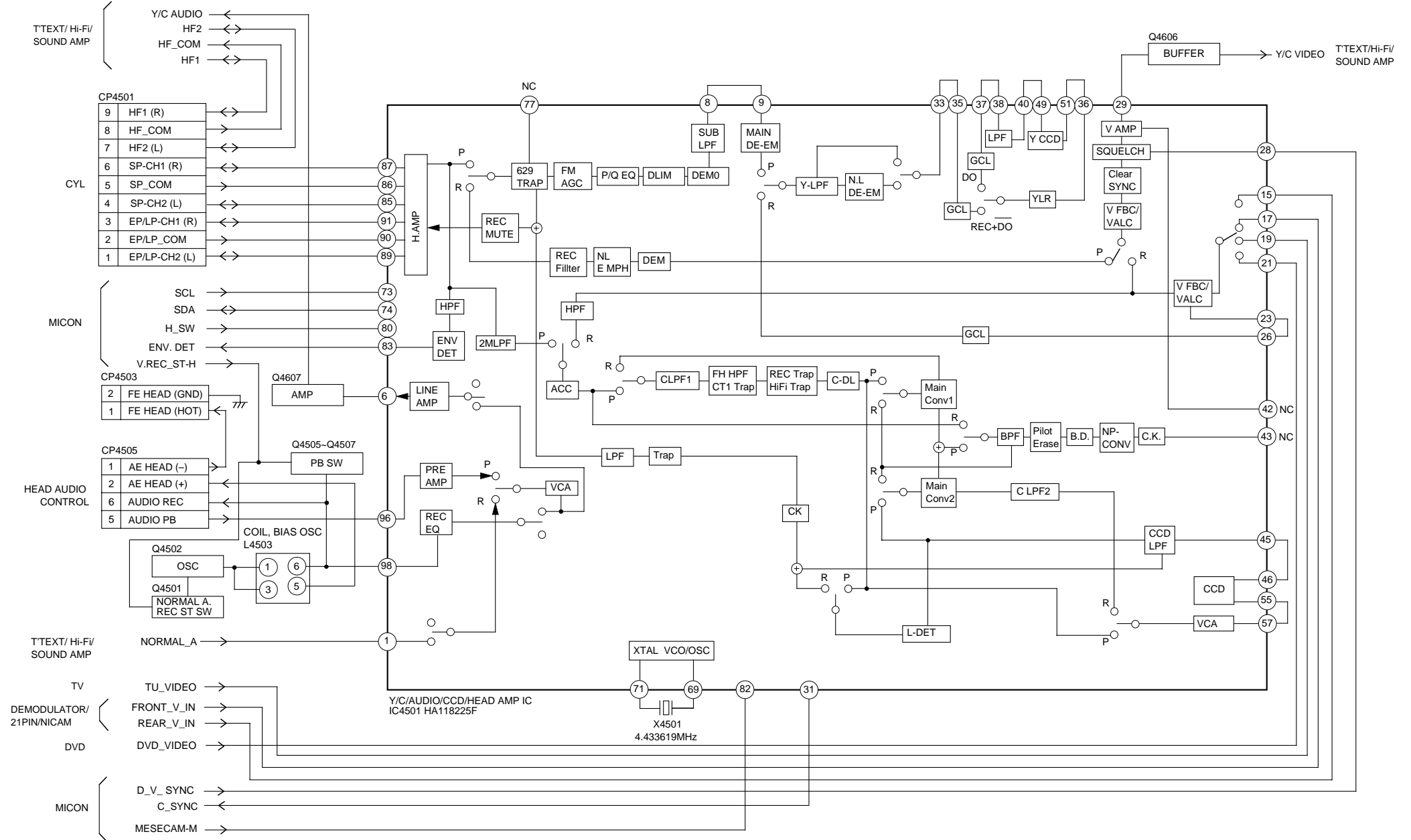
VTW21FQR



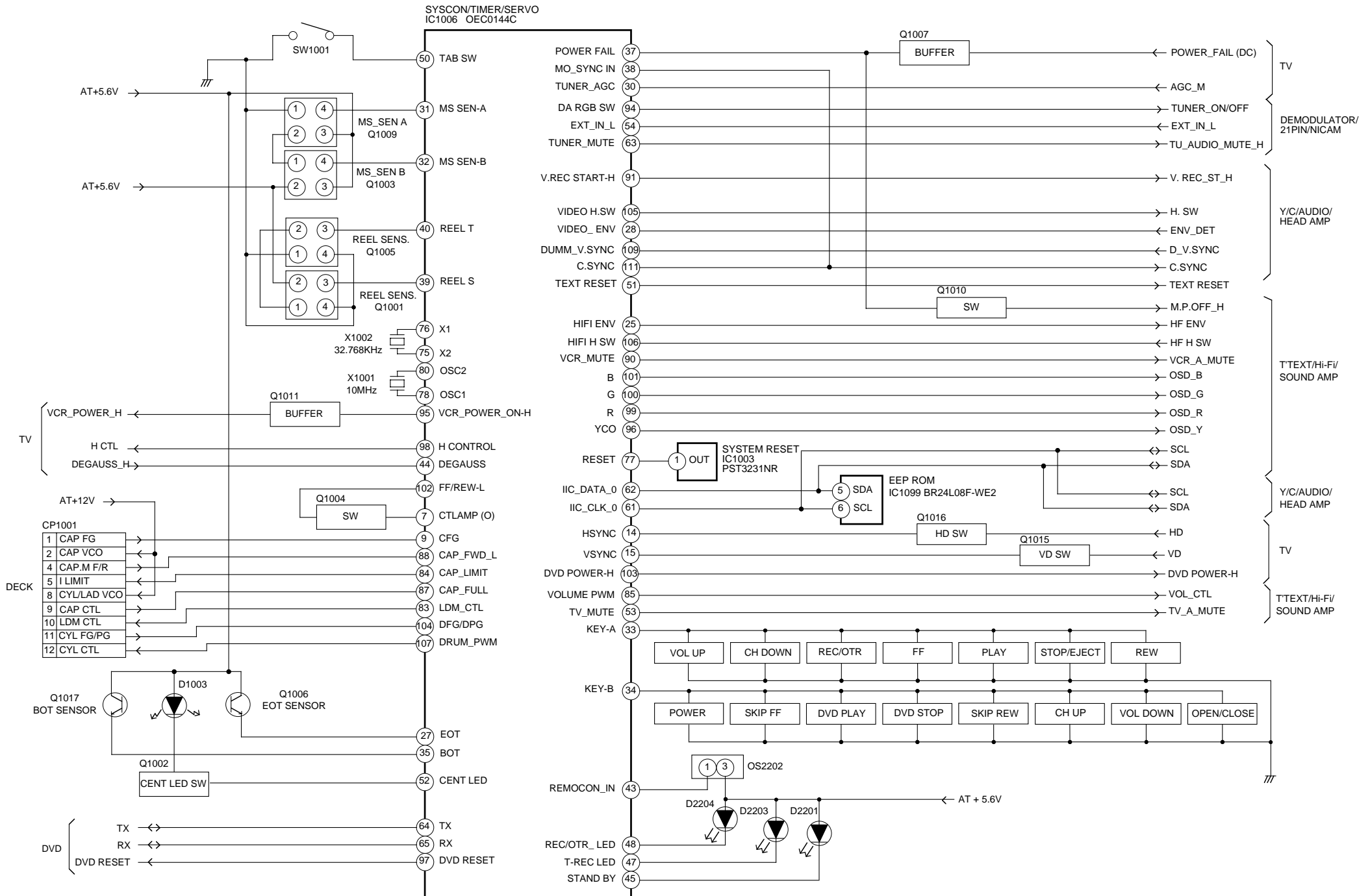
DVD BLOCK DIAGRAM



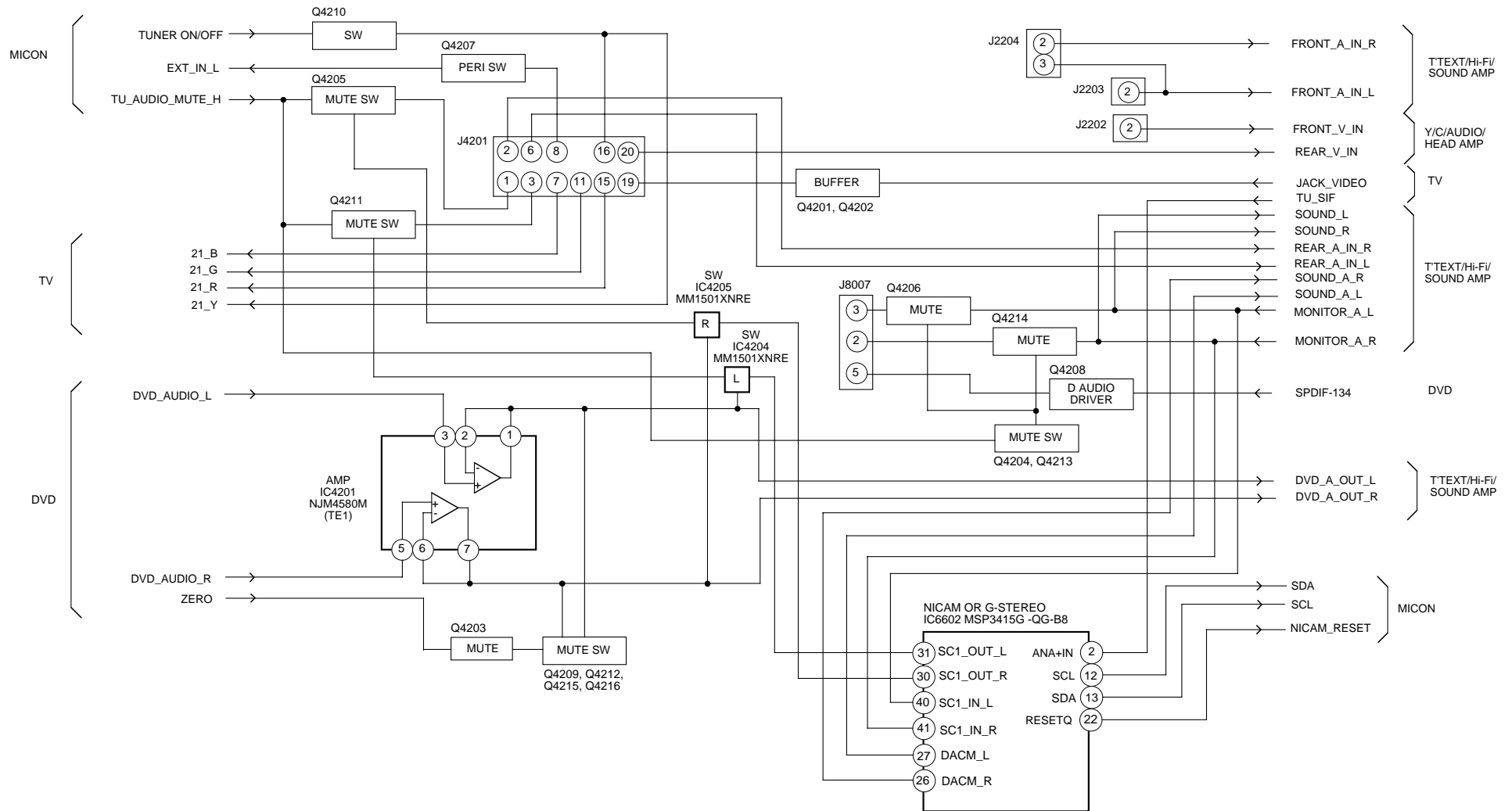
Y/C/AUDIO/HEAD AMP BLOCK DIAGRAM



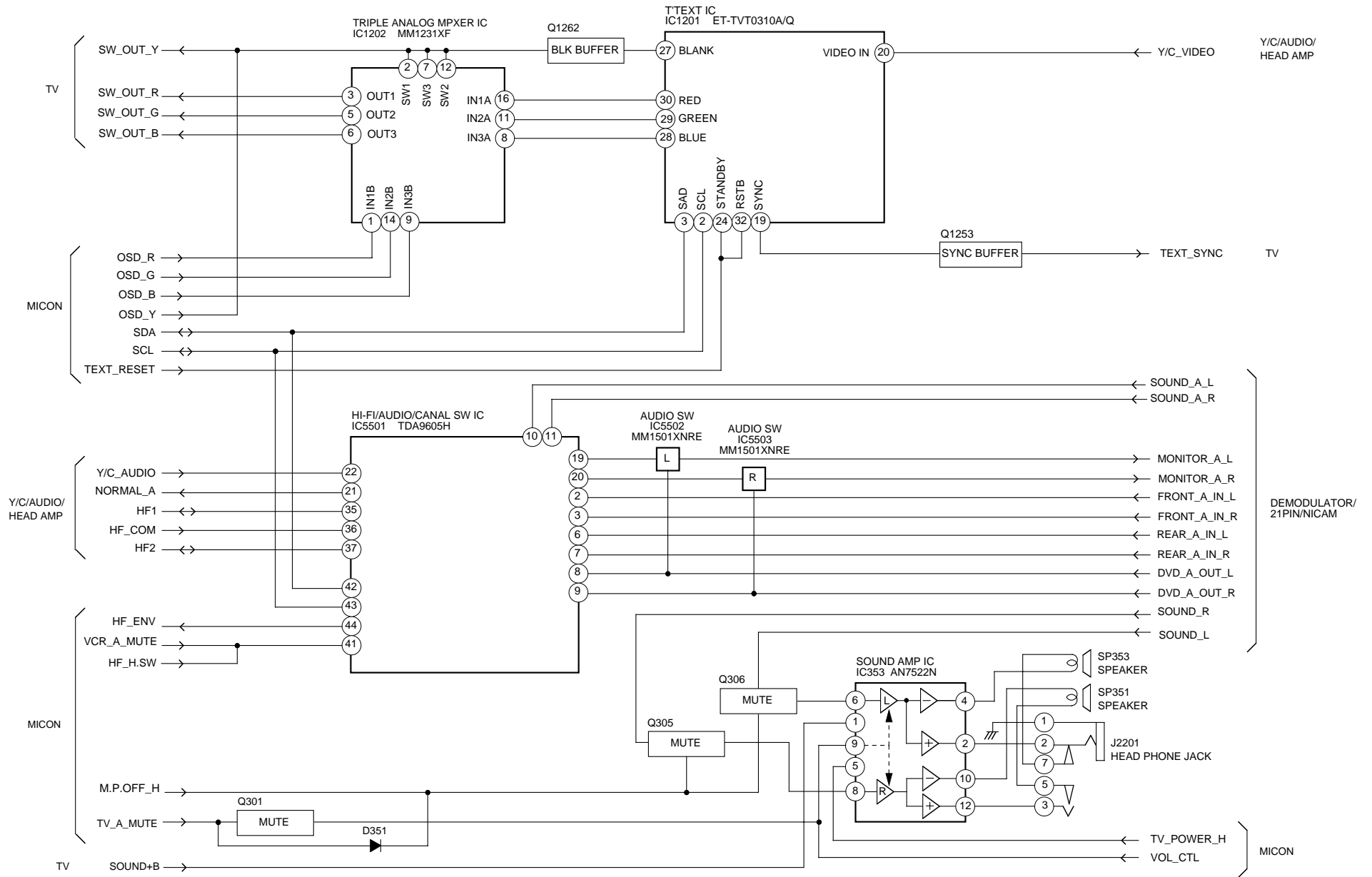
MICON BLOCK DIAGRAM



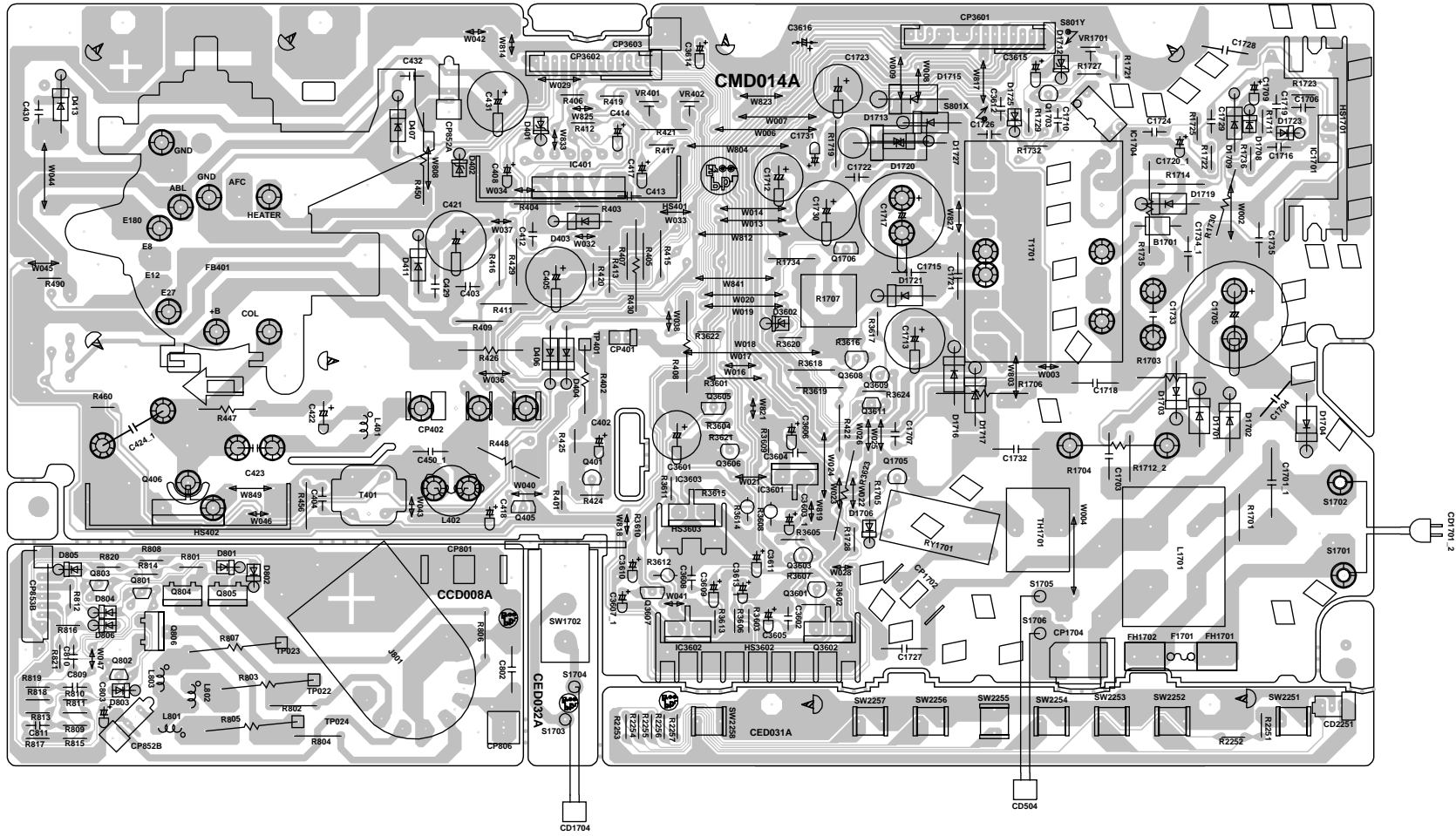
DEMODULATOR/21PIN/NICAM BLOCK DIAGRAM



T'TEXT/Hi-Fi/SOUND AMP BLOCK DIAGRAM

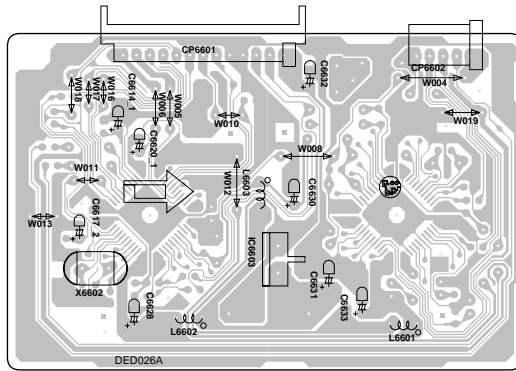


**PRINTED CIRCUIT BOARDS
MAIN/CRT/OPERATION/POWER SW
SOLDER SIDE**

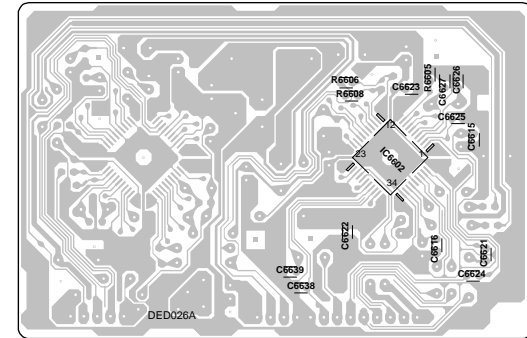


PRINTED CIRCUIT BOARDS

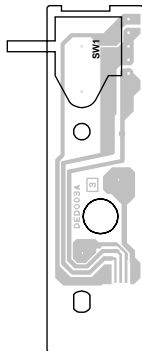
**STEREO (INSERTED PARTS)
SOLDER SIDE**



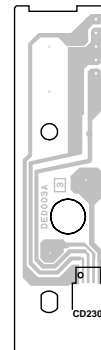
**STEREO (CHIP MOUNTED PARTS)
SOLDER SIDE**



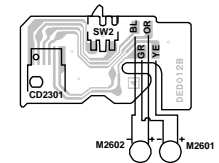
**LOADING MOTOR (INSERTED PARTS)
SOLDER SIDE**



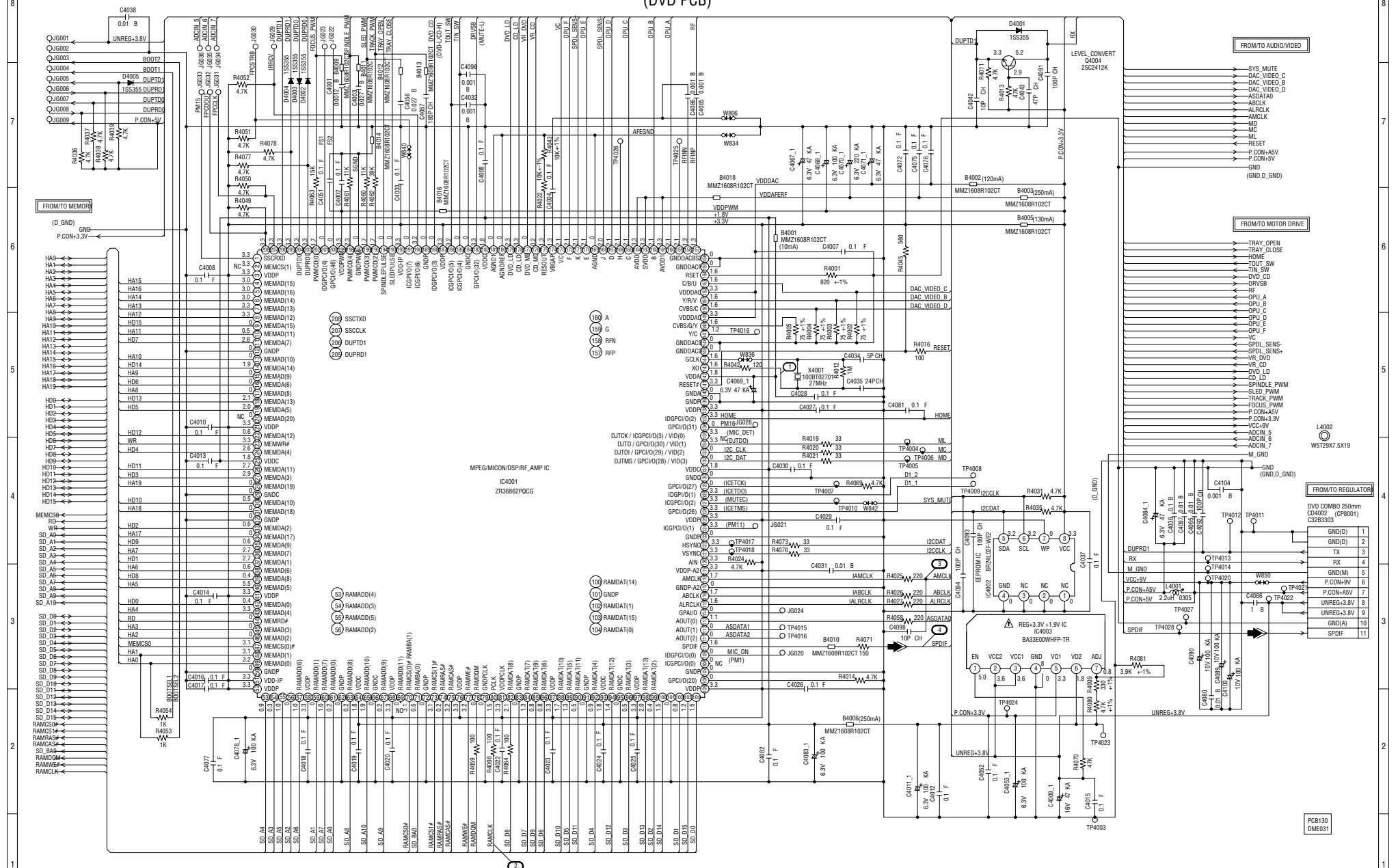
**LOADING MOTOR (CHIP MOUNTED PARTS)
SOLDER SIDE**



**SW
SOLDER SIDE**



MPEG/MICON/DSP/RF_AMP SCHEMATIC DIAGRAM (DVD PCB)



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

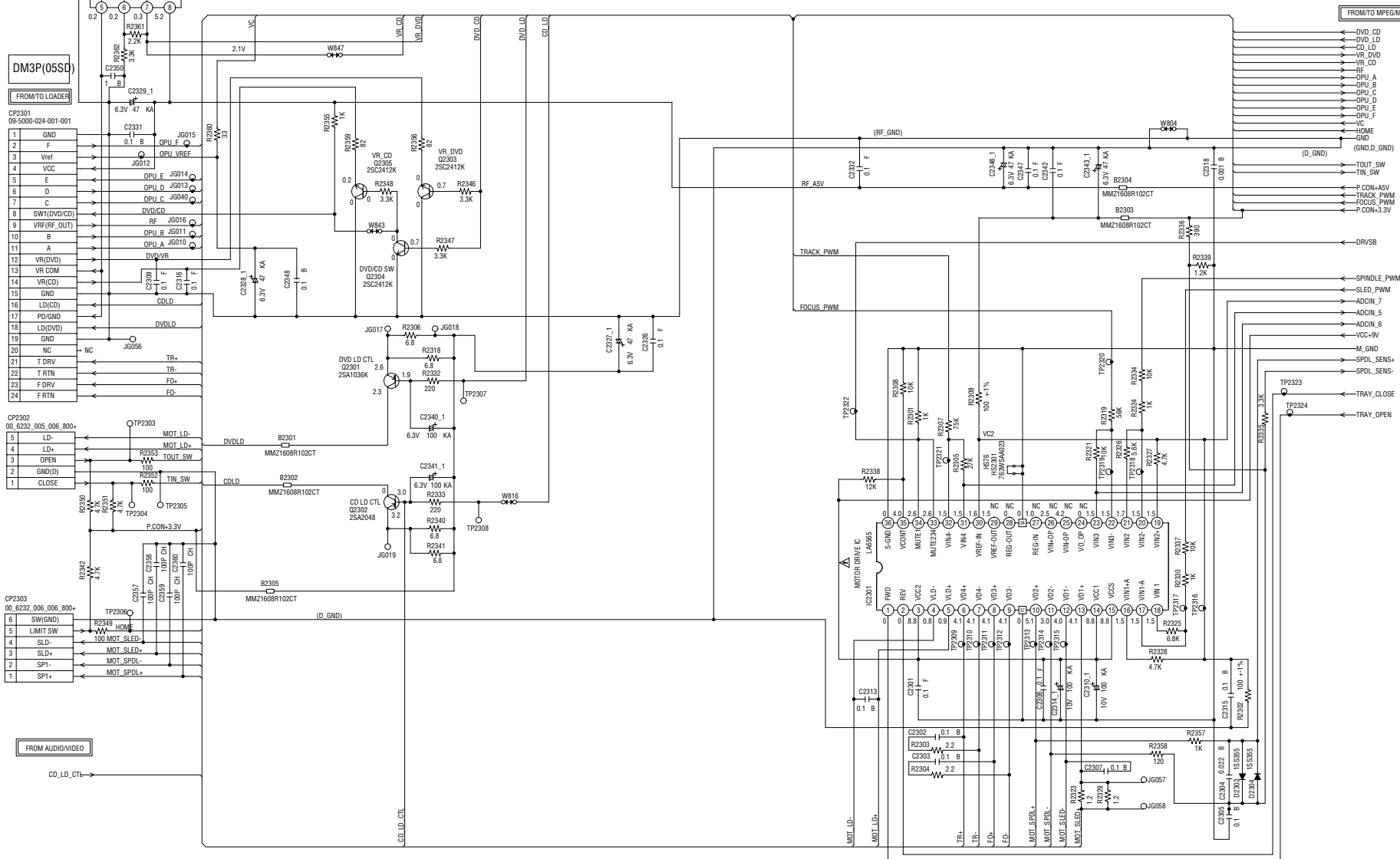
CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.


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


DIGITAL AUDIO SIGNAL (PB)

ATTENTION LES PIÈCES RÉPARÉES PAR UN SONT DANGEREUSES AN POINT DE VUE SECURITE. UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLEATURE DES PIÈCES.

MOTOR DRIVE SCHEMATIC DIAGRAM (DVD PCB)



ATTENTION - LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

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

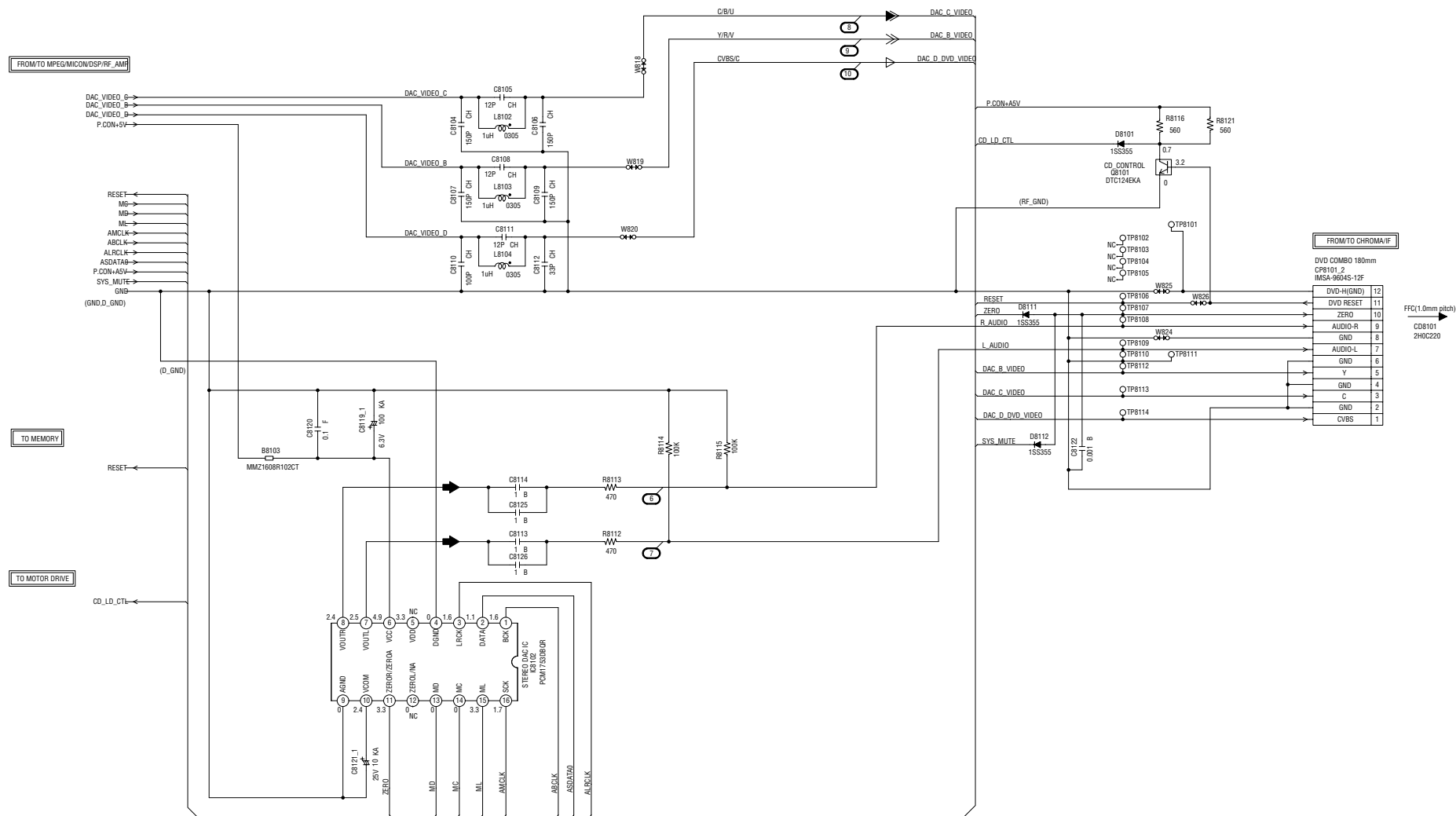
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

PCB130
DME031

AUDIO/VIDEO SCHEMATIC DIAGRAM (DVD PCB)

| | | | | |
|---|---|------|------|------|
| | 1 | 2 | 3 | 4 |
| A | Y | G | CVBS | Y |
| B | V | R | Y | V |
| C | U | B | C | U |
| D | C | CVBS | CVBS | CVBS |

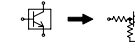


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

- ◀ R.SIGNAL + COMPONENT SIGNAL(U)
- ◀ B.SIGNAL + COMPONENT SIGNAL(V)
- ◀ PLAYBACK COLOR SIGNAL
- ◀ AUDIO SIGNAL(PB)

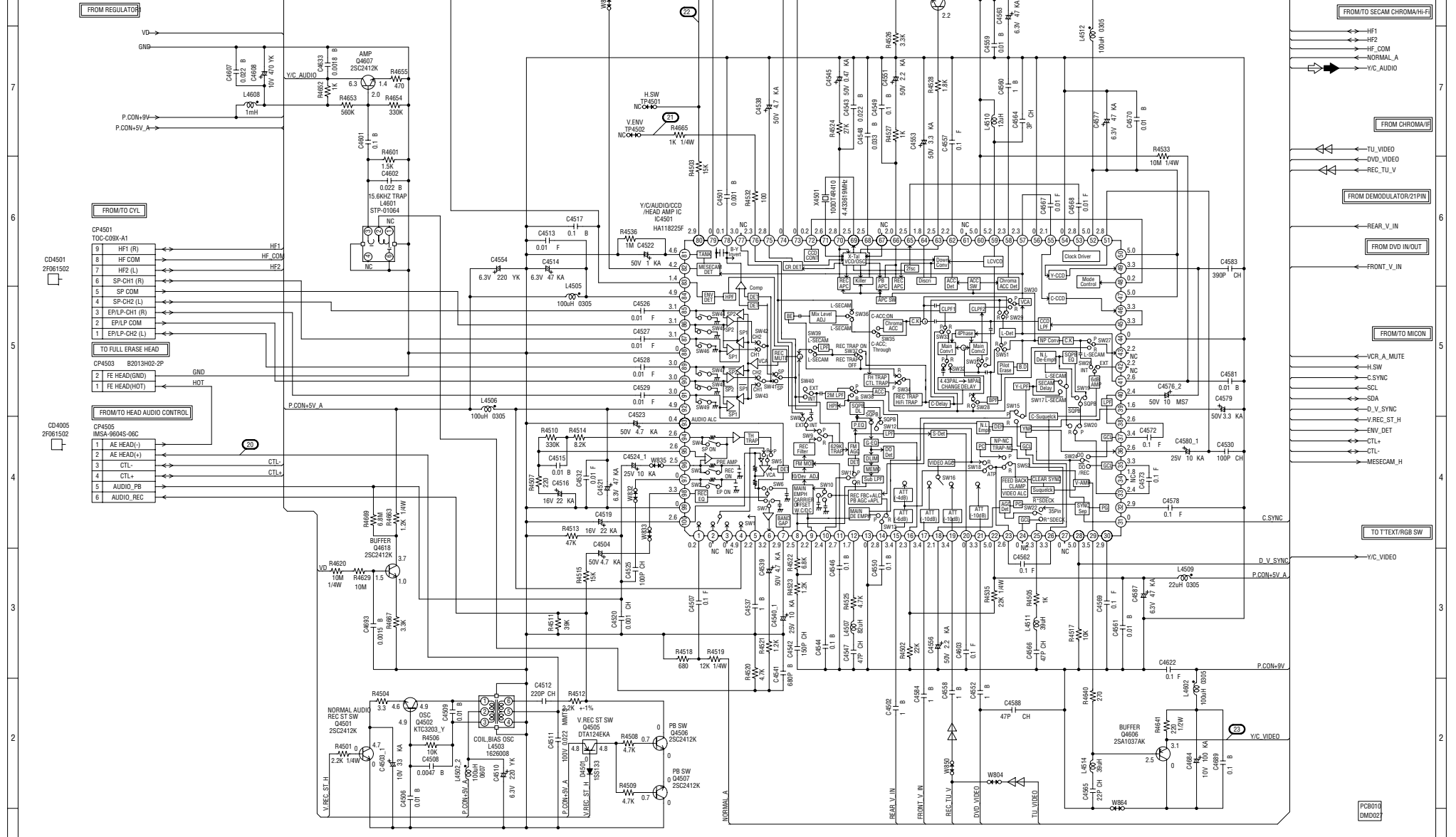
CAUTION: DIGITAL TRANSISTOR



PCB130
DME031

Y/C/AUDIO/HEAD AMP SCHEMATIC DIAGRAM

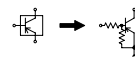
(VCR PCB)



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

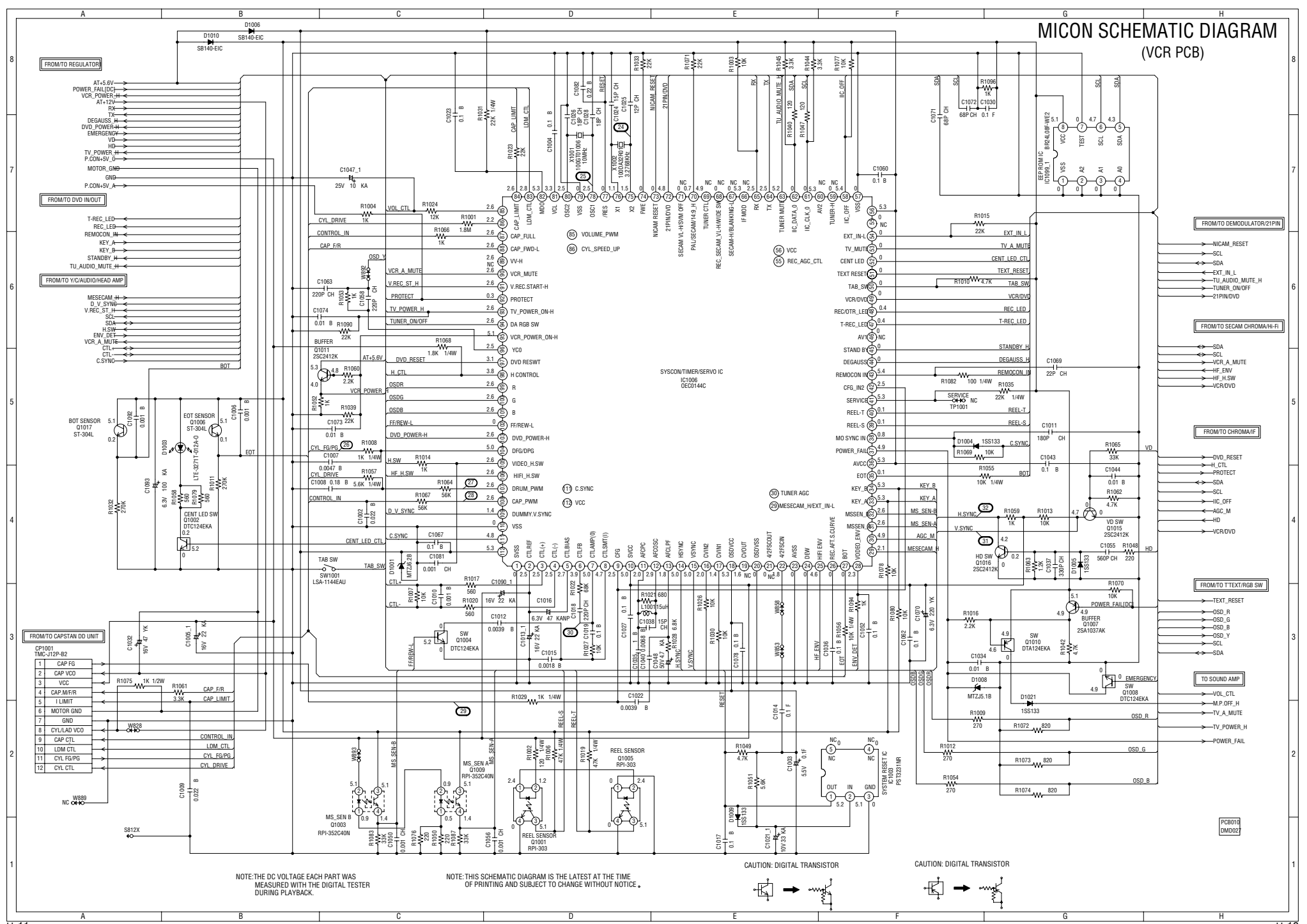
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: DIGITAL TRANSISTOR



- ◁ AUDIO SIGNAL (REC)
- ▶ AUDIO SIGNAL (PB)
- ▷ TUNER VIDEO SIGNAL

MICON SCHEMATIC DIAGRAM (VCR PCB)

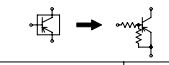
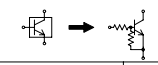


NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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

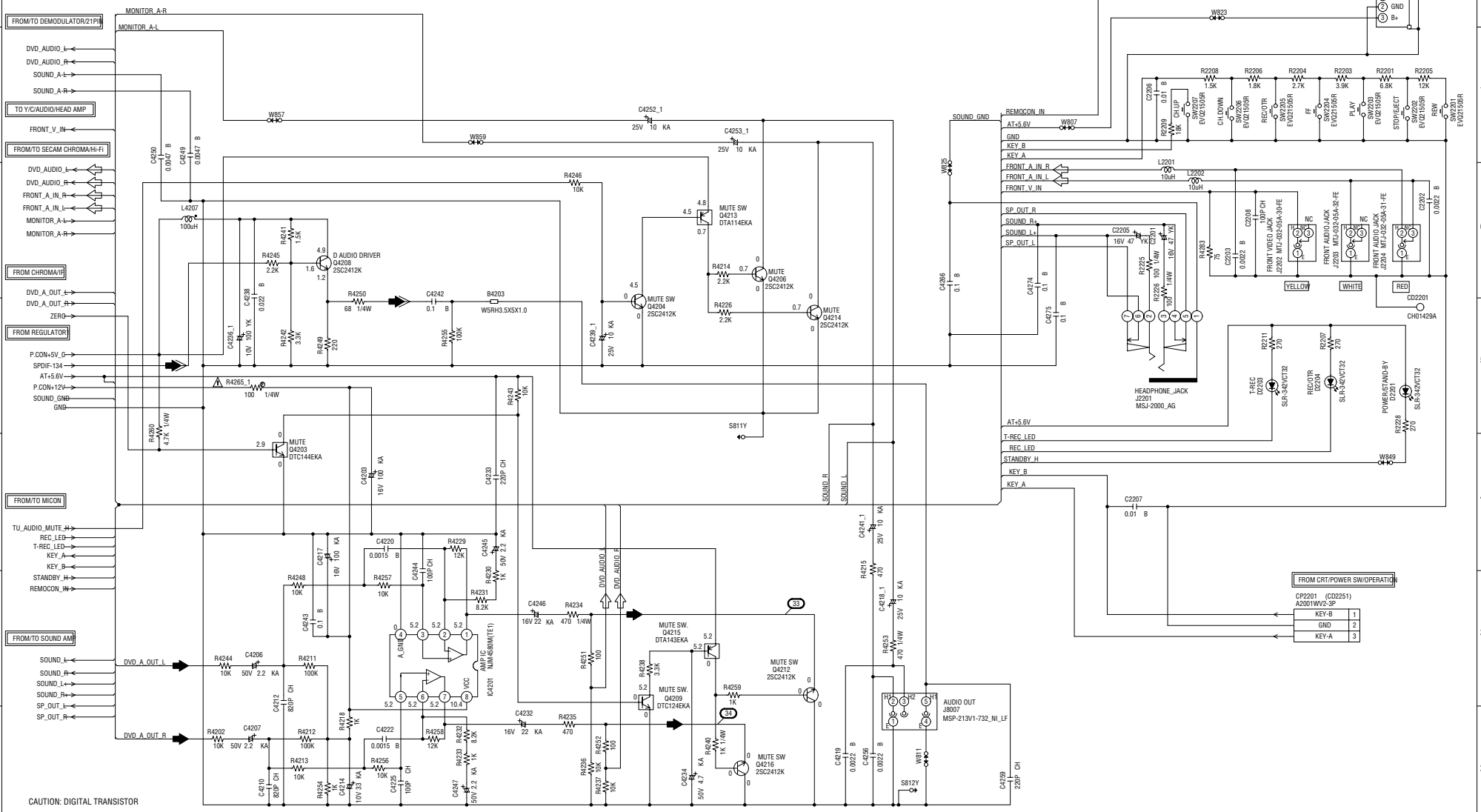
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR



DVD IN/OUT SCHEMATIC DIAGRAM

(VCR PCB)



CAUTION: SINCE THESE PARTS MARKED BY Δ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

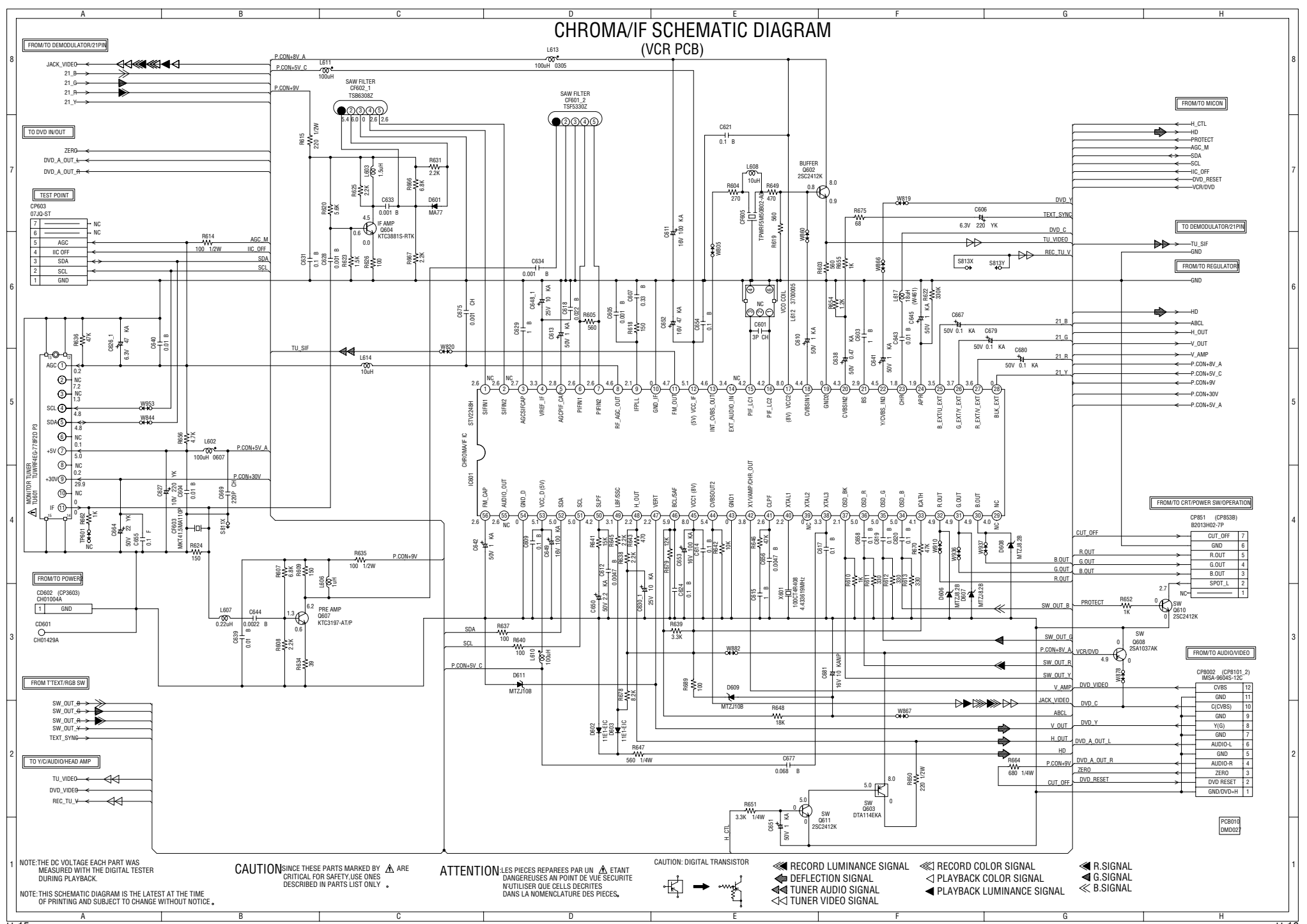
ATTENTION: LES PIÈCES REPARÉES PAR UN Δ ÉTANT DANGEREUSES AN POINT DE VUE SÉCURITÉ, N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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.

DIGITAL AUDIO SIGNAL (PB)
 AUDIO SIGNAL (PB)

CHROMA/IF SCHEMATIC DIAGRAM (VCR 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 PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES À UN POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

CAUTION: DIGITAL TRANSISTOR

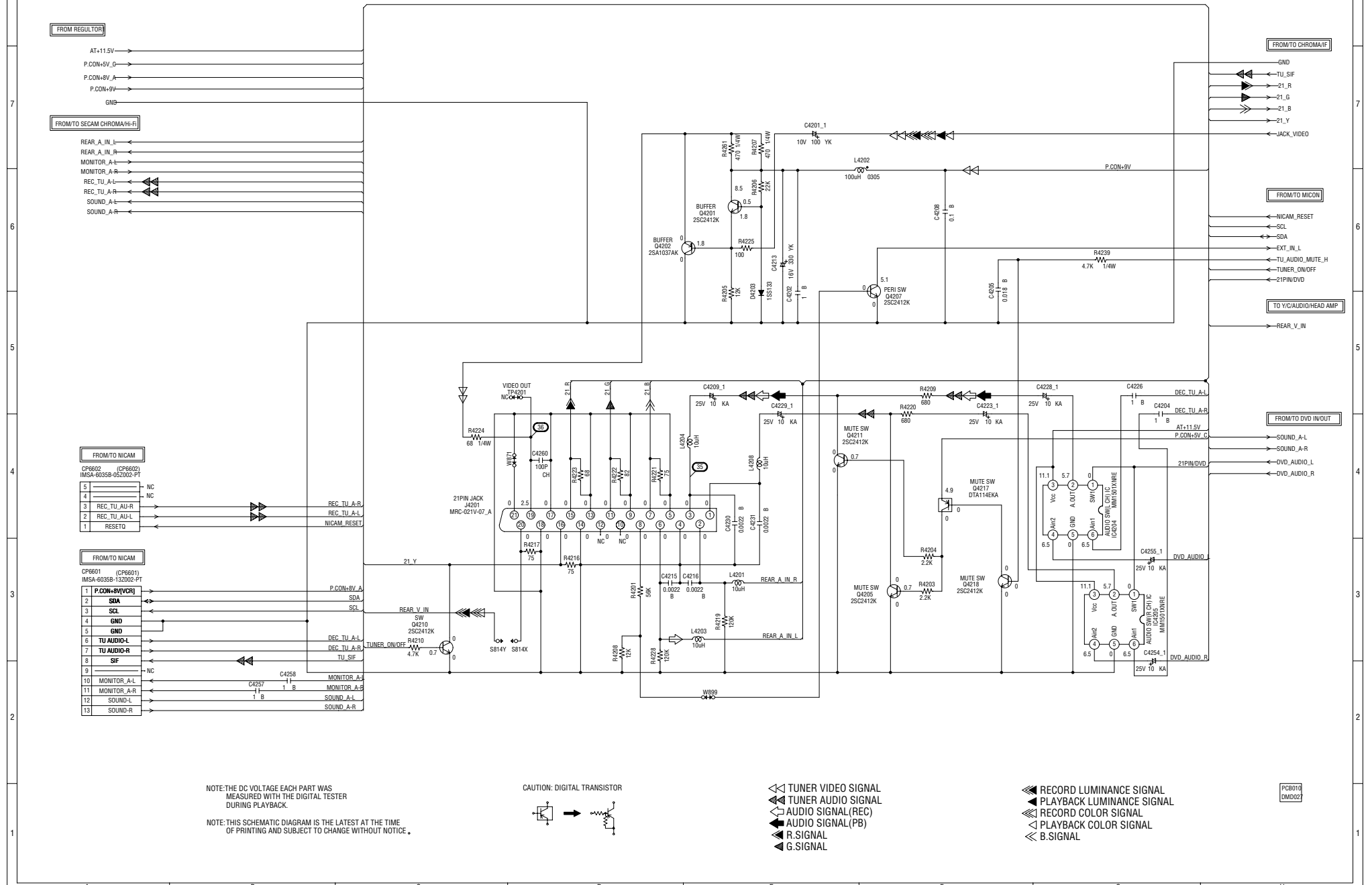
RECORD LUMINANCE SIGNAL
 DEFLECTION SIGNAL
 TUNER AUDIO SIGNAL
 TUNER VIDEO SIGNAL

RECORD COLOR SIGNAL
 PLAYBACK COLOR SIGNAL
 PLAYBACK LUMINANCE SIGNAL

R SIGNAL
 G SIGNAL
 B SIGNAL

DEMODULATOR/21PIN SCHEMATIC DIAGRAM

(VCR PCB)



FROM REGULATOR

FROM TO SECAM CHROMA/Hi-Fi

FROM TO NICAM

FROM TO NICAM

FROM TO CHROMA/IF

FROM TO MICOM

TO Y/C AUDIO/HEAD AMP

FROM TO DVD IN/OUT

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: DIGITAL TRANSISTOR

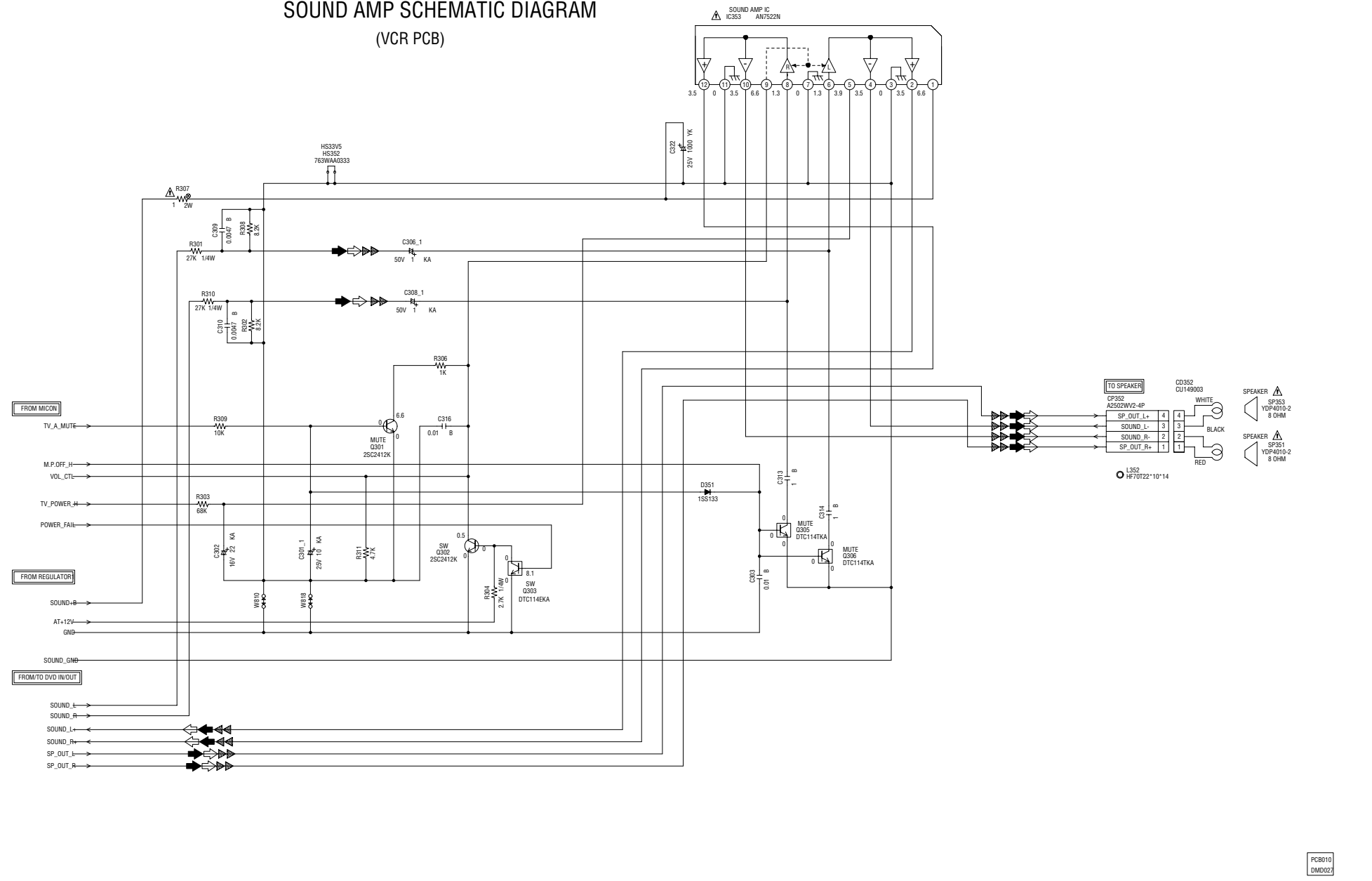


- ◀ TUNER VIDEO SIGNAL
- ▶ TUNER AUDIO SIGNAL
- ◀ AUDIO SIGNAL (REC)
- ▶ AUDIO SIGNAL (PB)
- ▲ R SIGNAL
- ▼ G SIGNAL

- ▶ RECORD LUMINANCE SIGNAL
- ▶ PLAYBACK LUMINANCE SIGNAL
- ▶ RECORD COLOR SIGNAL
- ▶ PLAYBACK COLOR SIGNAL
- ▶ B SIGNAL

PCB010 DMD022

SOUND AMP SCHEMATIC DIAGRAM (VCR 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.

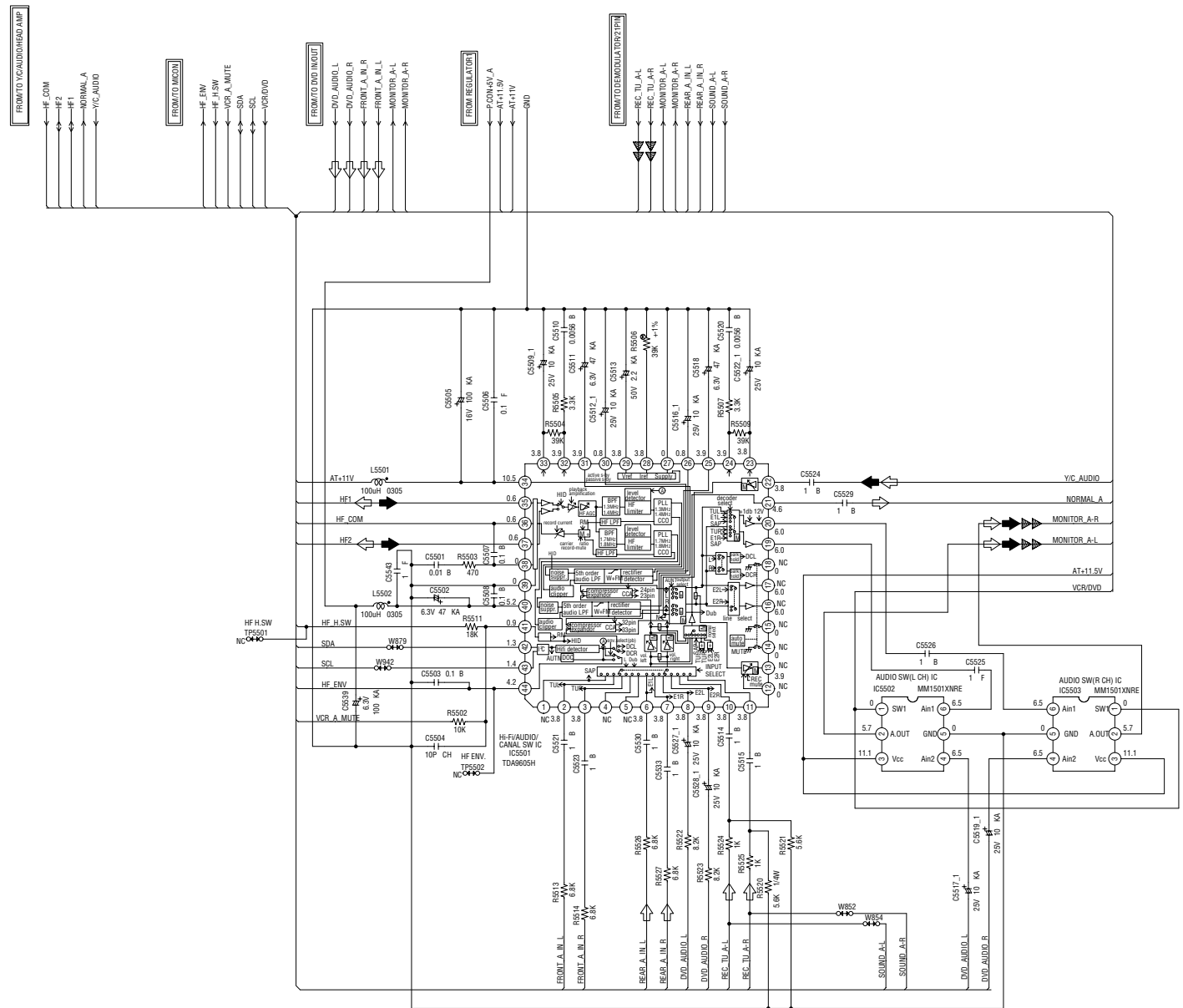
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIÈCES.

CAUTION: DIGITAL TRANSISTOR
 →

TUNER AUDIO SIGNAL
 AUDIO SIGNAL (REC)
 AUDIO SIGNAL (PB)

PCB010
DM0027

SECAM CHROMA/Hi-Fi SCHEMATIC DIAGRAM (VCR PCB)



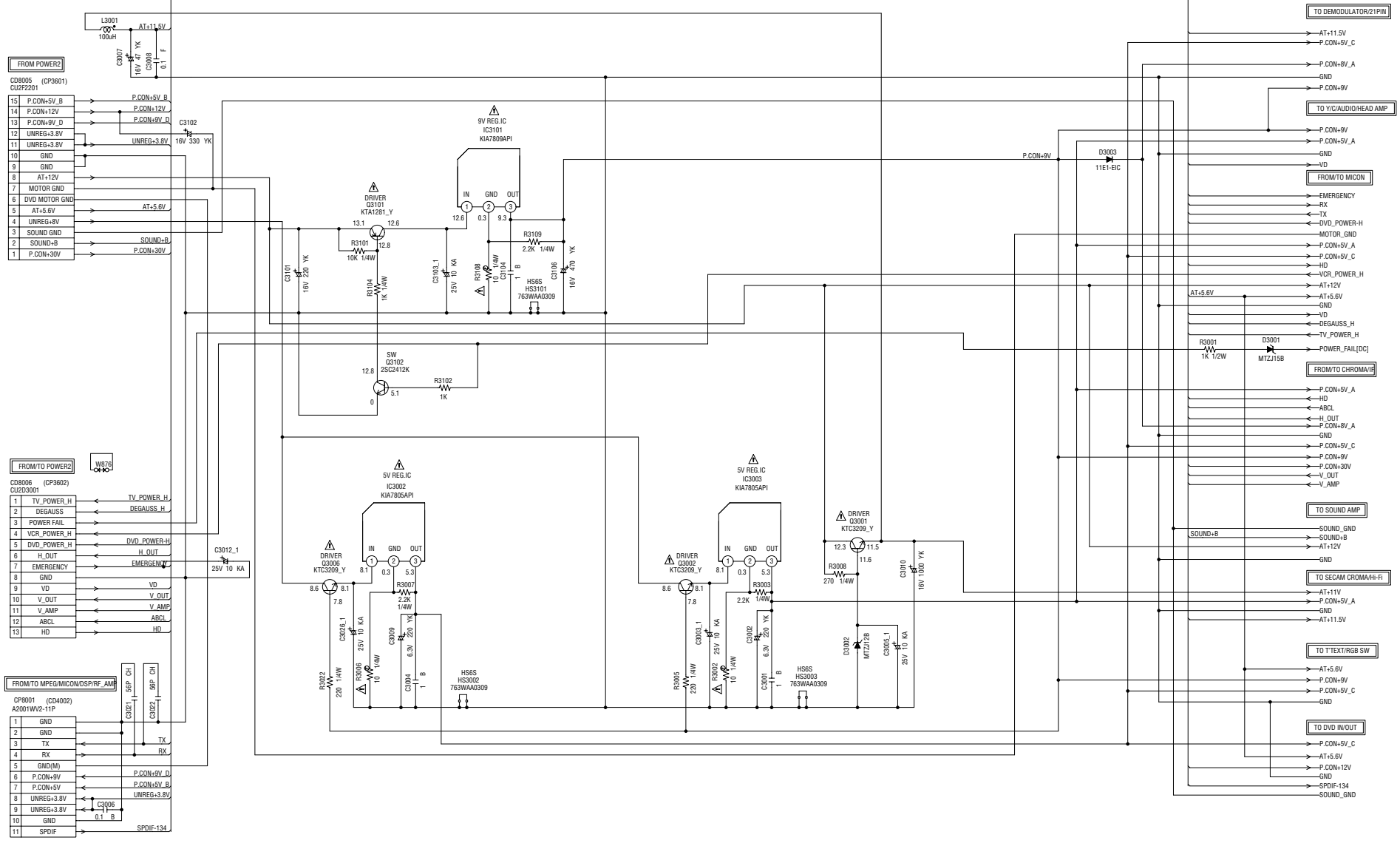
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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

- ◀ AUDIO SIGNAL (PB)
- ◀ AUDIO SIGNAL (REC)
- ▶ TUNER AUDIO SIGNAL

PCB010
DMD002

REGULATOR1 SCHEMATIC DIAGRAM (VCR PCB)



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

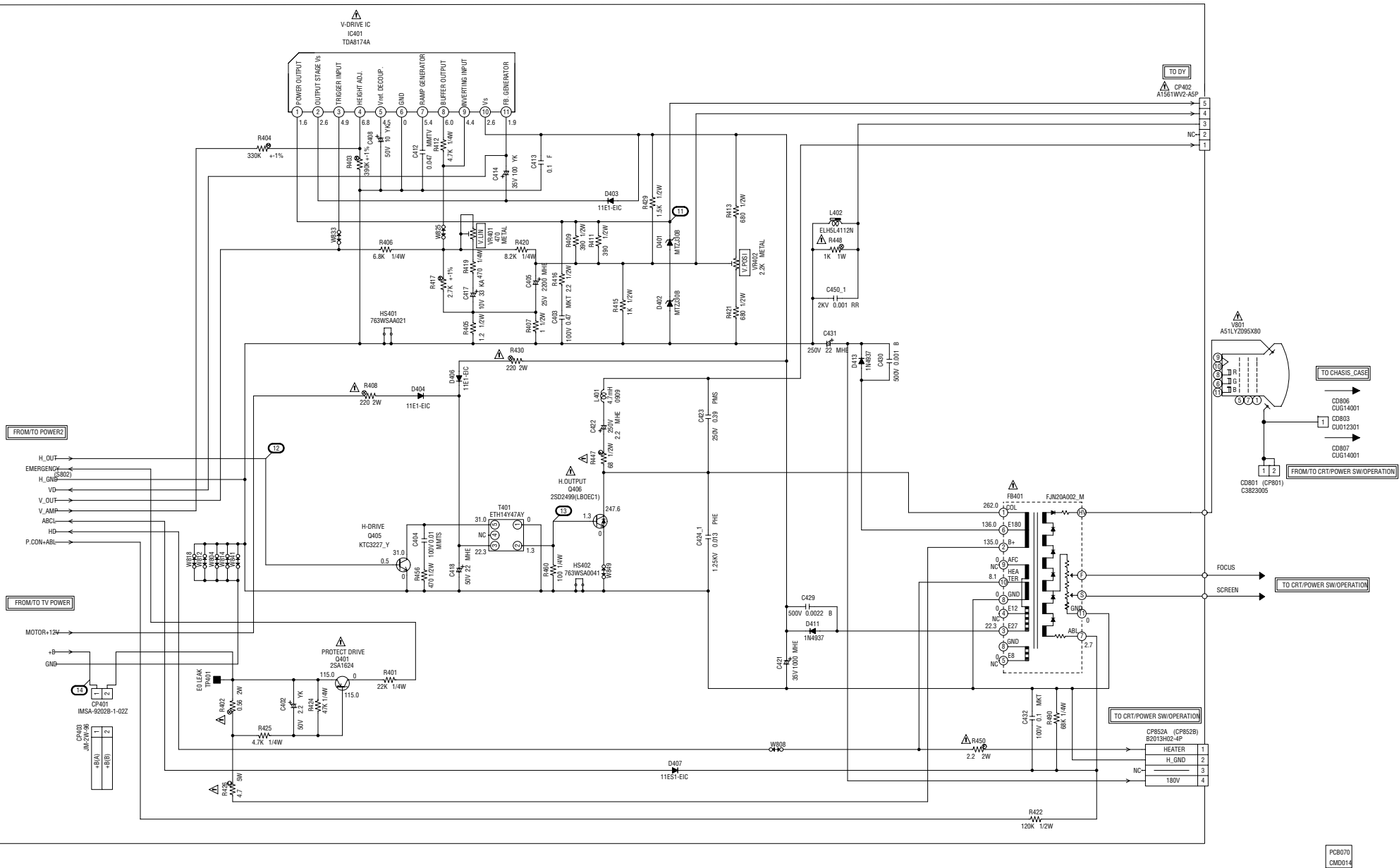
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

ATTENTION LES PIÈCES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

PCB010
DMD002

DEFLECTION SCHEMATIC DIAGRAM (MAIN 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.

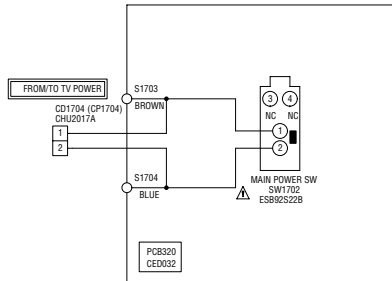
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

CAUTION: SINCE THESE PARTS MARKED BY Δ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

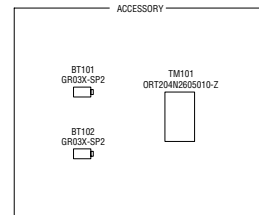
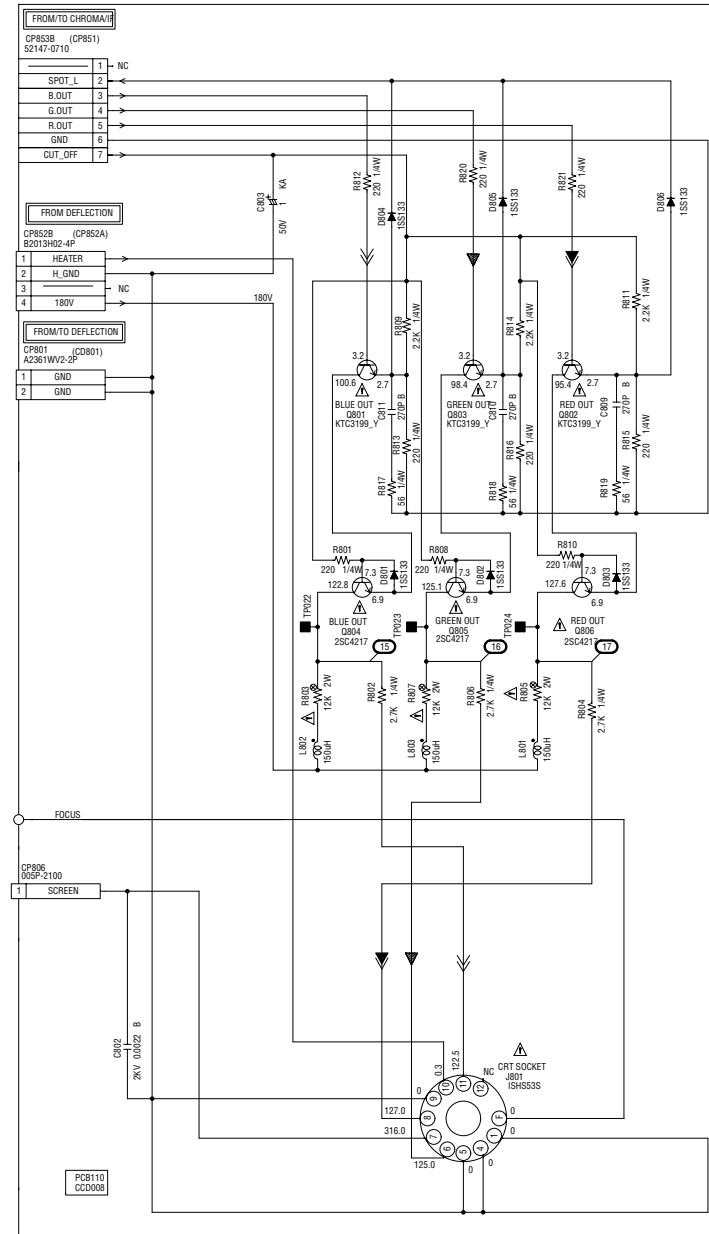
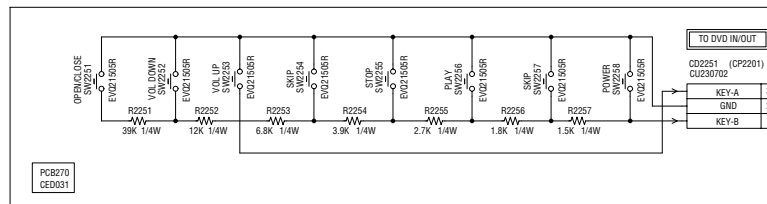
ATTENTION: LES PIECES REPARÉES PAR UN Δ ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÉCES.

CRT/POWER SW/OPERATION SCHEMATIC DIAGRAM (CRT PCB)

(POWER SW PCB)



(OPERATION 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.

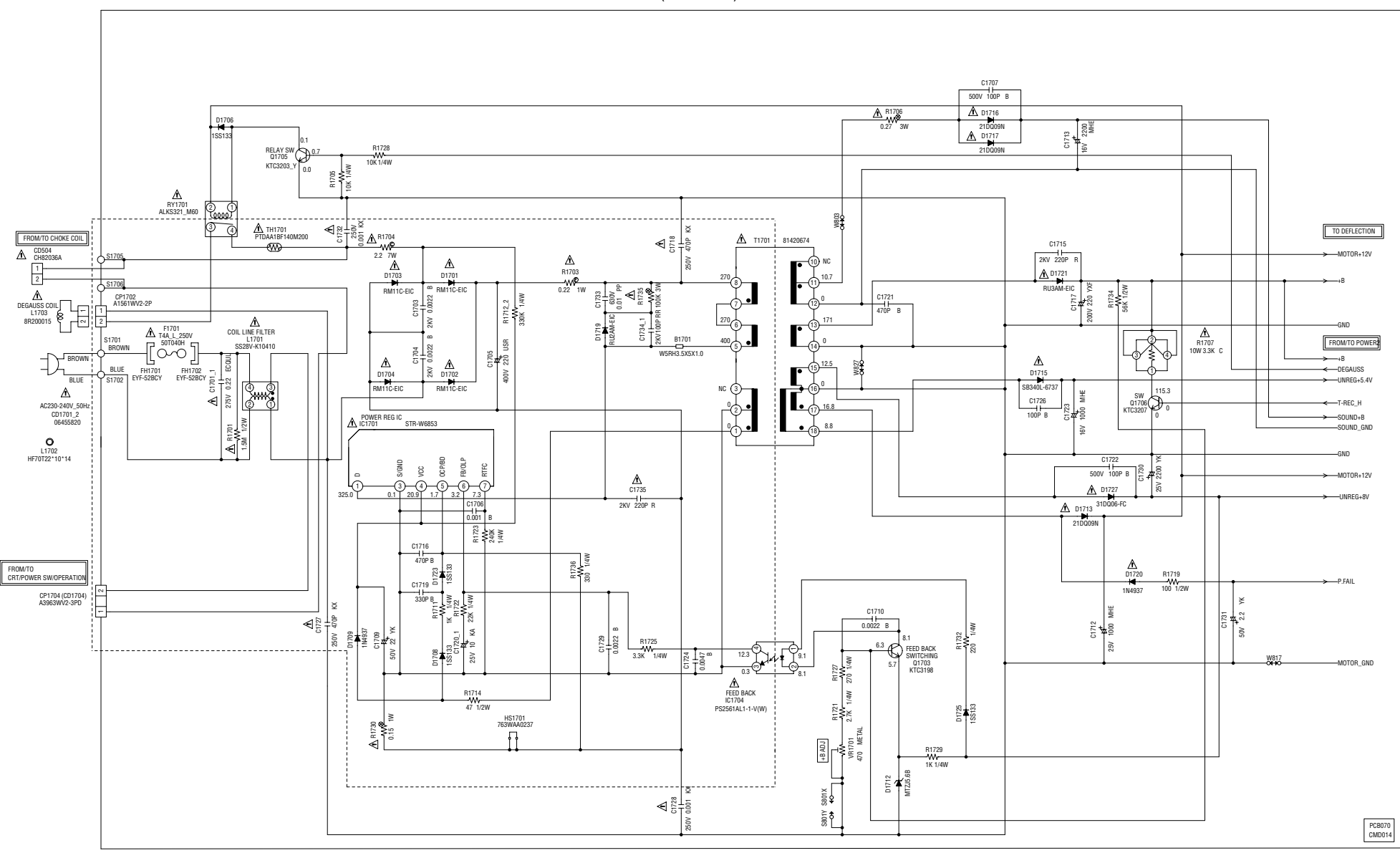
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION SINCE THESE PARTS MARKED BY ARE DANGEROUS AS AN POINT DE VUE SECURITE DESCRIBED IN PARTS LIST ONLY.

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

G. SIGNAL
 B. SIGNAL
 R. SIGNAL

TV POWER SCHEMATIC DIAGRAM (MAIN PCB)



ATTENTION - LES PIÈCES RÉPARÉES PAR UN Δ ÉTANT DANGEREUSES AN POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

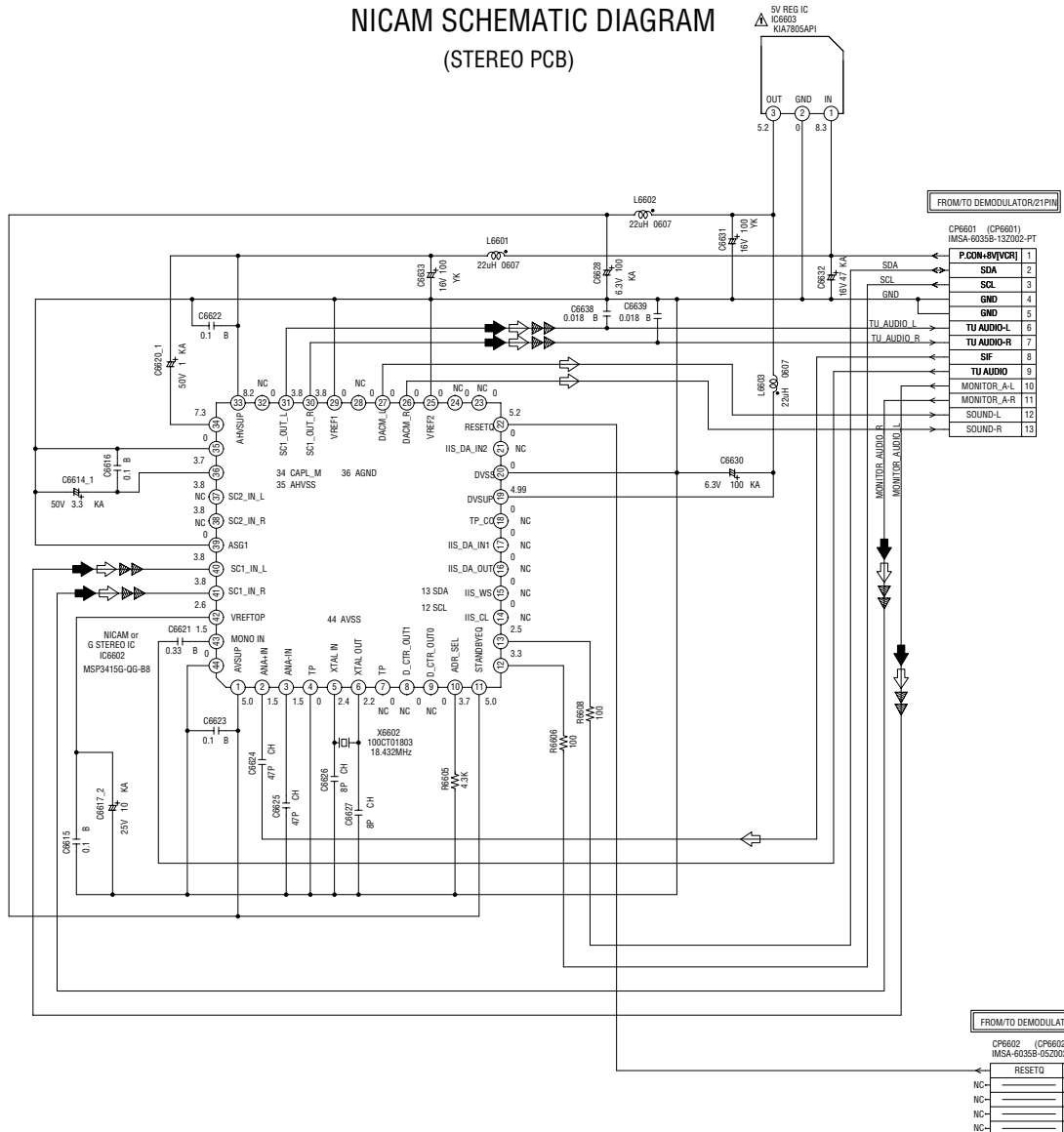
CAUTION - SINCE THESE PARTS MARKED BY Δ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

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

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

PCB070
CMD014

NICAM SCHEMATIC DIAGRAM (STEREO PCB)



FROM/TO DEMODULATOR/21PIN

| | |
|---------------------|----|
| CP6601 (CP6601) | 1 |
| MSA-60358-132002-PT | 2 |
| P.CON+8V(DC) | 3 |
| SDA | 4 |
| SCL | 5 |
| GND | 6 |
| GND | 7 |
| TU AUDIO L | 8 |
| TU AUDIO R | 9 |
| SIF | 10 |
| TU AUDIO | 11 |
| MONITOR A-L | 12 |
| MONITOR A-R | 13 |
| SOUND-L | 14 |
| SOUND-R | 15 |

FROM/TO DEMODULATOR/21PIN

| | |
|---------------------|---|
| CP6602 (CP6602) | 1 |
| MSA-60358-052002-PT | 2 |
| RESET | 3 |
| NC | 4 |
| NC | 5 |

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.

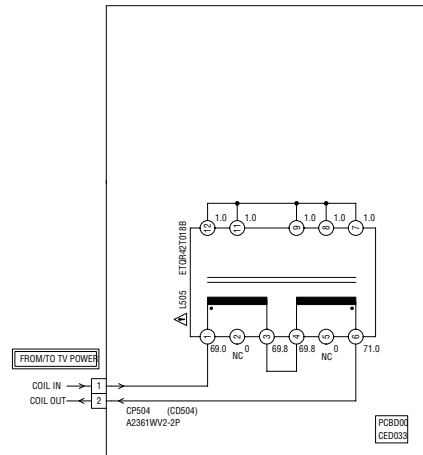
ATTENTION LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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

AUDIO SIGNAL (PB)
 AUDIO SIGNAL (REC)
 TUNER AUDIO SIGNAL

PCB31Q
DED026

CHOKE COIL SCHEMATIC DIAGRAM (FILTER PCB)



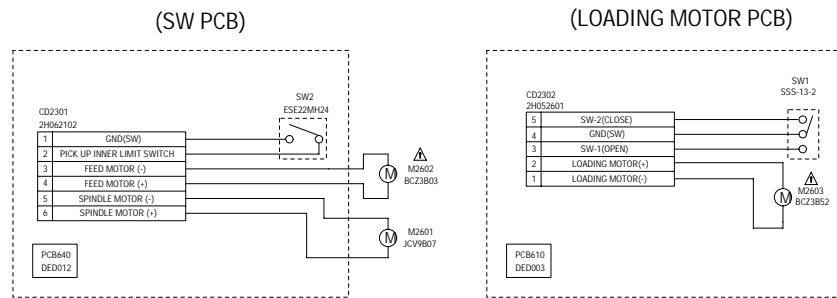
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

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

ATTENTION LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

LOADING MOTOR/SW SCHEMATIC DIAGRAM



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

ATTENTION LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE, UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

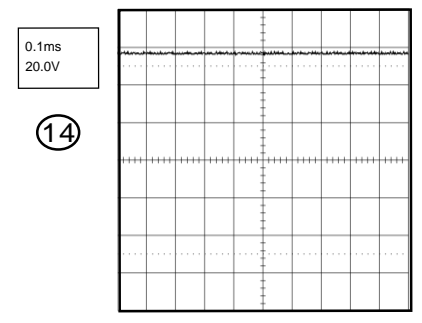
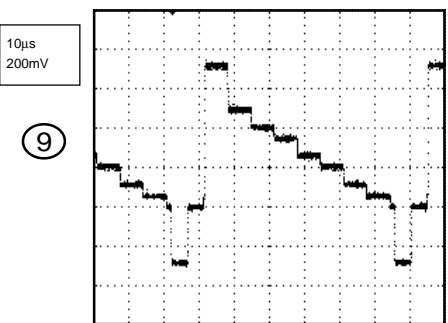
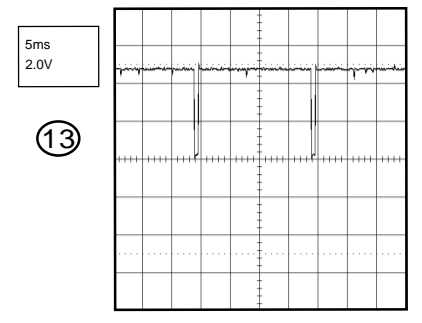
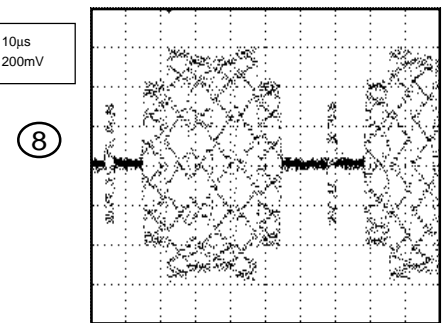
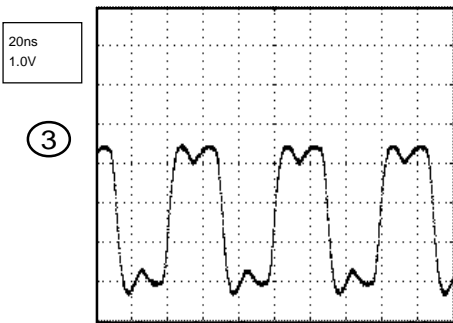
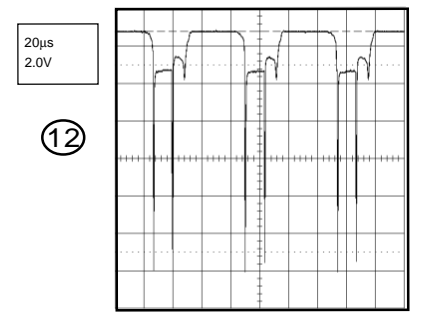
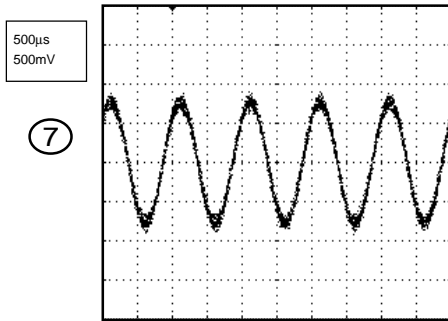
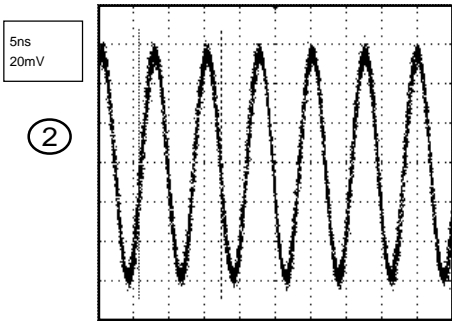
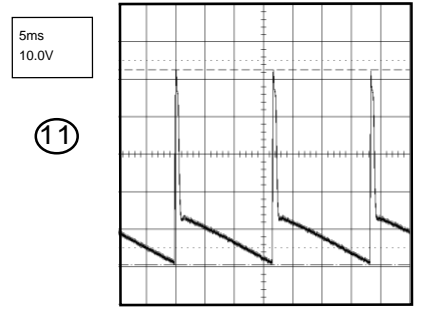
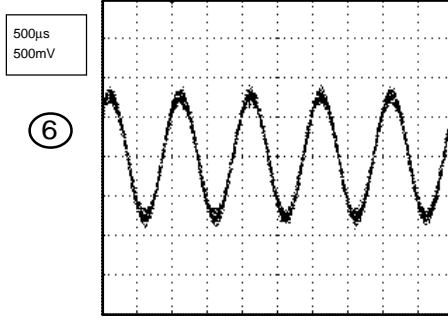
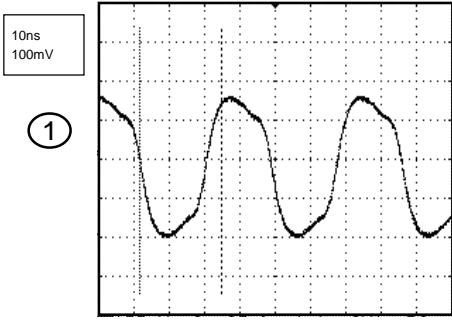
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

WAVEFORMS

MPEG/MICON/DSP/RF_AMP

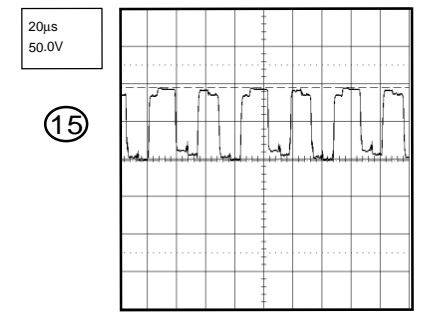
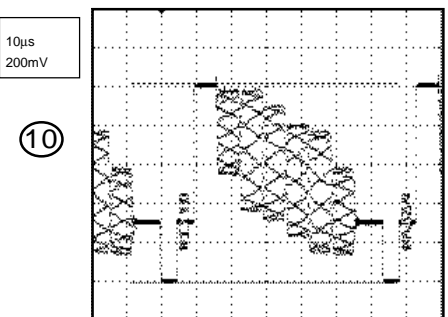
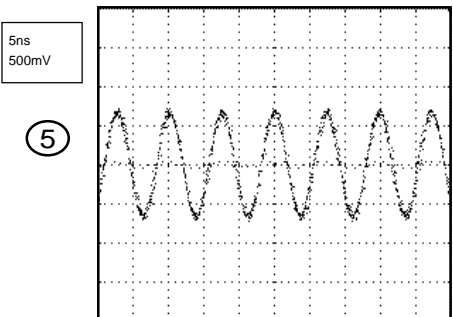
AUDIO/VIDEO

DEFLECTION



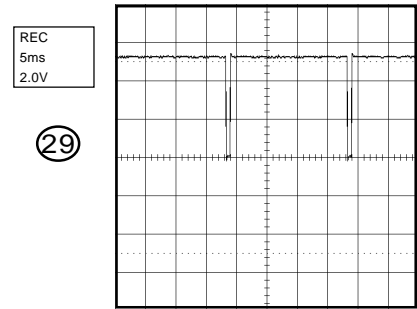
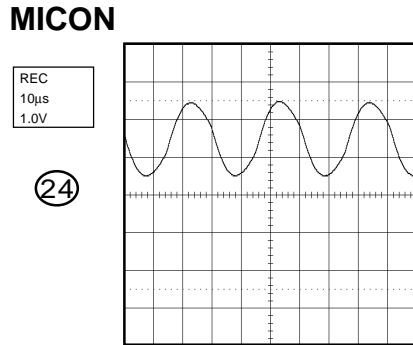
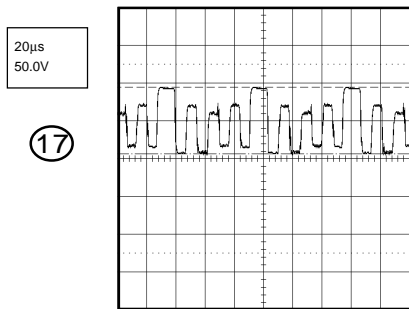
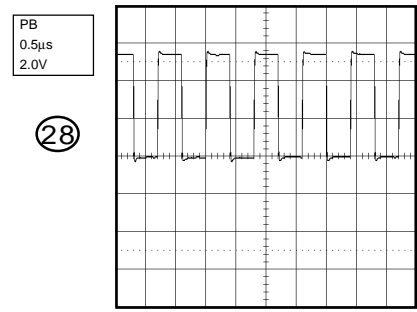
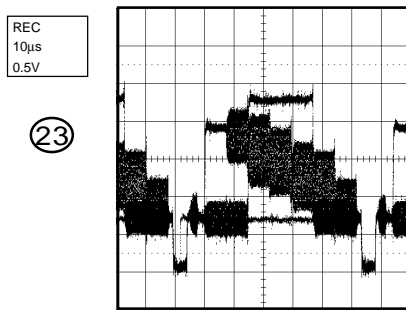
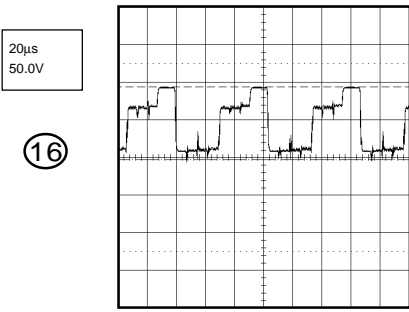
MEMORY

CRT/POWER SW/OPERATION

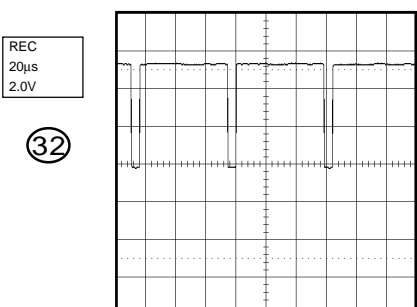
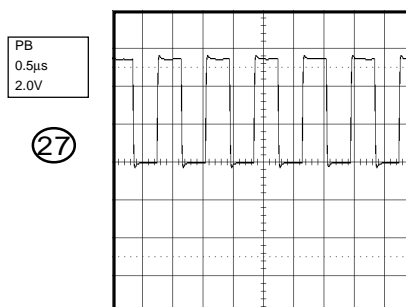
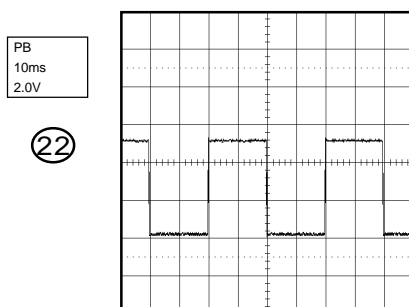
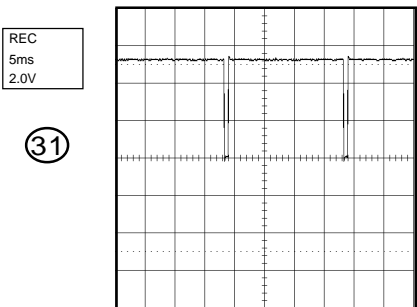
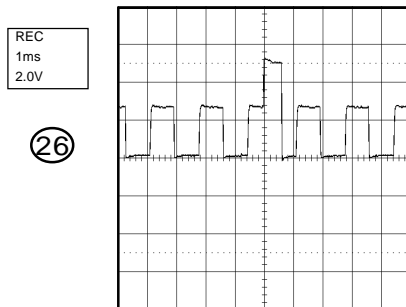
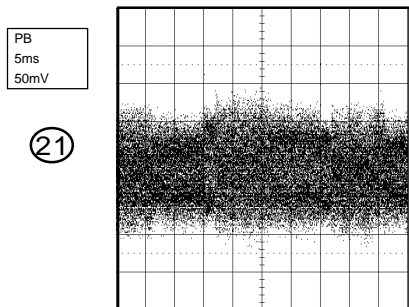
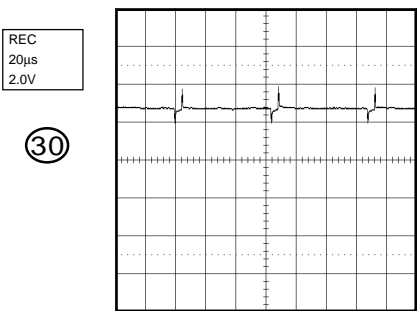
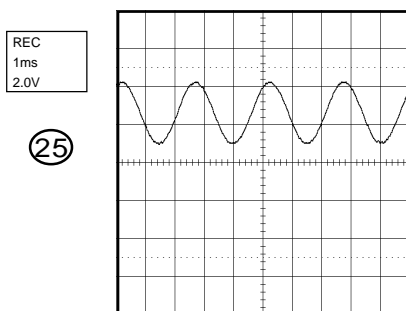
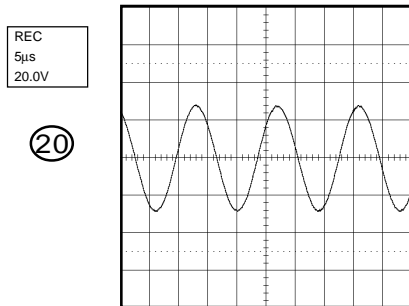


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS



Y/C/AUDIO/HEAD AMP



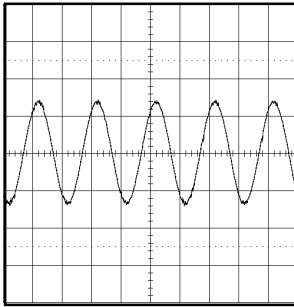
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

DVD IN/OUT

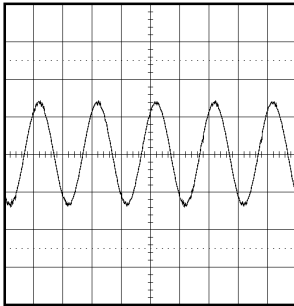
PB
0.5ms
0.5V

33



PB
0.5ms
0.5V

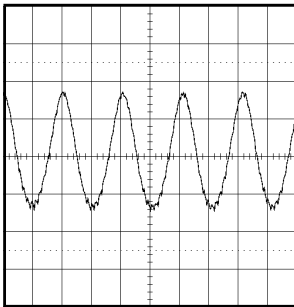
34



DEMODULATOR/21PIN

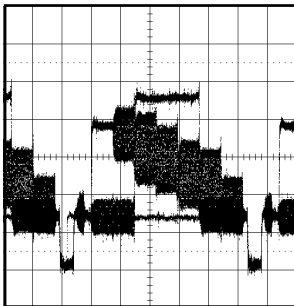
REC
0.5ms
0.5V

35



REC
10µs
0.5V

36



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