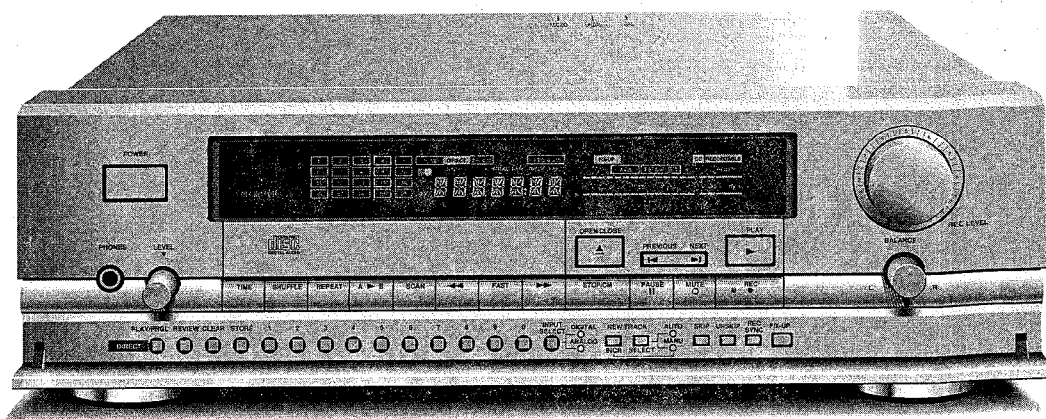


# Service Manual

74CDR1/01G

## Compact Disc Recorder



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# marantz®

## model CDR1

First issue: 1991

4822 725 24002

MZ 3066

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MARANTZ HiFi U.K. Ltd  
Kingsbridge House  
Padbury oaks  
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Middlesex UB7 0EH  
Faxnr.: 0753 680 428

**GREECE**  
SHERTON ELECTRONICS S.A.  
P.O.Box 21025  
Hippocrates Street 188  
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Telex: 216.795

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Japan

**KUWAIT**  
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Fahd al Saleem Street  
P.O.Box 23781  
Safat-Kuwait  
Telex: 22694

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Via Chiese, 74  
20126 Milano  
Italy

**SAUDI ARABIA**  
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University Street  
Riyadh 11432  
Saudi Arabia  
Telex: 401530

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MARANTZ  
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Main Road Martindale  
P.O. Box. 58088  
Newville 21114  
South Africa

**SPAIN**  
Euroservice S.A.  
Bernardo obrégón, 26  
28012 Madrid  
faxnr.: 3412 306 198

**SWITZERLAND**  
MARANTZ  
Technischer Service  
Duenstrasse 3  
3186 Dúdingen  
Switzerland

**TURKEY**  
DOGRUOL Ltd.  
I.M.C.  
6 Blok N°6310  
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Istanbul  
Turkey  
Telex: 22085

**MALTA**  
CACHIA & GALEA  
Republic Street. 68D  
Valetta  
Telex: 1682

**PORTUGAL**  
MARANTZ  
Divisao philips S.A. service  
Outurela-carnaxide  
2795 LinDA-A-VELHA  
Telex: 43906

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

**(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.

**ESD****(NL) WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische 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 ditzelfde 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 enfilez 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 ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).

Unvorsichtige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern. Sorgen sie dafür, dass 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 ridatta 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 braccialetto 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 teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

**(S) Varo!**

Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

**(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts 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.

**(SF) Varning!**

Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

**(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.

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

**TECHNICAL SPECIFICATIONS****General**

- |                                       |                                 |
|---------------------------------------|---------------------------------|
| 1. Mains voltage /01G                 | : 110V-127V-220V ( $\pm 10\%$ ) |
| 2. Mains frequency                    | : 50 Hz                         |
| 3. Power consumption mains, operating | : 40 W                          |
| 4. Inclination                        | : max. 10°                      |

**Dimensions and weight**

- |                          |                                |
|--------------------------|--------------------------------|
| 1. Apparatus tray closed | : WxDxH 420 x 330 x 121/141 mm |
| 2. Apparatus tray open   | : WxDxH 420 x 475 x 121/141 mm |
| 3. Weight                | : 9,9 kg                       |

**Optical read-out system**

- |                                 |   |
|---------------------------------|---|
| 1. Laser type                   | : Semiconductor                         |
| 2. Wavelength                   | : 780 nm $\pm 15$ nm                    |
| 3. Light output                 | :                                       |
| (Total amount out of objective) |   |
| During playing                  | : max. 0,9 mW min. 0,7 mW               |
| During recording                | : 14 mW (Peak)<br>11 mW (Writing level) |

**PLAYBACK****Unbalanced output**

- |                                      |   |
|--------------------------------------|---|
| 1. Output voltage                    | : 2 Vrms $\pm 1,5$ dB                   |
| 2. Unbalance                         | : max. 0,85dB                           |
| 3. Output impedance                  | : 200 $\Omega$                          |
| 4. Amplitude linearity               | : max. $\pm 0,05$ dB from 20Hz to 20kHz |
| 5. Phase linearity                   | : max. 0,6° from 20Hz to 20kHz          |
| 6. Signal to noise ratio             | : min. 95dB (A-wtg)                     |
| 7. Dynamic range                     | : min. 88dB from 20Hz to 20kHz          |
| 8. Total harmonic distortion + noise | : min. 84dB from 20Hz to 20kHz          |
| 9. Outband attenuation               | : min. 60dB above 25kHz                 |
| 10. Channel separation               | : min. 88dB from 20Hz to 20kHz          |
| 11. Muting during random access      | : min. 90dB                             |

**Balanced Output (XLR output)**

- |                                      |  |
|--------------------------------------|--|
| 1. Output voltage                    | : 3 Vrms $\pm 0,1$ dB                  |
| 2. Unbalance                         | : max. 0,2dB                           |
| 3. Output impedance                  | : 100 $\Omega$                         |
| 4. Amplitude linearity               | : max. $\pm 0,5$ dB from 20Hz to 20kHz |
| 5. Signal to noise ratio             | : min. 92dB (A-wtg)                    |
| 6. Dynamic range                     | : min. 85dB from 20Hz to 20kHz         |
| 7. Total harmonic distortion + noise | : min. 80dB from 20Hz to 20kHz         |
| 8. Outband attenuation               | : min. 60dB above 25kHz                |
| 9. Channel separation                | : min. 85dB from 20Hz to 20kHz         |
| 10. Muting during random access      | : min. 86dB                            |

**HEADPHONE**

- |                                      |  |
|--------------------------------------|--|
| 1. Output voltage                    | : 0 to 6,5 Vrms $\pm 2$ dB   |
| 2. Unbalance                         | : max. 2dB   |
| 3. Output impedance                  | : 120 $\Omega$   |
| 4. Load impedance range              | : 8 - 32 - 200 - 600 - 1000 - 2000 $\Omega$  |
| 5. Output power                      | : 0 - 58 mW into 32 $\Omega$ (max. 95 mW)<br>0 - 49 mW into 600 $\Omega$ (max. 78 mW)<br>0 - 88 mW into 120 $\Omega$ (max. 140 mW) |
| 5. Signal to noise ratio             | : min. 87dB Load 600 $\Omega$  |
| 6. Dynamic range                     | : min. 86dB from 20Hz to 20kHz Load 600 $\Omega$   |
| 7. Total harmonic distortion + noise | : min. 80dB from 20Hz to 20kHz Load 600 $\Omega$   |
| 8. Channel separation                | : min. 65dB from 20Hz to 20kHz Load 600 $\Omega$   |
| 9. Phase linearity                   | : max. $\pm 0,35^\circ$ from 20Hz to 20kHz   |

**RECORD AND PLAYBACK****Unbalanced input - Unbalanced output**

- |                                      |   |
|--------------------------------------|---|
| 1. Input sensitivity                 | : 0,7 Vrms for max. level (0dB on disc)<br>0,11 Vrms for ref. level (-16dB on disc) |
| 2. Unbalance                         | : max. 1,5dB  |
| 3. Input impedance                   | : 100k $\Omega$   |
| 4. Amplitude linearity               | : max. $\pm 0,06$ dB from 20Hz to 20kHz   |
| 5. Phase linearity                   | : max. $\pm 3,85^\circ$ from 20Hz to 20kHz  |
| 6. Dynamic range                     | : min. 90dB (A-wtg)   |
| 7. Dynamic range                     | : min. 84dB from 20Hz to 20kHz  |
| 8. Total harmonic distortion + noise | : min. 80dB from 20Hz to 20kHz  |
| 9. Outband attenuation               | : min. 60dB above 25kHz   |
| 10. Channel separation               | : min. 80dB from 20Hz to 20kHz  |

**Balanced input - Balanced output**

- |                                      |  |
|--------------------------------------|--|
| 1. Input sensitivity                 | : 3 Vrms for max. level (0dB on disc)<br>0,475 Vrms for ref. level (-16dB on disc) |
| 2. Unbalance                         | : max. 08,5dB  |
| 3. Input impedance                   | : 47k $\Omega$   |
| 4. Amplitude linearity               | : max. $\pm 0,06$ dB from 20Hz to 20kHz  |
| 5. Signal to noise ratio             | : min. 85dB (A-wtg)  |
| 6. Dynamic range                     | : min. 84dB from 20Hz to 20kHz   |
| 7. Total harmonic distortion + noise | : min. 78dB from 20Hz to 20kHz   |
| 8. Outband attenuation               | : min. 60dB above 25kHz  |
| 9. Channel separation                | : min. 75dB from 20Hz to 20kHz   |

**RECORDING****Unbalanced input**

- |                                      |   |
|--------------------------------------|---|
| 1. Input sensitivity                 | : 0,7 Vrms for max. level (0dB on disc)<br>0,11 Vrms for ref. level (-16dB on disc) |
| 2. Unbalance                         | : max. 0,3dB  |
| 3. Amplitude linearity               | : max. $\pm 0,01$ dB from 20Hz to 20kHz   |
| 4. Phase linearity                   | : max. $\pm 3,25^\circ$ from 20Hz to 20kHz  |
| 5. Signal to noise ratio             | : min. 94dB (A-wtg)   |
| 6. Dynamic range                     | : min. 88dB from 20Hz to 20kHz  |
| 7. Total harmonic distortion + noise | : min. 84dB from 20Hz to 20kHz  |
| 8. Outband attenuation               | : min. 86dB from 25kHz to 2,8224MHz   |
| 9. Channel separation                | : min. 85dB from 20Hz to 20kHz  |

**Balanced input (XLR)**

- |                                      |  |
|--------------------------------------|--|
| 1. Input sensitivity                 | : 3 Vrms for max. level (0dB on disc)<br>0,475 Vrms for ref. level (-16dB on disc) |
| 2. Unbalance                         | : max. 0,65dB  |
| 3. Amplitude linearity               | : max. $\pm 0,02$ dB from 20Hz to 20kHz  |
| 4. Phase linearity                   | : max. $\pm 4,9^\circ$ from 20Hz to 20kHz  |
| 5. Signal to noise ratio             | : min. 90dB (A-wtg)  |
| 6. Dynamic range                     | : min. 85dB from 20Hz to 20kHz   |
| 7. Total harmonic distortion + noise | : min. 84dB from 20Hz to 20kHz   |
| 8. Outband attenuation               | : min. 86dB from 25kHz to 2,8224MHz  |
| 9. Channel separation                | : min. 80dB from 20Hz to 20kHz   |

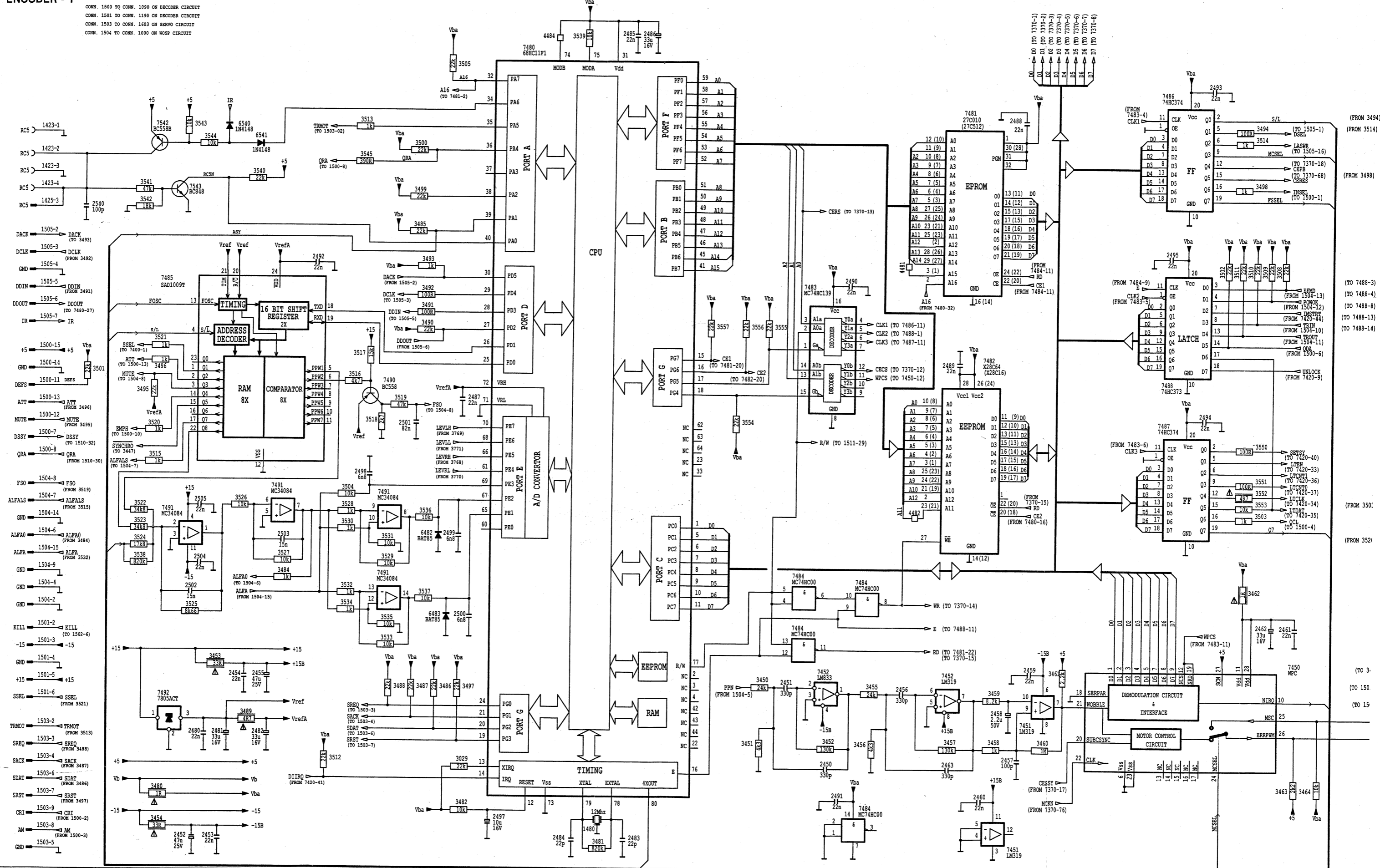
**Microphone**

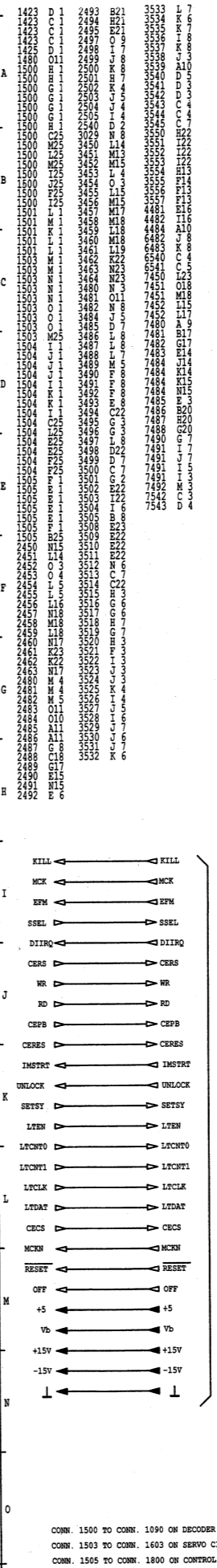
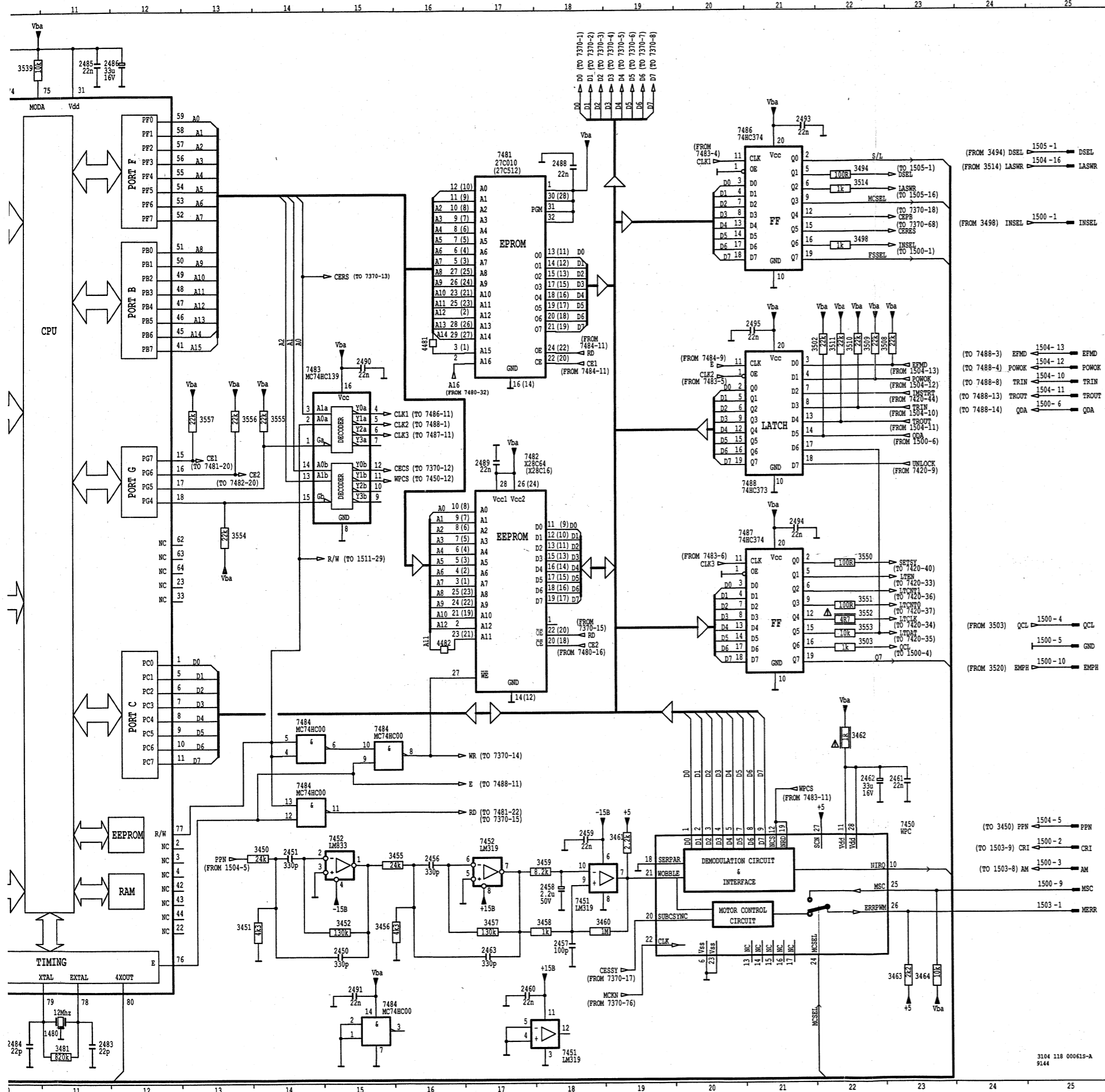
- |                                      |   |
|--------------------------------------|---|
| 1. Input sensitivity                 | : 20 mV for max. level (0dB on disc)<br>3 mV for ref. level (-16dB on disc) |
| 2. Input impedance                   | : 10k $\Omega$  |
| 3. Microphone impedance range        | : 200 - 600 - 2000 $\Omega$   |
| 4. Amplitude linearity               | : max. $\pm 1$ dB from 20Hz to 20kHz  |
| 5. Signal to noise ratio             | : min. 80dB (A-wtg)   |
| 6. Total harmonic distortion + noise | : min. 65dB from 20Hz to 20kHz  |
| 7. Channel separation                | : min. 60dB from 20Hz to 20kHz  |



ENCODER - 1

CONN. 1500 TO CONN. 1090 ON DECODER CIRCUIT  
CONN. 1501 TO CONN. 1190 ON DECODER CIRCUIT  
CONN. 1503 TO CONN. 1603 ON SERVO CIRCUIT  
CONN. 1504 TO CONN. 1000 ON WOSP CIRCUIT





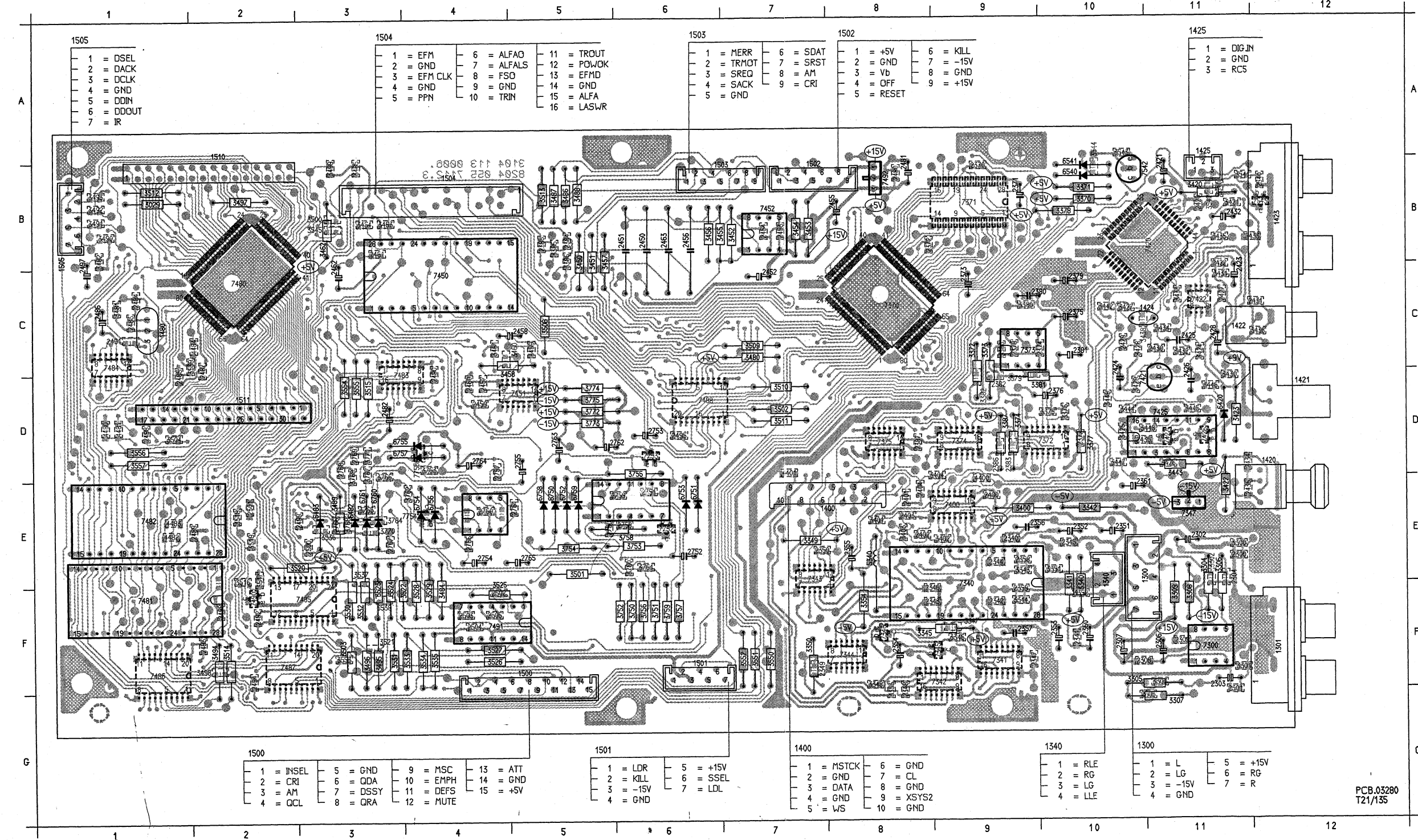
- ENCODER-1
- ALFA0 - Absorption Set
  - ALFALS - Absorption Loop Switch
  - AM - Additional Mute
  - ATT - Attenuate
  - CE1-4 - Chip Enable
  - CECS - CIRC EFM Chip Select
  - CEPB - CIRC EFM Pause Bit
  - CERES - CIRC EFM Reset
  - CLK - System Clock Input
  - CLK1-3 - System Clock Input
  - CRI - Counter Reset Inhit
  - D0 - 7 - Data Bus Bit 0 - 7
  - DACK - Display Acknowledge
  - DCLK - Display Clock
  - DDIN - Display Data Input
  - DDOUT - Display Data Output
  - DIIRQ - Digital Input Interrupt Request
  - DSEL - Display Select
  - DSSY - Decoder Subcode Sync
  - EFM - Eight to Fourteen Modulation
  - EFMCLK - EFM Clock
  - EFMD - Eight to Fourteen Modulation Detect
  - ERRPW - Motor Control Signal Output
  - FSO - Laser Power Set
  - GND - Ground
  - IMSTRT - Start New Message U bit Indication
  - INSEL - Input Selector
  - IR - Infrared Receiver Signal
  - LASWR - Laser Write/Read
  - LEVHL - Analog Level Left High
  - LEVLL - Analog Level Left Low
  - LEVRH - Analog Level Right High
  - LEVRL - Analog Level Right Low
  - LTCLK - Interface Data Bit Clock
  - LTCNT0-1 - Interface Control
  - LTDAT - Interface Databus
  - LTEN - Interface Enable
  - MCK - Master Clock
  - MCSEL - Motor Control Select
  - MERR - Motor Control Error Signal
  - MSC - External Motor Control Input
  - NCS - Output Enable
  - NIRQ - Interrupt Request
  - NRD - Read Input
  - POWOK - Laser Power OK
  - PPN - Normalized Push Pull Signal
  - PPW1 - 7 - Programmable Pulse Width Outputs
  - QCL - Q-channel Clock
  - QDA - Q-channel Data
  - QRA - Q-channel Request Acknowledge
  - RD - Read
  - RXD - Serial Data
  - SACK - Servo Acknowledge
  - SCN - Scan Enable
  - SDAT - Servo Data
  - SERPAR - Interface Mode Selection
  - SETSY - Setting Sync Signal
  - SREQ - Servo Request
  - SRST - Servo Reset
  - SSEL - Source Select
  - SUBCSYNC - Subcode Sync Input
  - TRIN - Tray In Switch
  - TRMOT - Tray Motor Control
  - TROUT - Tray Out Switch
  - TXD - Serial Clock
  - WOBBLE - Wobble Input
  - WPCS - Wobble Processor Chip Select

CONN. 1500 TO CONN. 1090 ON DECODER CIRCUIT  
 CONN. 1503 TO CONN. 1603 ON SERVO CIRCUIT  
 CONN. 1505 TO CONN. 1800 ON CONTROL AND DISPLAY



ENCODER PANEL COMPONENT SIDE

1300 F11	2303 F11	2355 E8	2385 B5	2434 D11	2485 D1	2750 E5	3301 F11	3353 G8	3403 E8	3444 D10	3481 C1	3504 D1	3528 F4	3555 D3	3769 E3	6752 E5	7373 C9	7489 F5
1301 F12	2304 F11	2356 E9	2386 D9	2435 D10	2486 C1	2751 E6	3302 F11	3354 G8	3404 E9	3445 D11	3482 C1	3505 D1	3529 F4	3556 D1	3770 E3	6753 E6	7374 D9	7490 F2
1340 F10	2305 G10	2357 F9	2387 D8	2436 E1	2487 D2	2752 E7	3303 F11	3355 G8	3405 E8	3446 D10	3483 C1	3506 D1	3530 F3	3557 D1	3771 D3	6754 E4	7375 D8	7491 F4
1400 E7	2306 F11	2358 F9	2400 E9	2450 B6	2488 F2	2753 E8	3304 F11	3356 G8	3406 E9	3447 D11	3484 C1	3507 D1	3531 F3	3558 D1	3772 D3	6755 D5	7376 D8	7492 B8
1420 D12	2307 F10	2359 F9	2401 E8	2451 B6	2489 E2	2754 E4	3305 F10	3357 B10	3407 E11	3448 D10	3485 B5	3508 D1	3532 F3	3559 F4	3773 D5	6756 F4	7377 D4	7493 B11
1421 D12	2308 F10	2360 F10	2402 E8	2452 C7	2490 C1	2755 D5	3306 F11	3358 D9	3408 E11	3449 D10	3486 B5	3509 D1	3533 F3	3560 F4	3774 D5	6757 D4	7378 D4	7494 B11
1422 C12	2309 F11	2361 F10	2403 E8	2453 B7	2491 C1	2756 E6	3307 G11	3359 D10	3409 E11	3450 D10	3487 B5	3510 D1	3534 F4	3561 F4	3775 D5	6758 E5	7379 D5	7495 B11
1423 B12	2340 E9	2370 B6	2404 E8	2454 B7	2492 F2	2757 E4	3308 F11	3360 D10	3410 E11	3451 C8	3488 E3	3511 F2	3535 F4	3562 F4	3776 D5	6759 E5	7380 F11	7496 B11
1424 C10	2341 F10	2371 B6	2405 E8	2455 B8	2493 F2	2758 E6	3309 F11	3361 D10	3411 E11	3452 B7	3490 B1	3512 D5	3536 F3	3563 E3	3777 D5	6760 E5	7381 F11	7497 B11
1425 A11	2342 E9	2372 B9	2406 E8	2456 B6	2494 F2	2759 E6	3310 F11	3362 D10	3412 E11	3453 B7	3491 B1	3513 D5	3537 F3	3564 E3	3778 D5	6761 E5	7382 F11	7498 B11
1480 C1	2343 F8	2373 C9	2407 E8	2457 D4	2495 D6	2760 E4	3311 F11	3363 D9	3413 E11	3454 B7	3492 B1	3514 D5	3538 F3	3565 E3	3779 D5	6762 E4	7383 F9	7499 B11
1500 F5	2344 E8	2374 C10	2408 E8	2458 D4	2496 E3	2761 E4	3312 F11	3364 D9	3414 E11	3455 B6	3493 B1	3515 D5	3539 F3	3566 E3	3780 D5	6763 E4	7384 F8	7500 B11
1501 F6	2345 F10	2375 C10	2409 E8	2459 D4	2497 F5	2762 D5	3313 F11	3365 D9	3415 E11	3456 B6	3494 B1	3516 D5	3540 F4	3567 E3	3781 D5	6764 E4	7385 F8	7501 B11
1502 B9	2346 F8	2376 D10	2410 E8	2460 D4	2498 D1	2763 D5	3314 F11	3366 D9	3416 E11	3457 B6	3495 B1	3517 D5	3541 F4	3568 E3	3782 E4	6765 E4	7386 F8	7502 B11
1503 B6	2347 F9	2377 D10	2411 E8	2461 B3	2499 E3	2764 D4	3315 F11	3367 D9	3417 E11	3458 B6	3496 B1	3518 D5	3542 F4	3569 E3	3783 E4	6766 E4	7387 F8	7503 B11
1504 B4	2348 E8	2378 C9	2412 E8	2462 C3	2500 E3	2765 E3	3316 F11	3368 D9	3418 E11	3459 B6	3497 B1	3519 D5	3543 F4	3570 E3	3784 E4	6767 E4	7388 F8	7504 B11
1505 B1	2349 F7	2379 C10	2413 E8	2463 C3	2501 E4	2766 E3	3317 F11	3369 D9	3419 E11	3460 B6	3498 B1	3520 D5	3544 F4	3571 E3	3785 E4	6768 E4	7389 F8	7505 B11
1510 A2	2350 E7	2380 C9	2414 E8	2464 B6	2502 F4	2767 E3	3318 F11	3370 D9	3420 E11	3461 B6	3499 B1	3521 D5	3545 F4	3572 E3	3786 E4	6769 E4	7390 F8	7506 B11
1511 D2	2351 E10	2381 C10	2415 E8	2480 B8	2503 F4	2768 D3	3319 F11	3371 D9	3421 E11	3462 B6	3500 B5	3522 D5	3546 F4	3573 E3	3787 E4	6770 E4	7391 F8	7507 B11
2300 E11	2352 E10	2382 D9	2416 E8	2481 B8	2504 F4	2769 D3	3320 F11	3372 D9	3422 E11	3463 B6	3501 B5	3523 D5	3547 F4	3574 E3	3788 E4	6771 E4	7392 F8	7508 B11
2301 G11	2353 F10	2383 D9	2417 E8	2482 C1	2505 F4	2770 D3	3321 F11	3373 D9	3423 E11	3464 B6	3502 D7	3524 F4	3548 F4	3575 E3	3789 E4	6772 E4	7393 F8	7509 B11
2302 E11	2354 F8	2384 B5	2418 E8	2484 C1	2540 B12	3300 E11	3352 F10	3402 E9	3443 E11	3480 C7	3503 F3	3525 F4	3549 D3	3576 E3	3790 E4	6773 D10	7394 F8	7510 B11



1505

1 = DSEL
2 = DACK
3 = DCLK
4 = GND
5 = DDIN
6 = DDOUT
7 = IR

1504

1 = EFM	6 = ALFAO	11 = TROUT
2 = GND	7 = ALFALS	12 = POWOK
3 = EFM CLK	8 = FSO	13 = EFM D
4 = GND	9 = GND	14 = GND
5 = PPN	10 = TRIN	15 = ALFA
		16 = LASWR

1503

1 = MERR	6 = SDAT
2 = TRMOT	7 = SRST
3 = SREQ	8 = AM
4 = SACK	9 = CRI
5 = GND	

1502

1 = +5V	6 = KILL
2 = GND	7 = -15V
3 = Vb	8 = GND
4 = OFF	9 = +15V
5 = RESET	

1425

1 = DIG.IN
2 = GND
3 = RC5

1500

1 = INSEL	5 = GND	9 = MSC	13 = ATT
2 = CRI	6 = QDA	10 = EMPH	14 = GND
3 = AM	7 = DSSY	11 = DEFS	15 = +5V
4 = OCL	8 = QRA	12 = MUTE	

1501

1 = LDR	5 = +15V
2 = KILL	6 = SSEL
3 = -15V	7 = LDL
4 = GND	

1400

1 = MSTCK	6 = GND
2 = GND	7 = CL
3 = DATA	8 = GND
4 = GND	9 = XSY52
5 = WS	10 = GND

1340

1 = RLE
2 = RG
3 = LG
4 = LLE

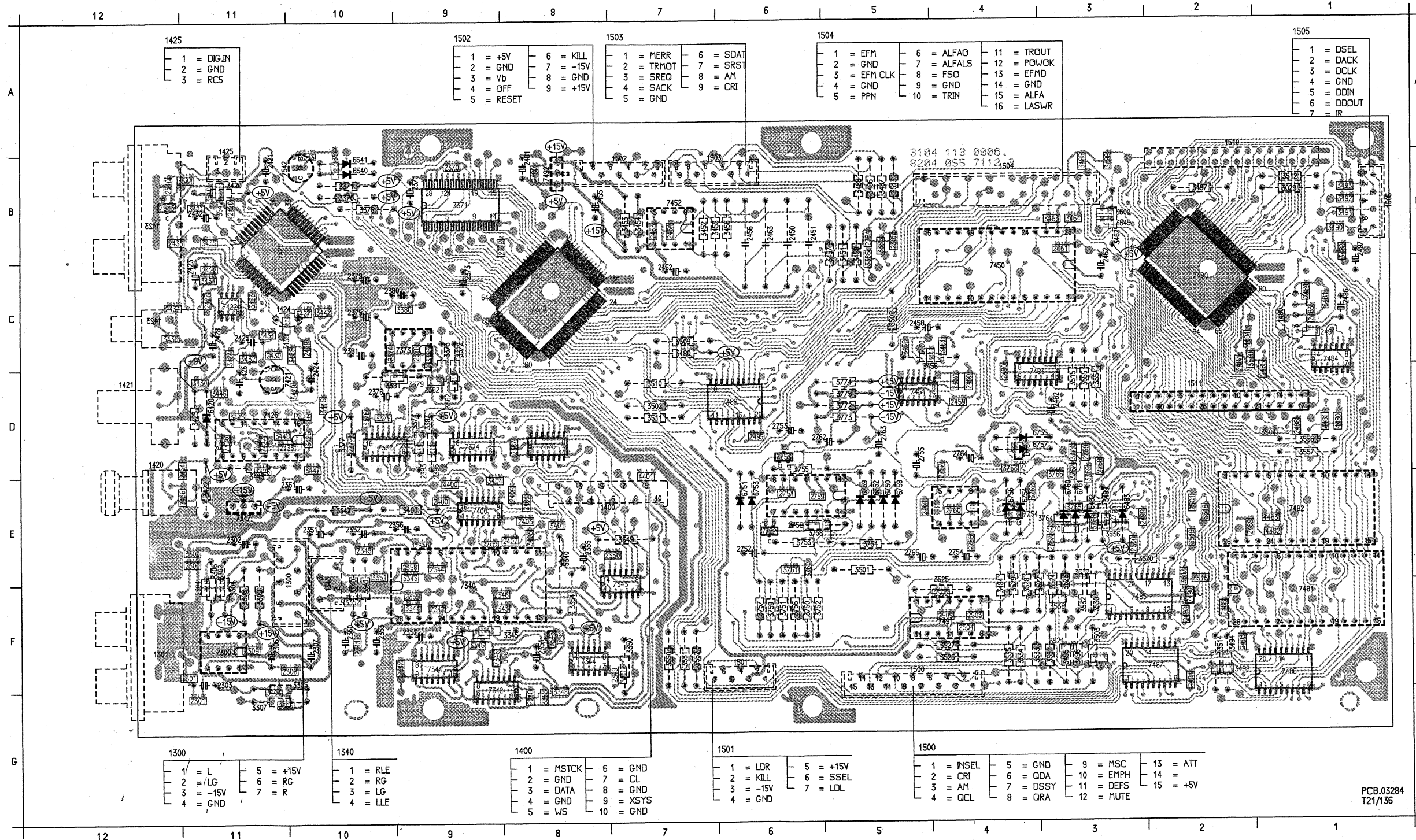
1300

1 = L	5 = +15V
2 = LG	6 = RG
3 = -15V	7 = R
4 = GND	

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ENCODER PANEL SOLDER SIDE

1300 F11	2303 F11	2355 E8	2385 B5	2434 D11	2485 D1	2750 E5	3301 F11	3353 G8	3403 E8	3444 D10	3481 C1	3504 D1	3529 F4	3555 D3	3769 E3	6752 E5	7373 C3	7489 F5
1301 F12	2304 F11	2356 E9	2386 D9	2435 D10	2486 C1	2751 E6	3302 F11	3354 F8	3404 E9	3445 D11	3482 C1	3505 D2	3530 F3	3556 D1	3770 E3	6753 E6	7374 D8	7490 F2
1340 F10	2305 G10	2357 F9	2387 D8	2436 E11	2487 D2	2752 E6	3303 F11	3370 B10	3420 B11	3446 D10	3484 F4	3506 D3	3531 F3	3557 D0	3771 D5	6754 E4	7375 D8	7491 F4
1400 E7	2306 F11	2358 E9	2400 E9	2450 B6	2488 F2	2753 D6	3304 E11	3371 B10	3421 B11	3447 D10	3485 B3	3507 D4	3532 F3	3558 D1	3772 D5	6755 D3	7400 E9	7492 B8
1420 D12	2307 F10	2359 F9	2401 E8	2451 D6	2489 F2	2754 E4	3305 F10	3372 C9	3422 E11	3448 D10	3486 B5	3508 D5	3533 F4	3559 D2	3773 D5	6756 E4	7420 B11	7542 B11
1421 D12	2308 F10	2360 F10	2402 E8	2452 C7	2490 D4	2755 D5	3306 E11	3373 C9	3423 D11	3449 D10	3487 B5	3509 D6	3534 F4	3560 D3	3774 D5	6757 D5	7421 D11	7543 B12
1422 C12	2309 F11	2361 E10	2403 E8	2453 B7	2491 C1	2756 E4	3307 G11	3374 D8	3424 C11	3450 C5	3488 B5	3510 D7	3535 F4	3561 D3	3775 D5	6758 E5	7422 D11	7544 B12
1423 B12	2340 E9	2370 B9	2404 E8	2454 B7	2492 F2	2757 E4	3308 F11	3375 D10	3425 D11	3451 C5	3489 B5	3511 D8	3536 F3	3562 D3	3776 D5	6759 E5	7423 D11	7545 E3
1424 C10	2341 F10	2371 B9	2405 E8	2455 B8	2493 F2	2758 E6	3309 F11	3376 D10	3426 D10	3452 B7	3490 B1	3512 D5	3537 F3	3563 D3	3777 D5	6760 E3	7424 D11	7546 E3
1425 A11	2342 F9	2372 B9	2406 E8	2456 B6	2494 F2	2759 E5	3310 F11	3377 D10	3427 C10	3453 B7	3491 B1	3513 B5	3538 F3	3564 D3	3778 D5	6761 E3	7425 D11	7547 E3
1480 C1	2343 F8	2373 C9	2407 E8	2457 D4	2495 D6	2760 E4	3311 F10	3378 B10	3428 C10	3454 B7	3492 B1	3514 F2	3539 F3	3565 D3	3779 D5	6762 E3	7426 D11	7548 E3
1500 F5	2344 E9	2374 C10	2408 E8	2458 C5	2496 F5	2761 E5	3312 E10	3379 D10	3429 D10	3455 B7	3493 B1	3515 D3	3540 B11	3566 D3	3780 E6	6763 E3	7427 D11	7549 E3
1501 F6	2345 E10	2375 C10	2409 E8	2459 D4	2497 C1	2762 D5	3313 E9	3380 C9	3430 D11	3456 B7	3494 B1	3516 E2	3541 B11	3567 D3	3781 E6	6764 E3	7428 D11	7550 E3
1502 B7	2346 F8	2376 D10	2410 E8	2460 D4	2498 D1	2763 D5	3314 E9	3381 D8	3431 C11	3457 C5	3495 F3	3517 E2	3542 B11	3568 D3	3782 E6	6765 E3	7429 D11	7551 E3
1503 B6	2347 F9	2377 D10	2411 E8	2461 B3	2499 E3	2764 D4	3315 F8	3382 D8	3432 C11	3458 D4	3496 F3	3518 E2	3543 A10	3569 D3	3783 E6	6766 E3	7430 D11	7552 E3
1504 B4	2348 G8	2378 C9	2412 E8	2462 C3	2500 E3	2765 E5	3316 F9	3383 C9	3433 C11	3459 C5	3497 B2	3519 E2	3544 B11	3570 E6	3784 E3	6767 E3	7431 F9	7553 E3
1505 B1	2349 F7	2379 C10	2413 E8	2463 B6	2501 E2	2766 E5	3317 F9	3384 C9	3434 C11	3460 C5	3498 B2	3520 E2	3545 A10	3571 E6	3785 E3	6768 E3	7432 F8	7554 E3
1510 A2	2350 E7	2380 C9	2414 E8	2464 B8	2502 F4	2767 E5	3318 F8	3385 C9	3435 B11	3461 C4	3499 B3	3521 F3	3546 B10	3572 F3	3786 E3	6769 E3	7433 F8	7555 E3
1511 D2	2351 E10	2381 C10	2415 E8	2465 B8	2503 F4	2768 D3	3319 E7	3386 C5	3436 C12	3462 B3	3500 B3	3522 F4	3547 B3	3573 F3	3787 E3	6770 E3	7434 F8	7556 E3
2300 E11	2352 E10	2382 D9	2416 E8	2466 D3	2504 F4	2769 D3	3320 F7	3387 D8	3437 C11	3463 B3	3501 E5	3523 F4	3548 B3	3574 F3	3788 E3	6771 E3	7435 F8	7557 E3
2301 E11	2353 F10	2383 D9	2417 E8	2467 B1	2505 F4	2809 B1	3321 E10	3388 E8	3438 C10	3464 B3	3502 E7	3524 F4	3549 B3	3575 F3	3789 E3	6772 E3	7436 F8	7558 E3
2302 E11	2354 F8	2384 B5	2418 E8	2468 C1	2540 B12	3300 E11	3352 F10	3402 E9	3443 E11	3465 B3	3503 E7	3525 F4	3550 D3	3790 E3	6773 E3	6774 E3	7437 B9	7559 E3



1425

1 = DIG.IN
2 = GND
3 = RCS

1502

1 = +5V	6 = KILL
2 = GND	7 = -15V
3 = Vb	8 = GND
4 = OFF	9 = +15V
5 = RESET	

1503

1 = MERR	6 = SDAT
2 = TRMOT	7 = SRST
3 = SREQ	8 = AM
4 = SACK	9 = CRI
5 = GND	

1504

1 = EFM	6 = ALFAO	11 = TROUT
2 = GND	7 = ALFALS	12 = POWOK
3 = EFM CLK	8 = FSD	13 = EFMK
4 = GND	9 = GND	14 = GND
5 = PPN	10 = TRIN	15 = ALFA
		16 = LASWR

1505

1 = DSEL
2 = DACK
3 = DCLK
4 = GND
5 = DDIN
6 = DDOUT
7 = IR

1300

1 = L	5 = +15V
2 = /LG	6 = RC
3 = -15V	7 = R
4 = GND	

1340

1 = RLE
2 = RG
3 = LG
4 = LLE

1400

1 = MSTCK	6 = GND
2 = GND	7 = CL
3 = DATA	8 = GND
4 = GND	9 = XSYS
5 = WS	10 = GND

1501

1 = LDR	5 = +15V
2 = KILL	6 = SSEL
3 = -15V	7 = LDL
4 = GND	

1500

1 = INSEL	5 = GND	9 = MSC	13 = ATT
2 = CRI	6 = ODA	10 = EMPH	14 = +5V
3 = AM	7 = DSSY	11 = DEFS	
4 = QCL	8 = QRA	12 = MUTE	

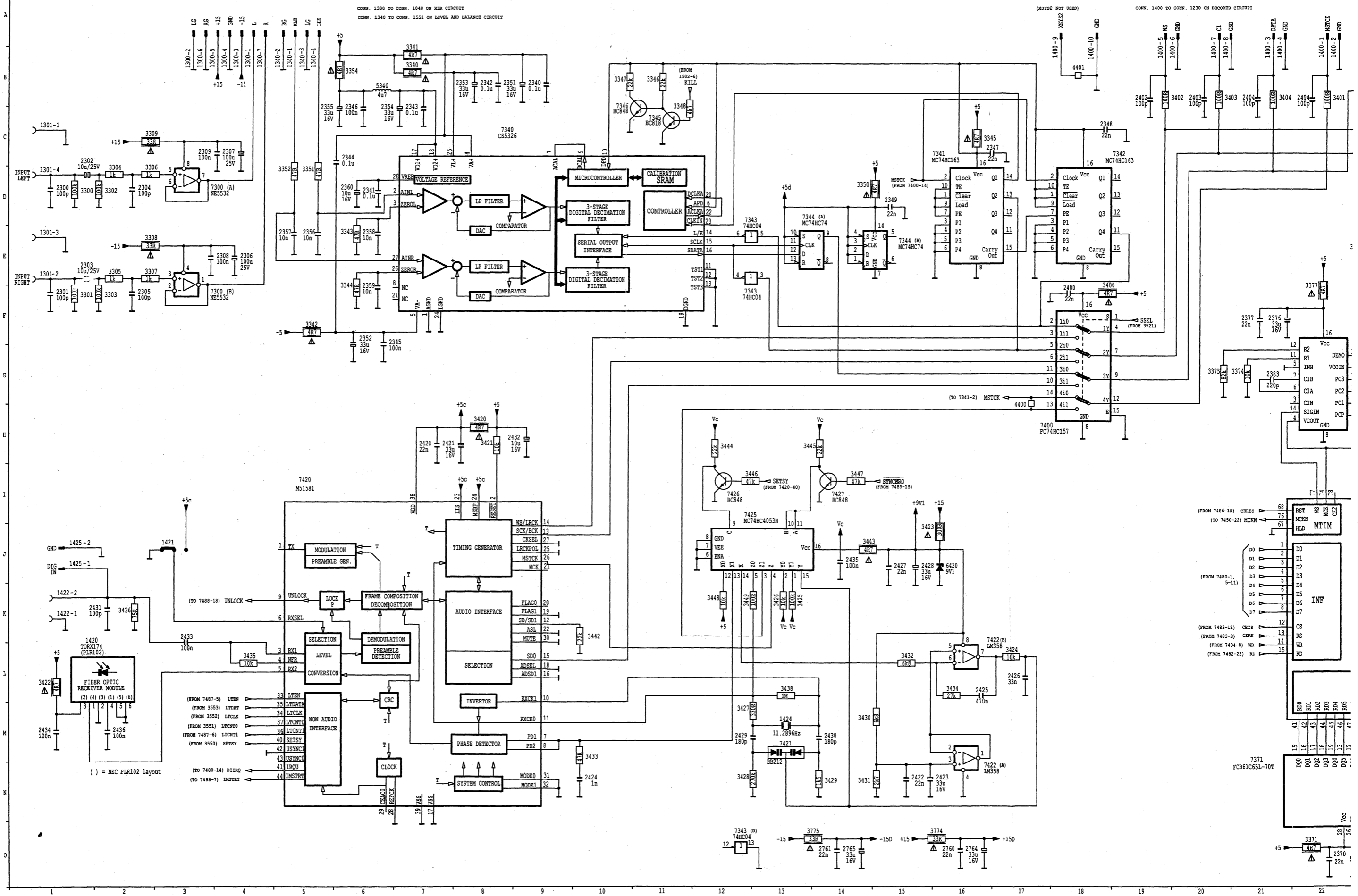
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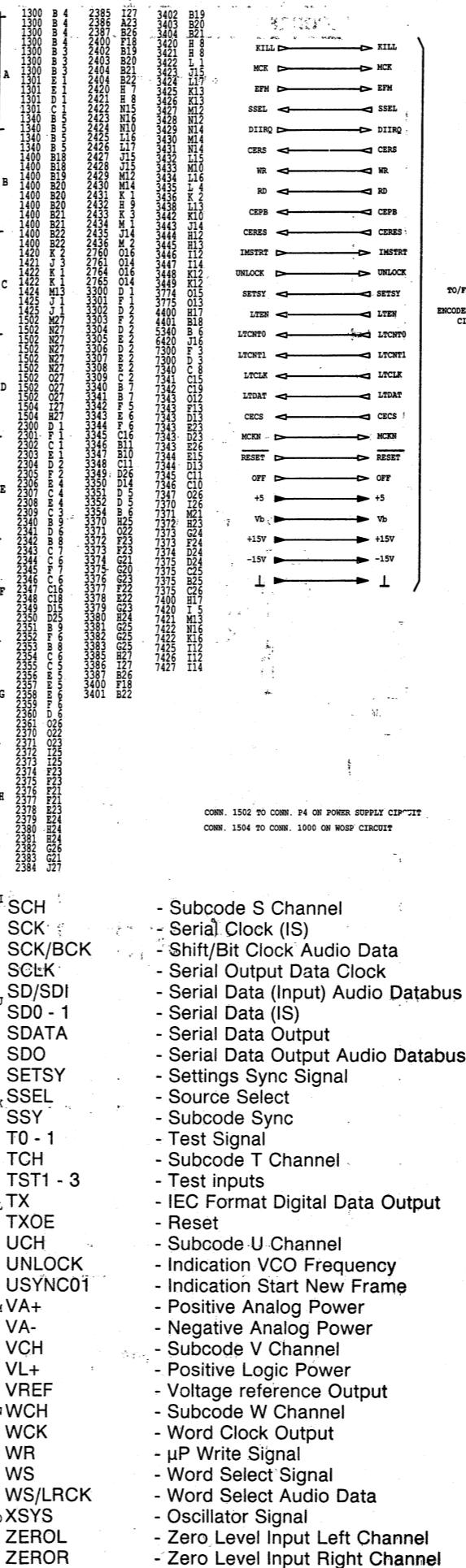
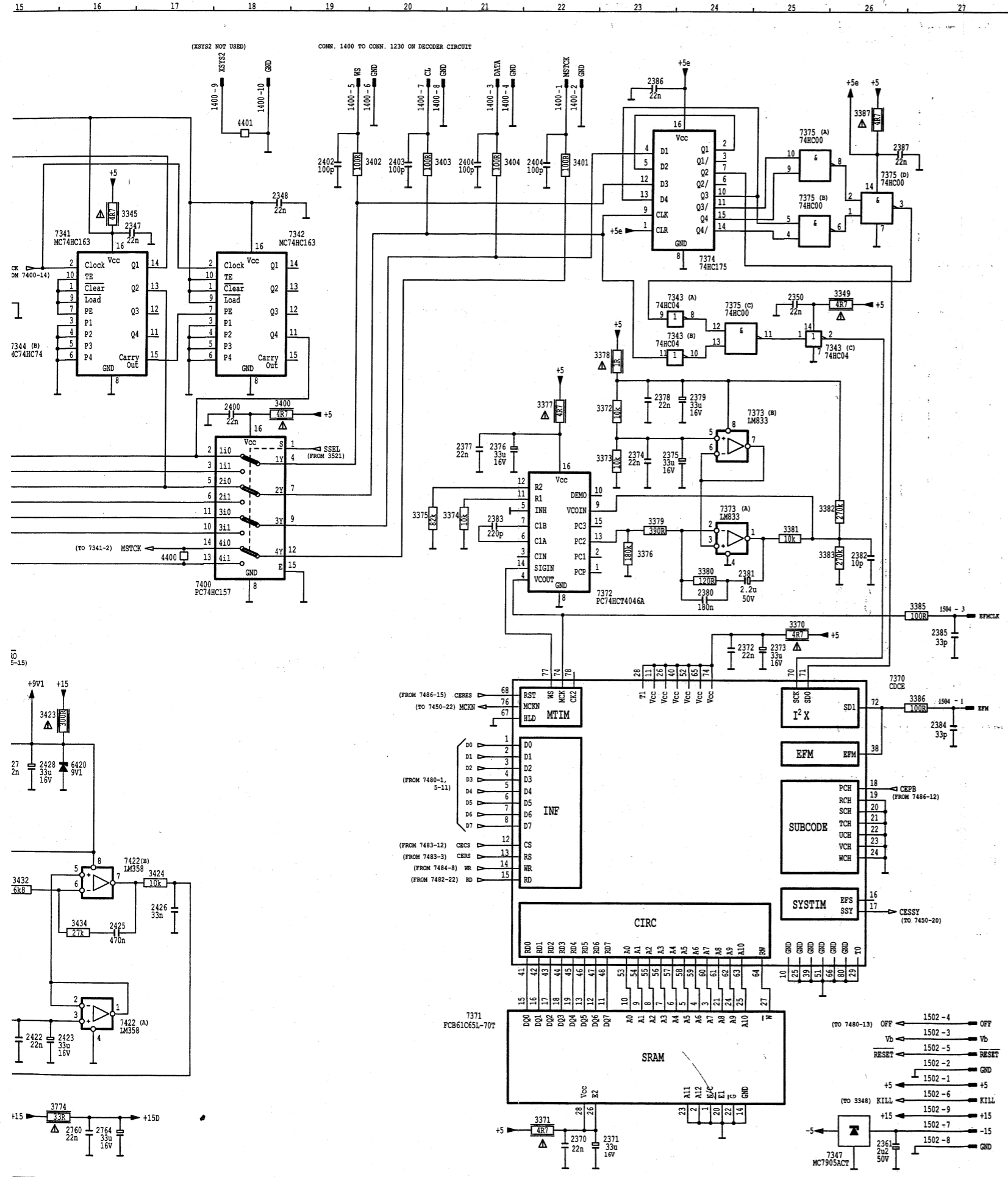
ENCODER CIRCUIT DIAGRAM

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ENCODER - 2





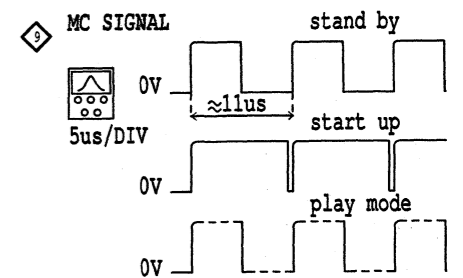
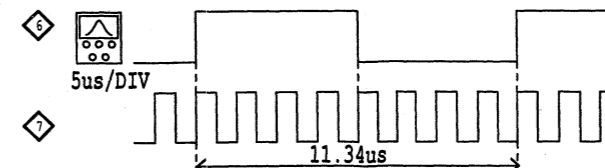
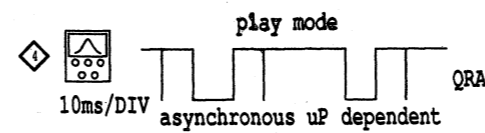
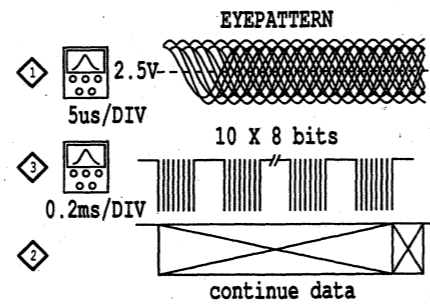
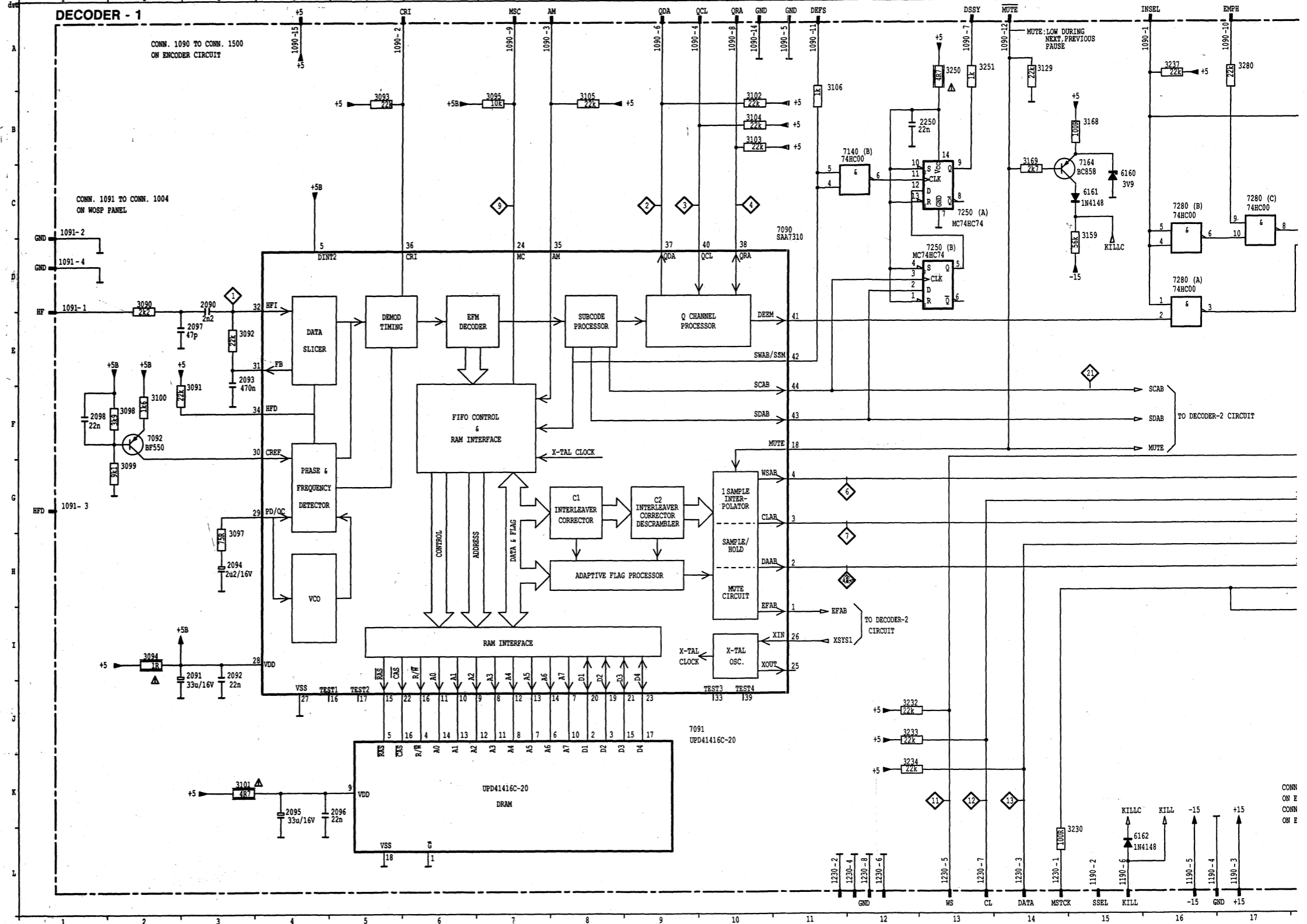
ENCODER-2

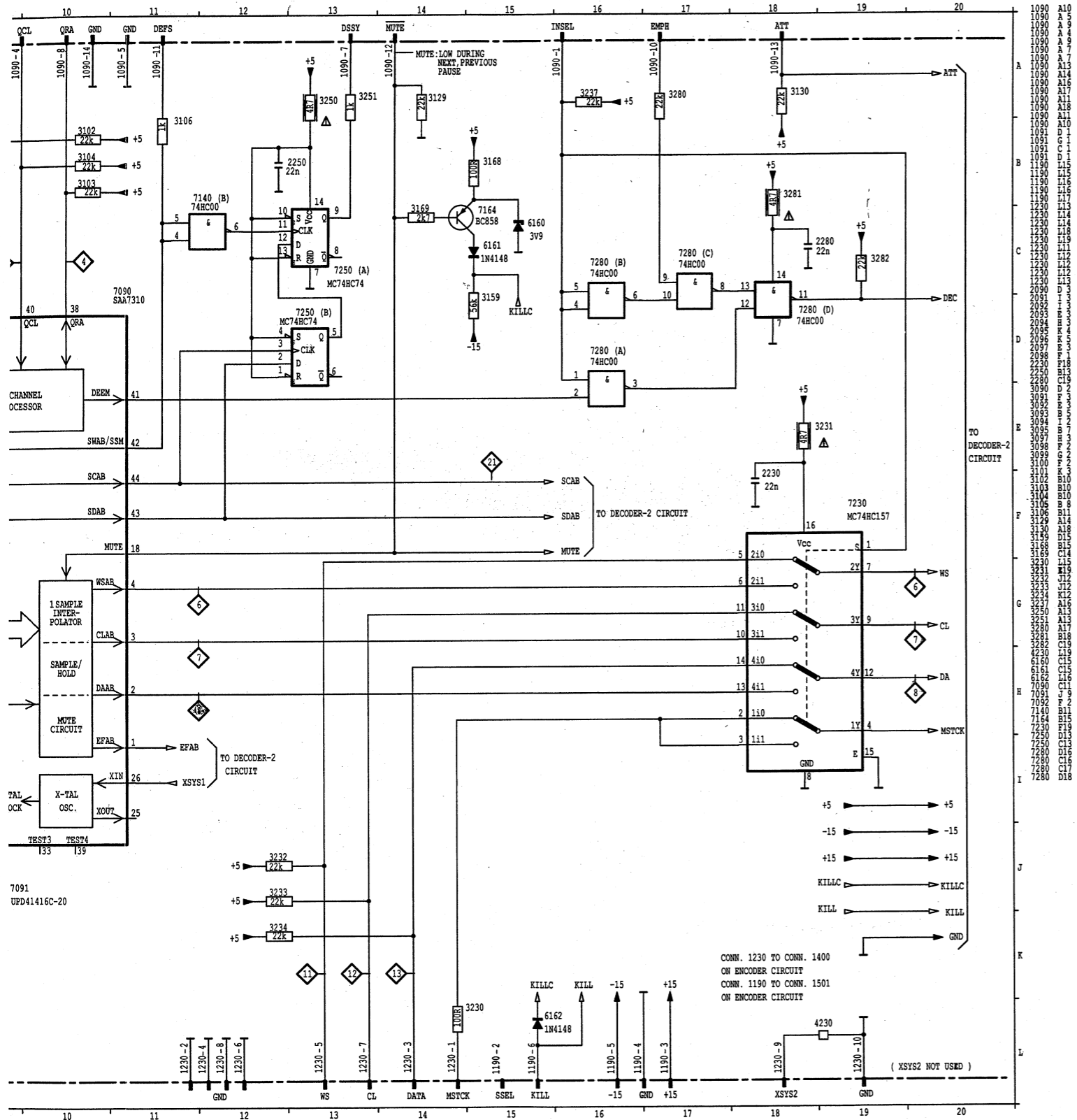
- A0-10 - RAM Addressbus Bit 0 - 10
- ACAL - Analog Calibrate
- ACLKA - Analog Section Output Clock
- ADSDI - Serial Data Input AD Converter Data
- ADSEL - Serial Date Output Source Selection
- AGND - Analog Ground
- AINL - Left Channel Analog Input
- AINR - Right Channel Analog Input
- APD - Analog Power Down
- ASL - Audio Sample Length
- CECS - CIRC EFM Chip Select
- CEFS - CIRC EFM Frame Sync
- CEPB - CIRC EFM Pause Bit
- CERES - CIRC EFM Reset
- CERS - CIRC EFM Register Select
- CESSY - CIRC EFM Subcode Sync
- CK2 - Master Clock /2
- CKACO - Frequency Accuracy Check Output
- CKSEL - Master Clock Frequency Select
- CL - Clock Signal
- CLKIN - Master Clock Input
- CS - Chip Select
- D0 - 7 - Databus Bit 0 - 7
- DCAL - Digital Calibrate Output
- DCLKA - Digital Section Clock Input
- DGND - Digital Ground
- DIIRQ - Digital Input Interrupt Request
- DPD - Digital Power Down
- EFM - Eight to Fourteen Modulation
- FLAGI - Error Flag Input
- FLAGO - Error Flag Output
- GND - Ground
- HLD - Hold Signal
- IIS - IS Format Selection
- IMSTR - Start New Message U bit Indication
- IRQU - Indication Information Message
- L - Left
- L/R - Left/Right Select
- LDL - Level Detection Left
- LDR - Level Detection Right
- LEVLH - Analog Level Left High
- LEVLL - Analog Level Left Low
- LEVRH - Analog Level Right High
- LEVRL - Analog Level Right Low
- LGND - Logic Ground
- LLE - Left Level
- LRCKPOL - Polarity LRCK Select
- LTCLK - Interface Data Bit Clock
- LTCNT0-1 - Interface Control
- LTDATA - Interface Databus
- LLEN - Interface Enable
- MCK - Master Clock
- MCKN - Master Clock NOT
- MODE0 - 1 - Mode Select
- MSBF - Most Significant Bit First Select
- MSTCK - Master Clock
- MUTE - Mute Control
- NFR - Output Level Converter RX1
- PCH - Subcode PChannel
- PD12 - Phase Detector Outputs
- R - Right
- RCH - Subcode RChannel
- RD -  $\mu$ P Read Signal
- RD0 - 7 - RAM Databus Bit 0 - 7
- REFCK - Reference Clock Frequency Accuracy Check
- RLE - Right Level
- RS - Register Select
- RST - Hard Reset
- RX1 - IEC Format Digital Audio Data Input (Coaxial Input)
- RX2 - IEC Format Digital Audio Data Input (Optical Input)
- RXCKIO - Input/Output VCO Frequency
- RXSEL - Selection RX1 Or RX2

DECODER CIRCUIT DIAGRAM

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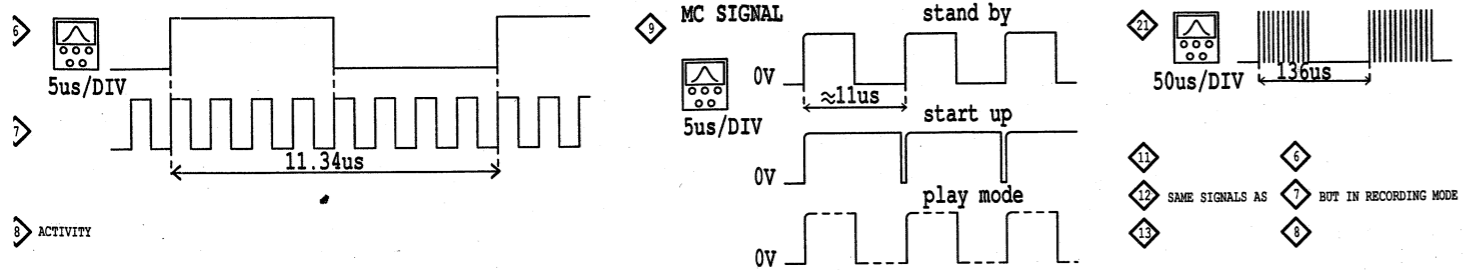




- A 1090 A10
- A 1090 A 5
- A 1090 A 9
- A 1090 A 7
- A 1090 A 13
- A 1090 A 17
- A 1090 A 11
- A 1090 A 18
- A 1090 A 1
- A 1090 A 10
- A 1091 D 1
- A 1091 C 1
- B 1091 D 1
- B 1190 L15
- B 1190 L16
- B 1190 L17
- B 1190 L18
- B 1190 L19
- B 1230 L13
- B 1230 L14
- B 1230 L15
- B 1230 L16
- B 1230 L17
- B 1230 L18
- B 1230 L19
- C 1230 L12
- C 1230 L13
- C 1230 L14
- C 1230 L15
- D 2090 D 3
- D 2091 I 1
- D 2091 I 2
- D 2091 I 3
- D 2091 I 4
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- D 2091 I 100

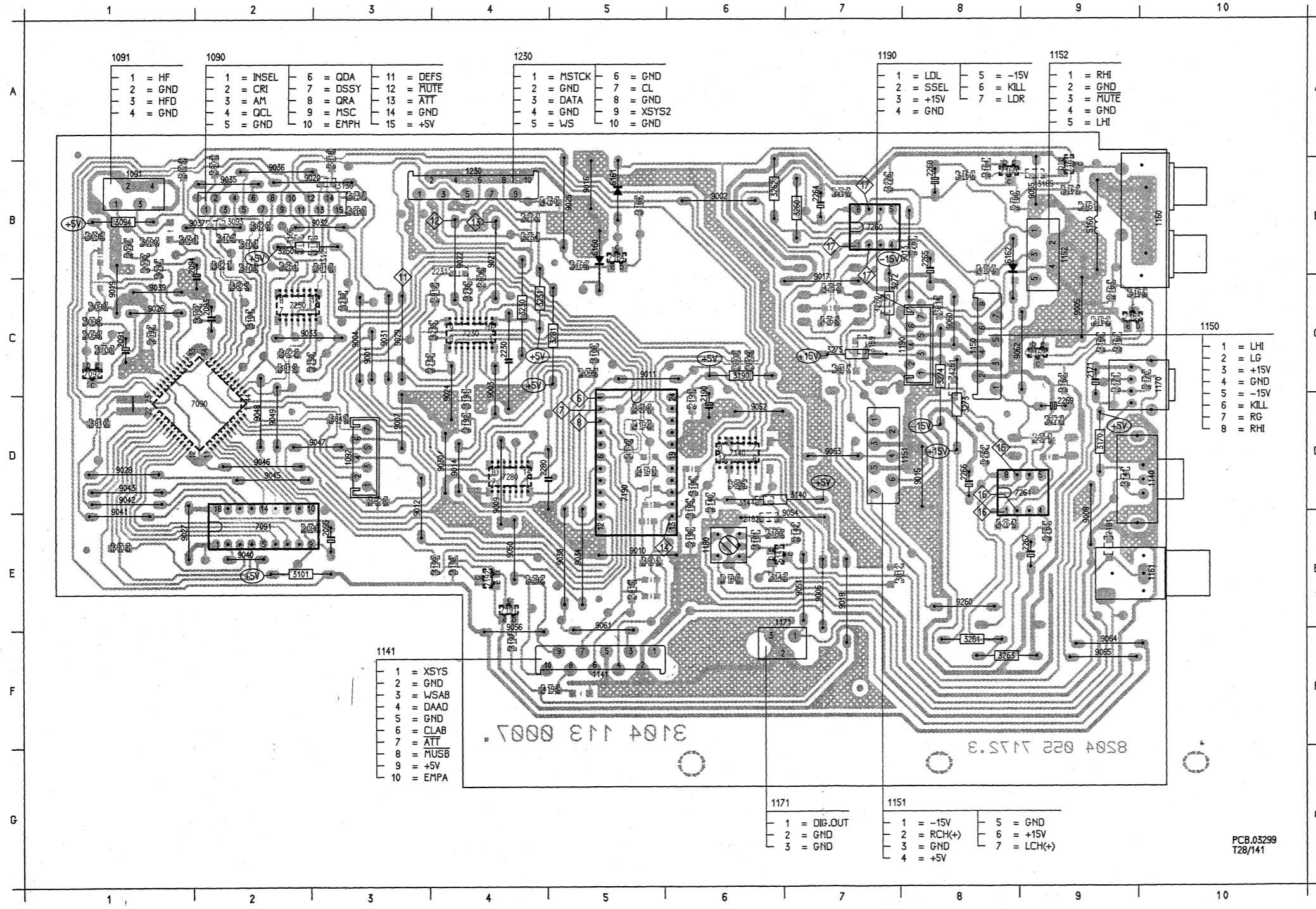
### DECODER-1

- AM - Additional Mute
- ATT - Attenuation
- CL - Clock Signal
- CLAB - Clock Signal Decoder-A to Filter-B
- CREF - Reference Current
- CRI - Counter Reset Inhibit
- DA - Data Signal
- DAAB - Data Signal Decoder-A to Filter-B
- DEC - Deemphasis Control
- DEEM - Deemphasis
- DSSY - Decoder Subcode Sync
- EFAB - Error Flag Decoder-A to Filter-B
- FB - Feed Back
- GND - Ground
- HF - High Frequency
- HFD - High Frequency Detection
- HFI - High Frequency Input
- INSEL - Input Selector
- MC - Motor Control Signal
- MSC - External Motor Control Input
- MSTCK - Master Clock
- MUTE - Mute Signal
- PD/OC - Phase Detector - Oscillator Control
- QCL - Q-Channel Clock Signal
- QDA - Q-Channel Data Signal
- QRA - Q-Channel Request Acknowledge
- SCAB - Subcode Clock Decoder-A to Filter-B
- SDAB - Subcode Data Decoder-A to Filter-B
- SWAB/SSM - Subcode Word/Start-Stop Motor Signal
- WS - Word Select
- WSAB - Word Select Decoder-A to Filter-B
- XIN - Oscillator Signal in Decoder-A
- XOUT - Oscillator Signal out Decoder-A
- XSYS - Oscillator Signal



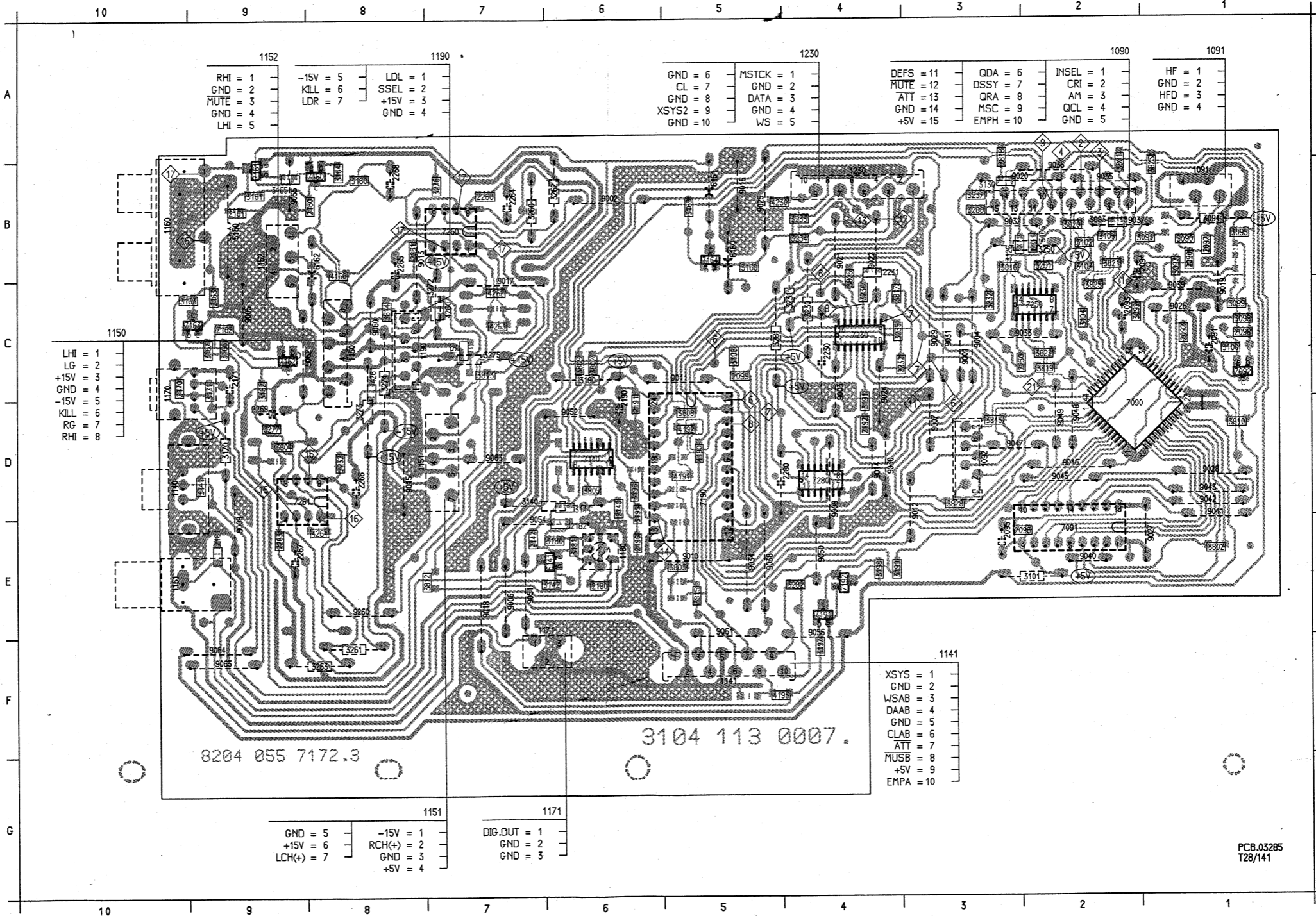
DECODER PANEL COMPONENT SIDE

1091 B1	2091 C1	2170 C10	2262 D8	3097 B1	3142 E6	3180 E6	3236 C4	3281 C5	3815 E5	4192 D5	7092 C1	9001 C3	9016 B5	9032 B2	9048 D2
1092 D3	2092 C1	2171 C9	2263 E9	3098 C1	3143 D6	3181 B1	3237 B3	3282 F4	3816 B3	4193 F4	7140 D6	9002 B6	9017 C7	9033 C2	9049 D2
1140 D10	2093 C2	2172 C8	2264 B7	3099 C1	3150 C7	3190 C6	3250 B2	3801 B2	3817 C4	4230 B4	7160 B8	9003 D4	9018 E7	9034 E5	9050 E4
1141 F5	2094 B2	2181 E9	2265 B8	3100 C1	3160 B8	3191 D4	3251 E1	3802 E1	3818 B3	4260 C7	7161 B9	9004 C3	9019 C1	9035 B2	9051 E7
1150 C8	2095 E3	2182 E8	2266 D8	3101 E2	3161 B9	3192 B5	3260 B7	3803 E5	3819 C2	4261 C7	7162 C9	9005 B2	9020 B2	9036 B2	9052 D6
1151 D8	2096 F2	2190 D6	2267 E9	3102 B2	3162 D8	3193 E6	3261 F8	3804 B8	3820 C3	4262 C7	7163 D9	9006 E7	9021 B4	9037 B1	9053 E6
1152 B9	2097 B1	2191 D6	2268 B8	3103 B2	3163 C8	3194 F4	3262 B6	3805 D6	3821 B2	4263 C7	7164 B5	9007 D5	9022 B4	9038 E5	9054 B9
1160 B10	2098 C1	2192 D4	2269 D9	3104 C2	3164 B8	3195 E4	3263 F8	3806 C4	3822 C2	4264 E9	7190 B5	9008 E9	9023 D4	9039 C1	9055 E4
1161 E10	2099 C5	2193 E6	2270 D4	3105 B2	3165 B9	3196 C4	3272 C7	3807 E7	3823 D1	4265 B9	7191 E4	9009 F4	9024 D4	9040 E2	9056 E4
1170 D10	2140 E6	2230 C4	3090 B1	3106 B2	3166 C8	3197 E4	3273 D8	3808 D5	3824 C2	4266 C9	7192 E4	9010 E5	9025 B5	9041 E2	9057 C8
1171 E6	2142 E7	2231 B4	3091 B1	3107 C8	3167 C8	3198 E4	3274 C8	3809 C6	3825 D5	4267 B5	7230 C4	9011 C5	9027 E1	9042 D1	9058 C8
1180 E6	2160 B6	2232 C4	3092 C2	3108 B3	3168 B5	3199 B5	3275 C3	3810 D1	3845 D3	4268 B5	7250 C2	9012 E3	9028 D1	9043 D1	9059 D7
1190 C8	2161 B8	2250 C3	3093 B2	3109 B3	3169 B5	3200 B2	3276 B7	3812 E1	4160 B8	4162 B8	7250 B7	9013 B8	9029 C5	9044 D2	9060 D7
1230 B4	2162 C3	2260 B7	3094 B1	3110 D7	3170 D8	3254 B4	3277 D8	3813 C7	4190 D5	4191 D5	7091 E2	9014 D4	9030 C5	9045 D2	9061 E8
2090 B1	2163 C3	2261 B8	3095 B1	3141 D9	3171 D8	3255 C4	3280 B3	3814 C8	4191 D5	7091 E2	7280 D4	9015 D8	9031 C5	9047 D2	9260 E8



DECODER PANEL SOLDER SIDE

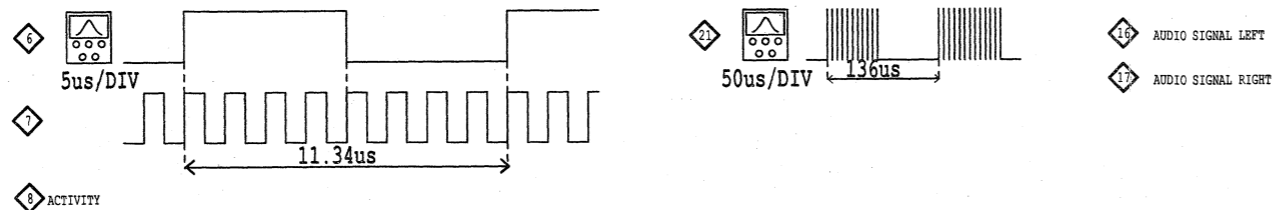
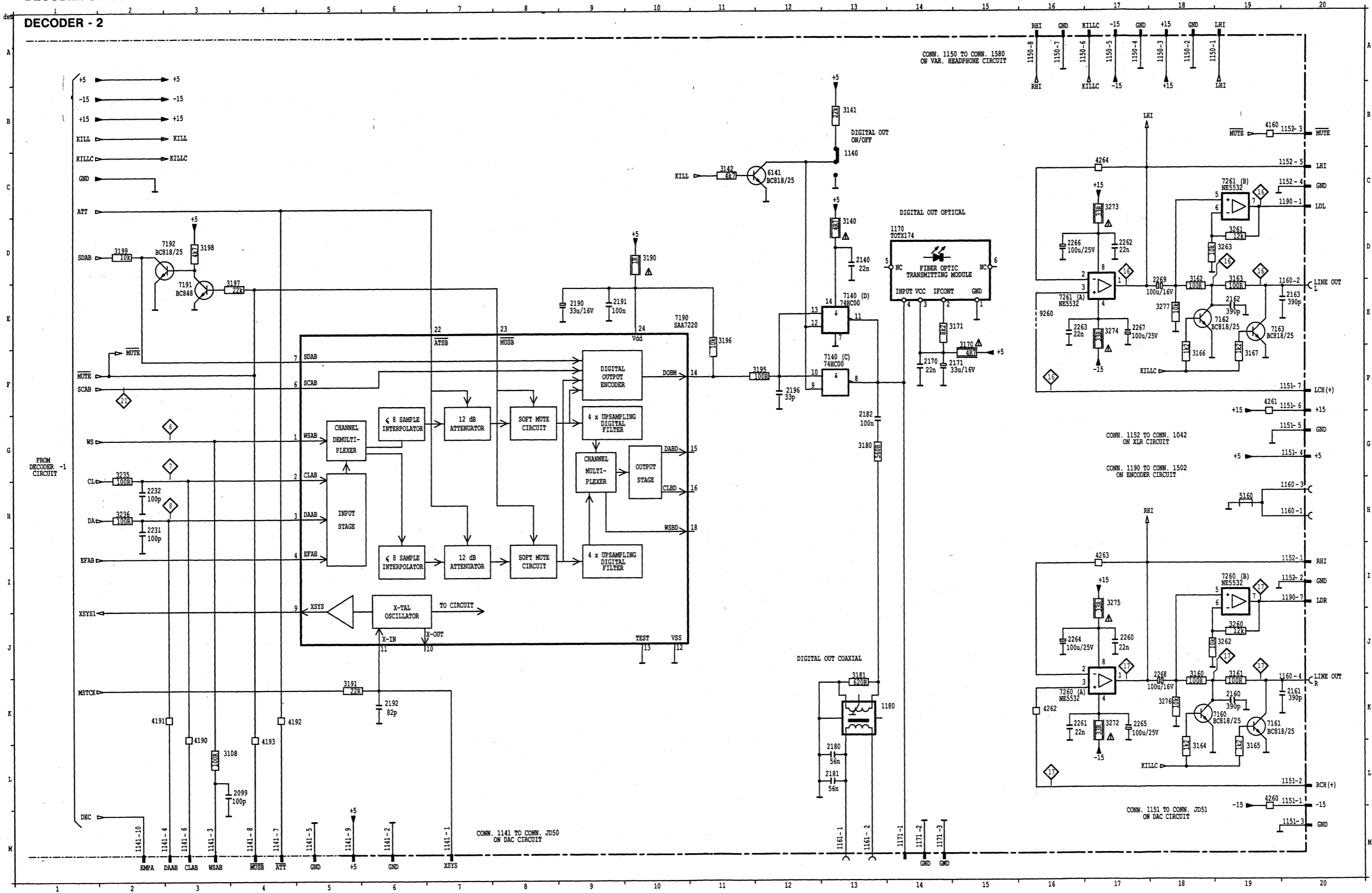
1091 B1	2091 C1	2170 C10	2262 D8	3097 B1	3142 E6	3180 E6	3256 C4	3281 C5	3815 E5	4192 D5	7092 C1	9001 C3	9016 B5	9032 B2	9048 D2
1092 D3	2092 C1	2171 C9	2263 E9	3098 C1	3144 D6	3181 E6	3257 B5	3282 E4	3816 B5	4195 F4	7140 D6	9002 B6	9017 C7	9033 C2	9049 D2
1140 D10	2093 C2	2180 E6	2264 B7	3099 C1	3159 C7	3190 C6	3250 B2	3280 B2	3817 C4	4250 B4	7150 B8	9003 D4	9018 C7	9034 C5	9050 E4
1141 F5	2094 B2	2181 E9	2265 B8	3100 C1	3160 B8	3191 D4	3251 B2	3281 E2	3818 B3	4260 C7	7161 B8	9004 C3	9019 C1	9035 B2	9051 E7
1150 C8	2095 E5	2182 E9	2266 D6	3101 E2	3161 B9	3192 E6	3252 B7	3282 E5	3819 C2	4261 C8	7162 C9	9005 C9	9020 B2	9036 B2	9052 D6
1151 D8	2096 E9	2190 D6	2267 E9	3102 B2	3162 D9	3193 E6	3261 F8	3283 D9	3820 B2	4262 C7	7163 C9	9006 E7	9021 B4	9037 B1	9054 E6
1152 B9	2097 B1	2191 D6	2268 B8	3103 B2	3163 C9	3194 F4	3262 B6	3284 D6	3821 B2	4263 C7	7164 B5	9007 D3	9022 B4	9038 C5	9055 B9
1160 B10	2098 C1	2192 D4	2269 D9	3104 C2	3164 B8	3195 E4	3263 F8	3285 C4	3822 C2	4264 E8	7190 D5	9008 E9	9023 D4	9039 C1	9056 E4
1161 E10	2099 C5	2195 E6	2280 D4	3105 B2	3165 D9	3196 E4	3265 F8	3286 D5	3823 B1	4265 E8	7191 E4	9009 E4	9024 D4	9040 E2	9060 C8
1170 D10	2140 E6	2230 C4	3090 B1	3106 B2	3166 C9	3197 F4	3272 C7	3287 C5	3824 C2	4266 E8	7192 E4	9010 E5	9025 B5	9041 E1	9061 E5
1171 E6	2142 E7	2231 B4	3091 B1	3108 C5	3167 C9	3198 E4	3274 C8	3288 D3	3825 C2	4267 B5	7230 C4	9011 C3	9026 C1	9042 D1	9062 C9
1180 E6	2160 B8	2232 C4	3092 C2	3129 B3	3168 B5	3199 E4	3275 C7	3810 D1	3845 D3	4161 B5	7250 C2	9012 E3	9027 E1	9043 D1	9063 D7
1190 C8	2161 B9	2250 C3	3093 B2	3150 B3	3169 B5	3200 C4	3276 B7	3812 E8	3846 D5	4162 B8	7260 B7	9013 B8	9028 D3	9045 D2	9064 F9
1230 B4	2162 C9	2260 B7	3094 B1	3140 D7	3170 D9	3234 B4	3277 D9	3813 C7	4190 D5	7090 D1	7261 D8	9014 D4	9030 C3	9046 D2	9065 F9
2090 B1	2163 C9	2261 B8	3095 B1	3141 D9	3171 D9	3235 C4	3280 B5	3814 C8	4191 D5	7091 E2	7280 D4	9015 D8	9031 C3	9047 D2	9260 E8



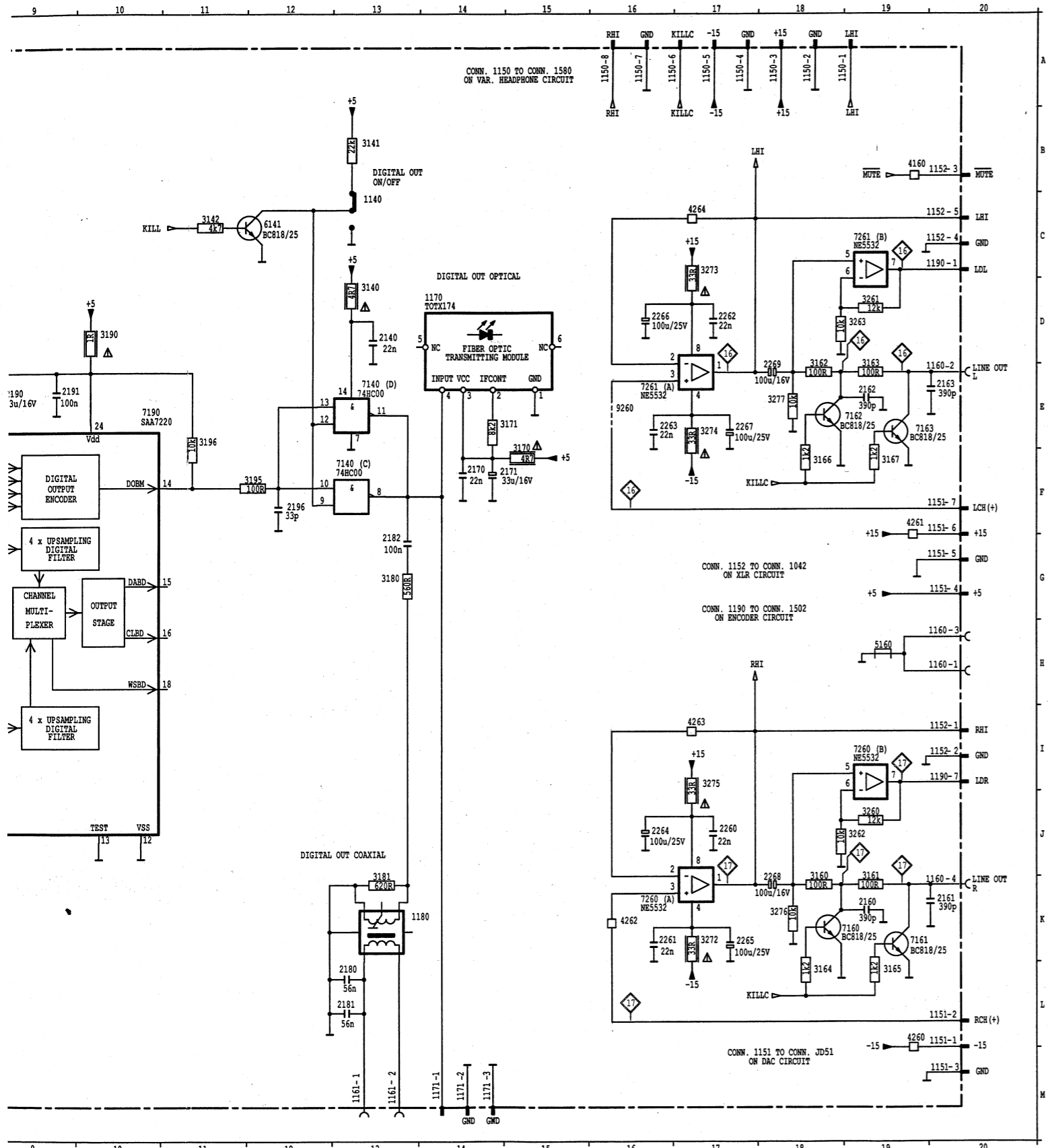


DECODER CIRCUIT DIAGRAM

DECODER - 2

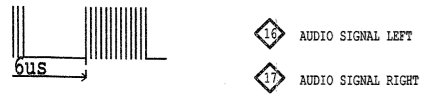


1140	C13
1141	M7
1142	M8
1143	M9
1144	M10
1145	M11
1146	M12
1147	M13
1148	M14
1149	M15
1150	M16
1151	M17
1152	M18
1153	M19
1154	M20
1155	M21
1156	M22
1157	M23
1158	M24
1159	M25
1160	M26
1161	M27
1162	M28
1163	M29
1164	M30
1165	M31
1166	M32
1167	M33
1168	M34
1169	M35
1170	M36
1171	M37
1172	M38
1173	M39
1174	M40
1175	M41
1176	M42
1177	M43
1178	M44
1179	M45
1180	M46
1181	M47
1182	M48
1183	M49
1184	M50
1185	M51
1186	M52
1187	M53
1188	M54
1189	M55
1190	M56
1191	M57
1192	M58
1193	M59
1194	M60
1195	M61
1196	M62
1197	M63
1198	M64
1199	M65
1200	M66
1201	M67
1202	M68
1203	M69
1204	M70
1205	M71
1206	M72
1207	M73
1208	M74
1209	M75
1210	M76
1211	M77
1212	M78
1213	M79
1214	M80
1215	M81
1216	M82
1217	M83
1218	M84
1219	M85
1220	M86
1221	M87
1222	M88
1223	M89
1224	M90
1225	M91
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1230	M96
1231	M97
1232	M98
1233	M99
1234	M100

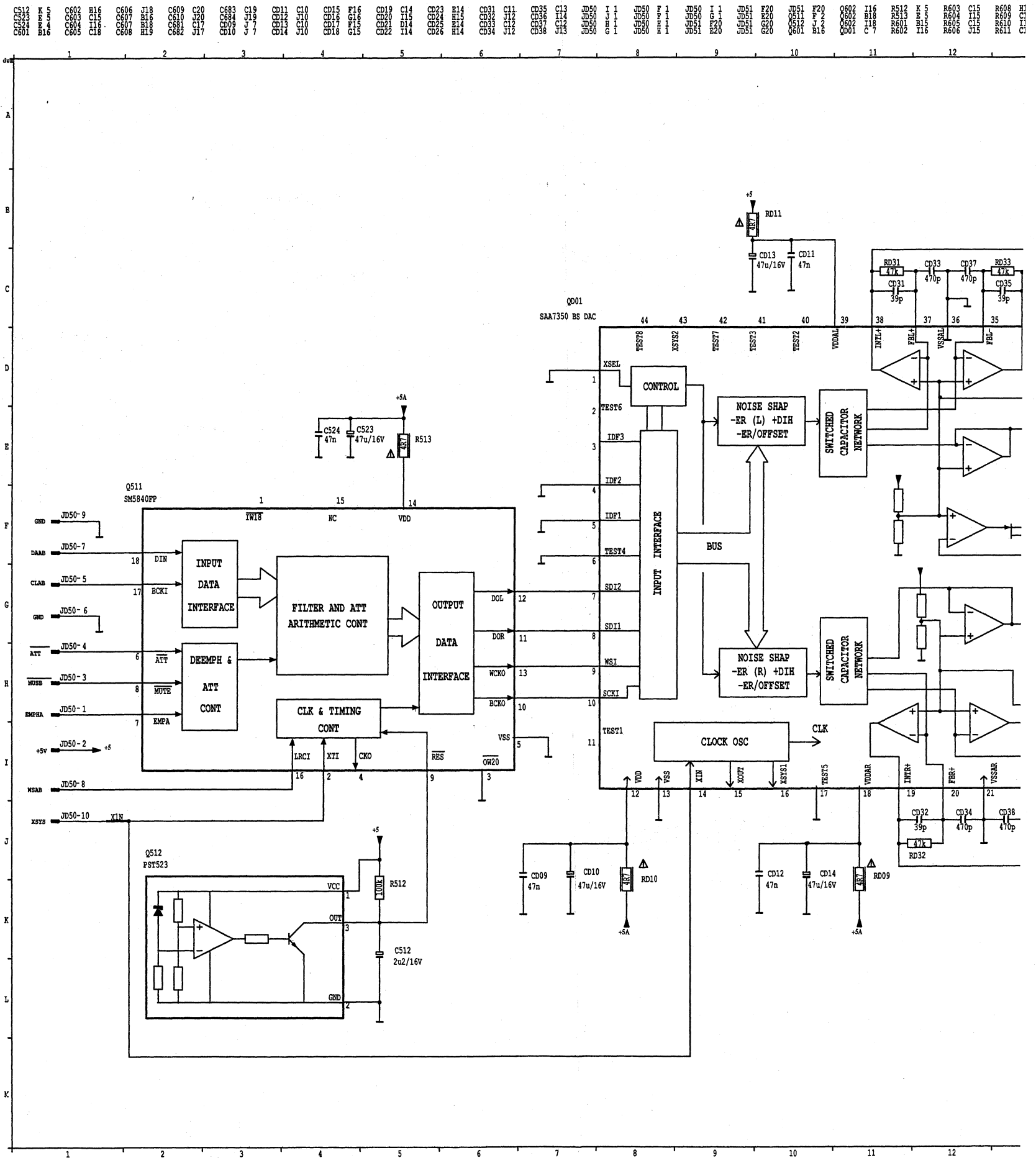


DECODER-2

- ATSB - Attenuation of Audio Level in Search Position
- ATT - Attenuation
- CL - Clock Signal
- CLAB - Clock Signal Decoder-A to Filter-B
- CLBD - Clock Signal Filter-B to DAC
- DA - Data Signal
- DAAB - Data Signal Decoder-A to Filter-B
- DABD - Data Signal Filter-B to DAC
- DEC - Deemphasis Control
- DOBM - Digital Out Signal
- EFAB - Error Flag Decoder-A to Filter-B
- MUSB - Soft Mute Signal
- SCAB - Subcode Clock Decoder-A to Filter-B
- SDAB - Subcode Data Decoder-A to Filter-B
- WS - Word Select
- WSAB - Word Select Decoder-A to Filter-B
- WSBD - Word Select Filter-B to DAC
- X-IN - Oscillator Signal in Decoder-A
- X-OUT - Oscillator Signal out Decoder-A
- XSYS - Oscillator Signal

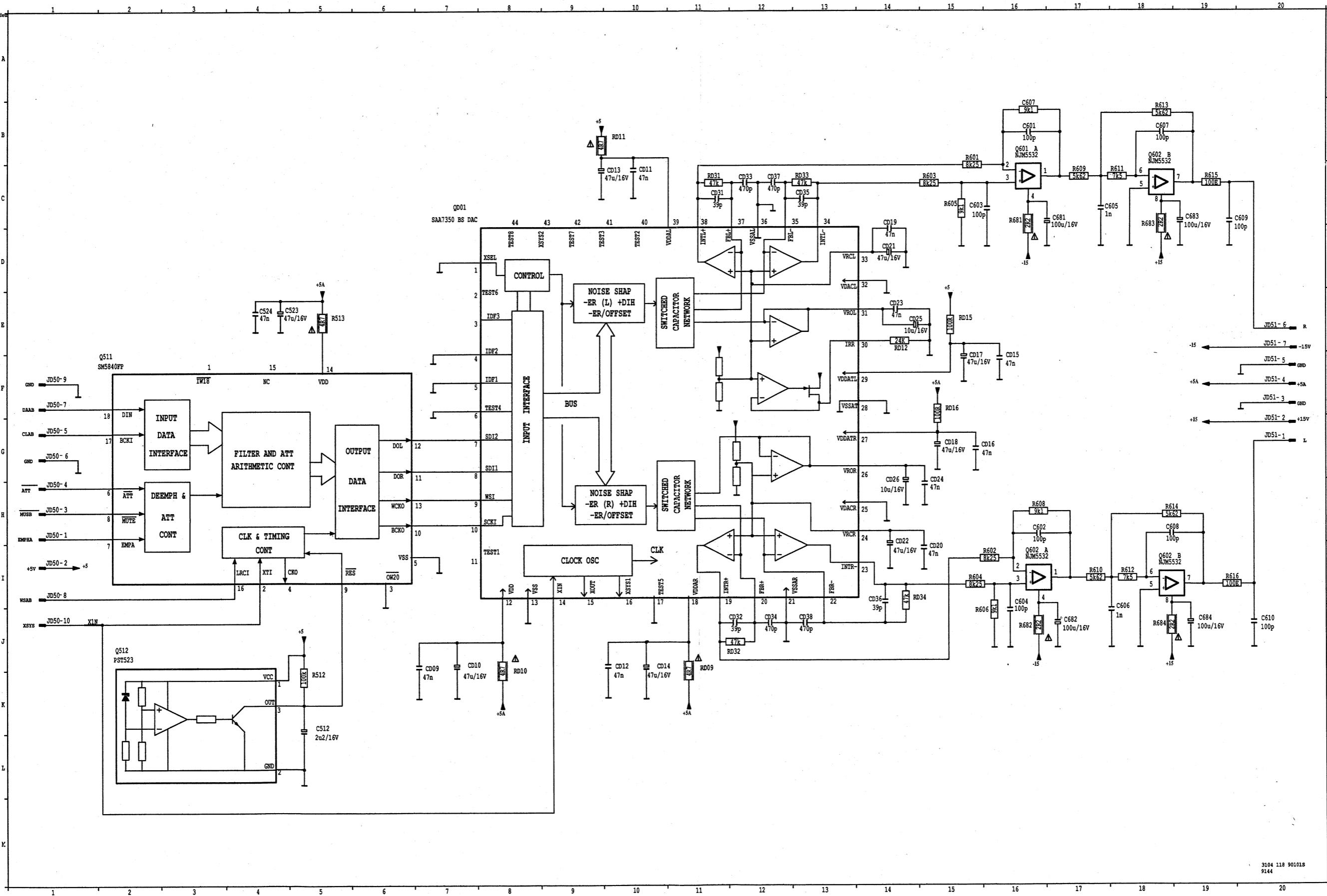


BS DAC CIRCUIT DIAGRAM

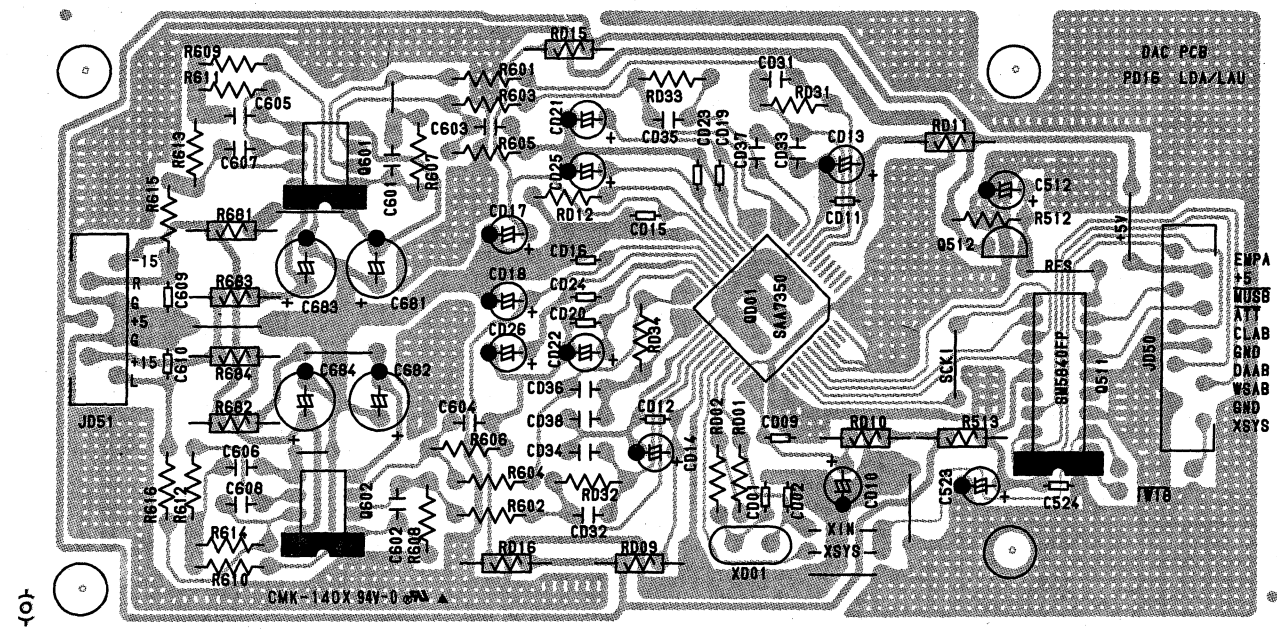


BS DAC CIRCUIT DIAGRAM

C512	C602	H16	C606	J18	C609	C20	C683	C19	Q011	C10	Q015	F16	Q019	C14	Q023	F14	Q031	C11	Q035	C13	JD50	I 1	JD50	I 1	JD51	F20	Q051	F20	Q062	I16	R512	B15	R603	C15	R608	H16	R612	I18	R616	I19	R684	J18	RD12	E14	RD32	J12	
C523	C603	H18	C607	H18	C610	J20	C684	C15	Q013	C10	Q017	F16	Q021	C15	Q025	F14	Q033	C12	Q037	C14	JD50	H 1	JD50	H 1	JD51	F20	Q051	F20	Q062	I18	R513	B15	R604	C15	R609	H17	R613	H18	R617	C16	R685	J18	RD13	E14	RD33	C13	
C624	C604	I18	C608	H19	C681	C17	C682	C17	Q014	C10	Q018	F15	Q022	D14	Q026	H14	Q034	C12	Q038	C13	JD50	G 1	JD50	G 1	JD51	F20	Q051	F20	Q061	C 7	R601	B15	R605	C15	R610	C17	R614	C18	R618	C18	R686	J18	RD14	E14	RD34	C13	
C601	B16	C605	C18	C608	H19	C682	J17	Q016	C10	Q014	C10	Q018	F15	Q022	D14	Q026	H14	Q034	C12	Q038	C13	JD50	G 1	JD50	G 1	JD51	F20	Q051	F20	Q061	C 7	R602	B15	R606	C15	R611	C17	R615	C18	R619	C18	R687	J18	RD15	E14	RD35	C13

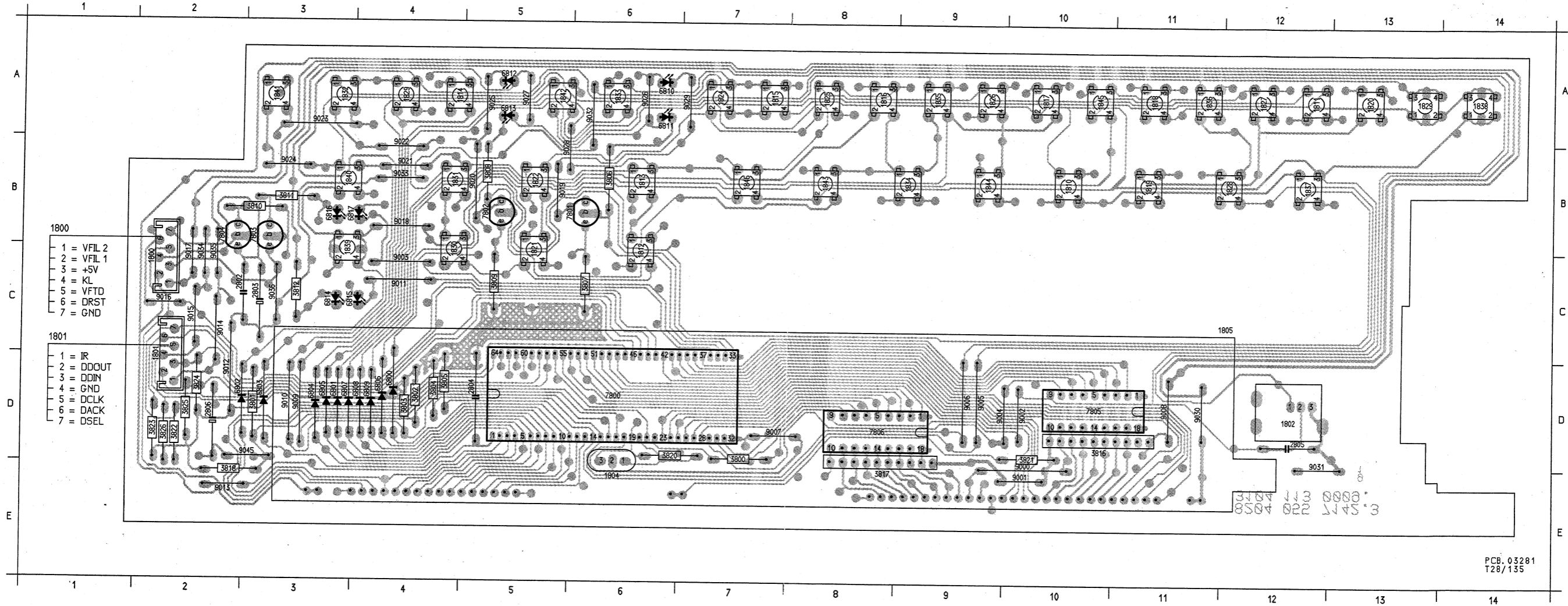


BS DAC PANEL

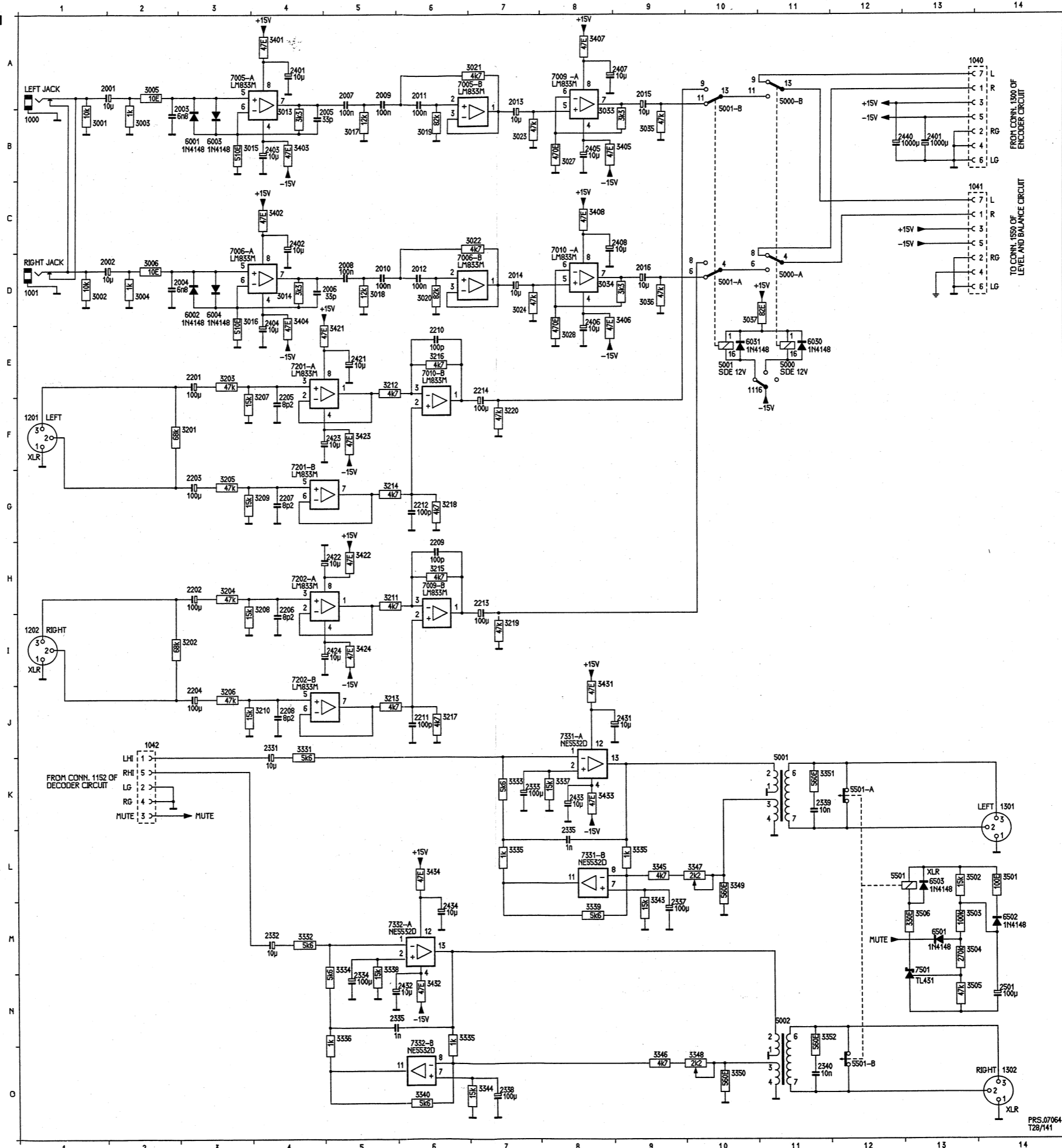




1800 C2	1815 A7	1826 A9	1835 A9	1845 A10	3803 D4	3816 D10	6800 D4	6810 A6	7802 B5	9005 D9	9015 C2	9025 A5	9035 C2
1801 D2	1816 A8	1827 A12	1836 A11	1846 B7	3804 D4	3817 B8	6801 D3	6811 A6	7803 B3	9006 D9	9016 C2	9026 A6	9036 C2
1802 D12	1817 A10	1828 B12	1837 B12	2802 C2	3805 D4	3818 C2	6802 D2	6812 A5	7804 B2	9007 D7	9017 C2	9027 A5	9045 D2
1804 E6	1818 A11	1829 A13	1838 A14	2803 C3	3806 B6	3820 D6	6803 D3	6813 A5	7805 D10	9008 D11	9018 B4	9028 B5	
1805 C1	1819 B11	1830 A4	1839 C3	2804 D3	3807 C5	3821 D10	6804 D3	6814 C3	7806 D8	9009 D3	9019 B5	9029 A7	
1810 B10	1820 A13	1831 B4	1840 B3	2805 D2	3808 D3	3822 D2	6805 D5	6815 C3	9000 D10	9010 D3	9020 B5	9030 D11	
1811 A12	1821 C5	1832 A3	1841 A3	2806 D2	3809 D3	3823 D2	6806 D4	6816 B3	9001 E10	9011 C4	9021 B4	9031 D12	
1812 C6	1822 B5	1833 A6	1842 A5	3800 D7	3810 B3	3824 D2	6807 D3	6817 B3	9002 D10	9012 D2	9022 B4	9032 A6	
1813 B6	1823 A7	1834 A6	1843 B8	3801 D3	3811 B3	3825 D2	6808 D4	6818 B3	9003 C4	9013 C2	9023 A4	9033 B4	
1814 A4	1825 A8	1834 B9	1844 B9	3802 D4	3812 C3	3826 D2	6809 D4	7801 B6	9004 D8	9014 C2	9024 B3	9034 C2	



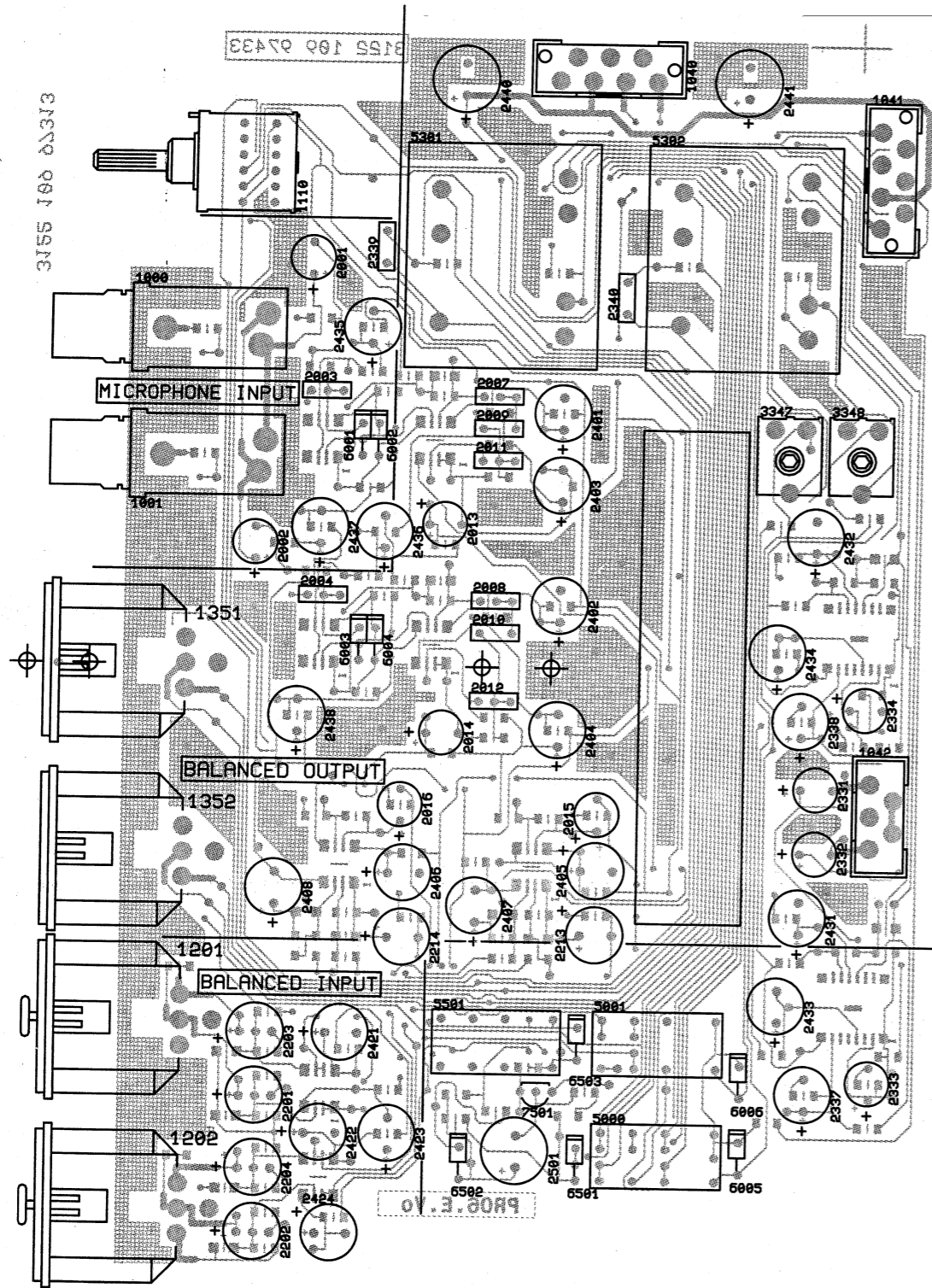
XLR CIRCUIT DIAGRAM



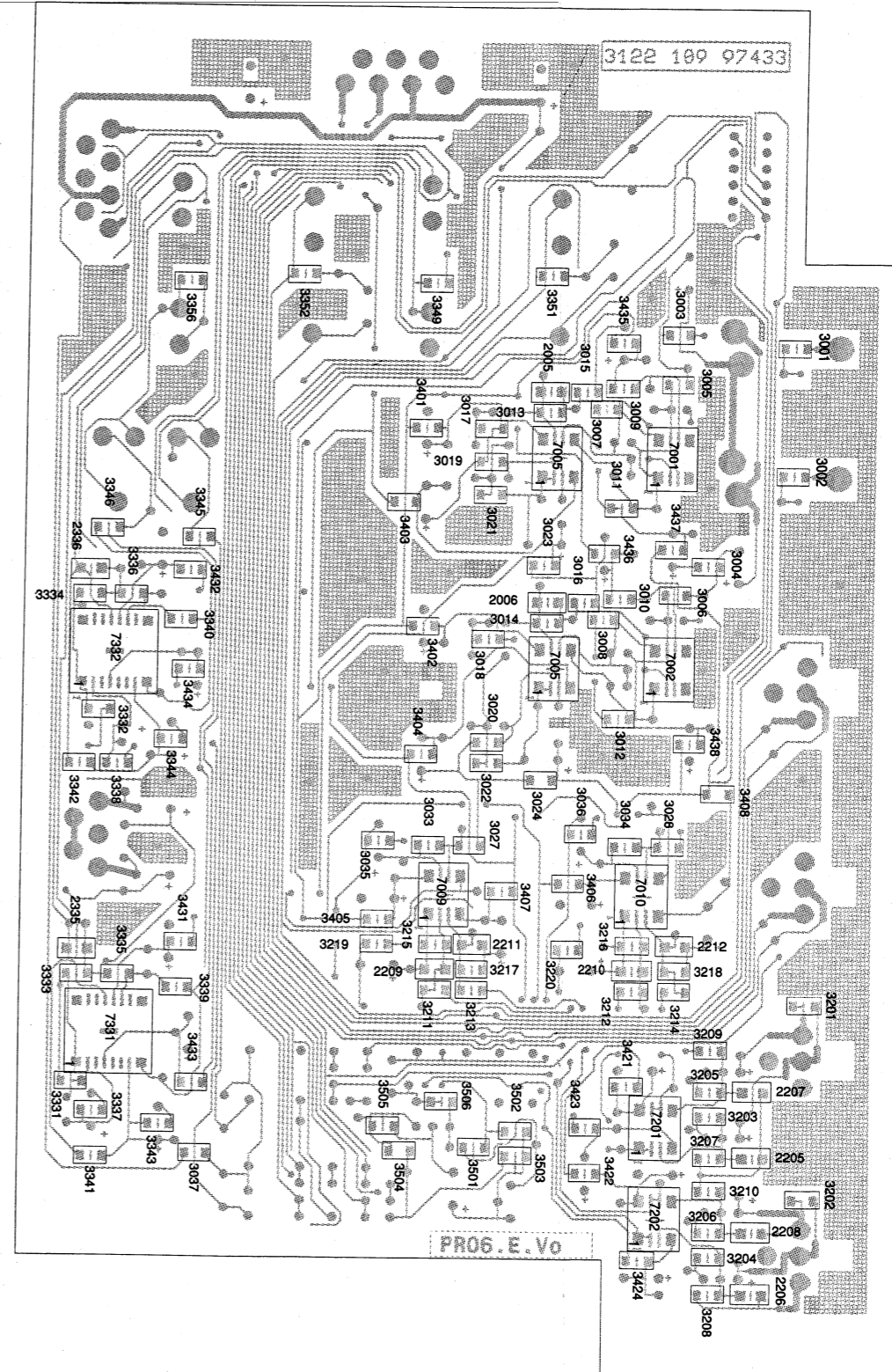
1000	B1	3431	J8
1001	D1	3432	N6
1040	A13	3433	K8
1041	C13	3434	L6
1042	J2	3501	L14
1116	E10	3502	L13
1201	F1	3503	M13
1202	I1	3504	M13
1501	K4	3505	M13
1502	O14	3506	M13
2001	A2	5000	A11
2002	D2	5000	D11
2003	B2	5000	E11
2004	B2	5001	B10
2005	B4	5001	D10
2006	D5	5001	E10
2007	A5	5001	K11
2008	A5	5002	N11
2009	A5	5501	K12
2010	D5	5501	L12
2011	A6	5501	O12
2012	D6	6001	B3
2013	A7	6002	D3
2014	D7	6003	B3
2015	A9	6004	D3
2016	D8	6030	E11
2201	E3	6031	E10
2202	H3	6501	M13
2203	G3	6502	M13
2204	F4	6503	L14
2205	F4	7005	A3
2206	H4	7005	A6
2207	G4	7006	D5
2208	J6	7006	D6
2209	E6	7009	A8
2210	H6	7009	H6
2211	J6	7010	D8
2212	G6	7010	E6
2213	H7	7201	E4
2214	E7	7201	G4
2215	J4	7202	H4
2216	M4	7202	I4
2217	K7	7331	J8
2218	N5	7331	L8
2219	L8	7332	M5
2220	N5	7332	O6
2221	M6	7501	N15
2222	O7		
2223	K11		
2224	O11		
2225	A4		
2226	B13		
2227	C4		
2228	B4		
2229	E4		
2230	B8		
2231	E8		
2232	A9		
2233	C9		
2234	E5		
2235	H5		
2236	F5		
2237	I5		
2238	J9		
2239	N6		
2240	K8		
2241	M6		
2242	B12		
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2292	B12		
2293	E12		
2294	B12		
2295	E12		
2296	B12		
2297	E12		
2298	B12		
2299	E12		
2300	B12		



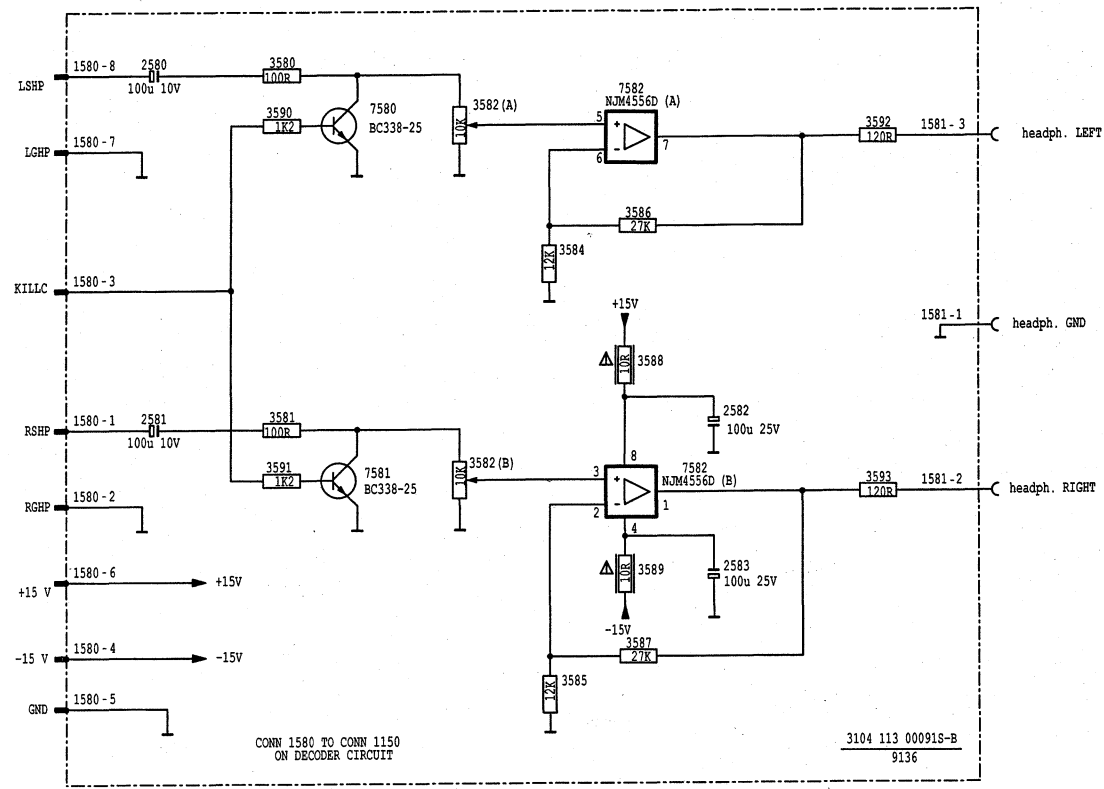
XLR PANEL COMPONENT SIDE



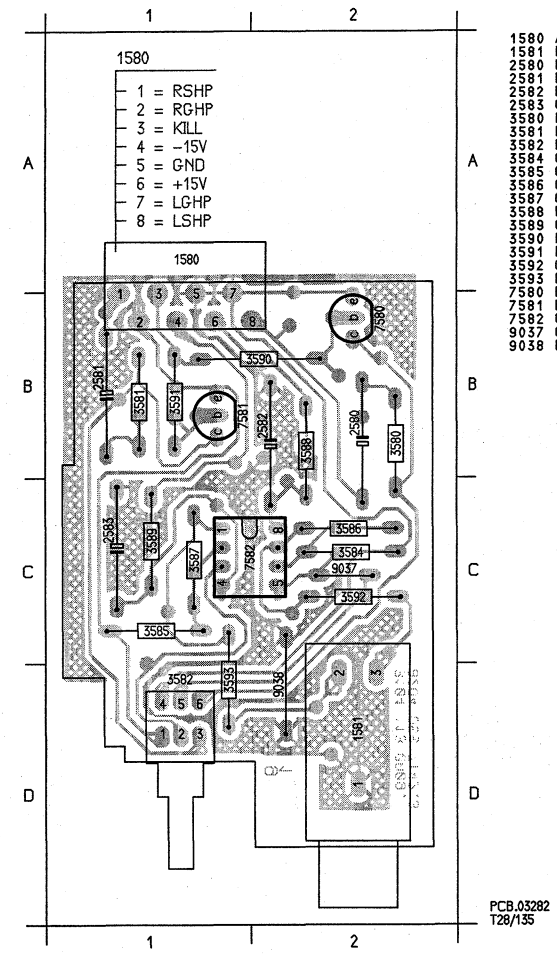
XLR PANEL SOLDER SIDE



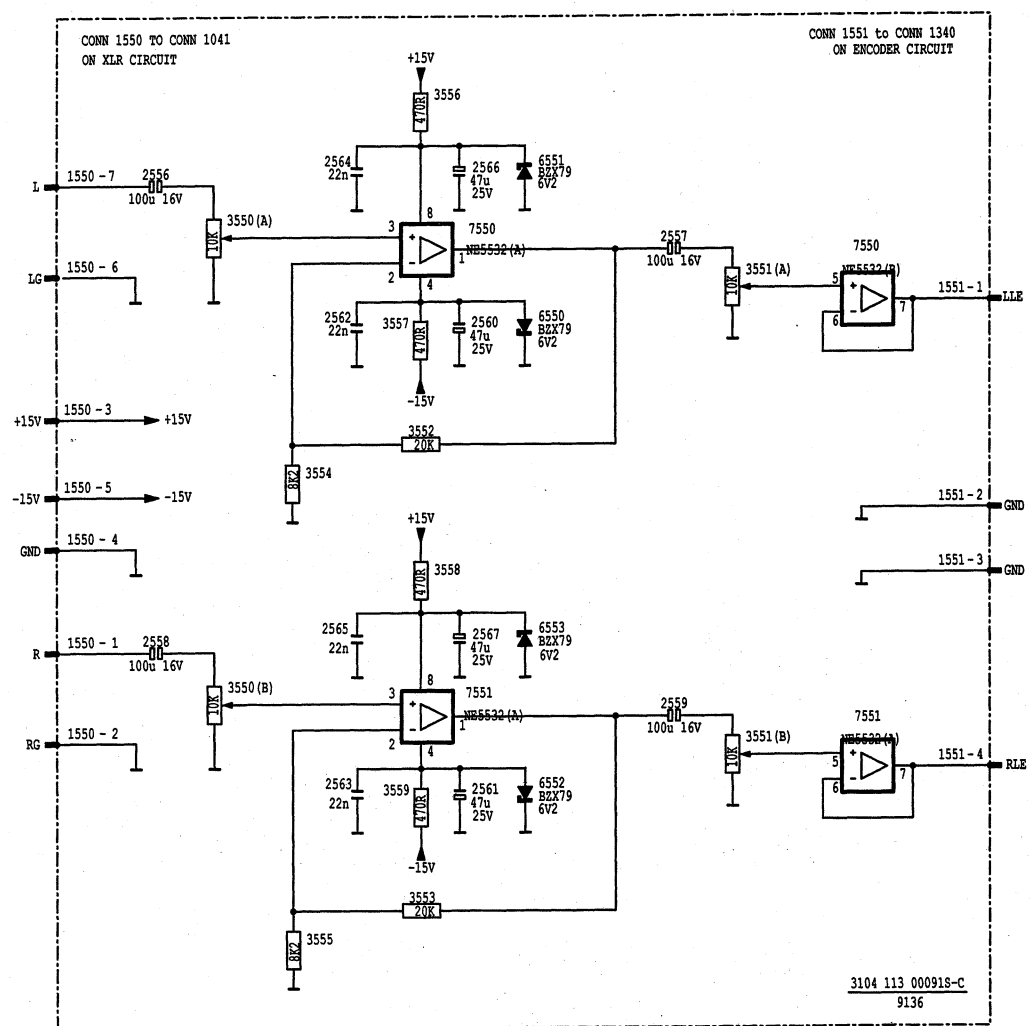
HEADPHONE CIRCUIT DIAGRAM



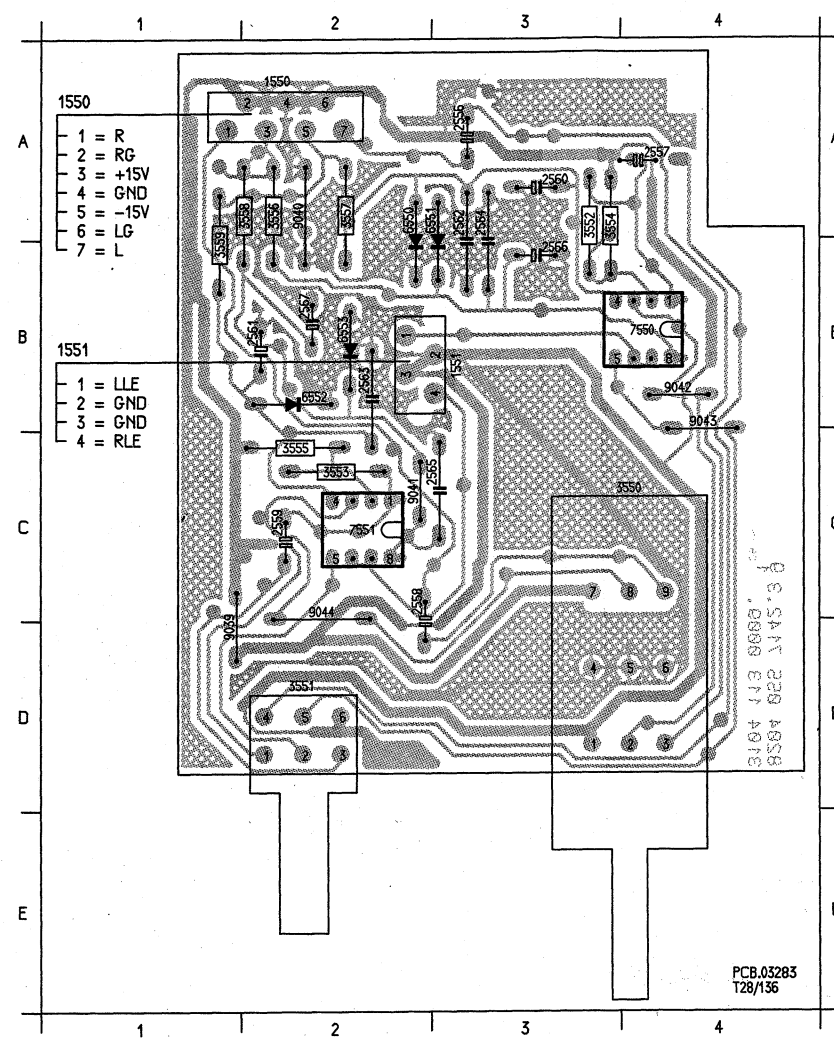
HEADPHONE PANEL



LEVEL AND BALANCE CIRCUIT DIAGRAM

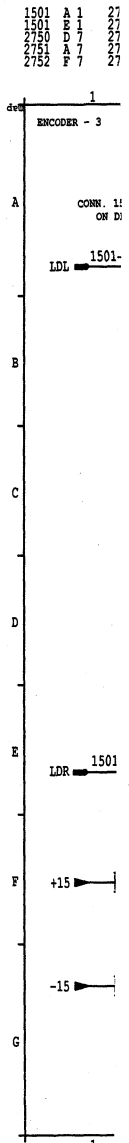


LEVEL AND BALANCE PANEL

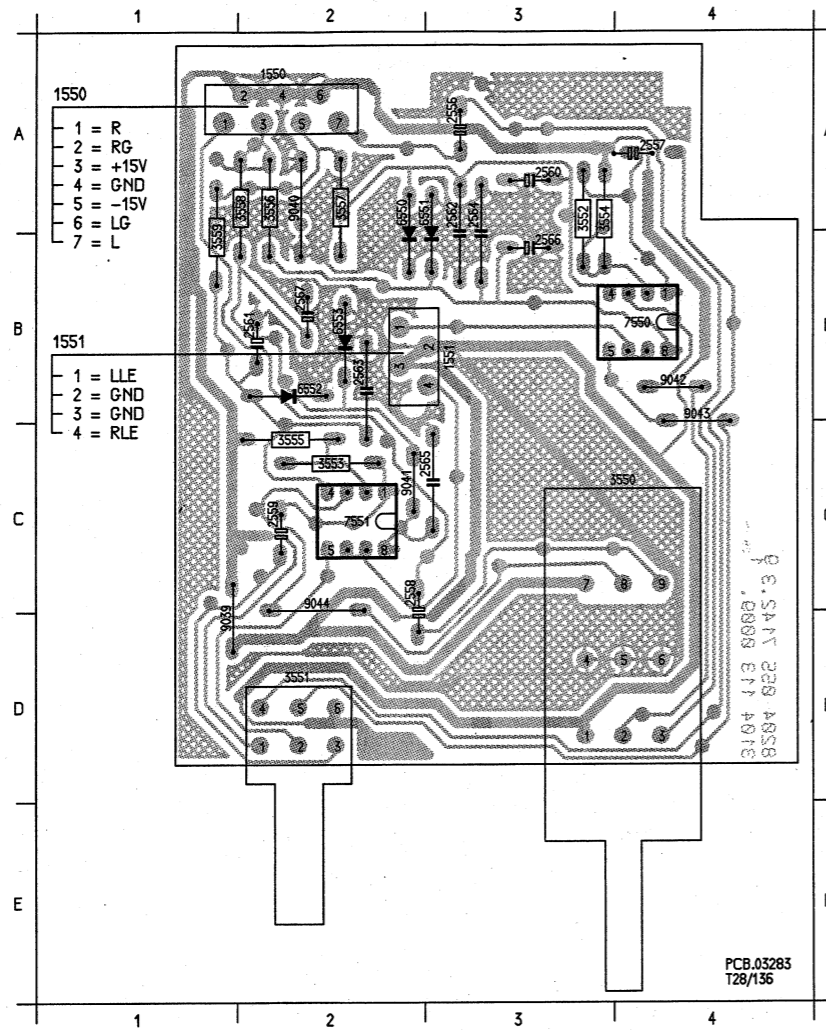


Part No.	Quantity	Location
1550	A2	
1551	B3	
2556	A3	
2557	A4	
2558	C2	
2559	C3	
2560	A3	
2561	B2	
2562	A4	
2563	B2	
2564	A3	
2565	C3	
2566	B3	
2567	B2	
2568	C3	
2569	C3	
2570	C3	
2571	A7	
2572	F7	
2573	F7	
2574	F7	
2575	F7	
2576	F7	
2577	F7	
2578	F7	
2579	F7	
2580	F7	
2581	F7	
2582	F7	
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2589	F7	
2590	F7	
2591	F7	
2592	F7	
2593	F7	
2594	F7	
2595	F7	
2596	F7	
2597	F7	
2598	F7	
2599	F7	
2600	F7	

LEVEL D

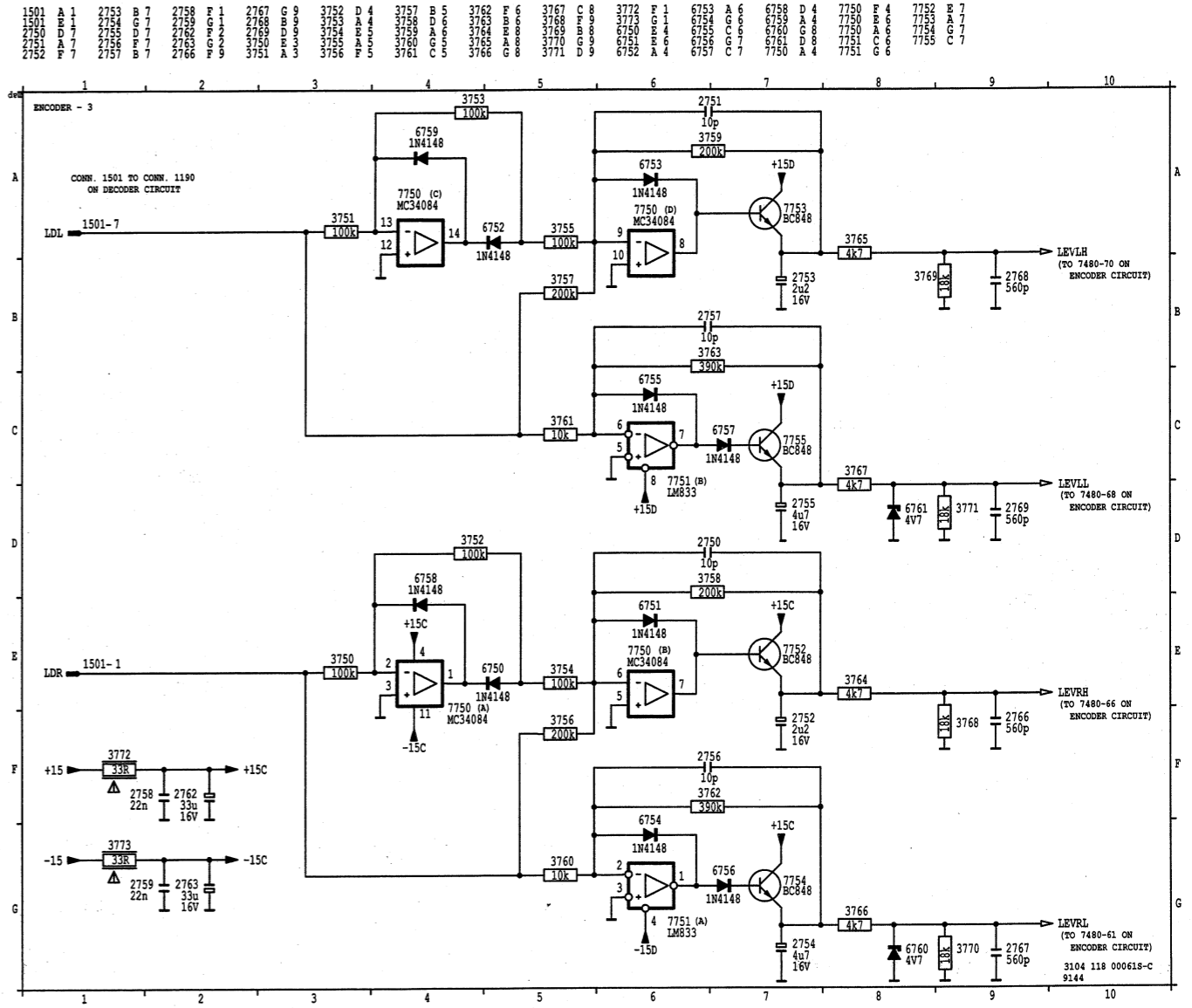


LEVEL AND BALANCE PANEL



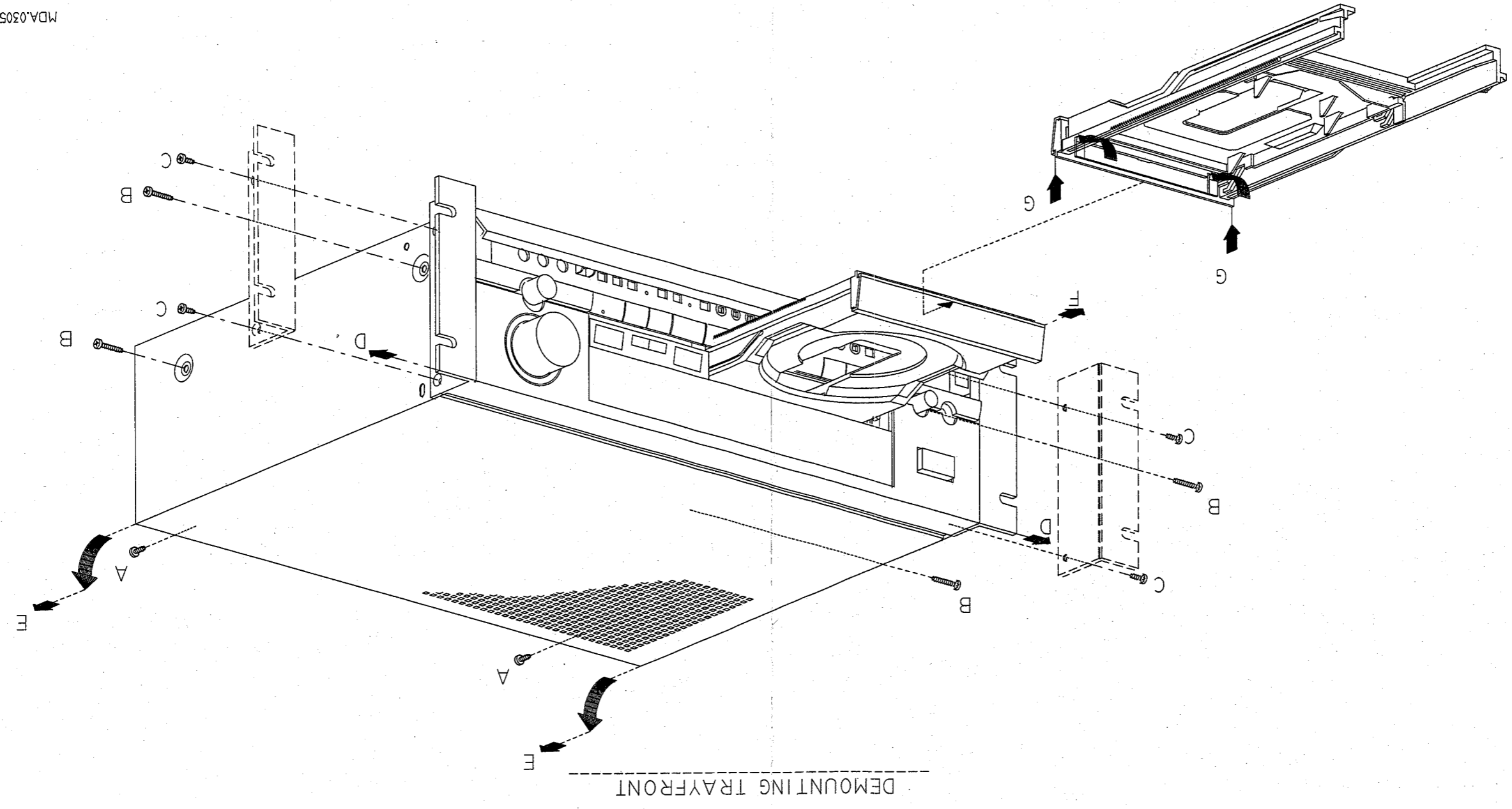
- 1550 A2
- 1551 B3
- 2556 A3
- 2557 A4
- 2558 C2
- 2559 C2
- 2560 A3
- 2561 B2
- 2562 A3
- 2563 B2
- 2564 A3
- 2565 C3
- 2566 B3
- 2567 B2
- 3550 C3
- 3551 D2
- 3552 B5
- 3553 C2
- 3554 B3
- 3555 C2
- 3556 A2
- 3557 A2
- 3558 A2
- 3559 B1
- 6550 A2
- 6551 A3
- 6552 B2
- 6553 B4
- 7550 B4
- 7551 C2
- 9039 D1
- 9040 A2
- 9041 C2
- 9042 B4
- 9043 B4
- 9044 C2

LEVEL DETECTION CIRCUIT DIAGRAM

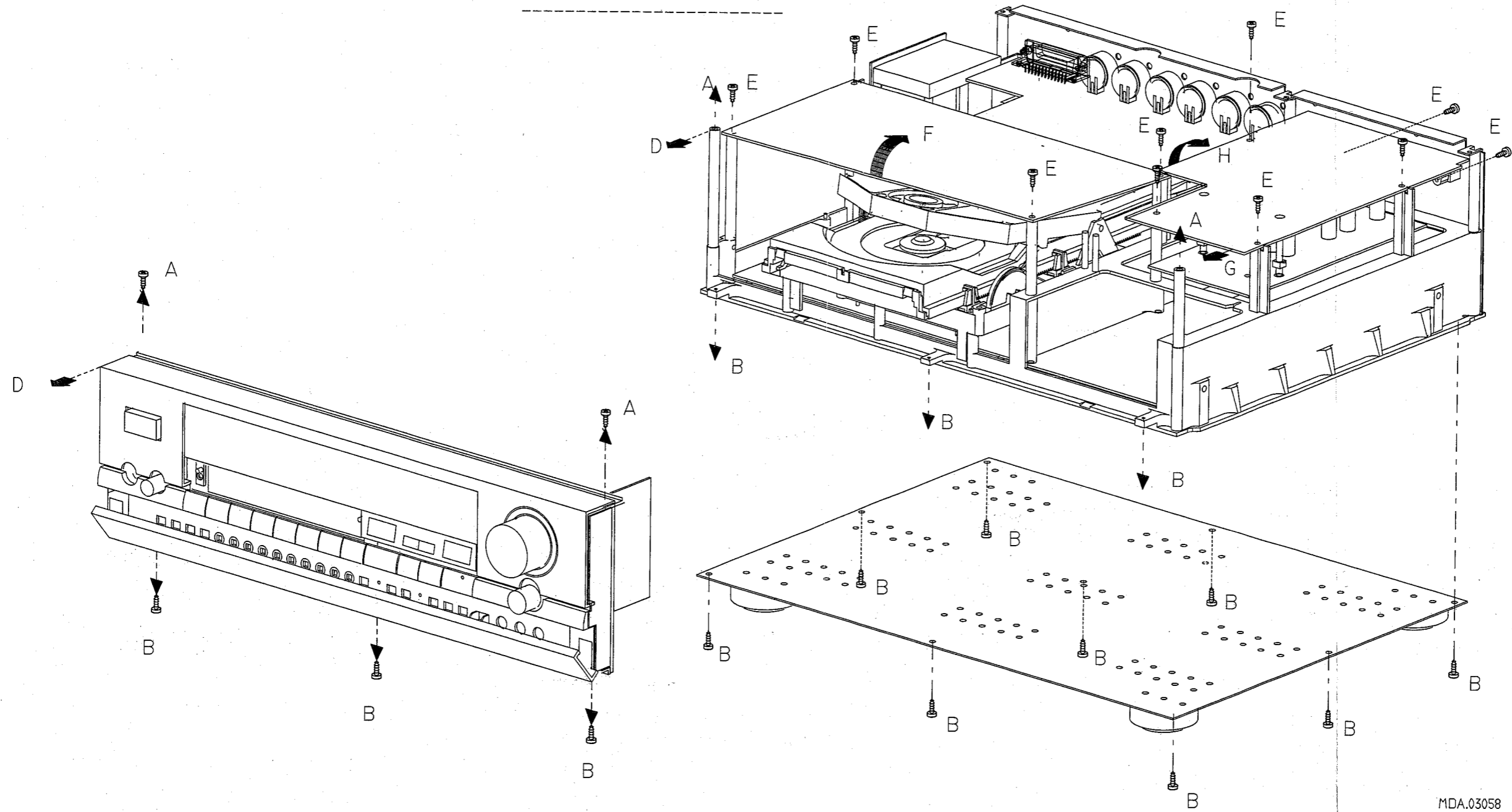


The components of this circuit diagram are situated on the ENCODER PANEL.

MDA.03057

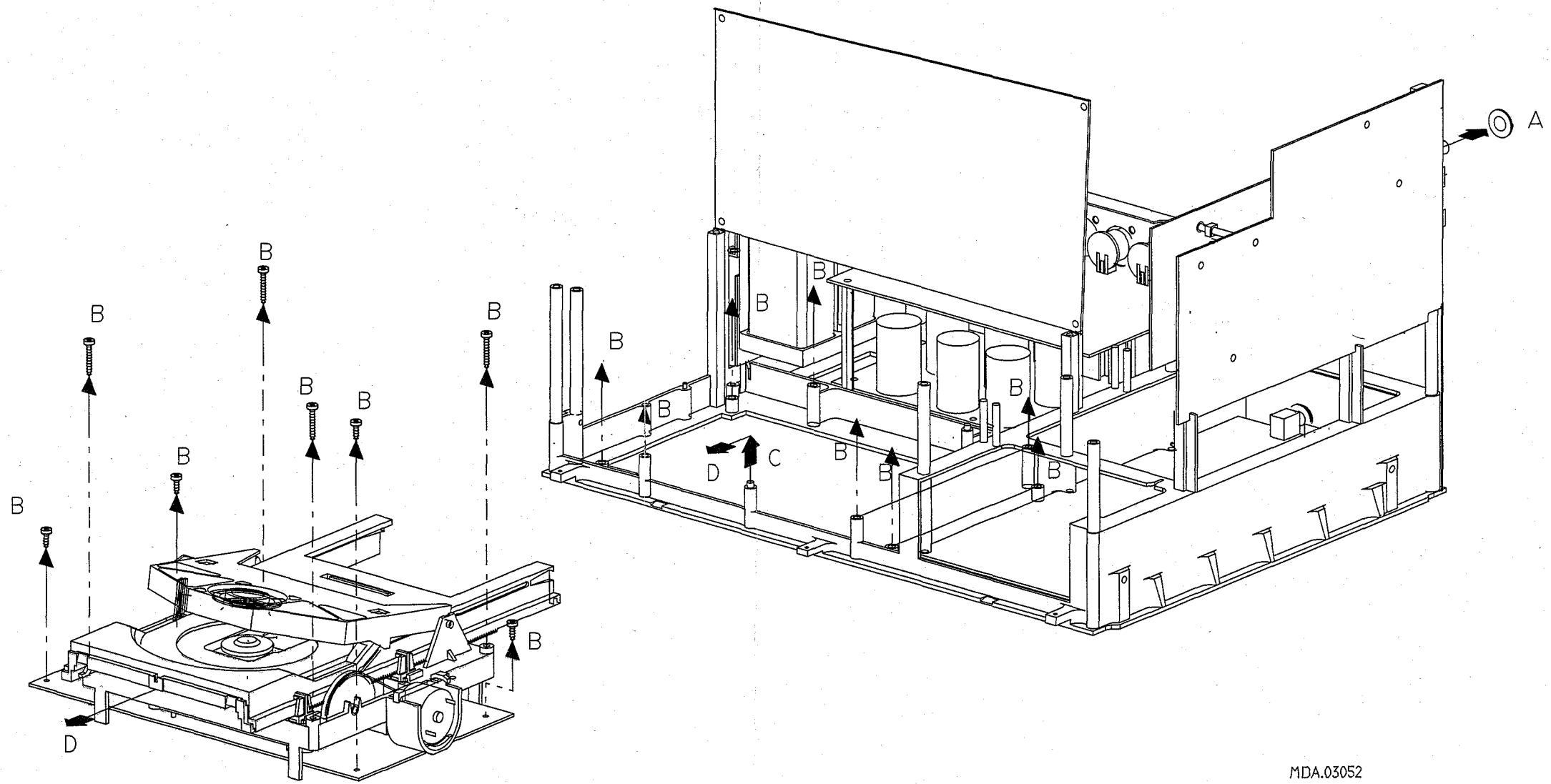


DEMOUNTING FRONT



MDA.03058

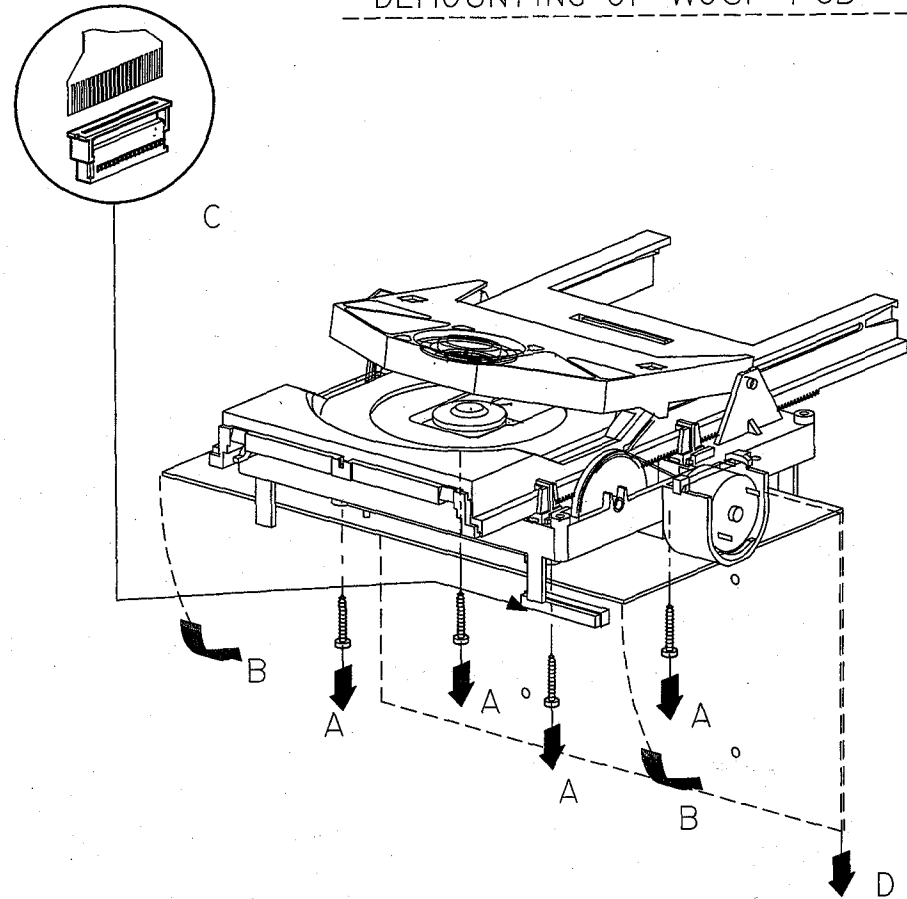
DEMOUNTING TRAY-ASSY



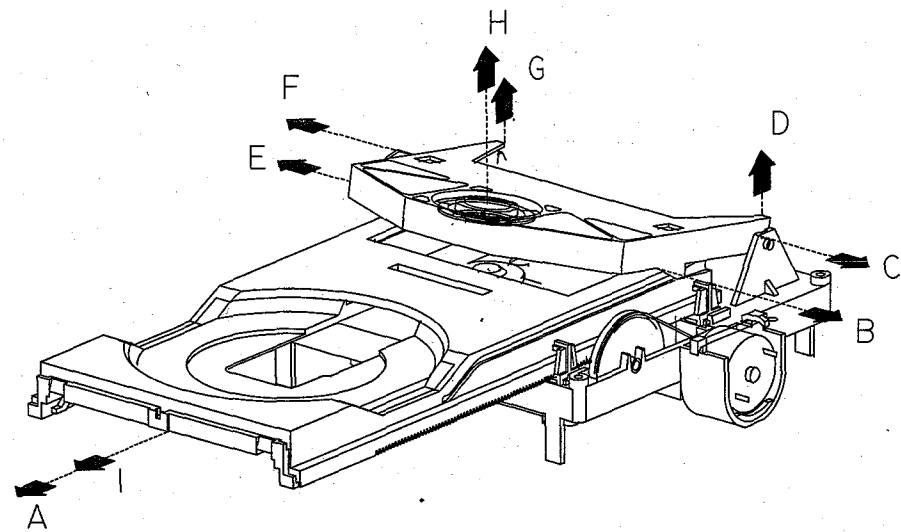
MDA.03052

DISASSEMBLY WOSP CDM

DEMOUNTING OF WOSP-PCB



DEMOUNTING OF CDM



MDA.03054

SERVICE HINTS

In the set chip componens have been applied.  
For disassembly and assembly of chip components see the figure below.

**GENERAL**

**DISMOUNTING**

VACUUM PISTON 4822 395 10082  
SOLDERING IRON e.g. WELLER SOLDER TIP PT-H7

OR

SOLDERING IRON 4822 321 40042

e.g. A PAIR OF TWEEZERS

HEATING HEATING

SOLDER WICK CLEANING

**MOUNTING**

e.g. A PAIR OF TWEEZERS

SOLDER Ø 0.5 - 0.8 mm

SOLDERING IRON PRESSURE

SOLDERING TIME < 3 sec./side

SOLDER Ø 0.5 - 0.8 mm

PRESSURE SOLDERING IRON

**EXAMPLES**

RIGHT

**PRECAUTIONS**

SOLDERING IRON RIGHT

COPPER TRACK

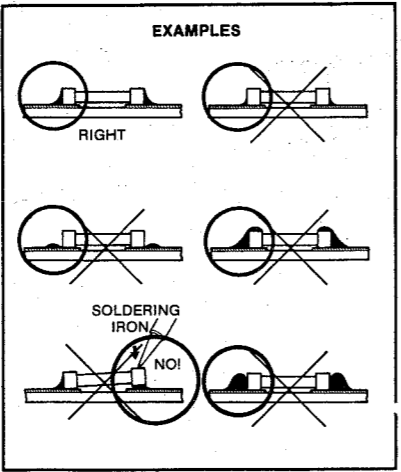
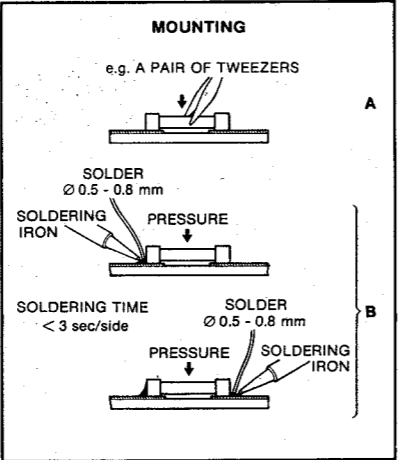
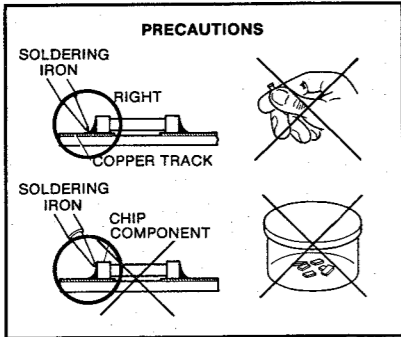
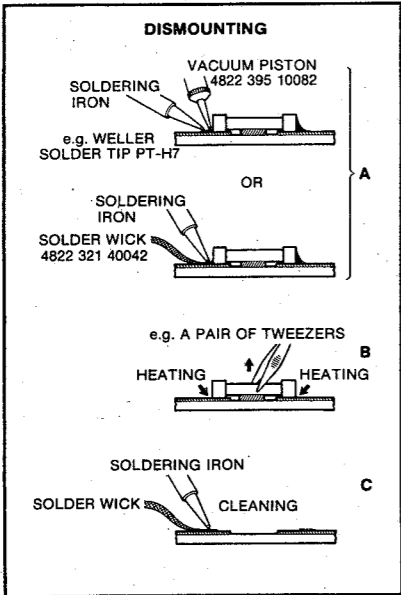
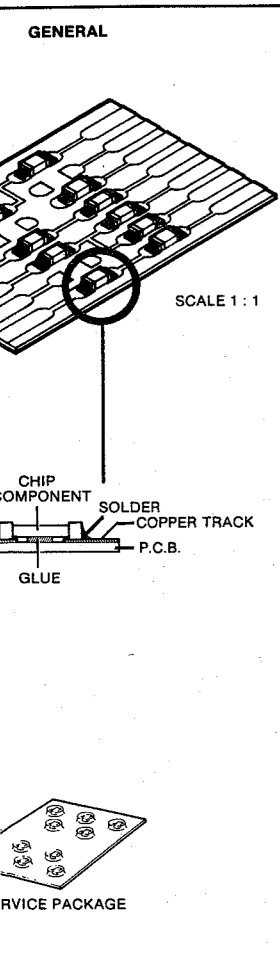
SOLDERING IRON CHIP COMPONENT

NO!

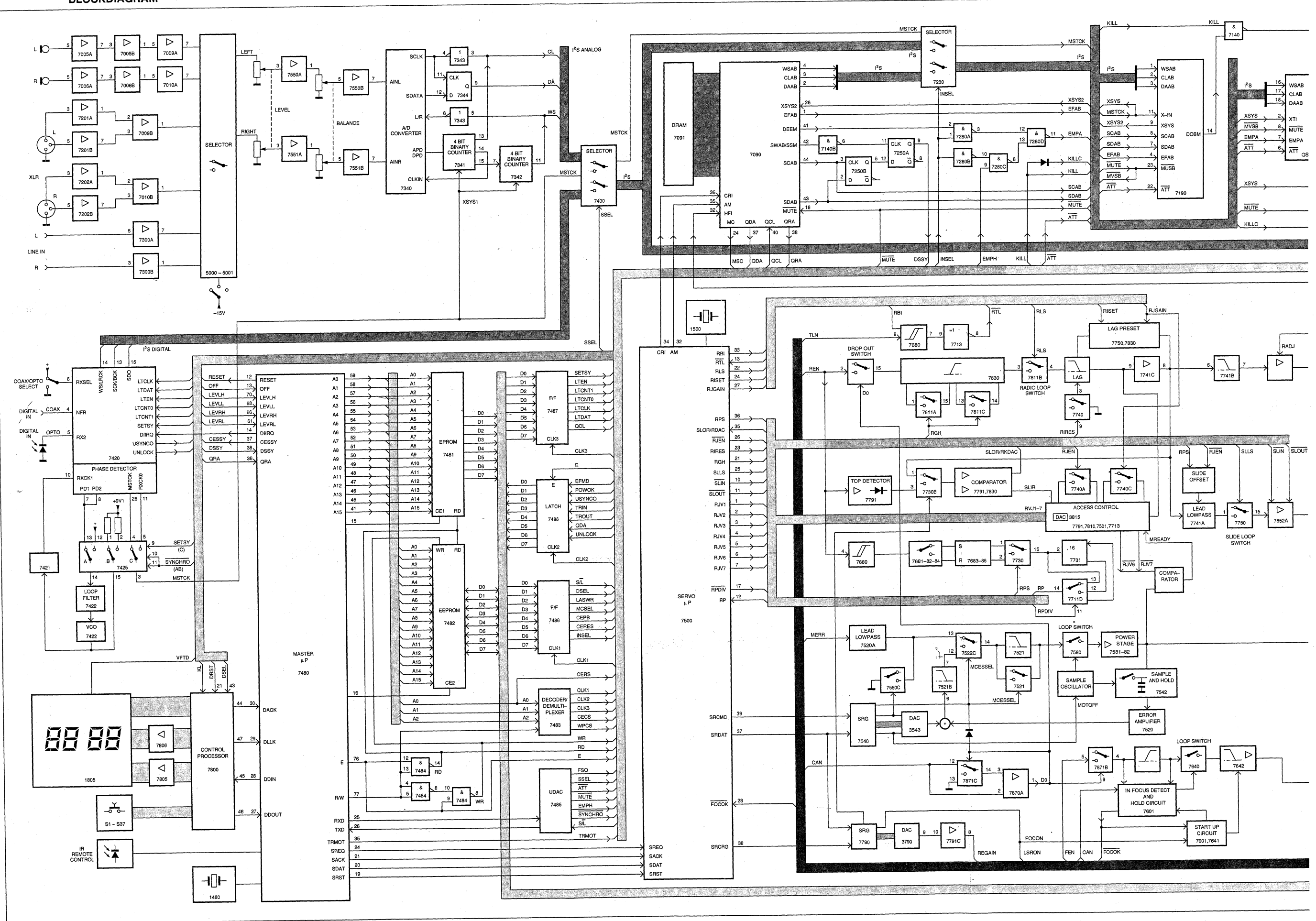
**SERVICE PACKAGE**

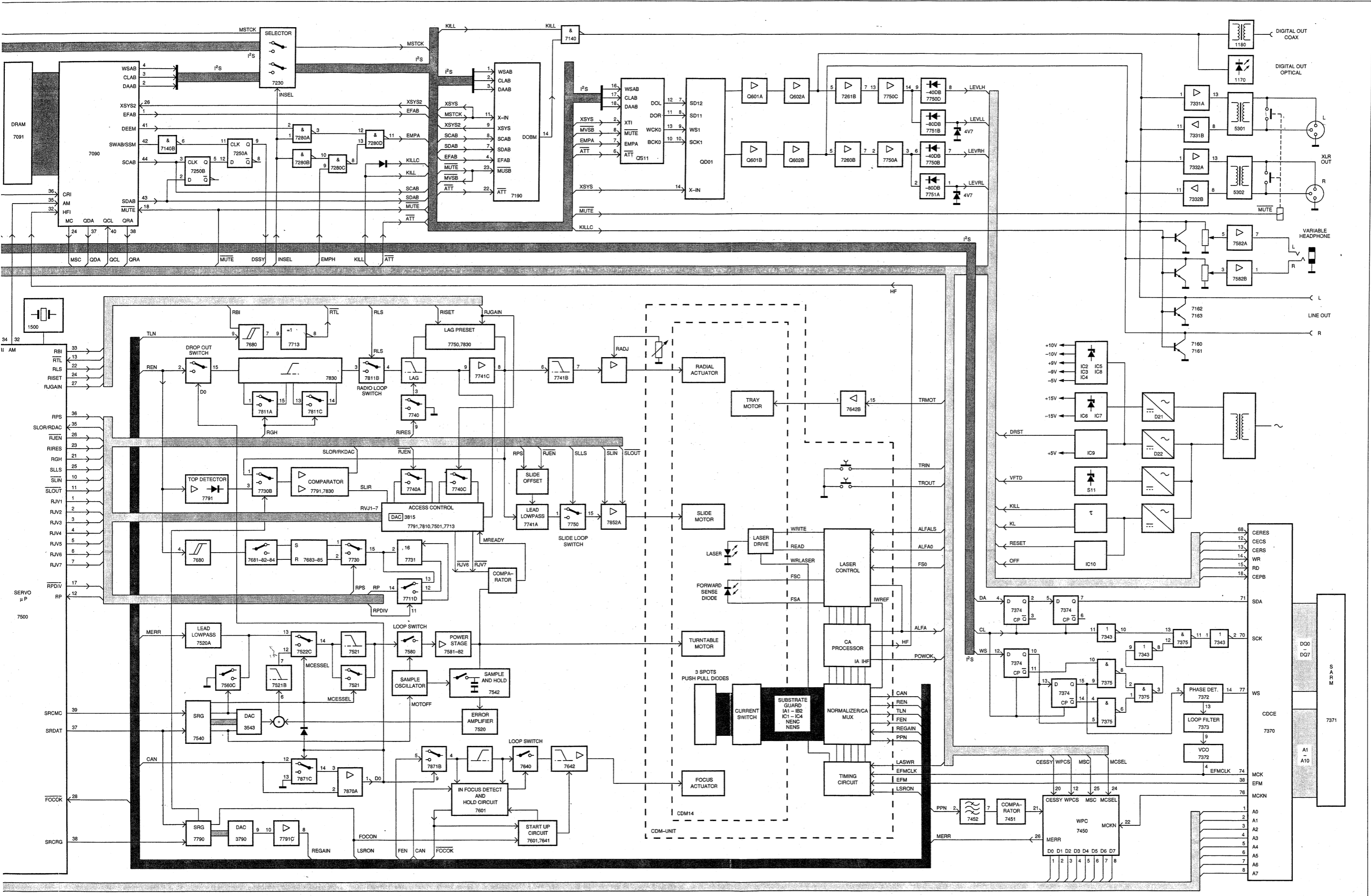


Components have been applied.  
and assembly of chip components see



BLOCKDIAGRAM

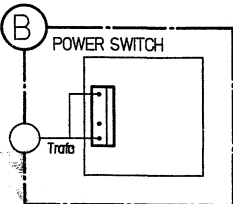
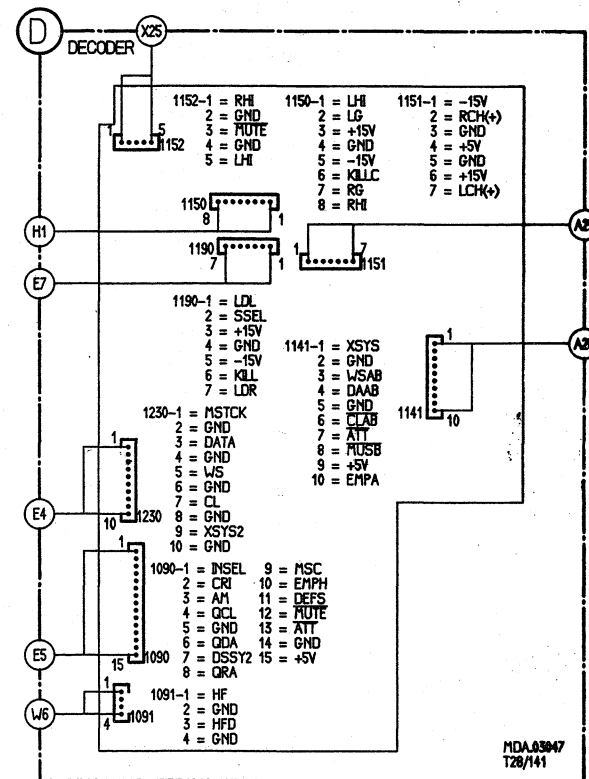
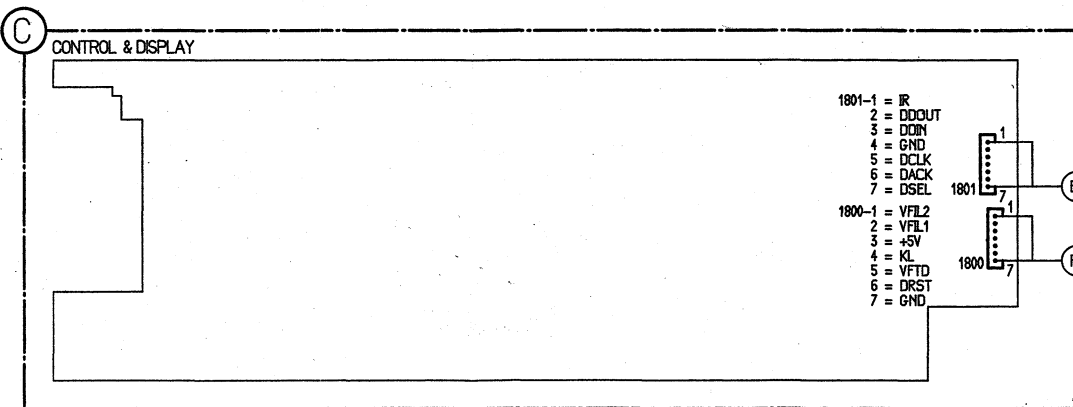
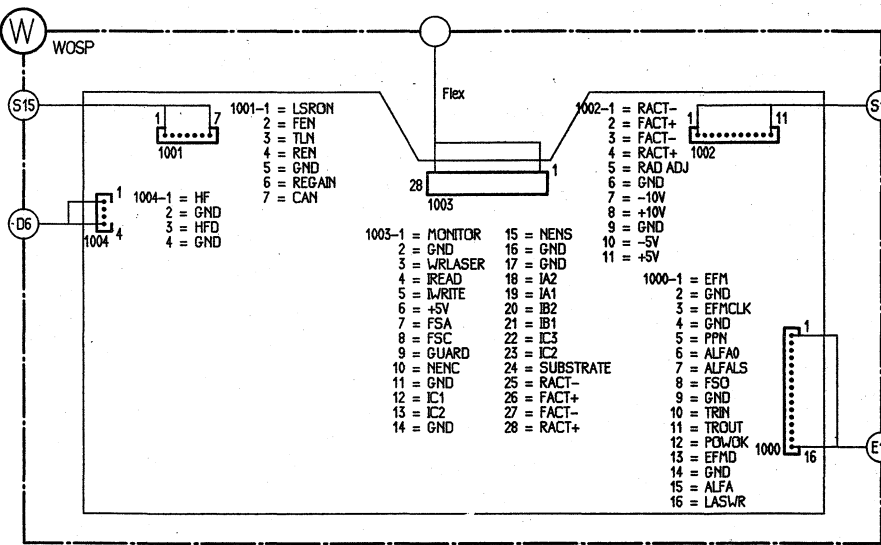
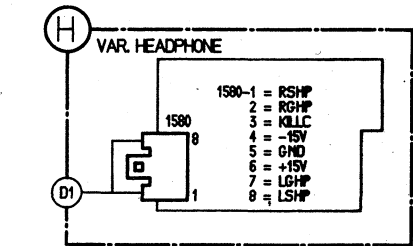
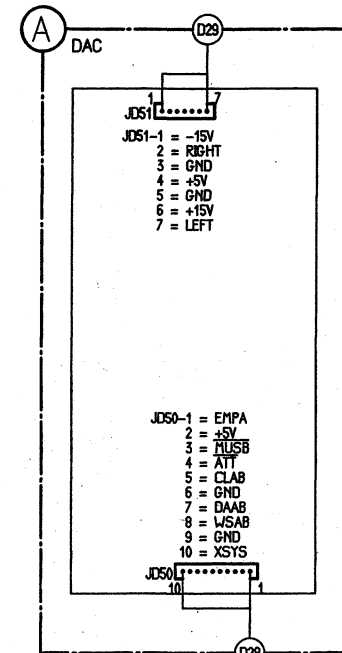
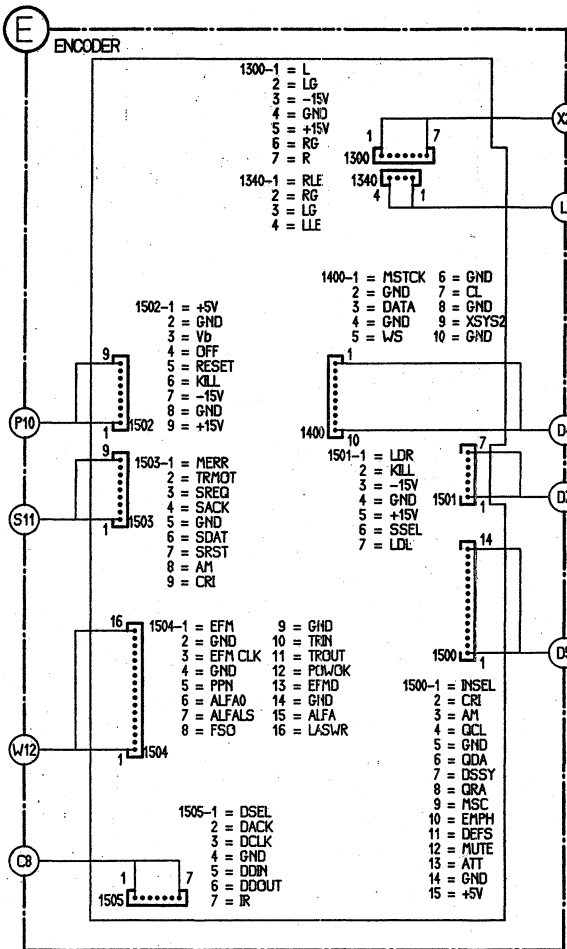
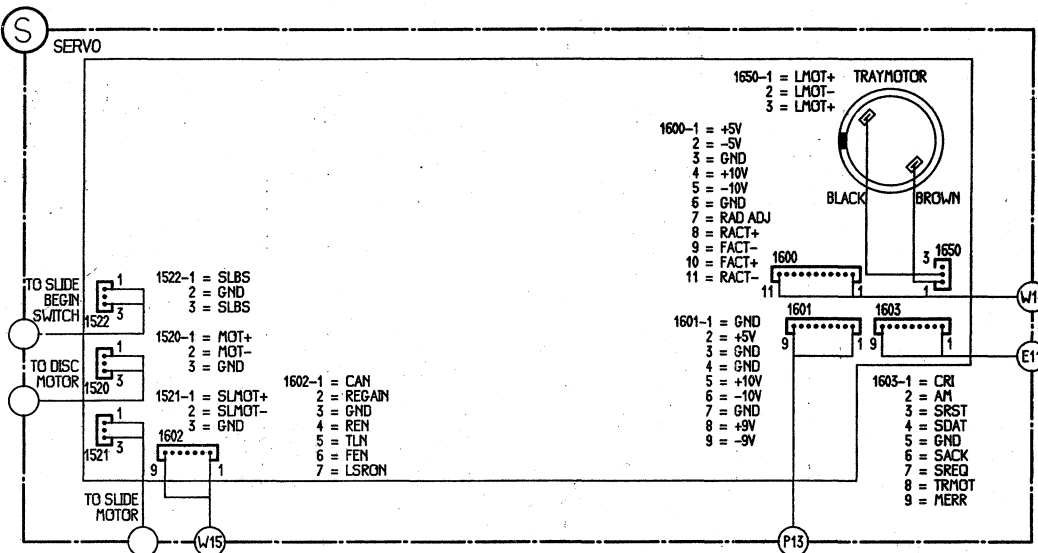
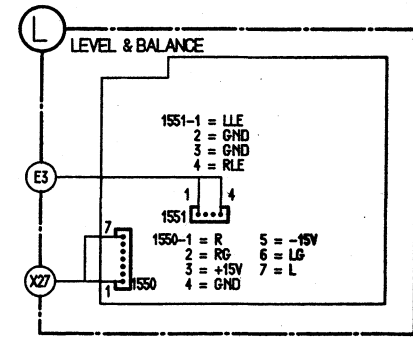
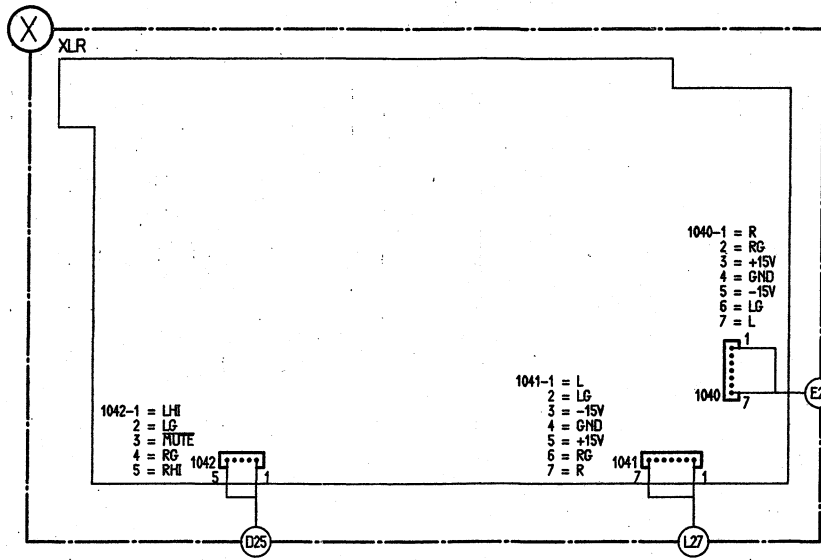
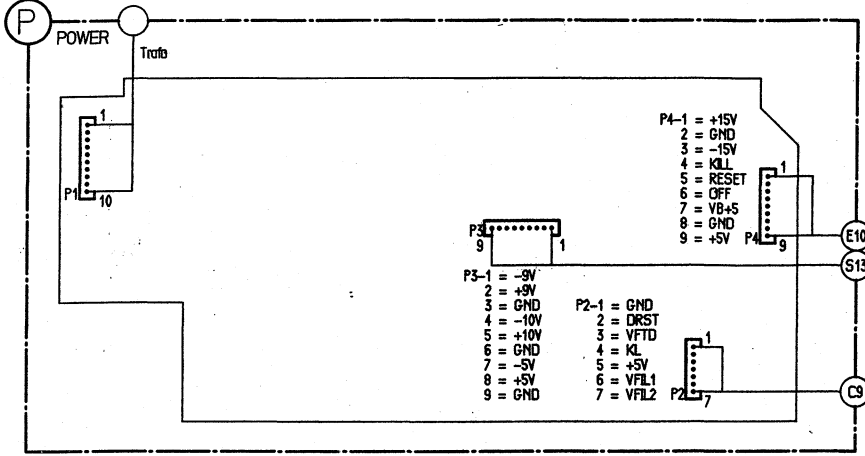


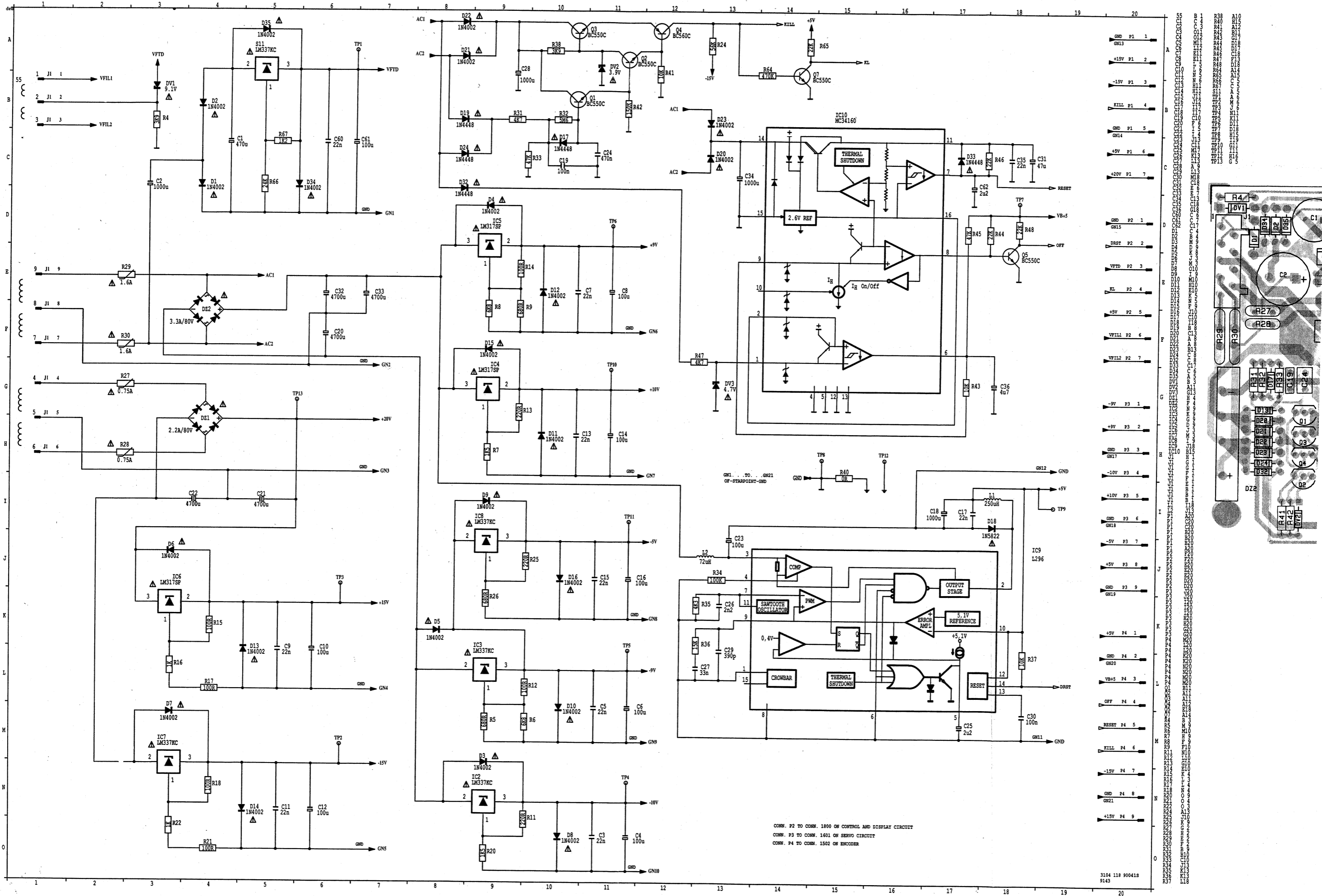


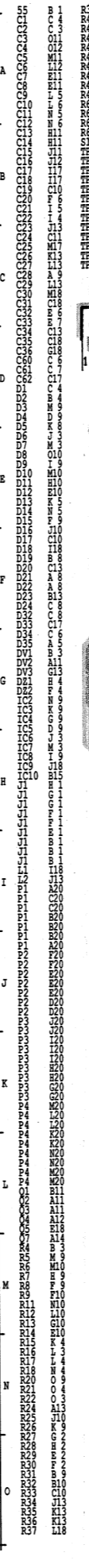
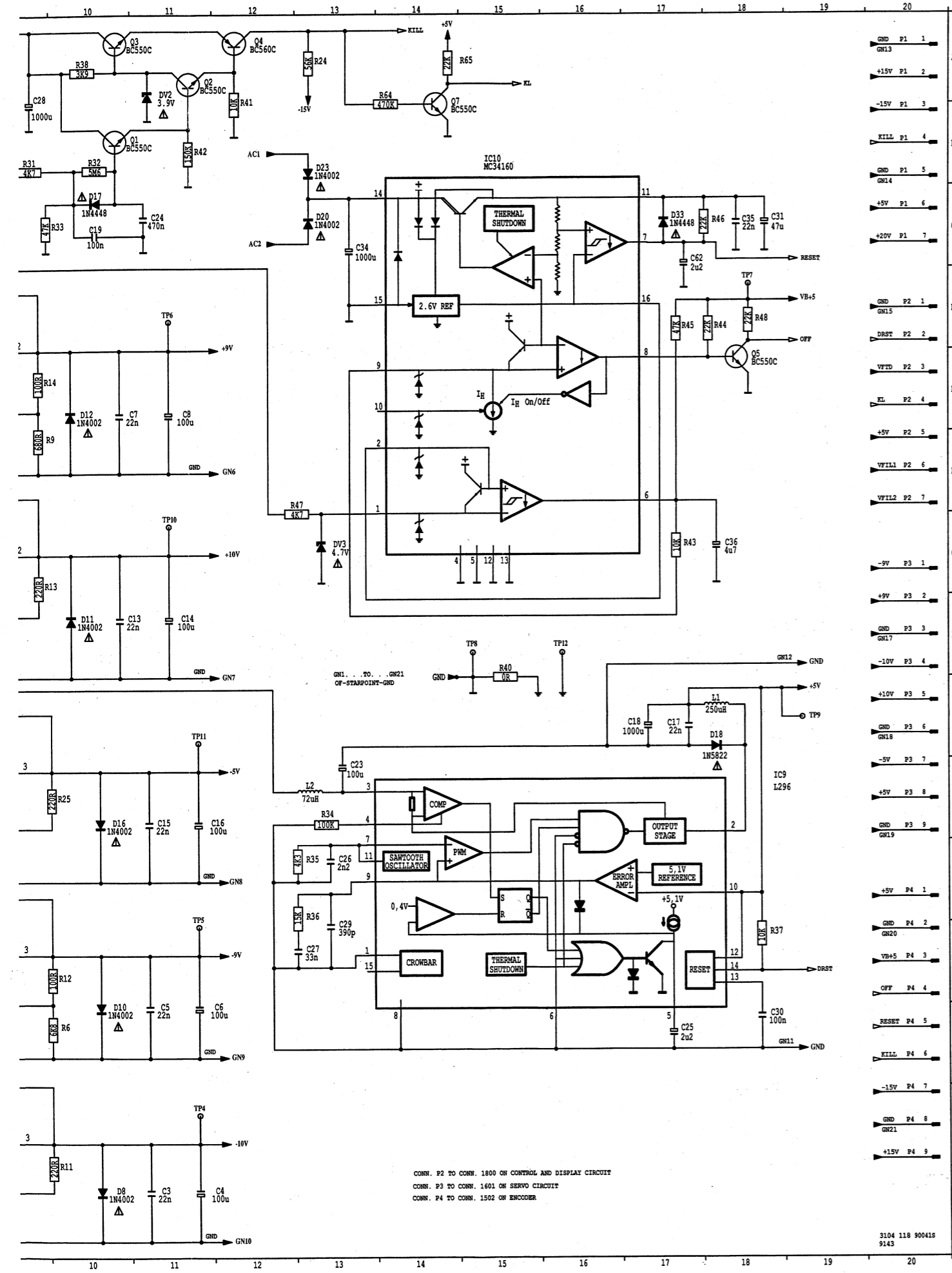
A0-10 - RAM Addressbus Bit 0 - 10  
 AINL - Left Channel Analog Input  
 AINR - Right Channel Analog Input  
 AINT - Absorption Integrator  
 ALFA - Actual Absorption  
 ALFA0 - Absorption Set  
 ALFALS - Absorption Loop Switch  
 AM - Additional Mute  
 APD - Analog Power Down  
 ATT - Attenuation  
 CA - Central Apperture Signal  
 CAN - Central Apperture Signal Normalized  
 CE - Chip Enable  
 CECS - CIRC EFM Chip Select  
 CEFS - CIRC EFM Frame Sync  
 CEPB - CIRC EFM Pause Bit  
 CERES - CIRC EFM Reset  
 CERS - CIRC EFM Register Select  
 CESSY - CIRC EFM Subcode Sync  
 CL - Clock  
 CLAB - Clock Signal Decoder-A to Filter-B  
 CLK - System Clock Input  
 CRI - Counter Reset Inhibit  
 CS - Chip Select  
 D0 - 7 - Data Bus Bit 0 - 7  
 DA - Data  
 DAAB - Data Signal Decoder-A to Filter-B  
 DACK - Display Acknowledge  
 DDIN - Display Data Input  
 DDOUT - Display Data Output  
 DEC - Deemphasis Control  
 DEEM - Deemphasis  
 DIIRQ - Digital Input Interrupt Request  
 DO - Drop Out  
 DOBM - Digital Out Signal  
 DPD - Digital Power Down  
 DSEL - Display Select  
 DSSY - Decoder Subcode Sync  
 EFAB - Error Flag Decoder-A to Filter-B  
 EFM - EFM Serial Data  
 EFMCLK - Eight to Fourteen Modulation  
 EFMD - Eight to Fourteen Modulation Detect  
 FEN - Focus Error Normalized  
 FOCOK - In Focus Signal  
 FOCON - Focus On  
 FSA - Forward Sense Diode Anode  
 FSC - Forward Sense Diode Cathode  
 FSO - Laser Power Set  
 GND - Ground  
 HF - High Frequency  
 HFI - High Frequency Input  
 IA - 3 Spot Push Pull Diode Current  
 IB1-2 - 3 Spot Push Pull Diode Current  
 IC1-4 - 3 Spot Push Pull Diode Current  
 IHF - CA Current To Remainder Part Of CA Processor  
 INSEL - Input Selector  
 IR - Infrared Receiver Signal  
 IWREF - Laser Writing Power Reference  
 L - Left  
 L/R - Left/Right Select  
 LASWR - Laser Write/Non Read  
 LEVLH - Analog Level Left High  
 LEVLL - Analog Level Left Low  
 LEVRH - Analog Level Right High  
 LEVRL - Analog Level Right Low  
 LSRON - Laser On  
 LTCLK - Interface Data Bit Clock  
 LTCNT0-1 - Interface Control  
 LTDAT - Interface Databus  
 LTEN - Interface Enable  
 MC - Motor Control Signal  
 MCK - Master Clock  
 MCKN - Master Clock NOT  
 MCSEL - Motor Control Select  
 MERR - Motor Control Error Signal

MREADY - Turntable Motor Ready  
 MSC - External Motor Control Input  
 MSTCK - Master Clock  
 MUSB - Soft Mute Signal  
 MUTE - Mute Signal  
 NFR - Output Level Converter RX1  
 POWOK - Laser Power OK  
 PPN - Normalized Push Pull Signal  
 QCL - Q-Channel Clock Signal  
 QDA - Q-Channel Data Signal  
 QRA - Q-channel Request Acknowledge  
 R - Right  
 RADJ - Radial Gain Adjust  
 RBI - Radial Brake Inhibit  
 RD -  $\mu$ P Read Signal  
 RD0 - 7 - RAM Databus Bit 0 - 7  
 REGAIN - Radial Gain Current  
 REN - Radial Error Normalized  
 RGH - Radial Gain High  
 RIRES - Radial Integrator Reset  
 Riset - Radial Integrator Preset  
 RJEN - Radial Jump Enable  
 RJGAIN - Radial Jump Gain  
 RJV1-7 - Radial Jump Voltage  
 RLS - Radial Loop Switch  
 RP - Radial Polarity  
 RPDIV - Radial Polarity Divider  
 RPS - Radial Polarity Select  
 RST - Hard Reset  
 RTL - Radial Track Loss  
 RX1 - IEC Format Digital Audio Data Input (Coaxial Input)  
 RX2 - IEC Format Digital Audio Data Input (Optical Input)  
 RXD - Serial Data  
 RXSEL - Selection RX1 Or RX2  
 SACK - Servo Acknowledge  
 SCAB - Subcode Clock Decoder-A to Filter-B  
 SCK - Serial Clock (IS)  
 SCK/BCK - Shift/Bit Clock Audio Data  
 SCLK - Serial Output Data Clock  
 SD0 - 1 - Serial Data (IS)  
 SDAB - Subcode Data Decoder-A to Filter-B  
 SDAT - Servo Data  
 SDATA - Serial Data Output  
 SDO - Serial Data Output Audio Databus  
 SETSY - Setting Sync Signal  
 SLBS - Slide Begin Switch  
 SLIN - Slide Inwards Pulse  
 SLLS - Slide Servo Loopswitch  
 SLOR/RKDAC - Slide Outwards Request/ADC Determination Radial Amplitude  
 SLOUT - Slide Outwards Pulse  
 SRCMC - Shift Register Clock Motor Control  
 SRCRG - Shift Register Clock Radial Gain  
 SRDAT - Shift Register Data  
 SREQ - Servo Request  
 SRST - Servo Reset  
 SSEL - Source Select  
 SWAB/SSM - Subcode Word/Start-Stop Motor Signal  
 TLN - Trackloss Normalized  
 TRIN - Tray In Switch  
 TRMOT - Tray Motor Control  
 TROUT - Tray Out Switch  
 TX - IEC Format Digital Data Output  
 TXD - Serial Clock  
 TXOE - Reset  
 UCH - Subcode U Channel  
 UNLOCK - Indication VCO Frequency  
 USYNC01 - Indication Start New Frame  
 WPCS - Wobble Processor Chip Select  
 WR -  $\mu$ P Write Signal  
 WRLASER - Write Mode/Non Read Mode Laser  
 WS - Word Select Signal  
 WS/LRCK - Word Select Audio Data  
 WSAB - Word Select Decoder-A to Filter-B  
 WSBD - Word Select Filter-B to DAC  
 XSYS - Oscillator Signal

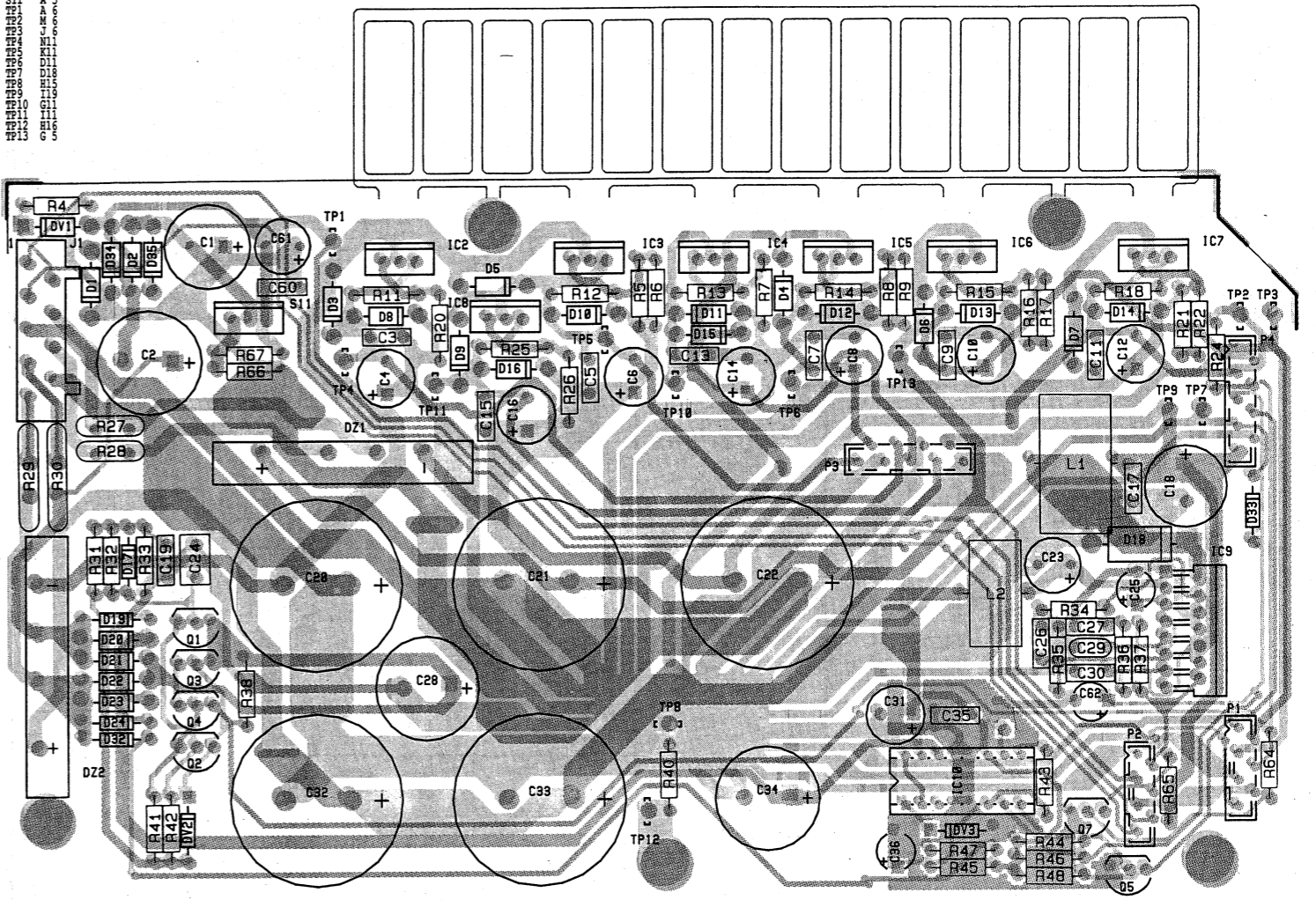
**WIRING DIAGRAM**



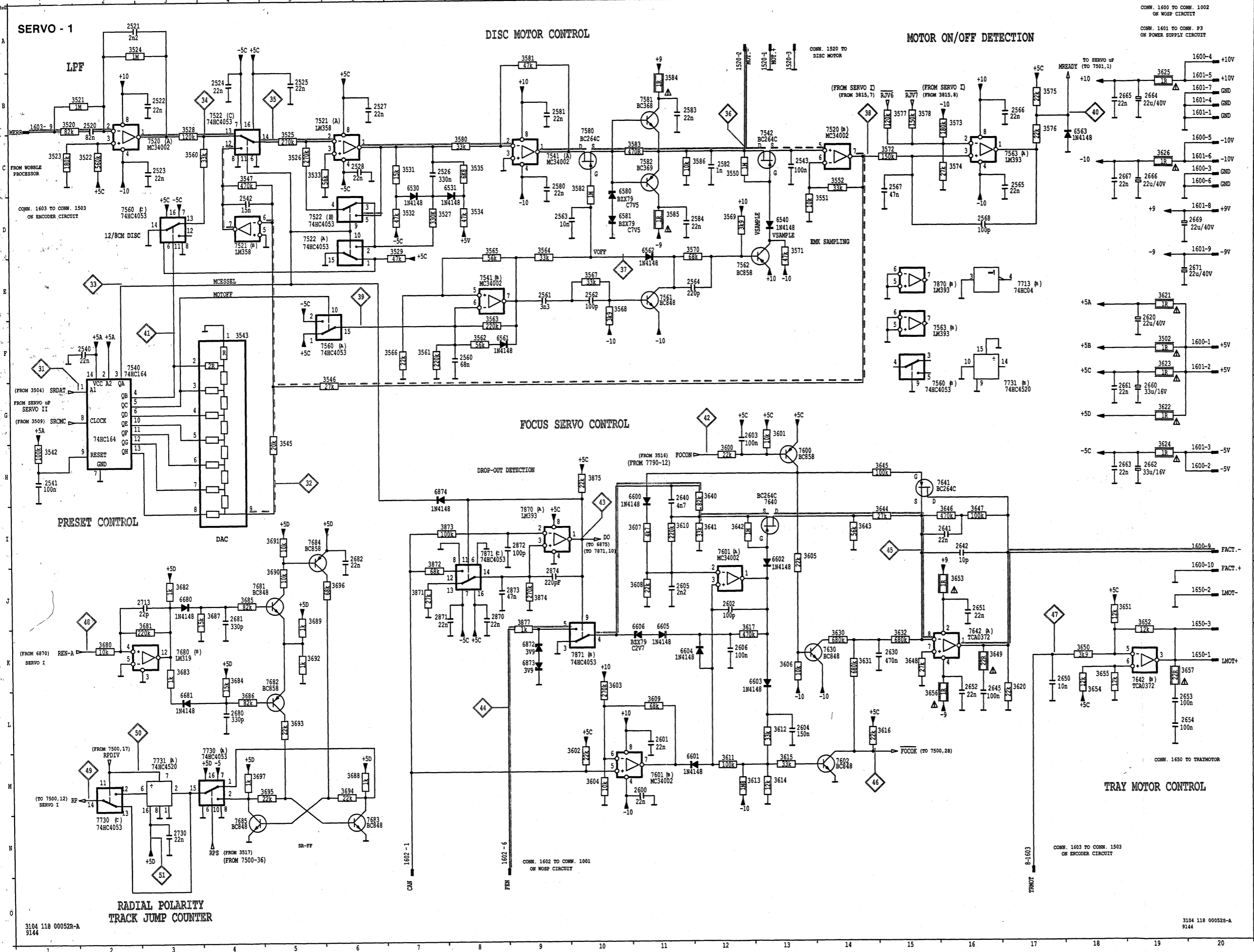




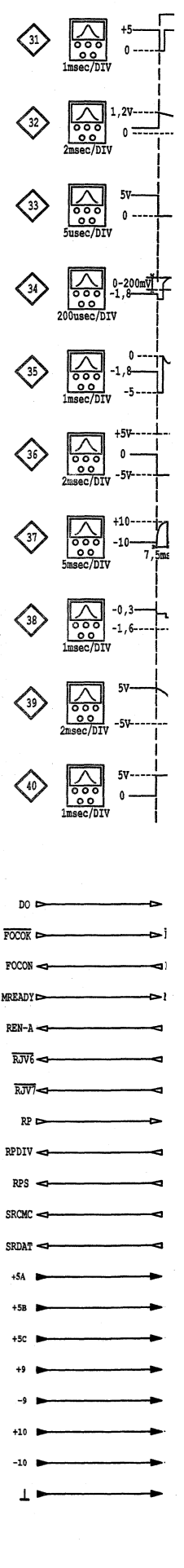
POWER SUPPLY PANEL



SERVO CIRCUIT DIAGRAM

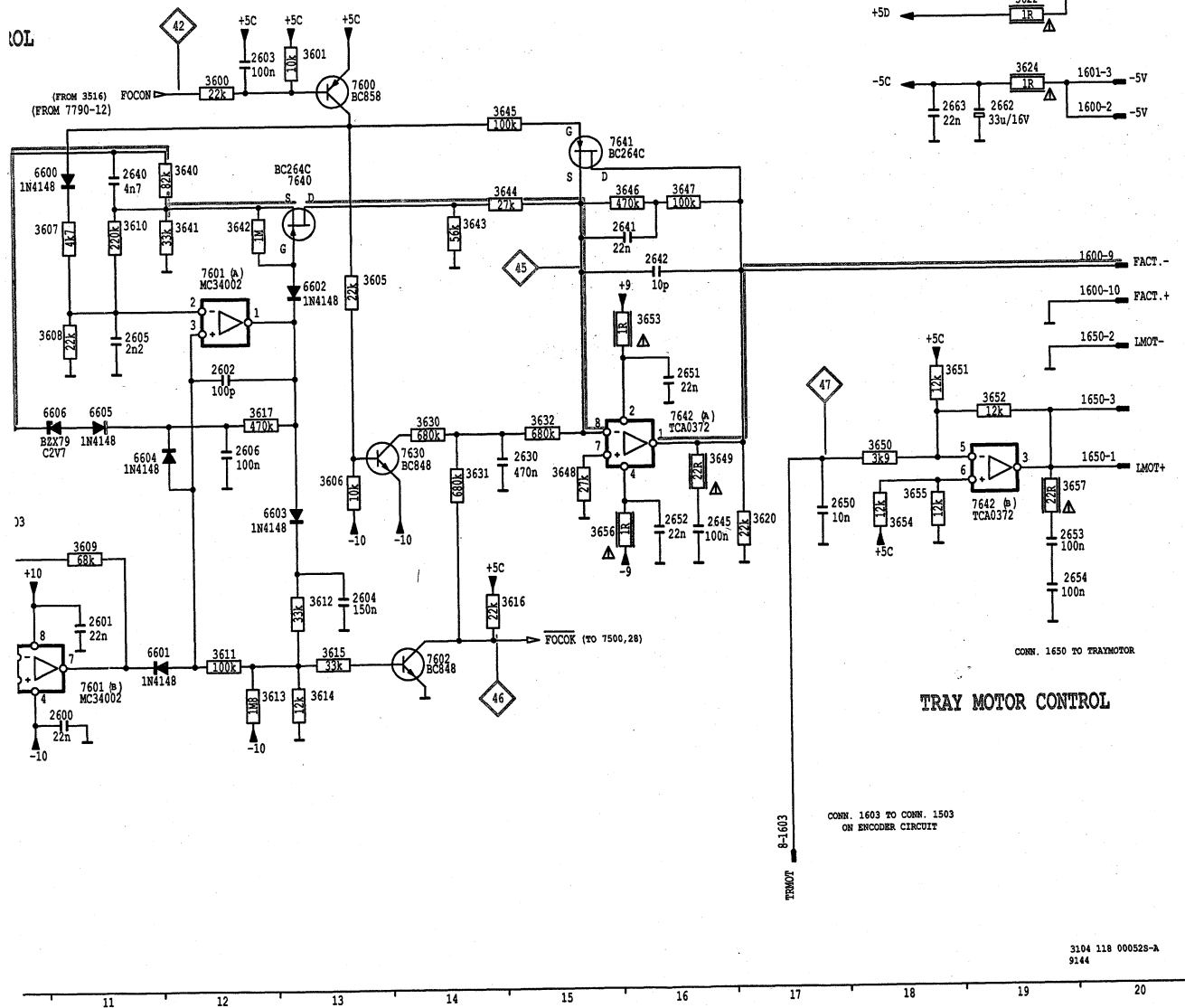
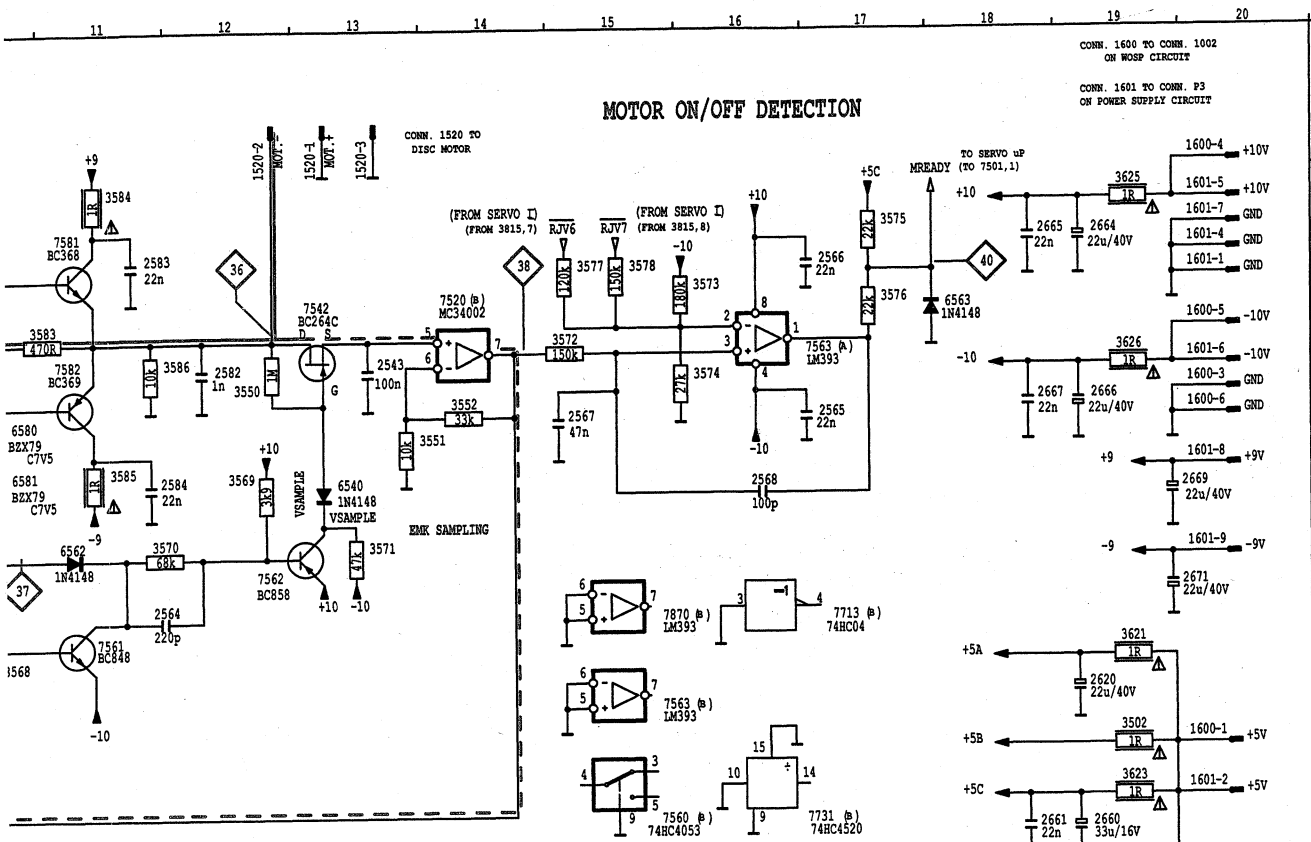


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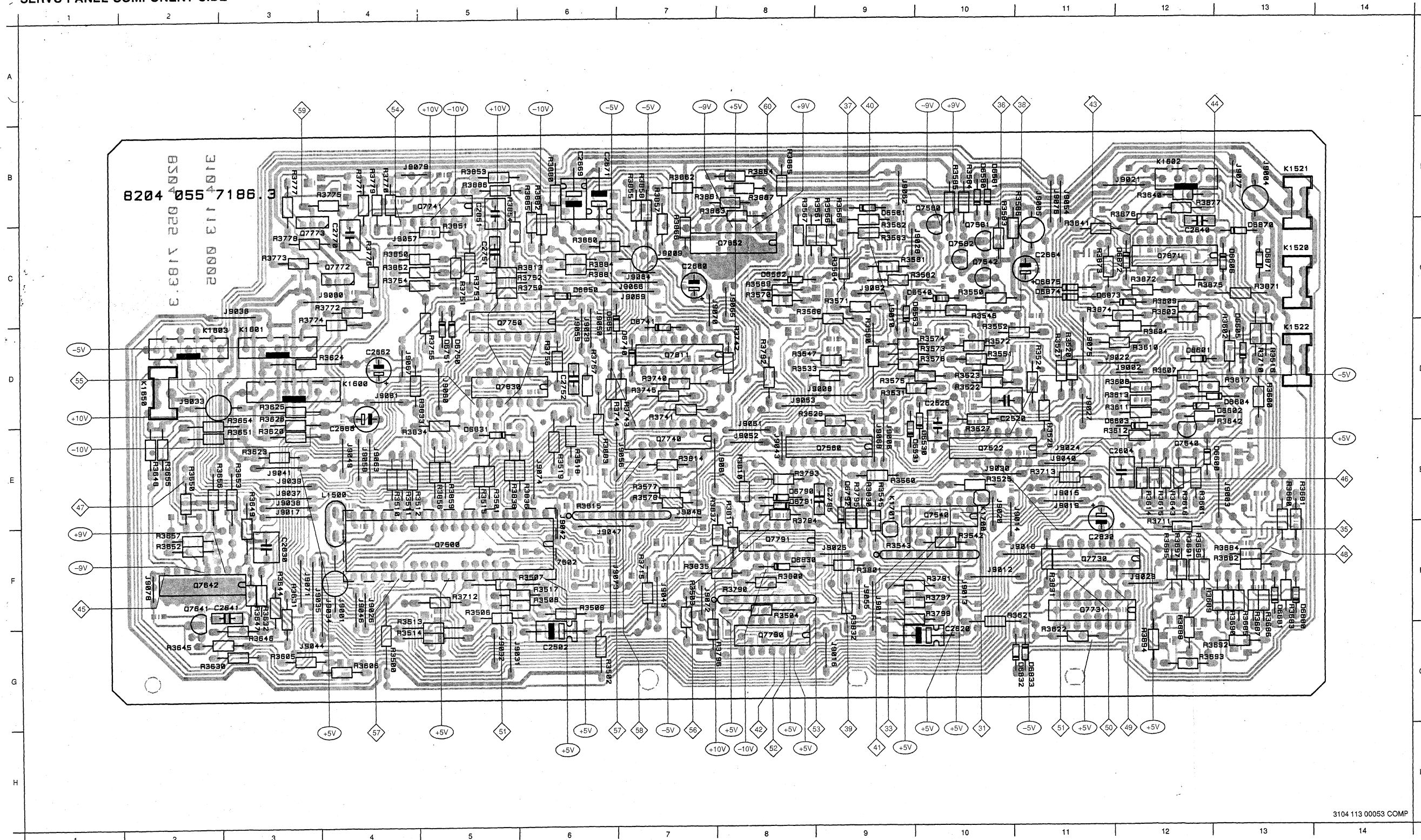




### MOTOR ON/OFF DETECTION



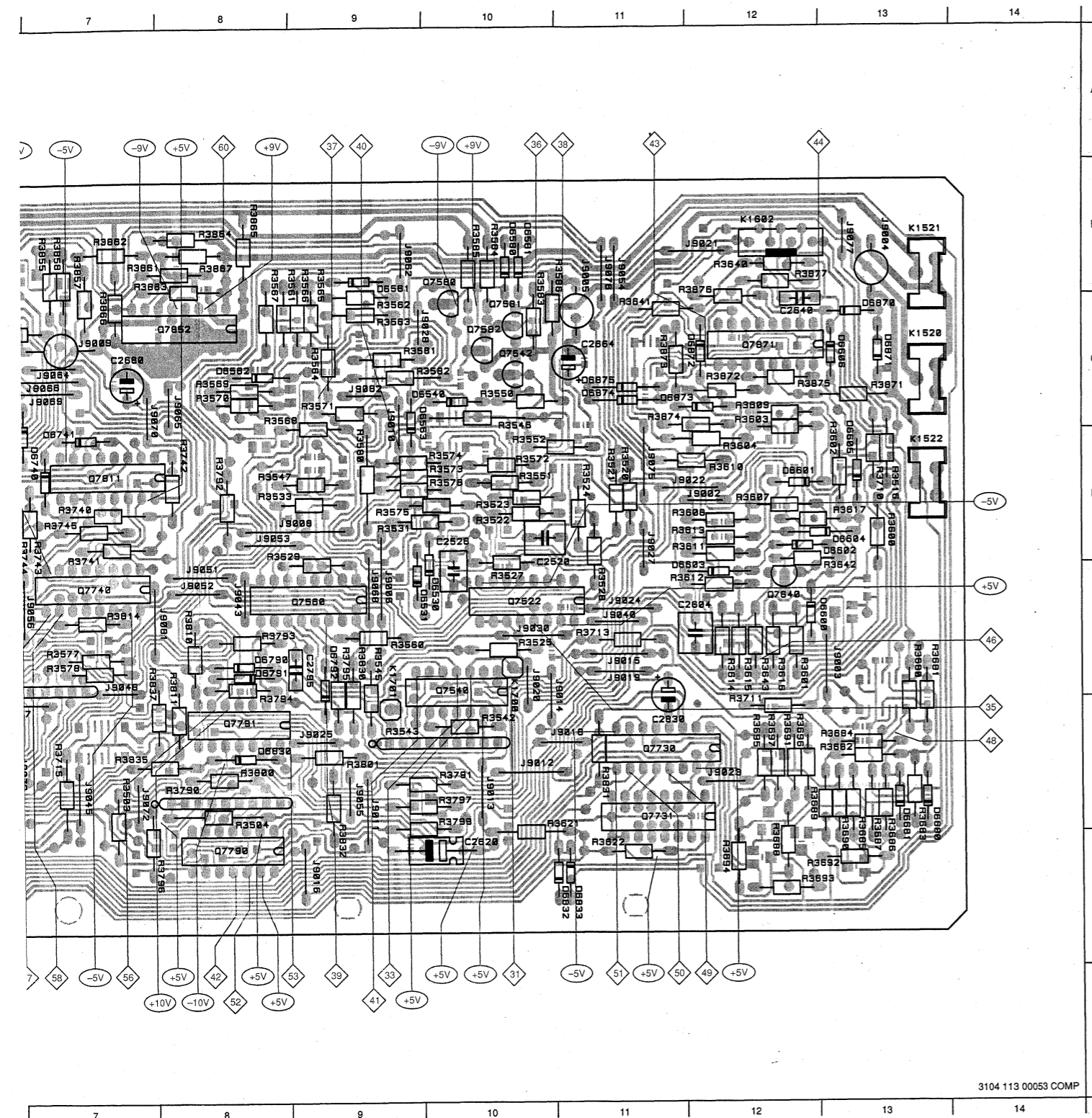
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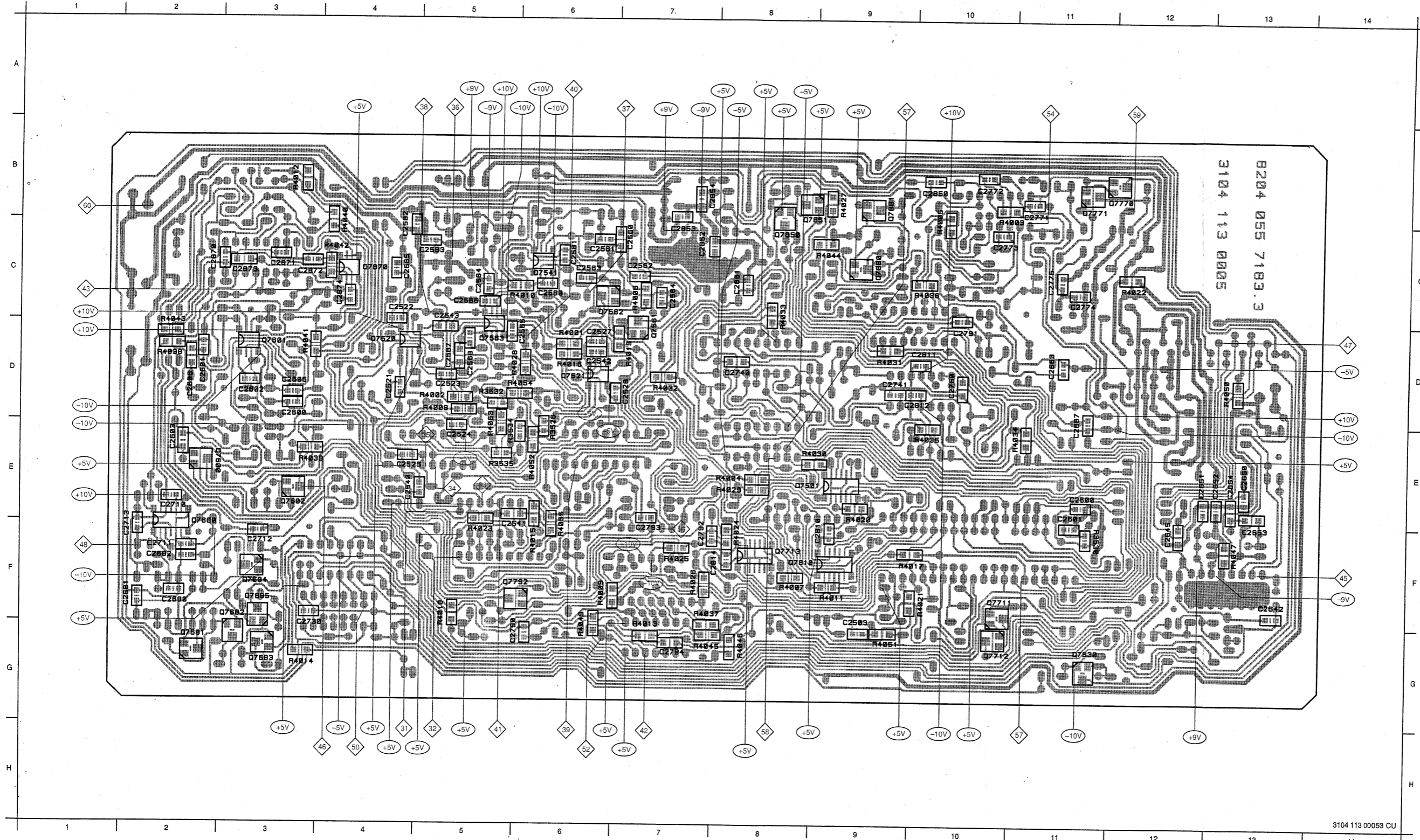
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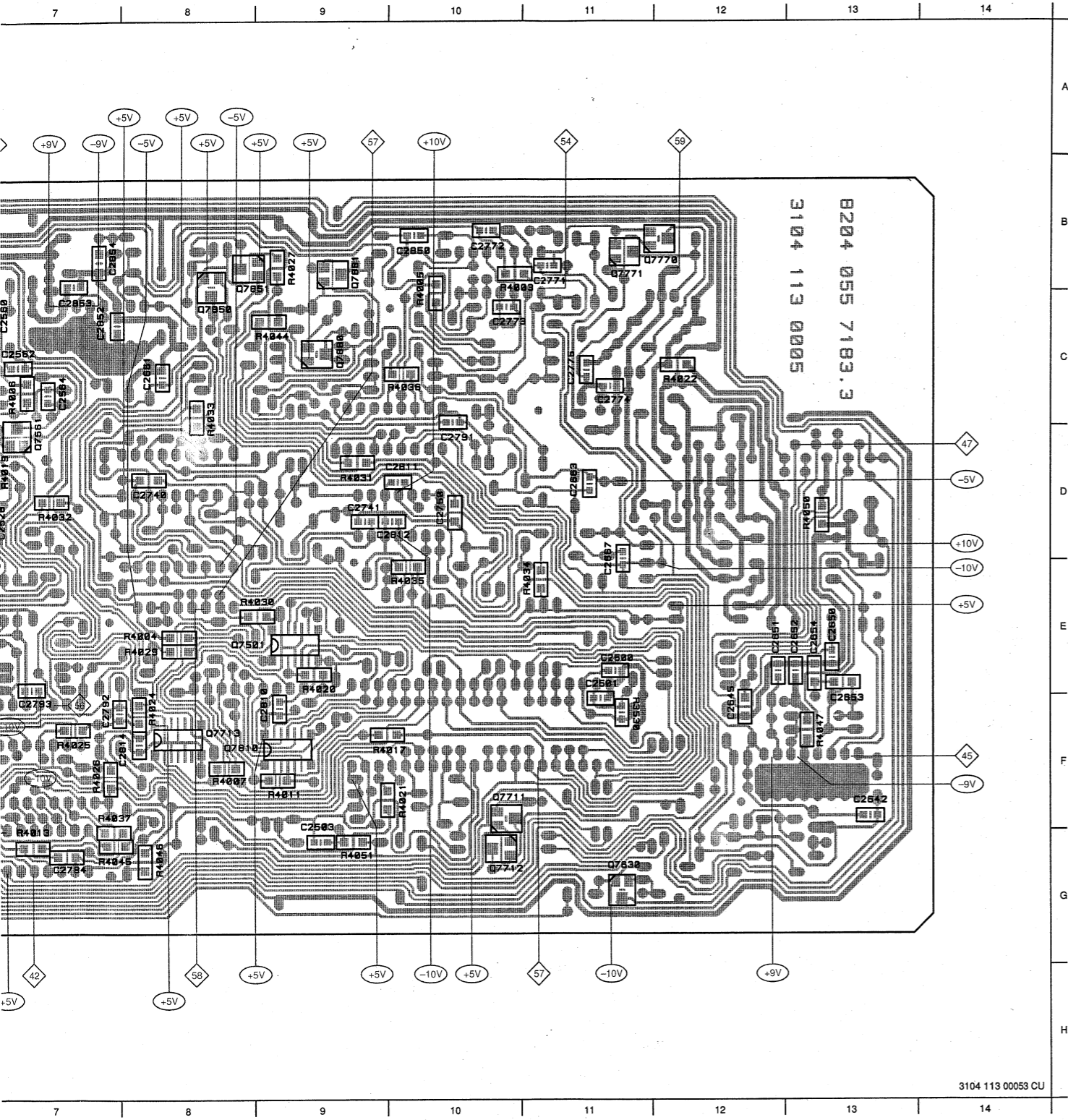
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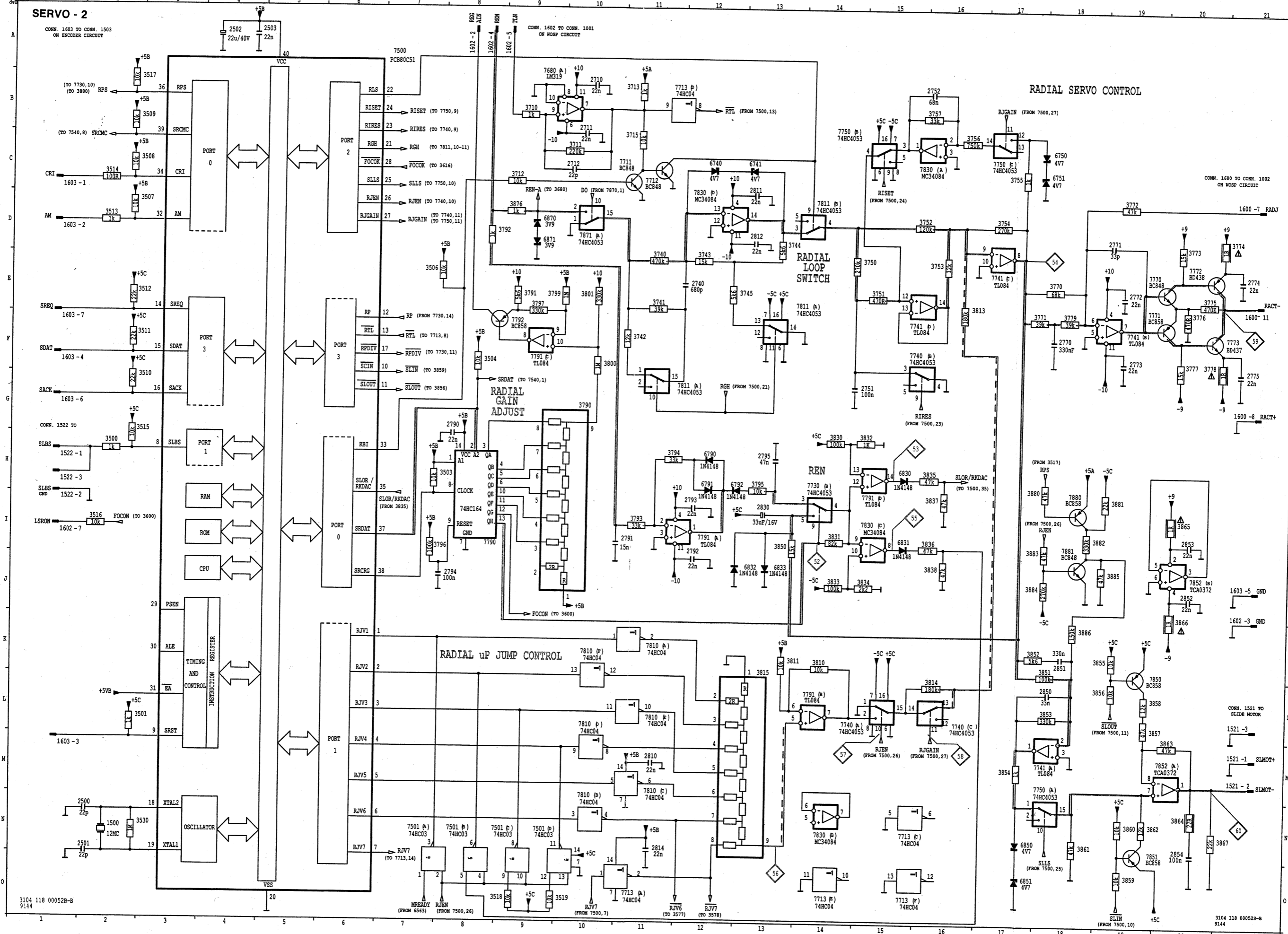
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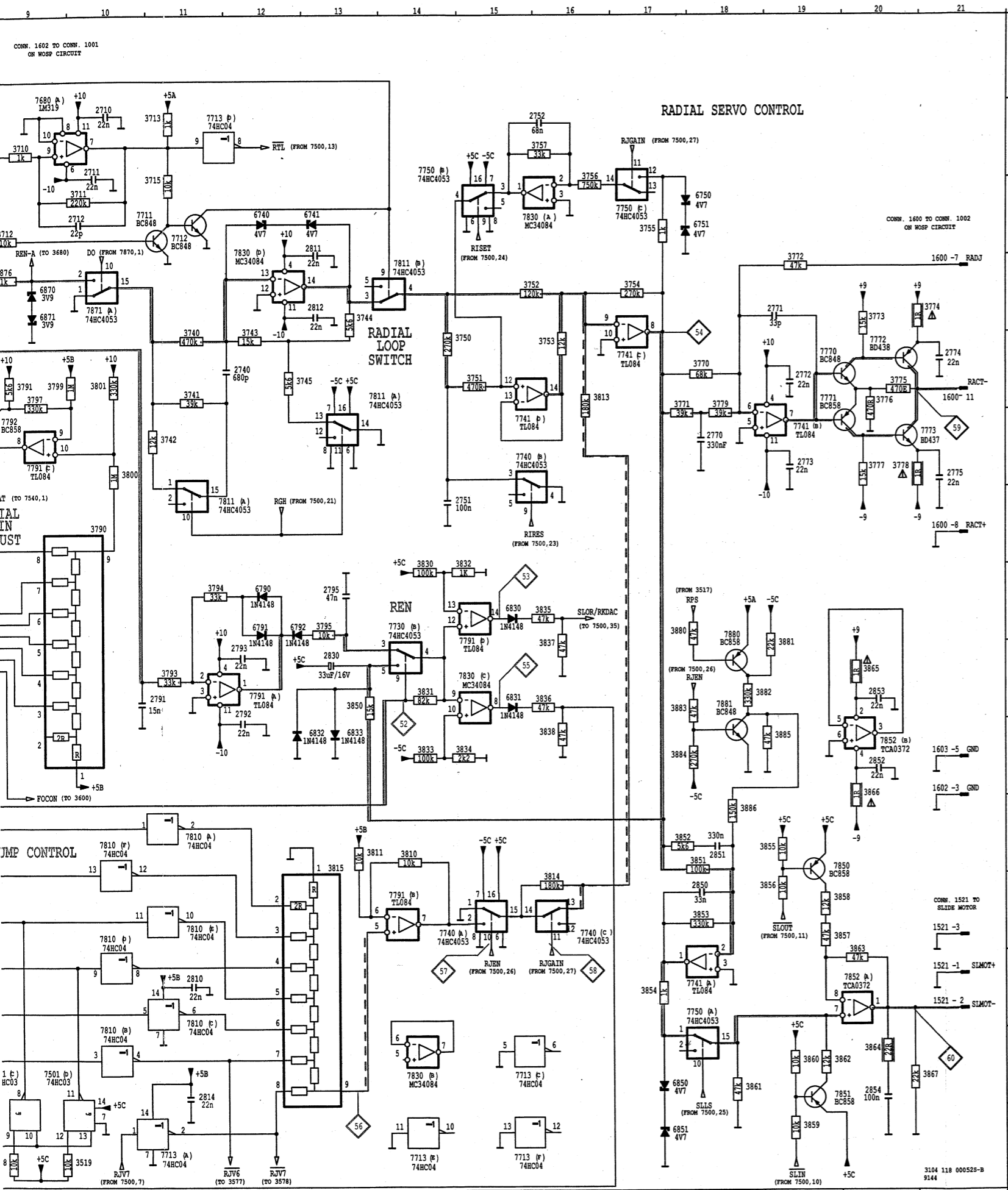
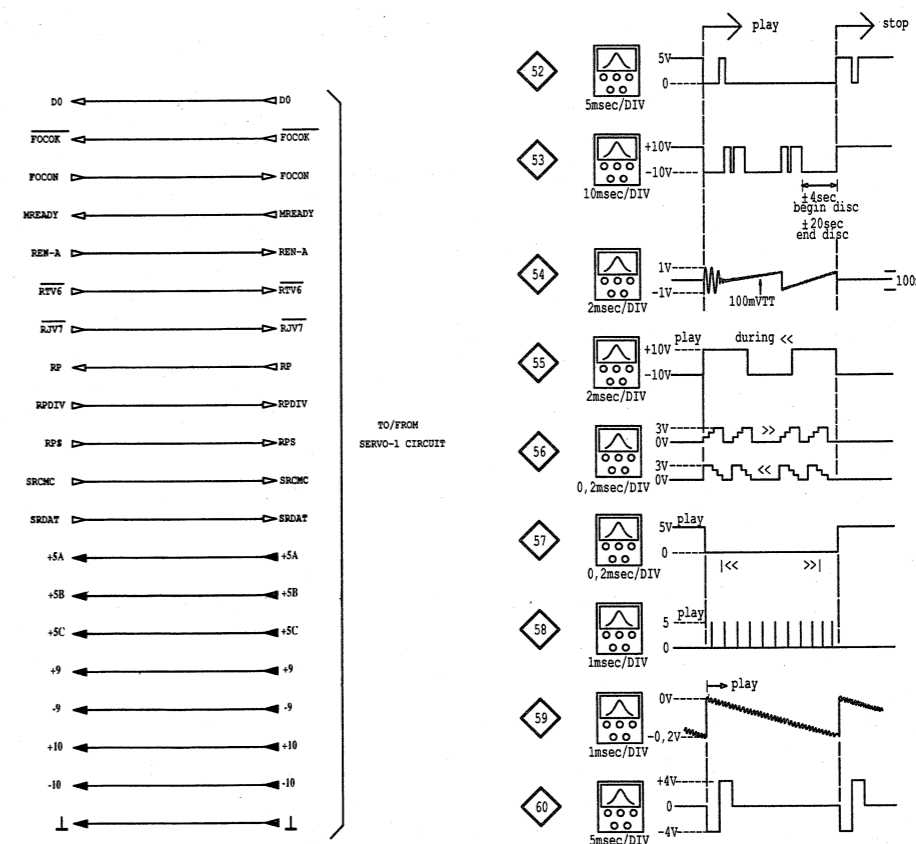
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SERVO-2

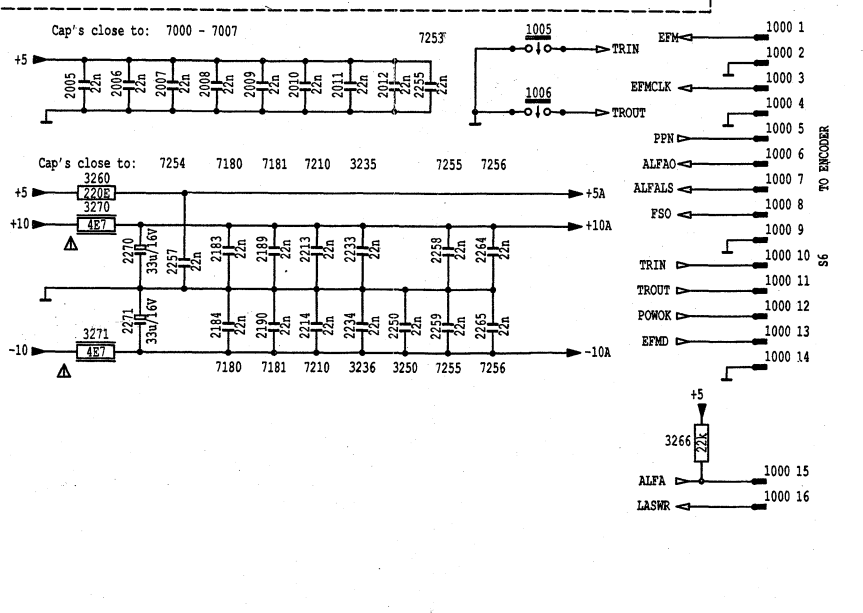
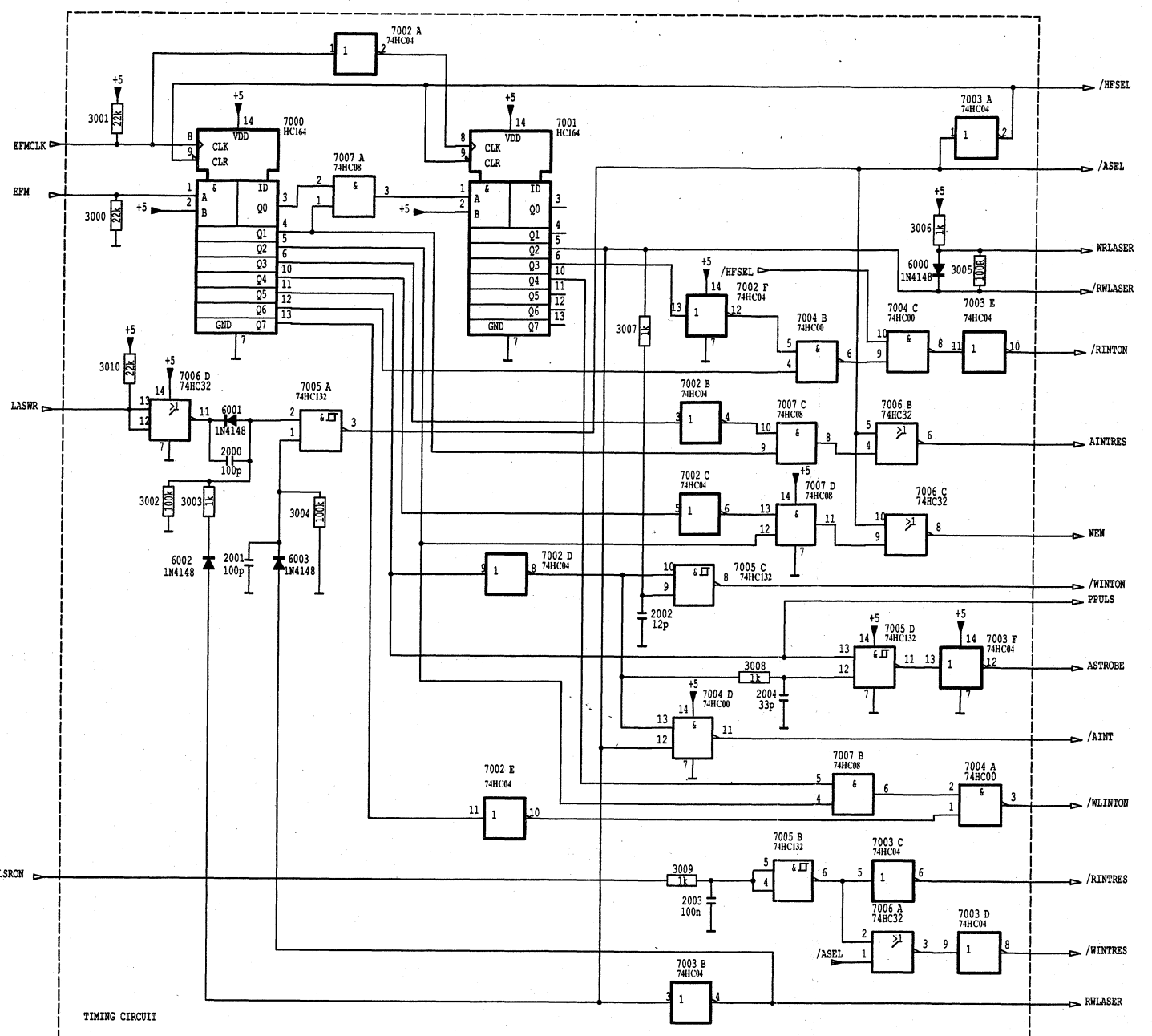
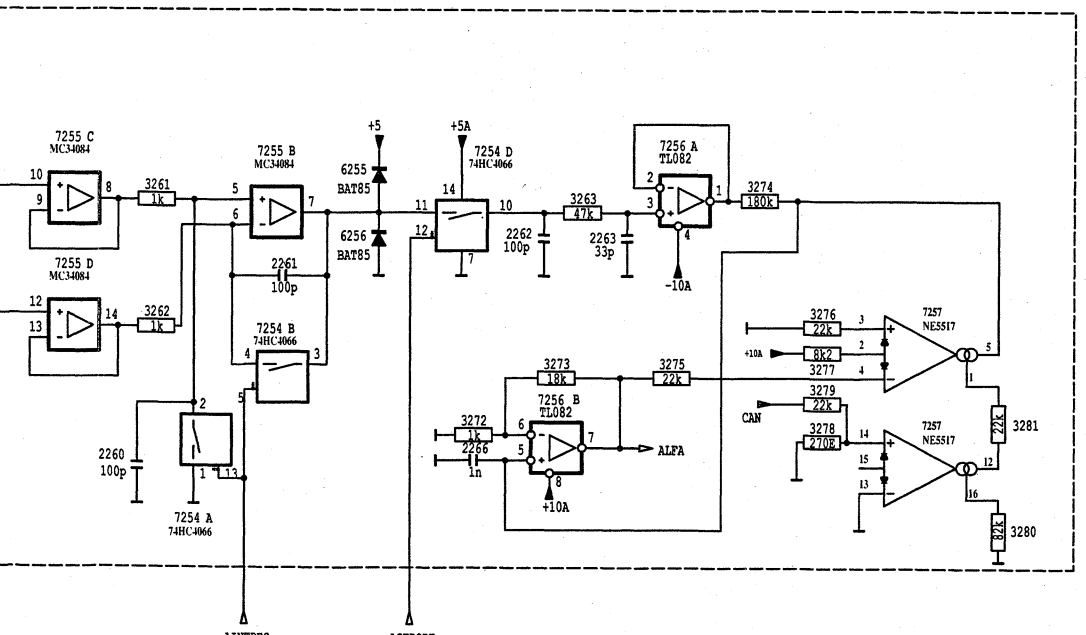
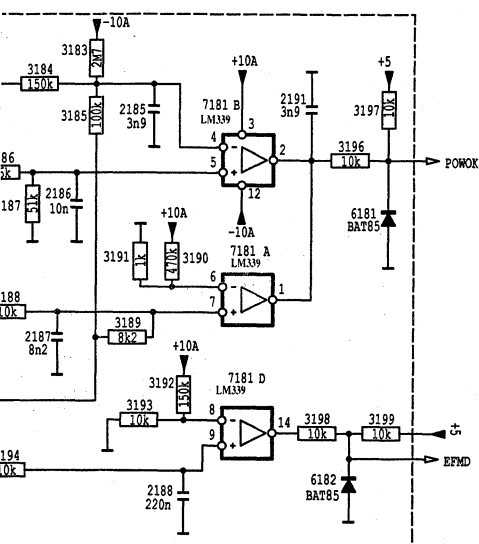
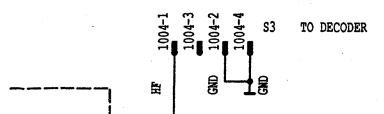
- AM - Additional Mute
- CRI - Counter Reset Inhibit
- FOCOK - In Focus Signal
- FOCON - Focus On
- GND - Ground
- LSRON - Laser On
- MREADY - Turntable Motor Ready
- RADJ+ - Radial Actuator
- RADJ- - Radial Gain Adjust
- RBI - Radial Brake Inhibit
- REGAIN - Radial Gain Current
- REN - Radial Error Normalized
- REN-A - Radial Error Normalized A
- RGH - Radial Gain High
- RIRES - Radial Integrator Reset
- RISSET - Radial Integrator Preset
- RJEN - Radial Jump Enable
- RJGAIN - Radial Jump Gain
- RJV1-7 - Radial Jump Voltage
- RLS - Radial Loop Switch
- RP - Radial Polarity
- RPDIV - Radial Polarity Divider
- RTL - Radial Track Loss
- SACK - Servo Acknowledge
- SDAT - Servo Data
- SLBS - Slide Begin Switch
- SLIN - Slide Inwards Pulse
- SLLS - Slide Servo Loops Switch
- SLMOT+ - Slide Motor
- SLOR/RKDAC - Slide Outwards Request/ADC Determination Radial Amplitude
- SLOUT - Slide Outwards Pulse
- SRCRG - Shift Register Clock Radial Gain
- SRDAT - Shift Register Data
- SREQ - Servo Request
- SRST - Servo Reset
- TLN - Trackloss Normalized



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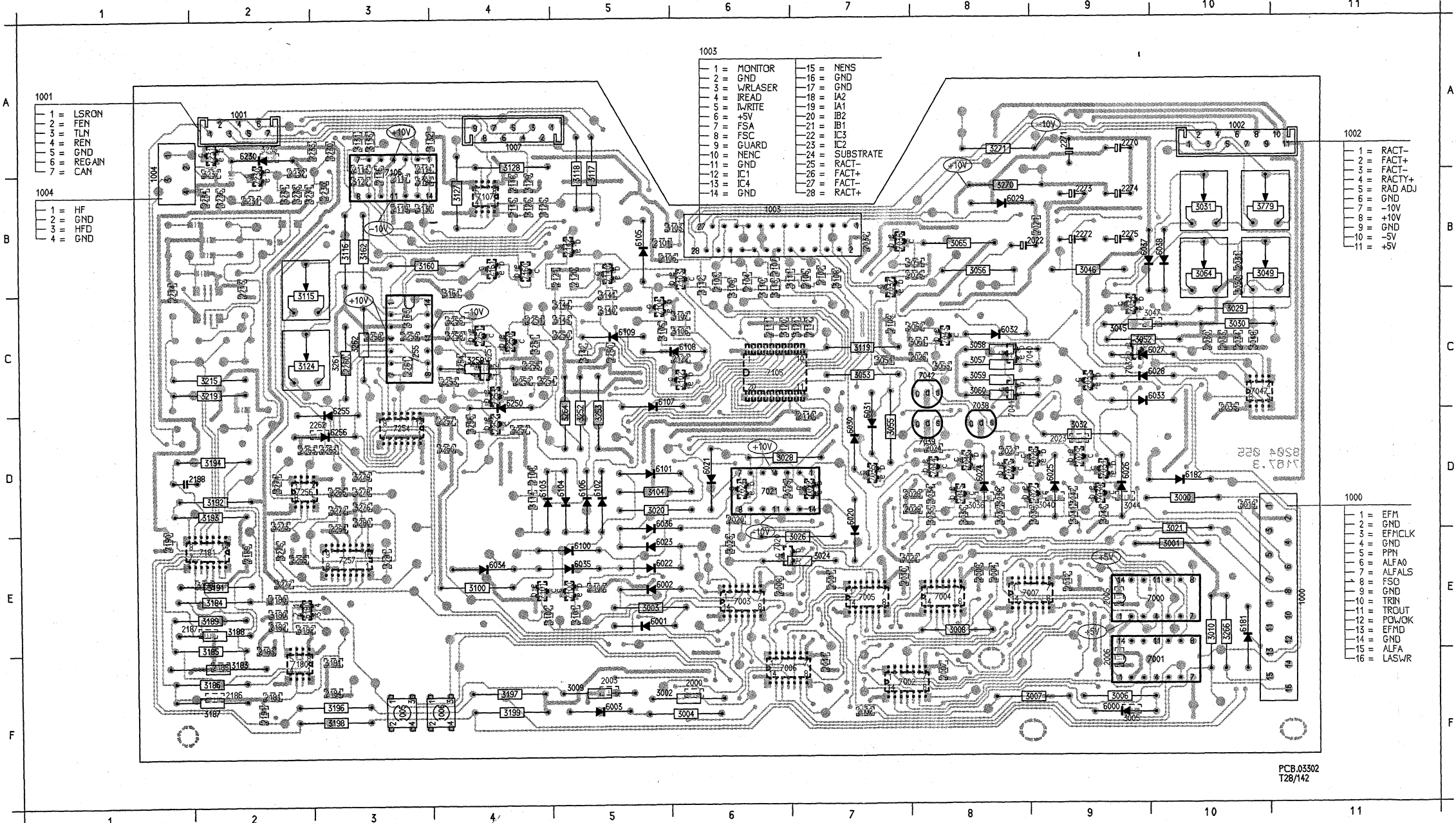


WOSP-1

- AINT - Absorption Integrator
- AINTRES - Absorption Integrator Reset
- ALFA - Actual Absorption
- ALFA0 - Absorption Set
- ALFALS - Absorption Loop Switch
- ASEL - CA Current Select
- ASTROBE - Absorption Strobe
- CA - Central aperture signal
- EFM - Eight to Fourteen Modulation
- EFMCLK - EFM Clock
- EFMD - Eight to Fourteen Modulation Detect
- FSO - Forward Sense Diode Reference Current
- GND - Ground
- HF - High Frequency
- HFSEL - Select CA Current For HF Reading Purposes
- IA - 3 Spot Push Pull Diode Current
- LASWR - Laser Write/Non Read
- LSRON - Laser On
- NEN - Normalizer Enable
- POWOK - Writing Power Ok
- PPN - Normalized Push Pull Signal
- RINTON - Read Integrator On
- RINTRES - Read Integrator Reset
- RWLASER - Read/Nonwrite laserpower
- TRIN - Tray In Switch
- TROUT - Tray Out Switch
- WINTON - Write Integrator On
- WLINTON - Write Integrator On
- WRLASER - Write Mode/Non Read Mode Laser

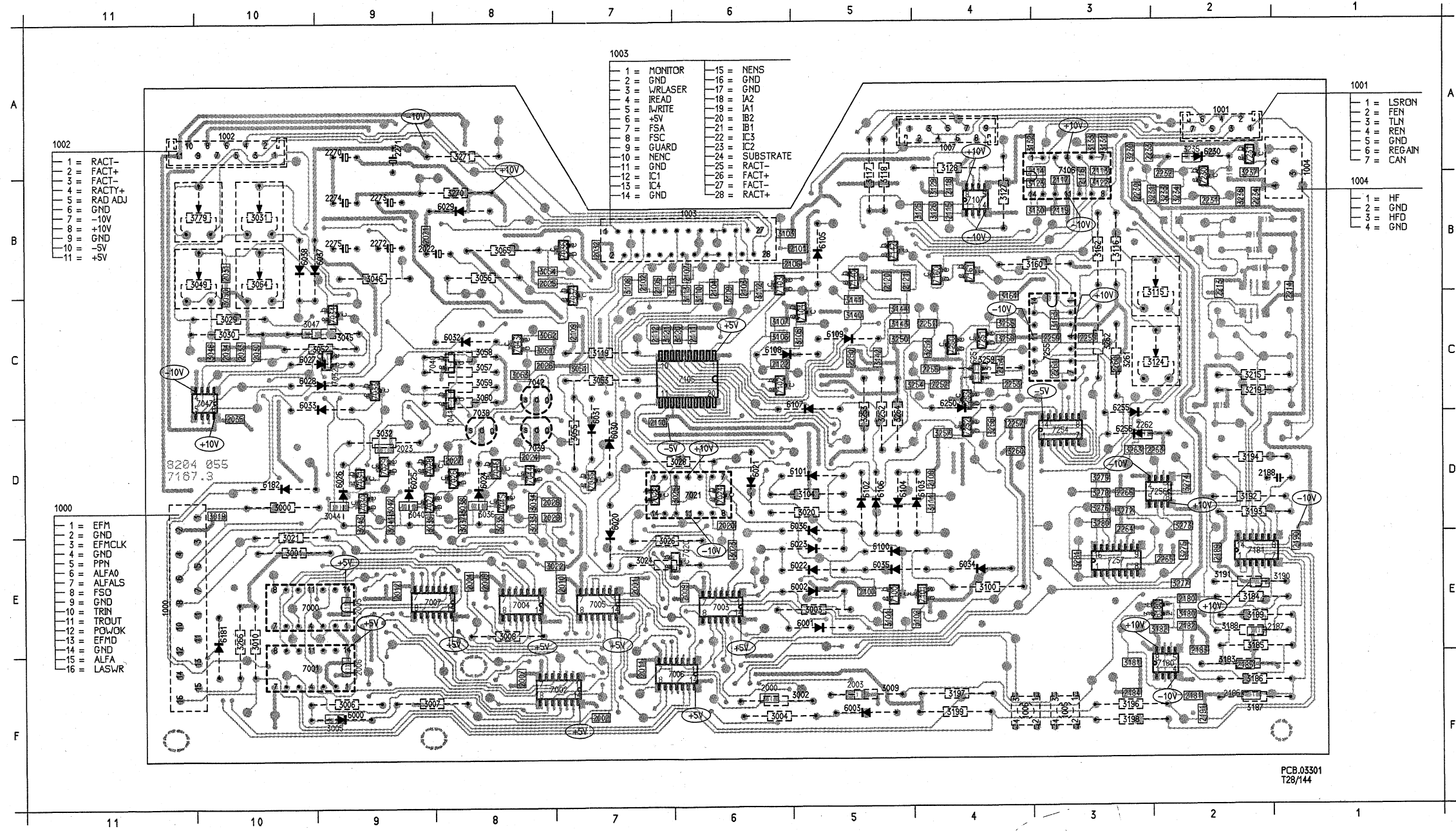
WOSP PANEL COMPONENT SIDE

1000 E11	2011 F7	2101 B5	2120 B5	2232 B2	2270 A9	3021 E10	3041 D9	3060 C8	3113 C6	3132 A4	3188 E2	3237 B2	3272 D5	6024 D8	6104 D5	7005 E7	7038 C8	7142 B5
1001 A2	2012 E9	2102 B7	2121 B5	2233 A3	2271 A9	3022 E7	3042 D9	3061 C7	3114 D4	3133 A5	3189 E2	3238 C1	3273 D2	6025 D9	6105 B5	7006 F6	7039 D8	7143 B4
1002 A10	2020 D6	2103 C6	2122 C6	2234 B2	2272 B9	3023 E5	3043 D9	3062 C8	3115 C4	3134 A6	3190 E2	3239 C4	3274 D2	6026 D9	6106 D5	7007 E8	7040 C9	7144 B4
1003 B6	2021 B9	2104 C6	2123 B7	2235 C5	2273 B9	3024 E7	3044 D9	3063 C8	3116 B5	3135 A5	3191 E2	3240 D5	3275 D2	6027 C9	6107 C3	7008 E6	7041 D8	7145 B2
1004 B1	2022 B8	2105 B7	2124 B7	2236 C4	2274 B9	3025 D6	3045 C9	3064 B10	3117 B5	3136 A6	3192 D2	3241 D5	3276 D5	6028 C9	6108 C2	7009 D7	7042 C8	7146 B2
1005 F3	2023 D9	2106 B5	2125 E2	2237 C4	2275 B9	3026 E6	3046 B9	3065 B8	3118 B9	3137 A5	3193 D2	3242 D5	3277 F2	6029 B8	6109 C5	7010 D6	7043 C8	7147 B2
1006 F4	2024 D8	2107 B6	2126 F2	2238 C4	3000 D10	3027 B9	3047 C9	3066 B8	3119 C7	3138 A6	3194 D2	3243 D4	3278 D5	6030 D7	6110 E2	7011 D6	7044 D8	7231 A2
1007 A4	2025 B7	2108 D4	2127 F3	2239 C4	3001 E10	3028 C10	3048 C10	3067 B8	3120 C6	3139 A7	3195 F4	3244 D4	3279 D3	6031 D7	6111 E10	7012 D8	7045 D8	7250 C4
2000 F6	2026 C7	2109 C7	2128 F3	2240 C4	3002 F5	3029 C10	3049 C10	3068 B8	3121 C7	3140 A7	3196 F4	3245 D4	3280 D3	6032 C8	6112 D10	7013 D9	7046 D8	7251 C4
2001 E7	2027 D8	2110 D7	2129 F2	2241 C4	3003 E5	3030 B10	3050 C10	3069 B8	3122 B5	3141 C8	3197 F3	3246 D4	3281 D3	6033 C9	6113 A2	7014 D9	7047 C10	7252 C4
2002 F7	2028 D7	2111 C6	2130 F1	2242 C4	3004 F6	3031 D9	3051 C10	3070 B8	3123 B5	3142 C8	3198 F2	3247 D4	3282 D3	6034 C9	6114 E10	7015 D9	7048 D8	7253 C4
2003 F5	2029 D7	2112 C7	2131 F2	2243 C4	3005 F6	3032 D9	3052 C10	3071 B8	3124 C7	3143 C8	3199 F3	3248 D4	3283 D3	6035 C9	6115 A2	7016 D9	7049 D8	7254 C4
2004 E8	2030 C10	2113 B3	2132 F1	2244 C4	3006 F9	3033 D8	3053 C9	3072 B8	3125 B4	3144 F3	3200 F4	3249 D4	3284 D3	6036 D5	6116 E10	7017 D9	7050 D8	7255 C3
2005 E9	2031 B10	2114 B3	2133 F1	2245 C4	3007 F8	3034 D8	3054 C9	3073 B8	3126 B4	3145 F3	3201 F4	3250 D4	3285 D3	6037 B9	6117 E10	7018 D9	7051 D8	7256 D2
2006 F9	2032 B7	2115 B4	2134 F2	2246 D2	3008 E8	3035 D8	3055 D7	3074 B8	3127 B4	3146 F2	3202 F4	3251 D5	3286 D3	6038 B10	6118 E5	7019 D9	7052 C9	7104 C5
2007 F8	2033 C10	2116 B5	2135 C2	2247 D2	3009 F5	3036 D8	3056 B9	3075 B8	3128 A4	3147 F2	3203 F4	3252 D5	3287 D3	6039 B10	6119 E5	7020 D7	7053 D7	7105 C6
2008 E6	2034 C10	2117 B5	2136 C2	2248 D2	3010 E10	3037 D8	3057 C8	3076 B8	3129 B4	3148 F2	3204 F4	3253 D5	3288 D3	6040 D5	6120 E5	7021 D6	7054 C9	7106 B5
2009 E8	2035 D10	2118 B4	2137 B3	2249 E2	3011 D10	3038 D9	3058 C8	3077 B8	3130 B5	3149 F2	3205 F4	3254 D5	3289 D3	6102 D5	7003 E8	7022 D6	7055 D7	7107 B4
2010 E7	2100 E5	2119 B3	2231 B2	2266 D5	3020 D5	3040 D9	3059 C8	3099 B8	3131 A5	3187 F2	3236 D2	3271 A8	6023 E5	6103 D4	7004 E8	7023 C7	7047 B5	7140 B5



WOSP PANEL SOLDER SIDE

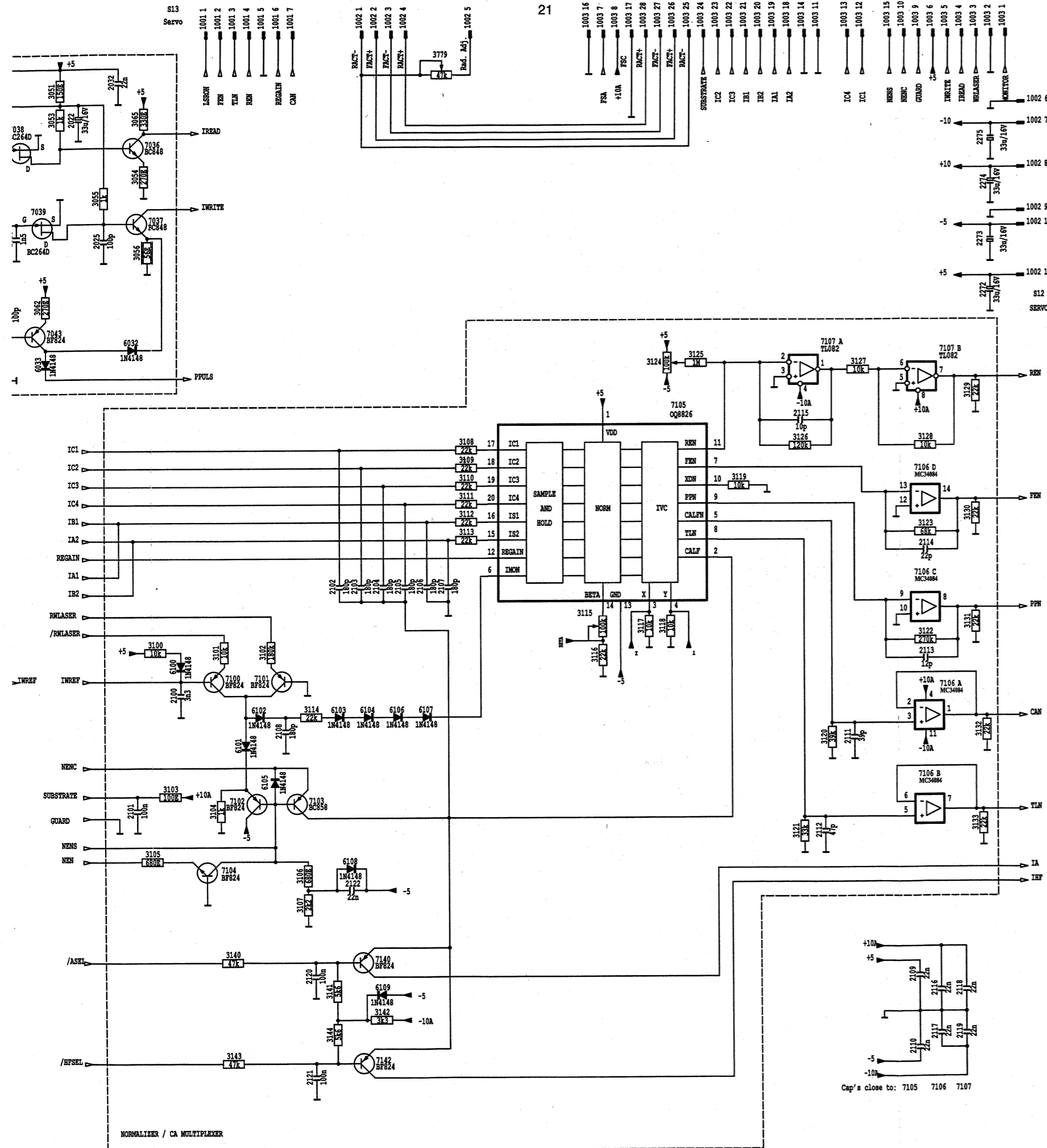
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1001 A2	2012 E9	2102 B7	2121 B5	2233 A3	2271 A9	3022 E7	3042 D9	3061 C8	3114 D4	3133 A3	3189 E2	3238 B2	3273 D3	6025 D9	6105 B5	7006 F6	7039 C9	7143 B4
1002 A10	2020 D6	2103 C6	2122 C6	2234 B2	2272 B9	3023 E6	3043 D9	3062 C8	3115 C2	3134 C3	3190 E3	3239 B2	3274 D3	6026 D9	6106 D6	7007 E8	7040 C9	7144 B4
1003 B6	2021 B9	2104 C6	2123 C6	2235 C5	2273 B9	3024 E7	3044 D9	3063 C8	3116 B5	3135 C3	3191 E3	3240 B2	3275 E2	6027 C9	6107 C5	7020 E6	7041 D9	7180 F2
1004 B1	2022 B8	2105 B7	2124 F2	2236 C4	2274 B9	3025 E6	3045 D9	3064 C8	3117 B5	3136 C3	3192 D2	3241 B2	3276 D3	6028 C9	6108 C6	7021 D6	7042 C9	7181 E2
1005 F3	2023 D9	2106 B5	2125 F2	2237 C4	2275 B9	3026 E6	3046 B9	3065 B8	3118 B5	3137 C3	3193 D2	3242 B2	3277 E2	6029 B8	6109 C5	7022 D7	7043 C9	7230 B2
1006 F4	2024 D8	2107 B6	2126 F2	2238 C4	3000 D10	3027 D6	3047 C9	3066 B8	3119 C6	3138 C3	3194 D2	3243 B2	3278 D3	6030 D7	6110 F2	7023 D7	7044 D9	7231 A2
1007 A4	2025 B7	2108 D4	2127 F3	2239 C4	3001 E10	3028 C10	3048 B10	3067 B8	3120 C7	3139 B5	3195 F4	3244 B2	3279 D3	6031 D7	6111 D10	7024 D6	7045 D8	7250 C4
2000 F6	2026 C7	2109 C7	2128 F2	2240 C4	3002 F5	3029 C10	3049 B10	3068 B8	3121 C7	3140 C3	3196 F4	3245 B2	3280 D3	6032 C7	6112 D10	7025 D8	7046 D8	7251 C4
2001 E7	2027 D8	2110 D7	2129 F2	2241 C4	3003 F5	3030 C10	3050 B10	3069 B8	3122 B3	3141 C3	3197 F4	3246 B2	3281 E3	6033 C9	6230 A2	7026 D8	7047 C10	7252 D4
2002 F7	2028 D7	2111 C6	2130 F1	2242 D2	3004 F6	3031 B10	3051 C7	3070 B8	3123 B3	3142 C3	3198 F4	3247 B2	3282 B10	6034 F4	6231 C4	7027 D9	7048 C9	7253 C4
2003 F5	2029 D7	2112 C7	2131 D1	2243 C3	3005 F9	3032 D8	3052 C7	3071 B8	3124 C2	3143 C3	3199 F4	3248 B2	3283 E3	6035 C9	6232 C4	7028 D9	7049 C10	7254 C4
2004 E8	2030 C10	2113 B3	2132 E2	2244 C3	3006 F9	3033 D8	3053 C7	3072 B8	3125 B4	3144 C3	3200 A3	3249 B2	3284 E3	6036 F9	6233 F9	7029 D9	7050 C9	7255 C4
2005 E9	2031 B10	2114 B5	2133 F1	2245 C3	3007 F8	3034 D8	3054 B7	3073 B8	3126 B4	3145 C3	3201 A3	3250 B2	3285 E3	6037 B9	6234 C4	7030 D9	7051 E4	7256 C4
2006 F9	2032 B7	2115 B4	2134 F2	2246 D2	3008 E8	3035 D8	3055 D7	3074 B8	3127 B4	3146 C3	3202 A3	3251 B2	3286 E3	6038 B10	6235 C4	7031 D9	7102 C6	7257 F3
2007 F8	2033 C10	2116 B3	2213 C2	2247 D2	3009 F5	3037 D8	3056 B8	3075 B8	3128 A4	3147 C3	3203 B3	3252 B2	3287 E3	6039 F9	6236 C4	7032 C9	7103 B6	
2008 E6	2034 C10	2117 B3	2214 C1	2248 D3	3010 E10	3038 D8	3057 C8	3076 B8	3129 B4	3148 C3	3204 B2	3253 B2	3288 E3	6040 D7	6237 F9	7033 C8	7104 C9	
2009 E8	2035 D10	2118 B4	2220 B3	2249 E2	3019 D10	3039 D9	3058 C8	3077 B8	3130 C7	3149 C3	3205 B2	3254 B2	3289 E3	6041 D8	6238 F7	7034 C9	7105 C6	
2010 E7	2100 E5	2119 B3	2231 B2	2266 D3	3020 D5	3040 D9	3059 C8	3078 B8	3131 A3	3150 B5	3206 B2	3255 A2	3290 B8	6042 E5	6239 D5	7035 D7	7106 B3	
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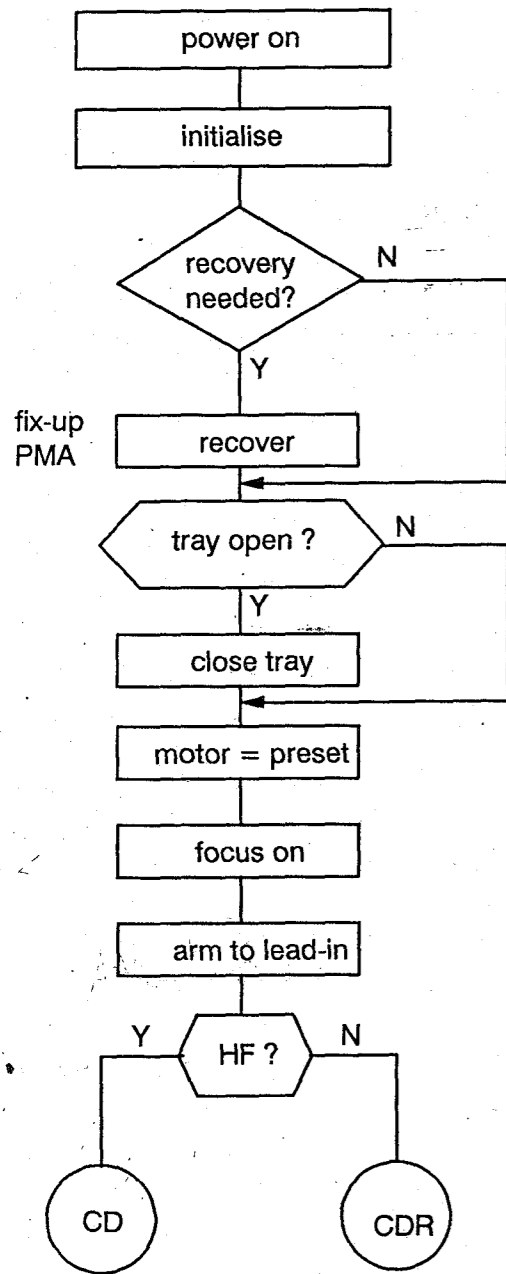


WOSP-2

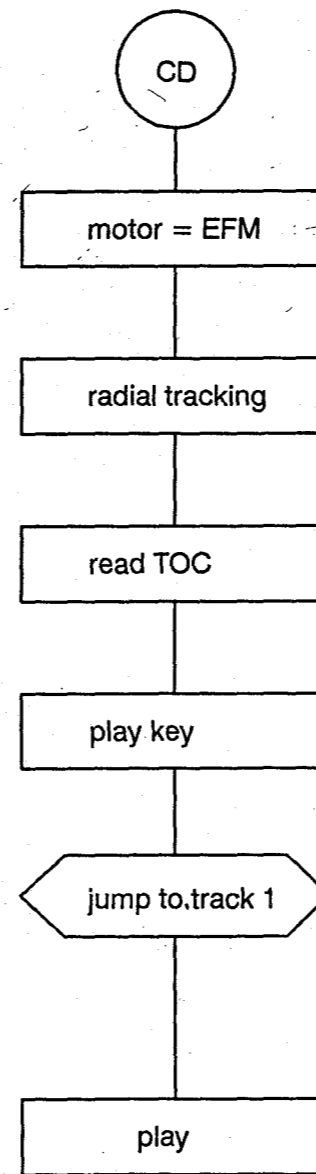
- ALFA - Actual Absorption
- ALFA0 - Absorption Set
- ASEL - CA Current Select
- CALF - Central Aperture Low Frequency
- CALFN - Central Aperture Low Frequency Normalized
- CAN - Central Aperture Normalized
- FACT+ - Focus Actuator
- FEN - Focus Error Normalized
- FSA - Forward Sence Diode Anode
- FSO - Forward Sense Diode Reference Current
- HFSEL - Select CA Current For HF Reading Purposes
- IB1-2 - 3 Spot Push Pull Diode Current
- IC1-4 - 3 Spot Push Pull Diode Current
- IHF - CA Current To Remainder Part Of CA Processor
- IWREF - Monitor Current
- IWREF - Laser Writing Power Reference
- LSRON - Laser On
- NEN - Enable All Photodiode Currents To Normalizer
- NENC - Enable Central Photodiode Currents To Normalizer
- NENS - Enable Satellite Photodiode Currents To Normalizer
- PPN - Normalized Push Pull Signal
- RACT+ - Radial Actuator
- REGAIN - Radial Gain Current
- REN - Normalized Radial Error
- RINTON - Read Integrator On
- RINTRES - Read Integrator Reset
- RWLASER - Read/Non Write Laserpower
- TLN - Trackloss Normalized
- WINTON - Write Integrator On
- WINTRES - Write Integrator Reset
- WLINTON - Write Integrator On



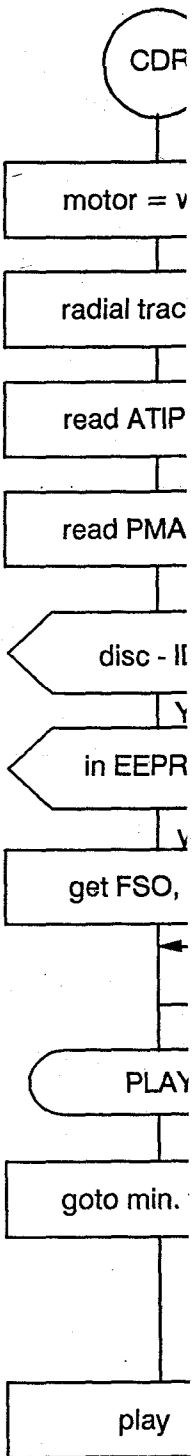
CDR : flowchart start-up

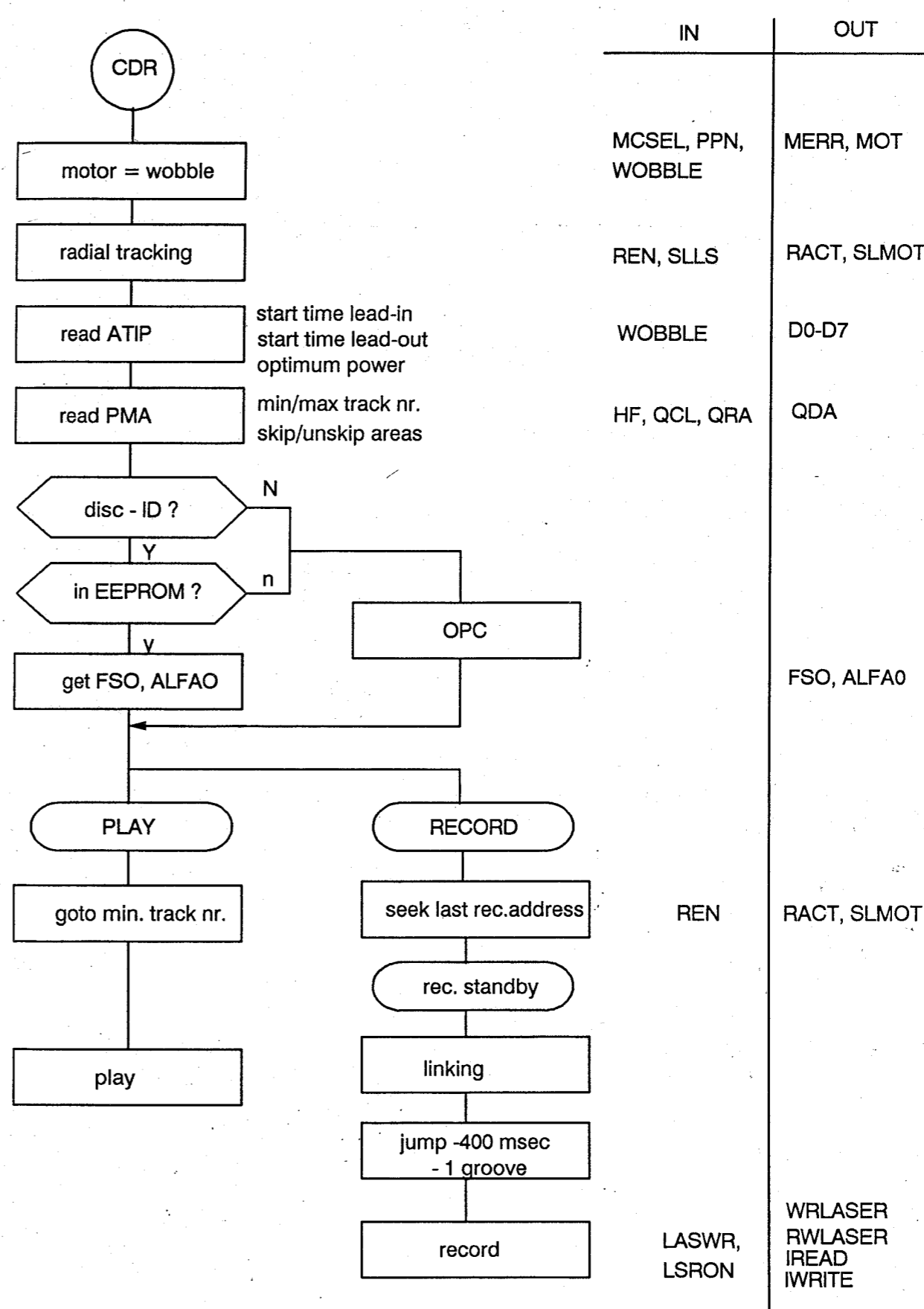
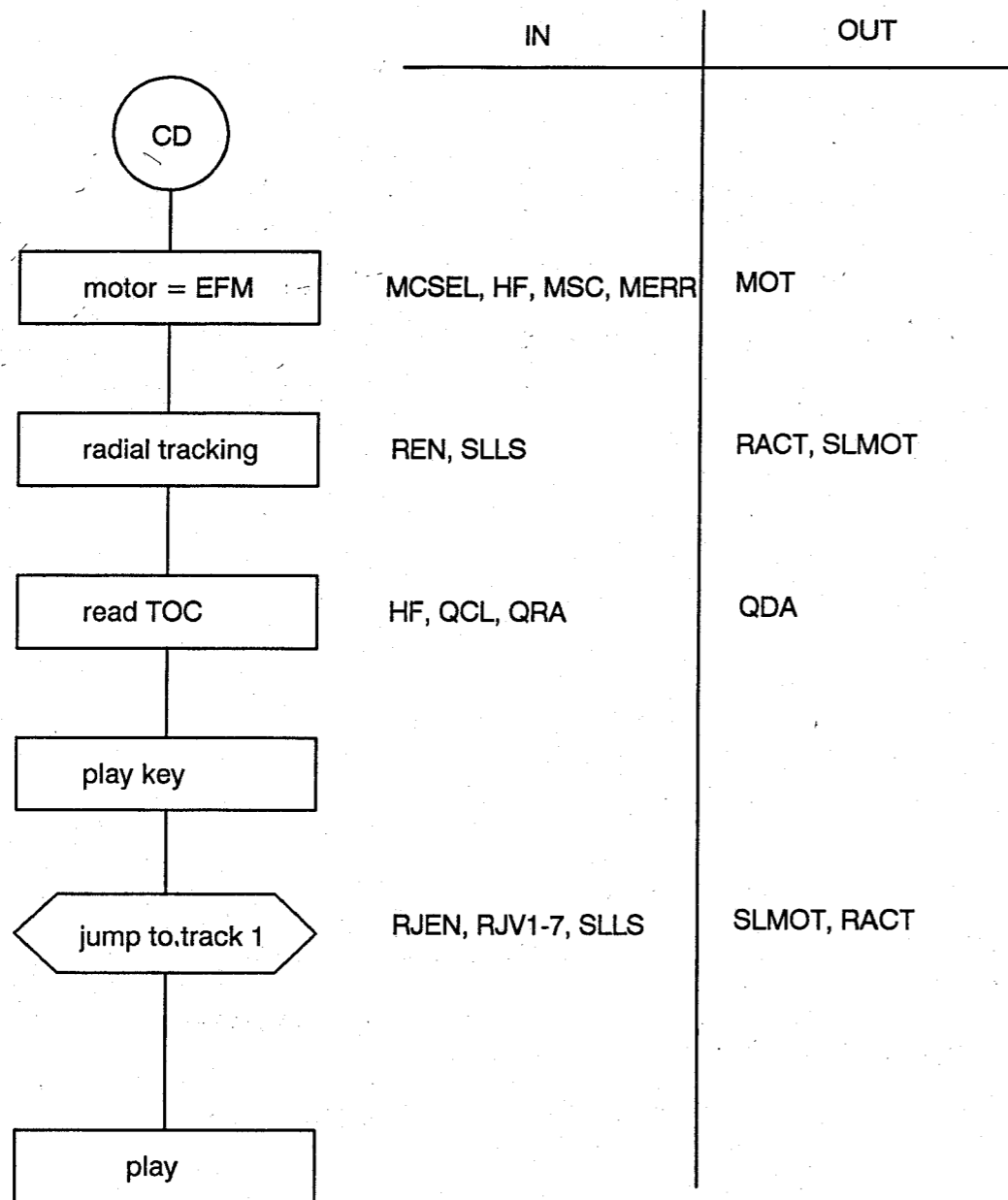


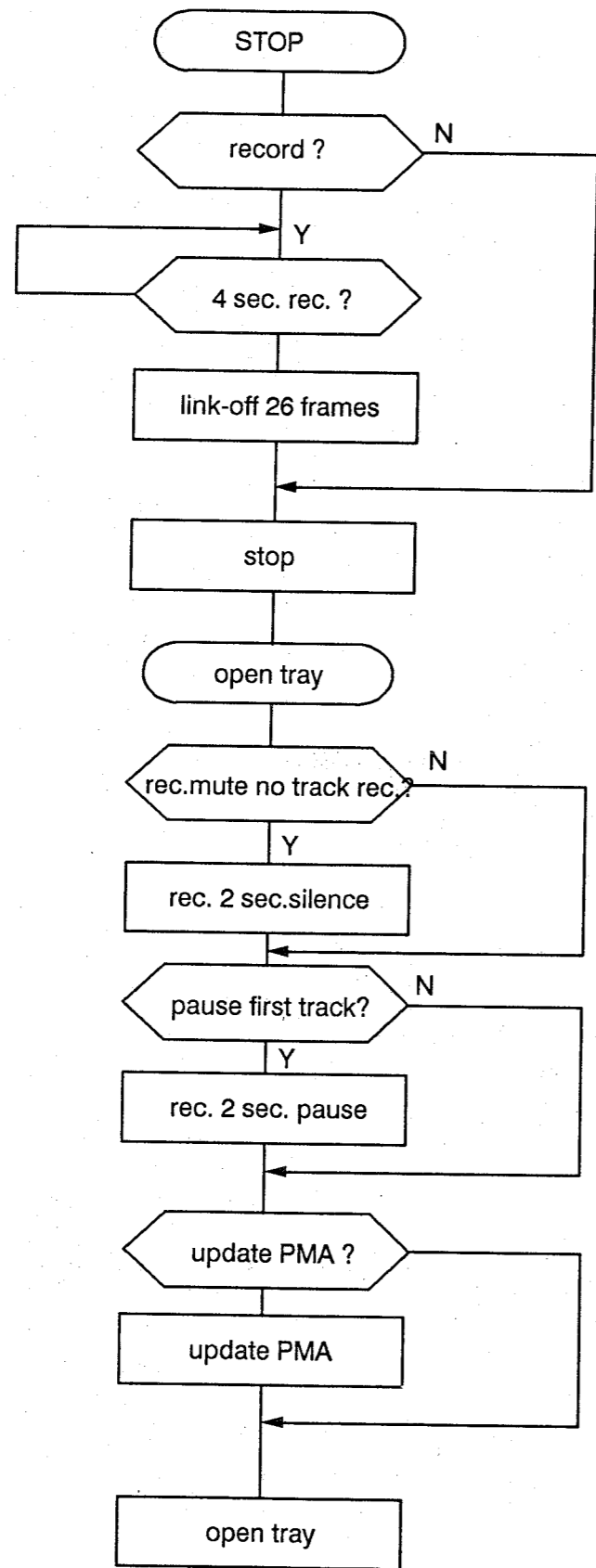
IN	OUT
AC MAINS	Supply Voltages KILL, KL, DRST OFF, RESET
RESET	SRST
	update PMA
TRIN, TROUT	TRMOT, LMOT TRIN
SRDAT, SRCMC	MCESEL, MOT MREADY
MCESEL, FOCON CAN, FEN	FACT, FOCOK
SLLS, SLIN	SLMOT, SLBS
HFSEL, IHF	EFMD



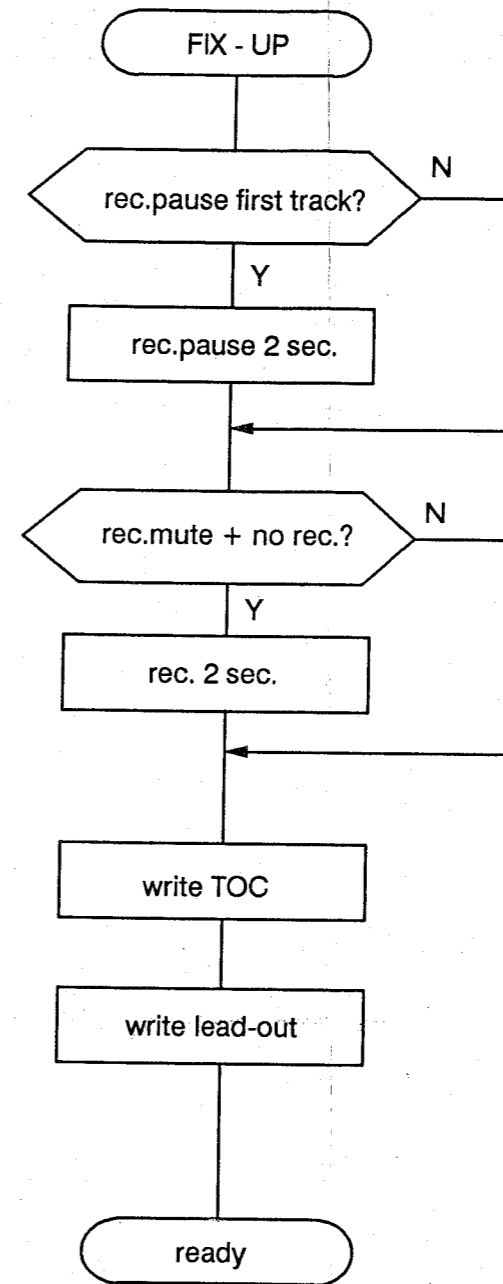
IN	OUT
MCESEL, HF, MSC, MERR	MOT
REN, SLLS	RACT, SLMOT
HF, QCL, QRA	QDA
RJEN, RJV1-7, SLLS	SLMOT, RACT



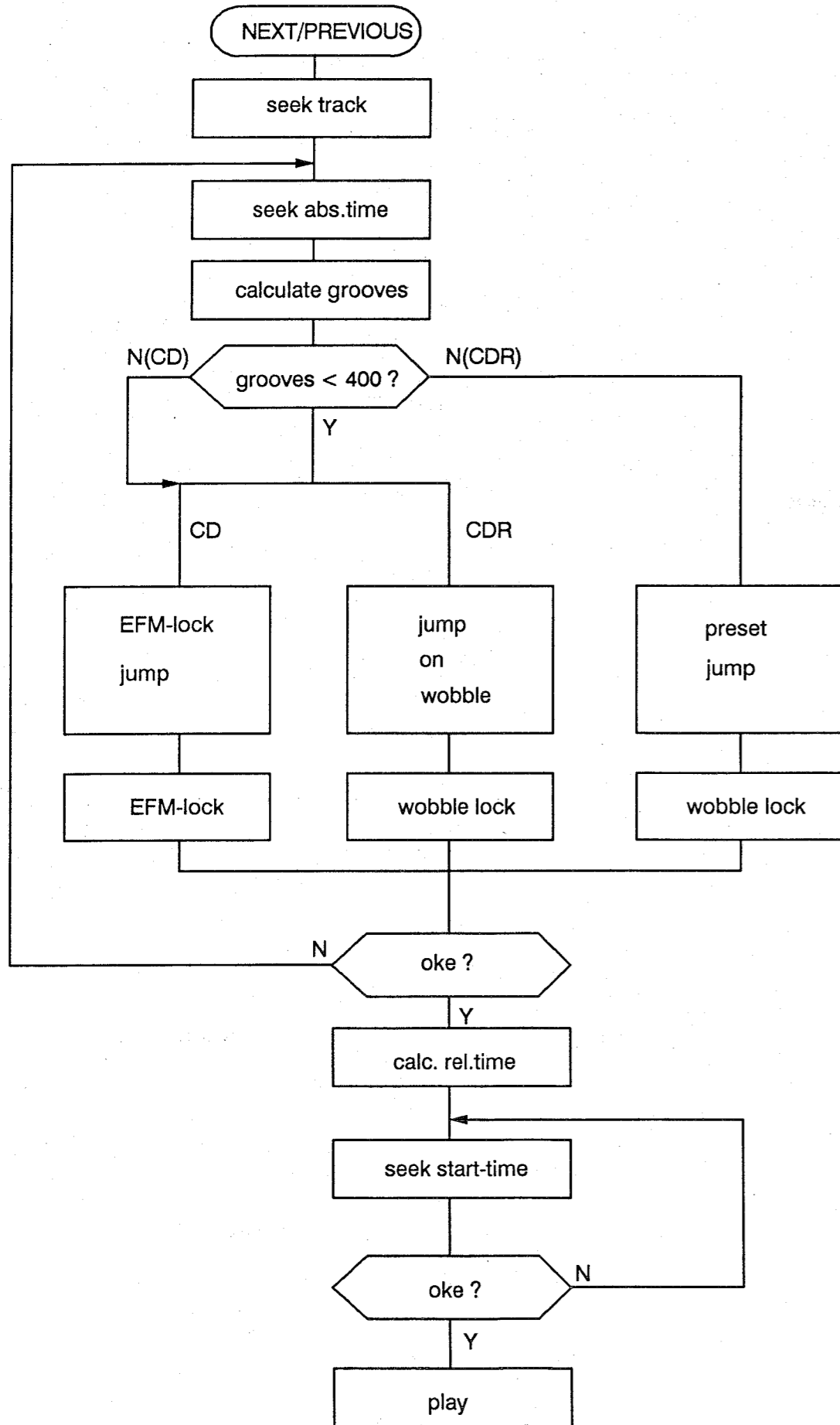




each step:  
on error: try 5 X  
then open tray  
disc destroyed







**FAULTFINDING DIAGNOSIS**

WOSP

-set upside down

Remove bottomplate

- Visual control: are all the solderings ok? (transistors, IC's)

- Check safety resistors

- Check all voltages (on connectors, IC's)

- Check actuator (ohmic)  
on flex connector 1003 on WOSP  
Radial actuator: points 25 - 28  
Focus actuator : points 26 - 27

- Open the set

Remove the clasper

- Actuator is visible:  
Press play: turntable motor turns  
focus 2x pumping  
laserlight  
ok

- Actuator is inside:  
Press play: turntable motor turns a few seconds  
no focus  
no laserlight  
slide switch is not closed  
(wiring or switch)

- Test of turntable motor:  
(Black connector) External 1V on motor

- Test of slidemotor:  
(Grey connector) External -1V: slide goes outwards  
+1V: slide goes inwards

- Test of slidebeginswitch:  
(Red connector) When slide is inside: 0Ω

**INSTRUCTION TO REPLACE CDM-UNIT OR ENCODER PCB (ONLY FOR SOFTWARE FASE 1)**

By replacing the CDM-unit and/or the Encoder PCB problems can occur with wrong OPC values or TOC tables. To prevent these problems, the EEPROM (IC 7481) has to be cleared. After replacing the CDM-unit and/or the Encoder PCB, this can be done as follows:

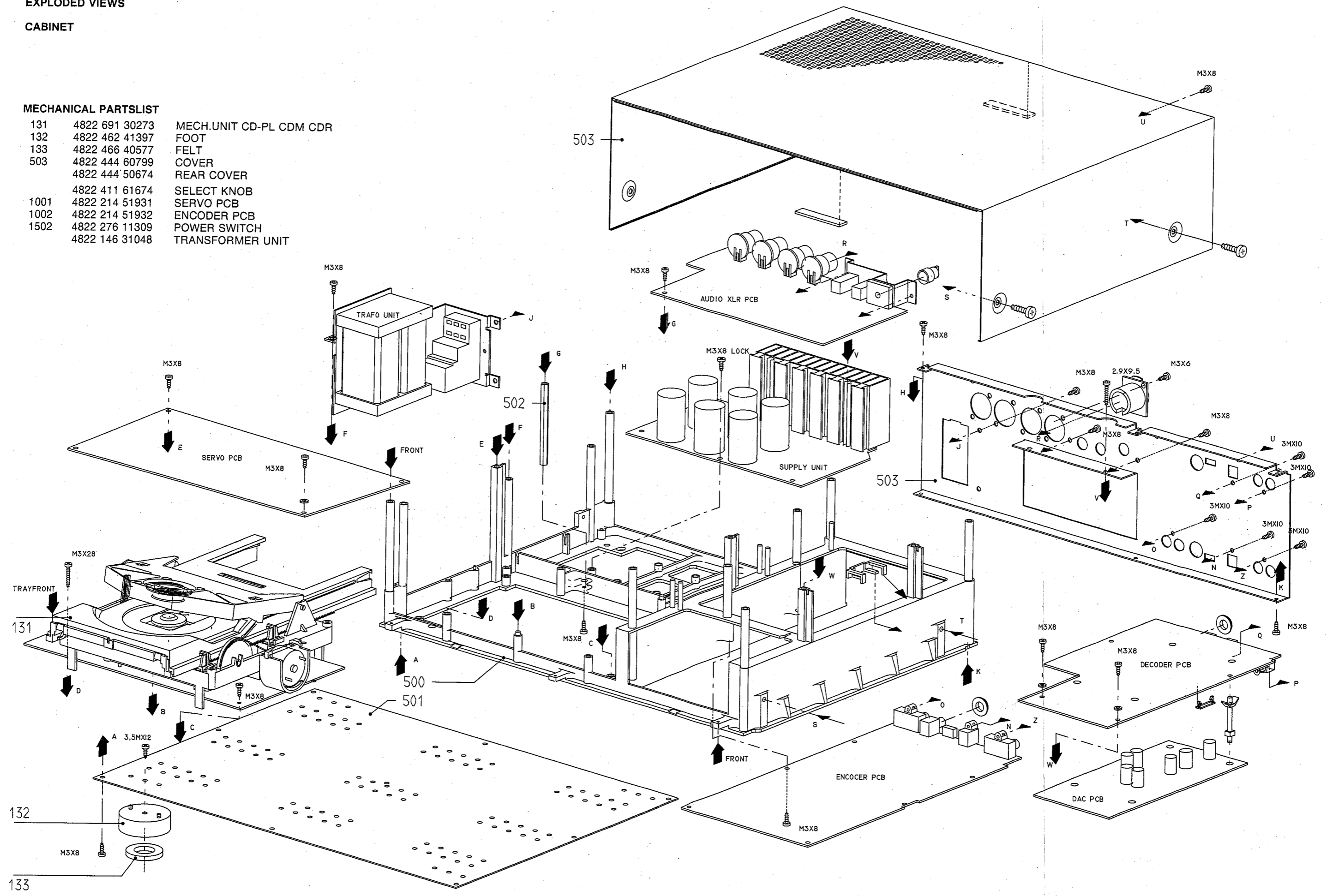
1. Power off.
2. Connect pin 2 (A16) to pin 16 (GND) of IC 7481 (situated on Encoder PCB coordinates F1) by means of e.g. miniature clips.
3. Power on.
4. Press 11 (two times one)
5. Press FIX UP
6. After ± 20 seconds, the display shows 01: the EEPROM has been cleared. If the display shows 00: the EEPROM is defective.
7. Power off.
8. Remove the connection.

EXPLODED VIEWS

CABINET

MECHANICAL PARTSLIST

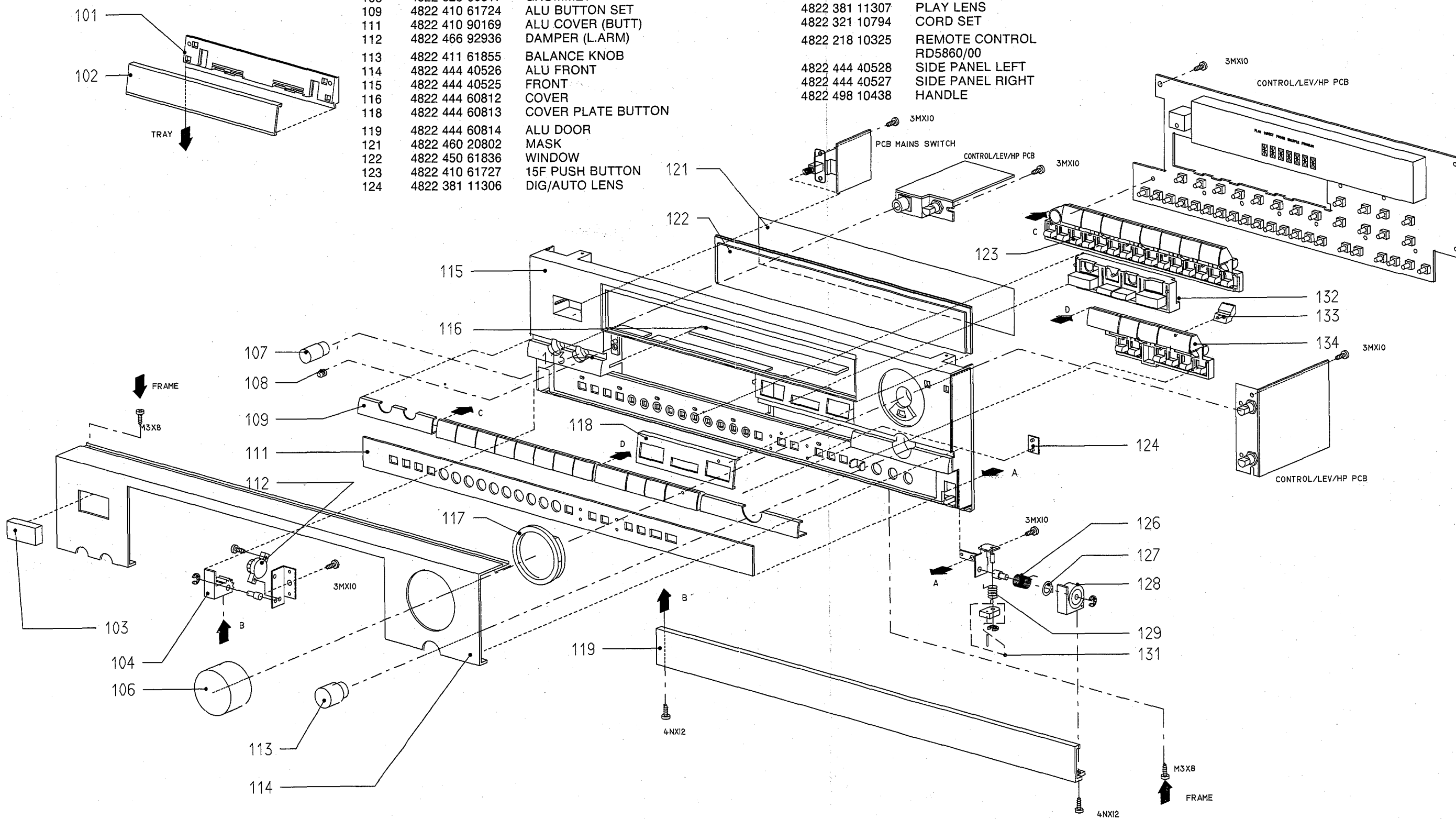
131	4822 691 30273	MECH.UNIT CD-PL CDM CDR
132	4822 462 41397	FOOT
133	4822 466 40577	FELT
503	4822 444 60799	COVER
	4822 444 50674	REAR COVER
	4822 411 61674	SELECT KNOB
1001	4822 214 51931	SERVO PCB
1002	4822 214 51932	ENCODER PCB
1502	4822 276 11309	POWER SWITCH
	4822 146 31048	TRANSFORMER UNIT



FRONT

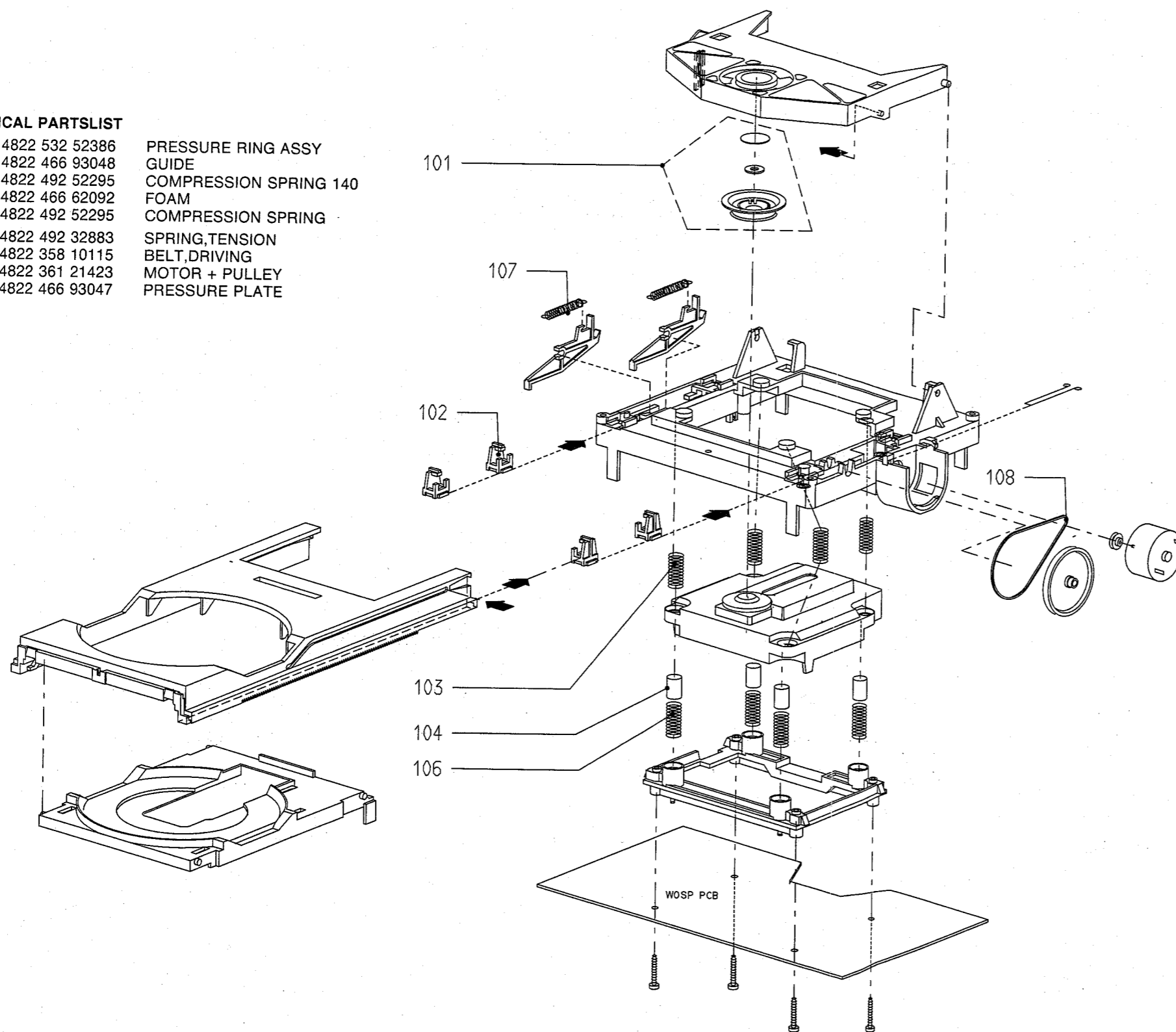
MECHANICAL PARTSLIST




101	4822 444 40524	TRAY FRONT	126	4822 492 71042	SPRING (R. ARM)
102	4822 444 40523	ALU TRAY FRONT	127	4822 492 71043	LEAF SPRING (R. ARM)
103	4822 410 60358	POWER BUTTON	128	4822 402 61408	RIGHT ARM
104	4822 402 612407	LEFT ARM	129	4822 492 71041	SPRING (R. ARM)
106	4822 413 41699	REC LEVEL KNOB	131	4822 402 61409	MOVEMENT
107	4822 411 61856	PHONES VOLUME KNOB	132	4822 410 61726	4F PUSH BUTTON
108	4822 325 60317	GROMMET	133	4822 381 11305	RECORDING LENS
109	4822 410 61724	ALU BUTTON SET	134	4822 410 61725	6F PUSH BUTTON
111	4822 410 90169	ALU COVER (BUTT)		4822 381 11307	PLAY LENS
112	4822 466 92936	DAMPER (L.ARM)		4822 321 10794	CORD SET
113	4822 411 61855	BALANCE KNOB		4822 218 10325	REMOTE CONTROL RD5860/00
114	4822 444 40526	ALU FRONT		4822 444 40528	SIDE PANEL LEFT
115	4822 444 40525	FRONT		4822 444 40527	SIDE PANEL RIGHT
116	4822 444 60812	COVER		4822 498 10438	HANDLE
118	4822 444 60813	COVER PLATE BUTTON			
119	4822 444 60814	ALU DOOR			
121	4822 460 20802	MASK			
122	4822 450 61836	WINDOW			
123	4822 410 61727	15F PUSH BUTTON			
124	4822 381 11306	DIG/AUTO LENS			







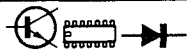
**MECHANICAL PARTSLIST**

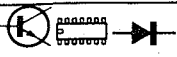
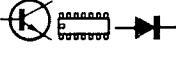
101	4822 532 52386	PRESSURE RING ASSY
102	4822 466 93048	GUIDE
103	4822 492 52295	COMPRESSION SPRING 140
104	4822 466 62092	FOAM
106	4822 492 52295	COMPRESSION SPRING
107	4822 492 32883	SPRING,TENSION
108	4822 358 10115	BELT,DRIVING
	4822 361 21423	MOTOR + PULLEY
	4822 466 93047	PRESSURE PLATE



<b>Miscellaneous</b>					
1001	4822 214 51931	SERVO PCB	2681	5322 122 31863	330pF 5% 50V
<b>Crystal</b>			2682	4822 122 33809	22nF 20% 50V
1500	4822 242 73759	12MHz	2710	4822 122 33809	22nF 20% 50V
			2711	4822 122 33809	22nF 20% 50V
2500	5322 122 32658	22pF 5% 50V	2712	5322 122 32658	22pF 5% 50V
2501	5322 122 32658	22pF 5% 50V	2713	5322 122 32658	22pF 5% 50V
2502	5322 124 21643	22µF 20% 40V	2730	4822 122 33809	22nF 20% 50V
2503	4822 122 33809	22nF 20% 50V	2740	4822 122 31775	680pF 5% 50V
2521	4822 122 33175	2,2nF 20% 50V	2751	5322 121 42386	100nF 5% 63V
2522	4822 122 33809	22nF 20% 50V	2752	4822 121 43869	68nF 5% 50V
2523	4822 122 33809	22nF 20% 50V	2770	5322 121 42661	330nF 5% 63V
2524	5322 122 33809	22nF 20% 50V	2771	5322 122 32659	33pF 5% 50V
2525	4822 122 33809	22nF 20% 50V	2772	4822 122 33809	22nF 20% 50V
2526	5322 121 42661	330nF 5% 63V	2773	4822 122 33809	22nF 20% 50V
2527	4822 122 33809	22nF 20% 50V	2774	4822 122 33809	22nF 20% 50V
2528	4822 122 33809	22nF 20% 50V	2775	4822 122 33809	22nF 20% 50V
2540	4822 122 33809	22nF 20% 50V	2790	4822 122 33809	22nF 20% 50V
2541	4822 122 33496	100nF 10% 63V	2791	4822 122 33543	15nF 10% 50V
2542	4822 122 33543	15nF 10% 50V	2792	4822 122 33809	22nF 20% 50V
2543	4822 122 33496	100nF 10% 63V	2793	4822 122 33809	22nF 20% 50V
2560	4822 122 32891	68nF 10% 63V	2794	4822 122 33496	100nF 10% 63V
2561	4822 122 33891	3,3nF 10% 63V	2795	4822 121 43526	47nF 5% 100V
2562	5322 122 32531	100pF 5% 50V	2810	4822 122 33809	22nF 20% 50V
2563	4822 122 33177	10nF 20% 50V	2811	4822 122 33809	22nF 20% 50V
2564	4822 122 32575	220pF 10% 500V	2812	4822 122 33809	22nF 20% 50V
2565	4822 122 33809	22nF 20% 50V	2814	4822 122 33809	22nF 20% 50V
2566	4822 122 33809	22nF 20% 50V	2830	4822 124 40272	33µF 20% 16V
2567	4822 122 32542	47nF 10% 63V	2850	4822 122 33342	33nF 10% 50V
2568	5322 122 32531	100pF 5% 50V	2851	5322 121 42661	330nF 5% 63V
2580	4822 122 33809	22nF 20% 50V	2852	4822 122 33809	22nF 20% 50V
2581	4822 122 33809	22nF 20% 50V	2853	4822 122 33809	22nF 20% 50V
2582	5322 122 34123	1nF 10% 50V	2854	4822 122 33496	100nF 10% 63V
2583	4822 122 33809	22nF 20% 50V	2870	4822 122 33809	22nF 20% 50V
2584	4822 122 33809	22nF 20% 50V	2871	4822 122 33809	22nF 20% 50V
2600	4822 122 33809	22nF 20% 50V	2872	5322 122 32531	100pF 5% 50V
2601	4822 122 33809	22nF 20% 50V	2873	4822 122 32542	47nF 10% 63V
2602	5322 122 32531	100pF 5% 50V	2874	4822 122 32575	220pF 10% 500V
2603	4822 122 33496	100nF 10% 63V			
2604	4822 121 41854	150nF 5% 63V	3500	4822 050 21002	1k 1% 0,6W
2605	4822 122 33175	2,2nF 20% 50V	3501	4822 050 21002	1k 1% 0,6W
2606	4822 122 33496	100nF 10% 63V	3502	4822 052 10108	1Ω 5% 0,33W
2620	5322 124 21643	22µF 20% 40V	3503	4822 050 21003	10k 1% 0,6W
2630	4822 121 51252	470nF 5% 63V	3504	4822 050 21003	10k 1% 0,6W
2640	4822 121 43901	4,7nF 5% 50V	3506	4822 050 21003	10k 1% 0,6W
2641	4822 121 43867	22nF 5% 50V	3507	4822 050 21003	10k 1% 0,6W
2642	5322 122 32448	10pF 5% 50V	3508	4822 050 21003	10k 1% 0,6W
2645	4822 122 33496	100nF 10% 63V	3509	4822 050 21003	10k 1% 0,6W
2650	4822 122 33177	10nF 20% 50V	3510	4822 050 22203	22k 1% 0,6W
2651	4822 122 33809	22nF 20% 50V	3511	4822 050 22203	22k 1% 0,6W
2652	4822 122 33809	22nF 20% 50V	3512	4822 050 22203	22k 1% 0,6W
2653	4822 122 33496	100nF 10% 63V	3513	4822 050 21002	1k 1% 0,6W
2654	4822 122 33496	100nF 10% 63V	3514	4822 051 10101	100Ω 2% 0,25W
2660	4822 124 40272	33µF 20% 16V	3515	4822 050 21003	10k 1% 0,6W
2661	4822 122 33809	22nF 20% 50V	3516	4822 050 21003	10k 1% 0,6W
2662	4822 124 40272	33µF 20% 16V	3517	4822 050 21003	10k 1% 0,6W
2663	4822 122 33809	22nF 20% 50V	3518	4822 050 21003	10k 1% 0,6W
2664	4822 124 41596	22µF 20% 50V	3519	4822 050 21003	10k 1% 0,6W
2665	4822 122 33809	22nF 20% 50V	3520	4822 050 28203	82k 1% 0,6W
2666	4822 124 41596	22µF 20% 50V	3521	4822 116 52235	1M 5% 0,5W
2667	4822 122 33809	22nF 20% 50V	3522	4822 050 25604	560k 1% 0,6W
2669	5322 124 21643	22µF 20% 40V	3523	4822 050 21804	180k 1% 0,6W
2671	5322 124 21643	22µF 20% 40V	3524	4822 116 52235	1M 5% 0,5W
2680	5322 122 31863	330pF 5% 50V	3525	4822 050 22704	270k 1% 0,6W
			3526	4822 051 20274	270k 5% 0,1W
			3527	4822 116 52272	330k 5% 0,5W

					
3528	4822 050 21204	120k 1% 0,6W	3632	4822 050 26804	680k 1% 0,6W
3529	4822 050 24703	47k 1% 0,6W	3640	4822 050 28203	82k 1% 0,6W
3530	4822 051 20105	1M 5% 0,1W	3641	4822 050 13303	33k 1% 0,4W
3531	4822 116 52244	15k 5% 0,5W	3642	4822 116 52235	1M 5% 0,5W
3532	4822 051 20473	47k 5% 0,1W	3643	4822 050 25603	56k 1% 0,6W
3533	4822 050 25603	56k 1% 0,6W	3644	4822 116 52264	27k 5% 0,5W
3534	4822 051 20473	47k 5% 0,1W	3645	4822 116 52234	100k 5% 0,5W
3535	4822 051 20682	6k8 5% 0,1W	3646	4822 050 24704	470k 1% 0,6W
3542	4822 116 52234	100k 5% 0,5W	3647	4822 116 52234	100k 5% 0,5W
3545	4822 050 22003	20k 1% 0,6W	3648	4822 116 52264	27k 5% 0,5W
3546	4822 116 52264	27k 5% 0,5W	3649	4822 052 10229	22Ω 5% 0,33W
3547	4822 050 24704	470k 1% 0,6W	3650	4822 050 23902	3k9 1% 0,6W
3550	4822 116 52235	1M 5% 0,5W	3651	4822 050 21203	12k 1% 0,6W
3551	4822 050 21003	10k 1% 0,6W	3652	4822 050 21203	12k 1% 0,6W
3552	4822 050 13303	33k 1% 0,4W	3653	4822 052 10108	1Ω 5% 0,33W
3560	4822 050 13303	33k 1% 0,4W	3654	4822 050 21203	12k 1% 0,6W
3561	4822 050 22204	220k 1% 0,6W	3655	4822 050 21203	12k 1% 0,6W
3562	4822 050 25603	56k 1% 0,6W	3656	4822 052 10108	1Ω 5% 0,33W
3563	4822 050 22204	220k 1% 0,6W	3657	4822 052 10229	22Ω 5% 0,33W
3564	4822 050 13303	33k 1% 0,4W	3680	4822 050 21003	10k 1% 0,6W
3565	4822 050 25603	56k 1% 0,6W	3681	4822 050 22204	220k 1% 0,6W
3566	4822 050 22203	22k 1% 0,6W	3682	4822 050 21002	1k 1% 0,6W
3567	4822 050 13303	33k 1% 0,4W	3683	4822 050 21002	1k 1% 0,6W
3568	4822 050 23902	3k9 1% 0,6W	3684	4822 116 52244	15k 5% 0,5W
3569	4822 050 23902	3k9 1% 0,6W	3685	4822 050 28203	82k 1% 0,6W
3570	4822 050 26803	68k 1% 0,6W	3686	4822 050 28203	82k 1% 0,6W
3571	4822 050 24703	47k 1% 0,6W	3687	4822 116 52244	15k 5% 0,5W
3572	4822 050 21504	150k 1% 0,6W	3688	4822 050 21002	1k 1% 0,6W
3573	4822 050 21804	180k 1% 0,6W	3689	4822 050 21002	1k 1% 0,6W
3574	4822 116 52264	27k 5% 0,5W	3690	4822 050 21003	10k 1% 0,6W
3575	4822 050 22203	22k 1% 0,6W	3691	4822 050 21003	10k 1% 0,6W
3576	4822 050 22203	22k 1% 0,6W	3692	4822 050 21002	1k 1% 0,6W
3577	4822 050 21204	120k 1% 0,6W	3693	4822 050 22203	22k 1% 0,6W
3578	4822 050 21504	150k 1% 0,6W	3694	4822 050 22203	22k 1% 0,6W
3580	4822 050 13303	33k 1% 0,4W	3695	4822 050 22203	22k 1% 0,6W
3581	4822 050 24703	47k 1% 0,6W	3696	4822 050 26803	68k 1% 0,6W
3582	4822 116 52235	1M 5% 0,5W	3697	4822 050 21002	1k 1% 0,6W
3583	4822 116 52224	470Ω 5% 0,5W	3710	4822 050 21002	1k 1% 0,6W
3584	4822 052 10108	1Ω 5% 0,33W	3711	4822 050 22204	220k 1% 0,6W
3585	4822 052 10108	1Ω 5% 0,33W	3712	4822 050 21003	10k 1% 0,6W
3586	4822 050 21003	10k 1% 0,6W	3713	4822 050 21002	1k 1% 0,6W
3600	4822 050 22203	22k 1% 0,6W	3715	4822 050 21003	10k 1% 0,6W
3601	4822 050 21003	10k 1% 0,6W	3740	4822 050 24304	430k 5% 0,125W
3602	4822 050 22203	22k 1% 0,6W	3741	4822 050 23903	39k 5% 0,125W
3603	4822 050 22704	270k 1% 0,6W	3742	4822 050 21203	12k 1% 0,6W
3604	4822 050 21003	10k 1% 0,6W	3743	4822 116 52244	15k 5% 0,5W
3605	4822 050 22203	22k 1% 0,6W	3744	4822 050 15602	5k6 1% 0,4W
3606	4822 050 21003	10k 1% 0,6W	3745	4822 050 15602	5k6 1% 0,4W
3607	4822 050 24702	4k7 1% 0,6W	3750	4822 050 22704	270k 1% 0,6W
3608	4822 050 22203	22k 1% 0,6W	3751	4822 116 52224	470Ω 5% 0,5W
3609	4822 050 26803	68k 1% 0,6W	3752	4822 050 21204	120k 5% 0,125W
3610	4822 050 22204	220k 1% 0,6W	3753	4822 050 21203	12k 5% 0,125W
3611	4822 116 52234	100k 5% 0,5W	3754	4822 050 22704	270k 5% 0,125W
3612	4822 050 13303	33k 1% 0,4W	3755	4822 050 21002	1k 1% 0,6W
3614	4822 050 21203	12k 1% 0,6W	3756	482	


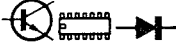

						
3791	4822 050 15602	5k6 1% 0,4W		4011	4822 051 10008	Chip jumper
3792	4822 050 21002	1k 1% 0,6W		4012	4822 051 10008	Chip jumper
3793	4822 050 13303	33k 1% 0,4W		4013	4822 051 10008	Chip jumper
3794	4822 050 13303	33k 1% 0,4W		4014	4822 051 10008	Chip jumper
3795	4822 050 21003	10k 1% 0,6W		4015	4822 051 10008	Chip jumper
3796	4822 116 52234	100k 5% 0,5W		4016	4822 051 10008	Chip jumper
3797	4822 116 52272	330k 5% 0,5W		4017	4822 051 10008	Chip jumper
3799	4822 116 52235	1M 5% 0,5W		4018	4822 051 10008	Chip jumper
3800	4822 116 52235	1M 5% 0,5W		4019	4822 051 10008	Chip jumper
3801	4822 116 52272	330k 5% 0,5W		4020	4822 051 10008	Chip jumper
3810	4822 050 21003	10k 1% 0,6W		4021	4822 051 10008	Chip jumper
3811	4822 050 21003	10k 1% 0,6W		4022	4822 051 10008	Chip jumper
3813	4822 050 21804	180k 1% 0,6W		4023	4822 051 10008	Chip jumper
3814	4822 050 21804	180k 1% 0,6W		4024	4822 051 10008	Chip jumper
3830	4822 116 52234	100k 5% 0,5W		4025	4822 051 10008	Chip jumper
3831	4822 050 28203	82k 1% 0,6W		4026	4822 051 10008	Chip jumper
3832	4822 050 21002	1k 1% 0,6W		4027	4822 051 10008	Chip jumper
3833	4822 116 52234	100k 5% 0,5W		4028	4822 051 10008	Chip jumper
3834	4822 050 22202	2k2 1% 0,6W		4029	4822 051 10008	Chip jumper
3835	4822 050 24703	47k 1% 0,6W		4030	4822 051 10008	Chip jumper
3836	4822 050 24703	47k 1% 0,6W		4031	4822 051 10008	Chip jumper
3837	4822 050 24703	47k 1% 0,6W		4032	4822 051 10008	Chip jumper
3838	4822 050 24703	47k 1% 0,6W		4033	4822 051 10008	Chip jumper
3850	4822 116 52244	15k 5% 0,5W		4034	4822 051 10008	Chip jumper
3851	4822 116 52234	100k 5% 0,5W		4035	4822 051 10008	Chip jumper
3852	4822 050 15602	5k6 1% 0,4W		4036	4822 051 10008	Chip jumper
3853	4822 116 52272	330k 5% 0,5W		4037	4822 051 10008	Chip jumper
3854	4822 050 21002	1k 1% 0,6W		4038	4822 051 10008	Chip jumper
3855	4822 050 21003	10k 1% 0,6W		4039	4822 051 10008	Chip jumper
3856	4822 050 21003	10k 1% 0,6W		4040	4822 051 10008	Chip jumper
3857	4822 050 24703	47k 1% 0,6W		4041	4822 051 10008	Chip jumper
3858	4822 050 21203	12k 1% 0,6W		4042	4822 051 10008	Chip jumper
3859	4822 050 21003	10k 1% 0,6W		4043	4822 051 10008	Chip jumper
3860	4822 050 21003	10k 1% 0,6W		4044	4822 051 10008	Chip jumper
3861	4822 050 24703	47k 1% 0,6W		4045	4822 051 10008	Chip jumper
3862	4822 050 21203	12k 1% 0,6W		4046	4822 051 10008	Chip jumper
3863	4822 050 24703	47k 1% 0,6W		4047	4822 051 10008	Chip jumper
3864	4822 052 10229	22Ω 5% 0,33W		4049	4822 051 10008	Chip jumper
3865	4822 052 10108	1Ω 5% 0,33W		4050	4822 051 10008	Chip jumper
3866	4822 052 10108	1Ω 5% 0,33W		4051	4822 051 10008	Chip jumper
3867	4822 050 22203	22k 1% 0,6W		4052	4822 051 10008	Chip jumper
3871	4822 116 52264	27k 5% 0,5W		4053	4822 051 10008	Chip jumper
3872	4822 050 26803	68k 1% 0,6W		4054	4822 051 10008	Chip jumper
3873	4822 116 52234	100k 5% 0,5W		4055	4822 051 10008	Chip jumper
3874	4822 050 22704	270k 1% 0,6W				
3875	4822 050 22203	22k 1% 0,6W				
3876	4822 050 21002	1k 1% 0,6W				
3877	4822 050 21002	1k 1% 0,6W				
3880	4822 050 24703	47k 1% 0,6W				
3881	4822 050 22203	22k 1% 0,6W				
3882	4822 116 52272	330k 5% 0,5W				
3883	4822 050 24703	47k 1% 0,6W				
3884	4822 050 22704	270k 1% 0,6W				
3885	4822 050 24703	47k 1% 0,6W				
3886	4822 050 21504	150k 1% 0,6W				
4001	4822 051 10008	Chip jumper				
4002	4822 051 10008	Chip jumper				
4003	4822 051 10008	Chip jumper				
4004	4822 051 10008	Chip jumper				
4005	4822 051 10008	Chip jumper				
4006	4822 051 10008	Chip jumper				
4007	4822 051 10008	Chip jumper				
4008	4822 051 10008	Chip jumper				
4009	4822 051 10008	Chip jumper				
4010	4822 051 10008	Chip jumper				
						
				6530	4822 130 30621	1N4148
				6531	4822 130 30621	1N4148
				6540	4822 130 30621	1N4148
				6561	4822 130 30621	1N4148
				6562	4822 130 30621	1N4148
				6563	4822 130 30621	1N4148
				6580	4822 130 30861	BZX79-C7V5
				6581	4822 130 30861	BZX79-C7V5
				6600	4822 130 30621	1N4148
				6601	4822 130 30621	1N4148
				6602	4822 130 30621	1N4148
				6603	4822 130 30621	1N4148
				6604	4822 130 30621	1N4148
				6605	4822 130 30621	1N4148
				6606	5322 130 34563	BZX79-C2V7
				6680	4822 130 30621	1N4148
				6681	4822 130 30621	1N4148
				6740	4822 130 34174	BZX79-C4V7
				6741	4822 130 34174	BZX79-C4V7
				6750	4822 130 34174	BZX79-C4V7

					
6751	4822 130 34174	BZX79-C4V7	7641	5322 130 44656	BC264D
6790	4822 130 30621	1N4148	7642	4822 209 72587	TCA0372DP2
6791	4822 130 30621	1N4148	7680	4822 209 30732	LM319D
6792	4822 130 30621	1N4148	7681	4822 130 61207	BC848
6830	4822 130 30621	1N4148	7682	5322 130 42012	BC858
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6850	4822 130 34174	BZX79-C4V7	7711	4822 130 61207	BC848
6851	4822 130 34174	BZX79-C4V7	7712	4822 130 61207	BC848
6870	4822 130 31981	BZX79-C3V9	7713	4822 209 30739	MC74HC04AD
6871	4822 130 31981	BZX79-C3V9	7730	4822 209 30734	MC74HC4053N
6872	4822 130 31981	BZX79-C3V9	7731	5322 209 73011	PC74HC4520P
6873	4822 130 31981	BZX79-C3V9	7740	4822 209 30734	MC74HC4053N
6874	4822 130 30621	1N4148	7741	4822 209 30738	TL084CN
7500	4822 209 30737	SC87C51CCN40	7750	4822 209 30734	MC74HC4053N
7501	4822 209 30731	MC74HC03AD	7770	4822 130 61207	BC848
7520	4822 209 30725	MC34002BD	7771	5322 130 42012	BC858
7521	5322 209 82941	LM358D	7772	4822 130 40995	BD438
7522	4822 209 30734	MC74HC4053N	7773	4822 130 40982	BD437
7540	4822 209 30733	MC74HC164N	7790	4822 209 30733	MC74HC164N
7541	4822 209 30725	MC34002BD	7791	4822 209 30738	TL084CN
7542	5322 130 44656	BC264D	7792	5322 130 42012	BC858
7560	4822 209 30734	MC74HC4053N	7810	4822 209 30739	MC74HC04AD
7561	4822 130 61207	BC848	7811	4822 209 30734	MC74HC4053N
7562	5322 130 42012	BC858	7830	4822 209 70941	MC34084P
7563	5322 209 70225	LM393D	7850	5322 130 42012	BC858
7580	5322 130 44656	BC264D	7851	5322 130 42012	BC858
7581	5322 130 44647	BC368	7852	4822 209 72587	TCA0372DP2
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7640	5322 130 44656	BC264D			




Miscellaneous			-  -		
1002	4822 214 51932	ENCODER PCB	2426	4822 121 43996	33nF 5% 63V
			2427	4822 122 33809	22nF 20% 50V
			2428	4822 124 40272	33μF 20% 16V
			2429	4822 126 10326	180pF 5% 50V
			2430	4822 126 10326	180pF 5% 50V
Crystal			2431	5322 122 32531	100pF 5% 50V
1424	4822 242 71349	11,2896 MHz	2432	4822 124 40435	10μF 20% 50V
1480	4822 242 73759	12MHz	2433	4822 122 33496	100nF 10% 63V
			2434	4822 122 33496	100nF 10% 63V
			2435	4822 122 33496	100nF 10% 63V
			2436	4822 122 33496	100nF 10% 63V
			2452	4822 124 41527	47μF 25V
			2453	4822 122 33809	22nF 20% 50V
			2454	4822 122 33809	22nF 20% 50V
			2455	4822 124 40433	47μF 20% 25V
			2457	5322 122 32531	100pF 5% 50V
			2458	4822 124 41576	2,2μF 20% 50V
			2459	4822 122 33809	22nF 20% 50V
			2460	4822 122 33809	22nF 20% 50V
			2461	4822 122 33809	22nF 20% 50V
			2462	4822 124 40272	33μF 20% 16V
			2480	4822 122 33809	22nF 20% 50V
			2481	4822 124 40272	33μF 20% 16V
			2482	4822 124 40272	33μF 20% 16V
			2483	5322 122 32658	22pF 5% 50V
			2484	5322 122 32658	22pF 5% 50V
			2485	4822 122 33809	22nF 20% 50V
			2486	4822 124 40272	33μF 20% 16V
			2487	4822 122 33809	22nF 20% 50V
			2488	4822 122 33809	22nF 20% 50V
			2489	4822 122 33809	22nF 20% 50V
			2490	4822 122 33809	22nF 20% 50V
			2491	4822 122 33809	22nF 20% 50V
			2492	4822 122 33809	22nF 20% 50V
			2493	4822 122 33809	22nF 20% 50V
			2494	4822 122 33809	22nF 20% 50V
			2495	4822 122 33809	22nF 20% 50V
			2498	5322 122 31866	6,8nF 10% 63V
			2499	5322 122 31866	6,8nF 10% 63V
			2500	5322 122 31866	6,8nF 10% 63V
			2501	5322 122 32838	82nF 10% 63V
			2502	4822 122 33543	15nF 10% 50V
			2503	4822 122 33543	15nF 10% 50V
			2504	4822 122 33809	22nF 20% 50V
			2505	4822 122 33809	22nF 20% 50V
			2540	5322 122 32531	100pF 5% 50V
			2750	5322 122 32448	10pF 5% 50V
			2751	5322 122 32448	10pF 5% 50V
			2752	4822 124 41576	2,2μF 20% 50V
			2753	4822 124 41576	2,2μF 20% 50V
			2754	4822 124 41577	4,7μF 20% 50V
			2755	4822 124 41577	4,7μF 20% 50V
			2756	5322 122 32448	10pF 5% 50V
			2757	5322 122 32448	10pF 5% 50V
			2758	4822 122 33809	22nF 20% 50V
			2759	4822 122 33809	22nF 20% 50V
			2760	4822 122 33809	22nF 20% 50V
			2761	4822 122 33809	22nF 20% 50V
			2762	4822 124 40272	33μF 20% 16V
			2763	4822 124 40272	33μF 20% 16V
			2764	4822 124 40272	33μF 20% 16V
			2765	4822 124 40272	33μF 20% 16V
			2766	5322 116 80853	560pF 5% 63V
			2767	5322 116 80853	560pF 5% 63V
			2768	5322 116 80853	560pF 5% 63V
			2769	5322 116 80853	560pF 5% 63V
			2770	4822 122 32139	12pF 5% 63V
			2771	4822 122 32139	12pF 5% 63V
			2300	5322 122 32531	100pF 5% 50V
			2301	5322 122 32531	100pF 5% 50V
			2304	5322 122 32531	100pF 5% 50V
			2305	5322 122 32531	100pF 5% 50V
			2306	4822 124 41525	100μF 20% 25V
			2307	4822 124 41525	100μF 20% 25V
			2308	4822 122 33496	100nF 10% 63V
			2309	4822 122 33496	100nF 10% 63V
			2340	4822 122 33496	100nF 10% 63V
			2341	4822 122 33496	100nF 10% 63V
			2342	4822 122 33496	100nF 10% 63V
			2343	4822 122 33496	100nF 10% 63V
			2344	4822 122 33496	100nF 10% 63V
			2345	4822 122 33496	100nF 10% 63V
			2346	4822 122 33496	100nF 10% 63V
			2347	4822 122 33809	22nF 20% 50V
			2348	4822 122 33809	22nF 20% 50V
			2349	4822 122 33809	22nF 20% 50V
			2350	4822 122 33809	22nF 20% 50V
			2351	4822 124 40272	33μF 20% 16V
			2352	4822 124 40272	33μF 20% 16V
			2353	4822 124 40272	33μF 20% 16V
			2354	4822 124 40272	33μF 20% 16V
			2355	4822 124 40272	33μF 20% 16V
			2356	4822 121 43866	10nF 5% 50V
			2357	4822 121 43866	10nF 5% 50V
			2358	4822 122 33177	10nF 20% 50V
			2359	4822 122 33177	10nF 20% 50V
			2360	4822 124 40435	10μF 20% 50V
			2361	4822 124 41576	2,2μF 20% 50V
			2370	4822 122 33809	22nF 20% 50V
			2371	4822 124 40272	33μF 20% 16V
			2372	4822 122 33809	22nF 20% 50V
			2373	4822 124 40272	33μF 20% 16V
			2374	4822 122 33809	22nF 20% 50V
			2375	4822 124 40272	33μF 20% 16V
			2376	4822 124 40272	33μF 20% 16V
			2377	4822 122 33809	22nF 20% 50V
			2378	4822 122 33809	22nF 20% 50V
			2379	4822 124 40272	33μF 20% 16V
			2380	4822 121 51356	180nF 10% 63V
			2381	4822 124 41576	2,2μF 20% 50V
			2382	5322 122 32448	10pF 5% 50V
			2383	4822 122 32575	220pF 10% 500V
			2384	5322 122 32659	33pF 5% 50V
			2385	5322 122 32659	33pF 5% 50V
			2386	4822 122 33809	22nF 20% 50V
			2387	4822 122 33809	22nF 20% 50V
			2400	4822 122 33809	22nF 20% 50V
			2401	5322 122 32658	22pF 5% 50V
			2402	5322 122 32531	100pF 5% 50V
			2403	5322 122 32531	100pF 5% 50V
			2404	5322 122 32531	100pF 5% 50V
			2420	4822 122 33809	22nF 20% 50V
			2421	4822 124 40272	33μF 20% 16V
			2422	4822 122 33809	22nF 20% 50V
			2423	4822 124 40272	33μF 20% 16V
			2424	4822 121 43897	1nF 5% 50V
			2425	4822 121 51252	470nF 5% 63V



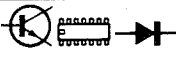


3029	4822 050 22203	22k 1% 0,6W	3440	4822 051 20473	47k 5% 0,1W
3300	4822 051 20104	100k 5% 0,1W	3441	4822 051 20103	10k 5% 0,1W
3301	4822 051 20104	100k 5% 0,1W	3442	4822 051 20223	22k 5% 0,1W
3302	4822 051 20104	100k 5% 0,1W	3443	4822 052 10478	4 $\Omega$ 7 5% 0,33W
3303	4822 051 20104	100k 5% 0,1W	3444	4822 051 20223	22k 5% 0,1W
3304	4822 050 21002	1k 1% 0,6W	3445	4822 051 20223	22k 5% 0,1W
3305	4822 050 21002	1k 1% 0,6W	3446	4822 051 20473	47k 5% 0,1W
3306	4822 050 21002	1k 1% 0,6W	3447	4822 051 20473	47k 5% 0,1W
3307	4822 050 21002	1k 1% 0,6W	3448	4822 051 20103	10k 5% 0,1W
3308	4822 052 10339	33 $\Omega$ 5% 0,33W	3449	4822 051 20101	100 $\Omega$ 5% 0,1W
3309	4822 052 10339	33 $\Omega$ 5% 0,33W	3450	4822 050 22403	24k 1% 0,6W
3340	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3451	4822 050 24302	4k3 1% 0,6W
3341	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3452	4822 050 21304	130k 1% 0,6W
3342	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3453	4822 052 10339	33 $\Omega$ 5% 0,33W
3343	4822 051 20479	47 $\Omega$ 5% 0,1W	3454	4822 052 10339	33 $\Omega$ 5% 0,33W
3344	4822 051 20479	47 $\Omega$ 5% 0,1W	3455	4822 050 22403	24k 1% 0,6W
3345	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3456	4822 050 24302	4k3 1% 0,6W
3346	4822 051 20223	22k 5% 0,1W	3457	4822 050 21304	130k 1% 0,6W
3347	4822 051 20223	22k 5% 0,1W	3458	4822 050 21002	1k 1% 0,6W
3348	4822 051 20472	4k7 5% 0,1W	3459	4822 051 20822	8k2 5% 0,1W
3349	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3460	4822 051 20105	1M 5% 0,1W
3350	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3461	4822 051 20222	2k2 5% 0,1W
3351	4822 051 20479	47 $\Omega$ 5% 0,1W	3462	4822 052 10108	1 $\Omega$ 5% 0,33W
3352	4822 051 20479	47 $\Omega$ 5% 0,1W	3463	4822 051 20222	2k2 5% 0,1W
3354	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3464	4822 051 20103	10k 5% 0,1W
3370	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3480	4822 052 10108	1 $\Omega$ 5% 0,33W
3371	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3481	4822 051 20824	820k 5% 0,1W
3372	4822 050 21003	10k 1% 0,6W	3482	4822 051 20103	10k 5% 0,1W
3373	4822 050 21003	10k 1% 0,6W	3484	4822 050 21002	1k 1% 0,6W
3374	4822 050 21003	10k 1% 0,6W	3485	4822 051 20223	22k 5% 0,1W
3377	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3486	4822 050 22203	22k 1% 0,6W
3378	4822 052 10108	1 $\Omega$ 5% 0,33W	3487	4822 050 22203	22k 1% 0,6W
3379	4822 051 20391	390 $\Omega$ 5% 0,1W	3488	4822 050 22203	22k 1% 0,6W
3380	4822 051 20121	120 $\Omega$ 5% 0,1W	3489	4822 052 10478	4 $\Omega$ 7 5% 0,33W
3381	4822 050 21003	10k 1% 0,6W	3490	4822 051 20223	22k 5% 0,1W
3382	4822 051 20274	270k 5% 0,1W	3491	4822 051 20101	100 $\Omega$ 5% 0,1W
3383	4822 051 20274	270k 5% 0,1W	3492	4822 051 20101	100 $\Omega$ 5% 0,1W
3385	4822 051 20101	100 $\Omega$ 5% 0,1W	3493	4822 051 10102	1k 2% 0,25W
3386	4822 051 20101	100 $\Omega$ 5% 0,1W	3494	4822 051 10101	100 $\Omega$ 2% 0,25W
3387	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3495	4822 050 22203	22k 1% 0,6W
3400	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3496	4822 050 21002	1k 1% 0,6W
3401	4822 051 20101	100 $\Omega$ 5% 0,1W	3497	4822 050 22203	22k 1% 0,6W
3402	4822 051 20101	100 $\Omega$ 5% 0,1W	3498	4822 051 10102	1k 2% 0,25W
3403	4822 051 20101	100 $\Omega$ 5% 0,1W	3499	4822 051 20223	22k 5% 0,1W
3404	4822 051 20101	100 $\Omega$ 5% 0,1W	3500	4822 051 20223	22k 5% 0,1W
3420	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3501	4822 050 22203	22k 1% 0,6W
3421	4822 051 20103	10k 5% 0,1W	3502	4822 050 22203	22k 1% 0,6W
3422	4822 052 10478	4 $\Omega$ 7 5% 0,33W	3503	4822 050 21002	1k 1% 0,6W
3423	4822 050 23001	300 $\Omega$ 1% 0,6W	3504	4822 051 20103	10k 5% 0,1W
3424	4822 051 20103	10k 5% 0,1W	3505	4822 051 20223	22k 5% 0,1W
3425	4822 051 20104	100k 5% 0,1W	3508	4822 050 22203	22k 1% 0,6W
3426	4822 051 20104	100k 5% 0,1W	3509	4822 050 22203	22k 1% 0,6W
3427	4822 051 20331	330 $\Omega$ 5% 0,1W	3510	4822 050 22203	22k 1% 0,6W
3428	4822 051 20274	270k 5% 0,1W	3511	4822 050 22203	22k 1% 0,6W
3429	4822 051 20152	1k5 5% 0,1W	3512	4822 050 22203	22k 1% 0,6W
3430	4822 051 20682	6k8 5% 0,1W	3513	4822 050 21002	1k 1% 0,6W
3431	4822 051 20272	2k7 5% 0,1W	3514	4822 050 21002	1k 1% 0,6W
3432	4822 051 20682	6k8 5% 0,1W	3515	4822 050 21002	1k 1% 0,6W
3433	4822 051 20479	47 $\Omega$ 5% 0,1W	3516	4822 051 20472	4k7 5% 0,1W
3434	4822 051 20273	47k 5% 0,1W	3517	4822 051 20153	15k 5% 0,1W
3435	4822 051 20103	10k 5% 0,1W	3518	4822 051 20272	2k7 5% 0,1W
3436	4822 051 20759	75 $\Omega$ 5% 0,1W	3519	4822 051 20473	47k 5% 0,1W
3437	4822 050 21002	1k 1% 0,6W	3520	4822 050 21002	1k 1% 0,6W
3438	4822 051 20105	1M 5% 0,1W	3521	4822 051 10102	1k 2% 0,25W
3439	4822 051 20223	22k 5% 0,1W	3522	4822 050 23483	34k8 1% 0,6W



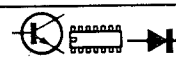
					
3523	4822 050 23483	34k8 1% 0,6W	6420	4822 130 30862	BZX79-C9V1
3524	4822 050 21783	17k8 1% 0,6W	6482	4822 130 31983	BAT85
3525	4822 050 28662	8k66 1% 0,6W	6483	4822 130 31983	BAT85
3526	4822 050 21003	10k 1% 0,6W	6540	4822 130 30621	1N4148
3527	4822 050 21003	10k 1% 0,6W	6541	4822 130 30621	1N4148
3528	4822 050 21002	1k 1% 0,6W	6750	4822 130 30621	1N4148
3529	4822 050 21003	10k 1% 0,6W	6751	4822 130 30621	1N4148
3530	4822 050 21002	1k 1% 0,6W	6752	4822 130 30621	1N4148
3531	4822 050 21003	10k 1% 0,6W	6753	4822 130 30621	1N4148
3532	4822 050 21002	1k 1% 0,6W	6754	4822 130 30621	1N4148
3533	4822 050 21003	10k 1% 0,6W	6755	4822 130 30621	1N4148
3534	4822 050 21002	1k 1% 0,6W	6756	4822 130 30621	1N4148
3535	4822 050 21003	10k 1% 0,6W	6757	4822 130 30621	1N4148
3536	4822 051 20103	10k 5% 0,1W	6758	4822 130 30621	1N4148
3537	4822 051 20103	10k 5% 0,1W	6759	4822 130 30621	1N4148
3538	4822 051 20824	820k 5% 0,1W	6760	4822 130 34174	BZX79-C4V7
3539	4822 051 20103	10k 5% 0,1W	6761	4822 130 34174	BZX79-C4V7
3540	4822 051 20223	22k 5% 0,1W	7300	5322 209 86234	NE5532N
3541	4822 051 20473	47k 5% 0,1W	7340	4822 209 30728	AK5326
3542	4822 051 20183	18k 5% 0,1W	7341	4822 209 30736	MC74HC163D
3543	4822 051 20103	10k 5% 0,1W	7342	4822 209 30736	MC74HC163D
3544	4822 051 20103	10k 5% 0,1W	7343	4822 209 30739	MC74HC04AD
3545	4822 051 20391	390Ω 5% 0,1W	7344	4822 209 30721	MC74HC74AD
3550	4822 051 10101	100Ω 2% 0,25W	7345	4822 130 42696	BC818-25
3551	4822 051 10101	100Ω 2% 0,25W	7346	4822 130 61207	BC848
3552	4822 052 10478	4Ω 5% 0,33W	7347	5322 209 11222	MC7905CT
3553	4822 051 20103	10k 5% 0,1W	7370	4822 209 30716	CDCE
3554	4822 050 22203	22k 1% 0,6W	7371	4822 209 63925	FCB61C65L-70T
3555	4822 050 22203	22k 1% 0,6W	7372	4822 209 30726	MC74HC4046AD
3556	4822 050 22203	22k 1% 0,6W	7373	4822 209 83163	LM833N
3557	4822 050 22203	22k 1% 0,6W	7374	4822 209 30735	MC74HC175D
3750	4822 050 21004	100k 1% 0,6W	7375	4822 209 30719	MC74HC00AD
3751	4822 050 21004	100k 1% 0,6W	7400	4822 209 30703	MC74HC157AD
3752	4822 050 21004	100k 1% 0,6W	7420	4822 209 30718	M51581FP
3753	4822 050 21004	100k 1% 0,6W	7421	4822 130 31129	BB212
3754	4822 050 21004	100k 1% 0,6W	7422	5322 209 82941	LM358D
3755	4822 050 21004	100k 1% 0,6W	7423	4822 130 61207	BC848
3756	4822 050 22004	100k 1% 0,6W	7424	5322 130 42012	BC858
3757	4822 050 22004	100k 1% 0,6W	7425	4822 209 30734	MC74HC4053N
3758	4822 050 22004	100k 1% 0,6W	7426	4822 130 61207	BC848
3759	4822 050 22004	100k 1% 0,6W	7427	4822 130 61207	BC848
3760	4822 051 20103	10k 5% 0,1W	7450	4822 209 30717	WPC
3761	4822 051 20103	10k 5% 0,1W	7451	4822 209 30732	LM319D
3762	4822 051 20394	390k 5% 0,1W	7452	4822 209 83163	LM833N
3763	4822 051 20394	390k 5% 0,1W	7480	4822 209 30715	MC68HC11F1
3764	4822 051 20472	4k7 5% 0,1W	7481	4822 209 30729	AM27C512-150PC
3765	4822 051 20472	4k7 5% 0,1W	7482	4822 209 30727	X28C64P-20
3766	4822 051 20472	4k7 5% 0,1W	7483	4822 209 30722	MC74HC139AD
3767	4822 051 20472	4k7 5% 0,1W	7484	4822 209 30719	MC74HC00AD
3768	4822 051 20183	18k 5% 0,1W	7485	4822 209 30741	SAD1009T/03
3769	4822 051 20183	18k 5% 0,1W	7486	4822 209 30724	MC74HC374ADW
3770	4822 051 20183	18k 5% 0,1W	7487	4822 209 30724	MC74HC374ADW
3771	4822 051 20183	18k 5% 0,1W	7488	4822 209 30723	MC74HC373ADW
3772	4822 052 10339	33Ω 5% 0,33W	7490	5322 130 42012	BC858
3773	4822 052 10339	33Ω 5% 0,33W	7491	4822 209 70941	MC34084P
3774	4822 052 10339	33Ω 5% 0,33W	7492	5322 209 81331	MC7805ACT
3775	4822 052 10339	33Ω 5% 0,33W	7542	4822 130 44197	BC558B
4400	4822 051 10008	Chip jumper	7543	4822 130 61207	BC848
4401	4822 051 10008	Chip jumper	7750	4822 209 70941	MC34084P
4481	4822 051 10008	Chip jumper	7751	4822 209 83163	LM833N
4482	4822 051 10008	Chip jumper	7752	4822 130 61207	BC848
4484	4822 051 10008	Chip jumper	7753	4822 130 61207	BC848
			7754	4822 130 61207	BC848
			7755	4822 130 61207	BC848
					
5340	4822 157 51235	COIL 4,7μH 10%			

## DECODER PANEL



Miscellaneous					
1140	4822 276 12339	SWITCH,PUSHBUT.	3105	4822 051 20223	22k 5% 0,1W
1170	4822 218 21019	REMOTE CONTROL PLT102	3106	4822 051 10102	1k 2% 0,25W
HF transformer			3108	4822 051 20101	100Ω 5% 0,1W
1180	4822 148 80281	HF TRANSFORMER	3129	4822 051 20223	22k 5% 0,1W
			3130	4822 051 20223	22k 5% 0,1W
2090	4822 122 33175	2,2nF 20% 50V	3140	4822 052 10478	4Ω7 5% 0,33W
2091	4822 124 40272	33μF 20% 16V	3141	4822 051 20223	22k 5% 0,1W
2092	4822 122 33809	22nF 20% 50V	3142	4822 051 20472	4k7 5% 0,1W
2093	4822 121 51252	470nF 5% 63V	3143	4822 051 20101	100Ω 5% 0,1W
2094	4822 124 41576	2,2μF 20% 50V	3144	4822 051 20101	100Ω 5% 0,1W
2095	4822 124 40272	33μF 20% 16V	3159	4822 051 20563	56k 5% 0,1W
2096	4822 122 33809	22nF 20% 50V	3160	4822 051 20101	100Ω 5% 0,1W
2097	5322 122 32452	47pF 5% 50V	3161	4822 051 20101	100Ω 5% 0,1W
2098	4822 122 33809	22nF 20% 50V	3162	4822 051 20101	100Ω 5% 0,1W
2099	5322 122 32531	100pF 5% 50V	3163	4822 051 20101	100Ω 5% 0,1W
2140	4822 122 33809	22nF 20% 50V	3164	4822 051 20122	1k2 5% 0,1W
2141	5322 122 32659	33pF 5% 50V	3165	4822 051 20122	1k2 5% 0,1W
2142	5322 122 32659	33pF 5% 50V	3166	4822 051 20122	1k2 5% 0,1W
2160	4822 122 33172	390pF 5% 50V	3167	4822 051 20122	1k2 5% 0,1W
2161	4822 122 33172	390pF 5% 50V	3168	4822 051 20101	100Ω 5% 0,1W
2162	4822 122 33172	390pF 5% 50V	3169	4822 051 20272	2k7 5% 0,1W
2163	4822 122 33172	390pF 5% 50V	3170	4822 052 10478	4Ω7 5% 0,33W
2170	4822 122 33809	22nF 20% 50V	3171	4822 051 20822	8k2 5% 0,1W
2171	4822 124 40272	33μF 20% 16V	3180	4822 051 20561	560Ω 5% 0,1W
2180	4822 122 33105	56nF 10% 63V	3181	4822 051 20621	620Ω 5% 0,1W
2181	4822 122 33105	56nF 10% 63V	3190	4822 052 10108	1Ω 5% 0,33W
2182	4822 122 33496	100nF 10% 63V	3191	4822 051 20101	100Ω 5% 0,1W
2190	4822 124 40272	33μF 20% 16V	3195	4822 051 20101	100Ω 5% 0,1W
2191	4822 122 33496	100nF 10% 63V	3196	4822 051 20103	10k 5% 0,1W
2192	5322 122 32659	33pF 5% 50V	3197	4822 051 20223	22k 5% 0,1W
2196	5322 122 32659	33pF 5% 50V	3198	4822 051 20472	4k7 5% 0,1W
2230	4822 122 10166	22nF 30% 16V	3199	4822 051 20103	10k 5% 0,1W
2231	5322 122 32531	100pF 5% 50V	3230	4822 051 10101	100Ω 2% 0,25W
2232	5322 122 32531	100pF 5% 50V	3231	4822 052 10478	4Ω7 5% 0,33W
2250	4822 122 33809	22nF 20% 50V	3232	4822 051 20223	22k 5% 0,1W
2260	4822 122 33809	22nF 20% 50V	3233	4822 051 20223	22k 5% 0,1W
2261	4822 122 33809	22nF 20% 50V	3234	4822 051 20223	22k 5% 0,1W
2262	4822 122 33809	22nF 20% 50V	3235	4822 051 20101	100Ω 5% 0,1W
2263	4822 122 33809	22nF 20% 50V	3236	4822 051 20101	100Ω 5% 0,1W
2264	4822 124 41525	100μF 20% 25V	3237	4822 051 20223	22k 5% 0,1W
2265	4822 124 41525	100μF 20% 25V	3250	4822 052 10478	4Ω7 5% 0,33W
2266	4822 124 41525	100μF 20% 25V	3251	4822 051 10102	1k 2% 0,25W
2267	4822 124 41525	100μF 20% 25V	3260	4822 050 21203	12k 1% 0,6W
2268	4822 124 22339	100μF 20% 16V Bipolar	3261	4822 050 21203	12k 1% 0,6W
2269	4822 124 22339	100μF 20% 16V Bipolar	3262	4822 050 21003	12k 1% 0,6W
2280	4822 122 10166	22nF 30% 16V	3263	4822 050 21003	12k 1% 0,6W
			3272	4822 052 10339	33Ω 5% 0,33W
3090	4822 051 20222	2k2 5% 0,1W	3273	4822 052 10339	33Ω 5% 0,33W
3091	4822 051 20223	22k 5% 0,1W	3274	4822 052 10339	33Ω 5% 0,33W
3092	4822 051 20223	22k 5% 0,1W	3275	4822 052 10339	33Ω 5% 0,33W
3093	4822 051 20223	22k 5% 0,1W	3276	4822 051 20103	10k 5% 0,1W
3094	4822 052 10108	1Ω 5% 0,33W	3277	4822 051 20103	10k 5% 0,1W
3095	4822 051 20103	10k 5% 0,1W	3280	4822 051 20223	22k 5% 0,1W
3097	4822 051 20759	75Ω 5% 0,1W	3281	4822 052 10478	4Ω7 5% 0,33W
3098	4822 051 20392	3k9 5% 0,1W	3282	4822 051 20223	22k 5% 0,1W
3099	4822 051 20912	9k1 5% 0,1W	3801	4822 051 10008	Chip jumper
3100	4822 051 20162	1k6 5% 0,1W	3802	4822 051 10008	Chip jumper
3101	4822 052 10478	4Ω7 5% 0,33W	3803	4822 051 10008	Chip jumper
3102	4822 051 20223	22k 5% 0,1W	3804	4822 051 10008	Chip jumper
3103	4822 051 20223	22k 5% 0,1W	3805	4822 051 10008	Chip jumper
3104	4822 051 20223	22k 5% 0,1W	3806	4822 051 10008	Chip jumper
			3807	4822 051 10008	Chip jumper
			3808	4822 051 10008	Chip jumper
			3809	4822 051 10008	Chip jumper
			3810	4822 051 10008	Chip jumper
			3812	4822 051 10008	Chip jumper



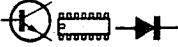
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3814 4822 051 10008 Chip jumper		
3815 4822 051 10008 Chip jumper		
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3817 4822 051 10008 Chip jumper	6160 4822 130 31981 BZX79-C3V9	
3818 4822 051 10008 Chip jumper	6161 4822 130 30621 1N4148	
3819 4822 051 10008 Chip jumper	6162 4822 130 30621 1N4148	
3820 4822 051 10008 Chip jumper	7090 4822 209 61759 SAA7310GP/H5	
3821 4822 051 10008 Chip jumper	7091 4822 209 70422 MN4264-15	
3822 4822 051 10008 Chip jumper	7092 4822 130 42131 BF550	
3823 4822 051 10008 Chip jumper	7140 4822 209 30719 MC74HC00AD	
3825 4822 051 10008 Chip jumper	7160 4822 130 42696 BC818-25	
3828 4822 051 10008 Chip jumper	7161 4822 130 42696 BC818-25	
3845 4822 051 10008 Chip jumper	7162 4822 130 42696 BC818-25	
4160 4822 051 10008 Chip jumper	7163 4822 130 42696 BC818-25	
4190 4822 051 10008 Chip jumper	7164 5322 130 42012 BC858	
4191 4822 051 10008 Chip jumper	7190 4822 209 72545 SAA7220P/B	
4192 4822 051 10008 Chip jumper	7191 4822 130 61207 BC848	
4193 4822 051 10008 Chip jumper	7192 4822 130 42696 BC818-25	
4230 4822 051 10008 Chip jumper	7230 4822 209 30703 MC74HC157AD	
4260 4822 051 10008 Chip jumper	7250 4822 209 30721 MC74HC74AD	
4261 4822 051 10008 Chip jumper	7260 5322 209 86234 NE5532N	
4262 4822 051 10008 Chip jumper	7261 5322 209 86234 NE5532N	
4263 4822 051 10008 Chip jumper	7280 4822 209 30719 MC74HC00AD	
4264 4822 051 10008 Chip jumper		

## LEVEL AND BALANCE PANEL


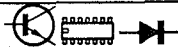

	2556 4822 124 22339 100μF 20% 16V Bipolar		3550 4822 102 50056 3x10k 20% Potm LEVEL
2557 4822 124 22339 100μF 20% 16V Bipolar			3551 2x10k Potm BALANCE
2558 4822 124 22339 100μF 20% 16V Bipolar			3552 4822 050 22003 20k 1% 0,6W
2559 4822 124 22339 100μF 20% 16V Bipolar			3553 4822 050 22003 20k 1% 0,6W
2560 4822 124 40433 47μF 20% 25V			3554 4822 050 28202 8k2 1% 0,6W
2561 4822 124 40433 47μF 20% 25V			3555 4822 050 28202 8k2 1% 0,6W
2562 4822 122 10166 22nF 30% 16V			3556 4822 050 24701 470Ω 1% 0,6W
2563 4822 122 10166 22nF 30% 16V			3557 4822 050 24701 470Ω 1% 0,6W
2564 4822 122 10166 22nF 30% 16V			3558 4822 050 24701 470Ω 1% 0,6W
2565 4822 122 10166 22nF 30% 16V			3559 4822 050 24701 470Ω 1% 0,6W
2566 4822 124 40433 47μF 20% 25V			
2567 4822 124 40433 47μF 20% 25V			6550 4822 130 34167 BZX79-C6V2
			6551 4822 130 34167 BZX79-C6V2
			6552 4822 130 34167 BZX79-C6V2
			6553 4822 130 34167 BZX79-C6V2
			7550 5322 209 86234 NE5532N
			7551 5322 209 86234 NE5532N










					
2001	4822 124 42355	10µF 20% 50V	3001	4822 051 10103	10k 2% 0,25W
2002	4822 124 42355	10µF 20% 50V	3002	4822 051 10103	10k 2% 0,25W
2003	4822 121 51093	6,8nF 10% 63V	3003	5322 116 80427	1k 1% 0,125W
2004	4822 121 51093	6,8nF 10% 63V	3004	5322 116 80427	1k 1% 0,125W
2005	4822 126 10324	33pF 63V	3005	4822 051 10109	10Ω 2% 0,25W
2006	4822 126 10324	33pF 63V	3006	4822 051 10109	10Ω 2% 0,25W
2007	5322 121 42386	100nF 5% 50V	3013	4822 051 53302	3k3 1% 0,125W
2008	5322 121 42386	100nF 5% 50V	3014	4822 051 53302	3k3 1% 0,125W
2009	5322 121 42386	100nF 5% 50V	3015	4822 051 55101	510Ω 1% 0,125W
2010	5322 121 42386	100nF 5% 50V	3016	4822 051 55101	510Ω 1% 0,125W
2011	5322 121 42386	100nF 5% 50V	3017	4822 051 51203	12k 1% 0,125W
2012	5322 121 42386	100nF 5% 50V	3018	4822 051 51203	12k 1% 0,125W
2013	4822 124 42355	10µF 20% 50V	3019	4822 051 58203	82k 1% 0,125W
2014	4822 124 42355	10µF 20% 50V	3020	4822 051 58203	82k 1% 0,125W
2015	4822 124 42355	10µF 20% 50V	3021	4822 051 54702	4k7 1% 0,125W
2016	4822 124 42355	10µF 20% 50V	3022	4822 051 54702	4k7 1% 0,125W
2201	4822 124 42354	100µF 20% 16	3023	4822 051 54703	47k 1% 0,125W
2202	4822 124 42354	100µF 20% 16	3024	4822 051 54703	47k 1% 0,125W
2203	4822 124 42354	100µF 20% 16	3027	4822 051 54701	470Ω 1% 0,125W
2204	4822 124 42354	100µF 20% 16	3028	4822 051 54701	470Ω 1% 0,125W
2205	4822 122 32083	8,2pF 5% 63V	3033	4822 051 51802	1k8 1% 0,125W
2206	4822 122 32083	8,2pF 5% 63V	3034	4822 051 51802	1k8 1% 0,125W
2207	4822 122 32083	8,2pF 5% 63V	3035	4822 051 54703	47k 1% 0,125W
2208	4822 122 32083	8,2pF 5% 63V	3036	4822 051 54703	47k 1% 0,125W
2209	4822 122 31765	100pF 5% 63V	3037	4822 051 10829	82Ω 2% 0,25W
2210	4822 122 31765	100pF 5% 63V	3201	4822 051 56803	68k 1% 0,125W
2211	4822 122 31765	100pF 5% 63V	3202	4822 051 56803	68k 1% 0,125W
2212	4822 122 31765	100pF 5% 63V	3203	4822 051 54703	47k 1% 0,125W
2213	4822 124 42354	100µF 20% 16	3204	4822 051 54703	47k 1% 0,125W
2214	4822 124 42354	100µF 20% 16	3205	4822 051 54703	47k 1% 0,125W
2331	4822 124 42355	10µF 20% 50V	3206	4822 051 54703	47k 1% 0,125W
2332	4822 124 42355	10µF 20% 50V	3207	4822 051 51503	15k 1% 0,125W
2333	4822 124 42355	10µF 20% 50V	3208	4822 051 51503	15k 1% 0,125W
2334	4822 124 42355	10µF 20% 50V	3209	4822 051 51503	15k 1% 0,125W
2335	4822 122 31746	1nF 5% 63V	3210	4822 051 51503	15k 1% 0,125W
2336	4822 122 31746	1nF 5% 63V	3211	4822 051 54702	4k7 1% 0,125W
2337	4822 124 42354	100µF 20% 16	3212	4822 051 54702	4k7 1% 0,125W
2338	4822 124 42354	100µF 20% 16	3213	4822 051 54702	4k7 1% 0,125W
2339	4822 121 70052	15nF 5% 63V	3214	4822 051 54702	4k7 1% 0,125W
2340	4822 121 70052	15nF 5% 63V	3215	4822 051 54702	4k7 1% 0,125W
2401	4822 124 42355	10µF 20% 50V	3216	4822 051 54702	4k7 1% 0,125W
2402	4822 124 42355	10µF 20% 50V	3217	4822 051 54702	4k7 1% 0,125W
2403	4822 124 42355	10µF 20% 50V	3218	4822 051 54702	4k7 1% 0,125W
2404	4822 124 42355	10µF 20% 50V	3219	4822 051 54703	47k 1% 0,125W
2405	4822 124 42355	10µF 20% 50V	3220	4822 051 54703	47k 1% 0,125W
2406	4822 124 42355	10µF 20% 50V	3331	4822 051 55602	5k6 1% 0,125W
2407	4822 124 42355	10µF 20% 50V	3332	4822 051 55602	5k6 1% 0,125W
2408	4822 124 42355	10µF 20% 50V	3333	4822 051 55602	5k6 1% 0,125W
2421	4822 124 42355	10µF 20% 50V	3334	4822 051 55602	5k6 1% 0,125W
2422	4822 124 42355	10µF 20% 50V	3335	5322 116 80427	1k 1% 0,125W
2423	4822 124 42355	10µF 20% 50V	3336	5322 116 80427	1k 1% 0,125W
2424	4822 124 42355	10µF 20% 50V	3337	5322 116 80445	4k7 1% 0,125W
2431	4822 124 42355	10µF 20% 50V	3338	5322 116 80445	4k7 1% 0,125W
2432	4822 124 42355	10µF 20% 50V	3339	4822 051 55602	5k6 1% 0,125W
2433	4822 124 42355	10µF 20% 50V	3340	4822 051 55602	5k6 1% 0,125W
2434	4822 124 42355	10µF 20% 50V	3341	4822 051 56803	68k 1% 0,125W
2435	4822 124 42355	10µF 20% 50V	3342	4822 051 56803	68k 1% 0,125W
2436	4822 124 42355	10µF 20% 50V	3343	4822 051 51503	15k 1% 0,125W
2437	4822 124 42355	10µF 20% 50V	3344	4822 051 51503	15k 1% 0,125W
2438	4822 124 42355	10µF 20% 50V	3345	5322 116 80445	4k7 1% 0,125W
2440	4822 124 42355	10µF 20% 50V	3346	5322 116 80445	4k7 1% 0,125W
2441	4822 124 42355	10µF 20% 50V	3347	4822 100 10875	2K2 20% Trimpot
2501	4822 124 42355	10µF 20% 50V	3348	4822 100 10875	2K2 20% Trimpot
			3349	4822 051 55101	510Ω 1% 0,125W
			3350	4822 051 55101	510Ω 1% 0,125W




	3351 4822 051 55101 510Ω 1% 0,125W	
	3352 4822 051 55101 510Ω 1% 0,125W	
	3401 4822 116 81207 47Ω 1% 0,4W	
	3402 4822 116 81207 47Ω 1% 0,4W	
	3403 4822 116 81207 47Ω 1% 0,4W	
	3404 4822 116 81207 47Ω 1% 0,4W	
	3405 4822 116 81207 47Ω 1% 0,4W	
	3406 4822 116 81207 47Ω 1% 0,4W	
	3407 4822 116 81207 47Ω 1% 0,4W	
	3408 4822 116 81207 47Ω 1% 0,4W	
	3409 4822 116 81207 47Ω 1% 0,4W	
	3422 4822 116 81207 47Ω 1% 0,4W	
	3423 4822 116 81207 47Ω 1% 0,4W	
	3424 4822 116 81207 47Ω 1% 0,4W	
	3431 4822 116 81207 47Ω 1% 0,4W	
	3432 4822 116 81207 47Ω 1% 0,4W	
	3433 4822 116 81207 47Ω 1% 0,4W	
	3434 4822 116 81207 47Ω 1% 0,4W	
	3435 4822 116 81207 47Ω 1% 0,4W	
	3436 4822 116 81207 47Ω 1% 0,4W	
	3437 4822 116 81207 47Ω 1% 0,4W	
	3438 4822 116 81207 47Ω 1% 0,4W	
	3501 5322 116 80426 100Ω 1% 0,125W	
	3502 4822 116 81198 15k 1% 0,125W	
	3503 5322 116 80429 100k 1% 0,125W	
	3504 4822 051 10274 270k 2% 0,25W	
	3505 5322 116 80446 47k 1% 0,125W	
	3506 5322 116 80438 330Ω 1% 0,125W	
	5000 4822 280 20495 REEDRELAIS LM44E	
	5001 4822 280 20495 REEDRELAIS LM44E	
	5301 4822 148 81219 TRANSFORMER	
	5302 4822 148 81219 TRANSFORMER	
	5501 4822 280 20495 TO 1351 4010 REEDRELAIS LM44E	
	6005 4822 130 30621 1N4148	
	6006 4822 130 30621 1N4148	
	6501 4822 130 30621 1N4148	
	6502 4822 130 30621 1N4148	
	6503 4822 130 30621 1N4148	
	7005 4822 209 63706 LM833M	
	7006 4822 209 63706 LM833M	
	7009 4822 209 63706 LM833M	
	7010 4822 209 63706 LM833M	
	7201 4822 209 63706 LM833M	
	7202 4822 209 63706 LM833M	
	7331 4822 209 30803 NE5532 SO	
	7332 4822 209 30803 NE5532 SO	
	7501 4822 209 81397 TL431 CLP	

## HEADPHONE PANEL




	2580 5322 124 21762 100μF 20% 10V	
	2581 5322 124 21762 100μF 20% 10V	
	2582 5322 124 21711 100μF 20% 25V	
	2583 5322 124 21711 100μF 20% 25V	
	7580 4822 130 40958 BC338-25	
	7581 4822 130 40958 BC338-25	
	7582 4822 209 82362 NJM4556D	
	3580 4822 051 10101 100Ω 2% 0,25W	
	3581 4822 051 10101 100Ω 2% 0,25W	
	3582 4822 102 10398 10k 20% LOG	
	3584 4822 050 21203 12k 1% 0,6W	
	3585 4822 050 21203 12k 1% 0,6W	
	3586 4822 116 52264 27k 5% 0,5W	
	3587 4822 116 52264 27k 5% 0,5W	
	3588 4822 052 10109 10Ω 5% 0,33W	
	3589 4822 052 10109 10Ω 5% 0,33W	
	3590 4822 051 10122 1k2 2% 0,25W	
	3591 4822 051 10122 1k2 2% 0,25W	
	3592 4822 050 21201 120Ω 1% 0,6W	
	3593 4822 050 21201 120Ω 1% 0,6W	

Miscellaneous					
1502	4822 276 11309	SWITCH,PUSHBUT. SDDL	D 18	5322 130 32677	1N5822
2000	4822 126 10454	3,3nF 20% 400V	D 19	5322 130 34464	1N4448
5001	4822 146 31048	TRANSFORMER UNIT	D 20	4822 130 82272	1N4004
			D 21	4822 130 82272	1N4004
			D 22	4822 130 82272	1N4004
			D 23	4822 130 82272	1N4004
			D 24	5322 130 34464	1N4448
			D 32	5322 130 34464	1N4448
			D 33	5322 130 34464	1N4448
			D 34	4822 130 82272	1N4004
			D 35	4822 130 82272	1N4004
			DV 1	4822 130 30682	BZX79B9V1
			DV 2	4822 130 31981	BZX79B3V9
			DV 3	4822 130 34174	BZX79B4V7
			DZ 1	5322 130 50399	B40C3700/2200
			DZ 2	5322 130 34962	B40C5000/3300
					
C 1	4822 124 41184	470µF 20% 50V	IC 2	5322 209 81236	LM337KC
C 2	5322 124 22614	1000µF 20% 50V	IC 3	5322 209 81236	LM337KC
C 3	4822 121 41856	22nF 5% 250V	IC 4	4822 209 80591	LM317SP
C 4	4822 124 40207	100µF 20% 25V	IC 5	4822 209 80591	LM317SP
C 5	4822 121 41856	22nF 5% 250V	IC 6	4822 209 80591	LM317SP
C 6	4822 124 40207	100µF 20% 25V	IC 7	5322 209 81236	LM337KC
C 7	4822 121 41856	22nF 5% 250V	IC 8	5322 209 81236	LM337KC
C 8	4822 124 40207	100µF 20% 25V	IC 9	5322 209 70292	L296
C 9	4822 121 41856	22nF 5% 250V	IC 10	4822 209 30987	MC34160
C 10	4822 124 40207	100µF 20% 25V			
C 11	4822 121 41856	22nF 5% 250V			
C 12	4822 124 40207	100µF 20% 25V	L 1	4822 158 10879	TOR. CHOKE 250µH
C 13	4822 121 41856	22nF 5% 250V	L 2	4822 158 10878	TOR. CHOKE 72µH
C 14	4822 124 40207	100µF 20% 25V			
C 15	4822 121 41856	22nF 5% 250V			
C 16	4822 124 40207	100µF 20% 25V	Q 1	4822 130 41096	BC550C
C 17	4822 121 41856	22nF 5% 250V	Q 2	4822 130 41096	BC550C
C 18	5322 124 22229	1000µF 20% 35V	Q 3	4822 130 41096	BC550C
C 19	5322 121 42386	100nF 5% 63V	Q 4	4822 130 61755	BC560C
C 20	4822 124 80045	4700µF 20% 50V	Q 5	4822 130 41096	BC550C
C 21	4822 124 80045	4700µF 20% 50V	Q 7	4822 130 41096	BC550C
C 22	4822 124 80045	4700µF 20% 50V			
C 23	4822 124 40255	100µF 20% 63V			
C 24	4822 121 51252	0,47µF 5% 63V	R 4	4822 050 23902	3k9 1% 0,6W
C 25	4822 124 40244	2,2µF 20% 63V	R 5	4822 050 26801	680Ω 1% 0,6W
C 26	5322 122 32818	2,2nF 10% 100V	R 6	4822 050 26802	6k8 1% 0,6W
C 27	5322 121 42489	33nF 5% 250V	R 7	4822 050 21502	1k5 1% 0,6W
C 28	5322 124 22614	1000µF 20% 50V	R 8	4822 050 26802	6k8 1% 0,6W
C 29	4822 122 32121	390pF 2% 100V	R 9	4822 050 26801	680Ω 1% 0,6W
C 30	5322 121 42386	100nF 5% 63V	R 11	4822 050 22201	220Ω 1% 0,6W
C 31	4822 124 41751	47µF 20% 50V	R 12	4822 050 21001	100Ω 1% 0,6W
C 32	4822 124 80045	4700µF 20% 50V	R 13	4822 050 22201	220Ω 1% 0,6W
C 33	4822 124 80045	4700µF 20% 50V	R 14	4822 050 21001	100Ω 1% 0,6W
C 34	5322 124 22614	1000µF 20% 50V	R 15	4822 050 21001	100Ω 1% 0,6W
C 35	4822 121 41856	22nF 5% 250V	R 16	4822 050 21002	1k 1% 0,6W
C 36	4822 124 40246	4,7µF 20% 63V	R 17	4822 050 21001	100Ω 1% 0,6W
C 60	4822 121 41856	22nF 5% 250V	R 18	4822 050 21001	100Ω 1% 0,6W
C 61	4822 124 40255	100µF 20% 63V	R 20	4822 050 11502	1k5 1% 0,6W
			R 21	4822 050 21001	100Ω 1% 0,6W
			R 22	4822 050 21002	1k 1% 0,6W
D 1	4822 130 82272	1N4004	R 24	4822 050 25603	56k 1% 0,6W
D 2	4822 130 82272	1N4004	R 25	4822 050 22201	220Ω 1% 0,6W
D 3	4822 130 82272	1N4004	R 26	4822 050 26801	680Ω 1% 0,6W
D 4	4822 130 82272	1N4004			
D 5	4822 130 82272	1N4004			
D 6	4822 130 82272	1N4004			
D 7	4822 130 82272	1N4004			
D 8	4822 130 82272	1N4004			
D 9	4822 130 82272	1N4004			
D 10	4822 130 82272	1N4004			
D 11	4822 130 82272	1N4004			
D 12	4822 130 82272	1N4004			
D 13	4822 130 82272	1N4004			
D 14	4822 130 82272	1N4004			
D 15	4822 130 82272	1N4004			
D 16	4822 130 82272	1N4004			
D 17	5322 130 34464	1N4448			



					
R 27	4822 116 83594	R-PTC 0,75A 60V	R 43	4822 050 21003	10k 1% 0,6W
R 28	4822 116 83594	R-PTC 0,75A 60V	R 44	4822 050 22203	22k 1% 0,6W
R 29	4822 116 83593	R-PTC 1,6A 50V	R 45	4822 050 24703	47k 1% 0,6W
R 30	4822 116 83593	R-PTC 1,6A 50V	R 46	4822 050 22203	22k 1% 0,6W
R 31	4822 050 24702	4k7 1% 0,6W	R 47	4822 050 22202	2k2 1% 0,6W
R 32	4822 050 25605	5M6 1% 0,6W	R 48	4822 050 22203	22k 1% 0,6W
R 33	4822 050 24703	47k 1% 0,6W	R 64	4822 050 24704	470k 1% 0,6W
R 34	4822 050 11004	100k 1% 0,6W	R 65	4822 050 22203	22k 1% 0,6W
R 35	4822 050 24302	4k3 1% 0,6W	R 66	4822 050 22403	24k 1% 0,6W
R 36	4822 050 21503	15k 1% 0,6W	R 67	4822 050 21212	1k2 1% 0,6W
R 37	4822 050 21003	10k 1% 0,6W			
R 38	4822 050 23902	3k9 1% 0,6W			
R 40	5322 116 90018	0Ω	S 11	5322 209 81236	LM337KC
R 41	4822 050 21003	10k 1% 0,6W			
R 42	4822 050 21504	150k 1% 0,6W			

## BS DAC PANEL

					
CD09	4822 126 12049	47nF 63V	QD01	4822 701 11933	SAA7350GP
CD10	4822 124 40433	47μF 20% 25V	Q511	4822 209 30264	SM5840FP
CD11	4822 126 12049	47nF 63V	Q512	4822 209 30985	PST523C
CD12	4822 126 12049	47nF 63V	Q601	5322 209 86234	NE5532N
CD13	4822 124 40433	47μF 20% 25V	Q602	5322 209 50602	NE5532N
CD14	4822 124 40433	47μF 20% 25V			
CD15	4822 126 12049	47nF 63V			
CD16	4822 126 12049	47nF 63V	RD09	4822 052 10478	4Ω7 5% 0,33W
CD17	4822 124 40433	47μF 20% 25V	RD10	4822 052 10478	4Ω7 5% 0,33W
CD18	4822 124 40433	47μF 20% 25V	RD11	4822 052 10478	4Ω7 5% 0,33W
CD19	4822 126 12049	47nF 63V	RD12	4822 116 52261	24k 5% 0,5W
CD20	4822 126 12049	47nF 63V	RD15	4822 050 21001	100Ω 1% 0,6W
CD21	4822 124 40433	47μF 20% 25V	RD16	4822 050 21001	100Ω 1% 0,6W
CD22	4822 124 40433	47μF 20% 25V	RD31	4822 050 24703	47k 1% 0,6W
CD23	4822 126 12049	47nF 63V	RD32	4822 050 24703	47k 1% 0,6W
CD24	4822 126 12049	47nF 63V	RD33	4822 050 24703	47k 1% 0,6W
CD25	4822 124 40433	47μF 20% 25V	RD34	4822 050 24703	47k 1% 0,6W
CD26	4822 124 40433	47μF 20% 25V	R512	4822 116 52234	100k 5% 0,5W
CD31	4822 126 12042	39pF 2% 63V	R513	4822 052 10478	4Ω7 5% 0,33W
CD32	4822 126 12042	39pF 2% 63V	R601	4822 050 28202	8k2 1% 0,6W
CD33	5322 121 50999	470pF 1% 400V	R602	4822 050 28202	8k2 1% 0,6W
CD34	5322 121 50999	470pF 1% 400V	R603	4822 050 28202	8k2 1% 0,6W
CD35	4822 126 12042	39pF 2% 63V	R604	4822 050 28202	8k2 1% 0,6W
CD36	4822 126 12042	39pF 2% 63V	R605	4822 050 29102	9k1 1% 0,6W
CD37	5322 121 50999	470pF 1% 400V	R606	4822 050 29102	9k1 1% 0,6W
CD38	5322 121 50999	470pF 1% 400V	R607	4822 050 29102	9k1 1% 0,6W
C512	4822 124 40244	2,2μF 20% 63V	R608	4822 050 29102	9k1 1% 0,6W
C523	4822 124 40433	47μF 20% 25V	R609	4822 050 25602	5k6 1% 0,6W
C524	4822 126 12049	47nF 63V	R610	4822 050 25602	5k6 1% 0,6W
C601	4822 121 51288	100pF 2% 630V	R611	4822 050 27502	7k5 1% 0,6W
C602	4822 121 51288	100pF 2% 630V	R612	4822 050 27502	7k5 1% 0,6W
C603	4822 121 51288	100pF 2% 630V	R613	4822 050 25602	5k6 1% 0,6W
C604	4822 121 51288	100pF 2% 630V	R614	4822 050 25602	5k6 1% 0,6W
C605	4822 121 43066	1nF 1% 400V	R615	4822 116 52175	100Ω 5% 0,5W
C606	4822 121 43066	1nF 1% 400V	R616	4822 116 52175	100Ω 5% 0,5W
C607	4822 121 51288	100pF 2% 630V	R681	4822 052 10479	47Ω 5% 0,33W
C608	4822 121 51288	100pF 2% 630V	R682	4822 052 10479	47Ω 5% 0,33W
C609	5322 122 31626	100pF 2% 500V	R683	4822 052 10479	47Ω 5% 0,33W
C610	5322 122 31626	100pF 2% 500V	R684	4822 052 10479	47Ω 5% 0,33W
C681	4822 124 41643	100μF 20% 16V			
C682	4822 124 41643	100μF 20% 16V			
C683	4822 124 41643	100μF 20% 16V			
C684	4822 124 41643	100μF 20% 16V			