

CDR570  
 CDR770  
 CDR775  
 CDR930  
 CDR950

Service  
 Service  
**Service**

# Service Manual



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# PHILIPS

# 1. Technical Specifications/Introduction.

In this document the important issues for the mechanical and electrical testing, adjusting, checking and diagnosing of the Digital Audio CDR Module such as applied in so-called 3rd generation CDR recorders is described.

In this first chapter is presented the introduction of the repair manual for 2nd line repair workshops. It contains the repair instructions of the CDR Module CDL4009 + Mainboard 4228. All modules consist of the same loader + CDM part, the mounting of the components on the Mainboard deviates from each other. For that reason a separate CDR-module has been defined for each type/modelnumber.

On top of that: Each mainboard connected to another CDM has to be adjusted before that module can be used. To have this module on component level repaired this second line service (repair) manual has to be used in combination with the "first" line service manual of mentioned typenumber. As long as the adjustment instructions can not be carried out, the module has to be exchanged by an adjusted one from Service stock in case of repairs concerning CDM and/or Servo circuits.

Chapter 2 contains the required safety instructions, in chapter 3 a referring to the directions for use, as published in the typenumber Service Manual, is made.

In chapter 4 the mechanical exploded view of the complete module, the loading part and the CDM3800 is presented. This chapter also includes the mounting, demounting, cleaning and greasing instruction.

In chapter 5 the internal selfdiagnostics without opening the set and use of other tools is described in the service modes. The faultfinding trees and repair suggestions like the power supply voltages for proper functioning of the mainboard are indicated there too. This chapter also contains initialising and reset, concerned measuring points are highlighted. For proper functioning of all ICs the clockfrequencies have to be tested and the importance of derived clockfrequencies is shown. and how to operate with the menu driven diagnostics. Via a PC connection (serial input socket RS232C) the Menu Driven Diagnostics feature is started.

To improve the interactivity and communication with the set/module the COMPAIR (the for service designed computer aided repair) tool is supported too by this CDR generation. Details to be defined soonest and will be published by a service information bulletin later on.

Via blockdiagrams of applied boards the common issues of all boards are shown and in short explained in chapter 6.

In chapter 7 the circuit diagrams and printed wiring boards with important measuring points are shown.

The adjustment of the laser current (only one important and necessary adjustment has to be carried out, the rest of the adjustments are calculated from that parameter onwards) will be presented in chapter 8. The needed PC program is under investigation now and with the implementation of COMPAIR this adjustment action will be explained. The method how to align the software, if needed, is indicated here.

In chapter 9 reference is made to existing 3rd generation circuit description in which publication a lot of details about the functioning of the set is explained.

Also the list of abbreviations is inserted here.

Finally a survey of applied components and corresponding service ordering numbers is given in chapter 10.

As the Mainboard 4228 is designed to be applied for several modelnumbers this board contains a lot of optional components.

The most extended board is modelnumber CDR775 where double speed dubbing feature is applied too.

## 2. Safety and Maintenance instructions warnings and notes

### **(GB)** WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.



### **(NL)** WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor elektrostatische ontladingen (ESD).

Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.

Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

### **(F)** ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).

Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.

Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

### **(D)** WARNUNG

Alle IC und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).

Unvorsichtige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern. Sorgen sie dafür, das Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.

Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

### **(I)** AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione.

Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un bracciale a resistenza.

Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

### **(GB)**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

### **(NL)**

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt terug gebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

### **(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerats darf nicht verändert werden. Für Reparaturen sind Original-Ersatzteile zu verwenden.

### **(I)**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambio identici a quelli specificati.

### **(F)**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.



**CAUTION  
VARO!  
WARNING  
ADVERSEL  
DANGER  
VORSICHT**

INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.  
AVATTAESSA OLET ALTIINA NÄKYMÄTTÖMÄLLE LASER SÄTTEILYLLE ÄLÄ KATSO SÄTEESEN.  
ÖSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.  
USYNLIG LASERSTRÅLNING VED ÅBNING. UNDGÅ UNSÆTTELSE FOR STRÅLING.  
INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.  
UNSICHTBARE LASERSTRAHLUNG WENN ABEDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

### SHOCK, FIRE HAZARD SERVICE TEST:

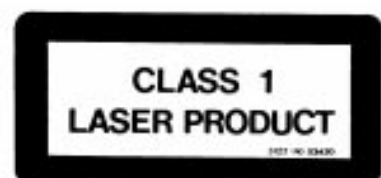
**CAUTION:** After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom,

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before return to user/customer.

Ref.UL Standard NO.1492.

### NOTE ON SAFETY:

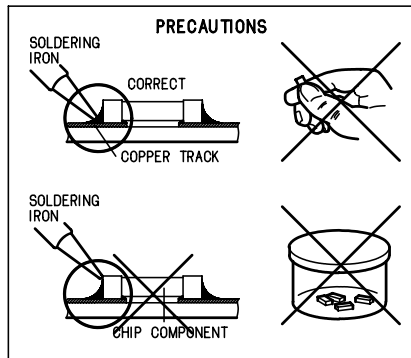
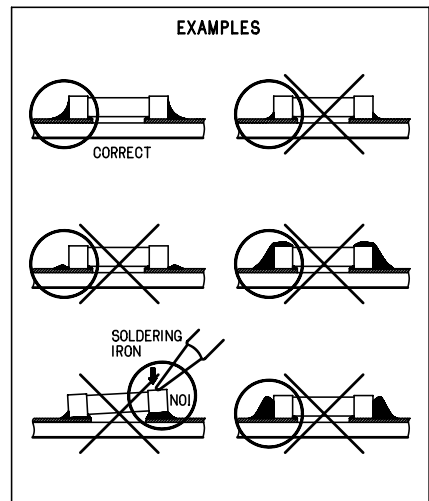
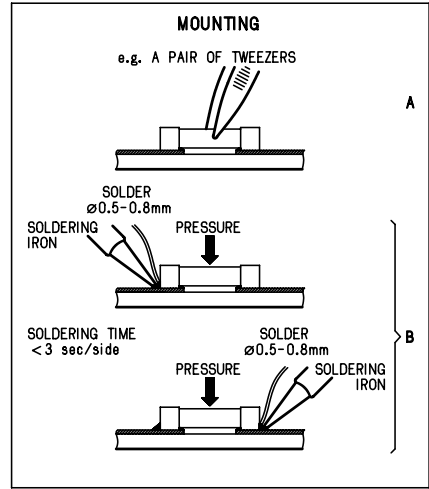
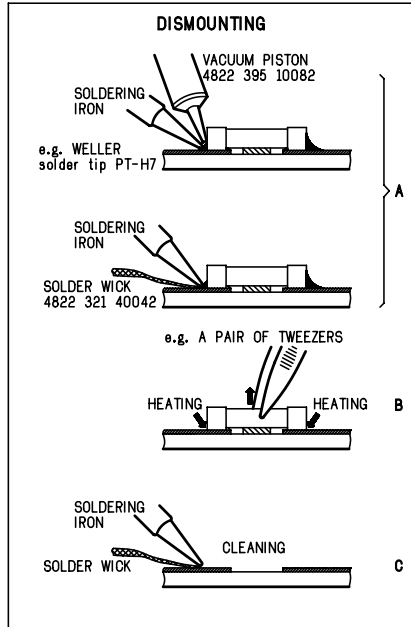
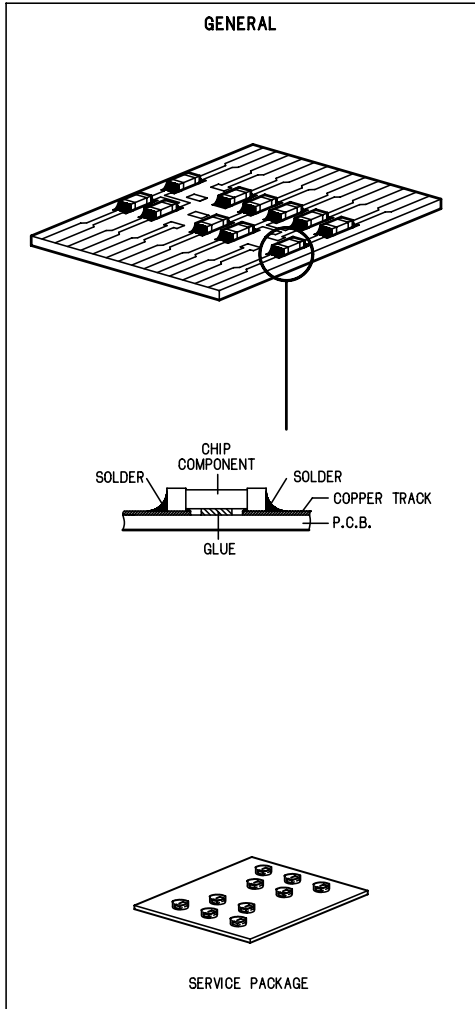
Symbol : Fire or electrical shock hazard. Only original parts should be used to replace any part with symbol Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.



\*Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne.\*

SERVICING HINTS

In the set, chip components have been applied. For disassembly and assembly check the figure below.





## SAFETY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

### Important

Proper service and repair is important to the safe, reliable operation of all Philips equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

### Safety Checks

After the original service problem has been corrected, a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition, which could be unknowingly passed on to your customer. Be sure to check all of the following:

### Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those units which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barriers, covers, strain reliefs, and other hardware have been installed according to the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints, solder splashes, sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord). Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout, lead length, and dress.
5. No lead or component should touch a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with a  $\blacktriangle$  by the Ref. No. in the parts list and enclosed within a broken line\* (where several critical components are grouped in one area) along with the safety symbol  $\blacktriangle$  on the schematic diagrams and/or exploded views.  
Replacement parts without the same safety characteristics may create shock, fire, or other hazards.
7. When servicing any unit, always use a separate isolation transformer for the chassis. Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug). Defeating this safety feature may create a potential hazard to the servicer and the user. Extension cords which do not incorporate the polarizing feature should never be used.

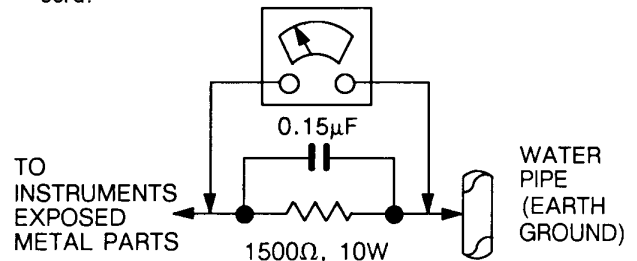
### Fire and Shock Hazard (Continued)

9. After reassembly of the unit, always perform an ac leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also, check all metal control shafts (with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit is safe to operate without danger of electrical shock.

\* Broken line: 

### Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



### Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely reassembled unit directly into the ac outlet.
2. Connect a 1.5k, 10W resistor paralleled by a 0.15µF capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms/volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamperes. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed. (Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

### Parts Replacement

1. Many electrical and mechanical parts in Philips equipment have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.
2. All ICs and many other semiconductor parts are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce the life of the part drastically.

### LASER NOTE:

**DANGER** - Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

**CAUTION** - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**CAUTION** - The use of optical instruments with this product will increase eye hazard.

### 3. Instructions for use

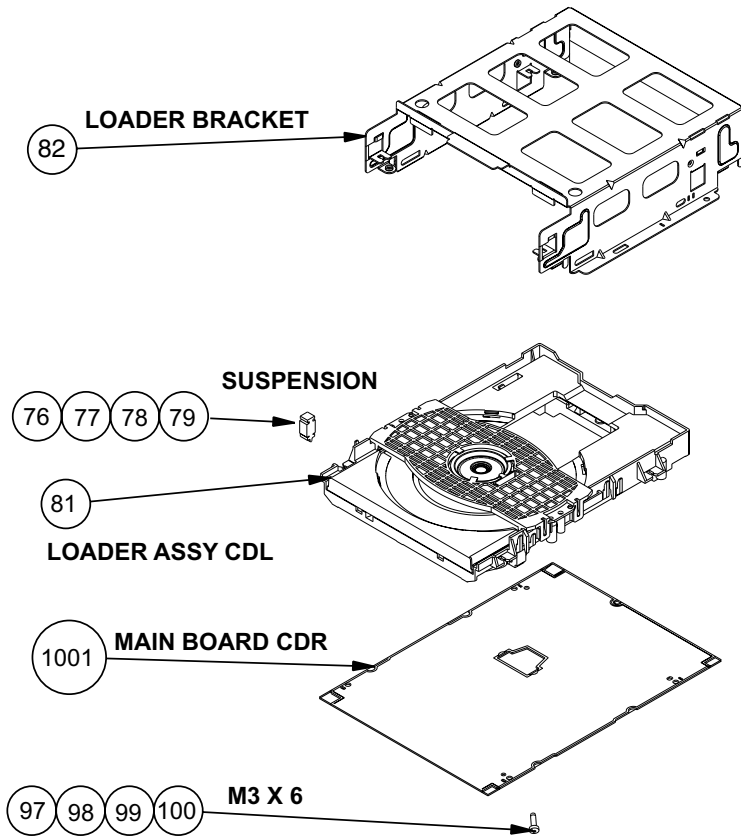
See service manual of concerned modelnumber in which the instructions for use has been inserted. This chapter has not been filled as this module of CDR Module CDL4009 + Mainboard 4228 is only a part of a complete set.

## 4. Mechanical instructions

### 4.1 Loader CDL4009

CDL4009 consists of metal loader bracket item 82 and glued on it an identification sticker (on which the module production number and production code is printed); 4 suspension rubbers items 76, 77, 78 and 79 which carry loader assembly item 81;

and on the bottom side the CDR mainboard 1001 is mounted. Notice that mainboard is dependant to the applied set and has to be adjusted to mounted CDM in loader in case of exchange. See next figure, Loader CDL4009



82: LOADER BRACKET	3104 121 23900
81: LOADER ASSY CDL	9305 043 20900
76: SUSPENSION	3104 144 05730

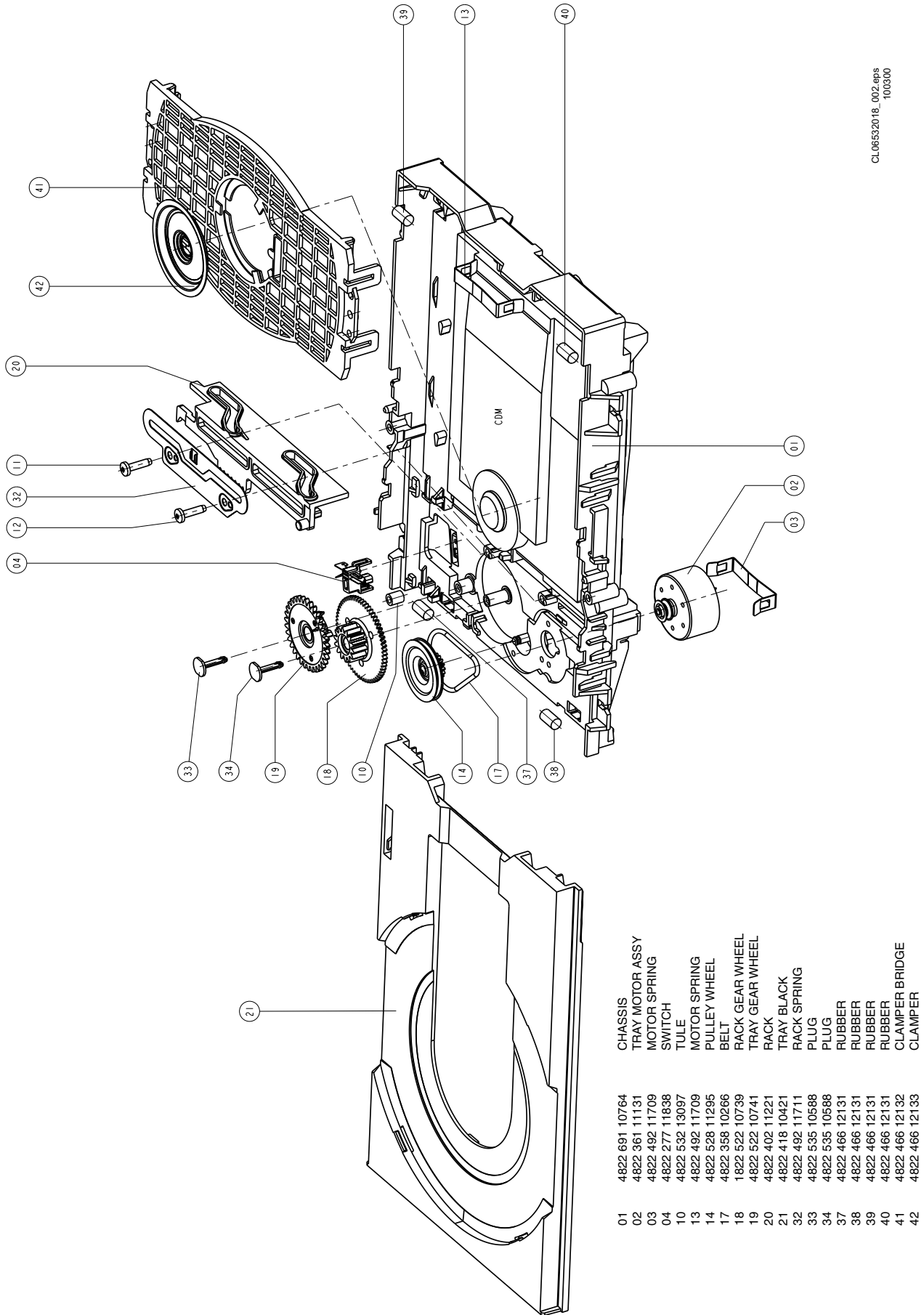
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090300

Figure 4-1

To demount loader module CDL4009:

1. Mainboard item 1001. Beware of connections to CDM.  
Optical pick-up unit has to be ESD protected!
2. Loosen suspensions 76, 77, 78 and 79 from metal loader bracket 81
3. Take out Loader assy CDL

4.2 Exploded view CDL3800



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100300

Figure 4-2

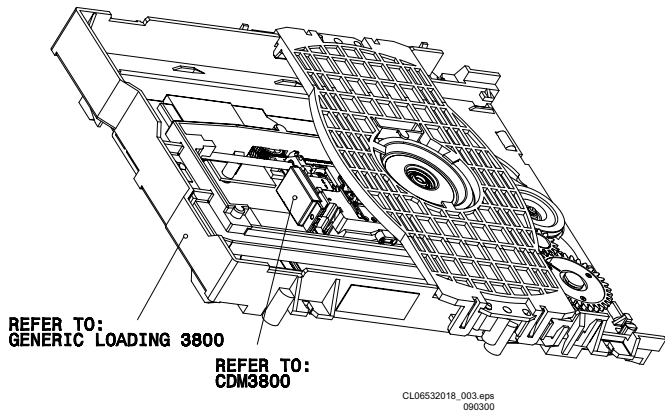


Figure 4-3

**4.3 DEMOUNTING LOADER CDL3800**

Remove the following items starting with:  
 (For the item numbers refer to the Exploded Views CDL3800, figure 4.2)

**4.3.1 Release and remove tray**

Push to open the tray on the rack (item 20)

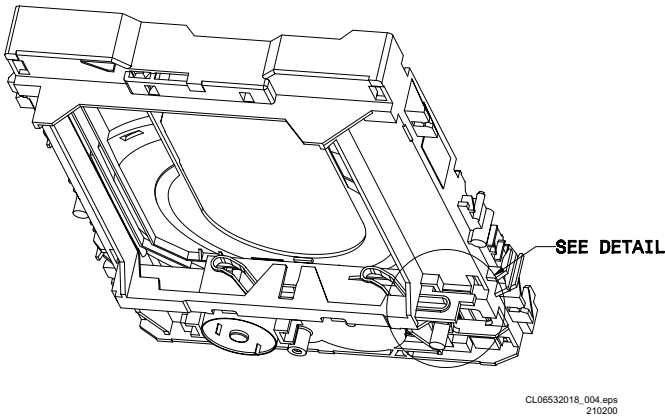


Figure 4-4

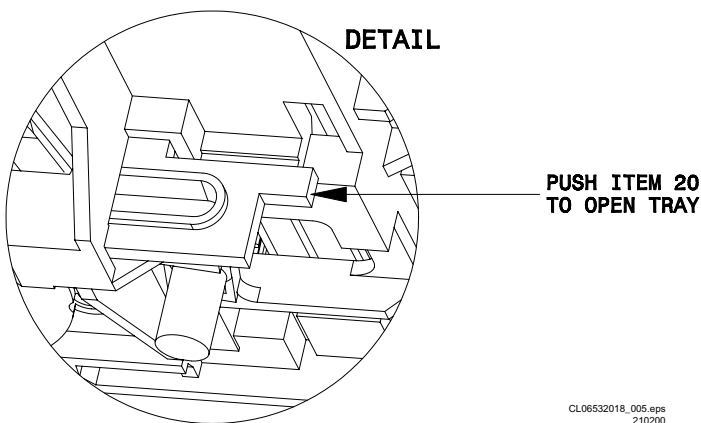


Figure 4-5

**Tray**

Pull out the tray (item 21) until it sticks. Press the lock at the left side of the tray upwards. Pull out the tray.

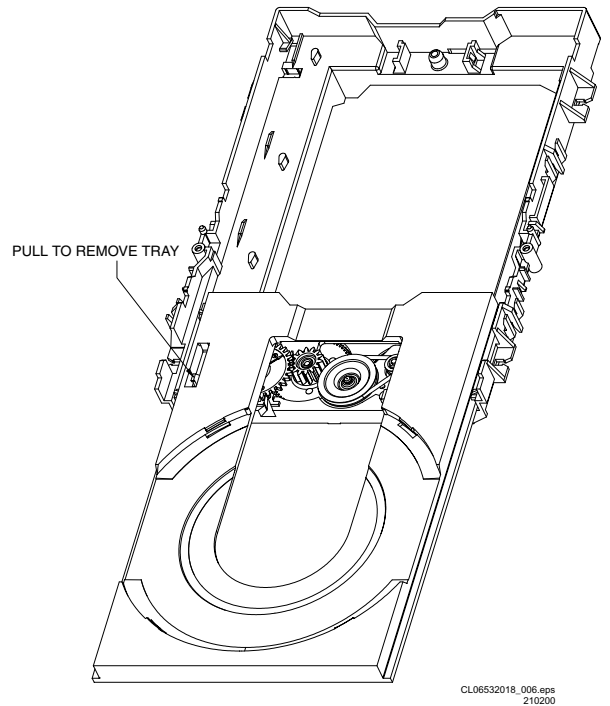


Figure 4-6

**Tray motor assey**

Remove the tray motor belt (item 17).  
 Loosen the motorspring (item 3) with a pair of tweezers or a screwdriver via the rectangular hole at the right side of the tray motor.

**Clamper bridge**

Bend the locks-profiles on both sides of the clamper bridge (item 41) carefully to the outside and lift up the clamper bridge.

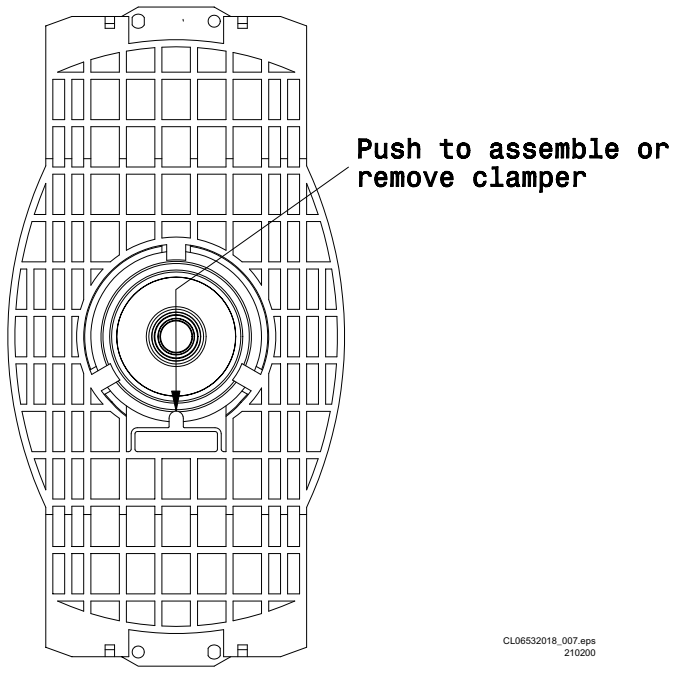
**CDM**

Place the loader upside down and remove the motorspring (item 13) with a pair of tweezers or a screwdriver, but hold the CDM so it can't fall down.

**Rack**

First remove the rack spring (item 32) by unscrewing items 11 and 12.

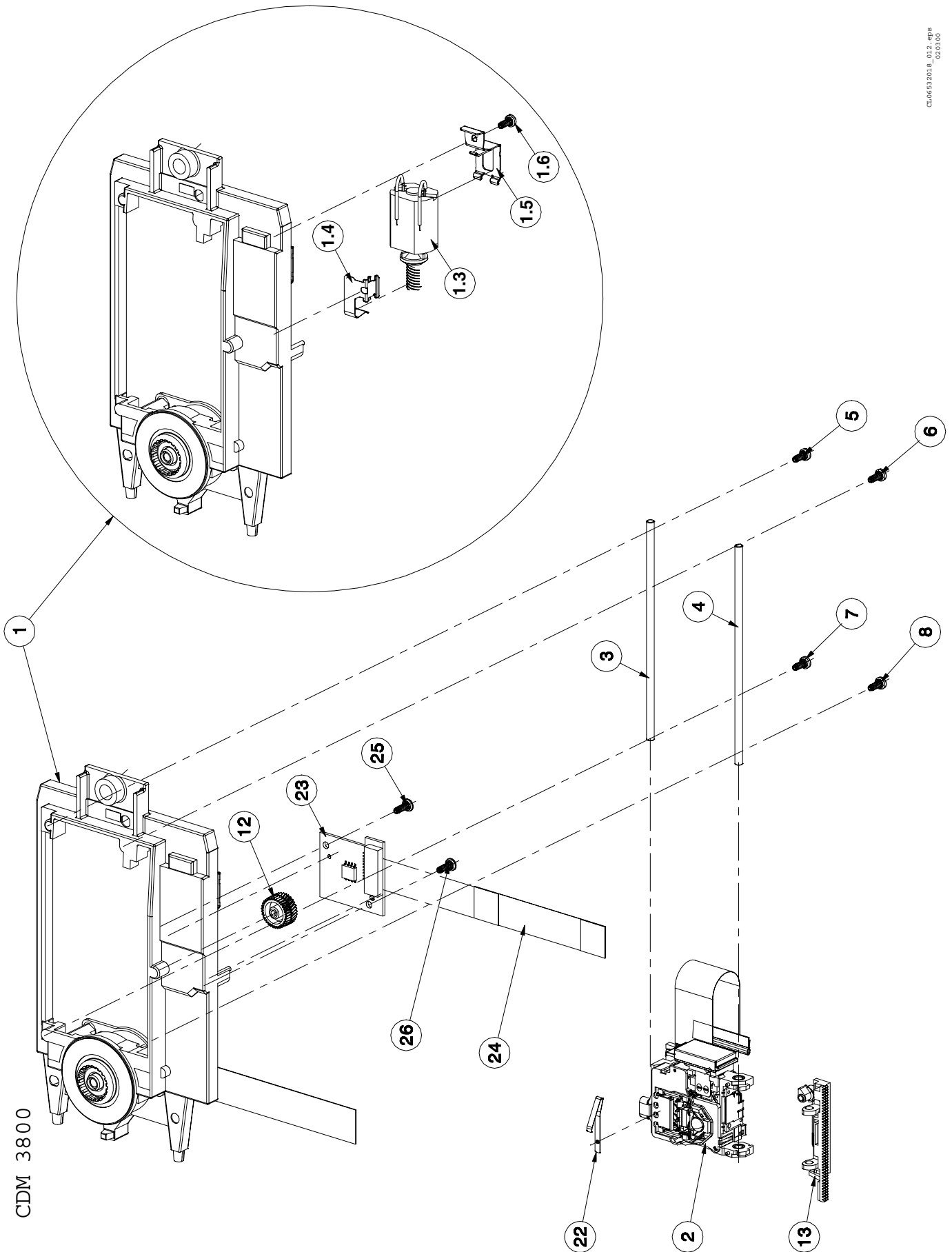
*Clamper*



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210200

Figure 4-7

4.4 Exploded view CDM3800



CDM 3800

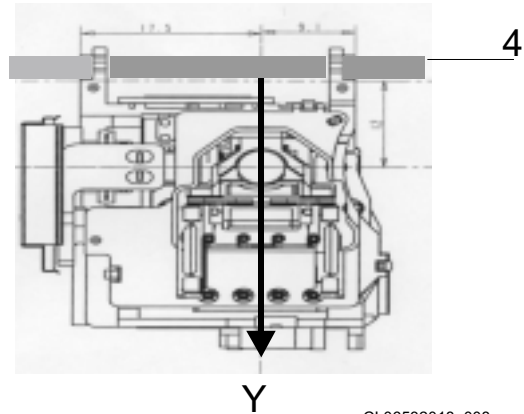
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02/03/00

Figure 4-8

3104 147 01580 CDM3800 COMPLETE

- 1: 4822 691 10765 MOUNTING PLATE ASSY
- 1.3: 4822 361 11132 SLEDGE MOTOR ASSY
- 2: 3104 147 12890 OPU-24.24
- 3: 4822 535 10591 THIRD BEARING AXLE
- 4: 4822 535 10591 AXLE
- 12: 4822 528 11297 COMBI WHEEL
- 13: 4822 522 10742 GEAR RACK ASSY
- 22: 3104 141 21830 THIRD BEARING SPRING

2100: 4822 126 13196 100nF 10% 25V  
 3100: Δ4822 051 20101 100Ω 5% 0,1W  
 5101: 4822 130 11531 SENSOR LT125A



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210200

## 4.5 Cleaning objective lens

### 4.5.1 CLEANING PRESCRIPTION OBJECTIVE LENS

- Cleaning fluid

The lens cleaner codenumber reads 4822 389 10026

- Procedure

- Take a clean cotton wool tipped stick and put Lens-cleaner on the wool.
- Wipe the lens very softly with the wet wool end of the stick by moving it forwards and backwards in the Y-direction. (see drawing)
- Take a dry cotton wool tipped stick and remove the Lens-cleaner from the lens by moving it very softly back and forth in the Y-direction (see drawing)
- During cleaning, take the necessary precautions in order to prevent damage to the\*Actuator (hinges, lens, litze-wires) or OPU (ESD, ...) Do not remove axle (item 4, see drawing) from OPU, because the fixing screws of axle are deforming it at it's end. On their turn these deformings are damaging the hinges of the OPU when loosening the axle.

- Application

This cleaning procedure is only applicable for the flat side (upside) of the lens.

Never try to clean the round side (underside) of the lens (replica-side).

With this cleaning procedure, fingerprints and dust can easily be removed with very soft and gently movements of the cotton wool tipped stick.

- Limitation

This cleaning procedure is only applicable in cases of malfunctions of the product, due to lens-problems. It's not ment to be applied on 100% of the actuators, OPU's.

After cleaning, the product must be re-checked on it's functionality.

Figure 4-9

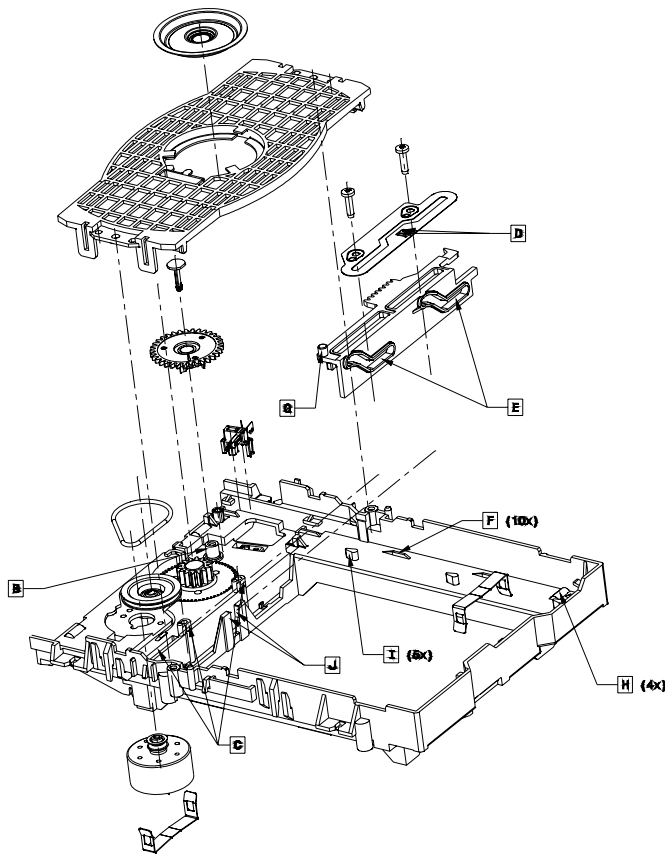


**4.6 Lubricating**

**4.6.1 LUBRICATING INSTRUCTIONS FOR GENERIC LOADING CDL3800**

USE TRIBOL GREASE (1322 523 78101)  
 Be careful when lubricating the parts.  
 For parts and points to apply grease, refer to the drawing figure 4-10.

- Avoid excess grease.
  - B. The bearing of the gearwheel. Grease on upper part of cylindrical surface.°
  - C. Guiding and 2 guiding pins of the rack on the chassis.°
  - D. The guiding of the rackspring.\*
  - E. The 2 guiding profiles of the rack.\*
  - F. 10 guiding surface of the chassis on the tray.\*
  - G. The guiding pin on the rack.\*
  - H. On top (in the middle) of the 4 rubbers.\*
  - I. Guiding on the chassis of the tray. Grease around the 5 guiding pins.\*
  - J. The guiding ribs of the chassis for guiding the CDM-nose.\*
- °=Lubricated with dosing apparatus.  
 \*=Lubricated with a brush.



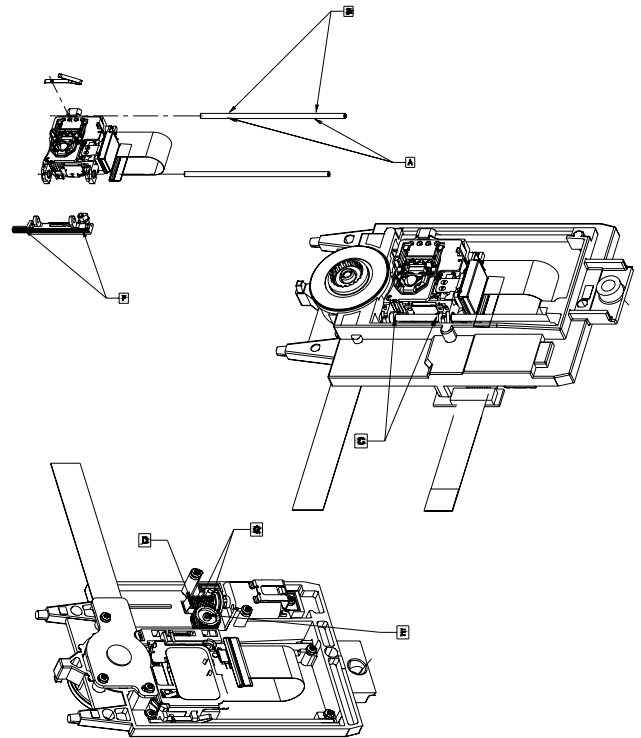
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210200

**Figure 4-10**

**4.6.2 Lubricating instructions for CDM3800**

- USE TRIBOL GREASE (1322 523 78101)
- The third bearing axle (item 3, 4822 535 10591) on the upperside of the axle 2x
- The third bearing axle on the bottomside of the axle 2x
- The OPU bearing with Mobil Oil SHC 629 (see next paragraph)
- The top of the worm
- The pressed in axle on the top
- The gear rack assy (item 13, 4822 522 10742) on the teeth 2x

Between worm and combiwheel (item 12, 4822 528 11297)2x

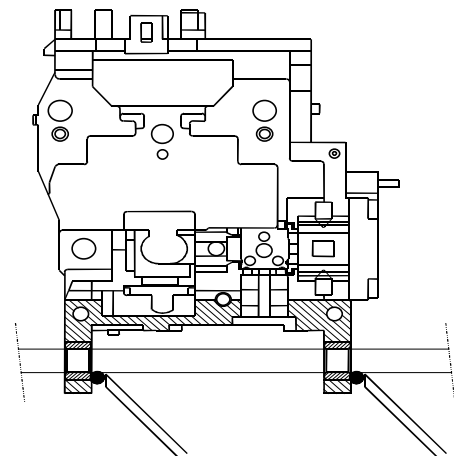


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020300

**Figure 4-11**

**Oiling the centrifuged bearings**

USE MOBIL OIL SHC 629 (3104 129 52260)  
 Use dose apparatus  
 Place the needle against the bearing and axle.  
 Dose one (1) drop of oil there where the bearing touches the axle (see drawing figure 4-12)  
 Repeat this handling for the second bearing  
 Move the OPU for a few times up and down.  
**REMARKS:**  
 Do not use the oil on the axle alone. Always place the oil drop against the bearing.  
 No oil on top of the OPU.



**2x 1 DROP OF OIL**

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020300

**Figure 4-12**

## 5. Service modes, repair tips and faultfinding trees

### 5.1 Service modes

In this paragraph the internal selfdiagnostics without opening the set and use of other tools is described.

**Notice:** Module is mounted in a set

#### 5.1.1 Dealer mode

The purpose of the dealer mode is to prevent people taking out the CD inside the player at exhibitions, showrooms etc.. This mode disables the open/close function of the player. The dealer mode can be switched on and off pressing keys [OPEN/CLOSE] and [STOP] of the CDR player simultaneously while switching on the unit. The dealer mode is stored in the flash memory and can only be changed by executing the above actions.

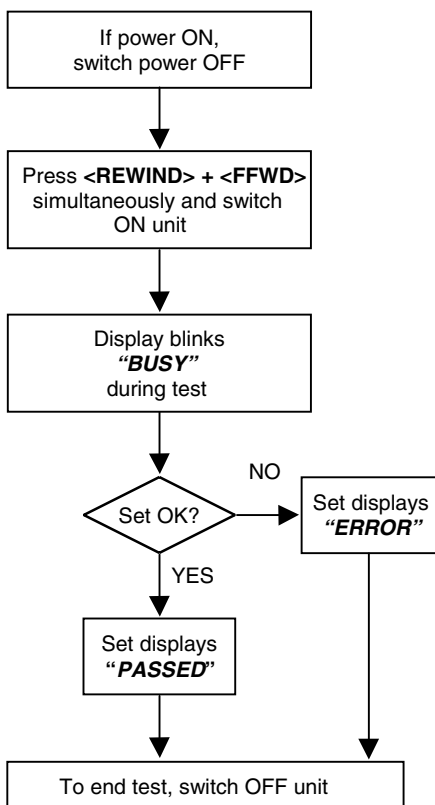
#### 5.1.2 Dealer diagnostics

display. Pressing keys [F FWD] and [REWIND] simultaneously while switching on the unit, starts the test. Switching off the unit ends the test.

#### **Requirements to perform the test**

- Working keyboard to start up the test.
- Working local display to check the output messages.

### DEALER DIAGNOSTICS (status of player)



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090999

Figure 5-1

#### **Description**

The intention of the dealer diagnostics is to give an indication of the CDR player status. An inexperienced, even non-technical dealer will/can perform the test. Tests are executed automatically without need for external tools or disassembly of the unit. This test checks the CDR main board using the same tests as the electrical service diagnostics program. Only the result of the test, "PASSED" or "ERROR", will be shown on the

5.1.3 Electrical service diagnostics

**ELECTRICAL SERVICE DIAGNOSTICS**  
(software versions, test for defective components)

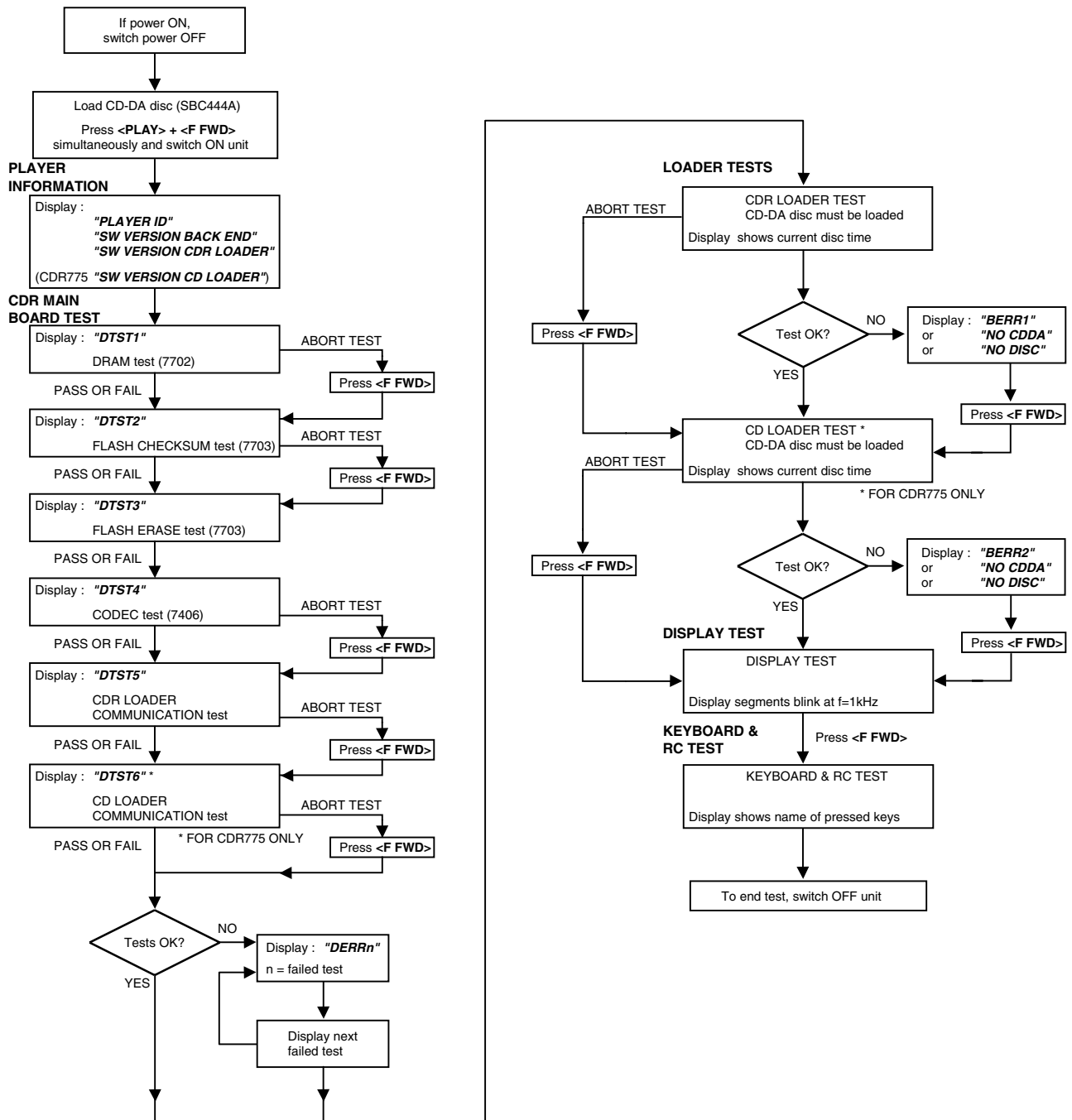


Figure 5-2

**Description**

The intention of the electrical service diagnostics is to show the software versions present in the player and to direct the dealer towards defective internal units. The units are : the CDR main board, the CDR loader, the CD loader in case of a CDR775 and the keyboard/display board. A sequence of tests is executed automatically. Some of the tests can be aborted or skipped without the result being taken into account. External tools or disassembly of the unit is not necessary to get the diagnostic information. Pressing keys [PLAY/PAUSE] and [F FWD] simultaneously while switching on the unit, starts the test. Switching off the unit ends the test.

**Requirements to perform the test**

- Working keyboard to start up the test.
- Working local display to check the output messages.
- A CD-DA disc with a minimum of 3 tracks in all trays to perform the disc test.

**Description of the tests****Player information**

In this part of the test the following important information can be checked without removing the cover :

- Recorder ID.
- SW-version back end of player.
- SW-version CDR loader.
- SW-version CD loader (only for CDR775).

**CDR main board test**

[F FWD] key. The message "DERRn" will be displayed with n indicating the faulty test number.

If one of the tests is aborted with the [F FWD] key, no error message will be displayed for this test. The flash data erase test ("DTST3") can not be aborted !

The CDR main board test consists out of :

**DRAM test**

Display : "DTST1". The DRAM used for buffer management is tested by writing, reading and verifying test patterns.

**Flash checksum test**

Display : "DTST2". This test checks the checksum of the player's SW stored in the flash.

**Flash data erase**

Display : "DTST3". During this test, all temporary information (CDtxt) in the flash is erased.

**CODEC (ADC/DAC) test**

Display : "DTST4". This test checks the CODEC IC by writing, reading and verifying test patterns. The test is not applicable for CDR950.

**CDR communication test**

Display : "DTST5". The communication between the host processor (DASP) and the CDR loader via the DSA-R-bus is tested.

**CD communication test**

Display : "DTST6"). The communication between the host processor (DASP) and the CD loader is tested. The test is only applicable for CDR775.

**Loader tests**

These tests determine if the CDR loader and the CD loader in case of a CDR775 work correctly. A CD-DA disc with a minimum of 3 tracks needs to be inserted in both loaders. A disc test is executed to check focus control, disc motor control, radial control and jump grooves control. The disc test is

performed by audio play-back of 5 seconds at the beginning, middle and end of the disc.

**CDR loader test**

During the test, the current disc time is shown. In case of an error the message "BERR1" will be displayed and the [F FWD] key must be pressed to continue with the following test. Pressing the [F FWD] key also aborts this test.

**CD loader test**

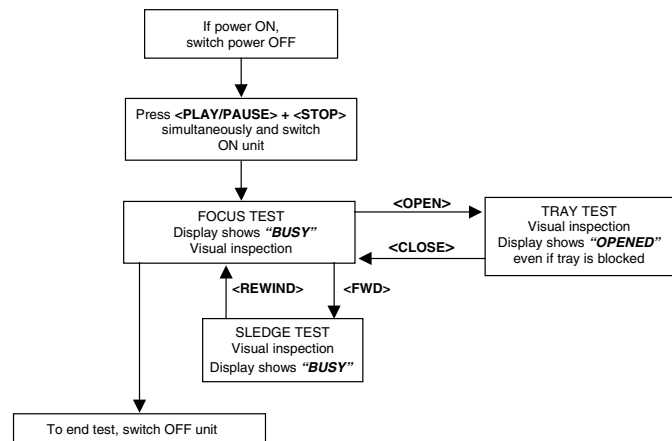
For CDR775 only. During the test, the current disc time is shown. In case of an error the message "BERR2" will be displayed and the [F FWD] key must be pressed to continue with the following test. Pressing the [F FWD] key also aborts this test.

**Display test**

All segments will blink at a frequency of 1 Hz. Pressing the [F FWD] key will start the next test because the user has to check for himself if all segments work properly.

**Keyboard and remote control tests**

The test will give the user the ability to test every key without executing the function assigned to it. Therefore, the user needs to press every key on the keyboard and the remote control. The display will show the name of the key being pressed. Pressing more than one key at once will give an unpredictable result except for the service combinations : [PLAY/PAUSE] + [STOP], [PLAY/PAUSE] + [F FWD], [F FWD] + [REWIND], [ERASE] + [RECORD], [PLAY/PAUSE] + [RECORD], [OPEN/CLOSE] + [PROGRAM].

**5.1.4 Mechanical service diagnostics****MECHANICAL SERVICE DIAGNOSTICS**  
(test for defective components)CL96532086\_026.eps  
080999**Figure 5-3****Description**

No external tools are required to perform this test. The cover needs to be removed because the user has to check the movements of the tray, focus and sledge visually. Pressing keys [PLAY/PAUSE] and [STOP] simultaneously while switching on the unit, starts the test. Switching off the unit ends the test. In case of a CDR775, one can check the CD loader mechanics in the same way by pressing the above key combination on the CD player keys.

**Requirements to perform the test**

- Working keyboard to cycle through the tests and to start up the test.
- Working local display to check the output messages.

**Description of the tests**

*Focus control test*

The focussing lens is continuously moving up and down. The display reads "BUSY".

*Sledge control test*

After pressing [F FWD] the sledge continuously moves up and down. Pressing [REWIND] stops the sledge at the position it is in and the focus control test resumes. The display reads "BUSY".

*Tray control test*

This test starts from within the focus control test routine. Pressing [OPEN/CLOSE] moves the tray in or out. In the tray open position one can initiate focus and sledge tests by pressing [F FWD]. One has to stop these tests pressing [REWIND] before it is possible to close the tray again. Depending on the action the display reads "OPEN", "OPENED", "CLOSE" or "BUSY".

**5.1.5 DC-erase service mode**

**DC ERASE SERVICE MODE**  
(erasure of complete CD-RW)

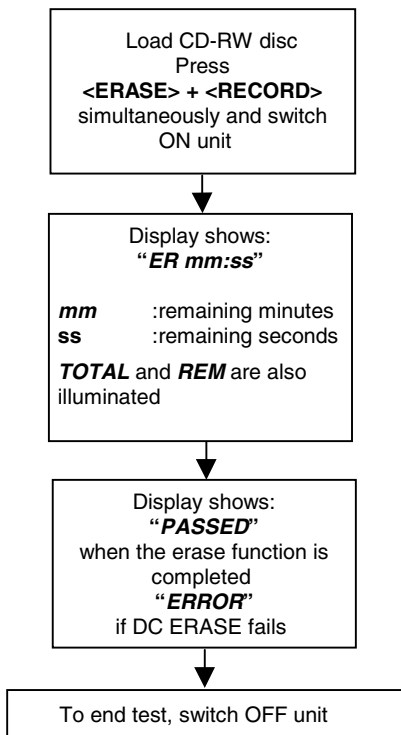


Figure 5-4

**Description**

This test is initiated by pressing [ERASE] and [RECORD] simultaneously while switching on the unit. The player will erase a complete CD-RW disc (including PMA and ATIP lead out area) at speed N=2. The display shows the countdown of the remaining time required for the operation to complete. The format is "ER mm:ss", where "mm" are the remaining minutes and "ss" the remaining seconds. After completion the message "PASSED" is shown, and the player has to be switched off and on again to start up in normal operating mode. Switching off the

unit before completion of the test, leaves the disc in an unpredictable state. In such case only a complete DC-erase procedure can recover the CD-RW disc.

**Requirements to perform the test**

- Functional CDR player.
- A CD-RW audio disc must be present in the tray.

**5.1.6 Burn in mode**

**Description:**

The Burn In mode is an endless cycle of:

- DC-Erase to erase the CDRW disc with maximum laser power.
- Recording a CDRW disc
- Finalising at double speed

The Burn In mode is used to test intermittent faults of the loader.

**Requirements to perform the test:**

- Working Local Keyboard: needed to start up the test.
- Working Local Display: all output messages must be displayed on the local display.
- Analog source connected to the CDR99 player
- CDRW disc in tray

*Burn in sequence*

– Initialisation

The 'Burn In' mode is initiated by pressing the PAUSE> and key on the local keyboard at the same time, and then switching the POWER switch on.

– Continuous loop

The following picture shows the burn in sequence.

**Burn in sequence**

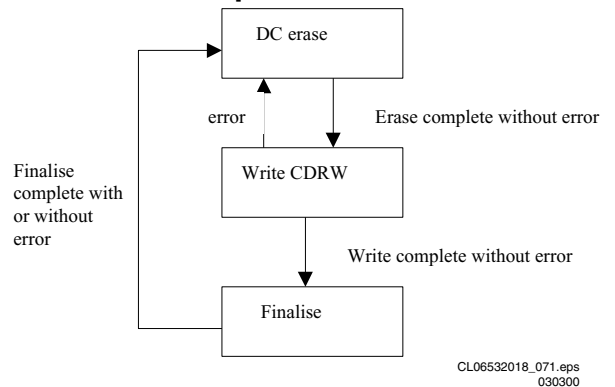


Figure 5-5

Continuously do DC erase, record complete CDRW and then finalise until the player is powered off.

When an error is detected during writing, the DC erase procedure is called again., the disc will be DC erased and the cycle starts again.

During the test the display shows the number of hours for which the test is running and the number of errors detected during the test. The display looks as follows : "HH BI RE FE"

- HH : number of hours on digits 1 and 2
- "BI" : burn in mode, digits 3 and 4
- RE : number of errors detected during DC erase and write CDRW modes on digits 7 and 8

FE : number of errors detected during finalise modes on digits 10 and 11

If started up with a disc other than a CDRW disc the display shows : "WRONG DISC", if no disc is inserted display : "NO DISC".

– End of test  
To exit the Burn In mode, power off the player.

5.2 Faultfinding Trees

The faultfinding trees and repair suggestions like the power supply voltages for proper functioning of the mainboard are indicated here.

5.2.1 CDR-Module

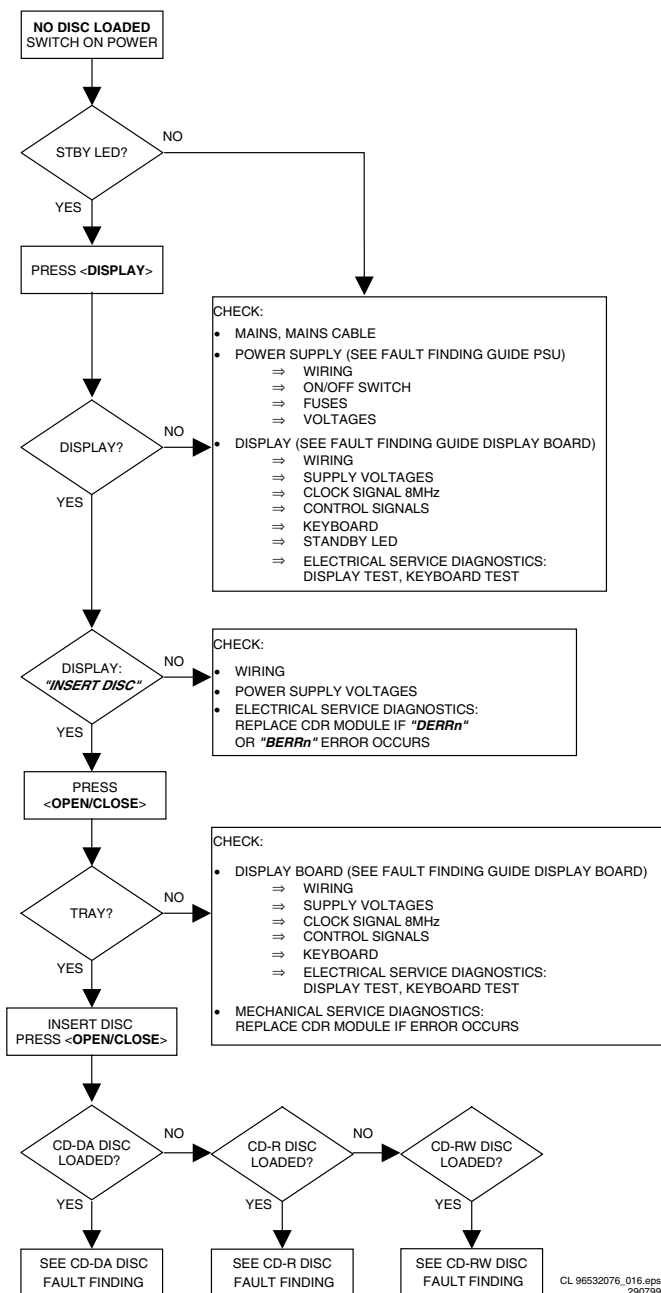


Figure 5-6

CL 96532076\_016.eps 290799

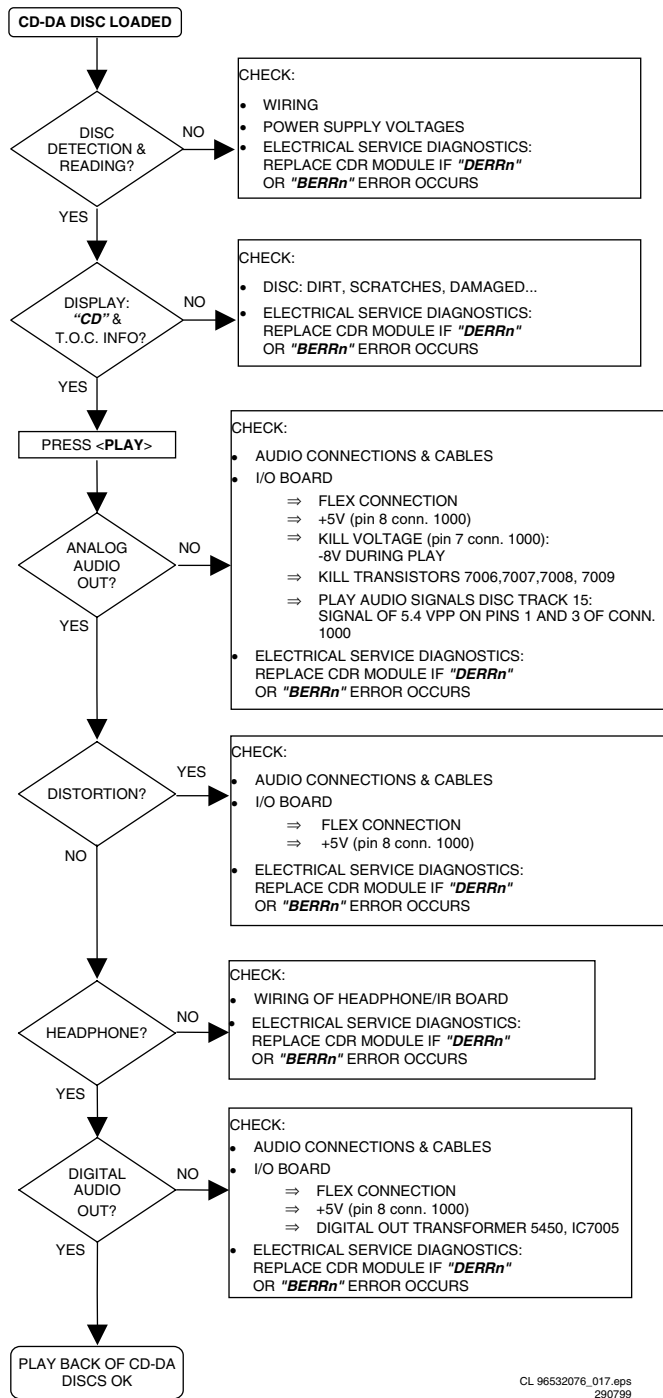


Figure 5-7

CL 96532076\_017.eps 290799

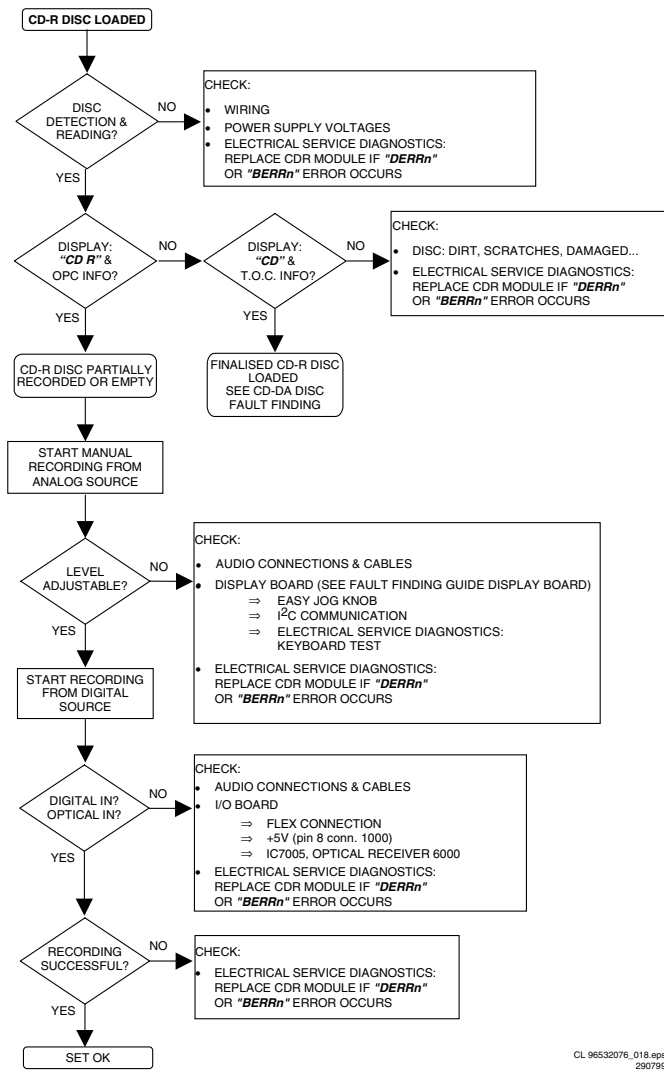


Figure 5-8

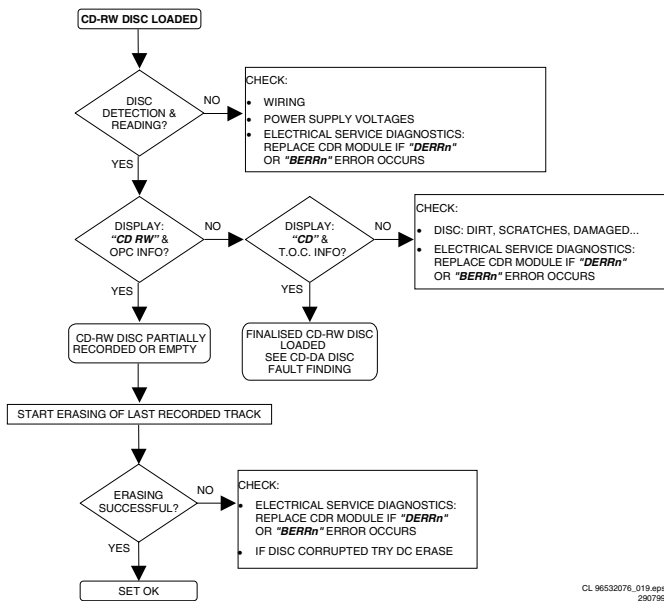


Figure 5-9

5.2.2 Mainboard

Power supply part on mainboard

• Description.

The most important part of an electrical function is the power supply. Without it will never operate. The power supplies as well analog as digital equipment. For these reasons the power supply is split-up in different sections. One for the digital electronics, one for the servo controls and one for the AUDIO part. The servo controls are the big consuming parts with high peak-currents, also introducing disturbances in the power lines. The audio part needs very "clean" power, because noise and ripples have there reflection in the audio signals, specially in S/N and THD+N. Some of the power supplies are switched off, this to reduce consumption in case of standby.

The different power supplies are delivered to the PCB via connector 1500 This is a 11 pole connector with following voltages on it: +5V, +12V, -8V, VFTD, VDC1 and VDC2. The last 3 voltages are not used on the main PCB, but are meant for the FTD (Fluorescent Tube Display). They are directly routed to connector 1705.

The other voltages are split up in different functions on the PCB. The following block-diagram gives an indication of that implementation.

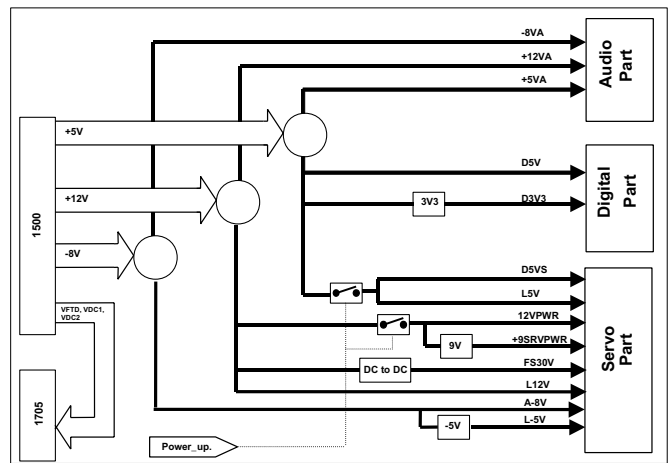


Figure 5-10

- Power supply to main board.
- Power supply enters the BOARD via connector 1500. Pinning as follows:
- Connector 1500
- pin 1: VDC2 : 3V8 (10%)
  - pin 2: VFTD : -38V (5%)
  - pin 3: VDC1 : 3V8 (10%)
  - pin 4: GND : Ground.
  - pin 5: D5V : +5V (5%)
  - pin 6: D5V : +5V (5%)
  - pin 7: GND : Ground.
  - pin 8: GND : Ground.
  - pin 9: GND : Ground.
  - pin 10: 12V : 12V (10%)
  - pin 11: -8V : -8V (10%)

### POWER PART CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAM 7 AND CDR MAIN BOARD BOTTOM VIEW : POWER PART TEST POINTS

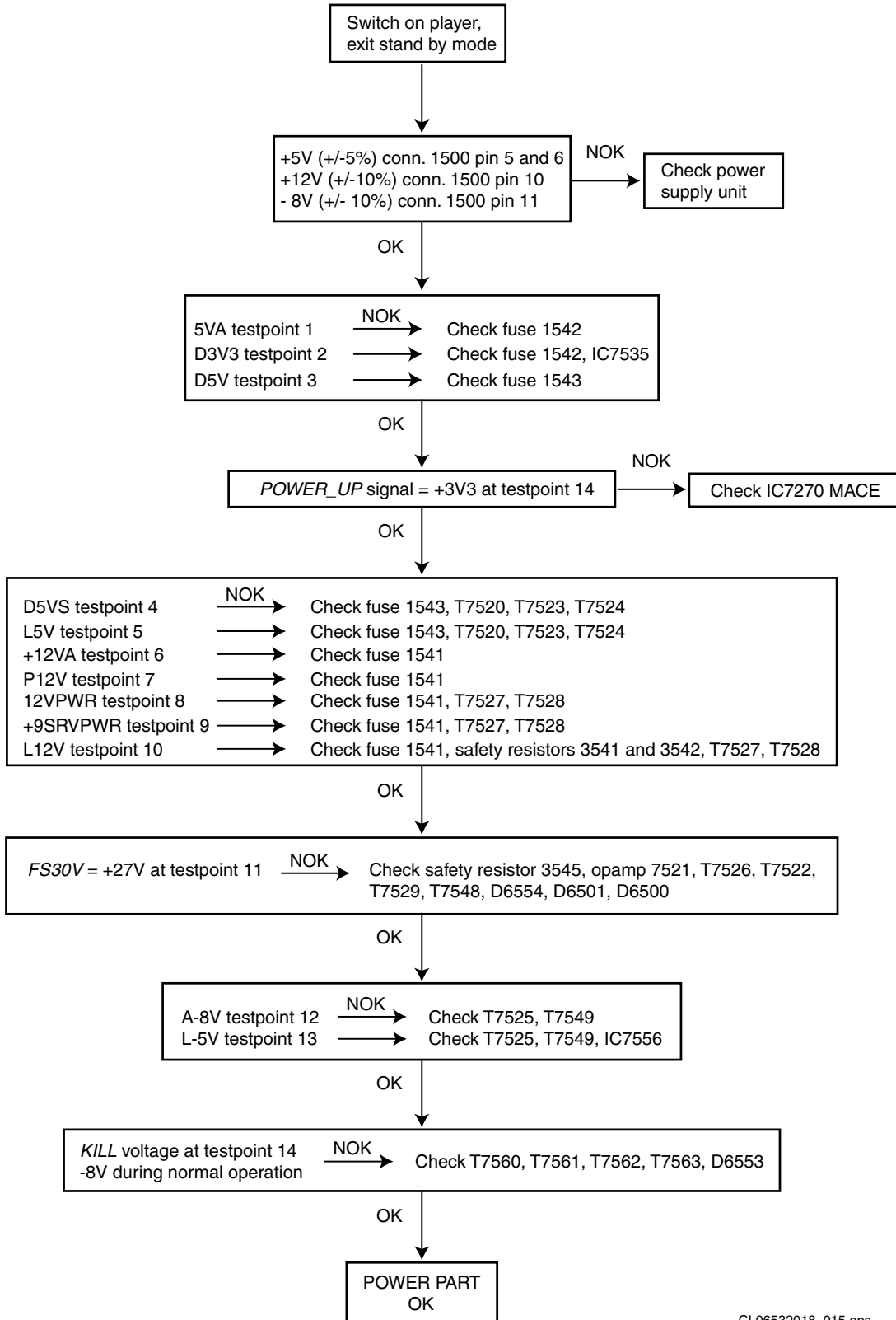


Figure 5-11



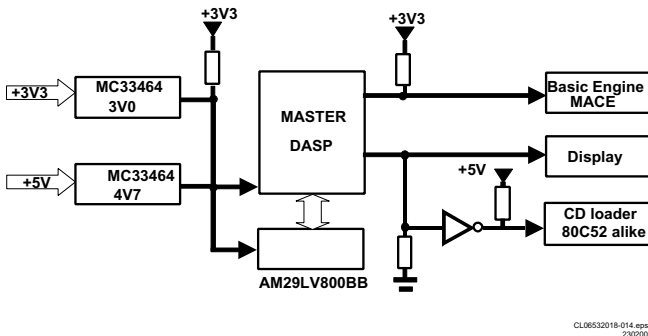
**Reset & Clock**

*Master reset.*

Since the Mainboard is more or less mix-mode between +3V3 and +5V devices, special treatment for the RESET behavior is wishful. Controlling the RESET only from 1 power supply could lead to collisions between different devices, damaging the internal I/O structure of the devices. To avoid this the +3V3 and the +5V are guarded by a special device. These devices keep the output low as long as the power supply is not stable or is not above the required level. As soon as the power supply is stable it switches the output to "HIGH-Z". The output is an open collector type. From then onwards the line can be controlled by means of external pull-up resistors. Benefit of the open-collector devices is that several of those devices can be tight together at the outputs. In our case we used a device on the +5V and one on the +3V3. This means that both power supplies need to be stable before the RESET of the Master processor is released.

Resetting several processors in the same structure by means of the power supplies invokes certain risks. The duration of initialization after reset is processor and Code depending. It can lead to hang-up in those cases that communication between the processors is "time" driven. Meaning that only in a certain time frame the establishment of the communication-bus must take place. If not successful the Bus hangs!

To avoid these kinds of problems, only 1 RESET is depending on the power supply, and this is the RESET of the Master controller. The same master controller will then take care of the RESET of the other devices. In the next figure this is explained.



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**Figure 5-12**

For further measurements see next reset and clock flowcharts.

### RESET & CLOCK CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 4, 9 AND 10 AND CDR MAIN BOARD BOTTOM VIEW : RESET & CLOCK TESTPOINTS

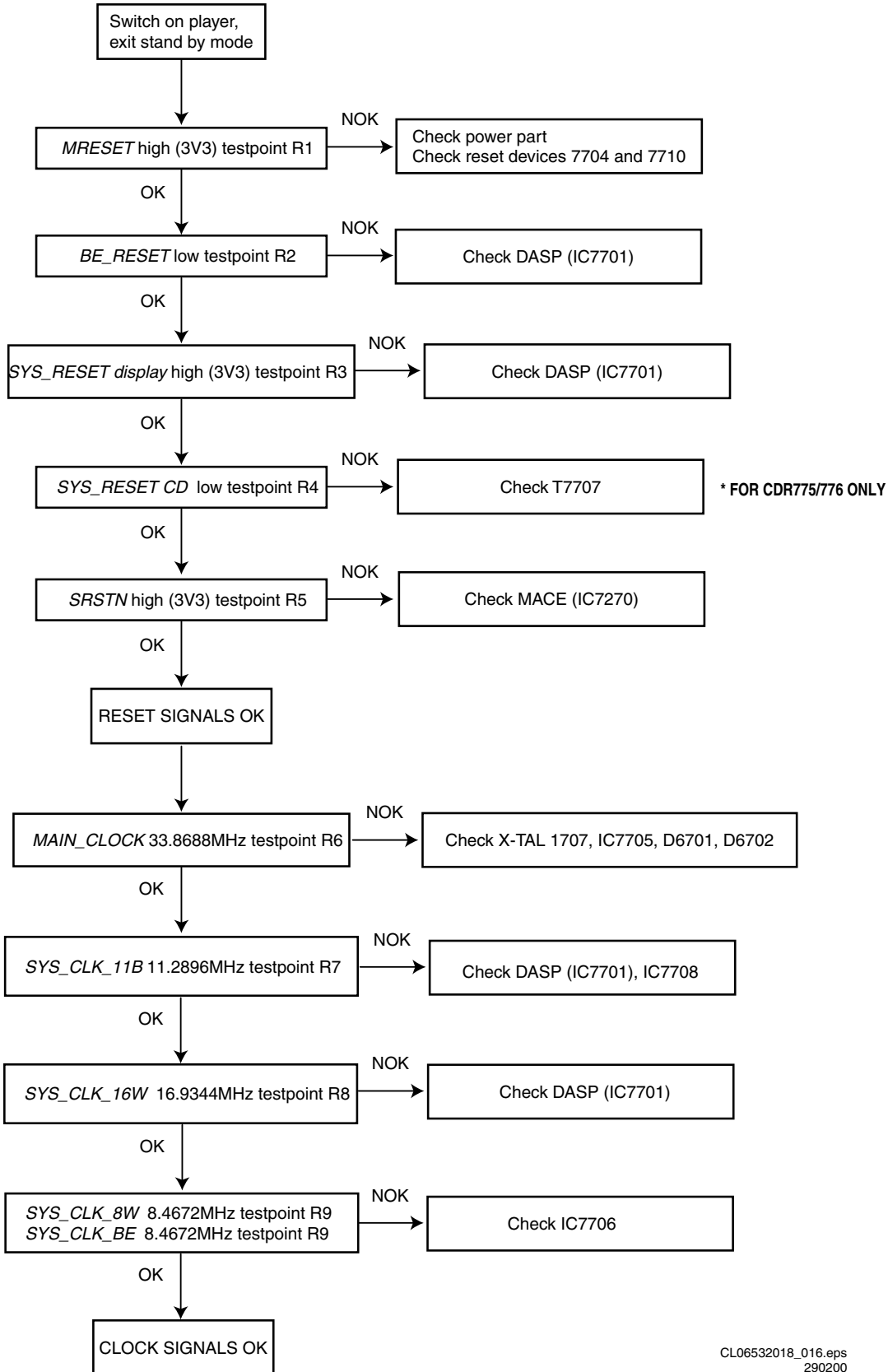


Figure 5-13

**The clockgeneration**

All microprocessors or digital devices need a clock. The clock is usually made by means of resonators or crystals depending on the speed and the accuracy that is requested. The clock can also differ from device to device so that more than one crystal is needed. The cheapest and "system wise" best way is only 1 crystal. The derived clocks are then Phase related to each other.

On the CDR MAIN 99 the DASP is generating all clock signals. Not only the systemclock for the processor itself, but also for the basic engine processor and even the systemclock for the ADDA part which is directly related to the 44.1kHz. sample frequency. To be able to do this a 33.8688Mhz. crystal with 25ppm accuracy is connected to the internal oscillator of the DASP. Internal the clock signal is multiplied by means of a PLL. This gives the systemclock on which the processor runs internally. This systemclock is then again divided internally to have the systemclock for the ADDA, which is 11.2896Mhz, and the 16.9344Mhz. which divided by 2 gives the systemclock for the BE part. In this way only 1 crystal is required. The same 8.4672MHz. is also routed to the CD-module in case of a CDR775 player.

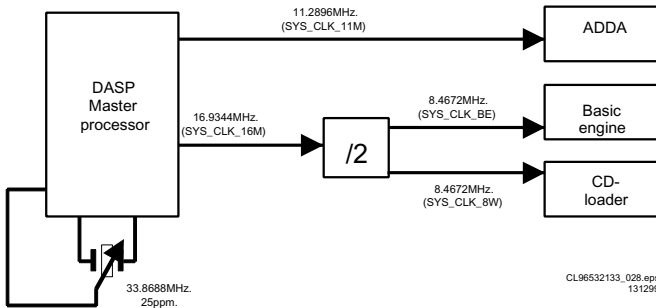


Figure 5-14

**PC help on mainboard diagnostics**

A couple of the diagnostics are only possible with the help of a PC. The DASP micro controller will contain an interface with the external world; this interface is realised via a serial RS232 connector that is accesible inside the player. It can be accessed from the outside world by means of test pins and connector 1818 and interface board 7104 086 91111.

Via those test pins a terminal emulator can be connected. Then menus will come up that give the opportunity to enter all Audio Engine commands. This includes the commands on Bit Engine Level (transparent). This terminal emulator functionality is part of the embedded software, so no external software is needed. It can also read out the User Profile Logging of Bit Engine. This can show the hours that the loader really was in recording mode.

This diagnostic tool is activated if communication is detected on the RS232 interface during power up. The baud rate for both is 19k2 baud.

Details of the diagnostic tool are given in chapter 5.2.3 of this publication: Menu Driven Diagnostics.

Also in preparation is the interactive COMPAIR tool. Then the PC communicates in an active form with the set and compares the result for making the next decision. With MDD the technician has to take the next active step from his experiences onwards.

**5.2.3 Menu Driven Diagnostics**

In this paragraph the specification of the software requirements for the Menu Driven Fault Finding Diagnostics is given. It will give a clear and unambiguous description of what the Menu Driven Diagnostics (MDD) do.

NOTICE: THE TESTS, AS PROVIDED BY THE MENU DRIVEN DIAGNOSTICS, ARE NOT SUPPOSED TO BE MIXED RANDOMLY, ESPECIALLY TESTS LIKE 'LASER ON' AND 'FOCUS ON'. IT IS ASSUMED THAT THE PERSON THAT USES THE MDD KNOWS IN WHICH ORDER THESE TESTS CAN BE EXECUTED.

The MDD module communicates with two entities: the terminal emulator on the PC. The MDD receives instructions (test to be executed) and transmits the menu to be shown and the test results; the Audio Engine module. It instructs the Audio Engine via the interface field which test should be executed. The test result is retrieved from the interface field.

**Requirements**

The functionality of the Menu Driven Diagnostics module is to implement Menu Driven Diagnostics for service purposes. When the CDR recorder is connected to a PC via an interface board 7104 086 91111, connection cable 3104 157 11122 and a RS232 cable (available at PC shop), the service technician can select via a menu on the PC screen which test should be performed. The result of the test is also shown on the PC screen. No special test tool is needed for the PC; any terminal emulation program can be used (for example, HyperTerminal under Windows95/NT).

The last occurred error during a test session can be retrieved via the menu.

The RS232 connector should be soldered to pins:

1818-1 = Rx

1818-4 = Gnd

1818-2 = Tx

**General Constraints**

It is advised to connect the connection cable 3104 157 11122 to the Mainboard connector 1818 mounted just under the loader (topview). Via this cable also the powersupply for the interface board 7104 086 91111 is arranged when it is connected to connector 1000 on interfaceboard. To start this application at powering on; for 5 seconds the Rx and Tx output pin of the mainboard connector should be short circuited. This temporarily short circuit indicates the internal CDR software program to switch onto Menu Driven Diagnostics. This short cut can easily be done via the switch (1009) on the interface board. To communicate with the PC the RS232 cable has to be connected to output connector 1010 on the interface board and the switch (1009) should be released.

When switching on the CDR, two possibilities exist: the RS232 cable is not connected. The application is executed (no MDD mode); the RS232 connector is connected; Rx and Tx are short circuited for more than 5 seconds then the Menu Driven Diagnostics is started. By connecting via connection cable to interface and from there via the RS232 cable onto the PC, so the MDD can transmit the main menu to the PC.

**User Interfaces**

RS232 interface

The CDR recorder transmits the menu to be shown and the test results to the PC via connection cable 3104 157 11122, interface board 7104 086 91111 and a RS232 cable. It receives the selection of the user, chosen in the menu.

**Hardware Interfaces**

RS232 interface

The communication via RS232 should be set to the following settings:

Baudrate:19200

Databits:8

Stopbits1

Parity:none

Handshaking:none

**Data Communication Interfaces**

Communication between the CDR recorder and the PC is straightforward: everything the CDR recorder transmits to the PC is shown on the PC screen. Data, transmitted from the PC to the CDR775, is treated as a choice from the currently shown menu.

All functionality of the MDD has to be part of the CDR775 software; the PC can only use a terminal emulation program.

**Menu Structure and Test Results**

This chapter describes the structure of the menus and the results of the tests, as shown on the PC screen.

**Menu Structure**

When starting up, the PC screen is cleared and the software version and the main menu (level 1) are shown. From the main menu, one of the sub menus (level 2) can be selected. These sub menus contain other sub menus and/or a number of tests that can be executed. The menus are shown below. '>>' indicates that when this option is selected, a new menu will be shown.

**Level 1 Mainmenu:**

MAIN MENU  
 1 General tests >>  
 2 Retrieve last occurred error  
 3 Recorder module test >>  
 4 Playback module test >>\* \*Only used for the CDR775  
 5 Select adjust program CDM  
 6 Download new program

When a test is running, a 'test running indicator' (a dot) is showed on the screen every second, When a test has been executed, the screen is cleared and the result of the test (if any) and the menu, separated by one empty line, are showed.

Three types of tests exist:

Tests that return PASSED or FAILED, like the DRAM test.

When a test has been executed, the result is showed on the PC screen;

Tests that return a value, the message 'PASSED, xxx' (with xxx is the returned value) is showed on the PC screen;

Tests that don't return anything, like the 'laser on' test. Most of these tests require a visual check of the service person. When one of these tests is executed, 'PASSED, visual check' is showed on the PC.

**Level 2 menus**

When a submenu is selected in the main menu, the level 2 menus are showed . These sub menus contain other sub menus and/or a number of tests that can be executed.

**GENERAL TESTS MENU**

1 Check DRAM  
 2 CHECK FLASH>>  
 3 Check ADC/DAC  
 4 Check LCD

**RECORDER MODULE TEST MENU**

1 communication test  
 2 Tray >>  
 3 Laser >>  
 4 Focus >>  
 5 Radial >>  
 6 Sledge >>  
 7 Miscellaneous >>  
 8 Jump grooves >>

**PLAYBACK MODULE TEST MENU**

1 communication test  
 2 Tray >>  
 3 Laser >>  
 4 Focus >>

5 Turntable motor >>  
 6 Radial >>  
 7 Sledge >>  
 8 Miscellaneous >>

**Level 3 menus**

CHECK FLASH MENU  
 1 Check FLASH  
 2 Manufacturer-ID and  
 3 Device ID

**TRAY MENU**

1 Open tray  
 2 Close tray

**LASER MENU**

1 Laser off  
 2 Laser on, read  
 3 Laser on, write\*-----\*Laser on, write' only used for the recorder module

**FOCUS MENU**

1 Focus on  
 2 Focus off

**TURNTABLE MOTOR**

1 Turntable motor ON  
 2 Turntable motor OFF

**RADIAL MENU**

1 Radial control on  
 2 Radial control off

**SLEDGE MENU**

1 Sledge inwards  
 2 Sledge outwards\*-----\*Sledge stays outwards for the recorder module; sledge moves inwards after 300 ms for playback module

**JUMP GROOVES MENU**

1 Jump grooves to inside  
 2 Jump grooves to middle  
 3 Jump grooves to outside

**MISCELLANEOUS MENU**

1 Start player  
 2 Stop player  
 3 Calibrate CD >>\*-----\*Only used for recorder module  
 4 Get user profile logging  
 5 Erase CD-RW\*-----\*Only used for recorder module  
 6 Read firmware version\*\*-----\*\*CD firmware version for CD-module, CDR firmware version for CDR-module

**CALIBRATE CD MENU \*-----\*Only used for recorder module**

1 Calibrate CD, N=1  
 2 Calibrate CD, N=2  
 3 Get last OPC values

**End of test**

These diagnostics can be quitted by powering off the player

5.2.4 Servo drivers check

**SERVO DRIVERS CHECK**

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 1, 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

**FOCUS SERVO**

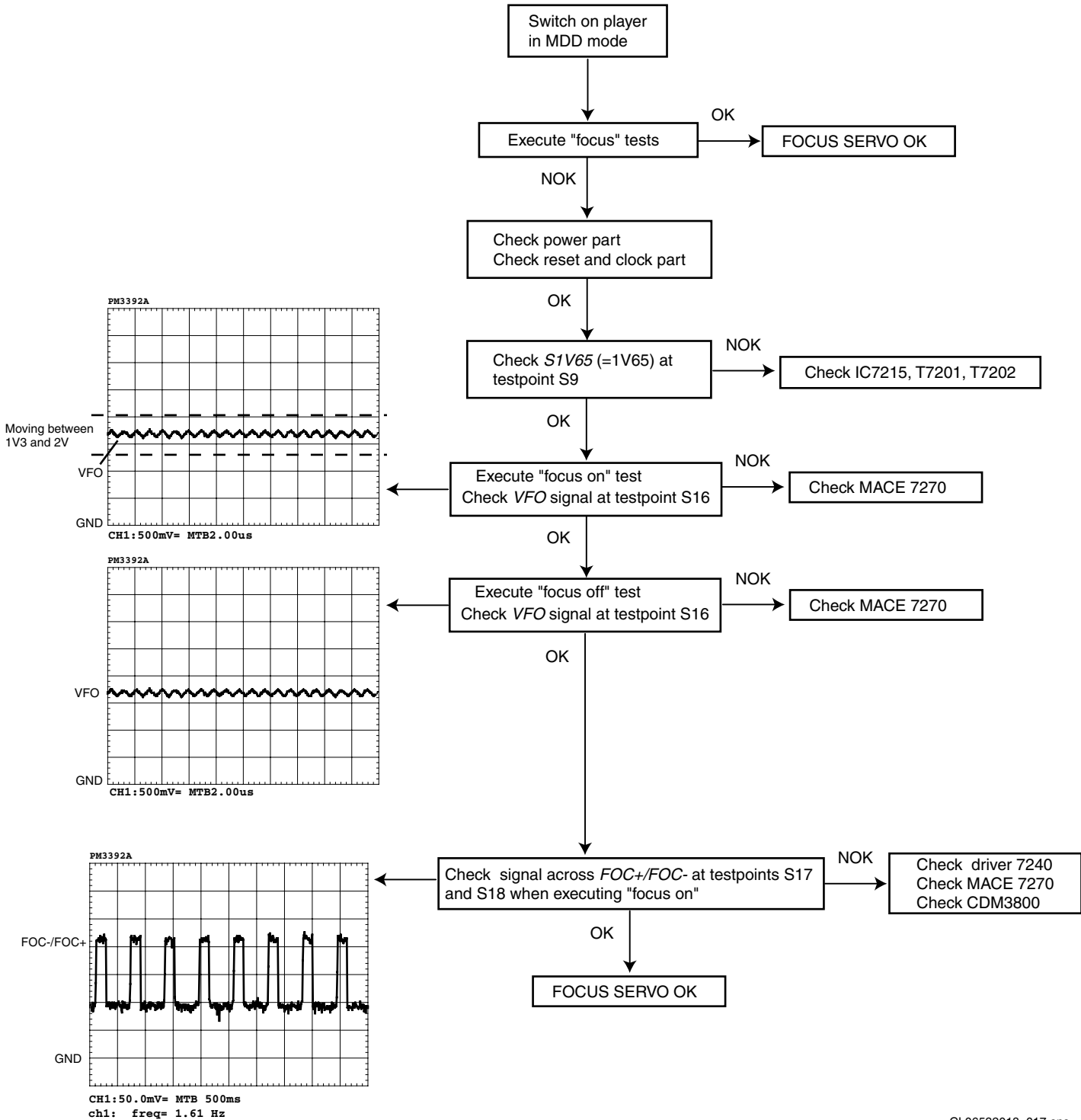


Figure 5-15

# SERVO DRIVERS CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 1, 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

## RADIAL SERVO

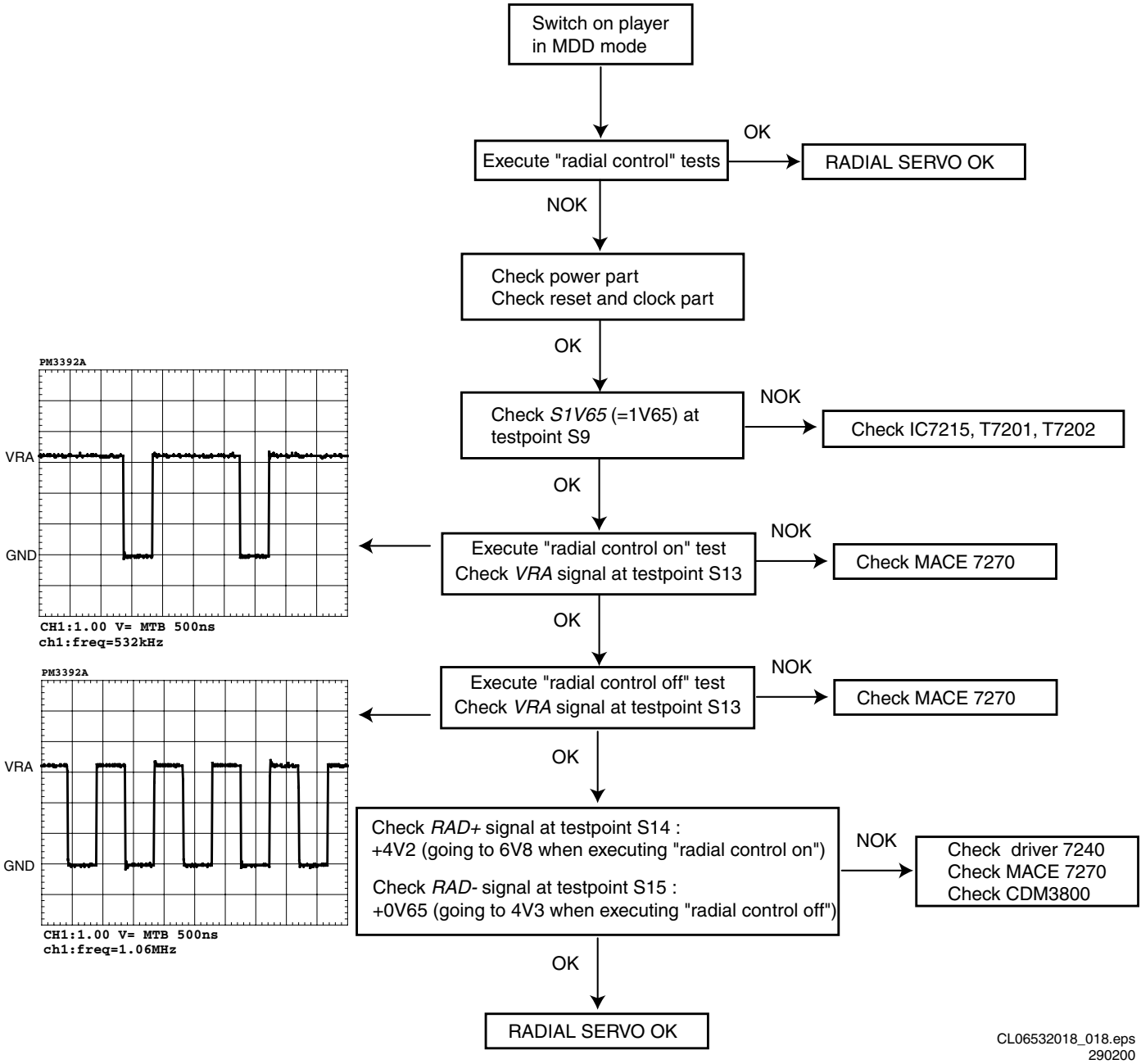


Figure 5-16

### SERVO DRIVERS CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

#### SLEDGE SERVO

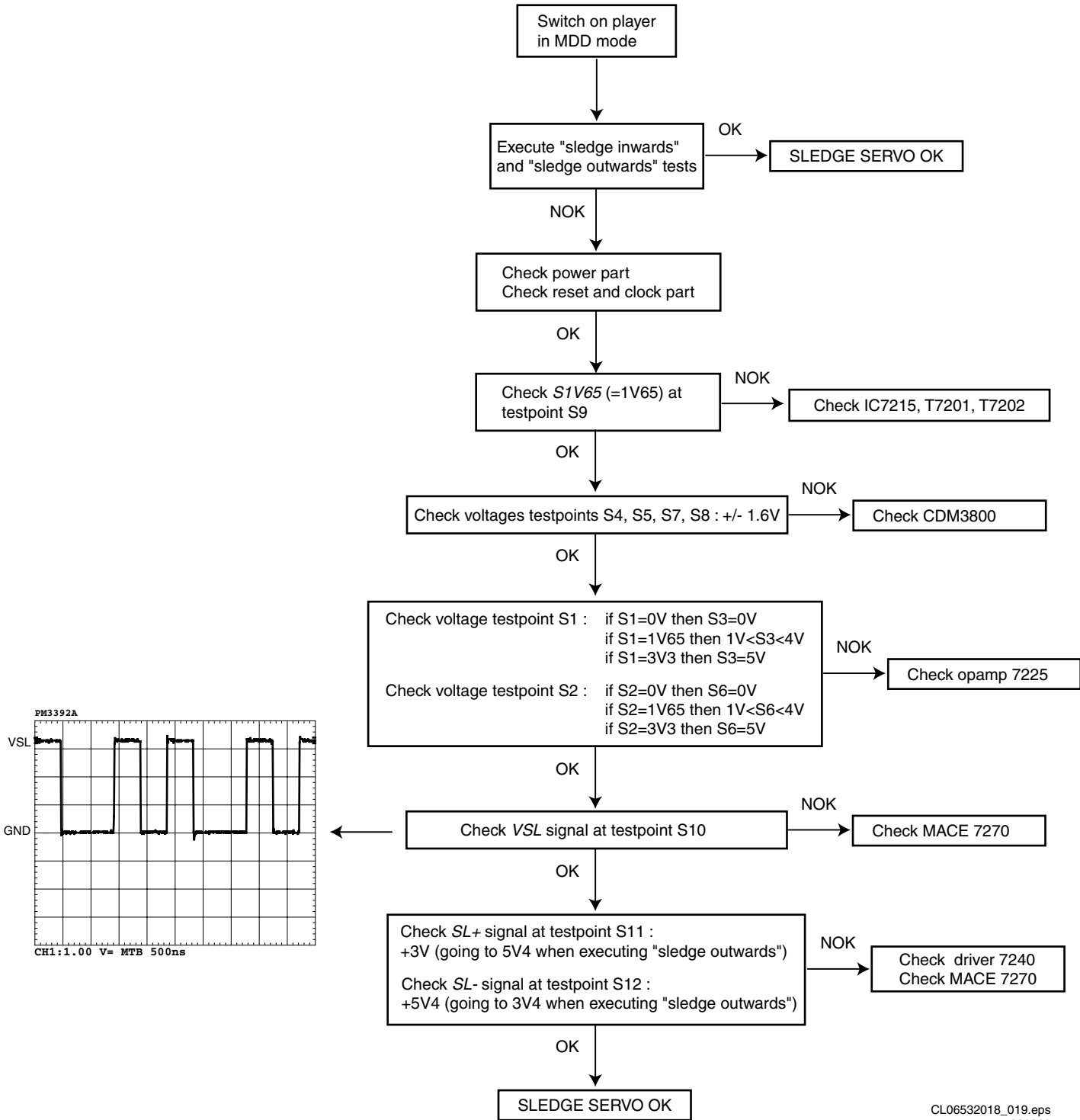


Figure 5-17

### SERVO DRIVERS CHECK

USE CDR MAIN BOARD CIRCUIT DIAGRAMS 3 AND 4 AND CDR MAIN BOARD BOTTOM VIEW : SERVO DRIVERS TESTPOINTS

#### TRAY SERVO

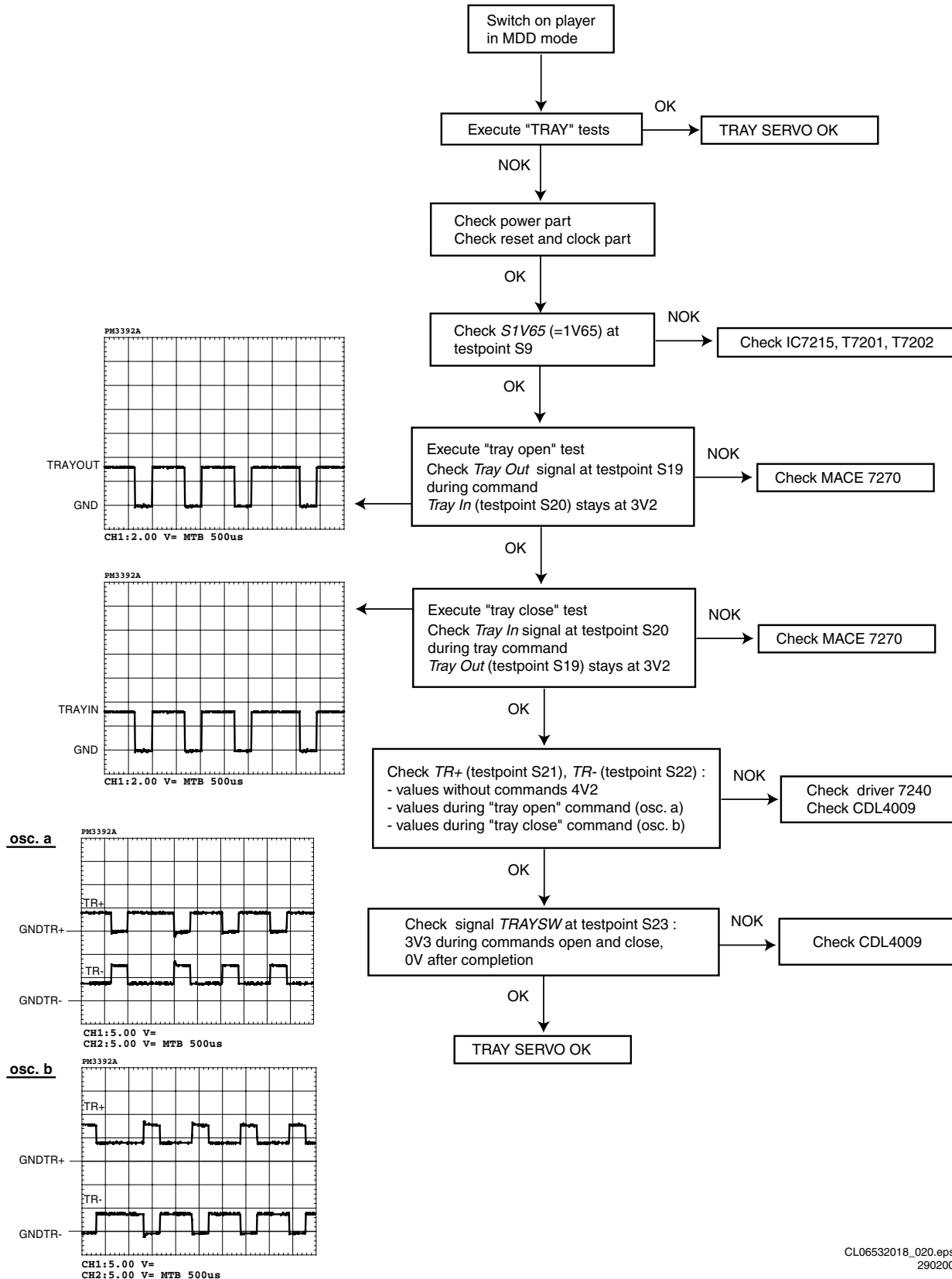


Figure 5-18



5.2.5 Audio signal check

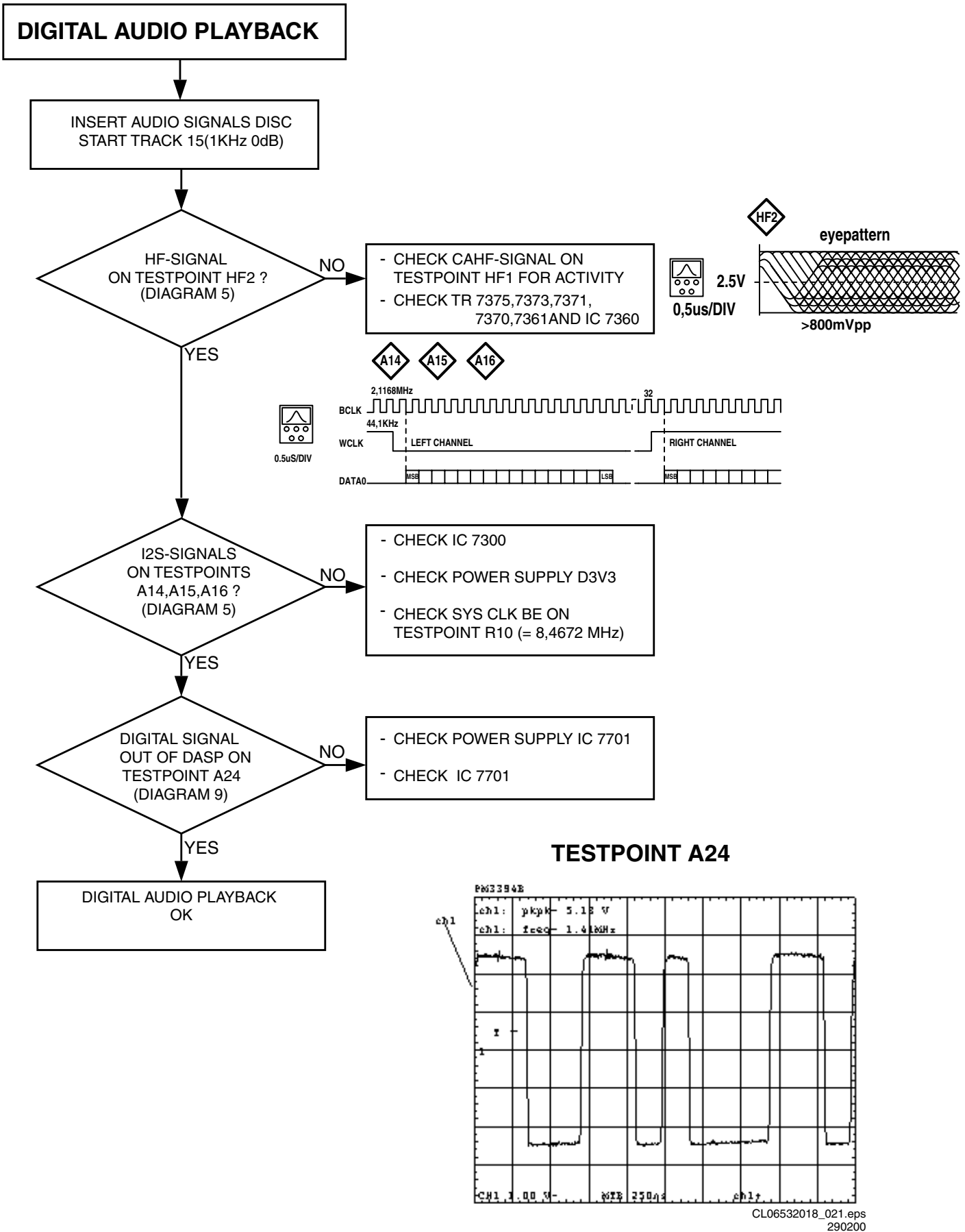


Figure 5-19

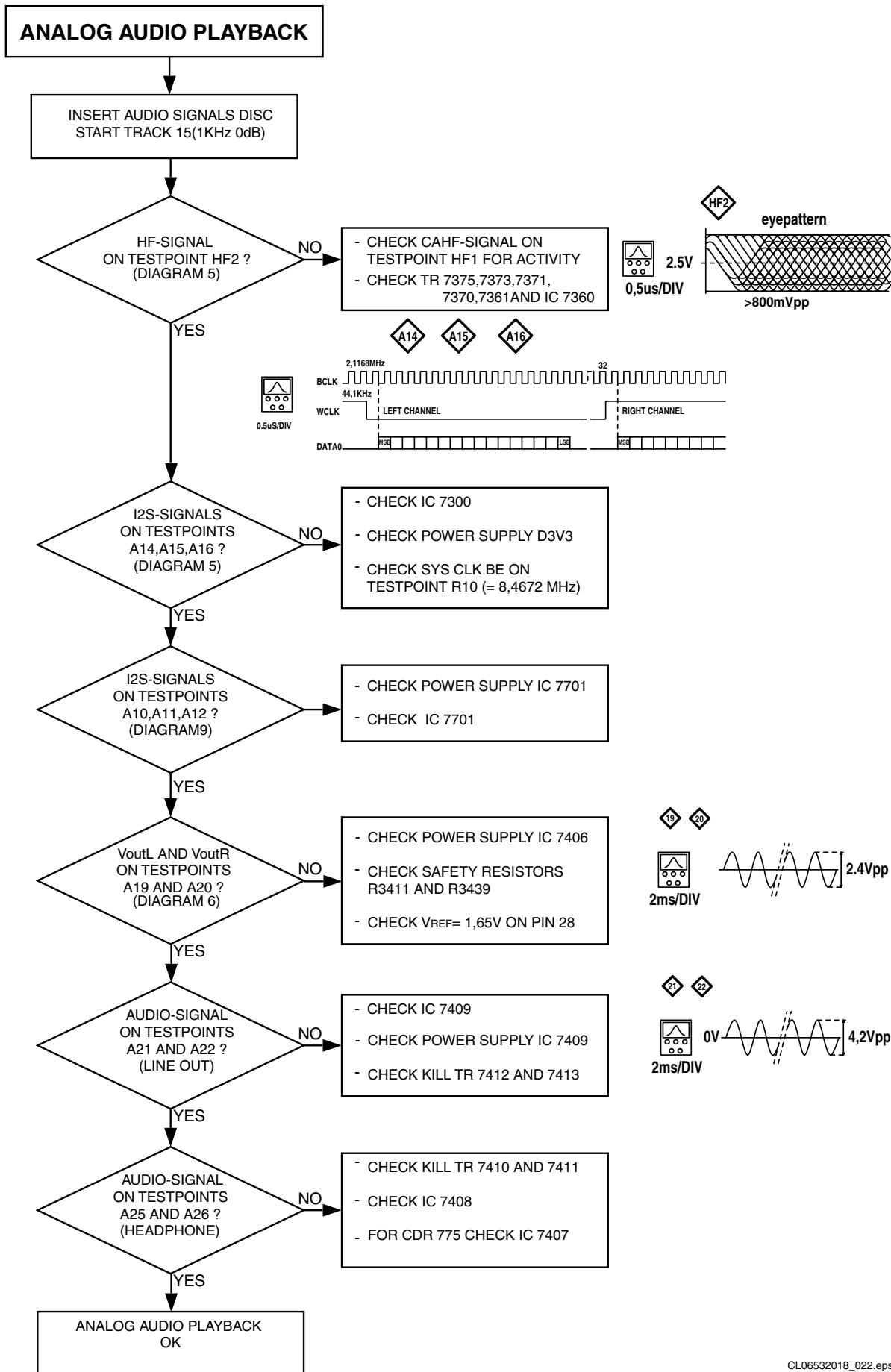


Figure 5-20

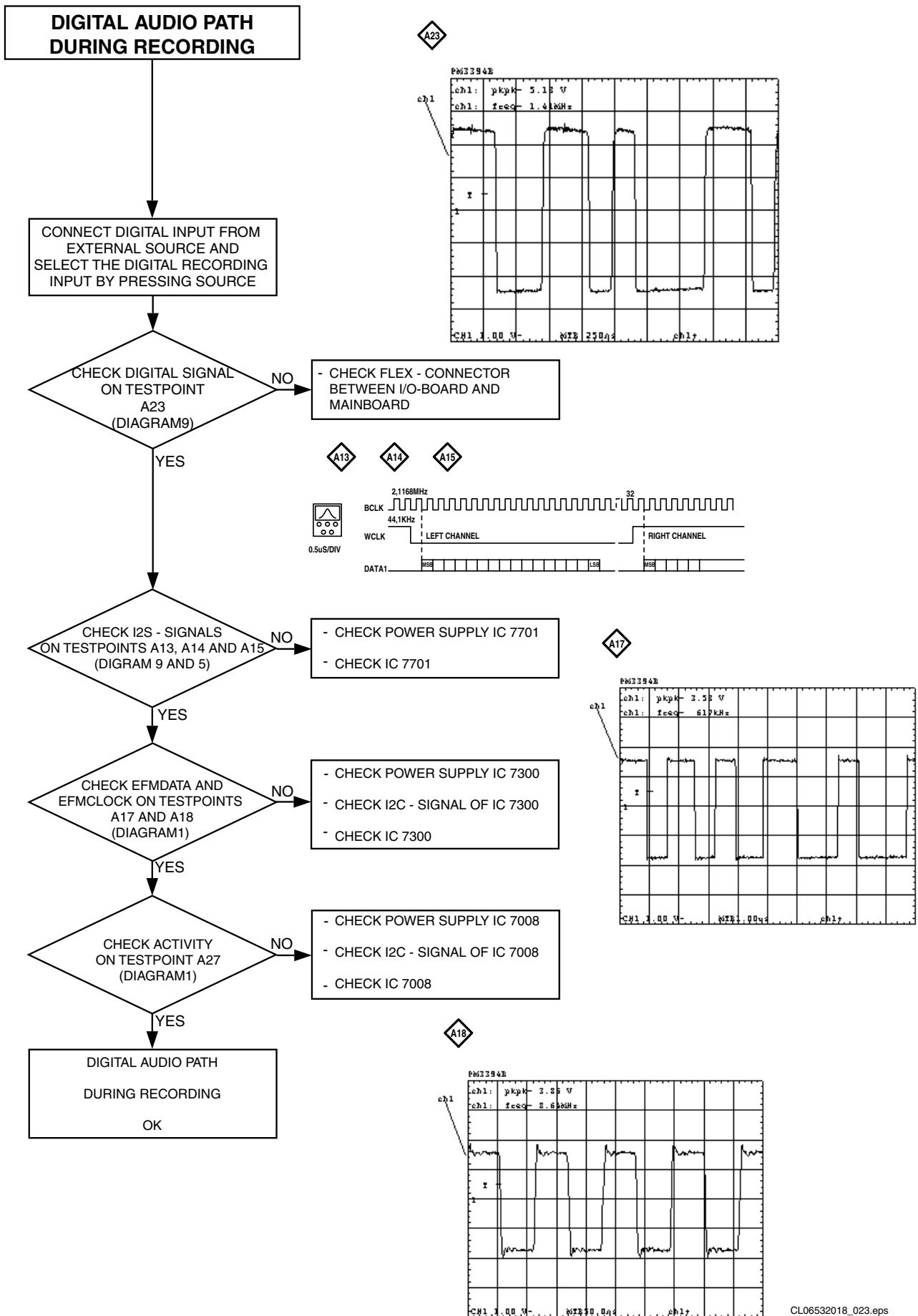


Figure 5-21

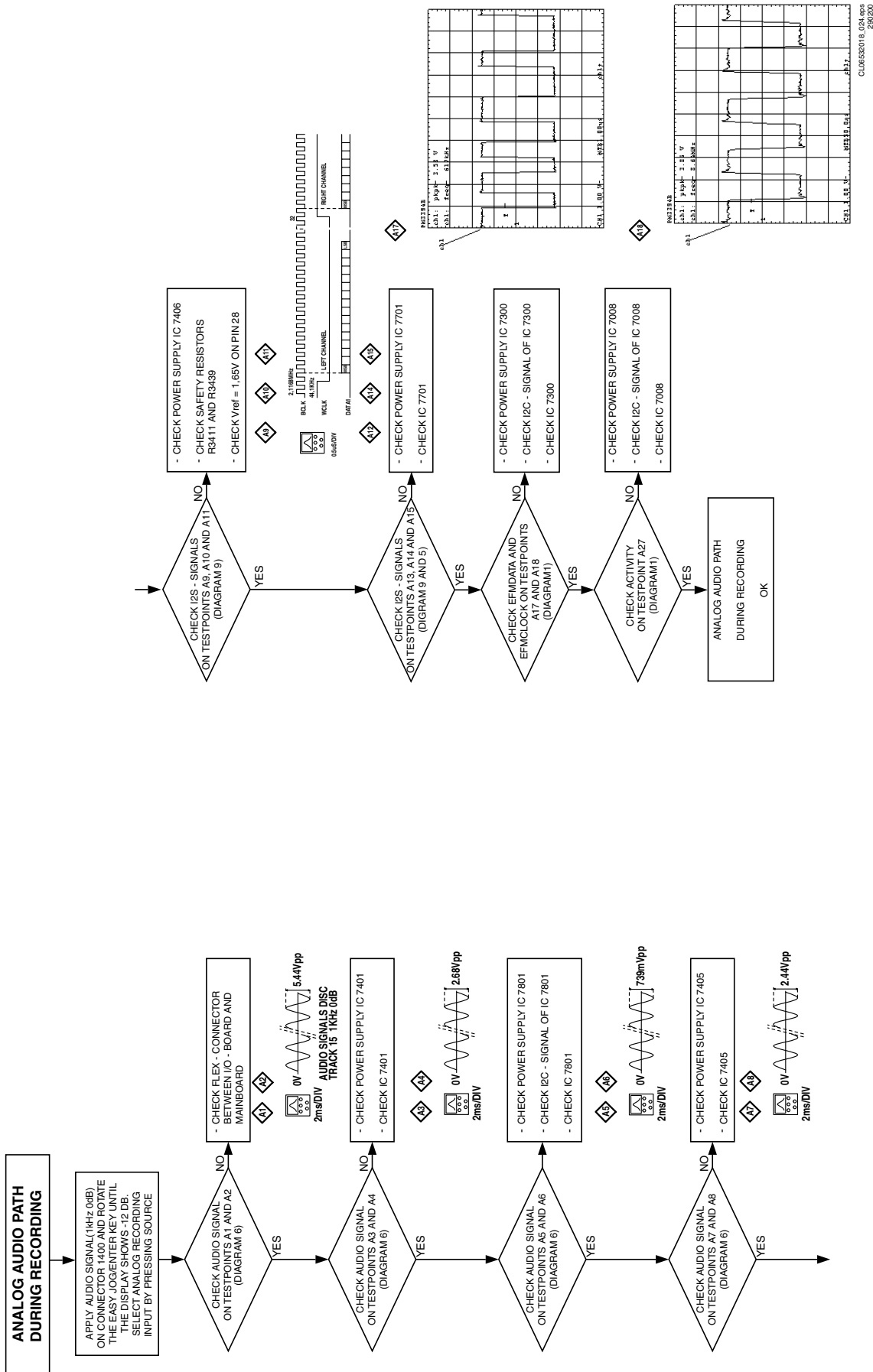


Figure 5-22

CU0652018\_024.eps  
2/9/200

## 8. Alignments & Adjustments

Each CDR-module composed from CDRloader and CDRmainboard has to be matched via SW filled parameters. This adjustment processed in the factory is under investigation to have it implemented into the COMPAIR tool. As long as this adjustment is not possible to be executed in secondline service workshop, the swap of modules and a central repair has to be continued. Adjustment only has to be done at replacement of CDM and concerned servo circuits. Other repairs (audio signals, replacement of adapted Flash roms etc) can be done without infringing the adjusted components.

As soon as COMPAIR CDR is installed this chapter will be adapted via a service information.

Flash Rom IC 7208 (MACE-ROM) is mounted on a socket and can be replaced after lifting up the loader part above it. Flash Rom IC 7703 (DASP-ROM) has to be soldered.

Take care for both ICs Firmware loaded components are mounted.

In case a module is offered with SW versions 1.4 and 91.48, the complete CDR-module should be replaced.

For SW versions 1.23 and 91.63, IC7703 and IC7208 have to be replaced by the latest SW versions.

## 9. Circuit description

### 9.1 Description

A separate circuit description concerning the 3rd generation CDR recorders is available with order number 3104 125 40100

## 9.2 List of Abbreviations

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
+12V	main supply voltage from PSU	+12V supply voltage from PSU
+12VA	supply voltage	+12V supply voltage for Audio part
+5V	main supply voltage from PSU	+5V supply voltage from PSU
+5VA	supply voltage	+5V supply voltage for Audio part
+9SRVPWR	IC7558 → IC7240	PoWeR supply for SeRVo driver IC
12VPWR	supply voltage	+12V supply voltage for servo part
-8V	main supply voltage from PSU	-8V supply voltage from PSU
-8VA	supply voltage	-8V supply voltage for Audio part
A(1:20)	IC7701 → R3818,R3819, R3820, R3821, R3897 → IC7703	Address lines 1 to 20 between DASP and flash ROM
A(10:20)	IC7701 → R3819, R3820, R3821 → IC7702	Address lines 10 to 20 between DASP and DRAM
A1	IC7010 → IC7270	amplitude of the “land” reflection relative to the average EFM, voltage output, OPC input
A1LF, A2LF	CONN1000 → IC7010	satellite photo diodes A1, A2 current output
A2	IC7010 → IC7270	amplitude of the “pit” reflection relative to the average EFM, voltage output, OPC input
A-8V	supply voltage	-8V supply voltage for servo part
AEGER		Analog Error signal GEnerator for Recordable
AINTON	IC7008 → IC7010	Alpha INTegrator ON (to AEGER)
ALE	* IC7270 → R3213 → IC7209, IC7300 * IC7270 → R3230	Address Latch Enable; external address latch strobe line, freeze address when low
ALPHA0	IC7270 → IC7010	analog voltage mode output from OPC D/A converter
ALS	IC7008 → IC7010	Alpha Loop Switch (to AEGER)
ASTROBE	IC7008 → IC7010	Alpha STROBE (to AEGER)
ATIP		Absolute Time In Pre-groove (sync signal)
ATIPSYNC	IC7300 → IC7270	ATIP SYNC signal
ATT	* IC7270 → R3717, R3722 * IC7270 → IC7701	ATTenuation request from MACE2 to audio DAC, active low; means that the output can be attenuated in case of search activities
B1LF, B2LF	CONN1000 → IC7010	satellite photo diodes B1, B2 current output
BCLK	IC7701 → R3898A → IC7300	I <sup>2</sup> S1 BitCLock from DASP to CDR60 (playback and record)
BE_RESET	* IC7701 → R3261 → IC7270 * IC7701 → R3716	Basic Engine RESET, active high
BIASC	IC7008 → R3056	BIAS Current switch CDRW output
BKPT	CONN1819, R3907 → IC7701	JTAG mode select / debug mode BreakPoint
C1LF, .. , C4LF	CONN1000 → IC7010	Central photo diodes C1, C2, C3, C4 current output
CAGAIN	R3016,R3115 → IC7010	set-point laser power on disc, current input
CAHF	CONN1000 → C2374	Central Aperture (central photo diodes) High Frequency current output (C1+C2+C3+C4)
CALF	IC7010 → IC7270	Central Aperture (central photo diodes) Low-pass Filtered signal (DC coupled EFM signal), voltage output, OPC input
CAS0	IC7701 → IC7702	Column Address Strobe DRAM for upper byte

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
CAS1	IC7701 → IC7702	Column Address Strobe DRAM for lower byte
CDR	IC7008 → IC7355	CDR strategy detected output (active high)
CDR60CFLG	IC7300 → R3382B → CONN1812	serial output of error corrector status information of the CDR60-decoder, to be measured at test connector
CDR60CL1	IC7300 → R3382C → CONN1812	output of CLock signal for testing system clock of IC CDR60 at test connector
CDR60CS	IC7270 → R3235B → R3702, IC7300	CDR60 Chip Select, active high
CDR60INT	IC7300 → IC7270	CDR60 INTerrupt line, active low
CDR60LWRT	IC7300 → R3048	CDR60 Laser WRiTe control output
CDR60MEAS1	IC7300 → R3382A → CONN1812	serial output of information about jitter, PLL frequency and asymmetry of bit recovery block in CDR60, to be measured at test connector
CDR60PLL	IC7270 → R3305 → IC7300	CDR60 clock multiplier enable, active high
CDRW	* IC7355D → IC7355C * IC7355D → CONN1000	inverted CDR-strategy-detected signal
CLK_OUT	IC7701 → R3771 → CONN1819	system CLock OUT
CLK_SYS	IC7701 → R3727, R3731	oscillator output
COS-	CONN1220 → IC7225B	Hall feedback signal from sledge motor
COS+	CONN1220 → IC7225B	Hall feedback signal from sledge motor
CSFLASH	IC7701 → IC7703	Chip Select for FLASH or boot device
CSRAM	IC7270 → R3235A → R3703, IC7802	Chip Select SRAM, active low
D(16:31)	IC7701 ↔ R3822, R3823, R3824, R3825 ↔ IC7703, IC7702	Databus bit 16 to 31 between DASP, flash ROM and DRAM
D3V3	supply voltage	+3,3V supply voltage for Digital part
D5V	supply voltage	+5V supply voltage for Digital part
D5VS	supply voltage	+5V supply voltage for Servo part
DALPHA	IC7010 → R3037	ALPHA error signal for laser power control
DASP		Digital Audio Signal Processor
DATAI	IC7701 → R3898C → IC7300	I <sup>2</sup> S1 DATA In from DASP to CDR60 (recording)
DATAO	IC7300 → R3314 → IC7701	I <sup>2</sup> S1 DATA Out from CDR60 to DASP (playback)
DEEMP	* IC7270 → R3719, R3724 * IC7270 → IC7701	DE-EMphasis control for audio DAC from MACE2, active high; means that de-emphasis is needed in digital filter
DELTAP	IC7016 → R3126	DELTA Power current source drive signal from XDAC
DIG_OUT_C	IC7701 → R3706 → C2707, CONN1400	Common DIGital OUTput (consumer)
DISPLAY_INT	F934 → R3812, IC7701	DISPLAY INTerrupt
DMON	IC7270 → R3324	power save at stop, active low
DOBM_CD	CONN1708, C2731 → R3757 → R3903 → IC7701	Digital Output (EBU output) from CD player in CDR775 to DASP
DOBM_CDR	IC7300 → R3382D → C2379, IC7701	Digital Output (EBU output) from CDR60 to DASP
DRAM_RW	IC7701 → IC7702	Read/Write strobe for DRAM
DSA_ACK_CD	* IC7701 ↔ R3830 ↔ R3831	Data/Strobe/Acknowledge serial communication



SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
	↔ CONN1708 * IC7701 ↔ R3830 ↔ C2735	between DASP and CD-player in CDR775
DSA_ACK_CDR	* IC7701 → R3729 → IC7270, CONN1830 * IC7701 → R3729 → R3769	Data/Strobe/Acknowledge serial communication between MACE2 and DASP for CDR; acknowledge input for MACE2 is strobe output for DASP
DSA_DATA_CD	* IC7701 ↔ R3828 ↔ R3829 ↔ CONN1708 * IC7701 ↔ R3828 ↔ C2733	Data/Strobe/Acknowledge serial communication between DASP and CD-player in CDR775
DSA_DATA_CDR	* IC7270↔R3246 ↔ R3813 ↔ IC7701, CONN1830 * IC7270↔R3246 ↔ R3767	Data/Strobe/Acknowledge serial communication between MACE2 and DASP for CDR
DSA_STR_CD	* IC7701 ↔ R3835 ↔ R3832 ↔ CONN1708 * IC7701 ↔ R3835 ↔ C2734	Data/Strobe/Acknowledge serial communication between DASP and CD-player in CDR775
DSA_STR_CDR	* IC7270 → R3245 → IC7701, CONN1830 * IC7270 → R3245 → R3768	Data/Strobe/Acknowledge serial communication between MACE2 and DASP for CDR (strobe output for MACE2 is acknowledge input for DASP)
DSCLK	CONN1819, R3908 → IC7701	reset in / Debug Serial CLoCK in
DSI	CONN1819, R3909 → IC7701	JTAG reset in / Debug Serial clock In
EFM		Eight to Fourteen Modulation = modulation method used for CD storage, also the actual raw CD signal as written or read on or from the CD disc
EFMCLK	IC7300 → IC7008	EFM CLoCK output
EFMDATA	IC7300 → IC7008	EFM DATA output
EFMTIM3		EFM TIMing generator
EPON	IC7008 → R3010 IC7008 → C2010	Erase Power ON
EPONO	IC7008 → R3107	Erase Power ON Open drain output
EPONRC	R3004 → CONN1000	Erase Power ON (after RC circuit)
ERASEC	IC7008 → R3087	ERASE Current switch CDRW output
ERON	IC7008 → IC 7010	ERror ON (to AEGER)
EXT_DIG_IN1	CONN1400 → IC7701	EXTernal DIGital INput 1
EXT_DIG_IN2	CONN1702, C2767, C2721 → R3701 → IC7701	EXTernal DIGital INput 2 (CDR950 only)
EXT_OPT_IN	CONN1400, C2722 → R3708 → IC7701	EXTernal OPTical INput
F_READY	* IC7703 → R3817 → IC7701 * CONN1701 → IC7701	Flash READY detection, this line is forced low as long as the flash is busy with erase or program algorithm
F_RW	IC7701 → IC7708B	Read/Write strobe for Flash ROM
FEN	IC7010 → IC7270	Focus Error Normalized current output
FOC-	IC7240 → CONN1000	FOCus actuator drive signal negative connection
FOC+	IC7240 → CONN1000	FOCus actuator drive signal positive connection
FS30V	D6500 → CONN1000	Forward Sense diode 30V power supply
FSA	CONN1000 → T7119, T7120	Forward Sense photo diode current output
FSCLR	IC7008 → IC7126	Forward Sense signals CLeaR switch
FSOF	IC7008 → R3052	Forward Sense photo diode sampling OFF

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
FSON	IC7008 → R3051	Forward Sense photo diode sampling ON
FSR	R3040 → IC7270	Forward Sense signal while Reading for read control loop
FSRS	IC7008 → IC7126D	Forward Sense photo diode Read Sampling
FSW	R3050 → IC7270	Forward Sense signal while Writing for write control loop
FSWS	IC7008 → IC7126C	Forward Sense photo diode Write Sampling
FWEN	IC7270 → IC7208, R3806	Flash EPROM Write ENable
HALL_U, HALL_V, HALL_W	IC7330 → IC7300, CONN1812	HALL feedback signals from turn table motor via hall motor driver
HFS0	IC7270 → R3249 → IC7360	select HF circuit
I <sup>2</sup> C		Inter IC
I <sup>2</sup> C_CLK	* IC7701, R3711 → R3715 → C2709 → F934 * IC7701, R3711 → IC7801	I <sup>2</sup> C CLock line used for display slave processor and digital potmeter
I <sup>2</sup> C_DATA	* IC7701, R3712 ↔ R3713 ↔ C2708, R3714 ↔ F934 * IC7701, R3712 ↔ IC7801	I <sup>2</sup> C DATA line used for display slave processor and digital potmeter
I <sup>2</sup> CL	R3248B → IC7207, R3247C	I <sup>2</sup> C CLock line
I <sup>2</sup> C_SCL	* IC7207 → IC7008 * IC7207 → IC7010 * IC7207 → R3248B	I <sup>2</sup> C Serial CLock line
I <sup>2</sup> C_SDA	* IC7207 ↔ IC7008 * IC7207 ↔ IC7010 * IC7207 ↔ R3248A	I <sup>2</sup> C Serial DATA line
I <sup>2</sup> DA	R3248A ↔ IC7270, R3247D	I <sup>2</sup> C DATA line
I <sup>2</sup> S_BCLK_AI	IC7701 → R3814 → IC7406	I <sup>2</sup> S4 Bit CLock for CODEC (ADC for CDR950) Analog Input (record from analog source)
I <sup>2</sup> S_BCLK_AO	IC7701 → R3894A → IC7406	I <sup>2</sup> S2 Bit CLock for CODEC (DAC for CDR950) Analog Output
I <sup>2</sup> S_BCLK_CD	CONN1708, C2739 → R3834 → IC7701	I <sup>2</sup> S3 Bit CLock from CD player (record n=2) (CDR775 only)
I <sup>2</sup> S_BCLK_MIC	CONN1708, C2739 → R3834 → IC7701	I <sup>2</sup> S3 Bit CLock from MICrophone (CDR950 only)
I <sup>2</sup> S_DATA_AI	IC7406 → IC7701	I <sup>2</sup> S4 DATA from CODEC (ADC for CDR950) Analog Input (record from analog source)
I <sup>2</sup> S_DATA_AO	IC7701 → R3894C → IC7406	I <sup>2</sup> S2 DATA for CODEC (DAC for CDR950) Analog Output
I <sup>2</sup> S_DATA_CD	CONN1708, C2738 → R3836 → IC7701	I <sup>2</sup> S3 DATA from CD player (record n=2) (CDR775 only)
I <sup>2</sup> S_DATA_MIC	CONN1708, C2738 → R3836 → IC7701	I <sup>2</sup> S3 DATA from MICrophone (CDR950 only)
I <sup>2</sup> S_WS_AI	IC7701 → R3743 → IC7406	I <sup>2</sup> S4 Word CLock for CODEC (ADC for CDR950) Analog Input (record from analog source)
I <sup>2</sup> S_WS_AO	IC7701 → R3894B → IC7406	I <sup>2</sup> S2 Word CLock for CODEC (DAC for CDR950) Analog Output
I <sup>2</sup> S_WS_CD	CONN1708, C2740 → R3833 → IC7701	I <sup>2</sup> S3 Word CLock from CD player (record n=2) (CDR775 only)

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
I <sup>2</sup> S_WS_MIC	CONN1708, C2740 → R3833 → IC7701	I <sup>2</sup> S3 Word CLoCK from MICrophone (CDR950 only)
I <sup>2</sup> S1_MS	IC7270 → R3910, IC7701	I <sup>2</sup> S1 Master-Slave interrupt from MACE2
IE	T7121 → CONN1000	laser Erase drive current signal
INT_COPY_ANA	* IC7701 → R3721 → IC7401 * IC7701 → R3721 → R3410	select INTernal COPY ANAlog (in case of copy protected disc or track on CD drive) (CDR775 only)
IR	* T7135 → CONN1000 * T7135 → R3056 * T7135 → IC7008	laser Read drive current signal
IW	* T7122 → CONN1000 * T7122 → D6003	laser Write drive current signal
KEY_PRESSED	IC7706B → R3816 → IC7701	KEY PRESSED interrupt
KILL	T7560, T7561, R3560 → CONN1400, R3424, R3428	KILL signal from power supply part to audio outputs
KILL_OUT	IC7701 → R3532	disables the KILL activity from the PSU; 1 = no kill, 0 = kill active
L12V	supply voltage	+12V supply voltage for servo/Laser part
L3_CLK	IC7701 → R3725 → IC7406	L3 interface CLoCK line / control CODEC (not for CDR950)
L3_DATA	IC7701 ↔ R3728 ↔ IC7406	L3 interface DATA line with CODEC (not for CDR950)
L3_MODE	IC7701 → R3735 → IC7406	L3 interface MODE line selects data or address transfer mode for CODEC (not for CDR950)
L5V	supply voltage	+5V supply voltage for servo/Laser part
L-5V	supply voltage	-5V supply voltage for servo/Laser part
LASCK	IC7270 ↔ R3248D	CloCK line DAC LASer control
LASDACCK	R3248D ↔ IC7016	CloCK line DAC LASer control
LASDACDI	R3248C ↔ IC7016	Data line DAC LASer control
LASDACLD	R3212 ↔ IC7016	LoaD line DAC LASer control
LASDD	IC7270 ↔ R3248C	Data line DAC LASer control
LASLD	* IC7270 ↔ R3238 ↔ R3212 * IC7270 ↔ R3232	LoaD line DAC LASer control
LEFT	CONN1708, C2743 → IC7401C, IC7407C	audio output LEFT channel from CD-player in CDR775
LLP	IC7270 → IC7300	Laser Low Power (active high), switches the laser from write to read power whenever the device tends to go offtrack
LWRT	R3048 → IC7008	Laser WRiTe control input
MA(16:17)	IC7270 ↔ IC7208	bank switch higher address lines
MA(8:15)	IC7270 ↔ IC7802 ↔ IC7208	address bus high byte
MACE2		Mini All Cd Engine (minus decoder + OPC + PCS + extra RAM)
MAD(0:7)	IC7270 ↔ IC7209 ↔ IC7802 ↔ IC7208 ↔ IC7300	bi-directional data bus / address bus low byte
MIRN	IC7010 → IC7270	MIRror Normalized (disc reflection) current output
MOTO1	IC7300 → IC7355A	turn table MOTOr control output

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
MRDN	IC7270 → R3276 → R3242A, IC7802, IC7300	Master ReaD, read strobe for external peripherals, active low
MUTE	* IC7270 → R3718, R3723 * IC7270 → IC7701	MUTE control from MACE2 to DASP, active low
MWRN	IC7270 → R3280 → R3242B, IC7802, IC7300	Master WRite, write strobe for external peripherals, active low
NMUTE	IC7701 → R3726, IC7406	MUTE output, low active
OFFTRACK	IC7270 → IC7300	OFFTRACK detection flag
OPC		Optimum Power Calibration
P12VKILL	supply voltage	+12V supply voltage for KILL-circuit
PCS		Position Control Sledge
PCSCOS	IC7225B, C2229 → IC7270, CONN1812	Position Control Sledge COS feedback signal
PCSSIN	IC7225A, C2227 → IC7270, CONN1812	Position Control Sledge SIN feedback signal
PDAR		Photo Diode Amplifier Recordable
PERASE	R3036, R3031, R3030, R3029, R3028, R3027, R3020 → IC7002C, R3043, T7113	laser Power switch for ERASE
POWER_UP	IC7270 → R3243C, R3556, R3538	standby pin, high level activates essential powers necessary for full function; overrules HI_POWER setting
PPN	IC7010 → IC7050C	Push-Pull signal, Normalized, balanced, voltage output
PRCOARSE	IC7016 → R3057	drive signal from Power Read COARSE DAC for read current source
PRFINE	IC7016 → R3058	drive signal from Power Read FINE DAC for read current source
PROF_EBU	IC7701 → CONN1820	PROFessional digital output (CDR950 only)
PSEn	* IC7270 → R3260 → IC7208 * IC7270 → R3231	Program Store ENable; external ROM output enable line, active low
PW	R3081 → IC7008	Write Power signal to OPC input of MACE2
PWB	IC7001C → IC7016	drive signal to XDAC's for write and erase current sources and VCAGAIN
PWD	* IC7016 → IC7002B * IC7016 → IC7002C	drive signal from XDAC for write and erase current sources
PWMAX	IC7016 → R3073	PW MAXimum signal from DAC used for determining set point for laser power during writing
PWMIN	IC7016 → R3072	PW MINimum signal from DAC used for determining set point for laser power during writing
PWRITE	R3035, R3026, R3025, R3024, R3023, R3022, R3021 → IC7002B, R3044, T7124	laser Power switch for WRITE
RAD-	IC7240 → CONN1000	Radial actuator drive signal negative connection
RAD+	IC7240 → CONN1000	Radial actuator drive signal positive connection
RAS0	IC7701 → IC7702	Row Address Strobe DRAM
RCK	IC7300 → R3319 → IC7701	EIAJ subcode clock from CDR60 to DASP (CD text interface)
RDGAIN1	IC7008 → R3054	forward sense ReaD GAIN switch 1

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
RDGAIN2	IC7008 → C2027	forward sense ReaD GAIN switch 2
RDGAIN3	IC7008 → C2060	forward sense ReaD GAIN switch 3
RE	IC7010 → IC7215A	Radial Error signal for fast track counting, voltage output
RECORDING	* IC7008 → IC7010 * IC7008 → CONN1000 * IC7008 → IC7355C	RECORDING output (active high)
REN	IC7010 → IC7270	Radial Error Normalized current output
RIGHT	CONN1708, C2742 → IC7401A, IC7407A	audio output RIGHT channel from CD-player in CDR775
RXD_TOOL	CONN1818 → IC7701	Receive of UART for test TOOL
S1V65	Reference Voltage	1.65V delivered by IC7215B for Servo part
S2V9	Reference Voltage	2.9V delivered by IC7010 for Servo part
SEL_HP_OUT	* IC7701 → R3720 → IC7407	SElect HeadPhone OUTput in DJ-mode (for CDR775 only)
SFSY	IC7701 → R3756 → IC7300	EIAJ subcode synchronisation from DASP to CDR60 (CD text interface)
SIN-	CONN1220 → IC7225A	Hall feedback signal from sledge motor
SIN+	CONN1220 → IC7225A	Hall feedback signal from sledge motor
SL-	IC7240 → R3265 → CONN1220	SLedge motor drive signal negative connection
SL+	IC7240 → CONN1220	SLedge motor drive signal positive connection
SRSTN	IC7270 → R3243B, IC7300	Slave ReSeT out (CDR60 reset), active low
STANDBY	IC7270 → R3807 → R3887 → IC7701	STANDBY pin, high level activates essential powers necessary for full function; overrules HI_POWER setting
SUB	IC7701 → R3710 → IC7300	EIAJ subcode data from DASP to CDR60 (CD text interface)
SYS_CLK_11W	IC7701 → R3732 → IC7406	11.2896 MHz SYStem CLock for AD/DA datapath
SYS_CLK_16W	IC7701 → R3894D → IC7706A	16.9344 MHz SYStem CLock for producing SYS_CLK_BE
SYS_CLK_8W	IC7706A → R3815 → CONN1708	SYStem CLock CD player (8.4672 MHz) (CDR775 only)
SYS_CLK_BE	IC7706A → R3826 → IC7270	SYStem CLock Basic Engine (8.4672 MHz)
SYS_RESET	* IC7701 → R3758 → CONNF934 * IC7701 → R3770 → T7707 → CONN1708	SYStem RESET to display assy (and CD player for CDR775)
TCK	CONN1819 → R3906, IC7701	JTAG Clock signal
TDSO	IC7701 → CONN1819	JTAG Serial Data Out / debug data out
TERMB	IC7270 ↔ CONN1818	UART connection with MACE
TLN	IC7010 → IC7270	Track Loss Normalized current output
TR-	IC7240 → CONN1200	TRay motor drive signal negative connection
TR+	IC7240 → CONN1200	TRay motor drive signal positive connection
TRACE99_RXD	CONN1818 → R3838, IC7701	TRACE99 test tool receive data
TRACE99_TXD	IC7701 → CONN1818	TRACE99 test tool transmit data
TRAYIN	IC7270 → IC7240	move TRAY IN line, active low

SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
TRAYOUT	IC7270 → IC7240	move TRAY OUT line, active low
TRAYSW	* CONN1200 → R3747 * CONN1200 → R3748	TRAY SWitch signal from loader assy
TRAYSWF	R3748, C2214 → IC7270	Filtered TRAY SWitch signal, low is completely out or in
TXD_TOOL	IC7701 → CONN1818	Transmit of UART for test TOOL
U+, U-, V+, V-, W+, W-	CONN1330 → IC7330	hall feedback signals from turn table motor to hall motor driver
UCOIL, VCOIL, WCOIL	IC7330 → CONN1330	drive signals for turn table motor
VCAGAIN	IC7016 → IC7005A	set-point laser power on disc, voltage output
VDC1	CONN1500 → CONNF934	supply voltage for display assy
VDC2	CONN1500 → CONNF934	supply voltage for display assy
VFO	IC7270 → R3295 → R3244	FOcus actuator drive output
VFTD	CONN1500 → CONNF934	Voltage Fluorescent Tube Display (display assy)
VRA	IC7270 → R3297 → R3254	RAdial actuator drive output
VSL	IC7270 → R3299 → IC7240	SLedge actuator drive output
WCLK	IC7701 → R3898B → IC7300	I <sup>2</sup> S1 WordCLock from DASP to CDR60 (playback and record)
WOBBLE	IC7050C → IC7300	analog WOBBLE signal of pre-groove detected by PPN-signal
WPON	* IC7008 → R3009 * IC7008 → C2009	Write Power ON
WPONO	IC7008 → R3106	Write Power ON Open drain output
WPONRC	R3003 → CONN1000	Write Power ON (after RC circuit)
XDAC		multiplying DAC

## 10. Spareparts List

### ELECTRICAL PARTSLIST MAINBOARD CDR'99

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
1000	482226710666	30 P. FEM.	+	+	+	+
1541	482225251173	19398E1(1,000A)	+	+	+	+
1542	482225251173	19398E1(1,000A)	+	+	+	+
1543	482225251173	19398E1(1,000A)	+	+	+	+
1707	482224210757	33.868 000MHZ SM 20P CX-11F	+	+	+	+
1708	482226760409	CONN 22P FEMALE	+	-	-	-
1820	482226710666	30 P. FEM.	-	-	-	+
2001	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2002	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2003	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2009	482212233753	150PF 5%NP0 50V	+	+	+	+
2010	482212233753	150PF 5%NP0 50V	+	+	+	+
2011	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2012	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2013	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2014	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2015	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2016	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2018	482212613694	68PF 1% NP0 63V	+	+	+	+
2019	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2020	482212613188	15NF 5% X7R 63V	+	+	+	+
2021	482212233177	10NF 20% X7R 50V	+	+	+	+
2022	482212233177	10NF 20% X7R 50V	+	+	+	+
2023	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2024	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2025	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2026	222286115272	CER1 0805 NP0 50V	+	+	+	+
2027	222286115272	CER1 0805 NP0 50V	+	+	+	+
2028	532212232531	100PF 5%NP0 50V	+	+	+	+
2029	532212232531	100PF 5%NP0 50V	+	+	+	+
2030	532212231647	1NF10%X7R 63V	+	+	+	+
2031	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2032	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2033	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2037	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2038	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2039	482212233177	10NF 20% X7R 50V	+	+	+	+
2040	482212233172	390PF 5% NP0 50V	+	+	+	+
2041	532212234099	470PF10%X7R 63V	+	+	+	+
2042	532212233538	150PF 2%NP0 63V	+	+	+	+
2043	532212231647	1NF10%X7R 63V	+	+	+	+
2044	482212613486	15PF 2% NP0 63V	+	+	+	+
2045	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2046	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2047	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2048	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2049	532212611579	3,3NF10%X7R 63V	+	+	+	+
2050	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2052	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2053	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2054	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2056	532212611579	3,3NF10%X7R 63V	+	+	+	+
2057	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2058	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2059	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2060	532212611579	3,3NF10%X7R 63V	+	+	+	+
2061	482212411947	10UF 20% 16V	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2063	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2078	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2080	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2081	532211680853	560PF 5%NP0 63V	+	+	+	+
2082	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2083	482212613956	68PF 5% NP0 63V CASE 0603	+	+	+	+
2084	482212232627	2.7NF10%X7R 50V	+	+	+	+
2126	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2207	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2208	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2209	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2214	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2216	482212233777	47PF 5%NP0 63V	+	+	+	+
2217	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2218	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2220	319801734730	CER2 0603 X7R 16V 47N COL	+	+	+	+
2221	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2222	482212614226	82PF 5% NP0 50V 0603	+	+	+	+
2224	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2225	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2226	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2227	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2228	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2229	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2230	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2231	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2232	482212614494	22NF 10% X7R 25V 0603	+	+	+	+
2233	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2234	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2235	319801631020	CER1 0603 NP0 25V 1N	+	+	+	+
2240	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2241	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2242	482212441796	22UF20% 16V	+	+	+	+
2243	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2255	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2256	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2272	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2273	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2274	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2275	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2276	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2277	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2278	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2283	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2284	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2285	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2286	482212233127	2,2NF10%X7R 63V	+	+	+	+
2287	482212233127	2,2NF10%X7R 63V	+	+	+	+
2288	532212232654	22NF10%X7R 63V	+	+	+	+
2289	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2291	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2300	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2302	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2303	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2304	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2305	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2306	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2308	222286115222	CER1 0805 NP0 50V 2N2 PM5	+	+	+	+
2309	222286115222	CER1 0805 NP0 50V 2N2 PM5	+	+	+	+
2310	222286115222	CER1 0805 NP0 50V 2N2 PM5	+	+	+	+
2314	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+



ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2315	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2316	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2317	532212611579	3,3NF10%X7R 63V	+	+	+	+
2318	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2319	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2320	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2321	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2322	532212611579	3,3NF10%X7R 63V	+	+	+	+
2333	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2335	319801734730	CER2 0603 X7R 16V 47N COL	+	+	+	+
2336	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2337	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2355	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2359	482212613692	47PF 1% NP0 63V	+	+	+	+
2360	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2362	482212613751	47NF10% X7R 63V	+	+	+	+
2364	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2368	223886115182	CER1 0805 NP0 50V 1N8 PM5 R	+	+	+	+
2369	532212232268	470PF 10% 50V	+	+	+	+
2370	482212441796	22UF20% 16V	+	+	+	+
2371	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2372	532212232447	1PF 5% NP0 63V CASE 0805	+	+	+	+
2373	482212441796	22UF20% 16V	+	+	+	+
2374	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2375	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2378	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2379	482212613692	47PF 1% NP0 63V	+	+	+	+
2401	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2402	482205120008	0R00 JUMP. (0805)	+	+	+	+
2404	482212412245	ELCAP 10V 220U PM20	+	+	+	-
2405	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2406	532212411919	47UF 20% 6,3V	+	+	+	-
2407	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2408	532212411919	47UF 20% 6,3V	+	+	+	-
2409	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2411	319803074780	ELCAP SM 35V 4U7 PM20 COL R	+	+	+	-
2413	482212613838	100NF Y5V 0805 50V P80M20	+	+	+	-
2414	482212480483	47UF20% 6,3V	+	+	+	-
2415	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2417	319803074780	ELCAP SM 35V 4U7 PM20 COL R	+	+	+	-
2419	482212613838	100NF Y5V 0805 50V P80M20	+	+	+	-
2421	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2422	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2424	482212480483	47UF20% 6,3V	+	+	+	-
2425	482212233216	270PF 5%NP0 50V	+	+	-	-
2430	482212480483	47UF20% 6,3V	+	+	+	-
2431	482212233216	270PF 5%NP0 50V	+	-	-	-
2433	482212614585	100NF 10% X7R 0805 50V	+	-	-	-
2434	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2435	482212614585	100NF 10% X7R 0805 50V	+	+	+	-
2437	202002490264	ELCAP MA 4V S 470U PM20 A	+	+	+	-
2438	202002490264	ELCAP MA 4V S 470U PM20 A	+	+	+	-
2440	482212480483	47UF20% 6,3V	+	+	+	-
2441	482212480483	47UF20% 6,3V	+	+	+	-
2442	532212231647	1NF10%X7R 63V	+	+	+	-
2443	532212231647	1NF10%X7R 63V	+	+	+	-
2450	482212233216	270PF 5%NP0 50V	+	+	+	-
2451	482212233216	270PF 5%NP0 50V	+	+	+	-
2460	482212611663	12PF	+	+	+	-
2463	482212233926	12PF 50V	+	+	+	-
2464	482212611663	12PF	+	+	+	-

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2465	482212611663	12PF	+	+	+	-
2500	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2501	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2502	482212614238	CER2 0603 X7R 50V 2N2 COL R	+	+	+	+
2504	482212412245		+	+	+	+
2505	482212412255	10UF 20% 50V	+	+	+	+
2506	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2507	482212412255	10UF 20% 50V	+	+	+	+
2508	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2509	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2535	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2536	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2537	532212411919	47UF 20% 6,3V	+	+	+	+
2541	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2543	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2544	482212480483	47UF20% 6,3V	+	+	+	+
2546	482212480483	47UF20% 6,3V	+	+	+	+
2547	482212481286	47UF20% 16V	+	+	+	+
2548	482212441643	100UF 20% 16V DIM:6,3X11MM	+	+	+	+
2550	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2551	482212441796	22UF20% 16V	+	+	+	+
2552	532212231647	1NF10%X7R 63V	+	+	+	+
2553	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2555	482212233177	10NF 20% X7R 50V	+	+	+	+
2556	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2557	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2558	482212441584	100UF 20% 10V	+	+	+	+
2561	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2562	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2563	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2565	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2568	482212441643	100UF 20% 16V DIM:6,3X11MM	+	+	+	+
2571	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2572	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2574	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2575	482212412245	ELCAP 220U 16V 20%	+	+	+	+
2576	482212613838	100NF Y5V 0805 50V P80M20	+	+	+	+
2577	482212614305	100NF 10% X7R 16V 0603 CER2	+	+	+	+
2700	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2701	532212411919	47UF 20% 6,3V	+	+	+	+
2702	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2703	532212411919	47UF 20% 6,3V	+	+	+	+
2704	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2705	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2706	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2707	482212613692	47PF 1% NP0 63V	+	+	+	+
2708	482212613692	47PF 1% NP0 63V	+	+	+	+
2709	482212613692	47PF 1% NP0 63V	+	+	+	+
2710	532212411919	47UF 20% 6,3V	+	+	+	+
2711	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2712	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2713	532212611583	10NF 10% X7R 50V 0603 CER2	+	+	+	+
2714	482212614549	33N 16V X7R O6O3	+	+	+	+
2715	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2716	532212611583	10NF 10% X7R 50V 0603 CER2	+	+	+	+
2717	319801741050	CER2 0603 Y5V 10V 1U COL R	+	+	+	+
2718	532211680853	560PF 5%NP0 63V	+	+	+	+
2719	532211680853	560PF 5%NP0 63V	+	+	+	+
2720	532212231647	1NF10%X7R 63V	+	+	+	+
2721	482212613692	47PF 1% NP0 63V	+	+	+	+
2722	482212613692	47PF 1% NP0 63V	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
2723	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2725	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2726	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2727	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2728	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2731	482212613692	47PF 1% NP0 63V	+	-	-	-
2733	482212233777	47PF 5%NP0 63V	+	-	-	-
2734	482212233777	47PF 5%NP0 63V	+	-	-	-
2735	482212233777	47PF 5%NP0 63V	+	-	-	-
2736	482212614305	100NF 10% X7R 16V 0603 CER2	+	-	-	-
2737	482212614305	100NF 10% X7R 16V 0603 CER2	+	-	-	-
2738	482212233777	47PF 5%NP0 63V	+	-	-	-
2739	482212233777	47PF 5%NP0 63V	+	-	-	-
2740	482212233777	47PF 5%NP0 63V	+	-	-	-
2741	482212233777	47PF 5%NP0 63V	+	-	-	-
2742	482212233777	47PF 5%NP0 63V	+	-	-	-
2743	482212233777	47PF 5%NP0 63V	+	-	-	-
2750	319801741050	CER2 0603 Y5V 10V 1U COL R	+	+	+	+
2751	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2752	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2760	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2761	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2762	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2763	482212614585	100NF 10% X7R 0805 50V	+	+	+	+
2764	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2765	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2766	482212612105	CER2 0805 X7R 50V 33NF PM5	+	+	+	+
2901	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2902	482205120008	0R00 JUMP. (0805)	+	+	+	+
2903	319802190030	RST JUMPER 0603 0.05 OHM	+	+	-	+
2904	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2905	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2906	482205120008	0R00 JUMP. (0805)	+	+	+	+
2907	482205120008	0R00 JUMP. (0805)	+	+	+	+
2908	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	+
2909	319801741050	CER2 0603 Y5V 10V 1U COL R	+	+	+	+
2910	482212412245	ELCAP 220U 16V 20%	+	+	+	+
3000	482205120101	100R00 5% 0,1W	+	+	+	+
3001	482211711151	1R 5%	+	+	+	+
3002	482205120122	1K20 5% 0,1W	+	+	+	+
3003	482205130121	120R00 5% 0,062W	+	+	+	+
3004	482205130121	120R00 5% 0,062W	+	+	+	+
3006	482205130008	0R00 JUMPER	+	+	+	+
3007	482205120154	150K00 5% 0,1W	+	+	+	+
3009	482205130681	680R00 5% 0,062W	+	+	+	+
3010	482205130681	680R00 5% 0,062W	+	+	+	+
3011	482205120829	82R00 5% 0,1W	+	+	+	+
3012	482205130154	150K00 5% 0,062W	+	+	+	+
3013	482205120105	1M00 5% 0,1W	+	+	+	+
3014	482211711139	1K5 1% 0,1W	+	+	+	+
3015	482211683933	15K 1% 0,1W	+	+	+	+
3016	482211713172	62K 1% RC12H 0805 0,1W	+	+	+	+
3017	482205130392	3K9 5% 0.063W 0603	+	+	+	+
3019	482205130105	1M00 5% 0,062W	+	+	+	+
3020	482211683933	15K 1% 0,1W	+	+	+	+
3021	482211683933	15K 1% 0,1W	+	+	+	+
3022	482211711456	30K 1% 0,1W	+	+	+	+
3023	482211713172	62K 1% RC12H 0805 0,1W	+	+	+	+
3024	482211711374	120K 1% RC12H 0805	+	+	+	+
3025	482211713569	240K 1% 0805 RC12H	+	+	+	+
3026	482205120474	470K00 5% 0,1W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3027	482211711456	30K 1% 0,1W	+	+	+	+
3028	482211713172	62K 1% RC12H 0805 0,1W	+	+	+	+
3029	482211711374	120K 1% RC12H 0805	+	+	+	+
3030	482211713569	240K 1% 0805 RC12H	+	+	+	+
3031	482205120474	470K00 5% 0,1W	+	+	+	+
3035	482211713571	910K 1% 0805 RC12H	+	+	+	+
3036	482211713571	910K 1% 0805 RC12H	+	+	+	+
3037	482211710833	10K 1% 0,1W	+	+	+	+
3039	482205130183	18K00 5% 0,062W	+	+	+	+
3040	482205130101	100R00 5% 0,062W	+	+	+	+
3041	482205130103	10K00 5% 0,062W	+	+	+	+
3043	482205130105	1M00 5% 0,062W	+	+	+	+
3044	482205120105	1M00 5% 0,1W	+	+	+	+
3048	482205130103	10K00 5% 0,062W	+	+	+	+
3049	482205110102	1K00 2% 0,25W	+	+	+	+
3050	482205130101	100R00 5% 0,062W	+	+	+	+
3051	482211712902	8K2 1% 0.063W 0603	+	+	+	+
3052	482211712902	8K2 1% 0.063W 0603	+	+	+	+
3053	482205130102	1K00 5% 0,062W	+	+	+	+
3054	482211711188	20K 1% 0,1W	+	+	+	+
3055	482205130102	1K00 5% 0,062W	+	+	+	+
3056	482205130102	1K00 5% 0,062W	+	+	+	+
3057	482205120472	4K70 5% 0,1W	+	+	+	+
3058	482205120154	150K00 5% 0,1W	+	+	+	+
3059	482205130682	6K80 5% 0,062W	+	+	+	+
3060	482205130103	10K00 5% 0,062W	+	+	+	+
3061	482205130102	1K00 5% 0,062W	+	+	+	+
3063	482211713572	22R 5% 1206	+	+	+	+
3064	482205130221	220R00 5% 0,062W	+	+	+	+
3065	482205120393	39K00 5% 0,1W	+	+	+	+
3066	482211712367	33K 1% 0.10W	+	+	+	+
3067	482205130102	1K00 5% 0,062W	+	+	+	+
3068	482205120472	4K70 5% 0,1W	+	+	+	+
3069	482205120392	3K90 5% 0,1W	+	+	+	+
3070	482205110102	1K00 2% 0,25W	+	+	+	+
3071	482205130222	2K20 5% 0,062W	+	+	+	+
3072	482205120472	4K70 5% 0,1W	+	+	+	+
3073	482205120472	4K70 5% 0,1W	+	+	+	+
3074	482211711151	1R 5%	+	+	+	+
3075	482205120154	150K00 5% 0,1W	+	+	+	+
3076	482205120154	150K00 5% 0,1W	+	+	+	+
3077	482205120154	150K00 5% 0,1W	+	+	+	+
3078	482205130102	1K00 5% 0,062W	+	+	+	+
3079	482211711751	16K RC12H 1% 0805	+	+	+	+
3081	482205110102	1K00 2% 0,25W	+	+	+	+
3082	482205130102	1K00 5% 0,062W	+	+	+	+
3085	482211713568	6R8 5% 1206	+	+	+	+
3086	482211711503	220R 1% 0.1W	+	+	+	+
3087	482205130222	2K20 5% 0,062W	+	+	+	+
3088	482205130152	1K50 5% 0,062W	+	+	+	+
3090	482205130479	47R00 5% 0,062W	+	+	+	+
3091	482211712903	1K8 1% 0.063W 0603	+	+	+	+
3092	482205130103	10K00 5% 0,062W	+	+	+	+
3094	482205130221	220R00 5% 0,062W	+	+	+	+
3095	482211713568	6R8 5% 1206	+	+	+	+
3097	482205130479	47R00 5% 0,062W	+	+	+	+
3098	482205130103	10K00 5% 0,062W	+	+	+	+
3100	482205120472	4K70 5% 0,1W	+	+	+	+
3101	482211713572	22R 5% 1206	+	+	+	+
3102	482211711148	56K 1% 0,1W	+	+	+	+
3103	482211710833	10K 1% 0,1W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3104	482211710833	10K 1% 0,1W	+	+	+	+
3105	482205120182	1K80 5% 0,1W	+	+	+	+
3106	482205130008	0R00 JUMPER	+	+	+	+
3107	482205130008	0R00 JUMPER	+	+	+	+
3110	482205130103	10K00 5% 0,062W	+	+	+	+
3111	482211712902	8K2 1% 0.063W 0603	+	+	+	+
3112	482205130479	47R00 5% 0,062W	+	+	+	+
3113	482211711503	220R 1% 0.1W	+	+	+	+
3114	482211713577	330R 1% RC12H 0805 1,25W	+	+	+	+
3115	482211712521	68R 1% 0,1W	+	+	+	+
3116	482211711817	1K2 1% 1/16W	+	+	+	+
3117	482205130103	10K00 5% 0,062W	+	+	+	+
3118	482205130561	560R00 5% 0,062W	+	+	+	+
3119	482205130221	220R00 5% 0,062W	+	+	+	+
3120	532211711726	10R 5%	+	+	+	+
3123	482205130472	4K70 5% 0,062W	+	+	+	+
3126	482205130682	6K80 5% 0,062W	+	+	+	+
3127	482211712903	1K8 1% 0.063W 0603	+	+	+	+
3128	482205130479	47R00 5% 0,062W	+	+	+	+
3129	482205130102	1K00 5% 0,062W	+	+	+	+
3130	482205130103	10K00 5% 0,062W	+	+	+	+
3131	482205130103	10K00 5% 0,062W	+	+	+	+
3200	482205120479	47R00 5% 0,1W	+	+	+	+
3201	482205120479	47R00 5% 0,1W	+	+	+	+
3202	482205120479	47R00 5% 0,1W	+	+	+	+
3203	482205120479	47R00 5% 0,1W	+	+	+	+
3204	482205120479	47R00 5% 0,1W	+	+	+	+
3205	482205120479	47R00 5% 0,1W	+	+	+	+
3206	482205120479	47R00 5% 0,1W	+	+	+	+
3207	482205120479	47R00 5% 0,1W	+	+	+	+
3208	482211710833	10K 1% 0,1W	+	+	+	+
3209	482215771206	BLM21A601SPT	+	+	+	+
3210	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3211	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3212	482211711503	220R 1% 0.1W	+	+	+	+
3213	482205130008	0R00 JUMPER	+	+	+	+
3215	482205130153	15K00 5% 0,062W	+	+	+	+
3216	482205130153	15K00 5% 0,062W	+	+	+	+
3217	482211712925	47K 1% 0.063W 0603	+	+	+	+
3218	482205130103	10K00 5% 0,062W	+	+	+	+
3219	482205130223	22K00 5% 0,062W	+	+	+	+
3220	482205130103	10K00 5% 0,062W	+	+	+	+
3221	482205130223	22K00 5% 0,062W	+	+	+	+
3222	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3223	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3224	482211711374	120K 1% RC12H 0805	+	+	+	+
3225	482211712367	33K 1% 0.10W	+	+	+	+
3226	482211710833	10K 1% 0,1W	+	+	+	+
3227	482211712367	33K 1% 0.10W	+	+	+	+
3228	482211710833	10K 1% 0,1W	+	+	+	+
3229	482211711374	120K 1% RC12H 0805	+	+	+	+
3230	482211713632	100K 1% 0603 0.62W	+	+	+	+
3231	482211713632	100K 1% 0603 0.62W	+	+	+	+
3232	482211710833	10K 1% 0,1W	+	+	+	+
3233	482205120101	100R00 5% 0,1W	+	+	+	+
3234	482205110102	1K00 2% 0,25W	+	+	+	+
3235	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3237	482205130562	5K6 5% 0,063W 0603 RC21 RST SM	+	+	+	+
3238	482205130221	220R00 5% 0,062W	+	+	+	+
3239	482205130102	1K00 5% 0,062W	+	+	+	+
3240	482205130103	10K00 5% 0,062W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3241	482205130008	OR00 JUMPER	+	+	+	+
3242	235003510103	RST NETW SM ARV24 4X10K PM5 R	+	+	+	+
3243	235003510103	RST NETW SM ARV24 4X10K PM5 R	+	+	+	+
3244	482205130008	OR00 JUMPER	+	+	+	+
3245	482205130221	220R00 5% 0,062W	+	+	+	+
3246	482205130221	220R00 5% 0,062W	+	+	+	+
3248	482211713523	220R 5% RESN 0.63W	+	+	+	+
3249	482211711503	220R 1% 0.1W	+	+	+	+
3252	482211711145	4K70 1% 0,1W	+	+	+	+
3253	482211711145	4K70 1% 0,1W	+	+	+	+
3254	482205130008	OR00 JUMPER	+	+	+	+
3255	482211710833	10K 1% 0,1W	+	+	+	+
3256	482205130008	OR00 JUMPER	+	+	+	+
3260	482205130008	OR00 JUMPER	+	+	+	+
3261	482205130222	2K20 5% 0,062W	+	+	+	+
3265	482205130008	OR00 JUMPER	+	+	+	+
3271	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3273	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3274	482211710837	100K 1% 0.1W	+	+	+	+
3276	482205130479	47R00 5% 0,062W	+	+	+	+
3280	482205130479	47R00 5% 0,062W	+	+	+	+
3281	482211713579	220K 1% 0.1W RC12H 0805	+	+	+	+
3284	482211711151	1R 5%	+	+	+	+
3286	482205130223	22K00 5% 0,062W	+	+	+	+
3287	482205130103	10K00 5% 0,062W	+	+	+	+
3288	482205130563	56K00 5% 0,062W	+	+	+	+
3289	482205130563	56K00 5% 0,062W	+	+	+	+
3290	482205130683	68K00 5% 0,062W	+	+	+	+
3291	482205130563	56K00 5% 0,062W	+	+	+	+
3295	482205130332	3K30 5% 0,062W	+	+	+	+
3297	482205130332	3K30 5% 0,062W	+	+	+	+
3299	482205130332	3K30 5% 0,062W	+	+	+	+
3300	482205110102	1K00 2% 0,25W	+	+	+	+
3301	482205110102	1K00 2% 0,25W	+	+	+	+
3303	482211713572	22R 5% 1206	+	+	+	+
3305	482211710833	10K 1% 0,1W	+	+	+	+
3308	482205120008	OR00 JUMP. (0805)	+	+	+	+
3309	482211712367	33K 1% 0.10W	+	+	+	+
3312	482205130479	47R00 5% 0,062W	+	+	+	+
3313	482205130479	47R00 5% 0,062W	+	+	+	+
3314	482205120479	47R00 5% 0,1W	+	+	+	+
3315	482205130102	1K00 5% 0,062W	+	+	+	+
3316	482205120472	4K70 5% 0,1W	+	+	+	+
3317	482205120472	4K70 5% 0,1W	+	+	+	+
3319	482205120479	47R00 5% 0,1W	+	+	+	+
3322	482205130102	1K00 5% 0,062W	+	+	+	+
3323	482205130562	5K6 5% 0,063W 0603 RC21 RST SM	+	+	+	+
3324	482205130562	5K6 5% 0,063W 0603 RC21 RST SM	+	+	+	+
3325	482205130103	10K00 5% 0,062W	+	+	+	+
3333	482211713574	1R5 5% 1206	+	+	+	+
3334	482211713574	1R5 5% 1206	+	+	+	+
3335	482211713574	1R5 5% 1206	+	+	+	+
3337	482205130563	56K00 5% 0,062W	+	+	+	+
3338	532211712487	1K RC12G 1% 0,125W	+	+	+	+
3339	532211712487	1K RC12G 1% 0,125W	+	+	+	+
3340	482211713632	100K 1% 0603 0.62W	+	+	+	+
3341	232273468209	RST SM 0805 RC12H 82R PM1	+	+	+	+
3346	482211711507	6K8 1% 0,1W	+	+	+	+
3347	482211711507	6K8 1% 0,1W	+	+	+	+
3348	482211711507	6K8 1% 0,1W	+	+	+	+
3349	482211713632	100K 1% 0603 0.62W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3350	232273468209	RST SM 0805 RC12H 82R PM1	+	+	+	+
3351	482211711151	1R 5%	+	+	+	+
3352	482205130008	0R00 JUMPER	+	+	+	+
3360	482211710354	22K 1% 0,1W	+	+	+	+
3361	482211712139	22R 5% 0,062W	+	+	+	+
3362	482211712708	39K 1% 0,1W 0805 RC12G	+	+	+	+
3363	482211712968	820R 5% 0,62W	+	+	+	+
3365	482205130101	100R00 5% 0,062W	+	+	+	+
3368	482205130479	47R00 5% 0,062W	+	+	+	+
3370	482205130561	560R00 5% 0,062W	+	+	+	+
3371	482205130152	1K50 5% 0,062W	+	+	+	+
3372	482205120122	1K20 5% 0,1W	+	+	+	+
3373	482211712903	1K8 1% 0.063W 0603	+	+	+	+
3374	482211713572	22R 5% 1206	+	+	+	+
3375	482205130222	2K20 5% 0,062W	+	+	+	+
3376	482205130221	220R00 5% 0,062W	+	+	+	+
3377	482205130479	47R00 5% 0,062W	+	+	+	+
3378	482205130273	27K00 5% 0,062W	+	+	+	+
3379	482205130183	18K00 5% 0,062W	+	+	+	+
3381	482205120008	0R00 JUMP. (0805)	+	+	+	+
3382	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3402	482211711503	220R 1% 0.1W	+	+	+	-
3403	482211712024	27K 1% 0.1W	+	+	+	-
3404	482211710833	10K 1% 0,1W	+	+	+	-
3405	482211712024	27K 1% 0.1W	+	+	+	-
3407	482205120101	100R00 5% 0,1W	+	+	+	-
3408	482211710833	10K 1% 0,1W	+	+	+	-
3409	482211712367	33K 1% 0.10W	+	+	+	-
3410	482211710833	10K 1% 0,1W	+	+	+	-
3411	482211711152	4R7 5%	+	+	+	-
3412	482211712024	27K 1% 0.1W	+	+	+	-
3413	482211710833	10K 1% 0,1W	+	+	+	-
3414	482211712024	27K 1% 0.1W	+	+	+	-
3415	482211710833	10K 1% 0,1W	+	+	+	-
3416	482211712367	33K 1% 0.10W	+	+	+	-
3418	482205120008	0R00 JUMP. (0805)	+	+	+	-
3420	482211710833	10K 1% 0,1W	+	+	+	-
3421	482211711383	12K 1% 0,1W	+	+	+	-
3422	482211710834	47K 1% 0,1W	+	+	+	-
3423	482211713629	120R 1% 0.1W RC12H 0805	+	-	+	-
3424	482205120225	2M20 5% 0,1W	+	-	+	-
3427	482211713629	120R 1% 0.1W RC12H 0805	+	-	+	-
3428	482205120225	2M20 5% 0,1W	+	-	+	-
3429	482211710834	47K 1% 0,1W	+	+	+	-
3432	482211710833	10K 1% 0,1W	+	+	+	-
3433	482205120008	0R00 JUMP. (0805)	+	+	+	-
3435	482211710833	10K 1% 0,1W	+	+	+	-
3436	482211711383	12K 1% 0,1W	+	+	+	-
3439	482211711152	4R7 5%	+	+	+	-
3441	482205120101	100R00 5% 0,1W	+	+	+	-
3447	482205120008	0R00 JUMP. (0805)	-	+	+	-
3448	482205120008	0R00 JUMP. (0805)	-	+	+	-
3449	482205120008	0R00 JUMP. (0805)	-	+	+	-
3450	319802153311	330R 5%	+	-	-	-
3451	482211711383	12K 1% 0,1W	+	+	+	-
3452	482211711383	12K 1% 0,1W	+	+	+	-
3453	482211713579	220K 1% 0.1W RC12H 0805	+	+	+	-
3454	482211713579	220K 1% 0.1W RC12H 0805	+	+	+	-
3455	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	-
3460	319802190030	RST JUMPER 0603 0.05 OHM	+	+	+	-
3531	482205120562	5K6 5% 0,1W 0805	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3532	482205120562	5K6 5% 0,1W 0805	+	+	+	+
3533	482211710837	100K 1% 0,1W	+	+	+	+
3536	482211710837	100K 1% 0,1W	+	+	+	+
3537	482211710833	10K 1% 0,1W	+	+	+	+
3538	482211710833	10K 1% 0,1W	+	+	+	+
3539	482211710837	100K 1% 0,1W	+	+	+	+
3540	482211710833	10K 1% 0,1W	+	+	+	+
3541	482211711747	12R 1206 5% FUSE	+	+	+	+
3542	482211711747	12R 1206 5% FUSE	+	+	+	+
3544	482211710834	47K 1% 0,1W	+	+	+	+
3545	482211713568	6R8 5% 1206	+	+	+	+
3546	482205120101	100R00 5% 0,1W	+	+	+	+
3547	482211683933	15K 1% 0,1W	+	+	+	+
3548	482211710834	47K 1% 0,1W	+	+	+	+
3549	482205120101	100R00 5% 0,1W	+	+	+	+
3550	482205120101	100R00 5% 0,1W	+	+	+	+
3551	482205120332	3K30 5% 0,1W	+	+	+	+
3552	482211710834	47K 1% 0,1W	+	+	+	+
3553	482205120101	100R00 5% 0,1W	+	+	+	+
3554	482211710833	10K 1% 0,1W	+	+	+	+
3555	482205120122	1K20 5% 0,1W	+	+	+	+
3556	482211710833	10K 1% 0,1W	+	+	+	+
3557	482211710837	100K 1% 0,1W	+	+	+	+
3559	482205120562	5K6 5% 0,1W 0805	+	+	+	+
3560	482211710837	100K 1% 0,1W	+	+	+	+
3562	482205120562	5K6 5% 0,1W 0805	+	+	+	+
3563	482205130563	56K00 5% 0,062W	+	+	+	+
3566	482211710837	100K 1% 0,1W	+	+	+	+
3567	482205120223	22K00 5% 0,1W	+	+	+	+
3570	482205120101	100R00 5% 0,1W	+	+	+	+
3701	482205120101	100R00 5% 0,1W	+	+	+	+
3702	482205130472	4K70 5% 0,062W	+	+	+	+
3703	482205130472	4K70 5% 0,062W	+	+	+	+
3704	482205120008	0R00 JUMP. (0805)	+	+	+	+
3705	482205130223	22K00 5% 0,062W	+	+	+	+
3706	482205120479	47R00 5% 0,1W	+	+	+	+
3708	482205120479	47R00 5% 0,1W	+	+	+	+
3710	482205130101	100R00 5% 0,062W	+	+	+	+
3711	482211710833	10K 1% 0,1W	+	+	+	+
3712	482211710833	10K 1% 0,1W	+	+	+	+
3713	482205120479	47R00 5% 0,1W	+	+	+	+
3714	482205120479	47R00 5% 0,1W	+	+	+	+
3715	482205120479	47R00 5% 0,1W	+	+	+	+
3716	482211710833	10K 1% 0,1W	+	+	+	+
3717	482211710833	10K 1% 0,1W	-	+	+	+
3718	482211710833	10K 1% 0,1W	+	+	+	-
3719	482205130103	10K00 5% 0,062W	+	+	-	+
3720	482205130101	100R00 5% 0,062W	+	+	+	+
3721	482205130101	100R00 5% 0,062W	+	+	+	+
3722	482211710833	10K 1% 0,1W	+	-	-	-
3723	482211710833	10K 1% 0,1W	-	-	-	+
3724	482205130103	10K00 5% 0,062W	+	-	+	-
3725	482205130101	100R00 5% 0,062W	+	+	+	+
3726	482205130103	10K00 5% 0,062W	+	+	+	+
3727	482205120105	1M00 5% 0,1W	+	+	+	+
3728	482205130101	100R00 5% 0,062W	+	+	+	+
3729	482205130101	100R00 5% 0,062W	+	+	+	+
3731	482205130391	390R00 5% 0,062W	+	+	+	+
3732	482205130479	47R00 5% 0,062W	+	+	+	+
3735	482205120479	47R00 5% 0,1W	+	+	+	+
3742	482205130102	1K00 5% 0,062W	+	+	+	+



ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3743	482205130479	47R00 5% 0,062W	+	+	+	+
3744	482205120274	270K00 5% 0,1W	+	+	+	+
3745	482205120274	270K00 5% 0,1W	+	+	+	+
3746	482205130153	15K00 5% 0,062W	+	+	+	+
3747	482205130103	10K00 5% 0,062W	+	+	+	+
3748	482205130103	10K00 5% 0,062W	+	+	+	+
3749	482205130103	10K00 5% 0,062W	+	+	+	+
3750	482205130123	12K00 5% 0,062W	+	+	+	+
3751	482205120472	4K70 5% 0,1W	+	-	-	-
3752	482211710353	150R 1% 0,1W	+	+	+	+
3753	482205120472	4K70 5% 0,1W	+	-	-	-
3754	482205110102	1K00 2% 0,25W	+	+	+	+
3755	482211710353	150R 1% 0,1W	+	+	+	+
3756	482205130101	100R00 5% 0,062W	+	+	+	+
3757	482205120479	47R00 5% 0,1W	+	-	-	-
3758	482205120101	100R00 5% 0,1W	+	+	+	+
3759	482205110102	1K00 2% 0,25W	+	+	+	+
3760	482205120472	4K70 5% 0,1W	+	+	+	+
3761	482205130472	4K70 5% 0,062W	+	+	+	+
3762	482205130472	4K70 5% 0,062W	+	+	+	+
3763	482205130102	1K00 5% 0,062W	+	+	+	+
3764	482205120472	4K70 5% 0,1W	+	+	+	+
3766	482205130472	4K70 5% 0,062W	+	+	+	+
3767	482205130472	4K70 5% 0,062W	+	+	+	+
3768	482205120472	4K70 5% 0,1W	+	+	+	+
3769	482205130472	4K70 5% 0,062W	+	+	+	+
3770	482205120472	4K70 5% 0,1W	+	+	+	+
3771	482205130101	100R00 5% 0,062W	+	+	+	+
3780	482211710837	100K 1% 0,1W	+	+	+	+
3806	482205130103	10K00 5% 0,062W	+	+	+	+
3807	482205120008	0R00 JUMP. (0805)	+	+	+	+
3808	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3809	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3810	482205130472	4K70 5% 0,062W	+	+	+	+
3811	482205130103	10K00 5% 0,062W	+	+	+	+
3813	482205130101	100R00 5% 0,062W	+	+	+	+
3814	482205130479	47R00 5% 0,062W	+	+	+	+
3817	482205110102	1K00 2% 0,25W	+	+	+	+
3818	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3819	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3820	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3821	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3822	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3823	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3824	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3825	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3826	482205120101	100R00 5% 0,1W	+	+	+	+
3828	482205130479	47R00 5% 0,062W	+	-	-	-
3829	482205130479	47R00 5% 0,062W	+	-	-	-
3830	482205130479	47R00 5% 0,062W	+	-	-	-
3831	482205130479	47R00 5% 0,062W	+	-	-	-
3832	482205130479	47R00 5% 0,062W	+	-	-	-
3833	482205130479	47R00 5% 0,062W	+	-	-	-
3834	482205130479	47R00 5% 0,062W	+	-	-	-
3835	482205130479	47R00 5% 0,062W	+	-	-	-
3836	482205130479	47R00 5% 0,062W	+	-	-	-
3837	482211710833	10K 1% 0,1W	+	+	+	+
3838	482211710833	10K 1% 0,1W	+	+	+	+
3841	482205120101	100R00 5% 0,1W	+	+	+	+
3843	482211710833	10K 1% 0,1W	+	+	+	+
3844	482211710833	10K 1% 0,1W	+	+	+	+

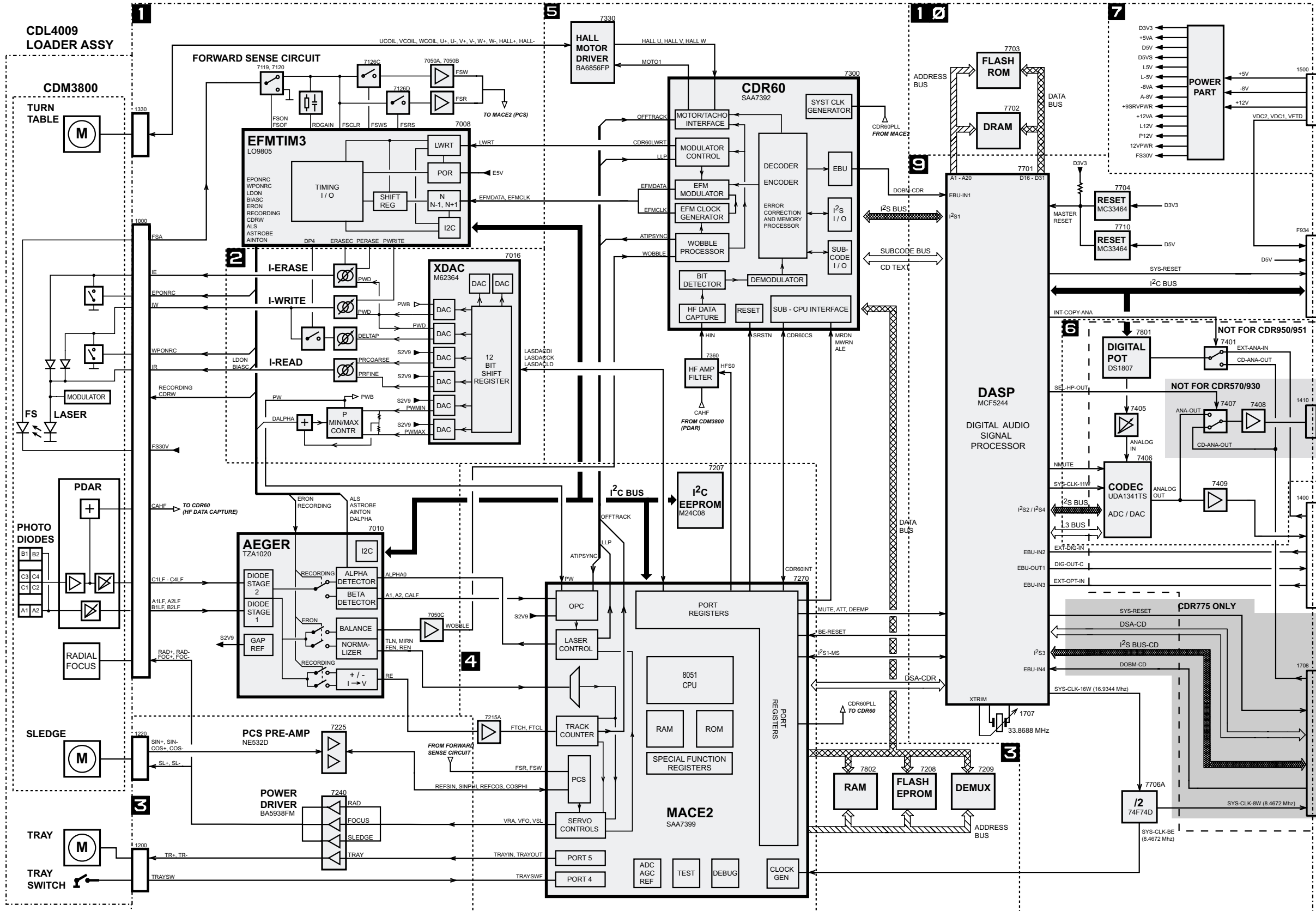
ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
3845	482211710833	10K 1% 0,1W	+	+	+	+
3886	482205120008	0R00 JUMP. (0805)	-	+	+	-
3889	482211711151	1R 5%	+	+	+	+
3891	482211710833	10K 1% 0,1W	+	+	+	-
3892	482211710833	10K 1% 0,1W	+	+	+	-
3894	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3897	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3898	482211713573	NETW 4 X 47R 5% MNR14	+	+	+	+
3900	319802190030	RST JUMPER 0603 0.05 OHM	-	-	-	+
3902	319802190030	RST JUMPER 0603 0.05 OHM	-	-	-	+
3903	482205130008	0R00 JUMPER	+	+	+	+
3904	482205110102	1K00 2% 0,25W	-	+	-	+
3906	482205120472	4K70 5% 0,1W	+	+	+	+
3907	482205130472	4K70 5% 0,062W	+	+	+	+
3908	482205130102	1K00 5% 0,062W	+	+	+	+
3909	482205130472	4K70 5% 0,062W	+	+	+	+
3910	482205120472	4K70 5% 0,1W	+	+	+	+
3911	482205120472	4K70 5% 0,1W	+	+	+	+
5008	482215771206	BLM21A601SPT	+	+	+	+
5201	482215771206	BLM21A601SPT	+	+	+	+
5202	482215771206	BLM21A601SPT	+	+	+	+
5203	482215771206	BLM21A601SPT	+	+	+	+
5301	482215771206	BLM21A601SPT	+	+	+	+
5302	482215771206	BLM21A601SPT	+	+	+	+
5303	482215771206	BLM21A601SPT	+	+	+	+
5401	482215771206	BLM21A601SPT	+	+	+	-
5403	482215771206	BLM21A601SPT	+	+	+	-
5404	482215771206	BLM21A601SPT	+	+	+	-
5406	482215771206	BLM21A601SPT	+	+	+	-
5407	482215771206	BLM21A601SPT	+	+	+	-
5413	482215771206	BLM21A601SPT	+	+	+	-
5414	482215771206	BLM21A601SPT	+	+	+	-
5500	482215711716	BLM21P300SPT	+	+	+	+
5501	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5502	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5503	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5541	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5542	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5543	482215711716	BLM21P300SPT	+	+	+	+
5544	482215711716	BLM21P300SPT	+	+	+	+
5546	482215771206	BLM21A601SPT	+	+	+	+
5551	482215771206	BLM21A601SPT	+	+	+	+
5554	482215710548	47UH 5%	+	+	+	+
5555	482215771206	BLM21A601SPT	+	+	+	+
5556	482215771206	BLM21A601SPT	+	+	+	+
5557	482215771206	BLM21A601SPT	+	+	+	+
5701	482215771206	BLM21A601SPT	+	+	+	+
5709	242254942103	IND FXD SM EMI 100MHZ 2K2 R	+	+	+	+
5710	482215710477	COIL 47UH	+	+	+	+
5712	482215771206	BLM21A601SPT	+	+	+	+
5713	482215771206	BLM21A601SPT	+	+	+	+
5715	482215771206	BLM21A601SPT	+	+	+	+
5716	482215771206	BLM21A601SPT	+	+	+	+
6002	532213030691	BAW56	+	+	+	+
6003	482213083757	BAS216	+	+	+	+
6007	532213034337	BAV99	+	+	+	+
6373	482213083757	BAS216	+	+	+	+
6374	482213083757	BAS216	+	+	+	+
6375	482213083757	BAS216	+	+	+	+
6400	482213010648	BZX284-C5V6	+	-	-	-
6500	532213083777	BAV70W	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
6501	532213034337	BAV99	+	+	+	+
6502	482213034441	BZX79-B22	+	+	+	+
6553	482213083757	BAS216	+	+	+	+
6554	532213034337	BAV99	+	+	+	+
6555	482213083757	BAS216	+	+	+	+
6556	482213083757	BAS216	+	+	+	+
6557	482213083757	BAS216	+	+	+	+
6701	934042250135	DIO VAR SM BB147 (PHSE) R	+	+	+	+
6702	934042250135	DIO VAR SM BB147 (PHSE) R	+	+	+	+
7001	482220963709	LM324DTR	+	+	+	+
7002	482220963709	LM324DTR	+	+	+	+
7005	482220990331	TL084CDT	+	+	+	+
7008	482220917223	EFM TIM3	+	+	+	+
7010	935261972518	IC SM TZA1020HP/M1 (PHSE) R	+	+	+	+
7016	482220917225	M62364FP	+	+	+	+
7050	482220990331	TL084CDT	+	+	+	+
7104	482213060373	BC856B	+	+	+	+
7110	482213060511	BC847B	+	+	+	+
7111	482213060511	BC847B	+	+	+	+
7112	482213042804	BC817-25	+	+	+	+
7113	482213060511	BC847B	+	+	+	+
7119	482213060383	BF824	+	+	+	+
7120	482213060383	BF824	+	+	+	+
7121	532213060123	BC807-40	+	+	+	+
7122	532213060123	BC807-40	+	+	+	+
7124	482213060511	BC847B	+	+	+	+
7126	933714420653	IC SM 74HC4066D	+	+	+	+
7127	482213060373	BC856B	+	+	+	+
7133	482213060511	BC847B	+	+	+	+
7135	532213060123	BC807-40	+	+	+	+
7201	482213060511	BC847B	+	+	+	+
7202	482213060511	BC847B	+	+	+	+
7207	932213040668	IC SM M24C16-WMN (ST00) R	+	+	+	+
7208	310412394850	FLASH EPROM ASSY CDR-AUDIO	+	+	+	+
7209	482220917227	MC74LCX573	+	+	+	+
7215	482220932073	MC34072D	+	+	+	+
7225	532220971553	NE532D	+	+	+	+
7240	482220917229	BA5938FM	+	+	+	+
7270	482220917231	SAA7399HL	+	+	+	+
7300	935263368557	IC SM SAA7392HL/M3 (PHSE) Y	+	+	+	+
7330	482220916877	BA6856FP	+	+	+	+
7355	933713370653	IC SM 74HCT00D (PHSE) R	+	+	+	+
7360	933715300118	IC SM 74HCT4051D (PHSE) R	+	+	+	+
7361	482213060511	BC847B	+	+	+	+
7370	482213060511	BC847B	+	+	+	+
7371	482213011527	BFS540	+	+	+	+
7373	482213011527	BFS540	+	+	+	+
7375	482213011527	BFS540	+	+	+	+
7401	482220960792	74HC4053D	+	-	-	-
7405	482220930095	LM833D	+	+	+	-
7406	935254530118	IC SM UDA1341TS/N1 (PHSE) R	+	+	+	-
7407	482220960792	74HC4053D	+	-	-	-
7408	482220982362	NJM4556D	+	-	+	-
7409	482220930095	LM833D	+	+	+	-
7410	482213042804	BC817-25	+	-	+	-
7411	482213042804	BC817-25	+	-	+	-
7520	820405604480	FET POW STD16NE06L	+	+	+	+
7521	482220932073	MC34072D	+	+	+	+
7522	482213060373	BC856B	+	+	+	+
7523	482213060511	BC847B	+	+	+	+
7524	482213060511	BC847B	+	+	+	+

ITEM	CODENUMBER	DESCRIPTION	CDR775	CDR570	CDR770	CDR950
7525	482213060373	BC856B	+	+	+	+
7526	482213060511	BC847B	+	+	+	+
7527	482213011379	BCP69	+	+	+	+
7528	482213060511	BC847B	+	+	+	+
7529	482213060373	BC856B	+	+	+	+
7535	482220917398	LD1117DT33	+	+	+	+
7548	482213060511	BC847B	+	+	+	+
7549	482213060511	BC847B	+	+	+	+
7556	482220990332	MC79L05ABD	+	+	+	+
7558	482220915083	AN78M09	+	+	+	+
7560	482213060373	BC856B	+	+	+	+
7561	482213060373	BC856B	+	+	+	+
7562	482213060511	BC847B	+	+	+	+
7563	482213060511	BC847B	+	+	+	+
7701	820405603460	USER PROCESSOR DASP CF5244PU	+	+	+	+
7702	482220917375	GM71V18163CJ-6	+	+	+	+
7703	932213814668	IC SM AM29LV800BB-70REC (AMD)R	+	+	+	+
7704	482220916318	MC33464-30A	+	+	+	+
7705	482220932073	MC34072D	+	+	+	+
7706	482220917236	74LV74D	+	+	+	+
7707	482213060511	BC847B	+	-	-	-
7708	932214178668	IC SM 74LCX00M (ST00) R	+	+	+	+
7710	932213967685	IC SM MC33464N-45A (MOTA) R	+	+	+	+
7801	820405603520	LEVEL DIG POTMETER DS1807S-T/R	+	+	+	-
7802	820405603910	IC SM CY7C199-15ZC	+	+	+	+
7803	482213060511	BC847B	+	+	+	+
7804	482213060511	BC847B	+	+	+	+
PCINT-DASP	710408691110	PC-INTERFACE BOARD DASP	+	+	+	+
PCINT-MACE	710408683110	PC-INTERFACE BOARD MACE	+	+	+	+

### 6. Block diagrams

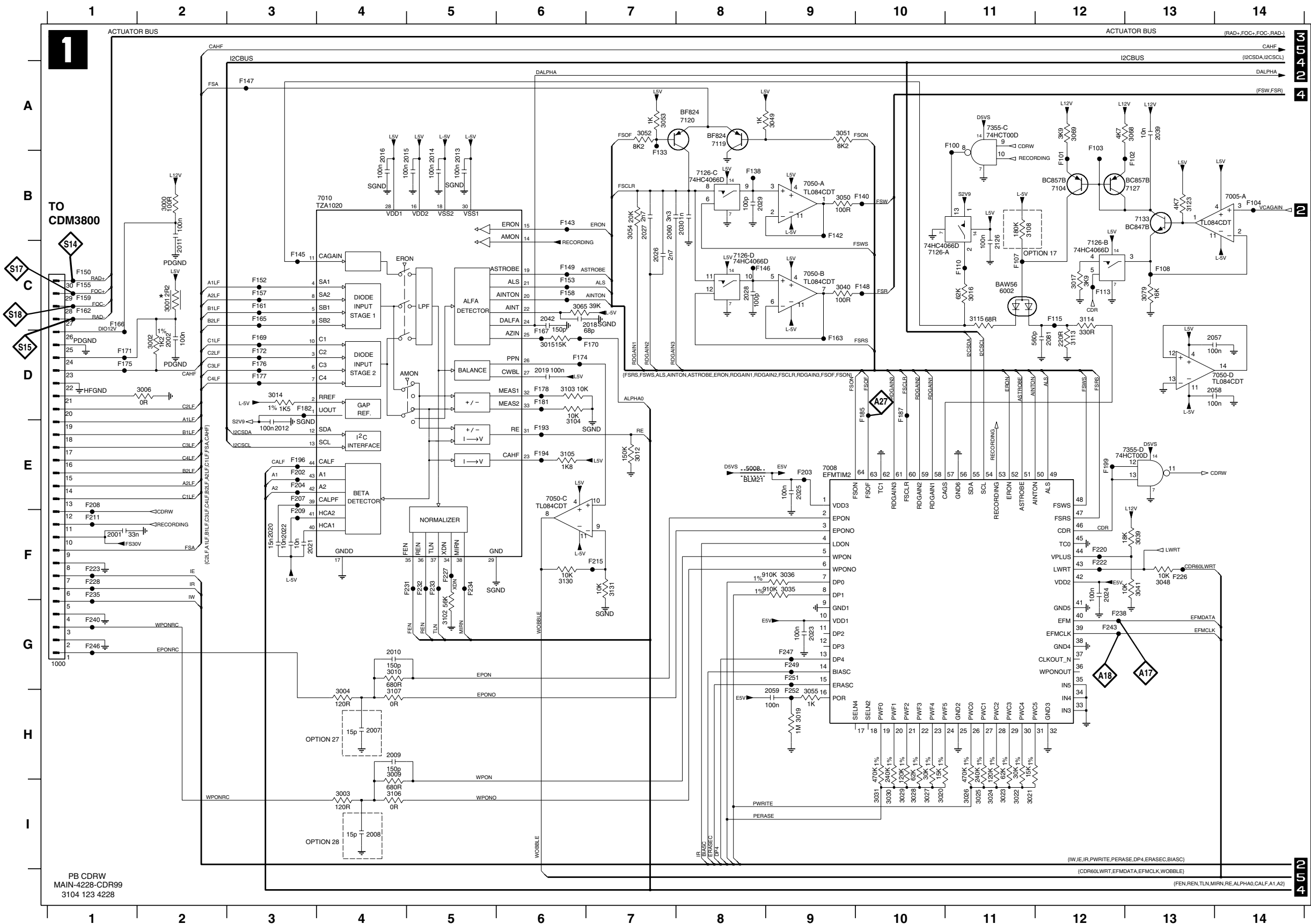
#### CDR MAIN BOARD BLOCK DIAGRAM



# 7. Electrical diagrams and PWB's

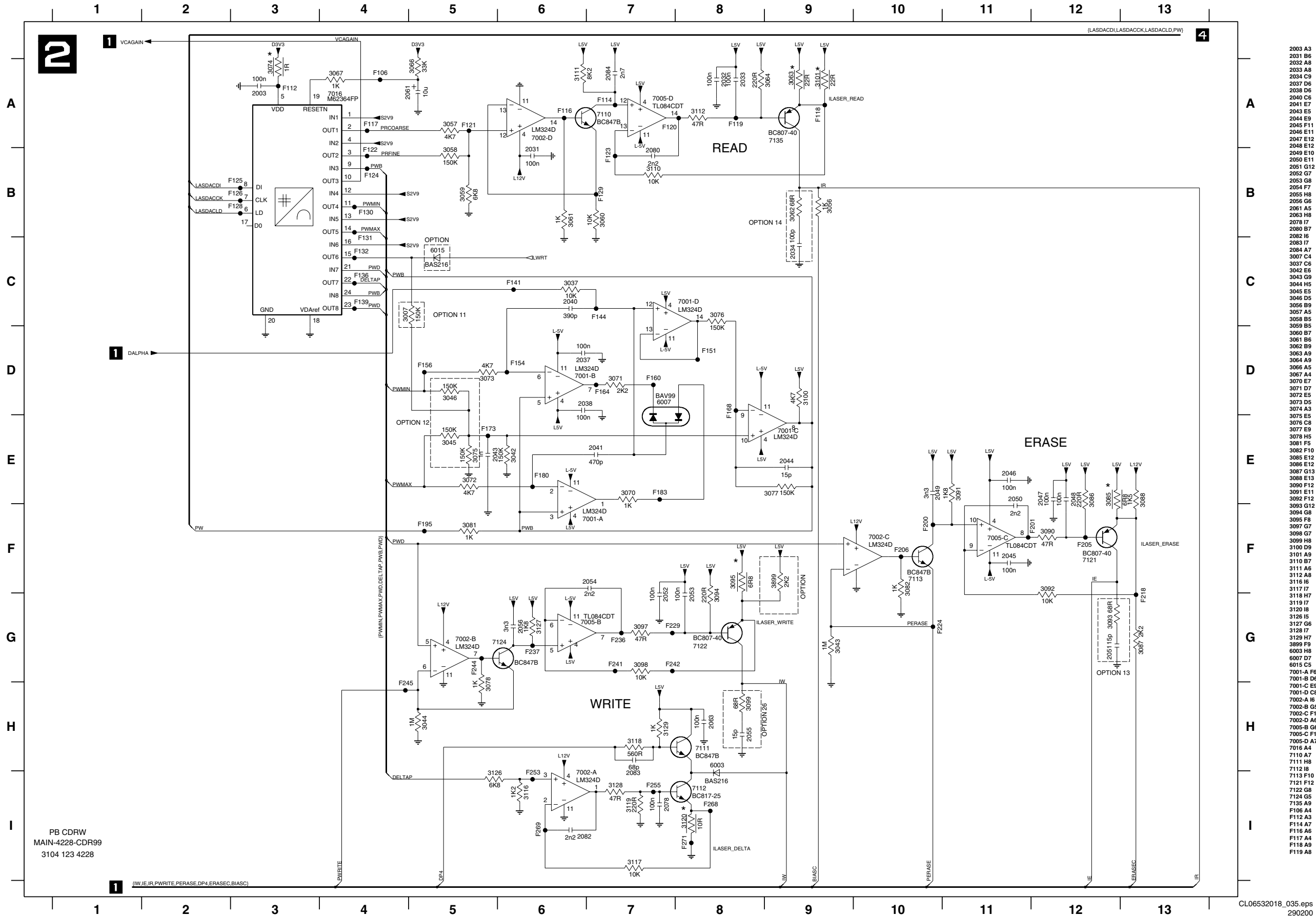
## CDR-Mainboard Version 4228.5

### CDR MAIN BOARD - CIRCUIT DIAGRAM 1 : AEGER, EFMTIM, FORWARD SENSE CIRCUIT TESTPOINTS



- 1000 G1
- 2001 F1
- 2002 D2
- 2007 H4
- 2008 I4
- 2009 H4
- 2010 G4
- 2011 C2
- 2012 E3
- 2013 B5
- 2014 B5
- 2015 B4
- 2016 B4
- 2018 C7
- 2019 D6
- 2020 F3
- 2021 F3
- 2022 F3
- 2023 G9
- 2024 F12
- 2025 E9
- 2026 C7
- 2027 B7
- 2028 C8
- 2029 B8
- 2030 B8
- 2035 A13
- 2042 C6
- 2057 D13
- 2058 D13
- 2059 H9
- 2060 B7
- 2061 D12
- 2126 C11
- 3000 B2
- 3001 C2
- 3002 D2
- 3003 I4
- 3004 H4
- 3006 D2
- 3009 H4
- 3010 G4
- 3012 E7
- 3014 D3
- 3015 D6
- 3016 C11
- 3017 C12
- 3019 H9
- 3020 I10
- 3021 I11
- 3022 I11
- 3023 I11
- 3024 I11
- 3025 I11
- 3026 I11
- 3027 H0
- 3028 I10
- 3029 I10
- 3030 I10
- 3031 I10
- 3035 F9
- 3036 F9
- 3039 F13
- 3040 C9
- 3041 F13
- 3048 F13
- 3049 A9
- 3050 B9
- 3051 A9
- 3052 A7
- 3053 A7
- 3054 B7
- 3055 H9
- 3065 C6
- 3068 A13
- 3069 A13
- 3079 C13
- 3102 G5
- 3103 D6
- 3104 E6
- 3105 E6
- 3106 I4
- 3107 H4
- 3108 B11
- 3113 D12
- 3114 C12
- 3115 C11
- 3123 B13
- 3130 F6
- 3131 F7
- 5008 E6
- 6002 C11
- 7005-A B14
- 7008 E9
- 7010 B4
- 7050-A B9
- 7050-B C9
- 7050-C E6
- 7050-D D13
- 7104 B12
- 7119 A8
- 7120 A8
- 7126-A C11
- 7126-B C12
- 7126-C B8
- 7126-D C8
- 7127 B13
- 7133 B13
- 7355-C A11
- 7355-D E12
- F100 A11
- F101 B12
- F102 B13
- F103 A12
- F104 B14
- F107 C11
- F108 C13
- F110 G1
- F111 C12
- F115 C12
- F133 B7
- F138 B8
- F140 B10
- F142 B9
- F143 B6
- F145 C3
- F146 C3
- F147 A3
- F148 C10
- F149 C6
- F150 C1
- F152 C3
- F153 C6
- F155 C1
- F157 C3
- F158 C6
- F159 C1
- F161 C3
- F162 C1
- F163 D9
- F165 C3
- F166 C1
- F167 D6
- F169 D3
- F170 D7
- F171 D1
- F172 D3
- F174 D6
- F175 D1
- F176 D3
- F177 D3
- F178 D6
- F181 D6
- F182 D3
- F183 D6
- F185 D10
- F187 D10
- F193 E5
- F194 E6
- F196 E3
- F199 E12
- F202 E3
- F203 E9
- F204 E3
- F205 E9
- F207 E1
- F208 E1
- F209 F3
- F211 F1
- F215 F7
- F220 F12
- F222 F12
- F223 F1
- F226 F13
- F227 F5
- F228 F1
- F231 F4
- F232 F5
- F233 F5
- F234 F5
- F235 F5
- F236 F1
- F238 G12
- F240 G1
- F243 G12
- F246 G1
- F247 G9
- F249 G9
- F251 G9
- F252 H9

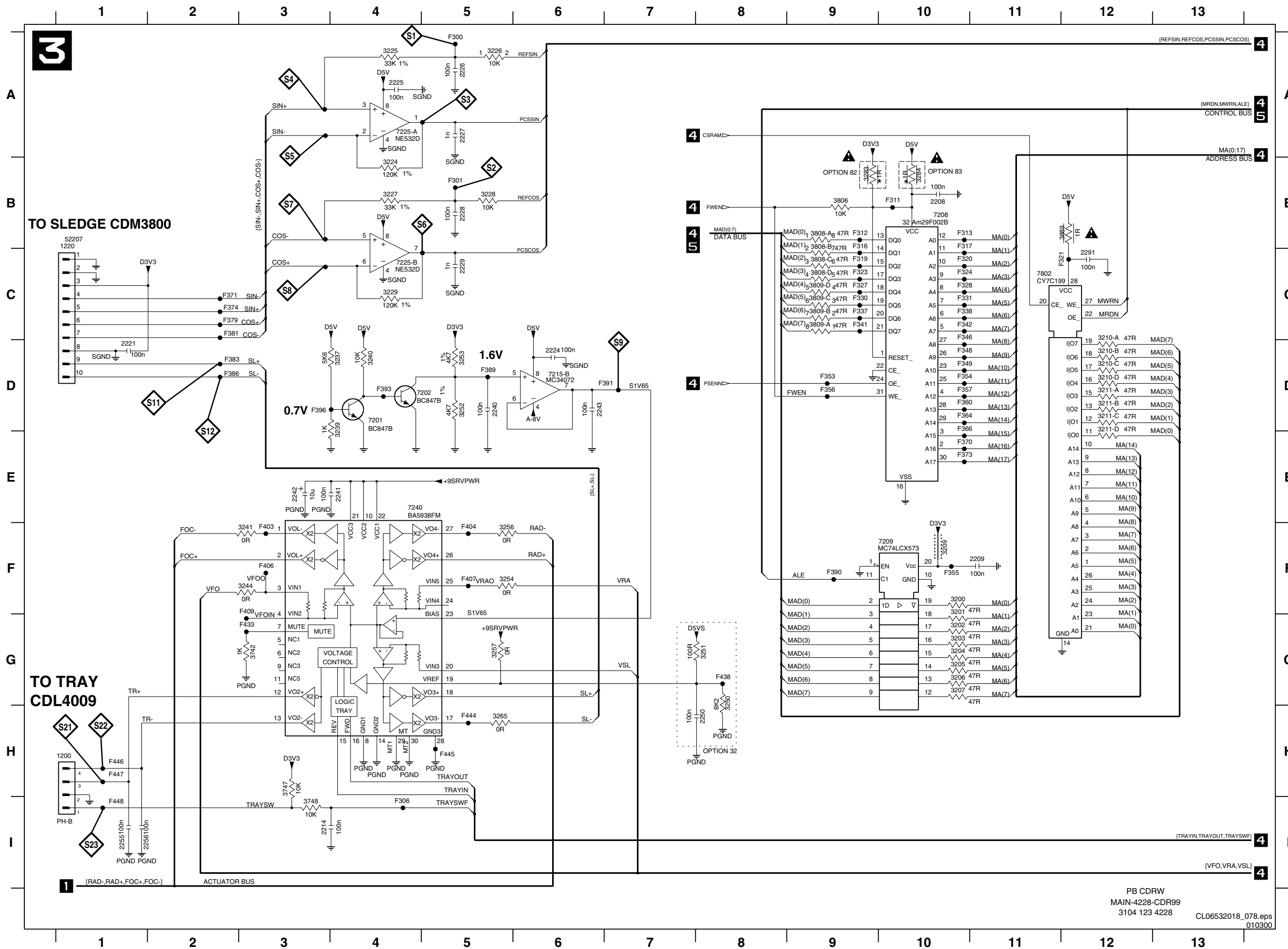
CDR MAIN BOARD - CIRCUIT DIAGRAM 2 : XDAC, LASER DRIVE CURRENT CIRCUITS



- 2003 A3
- 2031 B6
- 2032 A8
- 2033 A8
- 2034 C9
- 2037 D6
- 2038 D6
- 2040 C6
- 2041 E7
- 2043 E5
- 2044 E9
- 2045 F11
- 2046 E11
- 2047 E12
- 2048 E12
- 2049 E10
- 2050 E11
- 2051 G12
- 2052 G7
- 2053 G8
- 2054 F7
- 2055 H8
- 2056 G6
- 2061 A5
- 2063 H8
- 2078 I7
- 2080 B7
- 2082 I6
- 2083 I7
- 2084 A7
- 3007 C4
- 3037 C6
- 3042 E5
- 3043 G9
- 3044 H5
- 3045 E5
- 3046 D5
- 3056 B9
- 3057 A5
- 3058 B5
- 3059 B5
- 3060 B7
- 3061 B5
- 3062 B9
- 3063 A9
- 3064 A9
- 3065 A5
- 3070 E7
- 3071 D7
- 3072 E5
- 3073 D5
- 3074 A3
- 3075 E5
- 3076 C8
- 3077 E9
- 3078 H5
- 3081 F5
- 3082 F10
- 3085 E12
- 3086 E12
- 3087 G13
- 3088 E13
- 3090 F12
- 3091 E11
- 3092 F12
- 3093 G12
- 3094 G8
- 3095 F8
- 3097 G7
- 3098 G7
- 3099 H8
- 3100 D9
- 3101 A9
- 3110 B7
- 3111 A6
- 3112 A8
- 3116 I8
- 3117 I7
- 3118 H7
- 3119 I7
- 3120 I8
- 3126 I5
- 3127 G6
- 3128 I7
- 3129 H7
- 3899 F9
- 6003 H8
- 6007 D7
- 6015 C5
- 7001-A F6
- 7001-B D6
- 7001-C E9
- 7001-D C8
- 7002-A I6
- 7002-B G6
- 7002-C F10
- 7002-D A6
- 7005-B G6
- 7005-C F11
- 7005-D A7
- 7016 A4
- 7110 A7
- 7111 H8
- 7112 I8
- 7113 F10
- 7121 F12
- 7122 G8
- 7124 G5
- 7135 A9
- F106 A4
- F112 A3
- F114 A7
- F116 A6
- F117 A4
- F118 A9
- F119 A8
- F120 A7
- F121 A5
- F122 B7
- F124 B4
- F125 B3
- F126 B3
- F128 B3
- F129 B7
- F130 B4
- F131 C4
- F132 C4
- F136 C4
- F139 C4
- F141 C6
- F144 C7
- F151 D8
- F154 D6
- F156 D5
- F160 D7
- F164 D7
- F168 D8
- F173 E5
- F180 E6
- F183 E7
- F195 F5
- F200 F10
- F201 F11
- F205 F12
- F206 F10
- F218 G13
- F224 G10
- F229 G7
- F236 G7
- F237 G6
- F241 G7
- F242 G7
- F244 G5
- F245 H4
- F253 I6
- F255 I7
- F268 I8
- F269 I6
- F271 I8

PB CDRW  
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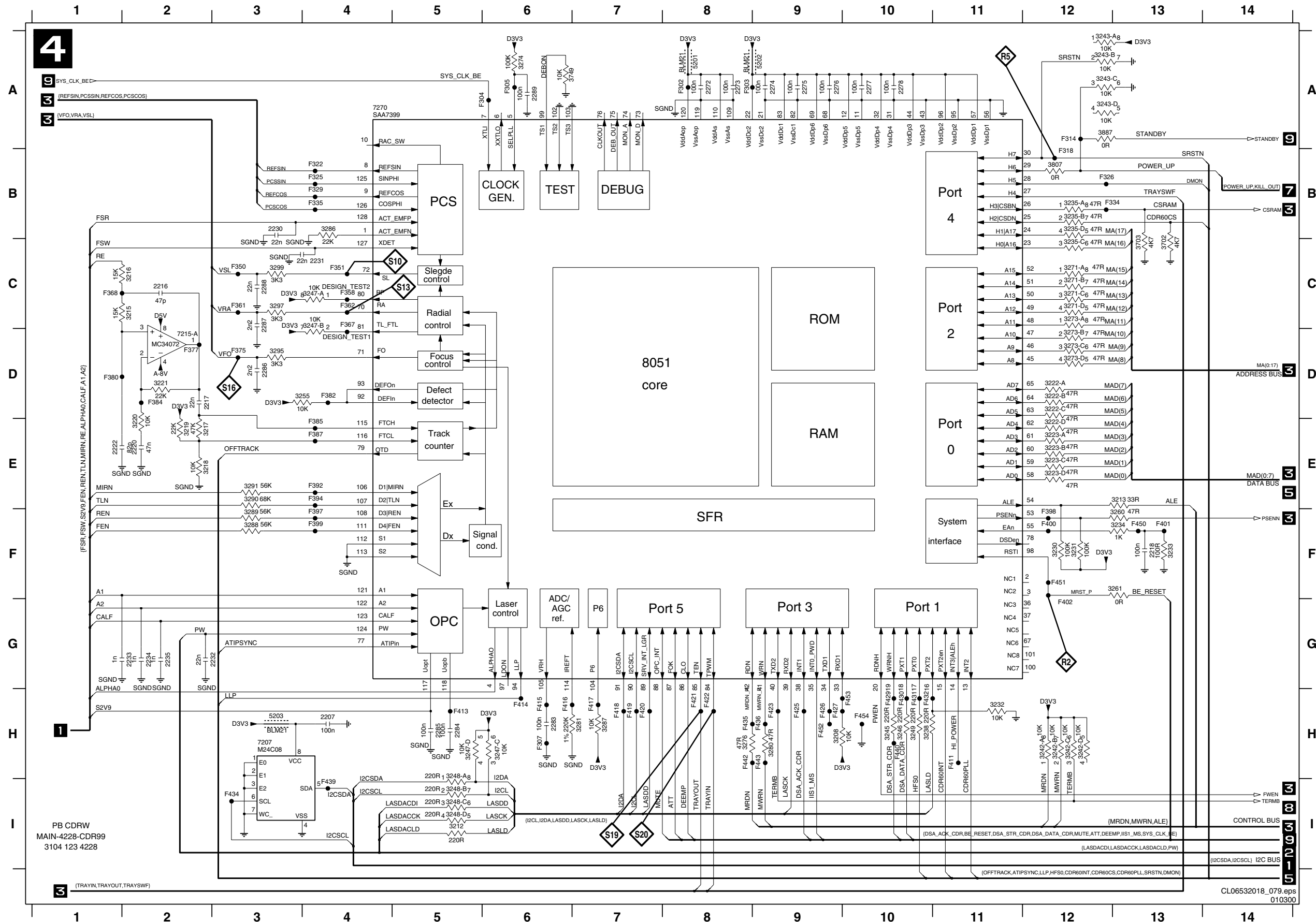
CDR MAIN BOARD - CIRCUIT DIAGRAM 3 : SERVO DRIVERS, MACE-RAM, -FLASH, -DEMUX TEST POINTS



- 1200 H1
- 1220 B1
- 2208 B10
- 2209 F11
- 2214 I3
- 2221 D1
- 2224 C2
- 2225 A4
- 2226 A5
- 2227 A5
- 2228 B5
- 2229 C5
- 2240 D5
- 2241 E4
- 2242 E3
- 2243 D6
- 2250 H6
- 2255 I1
- 2256 I1
- 2291 C12
- 3200 F10
- 3201 G10
- 3202 G10
- 3203 G10
- 3204 G10
- 3205 G10
- 3206 G10
- 3207 G10
- 3209 F10
- 3210-A D12
- 3210-B D12
- 3210-C D12
- 3210-D D12
- 3211-A D12
- 3211-B D12
- 3211-C D12
- 3211-D E12
- 3224 B4
- 3225 A4
- 3226 A5
- 3227 B4
- 3228 B5
- 3229 C4
- 3237 D4
- 3239 D4
- 3240 D4
- 3241 F3
- 3244 F3
- 3250 G8
- 3251 G8
- 3252 D5
- 3253 D5
- 3254 F5
- 3256 F5
- 3257 G5
- 3258 H5
- 3283 B9
- 3284 B10
- 3742 G3
- 3747 H5
- 3748 I3
- 3806 B9
- 3808-A B9
- 3808-B C9
- 3808-C C9
- 3808-D C9
- 3808-E C9
- 3808-F C9
- 3808-G C9
- 3808-H C9
- 3808-I C9
- 3808-J C9
- 3808-K C9
- 3808-L C9
- 3808-M C9
- 3808-N C9
- 3808-O C9
- 3808-P C9
- 3808-Q C9
- 3808-R C9
- 3808-S C9
- 3808-T C9
- 3808-U C9
- 3808-V C9
- 3808-W C9
- 3808-X C9
- 3808-Y C9
- 3808-Z C9
- 7201 D4
- 7202 D4
- 7208 B10
- 7209 F10
- 7215-B D6
- 7225-A A4
- 7225-B C4
- 7240 E4
- 7802 C11
- F300 A5
- F301 B5
- F306 H4
- F311 B10
- F312 B9
- F313 B10
- F316 B9
- F317 B10
- F319 C9
- F320 C10
- F321 C12
- F323 C9
- F324 C10
- F327 C9
- F328 C10
- F330 C9
- F331 C10
- F337 C9
- F338 C10
- F341 C9
- F342 C10
- F346 D10
- F348 D10
- F349 D10
- F353 D9
- F354 D10
- F355 F10
- F356 D9
- F357 D10
- F360 D10
- F364 D10
- F366 D10
- F370 E10
- F371 C2
- F373 E10
- F374 C2
- F379 C2
- F381 C2
- F383 D2
- F386 D2
- F389 D5
- F390 F9
- F391 D7
- F393 D4
- F396 D3
- F403 F3
- F404 F5
- F406 F3
- F407 F5
- F409 F3
- F433 G3
- F438 G8
- F444 H5
- F445 H5
- F446 H1
- F447 H1
- F448 I1

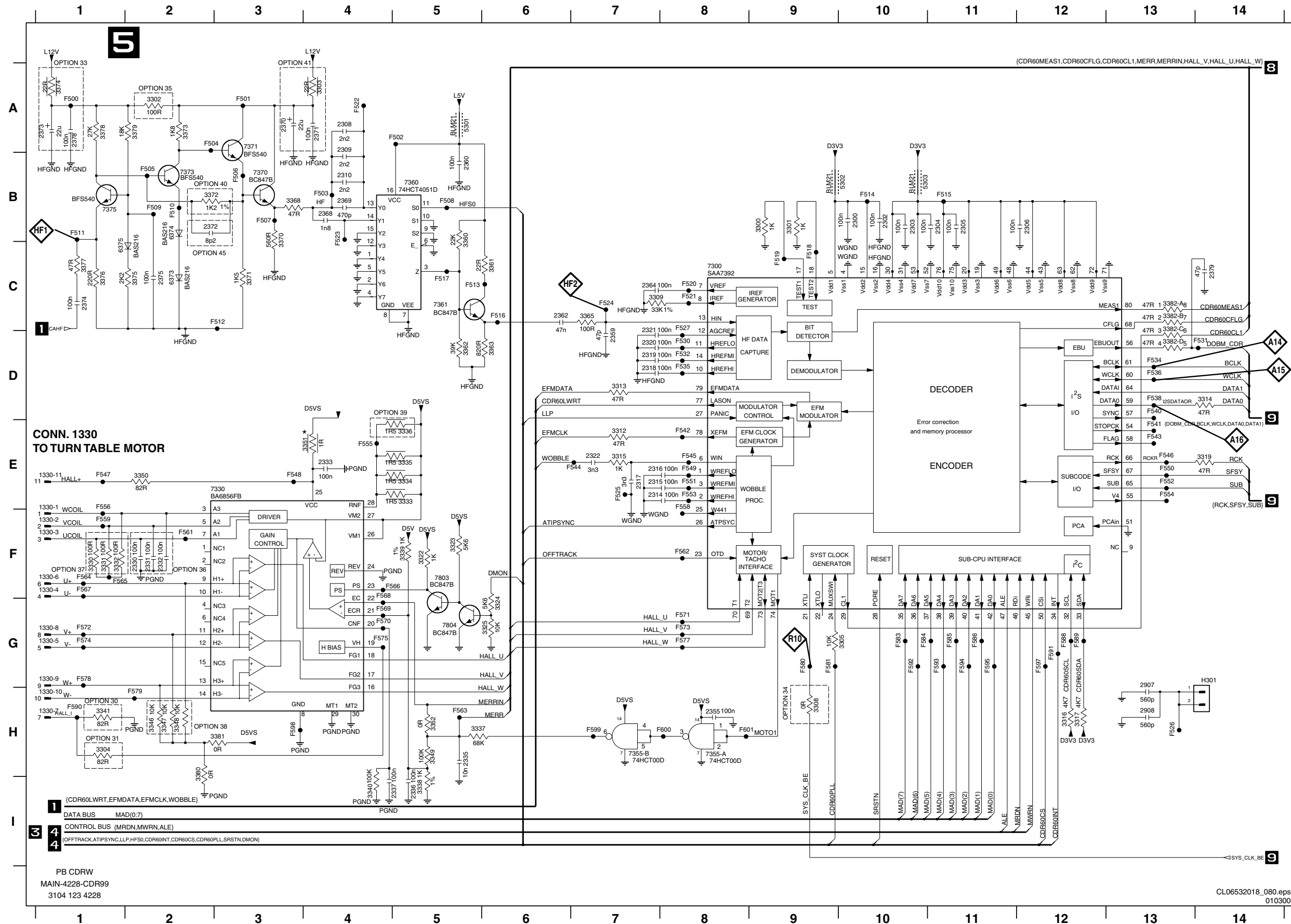


CDR MAIN BOARD - CIRCUIT DIAGRAM 4 : MACE BE-PROCESSOR TESTPOINTS



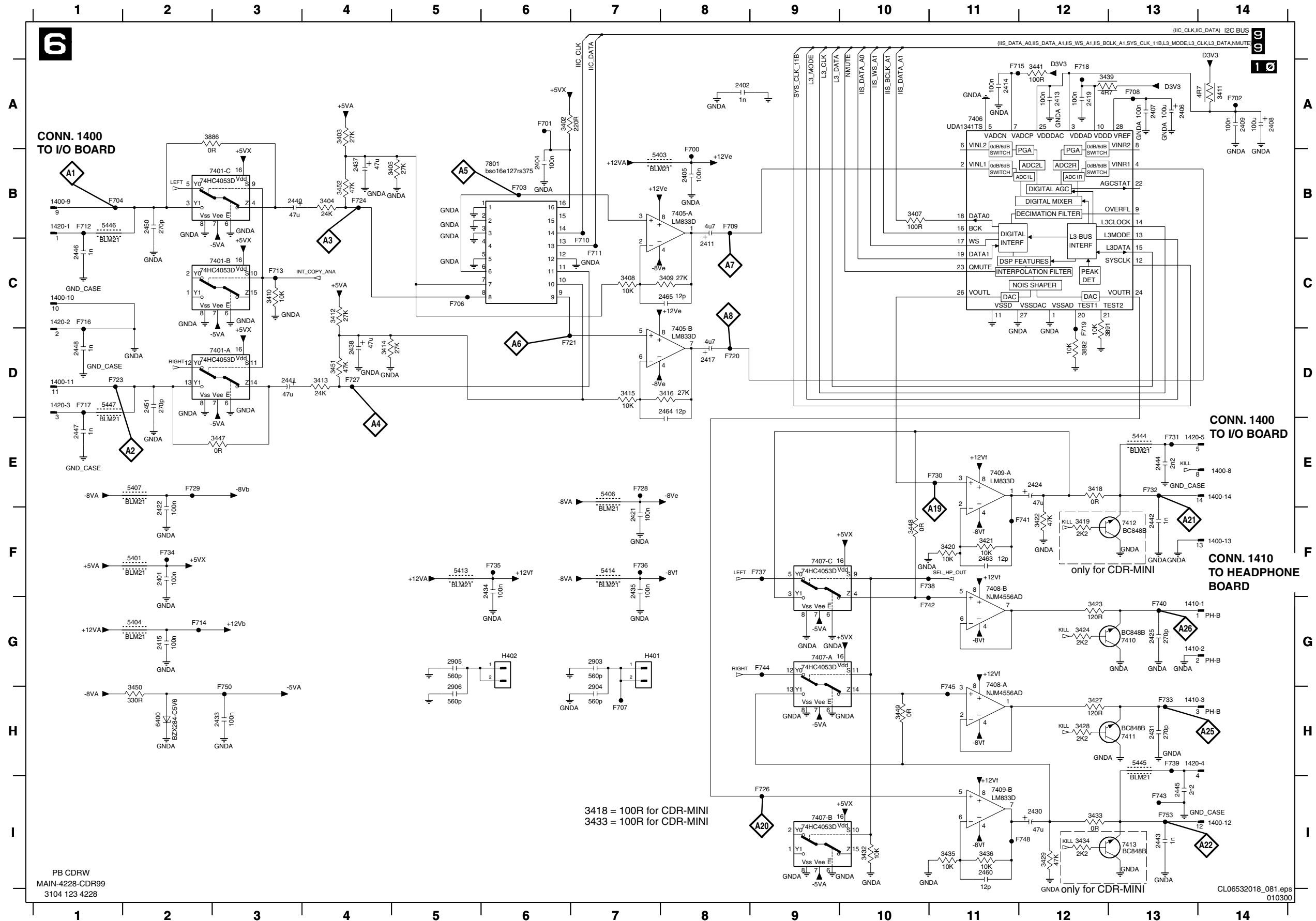
2207 H4	F325 B4
2216 C2	F326 B12
2217 D2	F329 B4
2218 G12	F334 B12
2220 E2	F335 B4
2222 E1	F350 C3
2230 B3	F351 C4
2231 C4	F358 C4
2232 G2	F361 C3
2233 G2	F362 C4
2234 G2	F367 C4
2235 G2	F368 C1
2272 A8	F375 D3
2273 A8	F377 D2
2274 A9	F380 D1
2275 A9	F382 D4
2276 A9	F384 D2
2277 A10	F385 E4
2278 A10	F387 E4
2283 H6	F392 E4
2284 H5	F394 E4
2285 H5	F397 F4
2286 D3	F398 F12
2287 C3	F399 F4
2288 C3	F400 F12
2289 A6	F401 G12
3208 H9	F402 F12
3212 I5	F411 H11
3213 E12	F413 H5
3215 C2	F414 H6
3216 C2	F415 H6
3217 E2	F416 H6
3218 E2	F417 H7
3219 E2	F418 H7
3220 E2	F419 H7
3221 D2	F420 H7
3222-A D12	F421 H8
3222-B D12	F422 H8
3222-C D12	F423 H9
3222-D D12	F425 H9
3223-A E12	F426 H9
3223-B E12	F427 H9
3223-C E12	F429 H10
3223-D E12	F430 H10
3230 G12	F431 H10
3231 G12	F432 H10
3232 H11	F434 I3
3233 G12	F435 H8
3234 G12	F436 H9
3235-A B12	F438 I4
3235-B B12	F440 H10
3235-C C12	F442 H8
3235-D B12	F443 H9
3238 H10	
3240-A H12	
3242-B H12	
3242-C H12	
3242-D H12	
3243-A A12	
3243-B A12	
3243-C A12	
3243-D A12	
3245 H10	
3246 H10	
3247-A C4	
3247-B C4	
3247-C H6	
3247-D H5	
3248-A H5	
3248-B I5	
3248-C I5	
3248-D I5	
3249 H10	
3255 D4	
3260 F12	
3261 F13	
3271-A C12	
3271-B C12	
3271-C C12	
3271-D C12	
3273-A C12	
3273-B D12	
3273-C D12	
3273-D D12	
3274 A6	
3276 H8	
3280 H9	
3281 H7	
3286 B4	
3287 H7	
3288 F3	
3289 F3	
3290 E3	
3291 E3	
3295 D3	
3297 C3	
3299 C3	
3702 C13	
3703 C13	
3749 A6	
3807 B12	
3887 A12	
5201 A8	
5202 A9	
5203 H3	
7207 H3	
7215-A D2	
7270 A4	
F302 A8	
F303 A8	
F304 A6	
F307 H6	
F314 A12	
F318 B12	
F322 B4	

CDR MAIN BOARD - CIRCUIT DIAGRAM 5 : CD ENCODING-DECODING PART



- 1330-1 E1 6375 C1
- 1330-10 H1 7300 C8
- 1330-11 E1 7330 E2
- 1330-2 F1 7355-A H8
- 1330-3 F1 7355-B H7
- 1330-4 F1 7360 B5
- 1330-5 G1 7361 C5
- 1330-6 F1 7370 B3
- 1330-7 H1 7371 A3
- 1330-8 G1 7373 B2
- 1330-9 G1 7375 B1
- 2300 B10 7303 F5
- 2302 B10 7804 G5
- 2303 B10 F500 A1
- 2304 B11 F501 A3
- 2305 B11 F502 A5
- 2306 B12 F503 B4
- 2308 A4 F504 A2
- 2309 A4 F505 B2
- 2310 B4 F506 B3
- 2314 E7 F507 B3
- 2315 E7 F508 B5
- 2316 E7 F509 B2
- 2317 E7 F510 B2
- 2318 D7 F511 B1
- 2319 D7 F512 D7
- 2320 D7 F513 C5
- 2321 D7 F514 B10
- 2322 E7 F515 B11
- 2323 F2 F516 C5
- 2324 F2 F517 C5
- 2325 F2 F518 C9
- 2326 F2 F519 C9
- 2327 E4 F520 C8
- 2328 E4 F521 C8
- 2329 D7 F522 A4
- 2330 D7 F523 B4
- 2331 D7 F524 C7
- 2332 D7 F525 E7
- 2333 D7 F526 C6
- 2334 D7 F527 C8
- 2335 D7 F528 D8
- 2336 D7 F529 E7
- 2337 D7 F530 D8
- 2338 D7 F531 D14
- 2339 D7 F532 D8
- 2340 D7 F533 D13
- 2341 D7 F534 D13
- 2342 D7 F535 D8
- 2343 D7 F536 D13
- 2344 D7 F537 D13
- 2345 D7 F538 D13
- 2346 D7 F539 D13
- 2347 D7 F540 D13
- 2348 D7 F541 E13
- 2349 D7 F542 E8
- 2350 D7 F543 E13
- 2351 D7 F544 E7
- 2352 D7 F545 E7
- 2353 D7 F546 E13
- 2354 D7 F547 E1
- 2355 D7 F548 E3
- 2356 D7 F549 E8
- 2357 D7 F550 E13
- 2358 D7 F551 E8
- 2359 D7 F552 E13
- 2360 D7 F553 E8
- 2361 D7 F554 E7
- 2362 D7 F555 E4
- 2363 D7 F556 E1
- 2364 D7 F557 E8
- 2365 D7 F558 E8
- 2366 D7 F559 F1
- 2367 D7 F560 F2
- 2368 D7 F561 F2
- 2369 D7 F562 F8
- 2370 D7 F563 H5
- 2371 D7 F564 F1
- 2372 D7 F565 F1
- 2373 D7 F566 F5
- 2374 D7 F567 F1
- 2375 D7 F568 F4
- 2376 D7 F569 G4
- 2377 D7 F570 G4
- 2378 D7 F571 G8
- 2379 D7 F572 G1
- 2380 D7 F573 G8
- 2381 D7 F574 G1
- 2382 D7 F575 G4
- 2383 D7 F576 G8
- 2384 D7 F577 G8
- 2385 D7 F578 G1
- 2386 D7 F579 H2
- 2387 D7 F580 G9
- 2388 D7 F581 G9
- 2389 D7 F582 G10
- 2390 D7 F583 G10
- 2391 D7 F584 G10
- 2392 D7 F585 G11
- 2393 D7 F586 G11
- 2394 D7 F587 G11
- 2395 D7 F588 G11
- 2396 D7 F589 G11
- 2397 D7 F590 H1
- 2398 D7 F591 G2
- 2399 D7 F592 G10
- 2400 D7 F593 G11
- 2401 D7 F594 G11
- 2402 D7 F595 G11
- 2403 D7 F596 G11
- 2404 D7 F597 G12
- 2405 D7 F598 H3
- 2406 D7 F599 H7
- 2407 D7 F600 H6
- 2408 D7 F601 H6
- 2409 D7 F602 H6
- 2410 D7 F603 C1
- 2411 D7 F604 A1
- 2412 D7 F605 A2
- 2413 D7 F606 H3
- 2414 D7 F607 H3
- 2415 D7 F608 H3
- 2416 D7 F609 H3
- 2417 D7 F610 H3
- 2418 D7 F611 H3
- 2419 D7 F612 H3
- 2420 D7 F613 H3
- 2421 D7 F614 H3
- 2422 D7 F615 H3
- 2423 D7 F616 H3
- 2424 D7 F617 H3
- 2425 D7 F618 H3
- 2426 D7 F619 H3
- 2427 D7 F620 H3
- 2428 D7 F621 H3
- 2429 D7 F622 H3
- 2430 D7 F623 H3
- 2431 D7 F624 H3
- 2432 D7 F625 H3
- 2433 D7 F626 H3
- 2434 D7 F627 H3
- 2435 D7 F628 H3
- 2436 D7 F629 H3
- 2437 D7 F630 H3
- 2438 D7 F631 H3
- 2439 D7 F632 H3
- 2440 D7 F633 H3
- 2441 D7 F634 H3
- 2442 D7 F635 H3
- 2443 D7 F636 H3
- 2444 D7 F637 H3
- 2445 D7 F638 H3
- 2446 D7 F639 H3
- 2447 D7 F640 H3
- 2448 D7 F641 H3
- 2449 D7 F642 H3
- 2450 D7 F643 H3
- 2451 D7 F644 H3
- 2452 D7 F645 H3
- 2453 D7 F646 H3
- 2454 D7 F647 H3
- 2455 D7 F648 H3
- 2456 D7 F649 H3
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- 2490 D7 F683 H3
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- 2495 D7 F688 H3
- 2496 D7 F689 H3
- 2497 D7 F690 H3
- 2498 D7 F691 H3
- 2499 D7 F692 H3
- 2500 D7 F693 H3

CDR MAIN BOARD - CIRCUIT DIAGRAM 6 : AUDIO PART (NOT FOR CDR950/951)

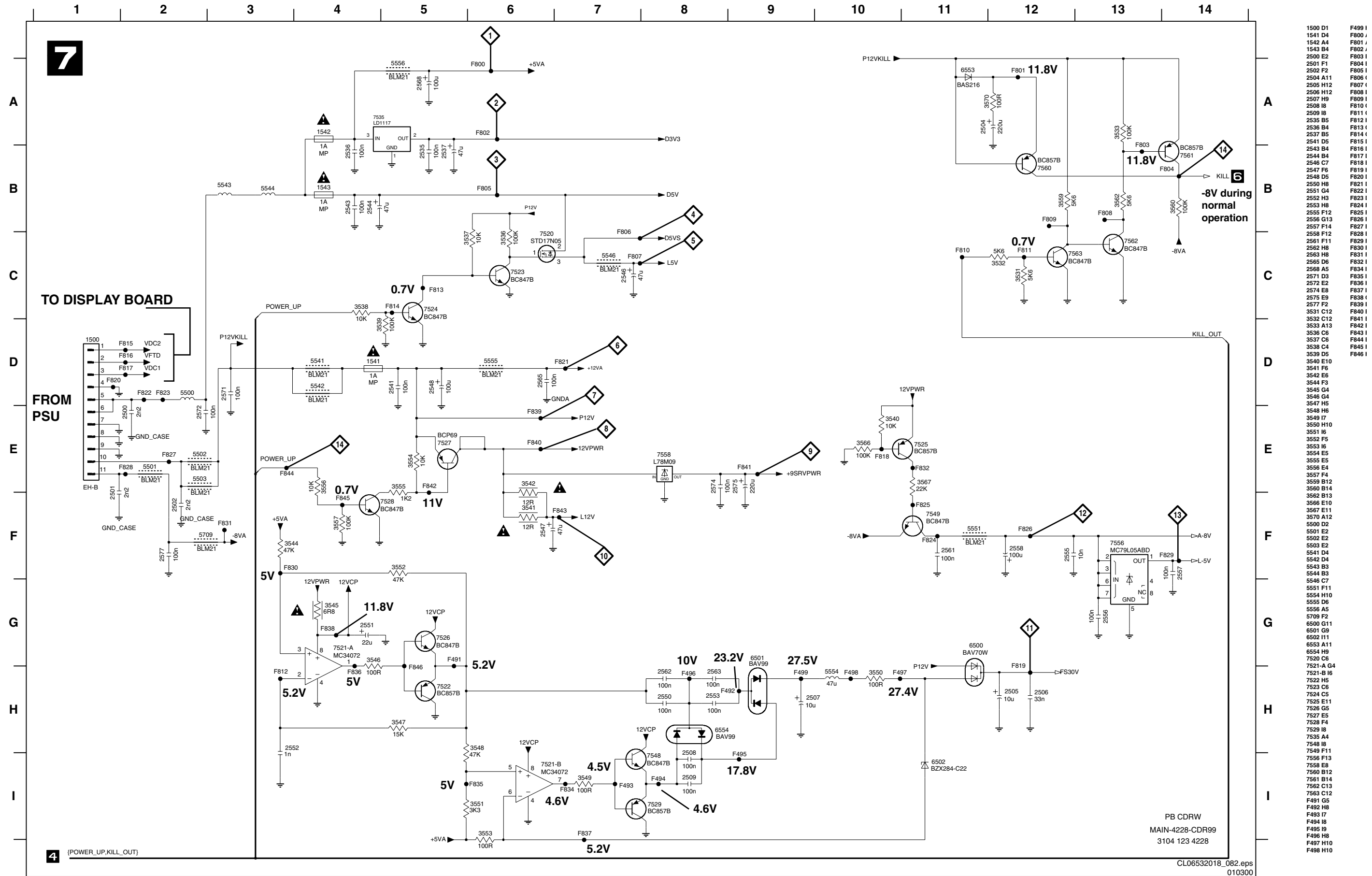


- 1400-10 C1
- 1400-11 D1
- 1400-12 H4
- 1400-13 F14
- 1400-14 E14
- 1400-8 E14
- 1400-9 B1
- 1410-1 G14
- 1410-2 G14
- 1410-3 H14
- 1420-1 B1
- 1420-2 C1
- 1420-3 D1
- 1420-4 H14
- 1420-5 E14
- 2401 F2
- 2402 A8
- 2404 B6
- 2405 B8
- 2406 A13
- 2407 A13
- 2408 A14
- 2409 A14
- 2411 C8
- 2411 A12
- 2414 A11
- 2415 G2
- 2417 D8
- 2419 A12
- 2421 F7
- 2422 F2
- 2424 E12
- 2425 G13
- 2430 H2
- 2431 H13
- 2433 H3
- 2434 F6
- 2435 F7
- 2437 B4
- 2438 D4
- 2440 B3
- 2441 D3
- 2442 F3
- 2443 H3
- 2444 E13
- 2445 H3
- 2446 C1
- 2447 E1
- 2448 D1
- 2450 B2
- 2451 D2
- 2450 H11
- 2463 F11
- 2464 D8
- 2465 C8
- 2903 G7
- 2904 H7
- 2905 G5
- 2906 H5
- 3402 A6
- 3403 A4
- 3404 B4
- 3405 B5
- 3407 B10
- 3408 C7
- 3409 C8
- 3410 C3
- 3411 A14
- 3412 C4
- 3413 D4
- 3414 D4
- 3415 D7
- 3416 D8
- 3418 E12
- 3419 F12
- 3420 F11
- 3421 F11
- 3422 F12
- 3423 G12
- 3424 G12
- 3427 H12
- 3428 H12
- 3429 H12
- 3432 I10
- 3433 I12
- 3434 H12
- 3435 H11
- 3436 H11
- 3439 A12
- 3441 A12
- 3442 E3
- 3448 F10
- 3449 H10
- 3450 H2
- 3451 D4
- 3452 B4
- 3886 A2
- 3891 D12
- 3892 D12
- 5401 F2
- 5403 B7
- 5404 G2
- 5406 E7
- 5407 E2
- 5413 F5
- 5414 F7
- 5444 E13
- 5445 H13
- 5446 B1
- 5447 D1
- 6400 H2
- 7401-A D3
- 7401-B C3
- 7401-C B3
- 7405-A B8
- 7405-B D8
- 7406 A11
- 7407-A G9
- 7407-B B9
- 7407-C F9
- 7408-A H11
- 7408-B F11
- 7409-A E11
- 7409-B H11
- 7410 B6
- 7410 G13
- 7411 H13
- 7412 F13
- 7413 H3
- 7413 B1
- 7413 B6
- 7413 B8
- 7413 B9
- 7413 C1
- 7413 C3
- 7413 G2
- 7413 H1
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- 7413 H91
- 7413 H92
- 7413 H93
- 7413 H94
- 7413 H95
- 7413 H96
- 7413 H97
- 7413 H98
- 7413 H99
- 7413 H100

PB CDRW  
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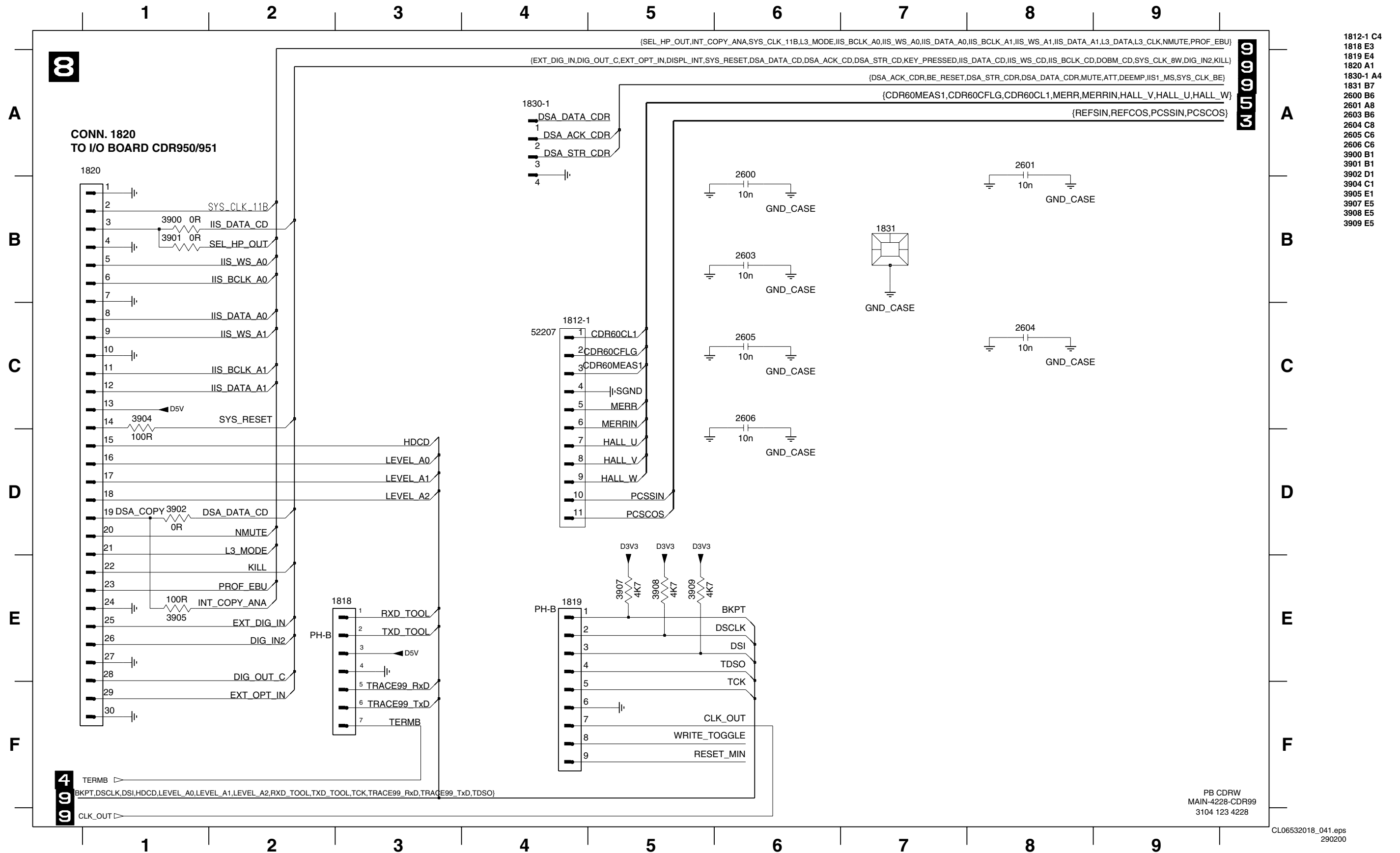
CDR MAIN BOARD - CIRCUIT DIAGRAM 7 : POWER PART TESTPOINTS



1500 D1	F499 I
1541 D4	F800 J
1542 A4	F801 J
1543 B4	F802 J
2500 E2	F803 I
2501 F1	F804 I
2502 F2	F805 I
2504 A11	F806 I
2505 H12	F807 I
2506 H12	F808 I
2507 H9	F809 I
2508 I8	F810 I
2509 I8	F811 I
2535 B5	F812 I
2536 B4	F813 I
2537 B5	F814 I
2541 D5	F815 I
2543 B4	F816 I
2544 B4	F817 I
2546 C7	F818 I
2547 F6	F819 I
2548 D5	F820 I
2550 H8	F821 I
2551 G4	F822 I
2552 H3	F823 I
2553 H8	F824 I
2555 F12	F825 I
2556 G13	F826 I
2557 F14	F827 I
2558 E2	F828 I
2561 F11	F829 I
2562 H8	F830 I
2563 H8	F831 I
2565 D6	F832 I
2568 A5	F834 I
2571 D3	F835 I
2572 E2	F836 I
2574 E8	F837 I
2575 E9	F838 I
2577 F2	F839 I
3531 C12	F840 I
3532 C12	F841 I
3533 A13	F842 I
3536 C15	F843 I
3537 C6	F844 I
3538 C4	F845 I
3539 D5	F846 I
3540 E10	F847 I
3541 F6	F848 I
3542 E6	F849 I
3544 F3	F850 I
3545 F4	F851 I
3546 G4	F852 I
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3548 H6	F854 I
3549 I7	F855 I
3550 H10	F856 I
3551 I6	F857 I
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3554 E5	F860 I
3555 E5	F861 I
3556 E4	F862 I
3557 F4	F863 I
3559 B12	F864 I
3560 B14	F865 I
3562 B13	F866 I
3566 E10	F867 I
3567 E11	F868 I
3570 A12	F869 I
5500 D2	F870 I
5501 E2	F871 I
5502 E2	F872 I
5541 D4	F873 I
5542 D4	F874 I
5543 B3	F875 I
5544 B3	F876 I
5546 C7	F877 I
5551 F11	F878 I
5552 F10	F879 I
5555 D6	F880 I
5556 A5	F881 I
5709 F2	F882 I
6500 G11	F883 I
6501 G9	F884 I
6502 I11	F885 I
6553 A11	F886 I
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7521-A G4	F889 I
7521-B I6	F890 I
7522 H5	F891 I
7523 C6	F892 I
7524 C5	F893 I
7525 E11	F894 I
7526 G5	F895 I
7527 E5	F896 I
7528 F4	F897 I
7529 I8	F898 I
7535 A4	F899 I
7546 I8	F900 I
7548 F11	F901 I
7556 F13	F902 I
7558 E8	F903 I
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7562 C13	F906 I
7563 C12	F907 I
F491 C5	F908 I
F492 H8	F909 I
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F496 H8	F913 I
F497 H10	F914 I
F498 H10	F915 I

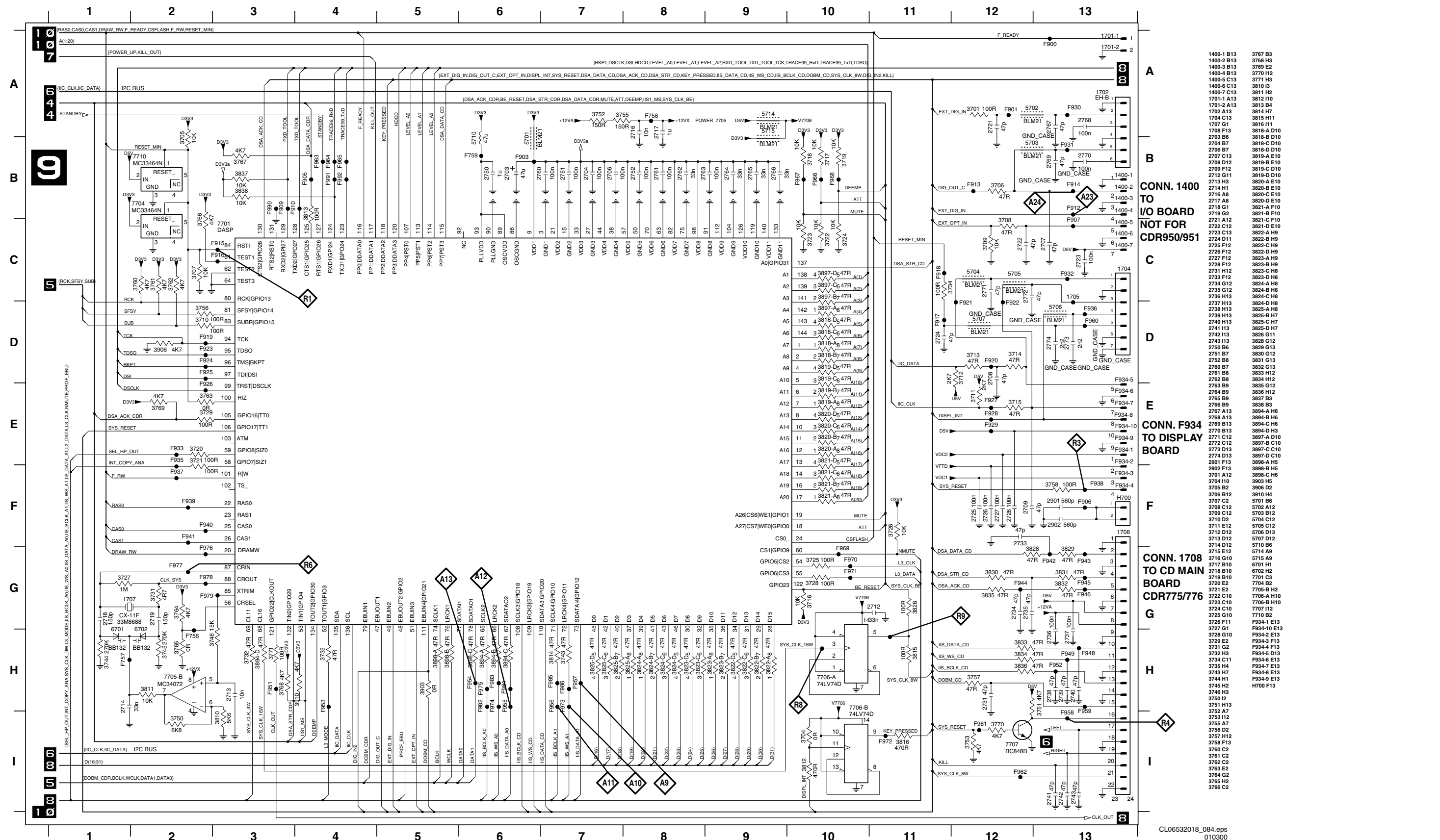
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MAIN-4228-CDR99  
3104 123 4228

CDR MAIN BOARD - CIRCUIT DIAGRAM 8 : TEST & CONNECTOR PART



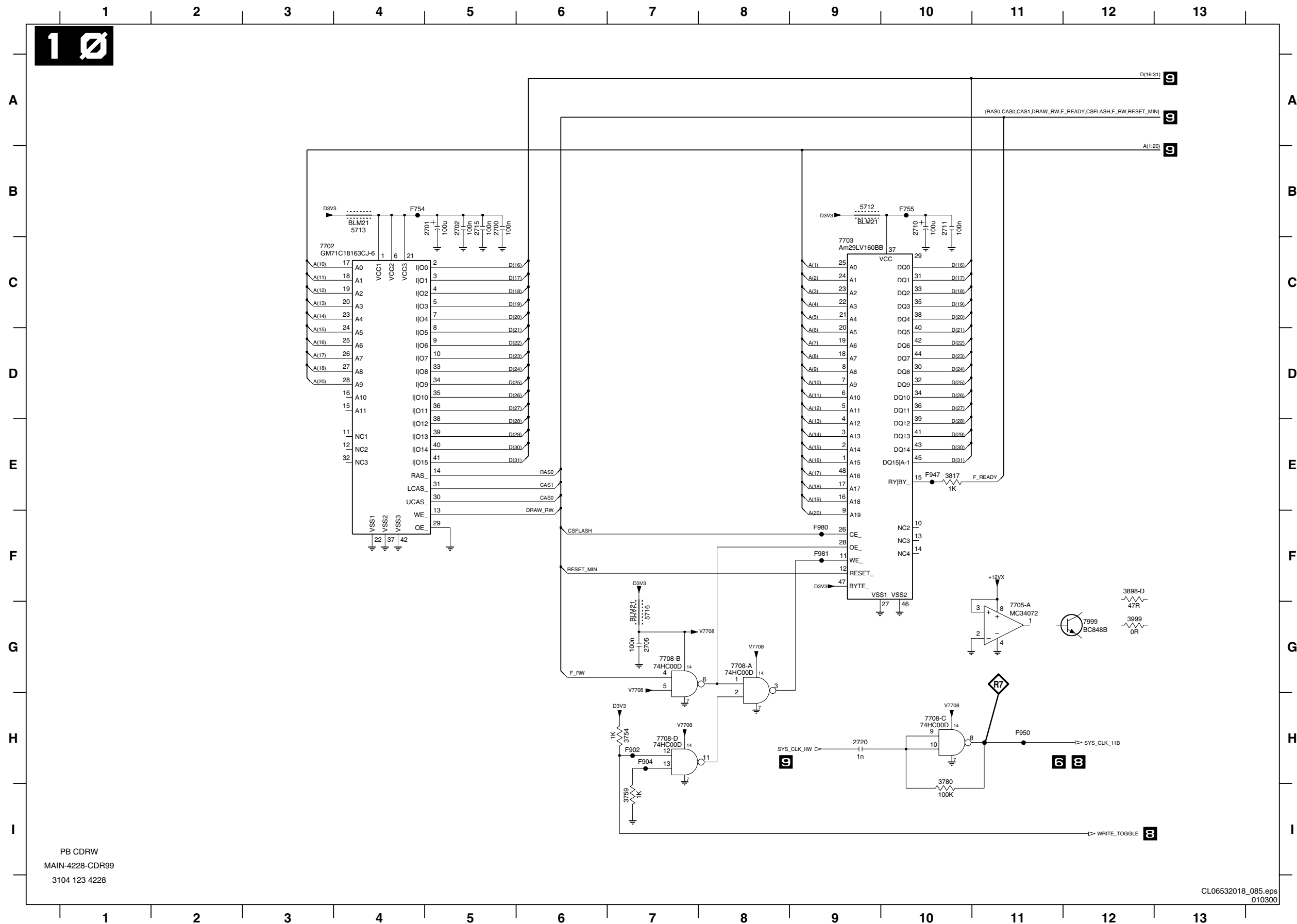
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3104 123 4228

CDR MAIN BOARD - CIRCUIT DIAGRAM 9 : DASP MASTER PROCESSOR TESTPOINTS



- 1400-1 B13 3767 B3
- 1400-2 B13 3768 H3
- 1400-3 B13 3769 E2
- 1400-4 B13 3770 H2
- 1400-5 C13 3771 H3
- 1400-6 C13 3810 I3
- 1400-7 C13 3811 H2
- 1701-1 A13 3812 H0
- 1701-2 A13 3813 B4
- 1702 A13 3814 H7
- 1704 C13 3815 H11
- 1707 G1 3816 H1
- 1708 F13 3816-A D10
- 2703 B6 3816-B D10
- 2704 B7 3816-C D10
- 2706 B7 3816-D D10
- 2707 C13 3816-E E10
- 2708 D12 3816-B E10
- 2709 F12 3816-C D10
- 2712 G11 3816-D D10
- 2713 H3 3820-A E10
- 1400-2 1400-2 3820-B E10
- 2716 A8 3820-C E10
- 2717 A8 3820-D E10
- 2718 G1 3821-A F10
- 2719 G2 3821-B F10
- 2721 A12 3821-C F10
- 2722 C12 3821-D E10
- 2723 C13 3822-A H9
- 2724 D11 3822-B H9
- 2725 F12 3822-C H9
- 2726 F12 3822-D H9
- 2727 F12 3823-A H9
- 2728 F12 3823-B H9
- 2729 H12 3823-C H8
- 2733 F12 3823-D H8
- 2734 G12 3824-A H8
- 2735 G12 3824-B H8
- 2736 H13 3824-C H8
- 2737 H13 3824-D H8
- 2738 H13 3825-A H8
- 2739 H13 3825-B H7
- 2740 H13 3825-C H7
- 2741 H13 3825-D H7
- 2742 H13 3826 G11
- 2743 H13 3826 G13
- 2744 D11 3826 G13
- 2751 B7 3830 G12
- 2752 B8 3831 G13
- 2760 B7 3832 G13
- 2761 B8 3833 H12
- 2762 B8 3834 H12
- 2763 B9 3835 G12
- 2764 B9 3836 H12
- 2765 B9 3837 B3
- 2766 B9 3838 B3
- 2767 A13 3894-A H6
- 2768 A13 3894-B H6
- 2769 B13 3894-C H6
- 2770 B13 3894-D H3
- 2771 C12 3897-A D10
- 2772 C12 3897-B C10
- 2773 D13 3897-C C10
- 2774 D11 3897-D C10
- 2901 F13 3898-A H5
- 2902 F13 3898-B H5
- 3704 A12 3898-C H6
- 3704 H0 3903 H5
- 3705 B2 3906 D2
- 3706 B12 3910 H4
- 3707 C2 5701 B6
- 3708 C12 5702 A12
- 3709 C12 5703 B12
- 3710 D2 5704 C12
- 3711 E12 5705 C12
- 3712 D12 5706 D13
- 3713 D12 5707 D12
- 3714 D12 5710 B6
- 3715 E12 5714 A9
- 3716 G10 5715 A9
- 3717 H10 6701 H1
- 3718 B12 6702 H2
- 3719 B10 7701 C3
- 3720 E2 7704 B2
- 3721 C10 7705-B H2
- 3722 C10 7706-A H10
- 3723 C10 7706-B H10
- 3724 G10 7707 H2
- 3725 G10 7710 B2
- 3726 F11 F934-1 E13
- 3727 G10 F934-2 E13
- 3728 G10 F934-3 E13
- 3729 E2 F934-4 F13
- 3731 C2 F934-5 F13
- 3732 H3 F934-6 E13
- 3734 C11 F934-7 E13
- 3735 H4 F934-8 E13
- 3743 H7 F934-9 E13
- 3744 H1 F934-9 E13
- 3745 H2 H700 F13
- 3746 H3
- 3750 I2
- 3751 H13
- 3752 A7
- 3753 I2
- 3755 A7
- 3756 D2
- 3757 H12
- 3758 F13
- 3760 C2
- 3761 C2
- 3762 C2
- 3763 E2
- 3764 G2
- 3765 H2
- 3766 C2

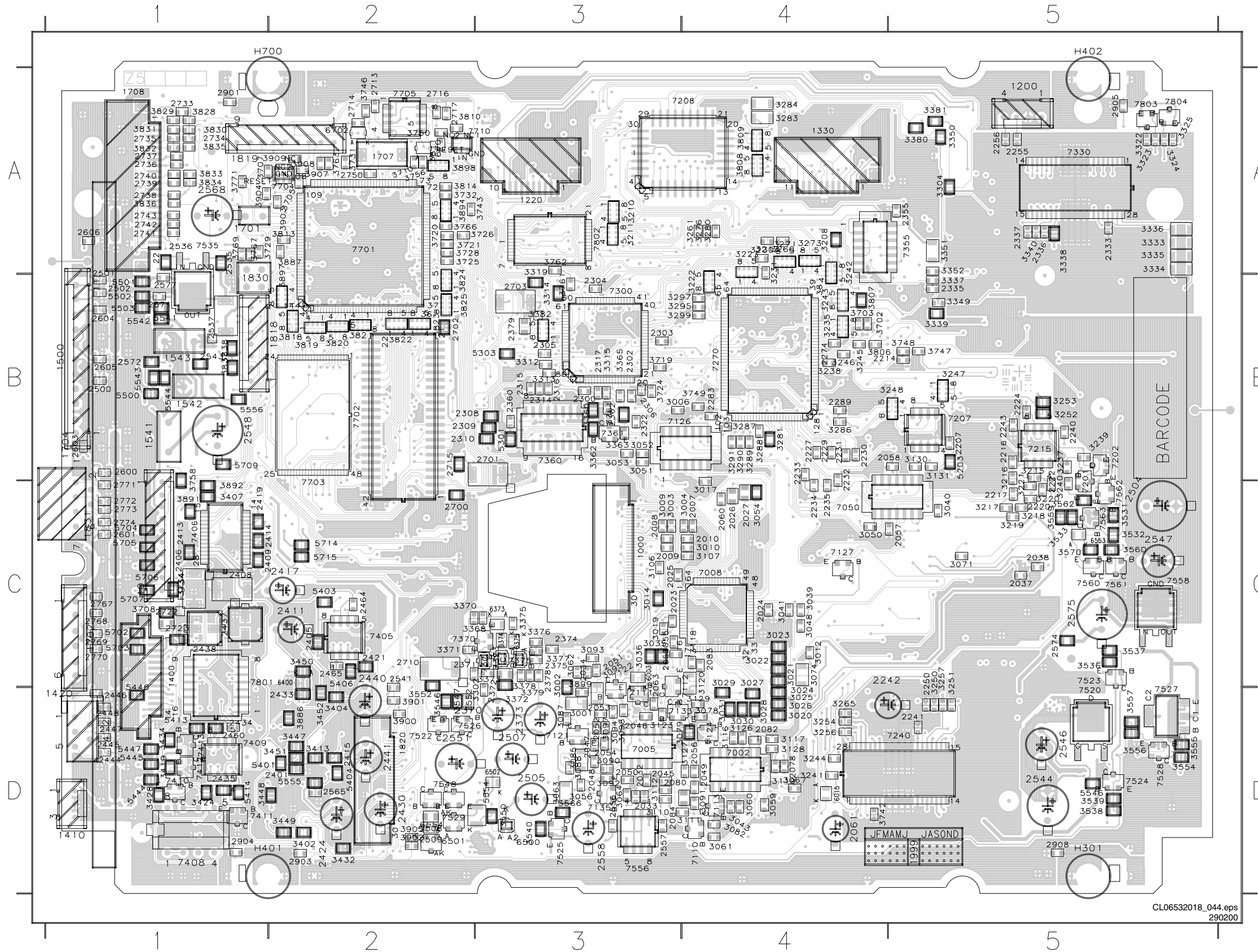
CDR MAIN BOARD - CIRCUIT DIAGRAM 10 : DASP FLASH & DRAM TESTPOINTS



- 2700 B5
- 2701 B5
- 2702 B5
- 2705 G7
- 2710 B10
- 2711 B10
- 2715 B5
- 2720 H9
- 3754 H7
- 3759 I7
- 3780 I10
- 3817 E10
- 3898-D F12
- 3999 G12
- 5712 B9
- 5713 B4
- 5716 G7
- 7702 C3
- 7703 C9
- 7705-A G11
- 7708-A G8
- 7708-B G7
- 7708-C H10
- 7708-D H7
- 7999 G12
- F754 B4
- F755 B10
- F902 H7
- F904 H7
- F947 E10
- F950 H11
- F980 F9
- F981 F9

PB CDRW  
MAIN-4228-CDR99  
3104 123 4228

CDR MAIN BOARD - TOP VIEW



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290200

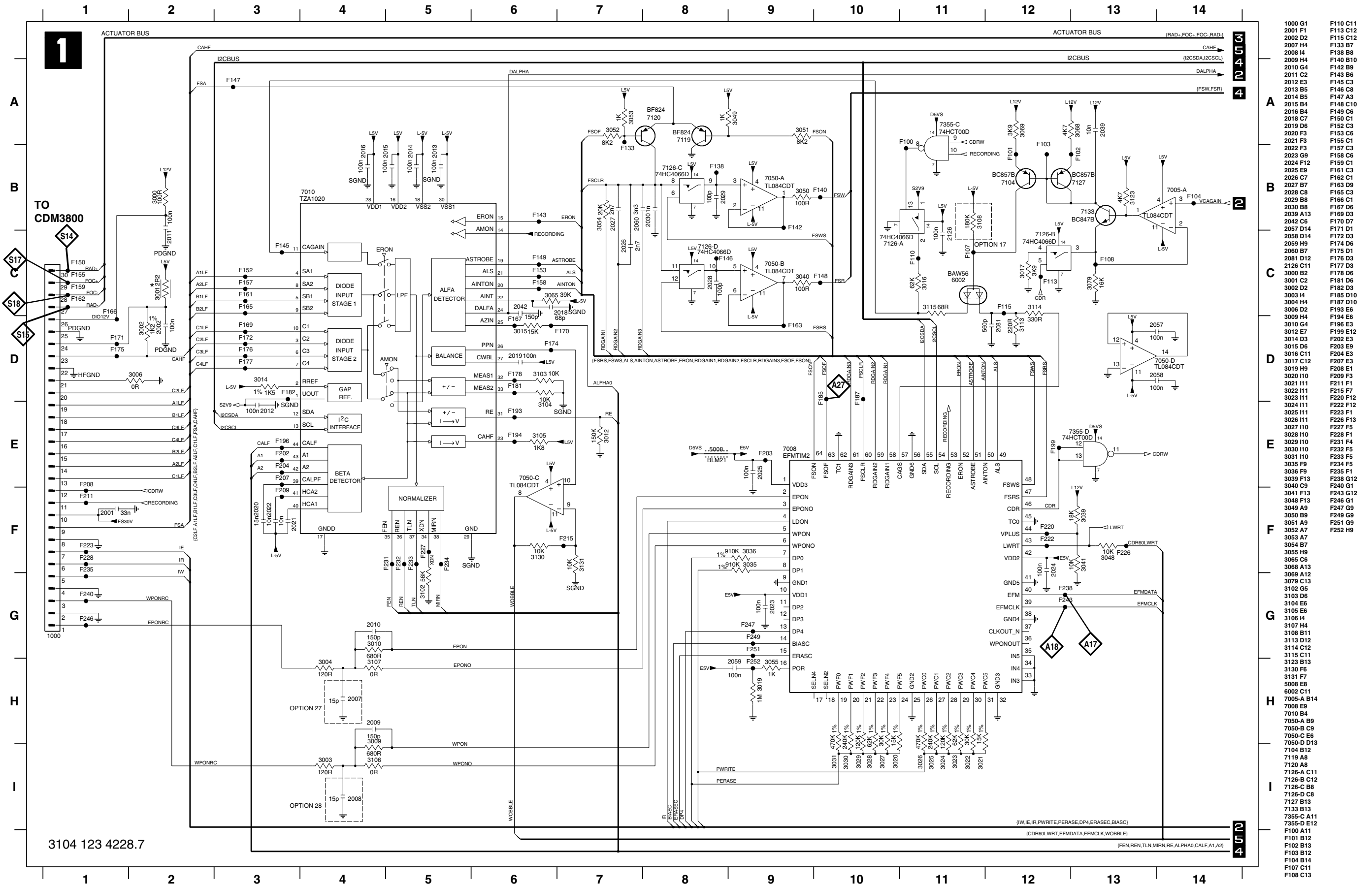
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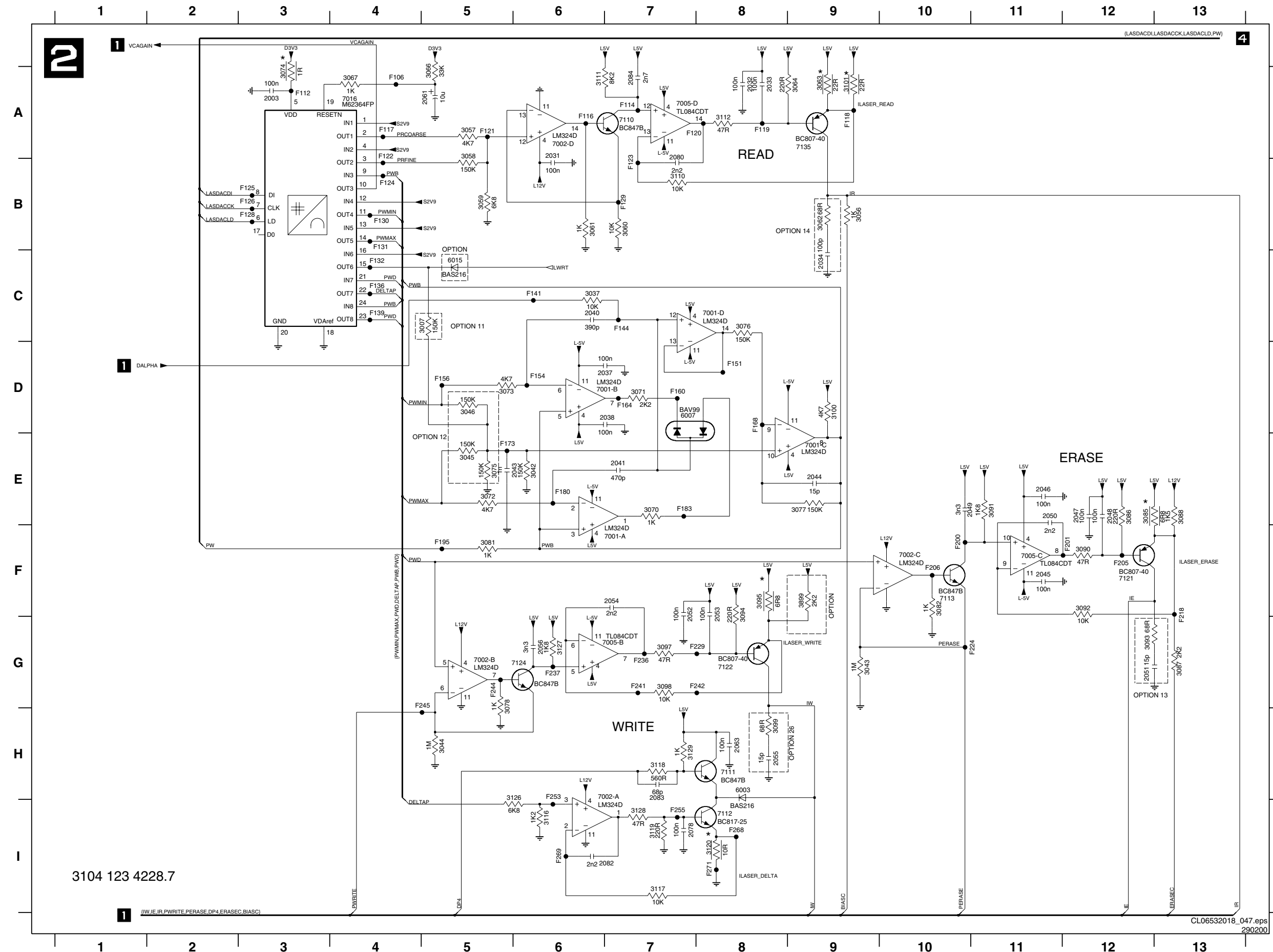
CDR-Mainboard Version 4228.7

CDR MAIN BOARD - CIRCUIT DIAGRAM 1 : AEGER, EFMTIM, FORWARD SENSE CIRCUIT TESTPOINTS



- 1000 G1
- 2001 F1
- 2002 D2
- 2007 H4
- 2008 I4
- 2009 H4
- 2010 G4
- 2011 C2
- 2012 E3
- 2013 B5
- 2014 B5
- 2015 B4
- 2016 B4
- 2018 C7
- 2019 D6
- 2020 F3
- 2021 F3
- 2022 F3
- 2023 G9
- 2024 F12
- 2025 E9
- 2026 C7
- 2027 B7
- 2028 C8
- 2029 B8
- 2030 B8
- 2039 A13
- 2042 C6
- 2057 D14
- 2058 D14
- 2059 H9
- 2060 B7
- 2081 D12
- 2126 C11
- 3000 B2
- 3001 C2
- 3002 D2
- 3003 I4
- 3004 H4
- 3006 D2
- 3009 H4
- 3010 G4
- 3012 E7
- 3014 D3
- 3015 D6
- 3016 C11
- 3017 C12
- 3019 H9
- 3020 F10
- 3021 I11
- 3022 I11
- 3023 I11
- 3024 I11
- 3025 I11
- 3026 I11
- 3027 I10
- 3028 I10
- 3029 I10
- 3030 I10
- 3031 I10
- 3035 F9
- 3036 F9
- 3039 F13
- 3040 C9
- 3041 F13
- 3048 F13
- 3049 A9
- 3050 B9
- 3051 A9
- 3052 A7
- 3053 A7
- 3054 B7
- 3055 H9
- 3056 C6
- 3068 A13
- 3069 A12
- 3079 C13
- 3102 G5
- 3103 D6
- 3104 E6
- 3105 E6
- 3106 H4
- 3107 H4
- 3108 B11
- 3113 D12
- 3114 C12
- 3115 C11
- 3123 B13
- 3130 F8
- 3131 F7
- 5008 E8
- 6002 C11
- 7005-A B14
- 7008 E9
- 7010 B4
- 7050-A B9
- 7050-B C9
- 7050-C E6
- 7050-D D13
- 7104 B12
- 7119 A8
- 7120 A8
- 7126-A C11
- 7126-B C12
- 7126-C B8
- 7126-D C8
- 7127 B13
- 7133 B13
- 7355-C A11
- 7355-D E12
- F100 A11
- F101 B12
- F102 B13
- F103 B12
- F104 B14
- F107 C11
- F108 C13
- F110 C11
- F113 C12
- F115 C12
- F133 B7
- F138 B8
- F140 B10
- F142 B9
- F143 B6
- F145 C2
- F146 C8
- F147 A3
- F148 C10
- F149 C6
- F150 C1
- F152 C3
- F153 C5
- F155 C1
- F157 C3
- F158 C6
- F159 C1
- F161 C6
- F162 C1
- F163 D9
- F165 C3
- F166 C1
- F167 D6
- F169 D3
- F170 D7
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- F181 D6
- F182 D3
- F185 D10
- F187 D10
- F193 E6
- F194 E6
- F196 E3
- F199 E12
- F202 E3
- F203 E9
- F204 E3
- F207 E3
- F208 E1
- F209 F3
- F211 F1
- F215 F7
- F220 F12
- F221 F12
- F222 F12
- F223 F1
- F226 F13
- F227 F5
- F228 F10
- F231 F4
- F232 F5
- F233 F5
- F234 F5
- F235 F1
- F238 G12
- F240 G1
- F243 G12
- F246 G1
- F247 G9
- F249 G9
- F251 G9
- F252 H9

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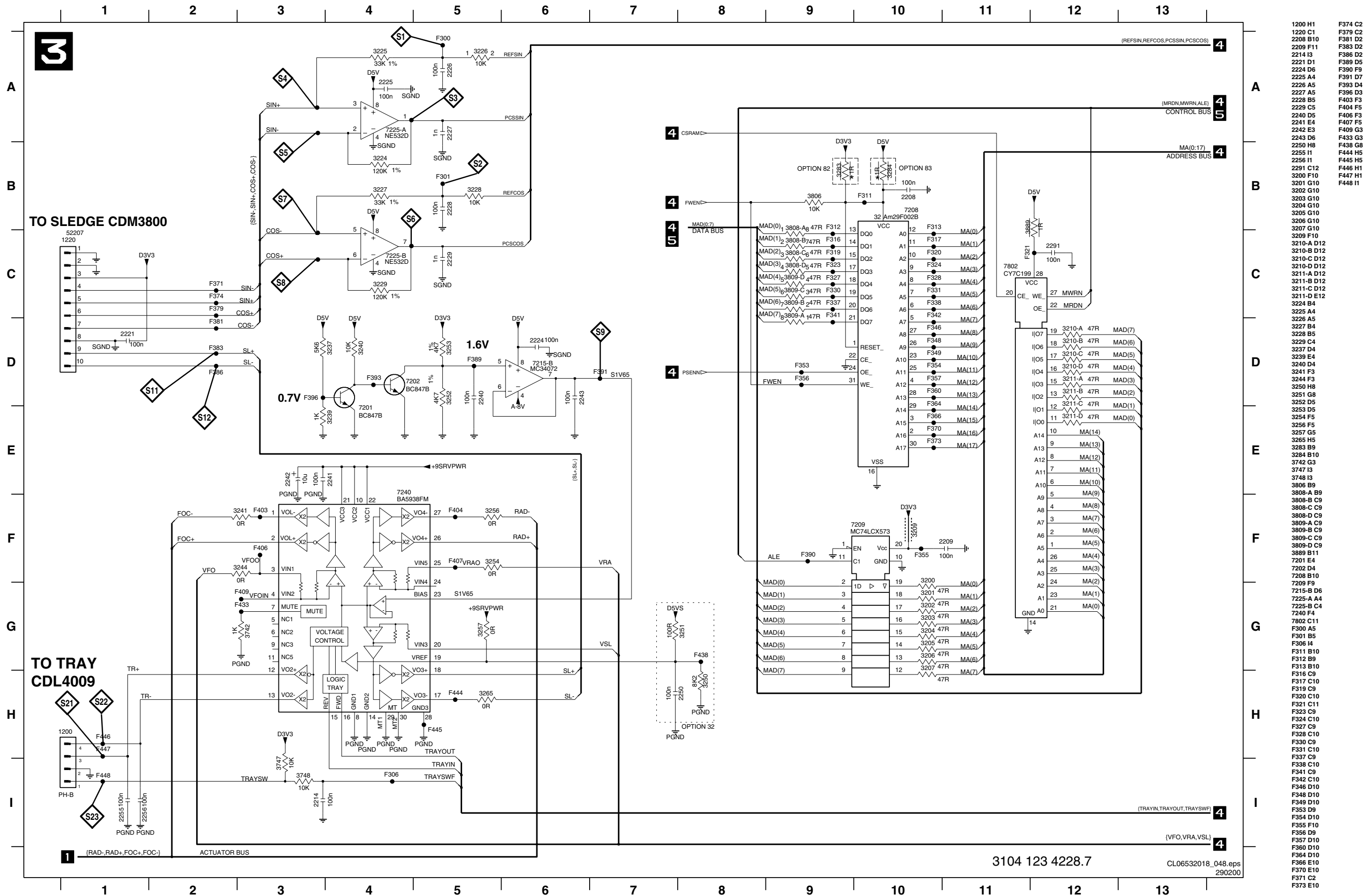


- 2003 A3
- 2031 A6
- 2032 A8
- 2033 A8
- 2034 C9
- 2037 D7
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- 2040 C6
- 2041 E7
- 2043 E5
- 2044 E9
- 2045 F11
- 2046 E11
- 2047 E12
- 2048 E12
- 2049 E10
- 2050 E11
- 2051 G12
- 2052 F7
- 2053 F8
- 2054 F7
- 2055 H8
- 2056 G6
- 2061 A5
- 2063 H8
- 2078 I7
- 2080 B7
- 2082 I7
- 2083 I7
- 2084 A7
- 3007 C5
- 3037 C6
- 3042 E6
- 3043 G9
- 3044 H5
- 3045 E5
- 3046 D5
- 3056 B9
- 3057 A5
- 3058 B5
- 3059 B5
- 3060 B7
- 3061 B6
- 3062 B9
- 3063 A9
- 3064 A9
- 3066 A5
- 3067 A4
- 3070 E7
- 3071 D7
- 3072 E5
- 3073 D5
- 3074 A3
- 3075 E5
- 3076 C8
- 3077 E9
- 3078 G5
- 3081 F5
- 3082 F10
- 3085 E12
- 3086 E12
- 3087 G13
- 3088 E13
- 3090 F12
- 3091 E11
- 3092 F12
- 3093 G12
- 3094 F8
- 3095 F8
- 3097 G7
- 3098 G7
- 3099 H8
- 3100 D9
- 3101 A9
- 3101 B7
- 3111 A6
- 3112 A8
- 3116 I6
- 3117 I7
- 3118 H7
- 3119 I7
- 3120 I8
- 3126 I6
- 3127 G6
- 3128 I7
- 3129 H7
- 3899 F9
- 6003 H8
- 6007 D7
- 6015 C5
- 7001-A F7
- 7001-B D6
- 7001-C E9
- 7001-D C8
- 7002-A H6
- 7002-B G5
- 7002-C F10
- 7002-D A6
- 7005-B G6
- 7005-C F11
- 7005-D A7
- 7016 A4
- 7110 A7
- 7111 H8
- 7112 I8
- 7113 F10
- 7121 F12
- 7122 G8
- 7124 G5
- 7135 A9
- F106 A4
- F112 A3
- F114 A7
- F116 A6
- F117 A4
- F118 A9
- F119 A8
- F120 A7
- F121 A5
- F122 A4
- F123 B7
- F124 B4
- F125 B3
- F126 B3
- F128 B3
- F129 B7
- F130 B4
- F131 B4
- F132 C4
- F135 C4
- F139 C4
- F141 C6
- F144 C7
- F151 D8
- F154 D6
- F156 D5
- F160 D7
- F164 D7
- F168 D8
- F173 E5
- F180 E6
- F183 E7
- F195 F5
- F200 F10
- F201 F12
- F205 F12
- F206 F10
- F218 F13
- F224 G10
- F229 G6
- F236 G7
- F237 G6
- F241 G7
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- F244 G5
- F245 G5
- F253 H6
- F255 I7
- F268 I8
- F269 I6
- F271 I8

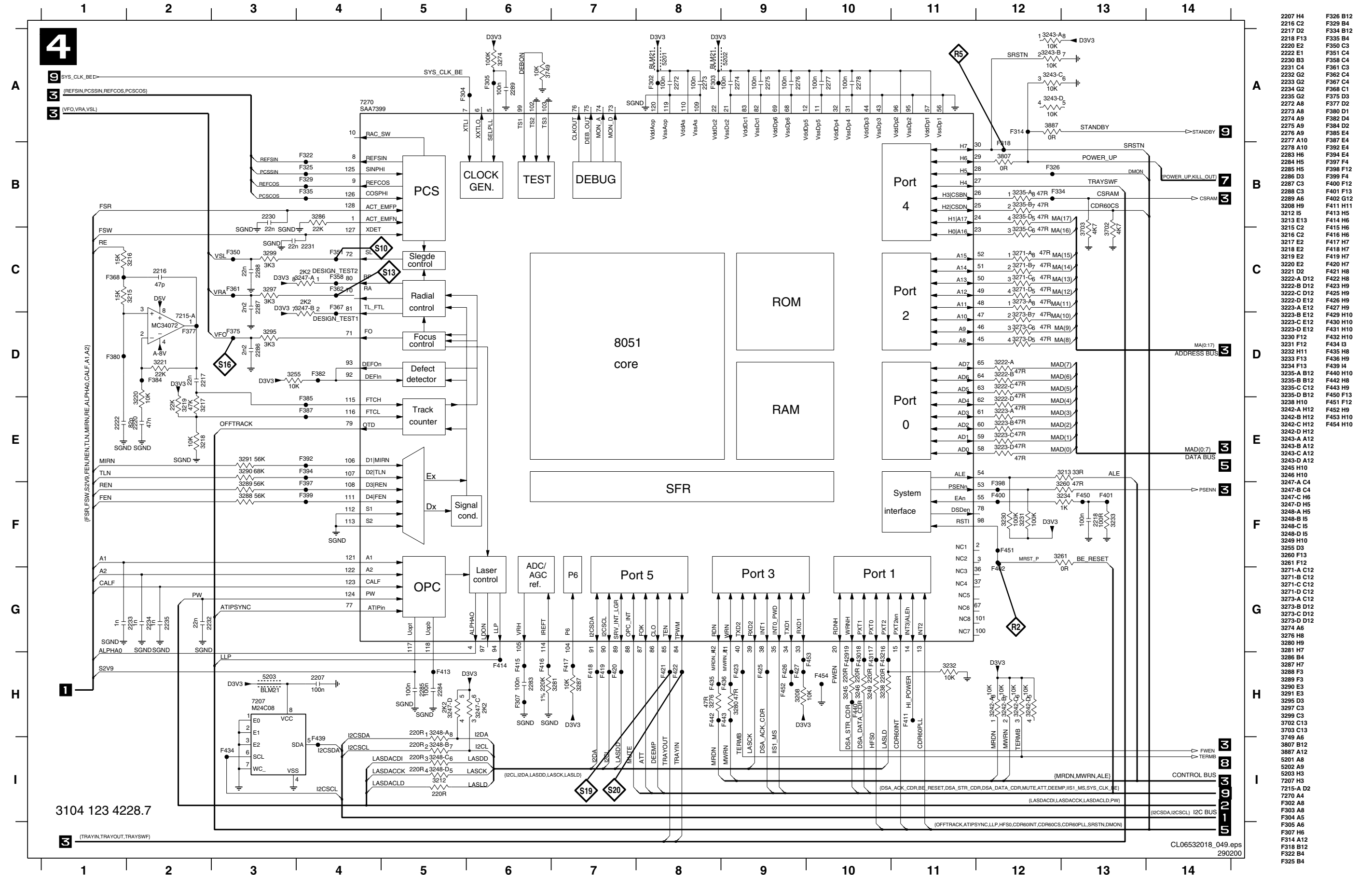
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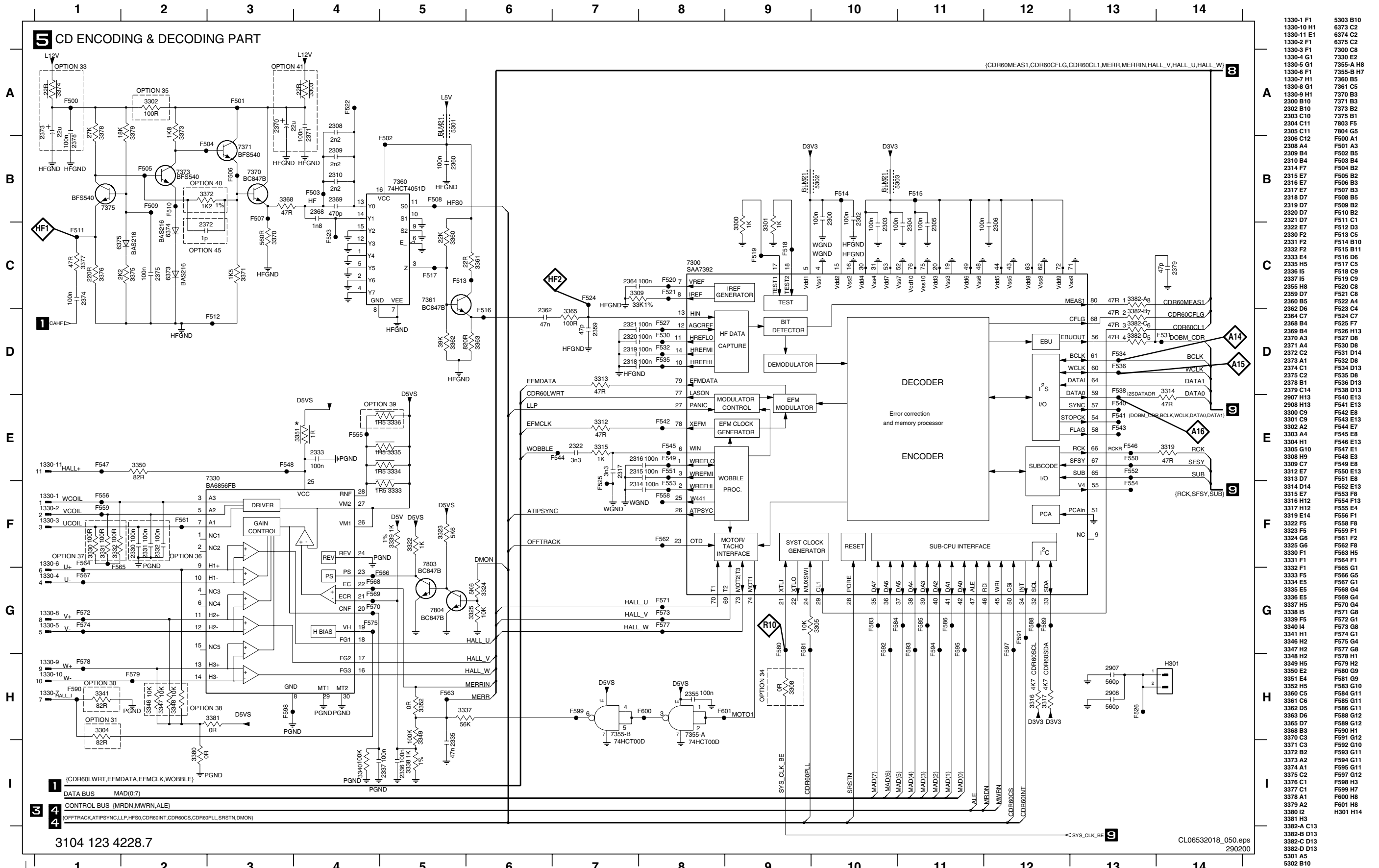
CDR MAIN BOARD - CIRCUIT DIAGRAM 3 : SERVO DRIVERS, MACE-RAM, -FLASH, -DEMUX TEST POINTS



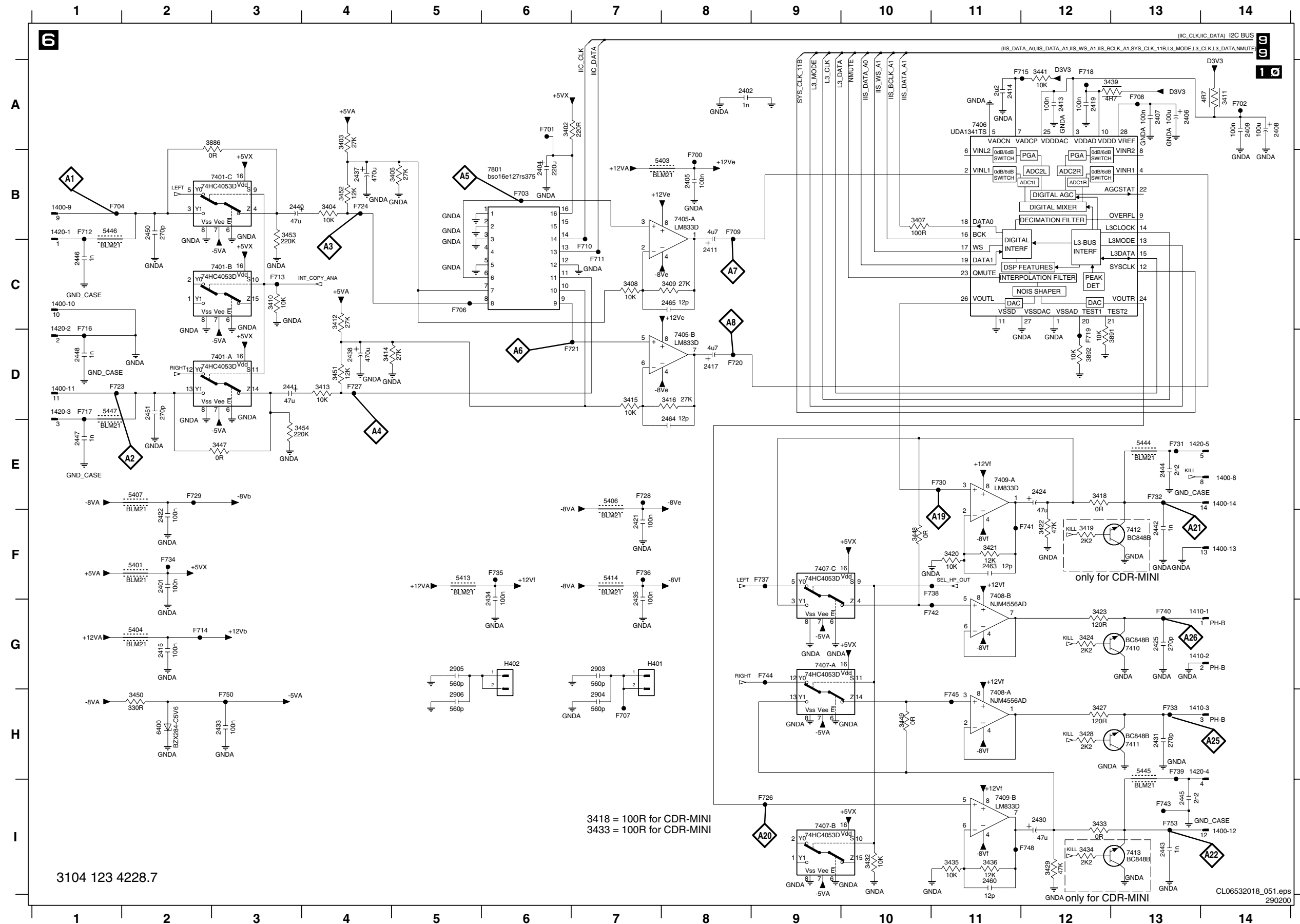
CDR MAIN BOARD - CIRCUIT DIAGRAM 4 : MACE BE-PROCESSOR TESTPOINTS



CDR MAIN BOARD - CIRCUIT DIAGRAM 5 : CD ENCODING-DECODING PART



CDR MAIN BOARD - CIRCUIT DIAGRAM 6 : AUDIO PART (NOT FOR CDR950/951)

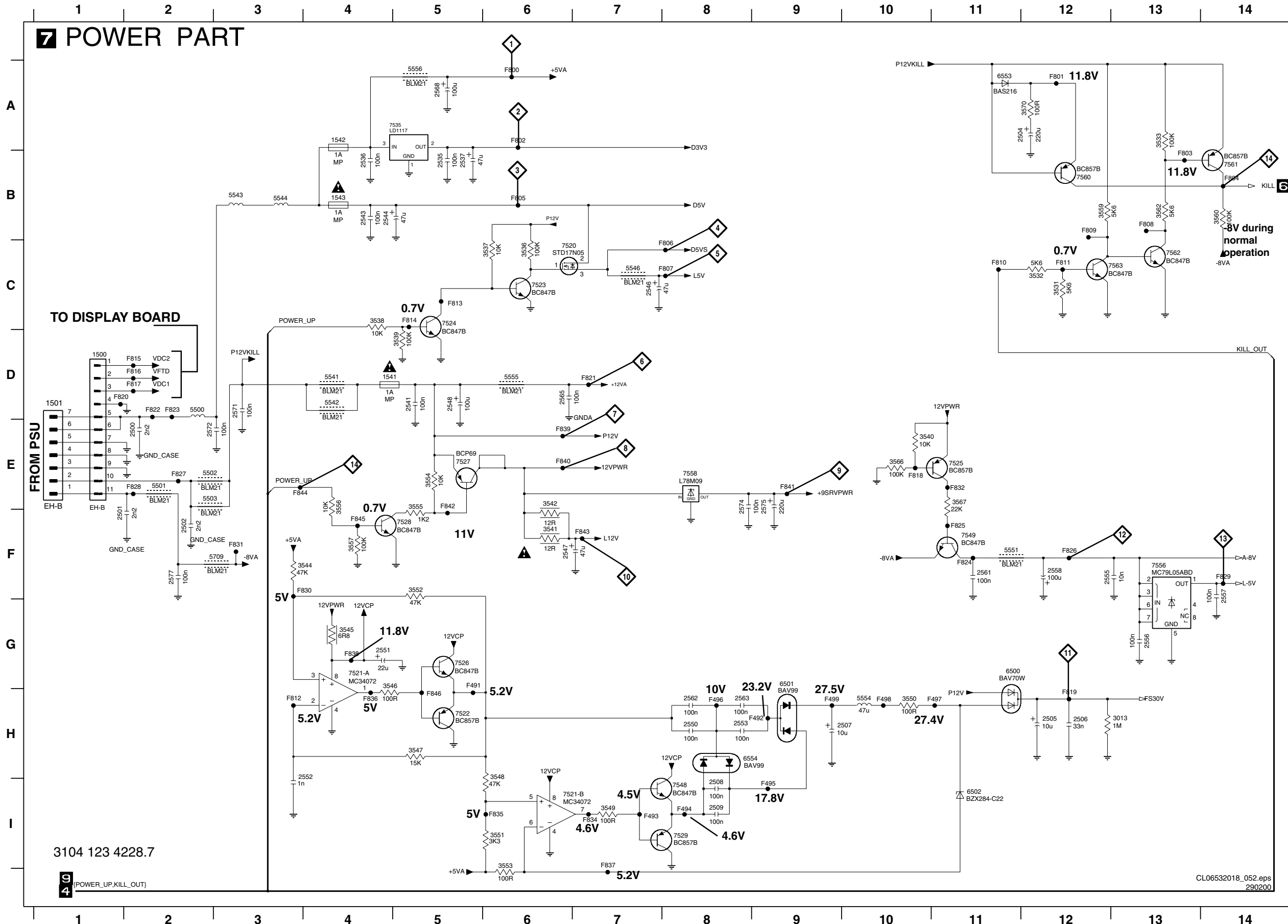


1400-10 C1	7405-B D8
1400-11 D1	7406 A11
1400-12 I14	7407-A G9
1400-13 F14	7407-B I9
1400-14 E14	7407-C F9
1400-8 E14	7408-A H11
1400-9 B1	7408-B F11
1410-1 G14	7409-A E11
1410-2 G14	7409-B H11
1410-3 H14	7410 G13
1420-1 B1	7411 H13
1420-2 D1	7412 F13
1420-3 D1	7413 I13
1420-4 H14	7801 B6
1420-5 E14	F700 B8
2401 F2	F701 A6
2402 A8	F702 A14
2404 B6	F703 B6
2405 B8	F704 B1
2406 A13	F705 C5
2407 A13	F707 H7
2408 A14	F708 A13
2409 A14	F709 B8
2411 C8	F710 C7
2413 A12	F711 C7
2414 A11	F712 B1
2415 G2	F713 C3
2417 D8	F714 G2
2419 A12	F715 A12
2421 F7	F716 D1
2422 F2	F717 D1
2424 E12	F718 A12
2425 G13	F719 D12
2430 H12	F720 D8
2431 H13	F721 D7
2433 H3	F723 D1
2434 F6	F724 B4
2435 F7	F726 I9
2437 B4	F727 D4
2438 D4	F728 E7
2440 B3	F729 E2
2441 D3	F730 E1
2442 F3	F731 E3
2443 I13	F732 E13
2444 E13	F733 H13
2445 I13	F734 F2
2446 C1	F735 F6
2447 E1	F737 F9
2448 D1	F738 F11
2450 B2	F739 H13
2451 D2	F740 G13
2460 I11	F741 F12
2463 F11	F742 G11
2464 E8	F743 I13
2465 C8	F744 G9
2903 G7	F745 H11
2905 G5	F748 I12
2906 H5	F750 H3
3402 A6	F753 I13
3403 A4	H401 G7
3404 B4	H402 G6
3405 B5	
3407 B10	
3408 C7	
3409 C8	
3410 C3	
3411 A14	
3412 C4	
3413 D4	
3414 D4	
3415 D7	
3416 D8	
3418 E12	
3419 F11	
3420 F12	
3421 F11	
3422 F12	
3423 G12	
3424 G12	
3427 H12	
3428 H12	
3429 I12	
3432 I10	
3433 I12	
3434 I12	
3435 I11	
3436 I11	
3439 A13	
3441 A12	
3447 E3	
3448 F10	
3449 H10	
3450 H2	
3451 D4	
3452 B4	
3453 B3	
3454 E4	
3886 A3	
3891 D12	
3892 D12	
5401 F2	
5403 B8	
5404 G2	
5406 E7	
5407 E2	
5413 F5	
5414 F7	
5444 E13	
5445 H13	
5446 B1	
5447 D1	
6400 H2	
7401-A D3	
7401-B C3	
7401-C B3	
7405-A B8	

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CDR MAIN BOARD - CIRCUIT DIAGRAM 7 : POWER PART TESTPOINTS

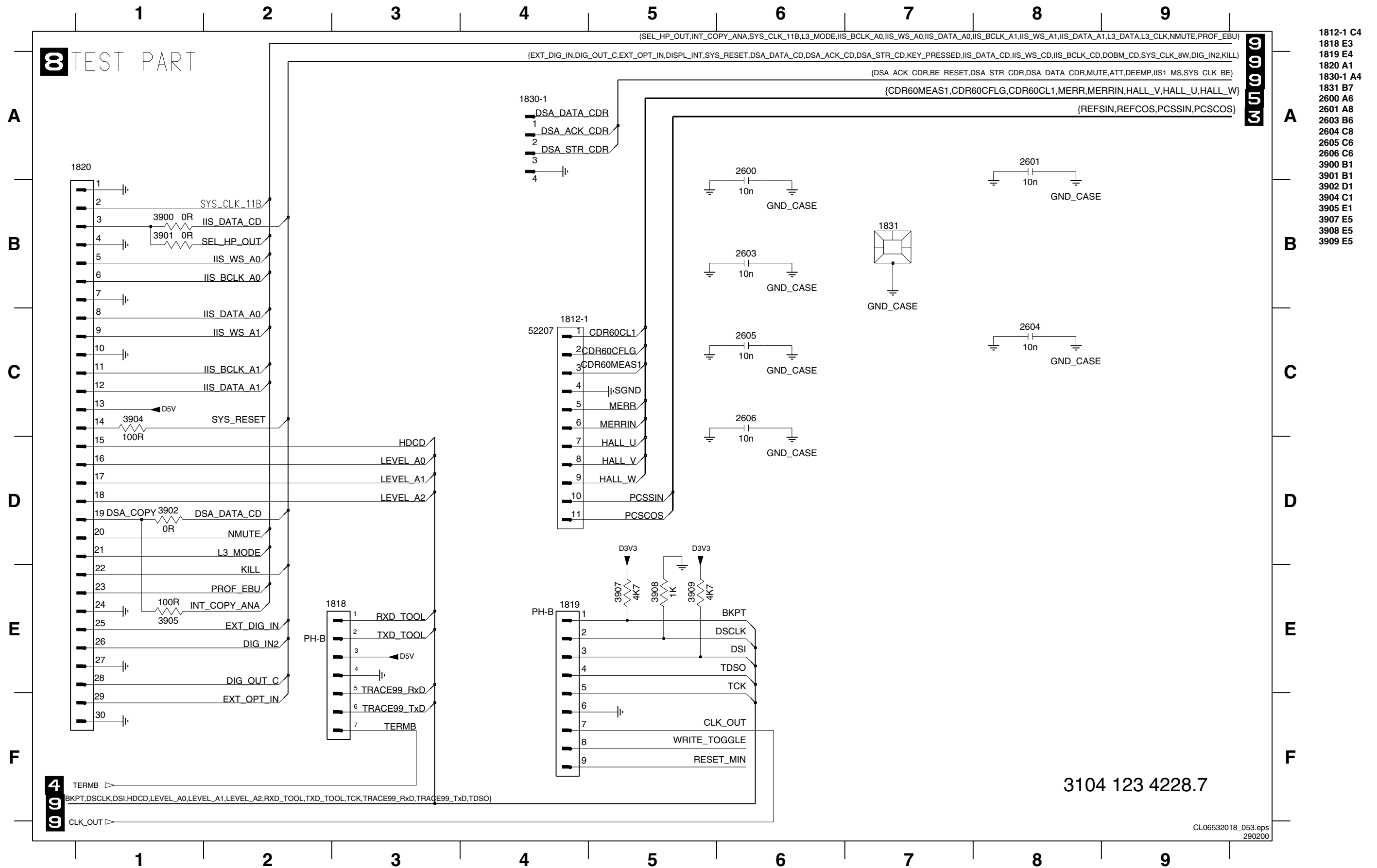


- 1500 D1
- 1541 D4
- 1542 A4
- 1543 B4
- 2500 E2
- 2501 F1
- 2502 F2
- 2504 A12
- 2505 H12
- 2506 H12
- 2507 H10
- 2508 I8
- 2509 I8
- 2535 B5
- 2536 B4
- 2537 B5
- 2541 D5
- 2543 B4
- 2544 B4
- 2548 D5
- 2550 H8
- 2551 G4
- 2552 H4
- 2553 H8
- 2555 F12
- 2556 G13
- 2557 F14
- 2558 F12
- 2561 F11
- 2562 H8
- 2563 H8
- 2565 D6
- 2568 A5
- 2571 D3
- 2572 E2
- 2574 E8
- 2575 E9
- 2577 F2
- 3013 H13
- 3531 C12
- 3532 C12
- 3533 A13
- 3536 C6
- 3537 C6
- 3538 C4
- 3539 D5
- 3540 E10
- 3541 F6
- 3542 E6
- 3544 F4
- 3545 G4
- 3546 G4
- 3547 H5
- 3548 H6
- 3549 I7
- 3550 H10
- 3551 I6
- 3552 F5
- 3553 I6
- 3554 E5
- 3555 E5
- 3556 E4
- 3557 F4
- 3559 B12
- 3560 B14
- 3562 B13
- 3566 E10
- 3567 E11
- 3570 A12
- 5500 D2
- 5501 E2
- 5502 E2
- 5503 E2
- 5541 D4
- 5542 D4
- 5543 B3
- 5544 B3
- 5546 C7
- 5551 F11
- 5554 H10
- 5555 D6
- 5556 A5
- 5709 F3
- 6500 G11
- 6501 G9
- 6502 I11
- 6553 A11
- 6554 H9
- 7520 C6
- 7521-A G4
- 7521-B I6
- 7522 H5
- 7523 C6
- 7524 C5
- 7525 E11
- 7526 G5
- 7527 E5
- 7528 F5
- 7529 I8
- 7535 A4
- 7548 I8
- 7549 F11
- 7556 F13
- 7558 E8
- 7560 B12
- 7561 B14
- 7562 C13
- 7563 C12
- F491 G5
- F492 H9
- F493 I7
- F494 I8
- F495 I9
- F496 H8
- F497 H11
- F498 H10
- F499 H9
- F800 A6
- F801 A12
- F802 A6
- F803 B13
- F804 B14
- F805 B6
- F806 C8
- F807 C8
- F808 B13
- F809 B12
- F810 C11
- F811 C12
- F812 H3
- F813 C5
- F814 C5
- F815 D2
- F816 D2
- F817 D2
- F818 E10
- F819 H12
- F820 D1
- F821 D7
- F822 D2
- F823 D2
- F824 F11
- F825 F11
- F826 F12
- F827 E2
- F828 E2
- F829 F14
- F830 F4
- F831 F3
- F832 E11
- F834 I7
- F835 I6
- F836 H4
- F837 I7
- F838 G4
- F839 E6
- F840 E6
- F841 E9
- F842 E5
- F843 F7
- F844 E3
- F845 F4
- F846 H5

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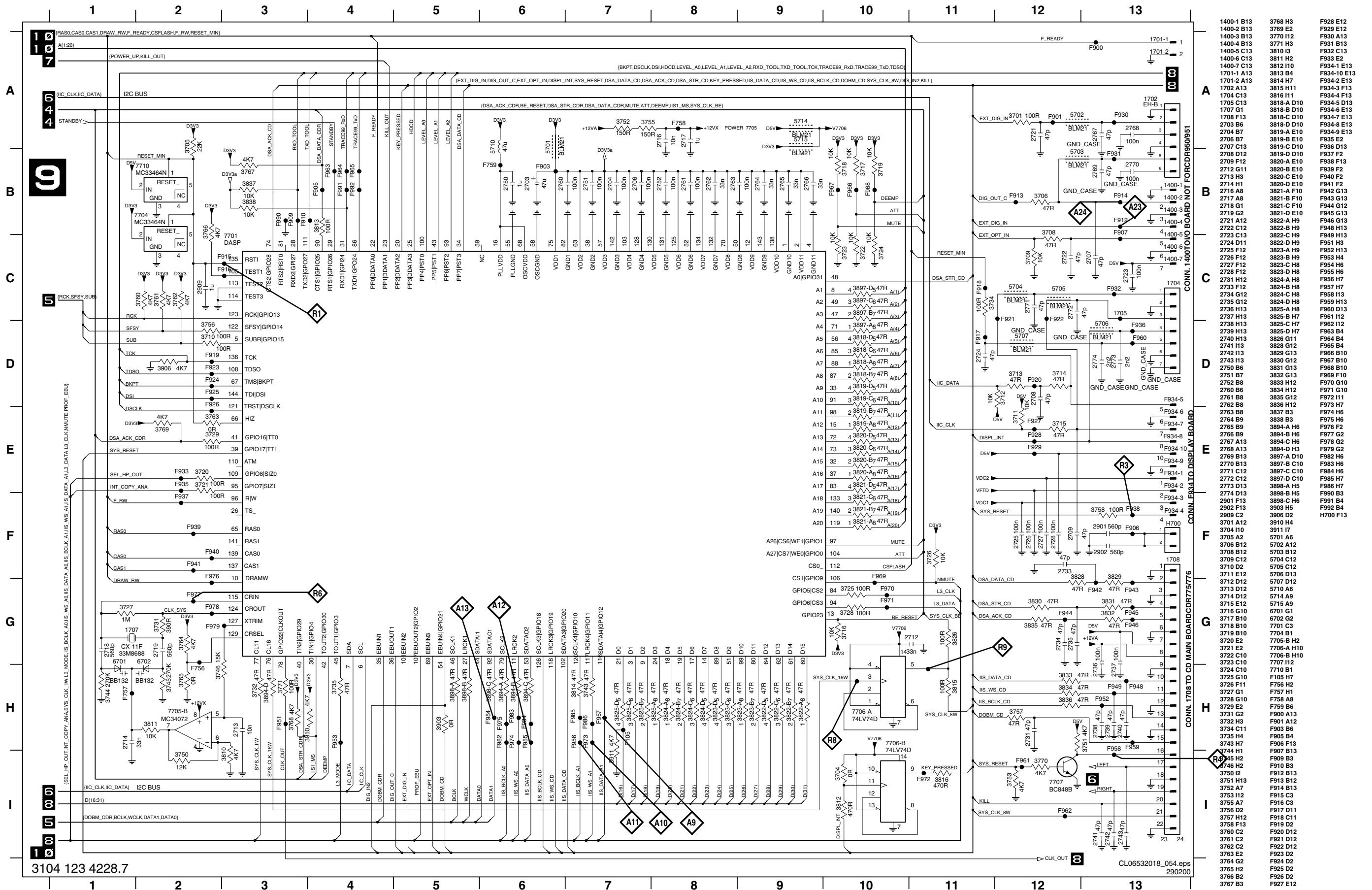
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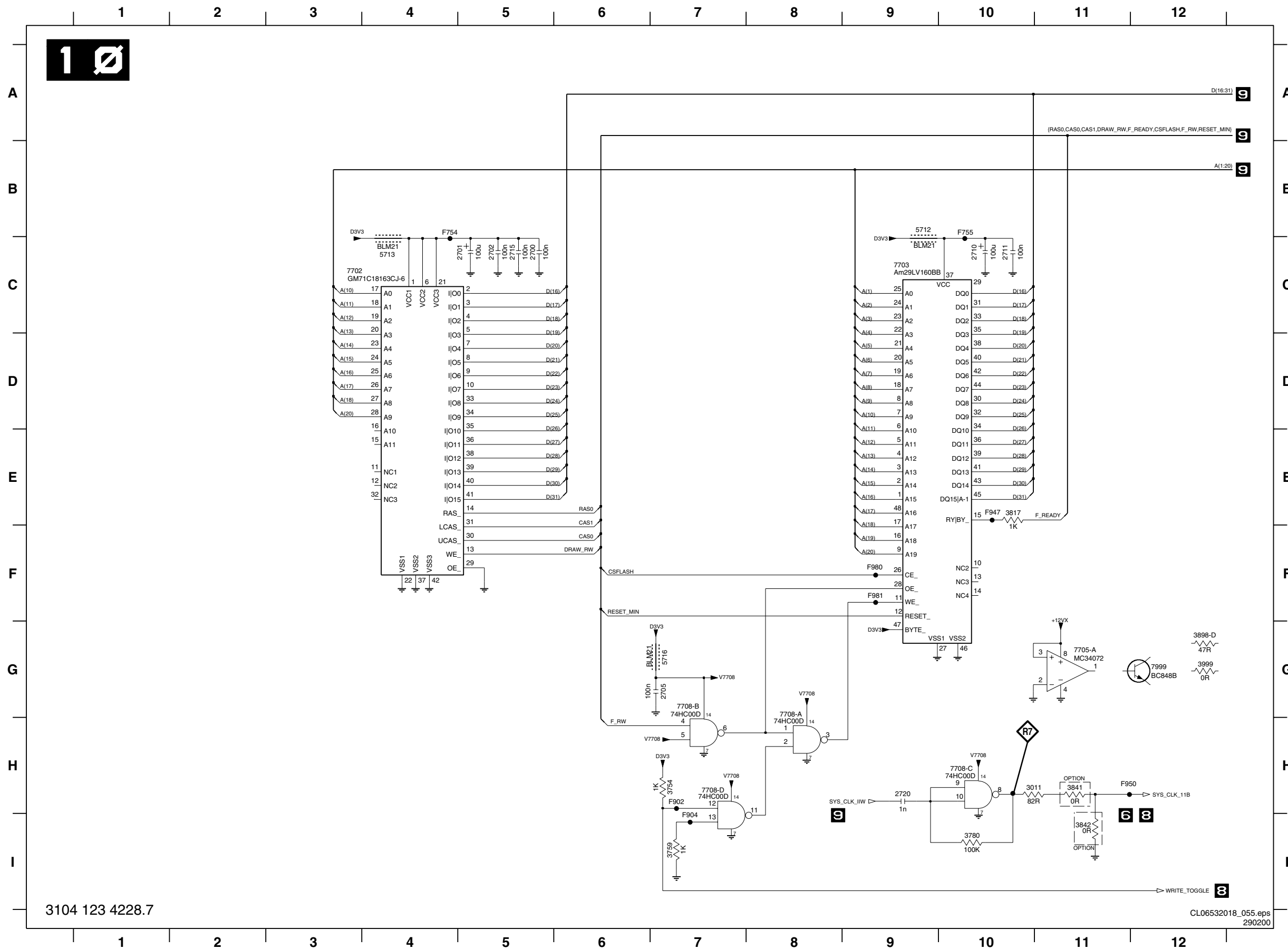


- 1812-1 C4
- 1818 E3
- 1819 E4
- 1820 A1
- 1830-1 A4
- 1831 B7
- 2600 A6
- 2601 A8
- 2603 B6
- 2604 C8
- 2605 C6
- 2606 C6
- 3900 B1
- 3901 B1
- 3902 D1
- 3904 C1
- 3905 E1
- 3907 E5
- 3908 E5
- 3909 E5

CDR MAIN BOARD - CIRCUIT DIAGRAM 9 : DASP MASTER PROCESSOR TESTPOINTS



CDR MAIN BOARD - CIRCUIT DIAGRAM 10 : DASP FLASH & DRAM TESTPOINTS



- 2700 C5
- 2701 C5
- 2702 C5
- 2705 G7
- 2710 C10
- 2711 C10
- 2715 C5
- 2720 H9
- 3011 H10
- 3754 H7
- 3759 I7
- 3780 I10
- 3817 E10
- 3841 H11
- 3842 I11
- 3898-D G12
- 3999 G12
- 5712 B9
- 5713 C4
- 5716 G7
- 7702 C3
- 7703 C9
- 7705-A G11
- 7708-A G8
- 7708-B G7
- 7708-C H10
- 7708-D H7
- 7999 G12
- F754 B4
- F755 B10
- F902 H7
- F904 I7
- F947 E10
- F950 H11
- F980 F9
- F981 F9

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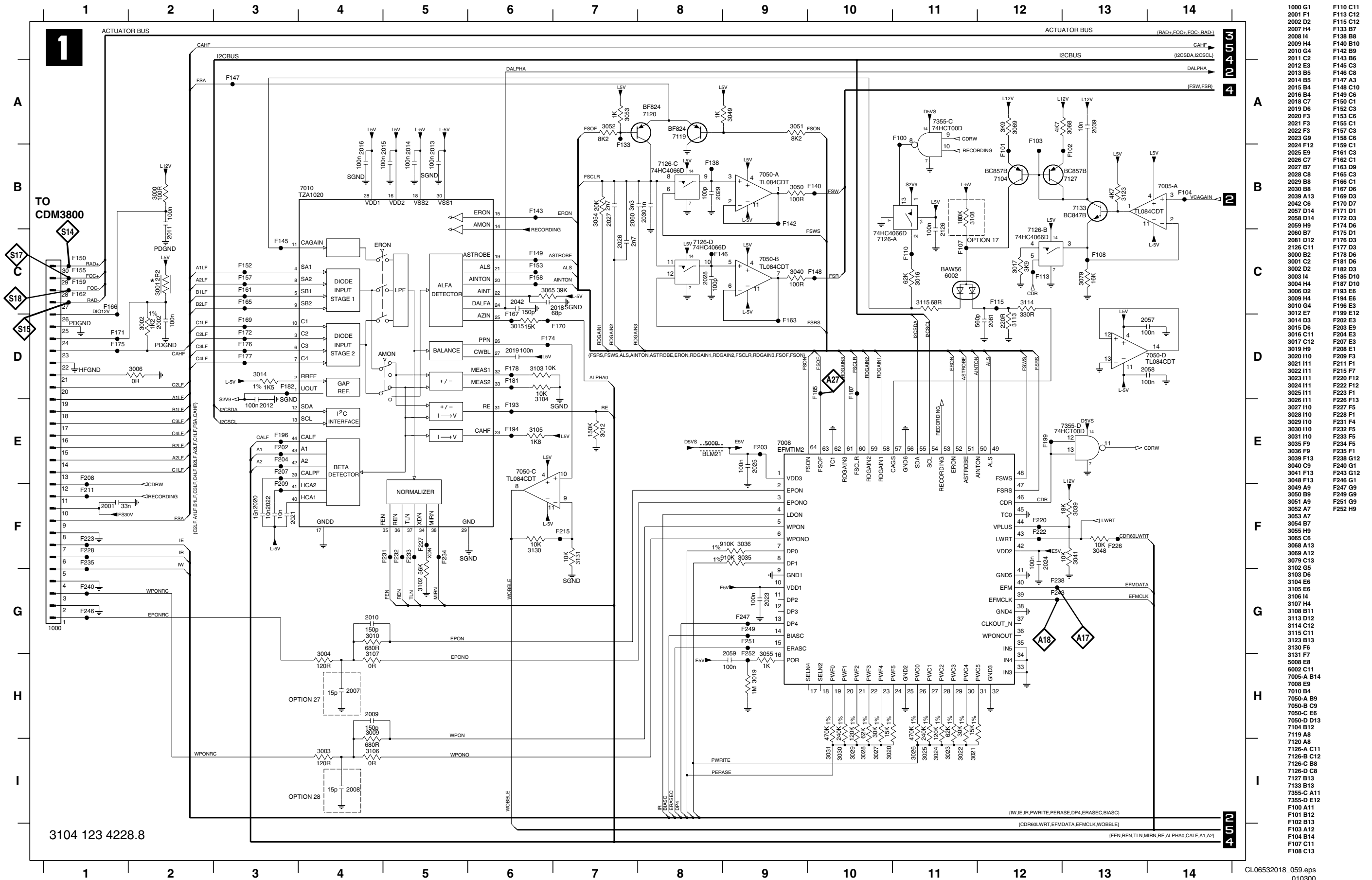
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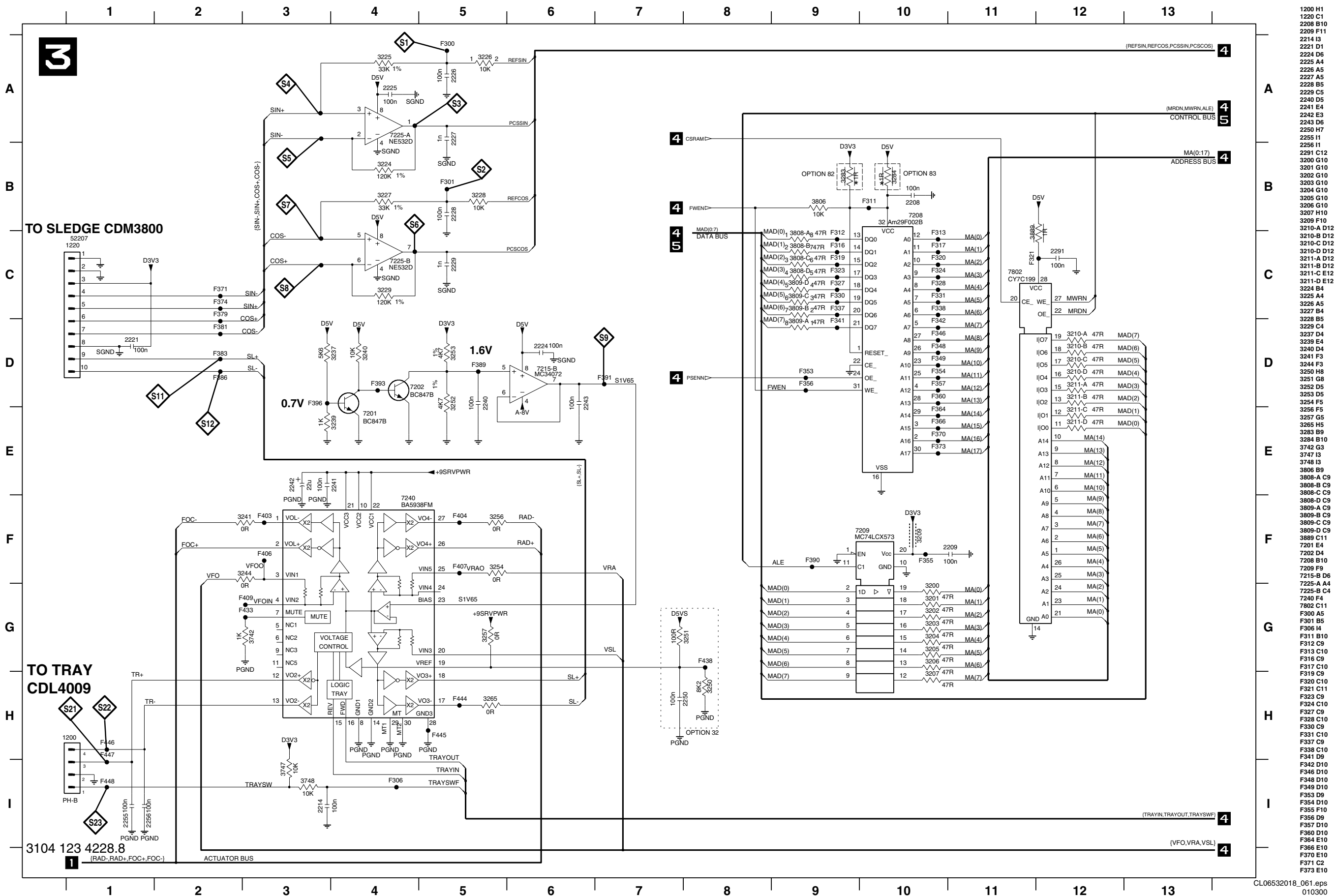
CDR-Mainboard Version 4228.8

CDR MAIN BOARD - CIRCUIT DIAGRAM 1 : AEGER, EFMTIM, FORWARD SENSE CIRCUIT TESTPOINTS





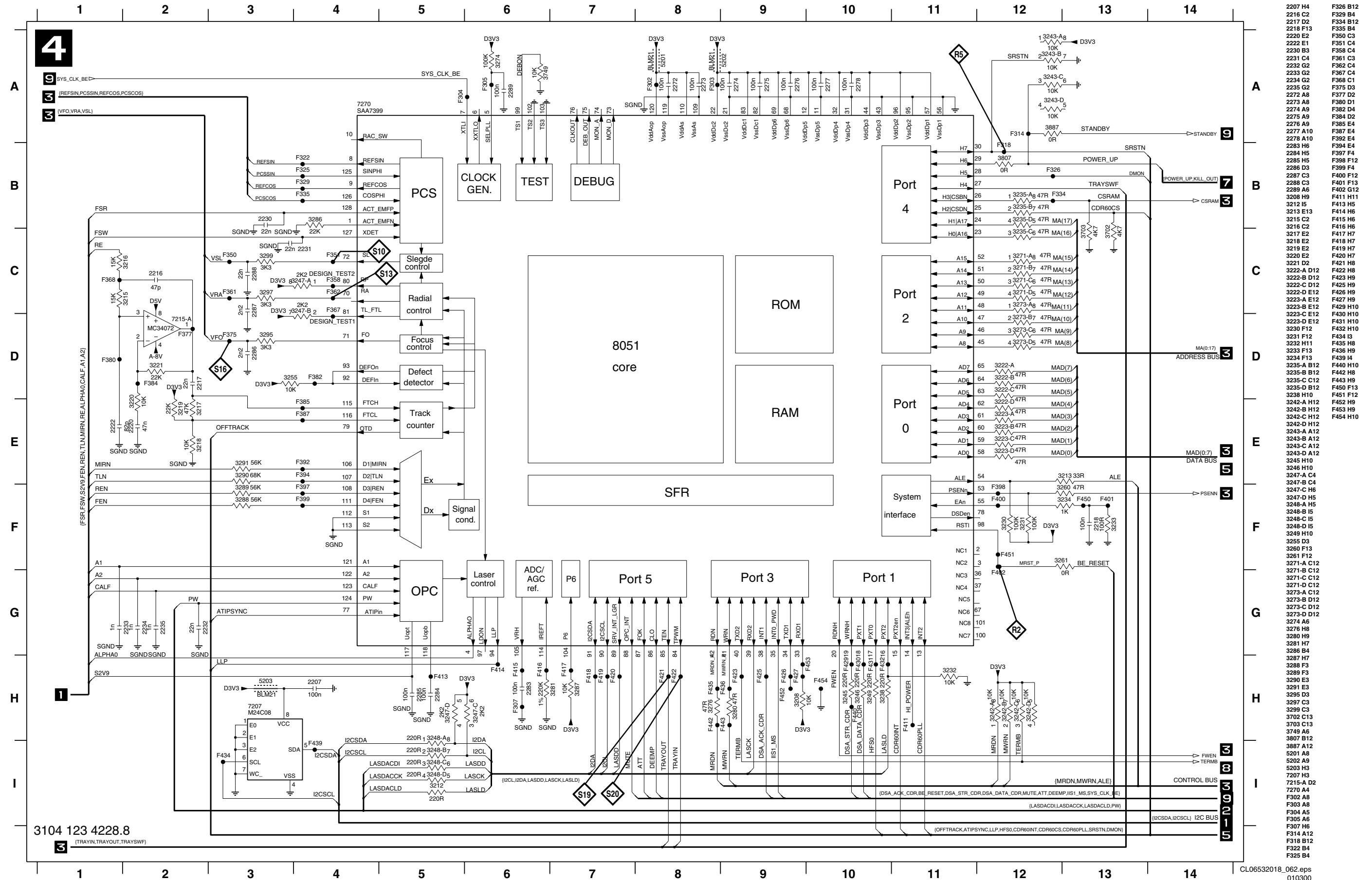
CDR MAIN BOARD - CIRCUIT DIAGRAM 3 : SERVO DRIVERS, MACE-RAM, -FLASH, -DEMUX TEST POINTS



- 1200 H1
- 1220 C1
- 2208 B10
- 2209 F11
- 2214 I3
- 2221 D1
- 2224 D6
- 2225 A4
- 2226 A5
- 2227 A5
- 2228 B5
- 2229 C5
- 2240 D5
- 2241 E4
- 2242 E3
- 2243 D6
- 2250 H7
- 2255 I1
- 2256 I1
- 2291 C12
- 3200 G10
- 3201 G10
- 3202 G10
- 3203 C10
- 3204 G10
- 3205 G10
- 3206 G10
- 3207 H10
- 3209 F10
- 3210-A D12
- 3210-B D12
- 3210-C D12
- 3210-D D12
- 3211-A D12
- 3211-B D12
- 3211-C E12
- 3211-D E12
- 3224 B4
- 3225 A4
- 3226 A5
- 3227 B4
- 3228 B5
- 3229 C4
- 3237 D4
- 3239 E4
- 3240 D4
- 3241 F3
- 3244 F3
- 3250 H8
- 3251 G8
- 3252 D5
- 3253 D5
- 3254 F5
- 3256 F5
- 3257 G5
- 3265 H5
- 3283 B9
- 3284 B10
- 3742 G3
- 3747 I3
- 3748 I3
- 3806 B9
- 3808-A C9
- 3808-B C9
- 3808-C C9
- 3808-D C9
- 3809-A C9
- 3809-B C9
- 3809-C C9
- 3809-D C9
- 3889 C11
- 7201 E4
- 7202 D4
- 7208 B10
- 7209 F9
- 7215-B D6
- 7225-A A4
- 7225-B C4
- 7240 F4
- 7802 C11
- F300 A5
- F301 B5
- F306 I4
- F311 B10
- F312 C9
- F313 C10
- F316 C9
- F317 C10
- F319 C9
- F320 C10
- F321 C11
- F323 C9
- F324 C10
- F327 C9
- F328 C10
- F330 C9
- F331 C10
- F337 C9
- F338 C10
- F341 D9
- F342 D10
- F346 D10
- F348 D10
- F349 D10
- F353 D9
- F354 D10
- F355 F10
- F356 D9
- F357 D10
- F360 D10
- F364 E10
- F366 E10
- F370 E10
- F371 C2
- F373 E10
- F374 C2
- F375 C2
- F381 D2
- F383 D2
- F386 D2
- F389 D5
- F390 F9
- F391 D7
- F393 D4
- F396 D3
- F403 F3
- F404 F5
- F406 F3
- F407 F5
- F409 G3
- F433 G3
- F438 G8
- F444 H5
- F445 H5
- F446 H1
- F447 H1
- F448 I1



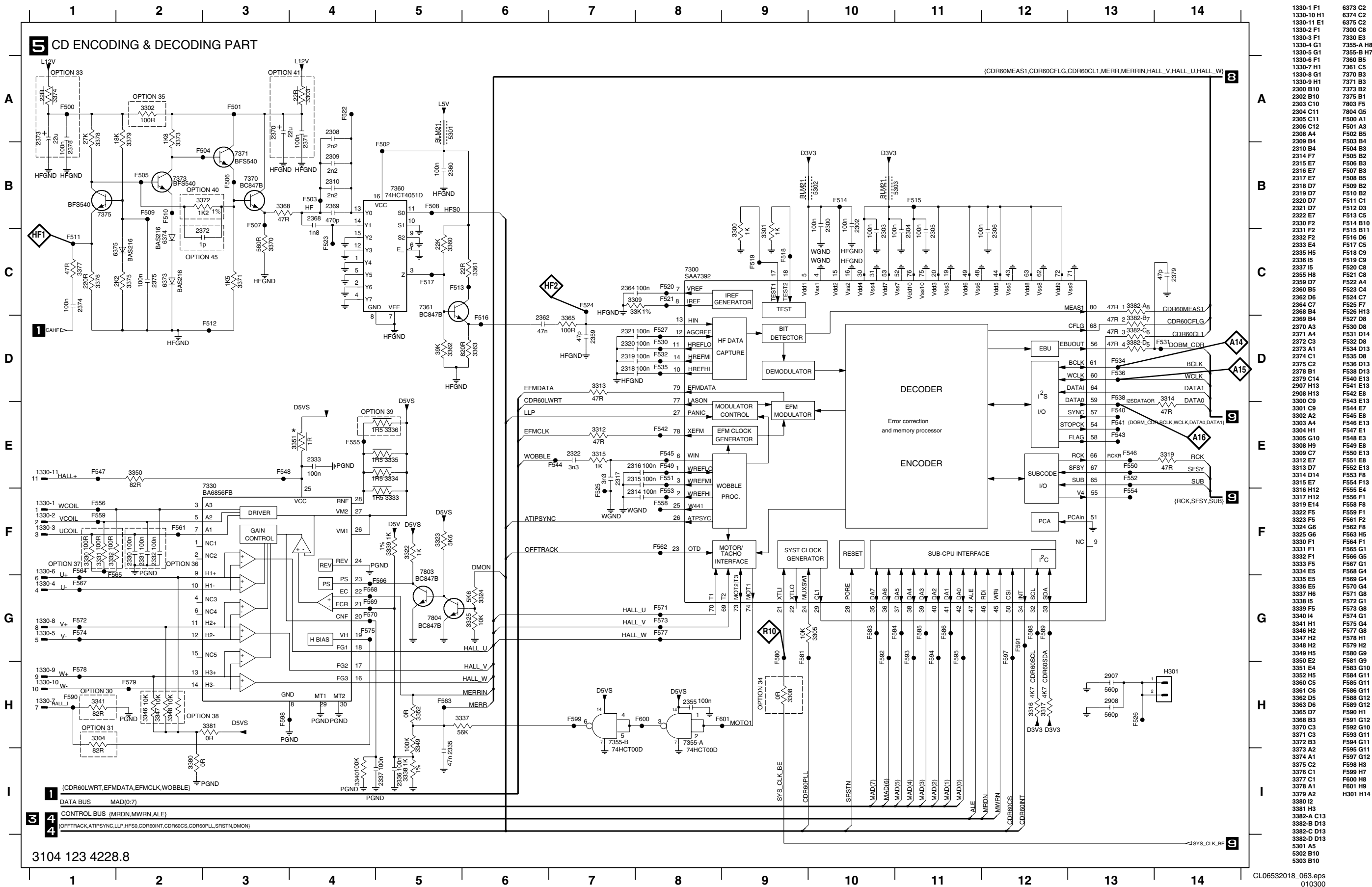
CDR MAIN BOARD - CIRCUIT DIAGRAM 4 : MACE BE-PROCESSOR TESTPOINTS



2207 H4	F326 B12
2216 C2	F329 B4
2217 D2	F334 B12
2218 F13	F335 B4
2220 E2	F350 C3
2222 E1	F351 C4
2230 B3	F358 C4
2231 C4	F361 C3
2232 G2	F362 C4
2233 G2	F367 C4
2234 G2	F368 C1
2235 G2	F375 D2
2272 A8	F377 D2
2273 A8	F380 D1
2274 A9	F382 D4
2275 A9	F384 D2
2276 A9	F385 E4
2277 A10	F387 E4
2278 A10	F392 E4
2283 H6	F394 E4
2284 H5	F397 F4
2285 H5	F398 F12
2286 D3	F399 F4
2287 C3	F400 F12
2288 C3	F401 F13
2289 A6	F402 G12
3208 H9	F411 H11
3212 I5	F413 H5
3213 E13	F414 H6
3215 C2	F415 H6
3216 C2	F416 H6
3217 E2	F417 H7
3218 E2	F418 H7
3219 E2	F419 H7
3220 E2	F420 H7
3221 D2	F421 H8
3222-A D12	F422 H8
3222-B D12	F423 H9
3222-C D12	F425 H9
3222-D E12	F426 H9
3223-A E12	F427 H9
3223-B E12	F429 H10
3223-C E12	F430 H10
3223-D E12	F431 H10
3230 F12	F432 H10
3231 F12	F434 I3
3232 H11	F435 H8
3233 F13	F436 H9
3234 F13	F439 I4
3235-A B12	F440 H10
3235-B B12	F442 H8
3235-C C12	F443 H9
3235-D B12	F450 F13
3238 H10	F451 F12
3242-A H12	F452 H9
3242-B H12	F453 H9
3242-C H12	F454 H10
3242-D H12	
3243-A A12	
3243-B A12	
3243-C A12	
3243-D A12	
3245 H10	
3246 H10	
3247-A C4	
3247-B C4	
3247-C H6	
3247-D H5	
3248-A H5	
3248-B I5	
3248-C I5	
3248-D I5	
3249 H10	
3255 D3	
3260 F13	
3261 F12	
3271-A C12	
3271-B C12	
3271-C C12	
3271-D C12	
3273-A C12	
3273-B D12	
3273-C D12	
3273-D D12	
3274 A6	
3276 H8	
3280 H9	
3281 H7	
3286 B4	
3287 H7	
3288 F3	
3289 F3	
3290 E3	
3291 E3	
3295 D3	
3297 C3	
3299 C3	
3702 C13	
3703 C13	
3749 A6	
3807 B12	
3887 A12	
5201 A8	
5202 A9	
5203 H3	
7207 H3	
7215-A D2	
7270 A4	
F302 A8	
F303 A8	
F304 A5	
F305 A6	
F307 H6	
F314 A12	
F318 B12	
F322 B4	
F325 B4	

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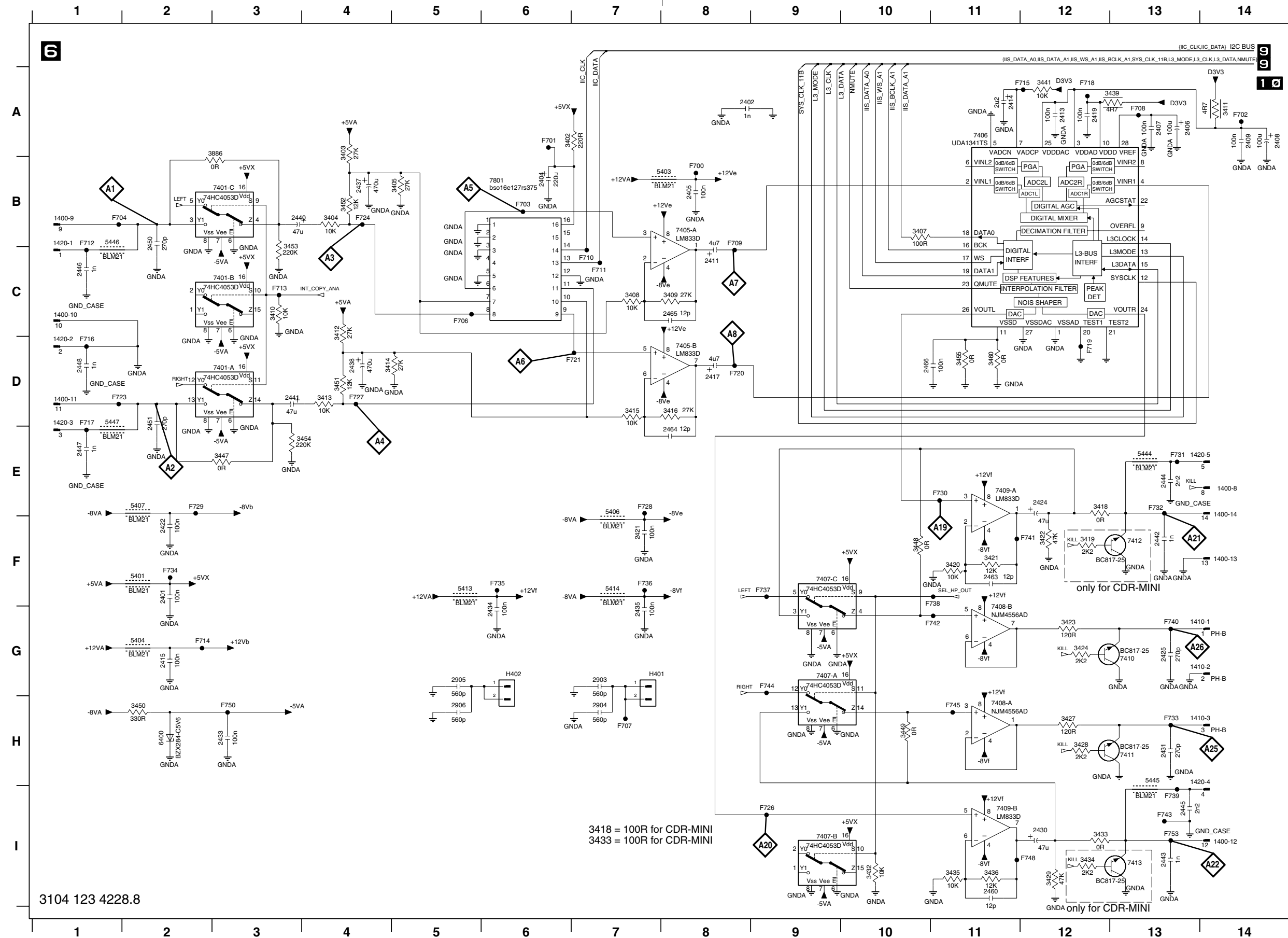
CDR MAIN BOARD - CIRCUIT DIAGRAM 5 : CD ENCODING-DECODING PART



1330-1 F1	6373 C2
1330-10 H1	6374 C2
1330-11 E1	6375 C2
1330-2 F1	7300 C8
1330-3 F1	7330 E3
1330-4 G1	7355-A H8
1330-5 G1	7355-B H7
1330-6 F1	7357 B5
1330-7 H1	7361 C5
1330-8 G1	7370 B3
1330-9 H1	7371 B3
2300 B10	7373 B2
2302 B10	7375 B1
2303 C10	7803 F5
2304 C11	7804 G5
2305 C11	F500 A1
2306 C12	F501 A3
2308 A4	F502 B5
2309 B4	F503 B4
2310 B4	F504 B3
2314 F7	F505 B2
2315 E7	F506 B3
2316 E7	F507 B3
2317 E7	F508 B5
2318 D7	F509 B2
2319 D7	F510 B2
2320 D7	F511 C1
2321 D7	F512 D3
2322 E7	F513 C5
2330 F2	F514 B10
2331 F2	F515 B11
2332 F2	F516 D6
2333 E4	F517 C5
2335 H5	F518 C9
2336 I5	F519 C9
2337 I5	F520 C8
2355 H8	F521 C8
2359 D7	F522 A4
2360 B5	F523 C4
2362 D6	F524 C7
2364 C7	F525 F7
2368 B4	F526 H13
2369 B4	F527 D9
2370 A3	F530 D8
2371 A4	F531 D14
2372 C3	F532 D8
2373 A1	F534 D13
2374 C1	F535 D8
2375 C2	F536 D13
2378 B1	F538 D13
2379 C14	F540 E13
2907 H13	F541 H13
2908 H13	F542 E8
3300 C9	F543 E13
3301 C9	F544 E7
3302 A2	F545 E8
3303 A4	F546 E13
3304 H1	F547 E1
3305 G10	F548 E3
3308 H9	F549 E8
3309 C7	F550 E13
3312 E7	F551 E8
3313 D7	F552 E13
3314 D14	F553 F8
3315 E7	F554 F13
3316 H12	F555 E4
3317 H12	F556 F1
3319 E14	F558 F8
3322 F5	F559 F1
3323 F5	F561 F2
3324 G6	F562 F8
3325 G6	F563 H5
3330 F1	F564 F1
3331 F1	F565 G1
3332 F1	F566 G5
3333 F5	F567 G1
3334 E5	F568 G4
3335 E5	F569 G4
3336 E5	F570 G4
3337 H6	F571 G8
3338 I5	F572 G1
3339 F5	F573 G8
3340 I4	F574 G1
3341 H1	F575 G4
3342 H2	F577 G8
3343 H2	F578 H1
3344 H2	F579 H2
3349 H5	F580 G9
3350 E2	F581 G9
3351 E4	F583 G10
3352 H5	F584 G11
3360 C5	F585 G11
3361 C6	F586 G11
3362 D5	F588 G12
3363 D6	F589 G12
3365 D7	F590 H1
3368 B3	F591 G12
3370 C3	F592 G10
3371 C3	F593 G11
3372 B3	F594 G11
3373 A2	F595 G11
3374 A1	F597 G12
3375 C2	F598 H3
3376 C1	F599 H7
3377 C1	F600 H8
3378 A1	F601 H9
3379 A2	H301 H14
3380 I2	
3381 H3	
3382-A C13	
3382-B D13	
3382-C D13	
3382-D D13	
5301 A5	
5302 E10	
5303 B10	

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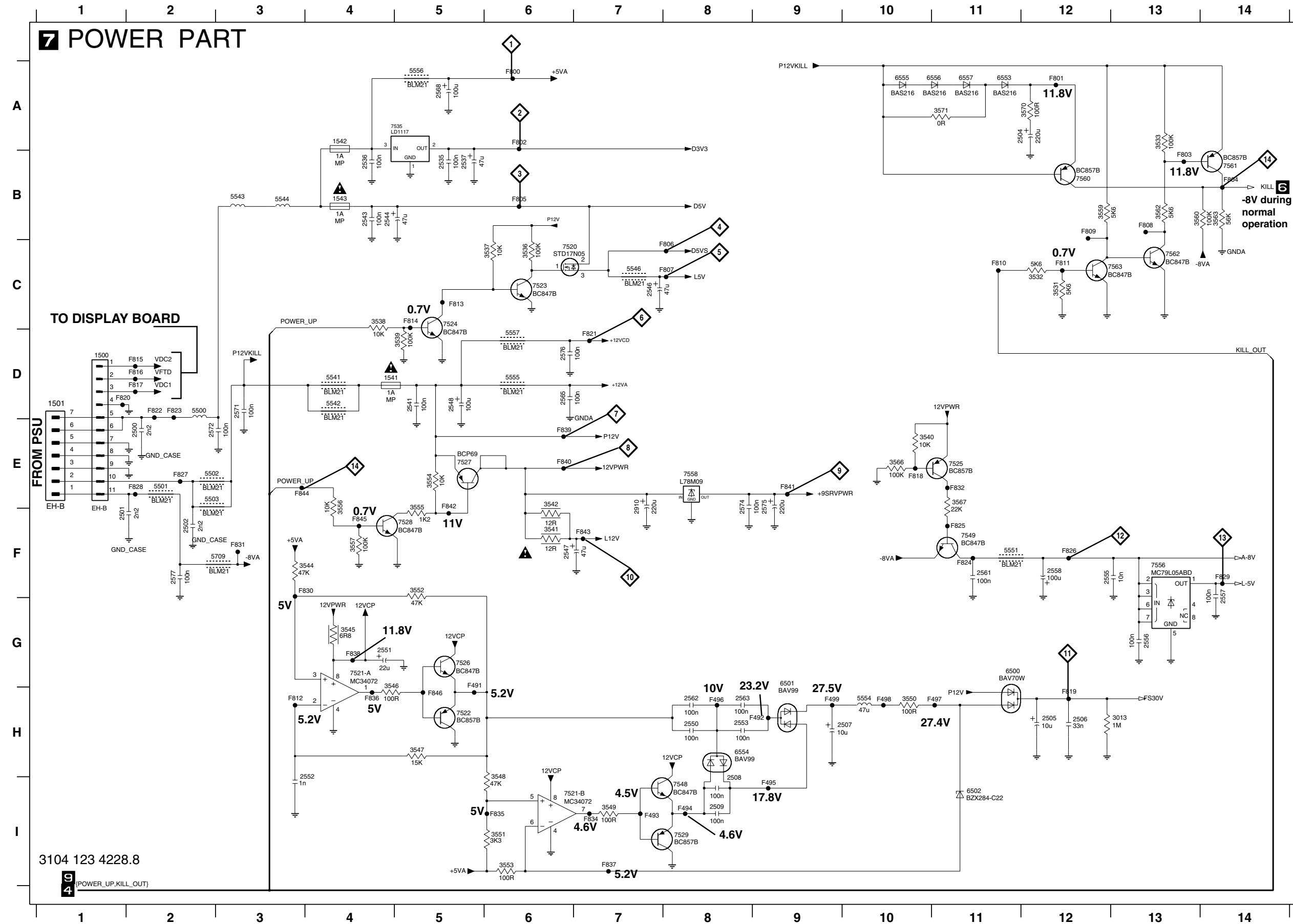
CDR MAIN BOARD - CIRCUIT DIAGRAM 6 : AUDIO PART (NOT FOR CDR950/951)



1400-10 C1	7405-B D8
1400-11 D1	7406 A11
1400-12 I14	7407-A G9
1400-13 F14	7407-B I9
1400-14 F14	7407-C F9
1400-5 E14	7408-A H11
1400-9 B1	7408-B G11
1410-1 G14	7409-A E11
1410-2 G14	7409-B I11
1410-3 H14	7410 G13
1420-1 B1	7411 H13
1420-2 D1	7412 F13
1420-3 D1	7413 I13
1420-4 H14	7801 B5
1420-5 E14	7700 B8
2401 F2	7701 A6
2402 A8	7702 A14
2404 B6	7703 B6
2405 B8	7704 B1
2406 A13	7705 C5
2407 A13	7707 H7
2408 A14	7708 A13
2409 A14	7709 B8
2411 C8	7710 C7
2413 A12	7711 C7
2414 A11	7712 B1
2415 G2	7713 C3
2417 D8	7714 G2
2419 A12	7715 A12
2421 F7	7716 D1
2422 F2	7717 D1
2424 E12	7718 A12
2425 G13	7719 D12
2430 I12	7720 D8
2431 H13	7721 D7
2433 H3	7723 D1
2434 G6	7724 B4
2435 G7	7725 G7
2437 B4	7727 D4
2438 D4	7728 E7
2440 B3	7729 E2
2441 D3	7730 E11
2442 F13	7731 E13
2443 I13	7732 E13
2444 E13	7733 H13
2445 I13	7734 F2
2446 C1	7735 F6
2447 E1	7736 F7
2448 D1	7737 F9
2450 B2	7738 F11
2451 D2	7739 I13
2460 I11	7740 G13
2463 F11	7741 F12
2464 E8	7742 G11
2465 C8	7743 I13
2466 D10	7744 G9
2903 G7	7745 H11
2904 H7	7746 H7
2905 G5	7750 H3
2906 H5	7753 I13
3402 A6	H401 G7
3403 A4	H402 G6
3404 B4	
3405 B5	
3407 B10	
3408 C7	
3409 C8	
3410 C3	
3411 A14	
3412 C4	
3413 D4	
3414 D4	
3415 D7	
3416 D8	
3418 E12	
3419 F12	
3420 F11	
3421 F11	
3422 F12	
3423 G12	
3424 G12	
3427 H12	
3428 H12	
3429 I12	
3432 I10	
3433 H12	
3434 I12	
3435 I11	
3436 I11	
3439 A13	
3441 A12	
3447 E3	
3448 F10	
3449 H10	
3450 H2	
3451 D4	
3452 B4	
3453 B3	
3454 E4	
3455 D11	
3459 D11	
3886 A3	
5401 F2	
5403 B8	
5404 G2	
5406 E7	
5407 E2	
5413 F5	
5414 F7	
5444 E13	
5445 H13	
5446 B1	
5447 D1	
6400 H2	
7401-A D3	
7401-B C3	
7401-C B3	
7405-A B8	

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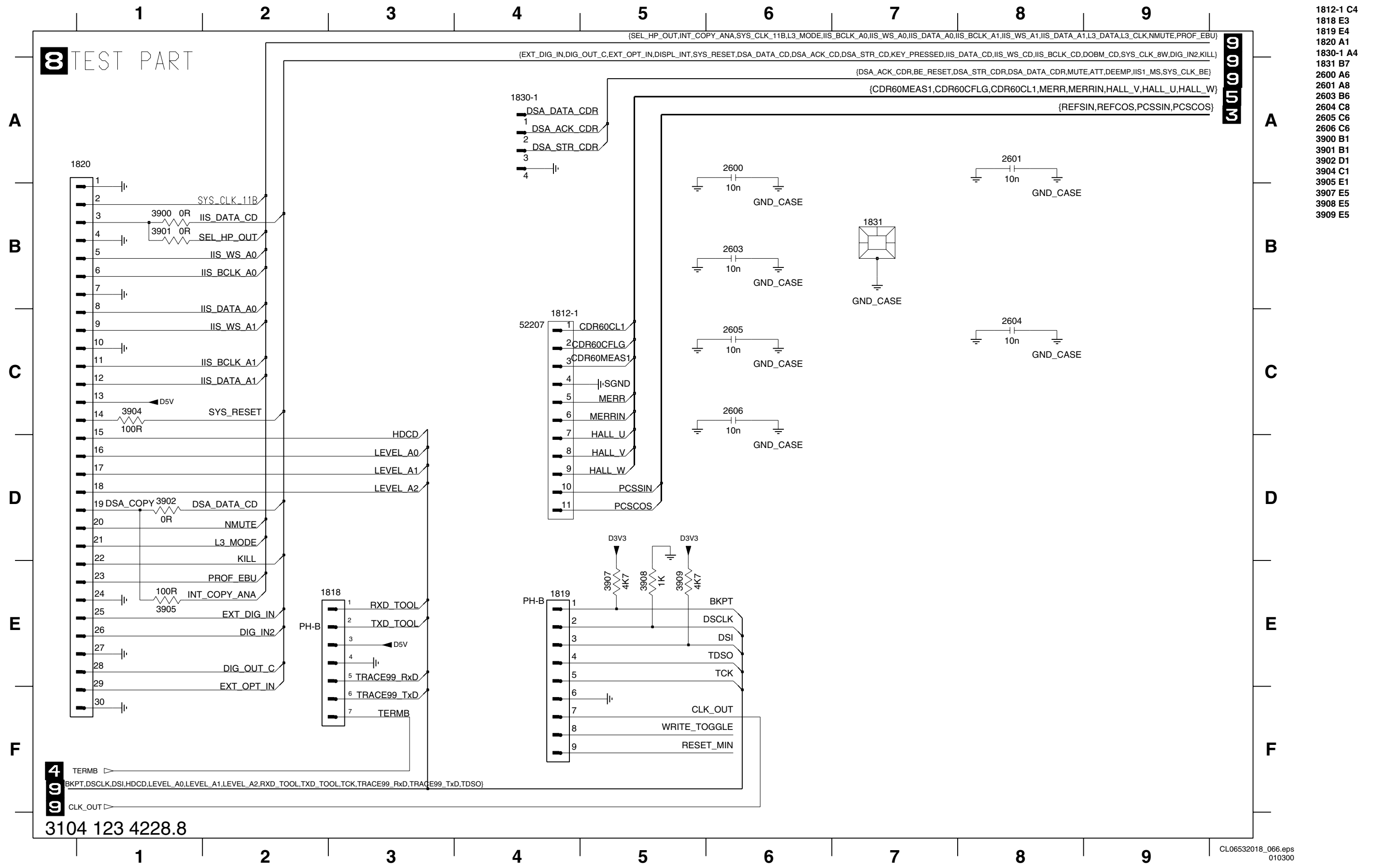
CDR MAIN BOARD - CIRCUIT DIAGRAM 7 : POWER PART TESTPOINTS



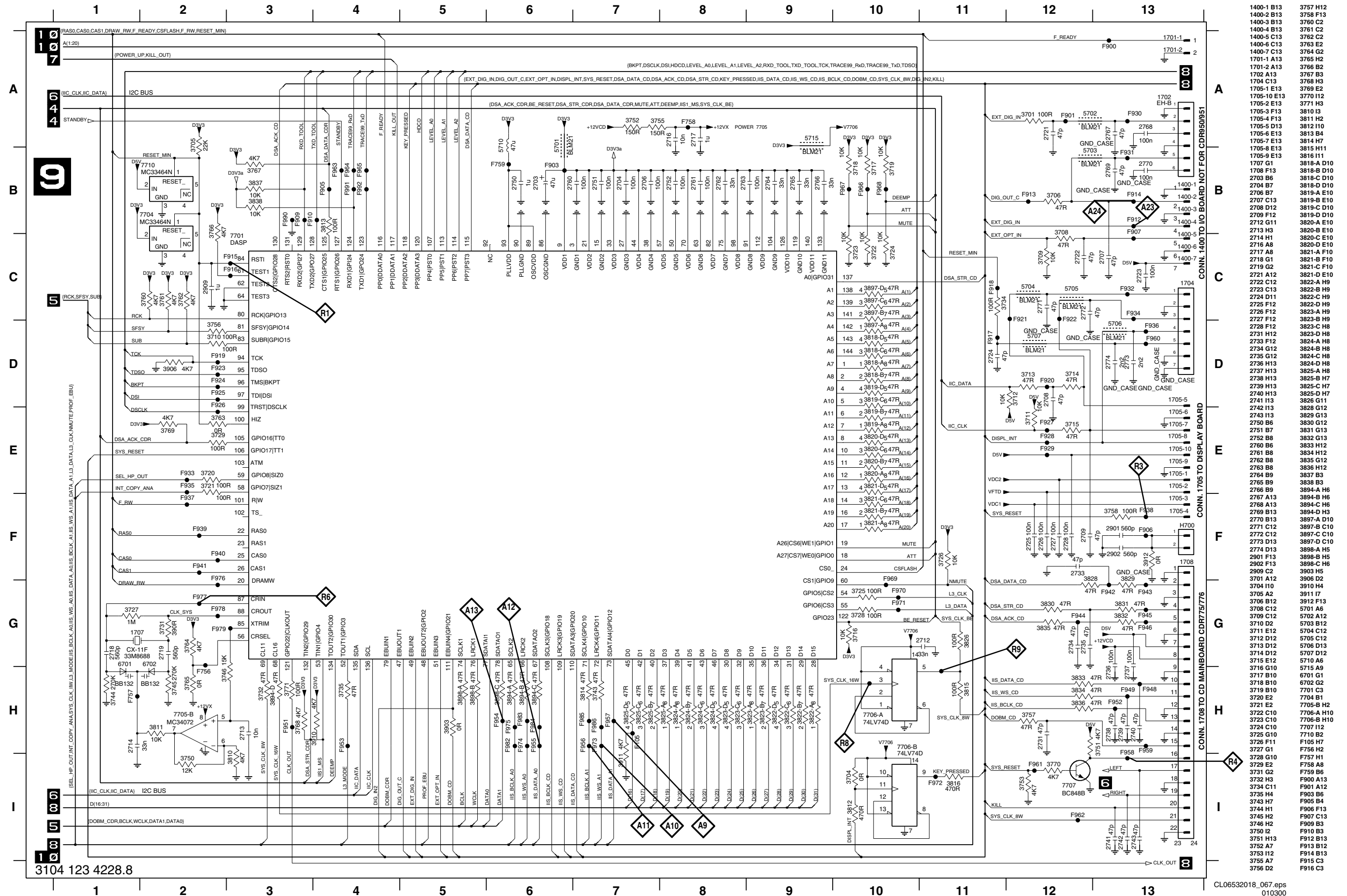
- 1500 D1
- 1541 D4
- 1542 A4
- 1543 B4
- 2500 E2
- 2501 F1
- 2502 F2
- F495 H8
- 2504 A12
- 2505 H12
- 2506 H12
- 2507 H10
- 2508 I8
- 2509 I8
- 2535 B5
- 2536 B4
- 2537 B5
- 2541 D5
- 2543 B4
- 2544 B4
- 2546 C7
- 2547 F6
- 2548 D5
- 2550 H8
- 2551 G4
- 2552 H4
- 2553 H8
- 2555 F12
- 2556 G13
- 2557 F14
- 2558 F12
- 2561 F11
- 2562 H8
- 2563 H8
- 2565 D6
- 2568 A5
- 2571 D3
- 2572 E2
- 2574 E8
- 2575 E9
- 2576 D6
- 2577 F2
- 2910 E7
- 3013 H13
- 3531 C12
- 3532 C12
- 3533 A13
- 3536 C6
- 3537 C6
- 3538 C4
- 3539 D5
- 3540 E10
- 3541 F6
- 3542 E6
- 3544 F4
- 3545 G4
- 3546 H4
- 3547 H5
- 3548 H6
- 3549 I7
- 3550 H10
- 3551 I6
- 3552 F5
- 3553 I6
- 3554 E5
- 3555 F5
- 3556 E4
- 3557 F4
- 3559 B12
- 3560 B13
- 3562 B13
- 3563 B14
- 3566 E10
- 3567 E11
- 3570 A12
- 3571 A11
- 5500 D2
- 5501 E2
- 5502 E2
- 5503 E2
- 5541 D4
- 5542 D4
- 5543 B3
- 5544 B3
- 5546 C7
- 5551 F11
- 5554 H10
- 5555 D6
- 5556 A5
- 5557 D6
- 5709 F3
- 6500 G11
- 6501 G9
- 6502 I11
- 6553 A11
- 6554 H8
- 6555 A10
- 6556 A11
- 6557 A11
- 7520 C6
- 7521-A G4
- 7521-B I6
- 7522 H5
- 7523 C6
- 7524 C5
- 7525 E11
- 7526 G5
- 7527 E5
- 7528 F5
- 7529 I4
- 7535 A4
- 7548 I8
- 7549 F11
- 7556 F13
- 7558 E8
- 7560 B12
- 7561 B14
- 7562 C13
- 7563 C12
- F491 H5
- F492 H9
- F493 I7
- F494 I8
- F495 I9
- F496 H8
- F497 H11
- F498 H10
- F499 H9
- F800 A6
- F801 A12
- F802 A6
- F803 B13
- F804 B14
- F805 B6
- F806 C8
- F807 C8
- F808 B13
- F809 B12
- F810 C11
- F811 C12
- F812 H3
- F813 C5
- F814 C5
- F815 D2
- F816 D2
- F817 D2
- F818 H10
- F819 H12
- F820 D1
- F821 D7
- F822 D2
- F823 D2
- F824 F11
- F825 F11
- F826 F12
- F827 E2
- F828 E2
- F829 F14
- F830 F4
- F831 F3
- F832 E11
- F834 I7
- F835 I6
- F836 H4
- F837 I7
- F838 G4
- F839 E6
- F840 E6
- F841 E9
- F842 F5
- F843 F7
- F844 E3
- F845 F4
- F846 H5

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POWER\_UP, KILL\_OUT

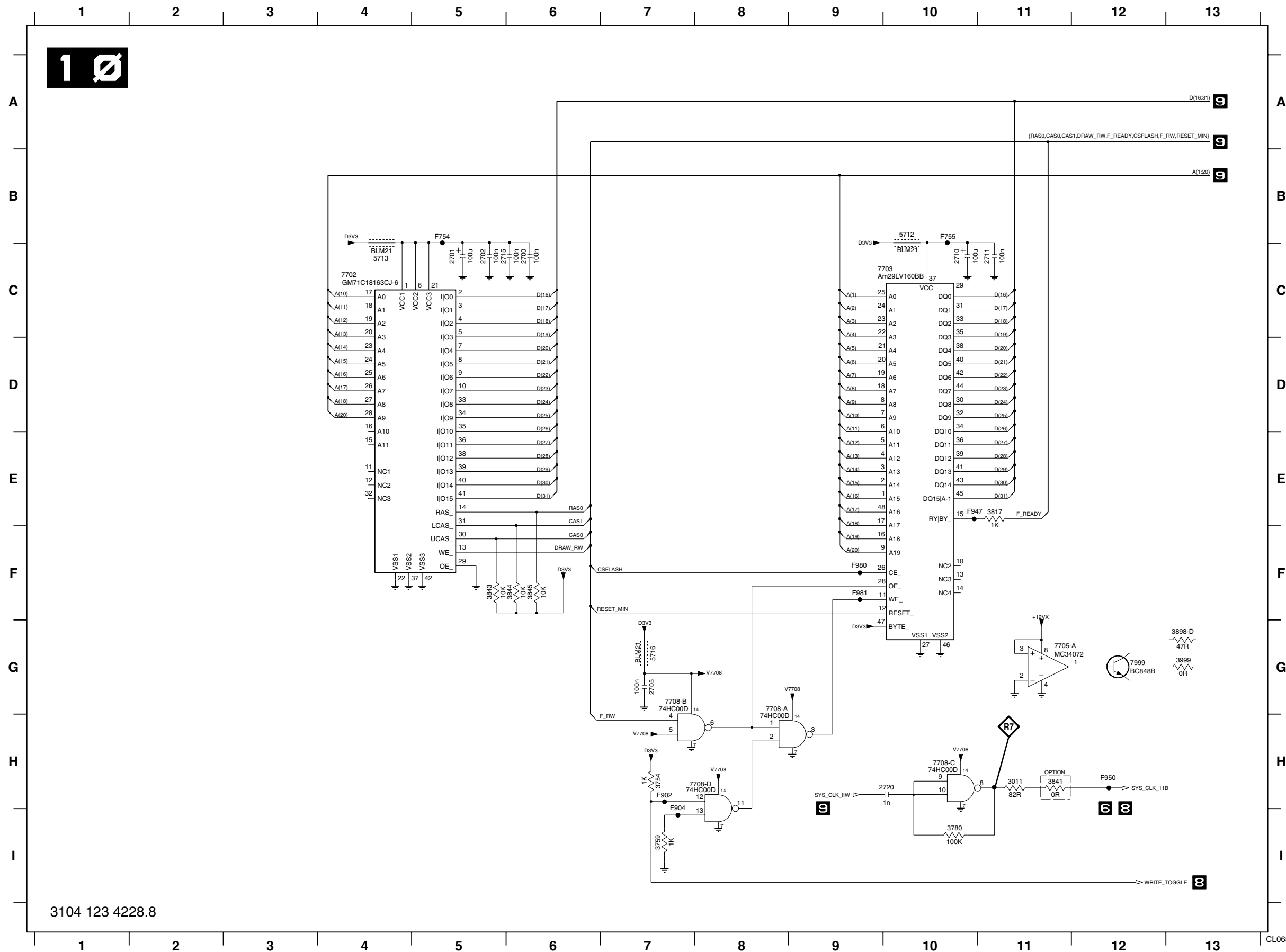


CDR MAIN BOARD - CIRCUIT DIAGRAM 9 : DASP MASTER PROCESSOR TESTPOINTS



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CDR MAIN BOARD - CIRCUIT DIAGRAM 10 : DASP FLASH & DRAM TESTPOINTS



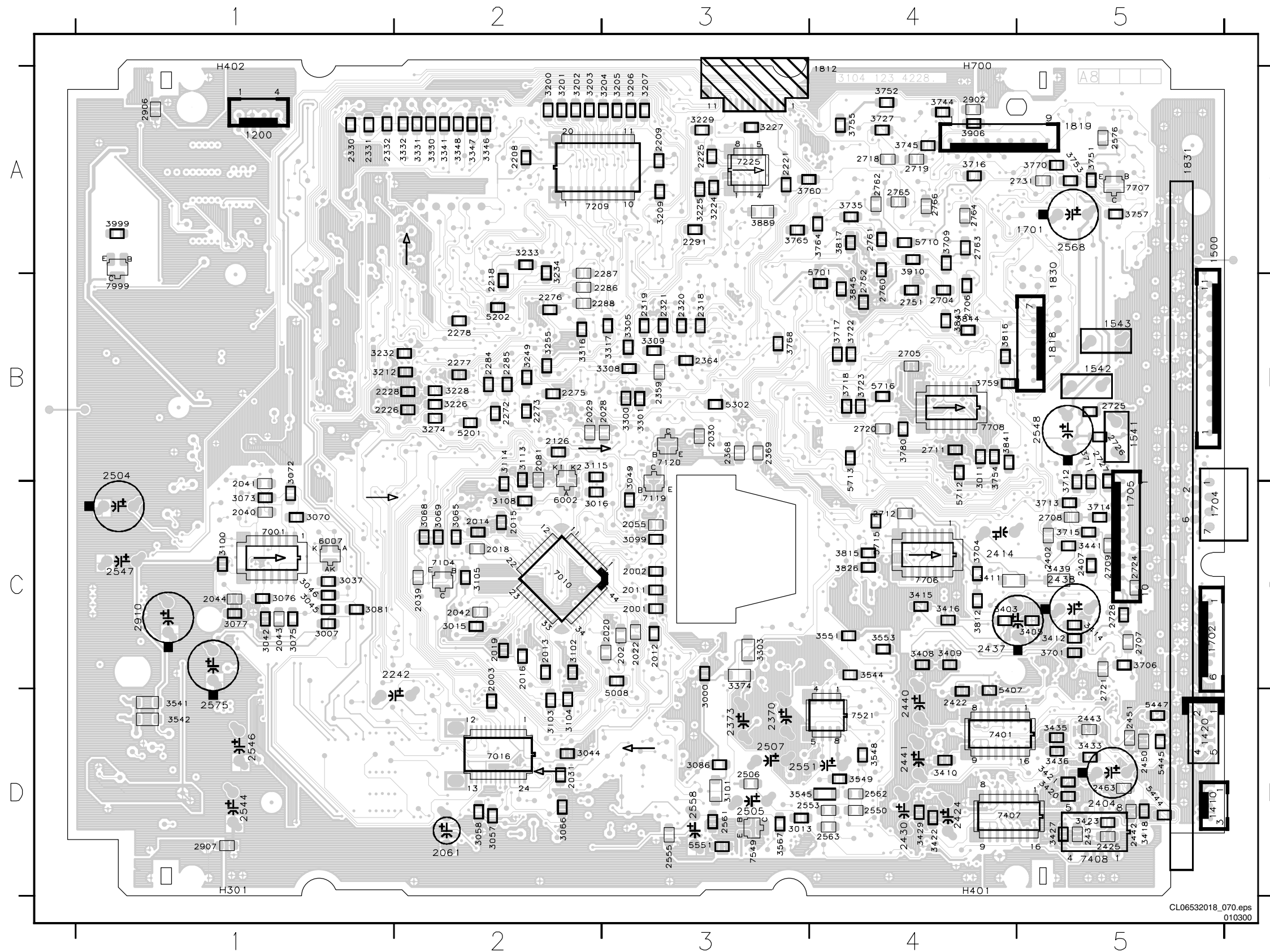
- 2700 C6
- 2701 C5
- 2702 C5
- 2705 G7
- 2710 C10
- 2711 C11
- 2715 C5
- 2720 H10
- 3011 H11
- 3754 H7
- 3759 I7
- 3780 H10
- 3817 E11
- 3841 H11
- 3843 F5
- 3844 F6
- 3845 F6
- 3898-D G13
- 3999 G13
- 5712 B10
- 5713 C4
- 5716 G7
- 7702 C4
- 7703 C9
- 7705-A G11
- 7708-A G8
- 7708-B G7
- 7708-C H10
- 7708-D H7
- 7999 G12
- F754 B5
- F755 B10
- F902 H7
- F904 I7
- F947 E10
- F950 H12
- F980 F9
- F981 F9

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CDR MAIN BOARD .8 - BOTTOM VIEW

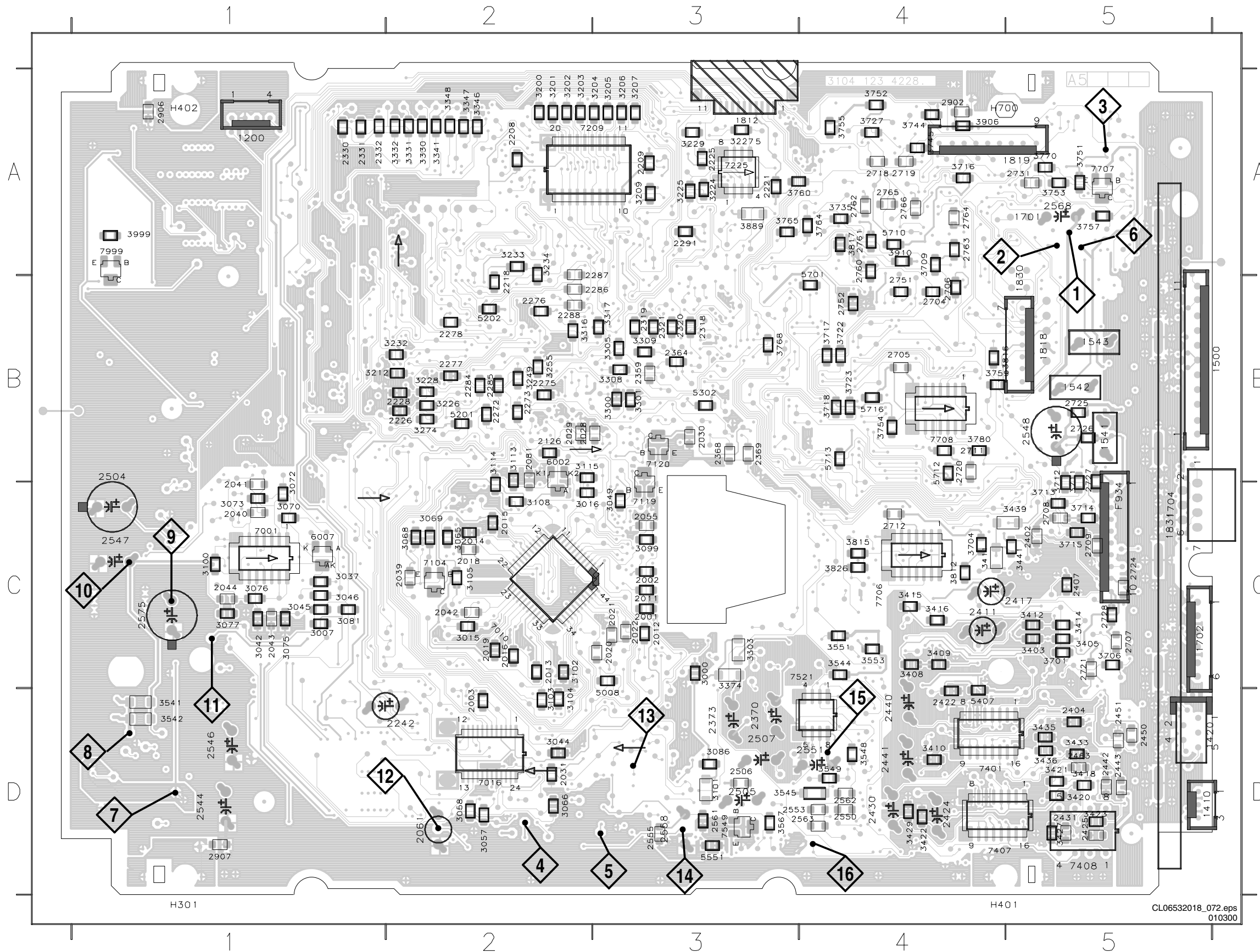


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010300

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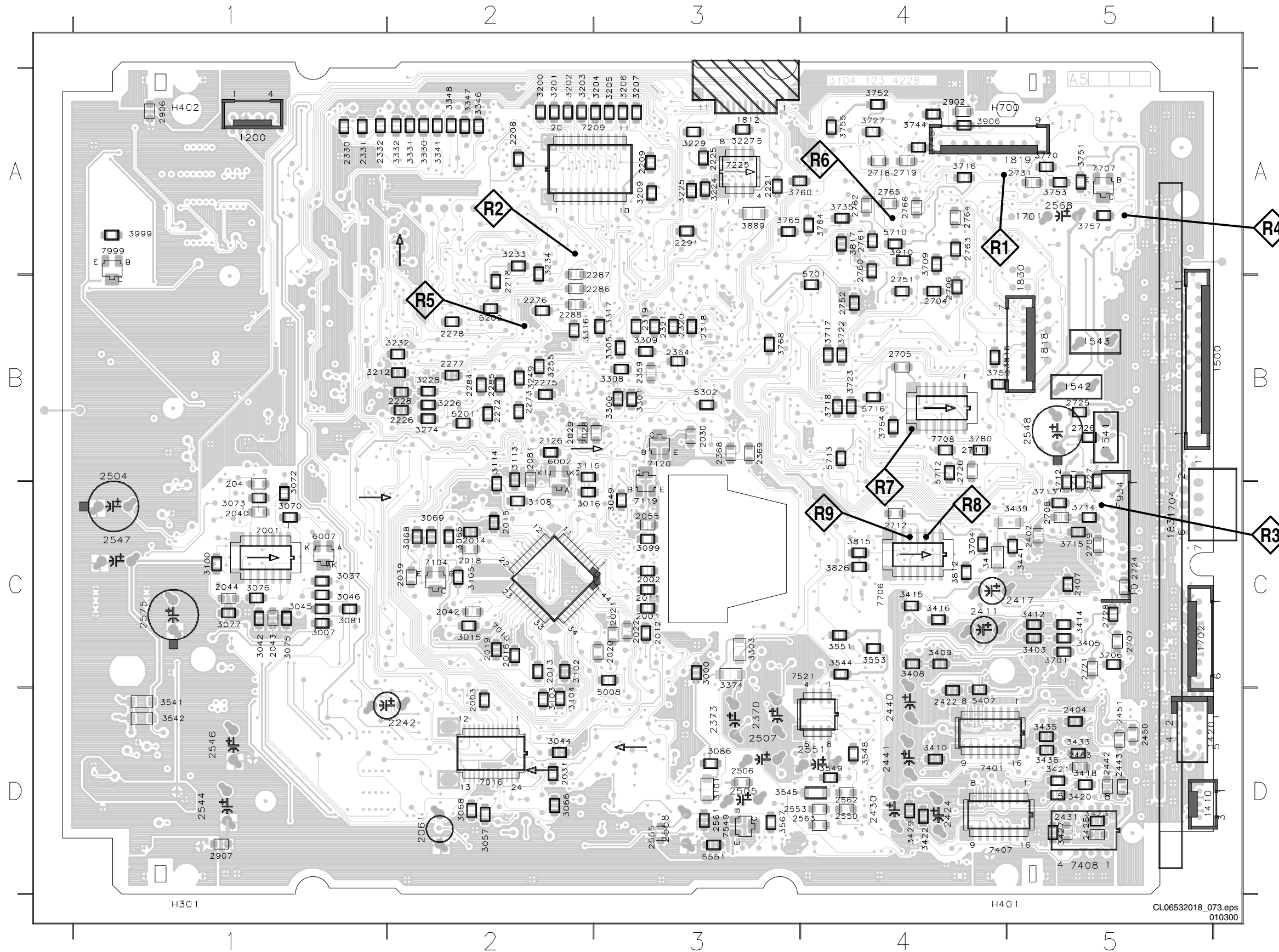
CDR-Mainboard PWB testpoints

CDR MAIN BOARD - BOTTOM VIEW : POWER PART TESTPOINTS



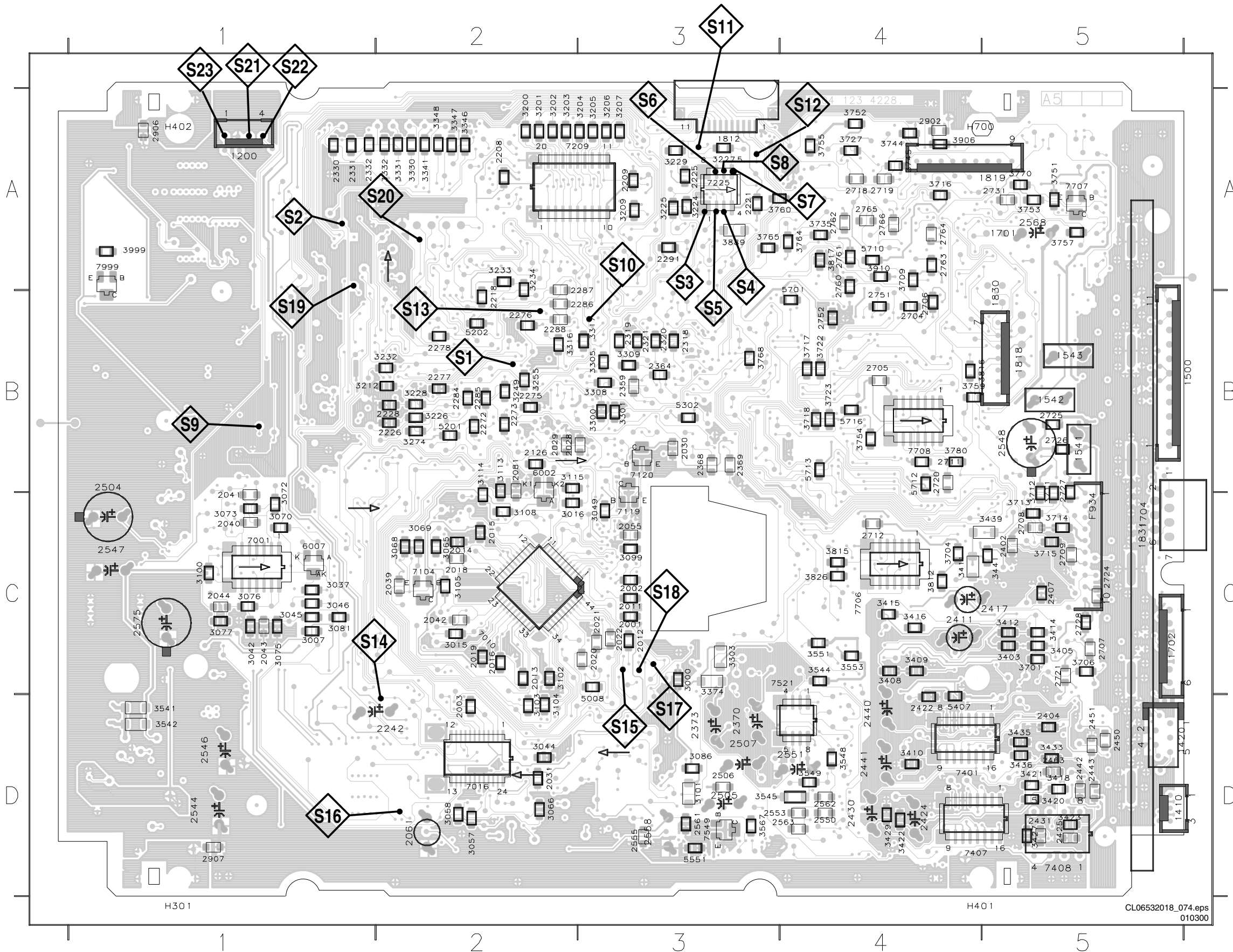
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CDR MAIN BOARD - BOTTOM VIEW : RESET & CLOCK TESTPOINTS



18	2720	A2	57	712	B4
19	2721	A2	58	713	B4
20	2722	A2	59	714	B4
21	2723	A2	60	715	B4
22	2724	A2	61	716	B4
23	2725	A2	62	717	B4
24	2726	A2	63	718	B4
25	2727	A2	64	719	B4
26	2728	A2	65	720	B4
27	2729	A2	66	721	B4
28	2730	A2	67	722	B4
29	2731	A2	68	723	B4
30	2732	A2	69	724	B4
31	2733	A2	70	725	B4
32	2734	A2	71	726	B4
33	2735	A2	72	727	B4
34	2736	A2	73	728	B4
35	2737	A2	74	729	B4
36	2738	A2	75	730	B4
37	2739	A2	76	731	B4
38	2740	A2	77	732	B4
39	2741	A2	78	733	B4
40	2742	A2	79	734	B4
41	2743	A2	80	735	B4
42	2744	A2	81	736	B4
43	2745	A2	82	737	B4
44	2746	A2	83	738	B4
45	2747	A2	84	739	B4
46	2748	A2	85	740	B4
47	2749	A2	86	741	B4
48	2750	A2	87	742	B4
49	2751	A2	88	743	B4
50	2752	A2	89	744	B4
51	2753	A2	90	745	B4
52	2754	A2	91	746	B4
53	2755	A2	92	747	B4
54	2756	A2	93	748	B4
55	2757	A2	94	749	B4
56	2758	A2	95	750	B4
57	2759	A2	96	751	B4
58	2760	A2	97	752	B4
59	2761	A2	98	753	B4
60	2762	A2	99	754	B4
61	2763	A2	100	755	B4
62	2764	A2	101	756	B4
63	2765	A2	102	757	B4
64	2766	A2	103	758	B4
65	2767	A2	104	759	B4
66	2768	A2	105	760	B4
67	2769	A2	106	761	B4
68	2770	A2	107	762	B4
69	2771	A2	108	763	B4
70	2772	A2	109	764	B4
71	2773	A2	110	765	B4
72	2774	A2	111	766	B4
73	2775	A2	112	767	B4
74	2776	A2	113	768	B4
75	2777	A2	114	769	B4
76	2778	A2	115	770	B4
77	2779	A2	116	771	B4
78	2780	A2	117	772	B4
79	2781	A2	118	773	B4
80	2782	A2	119	774	B4
81	2783	A2	120	775	B4
82	2784	A2	121	776	B4
83	2785	A2	122	777	B4
84	2786	A2	123	778	B4
85	2787	A2	124	779	B4
86	2788	A2	125	780	B4
87	2789	A2	126	781	B4
88	2790	A2	127	782	B4
89	2791	A2	128	783	B4
90	2792	A2	129	784	B4
91	2793	A2	130	785	B4
92	2794	A2	131	786	B4
93	2795	A2	132	787	B4
94	2796	A2	133	788	B4
95	2797	A2	134	789	B4
96	2798	A2	135	790	B4
97	2799	A2	136	791	B4
98	2800	A2	137	792	B4
99	2801	A2	138	793	B4
100	2802	A2	139	794	B4
101	2803	A2	140	795	B4
102	2804	A2	141	796	B4
103	2805	A2	142	797	B4
104	2806	A2	143	798	B4
105	2807	A2	144	799	B4
106	2808	A2	145	800	B4
107	2809	A2	146	801	B4
108	2810	A2	147	802	B4
109	2811	A2	148	803	B4
110	2812	A2	149	804	B4
111	2813	A2	150	805	B4
112	2814	A2	151	806	B4
113	2815	A2	152	807	B4
114	2816	A2	153	808	B4
115	2817	A2	154	809	B4
116	2818	A2	155	810	B4
117	2819	A2	156	811	B4
118	2820	A2	157	812	B4
119	2821	A2	158	813	B4
120	2822	A2	159	814	B4
121	2823	A2	160	815	B4
122	2824	A2	161	816	B4
123	2825	A2	162	817	B4
124	2826	A2	163	818	B4
125	2827	A2	164	819	B4
126	2828	A2	165	820	B4
127	2829	A2	166	821	B4
128	2830	A2	167	822	B4
129	2831	A2	168	823	B4
130	2832	A2	169	824	B4
131	2833	A2	170	825	B4
132	2834	A2	171	826	B4
133	2835	A2	172	827	B4
134	2836	A2	173	828	B4
135	2837	A2	174	829	B4
136	2838	A2	175	830	B4
137	2839	A2	176	831	B4
138	2840	A2	177	832	B4
139	2841	A2	178	833	B4
140	2842	A2	179	834	B4
141	2843	A2	180	835	B4
142	2844	A2	181	836	B4
143	2845	A2	182	837	B4
144	2846	A2	183	838	B4
145	2847	A2	184	839	B4
146	2848	A2	185	840	B4
147	2849	A2	186	841	B4
148	2850	A2	187	842	B4
149	2851	A2	188	843	B4
150	2852	A2	189	844	B4
151	2853	A2	190	845	B4
152	2854	A2	191	846	B4
153	2855	A2	192	847	B4
154	2856	A2	193	848	B4
155	2857	A2	194	849	B4
156	2858	A2	195	850	B4
157	2859	A2	196	851	B4
158	2860	A2	197	852	B4
159	2861	A2	198	853	B4
160	2862	A2	199	854	B4
161	2863	A2	200	855	B4
162	2864	A2	201	856	B4
163	2865	A2	202	857	B4
164	2866	A2	203	858	B4
165	2867	A2	204	859	B4
166	2868	A2	205	860	B4
167	2869	A2	206	861	B4
168	2870	A2	207	862	B4
169	2871	A2	208	863	B4
170	2872	A2	209	864	B4
171	2873	A2	210	865	B4
172	2874	A2	211	866	B4
173	2875	A2	212	867	B4
174	2876	A2	213	868	B4
175	2877	A2	214	869	B4
176	2878	A2	215	870	B4
177	2879	A2	216	871	B4
178	2880	A2	217	872	B4
179	2881	A2	218	873	B4
180	2882	A2	219	874	B4
181	2883	A2	220	875	B4
182	2884	A2	221	876	B4
183	2885	A2	222	877	B4
184	2886	A2	223	878	B4
185	2887	A2	224	879	B4
186	2888	A2	225	880	B4
187	2889	A2	226	881	B4
188	2890	A2	227	882	B4
189	2891	A2	228	883	B4
190	2892	A2	229	884	B4
191	2893	A2	230	885	B4
192	2894	A2	231	886	B4
193	2895	A2	232	887	B4
194	2896	A2	233	888	B4
195	2897	A2	234	889	B4
196	2898	A2	235	890	B4
197	2899	A2	236	891	B4
198	2900	A2	237	892	B4
199	2901	A2	238	893	B4
200	2902	A2	239	894	B4
201	2903	A2	240	895	B4
202	2904	A2	241	896	B4
203	2905	A2	242	897	B4
204	2906	A2	243	898	B4
205	2907	A2	244	899	B4
206	2908	A2	245	900	B4
207	2909	A2	246	901	B4
208	2910	A2	247	902	B4
209	2911	A2	248	903	B4
210	2912	A2	249	904	B4
211	2913	A2	250	905	B4
212	2914	A2	251	906	B4
213	2915	A2	252	907	B4
214	2916	A2	253	908	B4
215	2917	A2	254	909	B4
216	2918	A2	255	910	B4
217	2919	A2	256	911	B4
218	2920	A2	257	912	B4
219	2921	A2	258	913	B4
220	2922	A2	259	914	B4
221	2923	A2	260	915	B4
222	2924	A2	261	916	B4
223	2925	A2	262	917	B4
224	2926	A2	263	918	B4
225	2927	A2	264	919	B4
226	2928	A2	265	920	B4
227	2929	A2	266	921	B4
228	2930	A2	267	922	B4
229	2931	A2	268	923	B4
230	2932	A2	269	924	B4
231	2933	A2	270	925	B4
232	2934	A2	271	926	B4
233	2935	A2	272	927	B4
234	2936	A2	273	928	B4
235	2937	A2	274	929	B4
236	2938	A2	275	930	B4
237	2939	A2	276	931	B4
238	2940	A2	277	932	B4
239	2941	A2	278	933	B4
240	2942	A2	279	934	B4
241	2943	A2	280	935	B4
242	2944	A2	281	936	B4
243	2945	A2	282	937	B4
244	2946	A2	283	938	B4
245	2947	A2	284	939	B4
246	2948	A2	285	940	B4
247	2949	A2	286	941	B4
248	2950	A2	287	942	B4
249	2951	A2	288	943	B4
250	2952	A2	289	944	B4
251	2953	A2	290	945	B4
252	2954	A2	291	946	B4
253	2955	A2	292	947	B4
254	2956	A2	293	948	B4
255	2957	A2	294	949	B4
256	2958	A2	295	950	B4
257	2959	A2	296	951	B4
258	2960	A2	297	952	B4
259	2961	A2	298	953	B4
260	2962	A2	299	954	B4
261	2963	A2	300	955	B4
262	2964	A2	301	956	B4
263	2965	A2	302	957	B4
264	2966	A2	303	958	B4
265	2967	A2	304	959	B4
266					

CDR MAIN BOARD - BOTTOM VIEW : SERVO TESTPOINTS



1B	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014	3015	3016	3017	3018	3019	3020	3021	3022	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032	3033	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3053	3054	3055	3056	3057	3058	3059	3060	3061	3062	3063	3064	3065	3066	3067	3068	3069	3070	3071	3072	3073	3074	3075	3076	3077	3078	3079	3080	3081	3082	3083	3084	3085	3086	3087	3088	3089	3090	3091	3092	3093	3094	3095	3096	3097	3098	3099	3100	3101	3102	3103	3104	3105	3106	3107	3108	3109	3110	3111	3112	3113	3114	3115	3116	3117	3118	3119	3120	3121	3122	3123	3124	3125	3126	3127	3128	3129	3130	3131	3132	3133	3134	3135	3136	3137	3138	3139	3140	3141	3142	3143	3144	3145	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157	3158	3159	3160	3161	3162	3163	3164	3165	3166	3167	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177	3178	3179	3180	3181	3182	3183	3184	3185	3186	3187	3188	3189	3190	3191	3192	3193	3194	3195	3196	3197	3198	31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