

Service Service Service

Product Service Group CE Audio

Service Information

Already published Service Informations :

CORRECTION TO SERVICE MANUAL

*Page 4-1 : Due to some update, the Set Block Diagram is enclosed.

*Page 9-5 : Due to some error, the Tape Adjustment & Check Table is enclosed.

***Correction of Mechanical & Accessories parts list (Page 13-2):**

Add	0309	4822 462 40683	Plate (Foot)
	0310	4822 462 40683	Plate (Foot)
	1501	3139 110 33960	FFC Foil 04P/120/04P BD /21
Change	0101	8240 008 57320	Cabinet Front /21
	0128	3139 118 15750	Window Display /21
	0142	3139 114 71310	Knob Level Karaoke /21
	1300	3139 110 35350	FFC Foil 11P/220/11P AD
	1800	3139 110 34800	FFC Foil 19P/180/19P BD

***Correction of circuit drawing and parts list for Front Board:**

Add	2415	4822 122 33777	47pF 5% 63V
	2416	4822 122 33848	47pF 5% 50V
	2459	4822 122 31765	100pF 2% 63V
	2462	4822 122 31765	100pF 2% 63V
	3416	4822 051 30103	10k 5% 0,062W
	3538	4822 051 30102	1k 5% 0,062W
	3540	4822 051 30102	1k 5% 0,062W
	4404	4822 051 30008	0R Jumper 0603 /21/37
	6440	4822 130 30621	1N4148 /21
	6448	4822 130 30621	1N4148 /22/30/34
Change	2400	4822 124 23432	100uF 20% 10V
	3808	4822 117 12968	820R 5% 0,62W /21
	6414	9322 155 59676	LED VS LTL-4222N
	6415	9322 155 59676	LED VS LTL-4222N
Delete	4405, 4406, 4491, 4493, 4497, 4501		
Delete	3430, 3431, 4448, 6406, 6411, 7411		/21/37

***Correction of circuit drawing and parts list for AF9 Board:**

Add	1206	4822 267 11039	Flex Connector 11P
	2924	5322 126 11578	1nF 10% 50V /21
	3820	4822 116 52176	10R 5% 0,5W /22/30/34
	4148	4822 051 30008	0R Jumper 0603
	4149	4822 051 30008	0R Jumper 0603
	4150	4822 051 30008	0R Jumper 0603
	4151	4822 051 30008	0R Jumper 0603
	4152	4822 051 30008	0R Jumper 0603

Change	2401	4822 122 33777	47pF 5% 63V
	2402	4822 122 33777	47pF 5% 63V
	3534	4822 051 30273	27k 5% 0,062W
Delete	1201, 3662, 4102, 4118, 4801		
Delete	2208, 2209, 6206, 7202		/21/37
Delete	4501		/21

CHANGES DURING PRODUCTION

MECHANICAL & ACCESSORIES PARTS LIST (Page 13-2)

*From production week 0140 onwards the following has been changed due to UL Requirement to use V2 material for all major enclosure parts.

Change	0253	3139 114 74750	Panel Left (V2)
	0254	3139 114 74760	Panel Right (V2)
	0255	3139 114 74770	Cover Top (V2)
	0256	3139 114 74810	Panel Rear (V2)

(For /37 only)

FRONT BOARD

*From production week 0050 onwards the following has been changed to prevent ECO LED flashing when power up and for process improvement.

Change	2486	4822 124 11947	10uF 20% 16V
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(For /22/30/34 only)

*From production week 0050 onwards pt.2a Board (identified by the last digit of the 12NC – 3139 113 34422a) is introduced. For this reason new layout and circuit drawing are enclosed.

Reason: To modify the Karaoke PCB to resolve the Karaoke PCB clashing with the CDC-LC module.

*From production week 0104 onwards the following has been changed to avoid erratic volume change.

Change	3537	4822 051 30682	6k8 5% 0,062W
	3539	4822 051 30682	6k8 5% 0,062W

(P.T.O.)

*From production week 0108 onwards the following has been changed to 5mm LED pitch type for proper AI process for process improvement.

Change 6411 9322 167 73676 LED VS LTL-4221NLC-KA
(For /22/30/34 only)

*From production week 0121 onwards the software of the main processor IC (7400) has been upgrade to version 17. The service code is 9965 000 10408.

*From production week 0145 onwards the software of the main processor IC (7400) has been upgrade to version 20. The service code is 9965 000 10408.

AF9 BOARD

*From production week 0050 onwards the following has been changed for EMC improvement.

Add 4813 4822 051 20008 0R Jumper 0805
Delete 2901

*From production week 0052 onwards the following has been changed for EMC and ESD improvement.

Add 2922 4822 122 31765 100pF 2% 63V
2923 4822 121 51387 10nF 20% 16V

*From production week 0122 onwards the following has been changed to improve GSM immunity performance.

Add 3525 4822 051 30471 470R 5% 0,062W
3526 4822 051 30471 470R 5% 0,062W
3645 4822 051 30221 220R 5% 0,062W
3646 4822 051 30221 220R 5% 0,062W
4153 4822 051 30008 0R Jumper 0603
4641 4822 051 30008 0R Jumper 0603
4642 4822 051 30008 0R Jumper 0603
Delete 3641, 3642

*From production week 0122 onwards the following has been changed for fault condition +5V6_con.

Add 2210 4822 126 13879 220nF +80/-20% 16V
3821 4822 052 10109 Δ 10R 5% 0,33W
Change 2208 4822 126 13879 220nF +80/-20% 16V
(For /22/30/34 only)

*From production week 0133 onwards the following has been changed due to tick sound audible when volume up/down if ELCO reverse current leakage >0.3uA.

Change 2503 4822 124 22466 1uF 20% 50V
2504 4822 124 22466 1uF 20% 50V
2511 4822 124 22466 1uF 20% 50V
2512 4822 124 22466 1uF 20% 50V

*During production pt.4 Board (identified by the last digit of the 12NC – 3139 113 34354) is introduced. For this reason new layout and circuit drawing are enclosed.

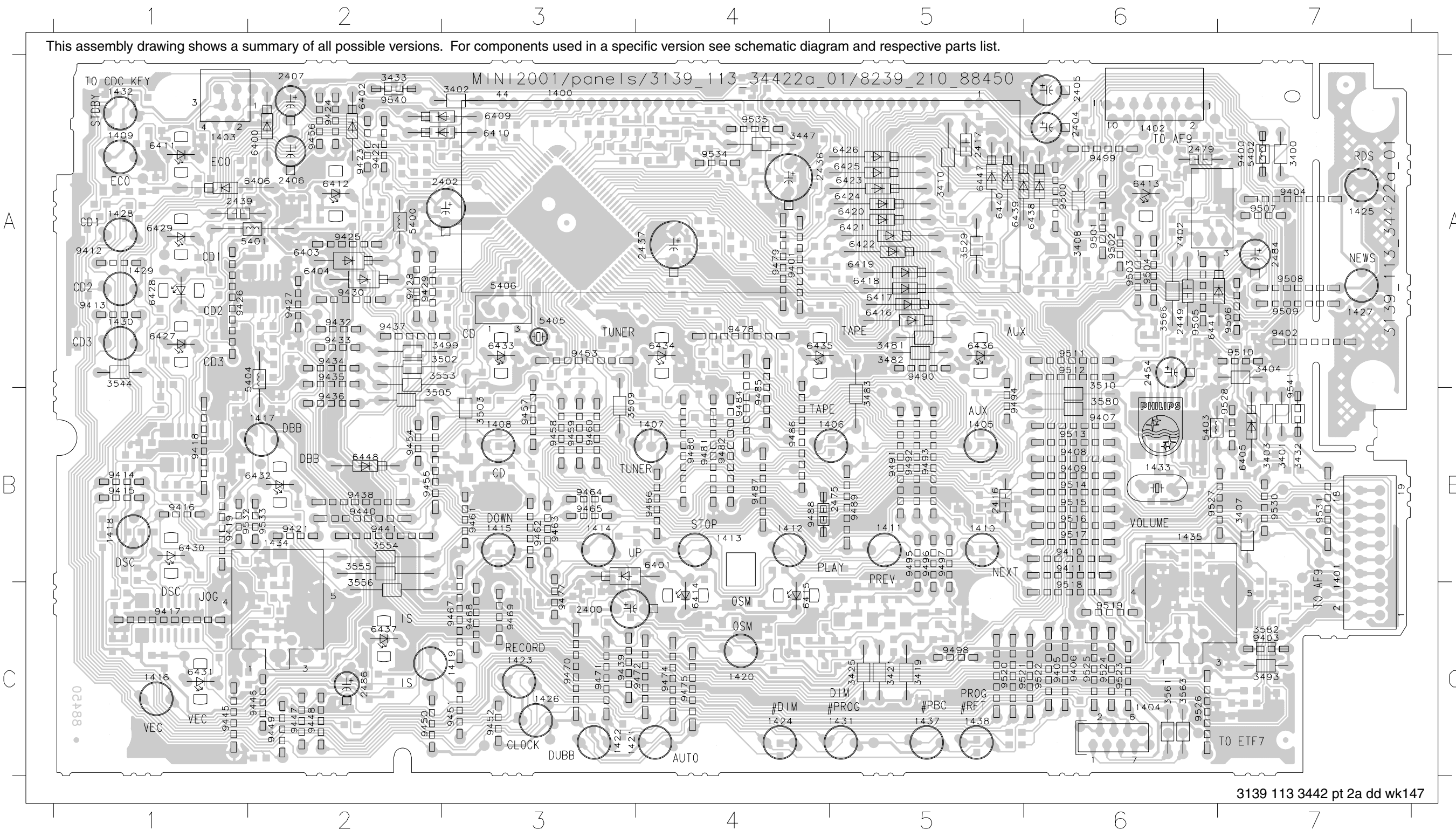
POWER 2001 MODULE (30-70W VERSION)

*During production pt.9 Board (identified by the last digit of the 12NC - 3103 303 34469 Mains Board & 3103 303 34479 Power Board) is introduced. For this reason new layout, circuit drawing and parts list are enclosed.

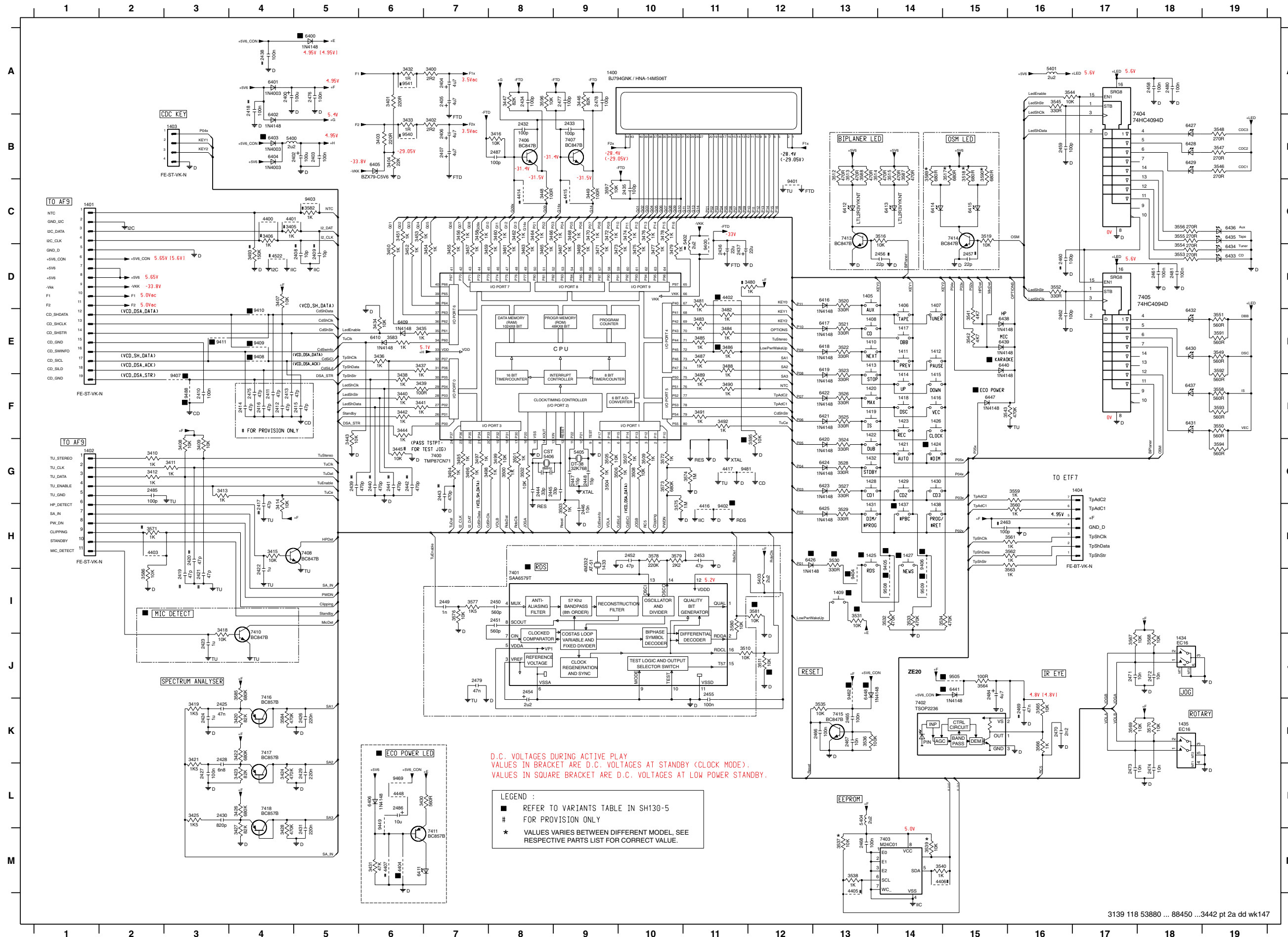
FRONT BOARD

FRONT BOARD - COMPONENT LAYOUT

1400	A3	14	11	1401	A6	14	11	1402	C3	14	11	1403	A1	14	11	1404	C3	14	11	1405	A1	14	11	1406	A1	14	11	1407	A1	14	11	1408	B5	14	23	1409	C3	14	34	1410	B5	14	23	1411	B5	14	23	1412	A7	14	37	1413	C3	14	37	1414	A1	14	37	1415	A1	14	37	1416	A1	14	37	1417	B6	14	37	1418	A4	14	39	1419	A4	14	39	1420	A4	14	39	1421	A4	14	39	1422	A4	14	39	1423	B6	14	37	1424	A7	14	37	1425	A7	14	37	1426	B2	14	37	1427	B2	14	37	1428	A1	14	37	1429	A1	14	37	1430	A1	14	37	1431	A1	14	37	1432	A1	14	37	1433	A1	14	37	1434	A1	14	37	1435	A1	14	37	1436	A1	14	37	1437	A1	14	37	1438	A1	14	37	1439	A1	14	37	1440	A1	14	37	1441	A1	14	37	1442	A1	14	37	1443	A1	14	37	1444	A1	14	37	1445	A1	14	37	1446	A1	14	37	1447	A1	14	37	1448	A1	14	37	1449	A1	14	37	1450	A1	14	37	1451	A1	14	37	1452	A1	14	37	1453	A1	14	37	1454	A1	14	37	1455	A1	14	37	1456	A1	14	37	1457	A1	14	37	1458	A1	14	37	1459	A1	14	37	1460	A1	14	37	1461	A1	14	37	1462	A1	14	37	1463	A1	14	37	1464	A1	14	37	1465	A1	14	37	1466	A1	14	37	1467	A1	14	37	1468	A1	14	37	1469	A1	14	37	1470	A1	14	37	1471	A1	14	37	1472	A1	14	37	1473	A1	14	37	1474	A1	14	37	1475	A1	14	37	1476	A1	14	37	1477	A1	14	37	1478	A1	14	37	1479	A1	14	37	1480	A1	14	37	1481	A1	14	37	1482	A1	14	37	1483	A1	14	37	1484	A1	14	37	1485	A1	14	37	1486	A1	14	37	1487	A1	14	37	1488	A1	14	37	1489	A1	14	37	1490	A1	14	37	1491	A1	14	37	1492	A1	14	37	1493	A1	14	37	1494	A1	14	37	1495	A1	14	37	1496	A1	14	37	1497	A1	14	37	1498	A1	14	37	1499	A1	14	37	1500	A1	14	37	1501	A1	14	37	1502	A1	14	37	1503	A1	14	37	1504	A1	14	37	1505	A1	14	37	1506	A1	14	37	1507	A1	14	37	1508	A1	14	37	1509	A1	14	37	1510	A1	14	37	1511	A1	14	37	1512	A1	14	37	1513	A1	14	37	1514	A1	14	37	1515	A1	14	37	1516	A1	14	37	1517	A1	14	37	1518	A1	14	37	1519	A1	14	37	1520	A1	14	37	1521	A1	14	37	1522	A1	14	37	1523	A1	14	37	1524	A1	14	37	1525	A1	14	37	1526	A1	14	37	1527	A1	14	37	1528	A1	14	37	1529	A1	14	37	1530	A1	14	37	1531	A1	14	37	1532	A1	14	37	1533	A1	14	37	1534	A1	14	37	1535	A1	14	37	1536	A1	14	37	1537	A1	14	37	1538	A1	14	37	1539	A1	14	37	1540	A1	14	37	1541	A1	14	37	1542	A1	14	37	1543	A1	14	37	1544	A1	14	37	1545	A1	14	37	1546	A1	14	37	1547	A1	14	37	1548	A1	14	37	1549	A1	14	37	1550	A1	14	37	1551	A1	14	37	1552	A1	14	37	1553	A1	14	37	1554	A1	14	37	1555	A1	14	37	1556	A1	14	37	1557	A1	14	37	1558	A1	14	37	1559	A1	14	37	1560	A1	14	37	1561	A1	14	37	1562	A1	14	37	1563	A1	14	37	1564	A1	14	37	1565	A1	14	37	1566	A1	14	37	1567	A1	14	37	1568	A1	14	37	1569	A1	14	37	1570	A1	14	37	1571	A1	14	37	1572	A1	14	37	1573	A1	14	37	1574	A1	14	37	1575	A1	14	37	1576	A1	14	37	1577	A1	14	37	1578	A1	14	37	1579	A1	14	37	1580	A1	14	37	1581	A1	14	37	1582	A1	14	37	1583	A1	14	37	1584	A1	14	37	1585	A1	14	37	1586	A1	14	37	1587	A1	14	37	1588	A1	14	37	1589	A1	14	37	1590	A1	14	37	1591	A1	14	37	1592	A1	14	37	1593	A1	14	37	1594	A1	14	37	1595	A1	14	37	1596	A1	14	37	1597	A1	14	37	1598	A1	14	37	1599	A1	14	37	1600	A1	14	37
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FRONT BOARD - CIRCUIT DIAGRAM

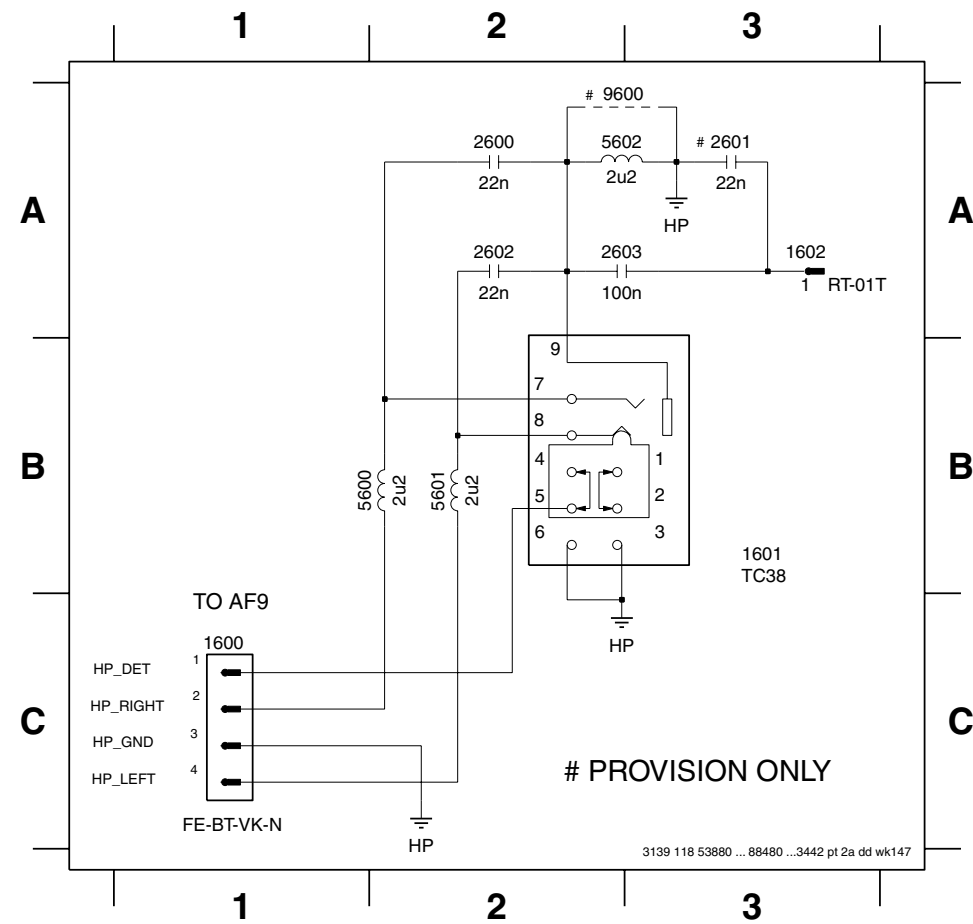


1400 A9	3445 G6	4532 D4
1401 C1	3446 A9	5400 B4
1402 G1	3447 A8	5401 A16
1403 B3	3448 C8	5402 C11
1404 G16	3449 C9	5403 I12
1405 D13	3450 D6	5404 L13
1406 D14	3451 C6	5405 G9
1407 D14	3452 D6	5406 G8
1408 E13	3453 C6	6400 A5
1409 F13	3454 D7	6401 A4
1410 E13	3455 D7	6402 B4
1411 E14	3456 C7	6403 B4
1412 E14	3457 D7	6404 B4
1413 E13	3458 C7	6405 B6
1414 F14	3459 D7	6406 L6
1415 F14	3460 C8	6409 E6
1416 F14	3461 D8	6410 E6
1417 E14	3462 C8	6411 M6
1418 F14	3463 D8	6412 C13
1419 F13	3464 C8	6413 C14
1420 F13	3465 D8	6414 C14
1421 G14	3466 C8	6415 C15
1422 F13	3467 D9	6416 D13
1423 F14	3468 C9	6417 E13
1424 G14	3469 D9	6418 E13
1425 H13	3470 C9	6419 E13
1426 F14	3471 D9	6420 G13
1427 H14	3472 C9	6421 F13
1428 G13	3473 D9	6422 F13
1429 G14	3474 C10	6423 G13
1430 G14	3475 D10	6424 G13
1431 H13	3476 C10	6425 H13
1432 G13	3477 D10	6426 H12
1433 H9	3478 C10	6427 H10
1434 J18	3479 D10	6428 B18
1435 K18	3480 D12	6429 B18
1437 H14	3481 D11	6430 B18
1438 H14	3482 E11	6431 F18
2400 A4	3483 E11	6432 E18
2401 A4	3484 E11	6433 D19
2402 A4	3485 E11	6434 D19
2403 B5	3486 E11	6435 C19
2404 A7	3487 E11	6436 C19
2405 A7	3488 E11	6437 F18
2406 B7	3489 F11	6438 E15
2407 B7	3490 F11	6439 E15
2408 D5	3491 F11	6440 E15
2409 D5	3492 F11	6441 J15
2410 F3	3493 F11	6442 J15
2411 F4	3494 G7	6443 J13
2412 F4	3495 G7	6444 J13
2413 F4	3496 G7	7402 D14
2414 F4	3497 G7	7403 M14
2415 F5	3498 G7	7404 B17
2416 F4	3499 G7	7405 D18
2417 H4	3500 G8	7406 B8
2418 A4	3501 G8	7407 B9
2419 B3	3502 G8	7408 B5
2420 H3	3503 H9	7410 J4
2421 I3	3504 H9	7411 M7
2422 I4	3505 H9	7412 C13
2423 J3	3506 G9	7413 C15
2424 K3	3507 G10	7414 K4
2425 K3	3508 G10	7415 K4
2426 K5	3509 G10	7416 L4
2427 L3	3510 G10	7417 L4
2428 K3	3511 J11	7418 D11
2429 L5	3512 J12	9401 C12
2430 L3	3513 B13	9402 H11
2431 M5	3514 B13	9403 C5
2432 B8	3515 B13	9404 H13
2433 B9	3516 B14	9405 H14
2434 A8	3517 B14	9406 E4
2435 C10	3518 B15	9407 E3
2436 D11	3519 B15	9408 E4
2437 D11	3520 B15	9409 E4
2438 A4	3521 D13	9410 D4
2439 G5	3522 D13	9411 E3
2440 G5	3523 E13	9410 D4
2441 G6	3524 G13	9409 L6
2442 G6	3525 G13	9409 L6
2443 G7	3526 F13	9409 L6
2444 G8	3527 G13	9505 J15
2445 G8	3528 G13	9506 J15
2446 H9	3529 G13	9507 H10
2447 G9	3530 H13	9509 H14
2448 G9	3531 H13	9510 B6
2449 I7	3532 H13	9511 A6
2450 H7	3533 I14	
2451 H8	3534 I14	
2452 H10	3535 I14	
2453 H11	3536 K13	
2454 H8	3537 M13	
2455 J11	3538 K13	
2456 D14	3539 M13	
2457 D15	3540 M14	
2458 A16	3541 E15	
2459 B16	3542 E15	
2460 D16	3543 E15	
2461 D16	3544 F15	
2462 E16	3545 A16	
2463 H15	3546 A16	
2464 M13	3547 B19	
2465 K13	3548 B19	
2466 M13	3549 E19	
2467 K16	3550 F19	
2468 K16	3551 E19	
2469 J17	3552 D16	
2470 J17	3553 D18	
2471 J17	3554 D18	
2472 J18	3555 D18	
2473 L17	3556 D18	
2474 L18	3557 C18	
2475 F4	3558 C18	
2476 A5	3559 G16	
2477 A9	3560 G16	
2478 A9	3561 H16	
2479 J7	3562 H16	
2480 A16	3563 H16	
2481 D18	3564 I16	
2482 J15	3565 J15	
2483 G16	3566 K16	
2484 J15	3567 J17	
2485 G2	3568 J18	
2486 L6	3569 K17	
2487 B8	3570 K18	
2488 A7	3571 H2	
3401 A6	3572 G10	
3402 B7	3573 G10	
3403 B6	3574 G11	
3404 B6	3575 H10	
3405 C4	3576 I7	
3406 C4	3577 I7	
3407 C4	3578 H10	
3408 G3	3579 H10	
3409 G3	3580 H11	
3410 G2	3581 H12	
3411 G3	3582 C5	
3412 G2	3583 E6	
3413 G3	3584 K4	
3414 H4	3585 J4	
3415 H4	3586 I2	
3416 B8	3587 B14	
3417 B3	3588 B13	
3418 B3	3589 B14	
3419 K3	3590 B15	
3420 K4	3591 E19	
3421 K3	3592 E19	
3422 L4	3593 F19	
3423 L4	3594 G19	
3424 L4	3595 G12	
3425 L3	3596 A8	
3426 L4	3597 C8	
3427 M4	3598 C8	
3428 M4	3599 C4	
3429 L6	3600 C4	
3430 L6	3601 C4	
3431 M6	3602 D11	
3432 A6	3603 H2	
3433 B6	3604 C4	
3434 E6	3605 D11	
3435 E6	3606 H2	
3436 E6	3607 M6	
3437 E6	3608 M13	
3438 F6	3609 M14	
3439 F6	3610 M6	
3440 F6	3611 C8	
3441 F6	3612 C9	
3442 F6	3613 H11	
3443 G5	3614 G11	
3444 F6	3615 L6	

D.C. VOLTAGES DURING ACTIVE PLAY
 VALUES IN BRACKET ARE D.C. VOLTAGES AT STANDBY (CLOCK MODE).
 VALUES IN SQUARE BRACKET ARE D.C. VOLTAGES AT LOW POWER STANDBY.

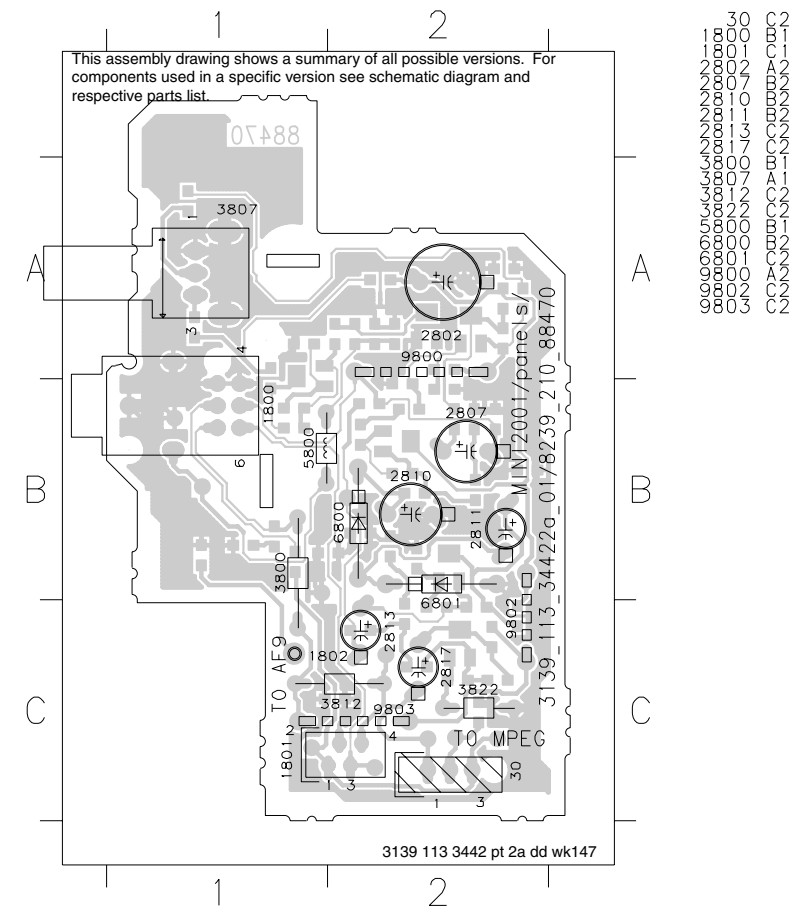
LEGEND :
 ■ REFER TO VARIANTS TABLE IN SH130-5
 # FOR PROVISION ONLY
 * VALUES VARIES BETWEEN DIFFERENT MODEL, SEE RESPECTIVE PARTS LIST FOR CORRECT VALUE.

HEADPHONE PART - CIRCUIT DIAGRAM



- 1600 C1
- 1601 B3
- 1602 A3
- 2600 A2
- 2601 A3
- 2602 A2
- 2603 A2
- 5600 B2
- 5601 B2
- 5602 A2
- 9600 A2

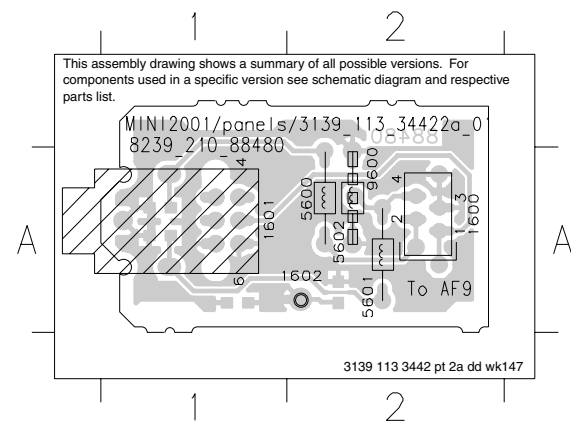
KARAOKE BOARD - COMPONENT & CHIP LAYOUT



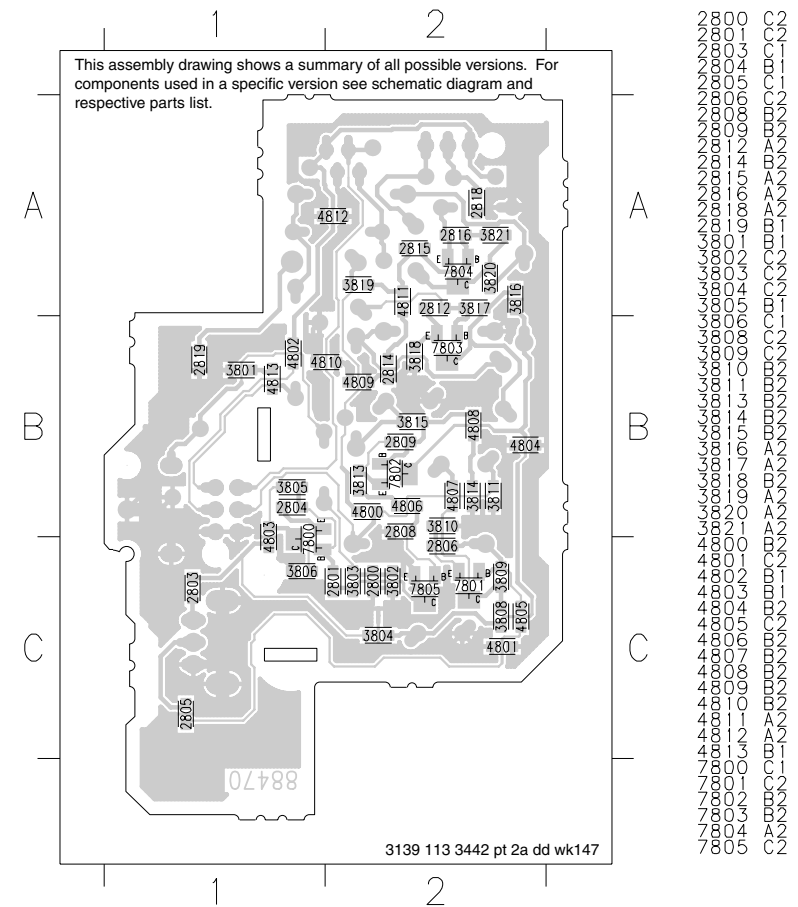
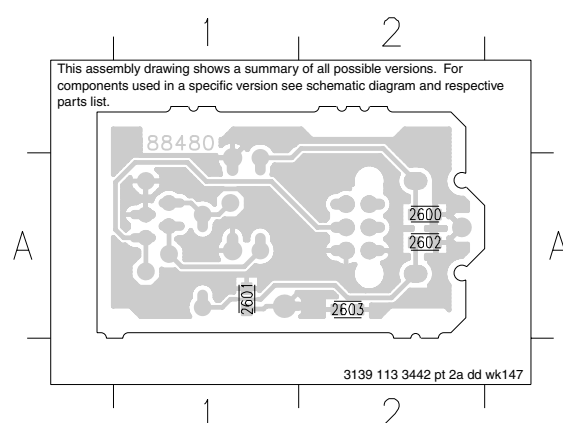
- 1600 C1
- 1601 B3
- 1602 A3
- 2600 A2
- 2601 A3
- 2602 A2
- 2603 A2
- 5600 B2
- 5601 B2
- 5602 A2
- 9600 A2

HEADPHONE BOARD - COMPONENT & CHIP LAYOUT

- 1600 A2
- 1601 A1
- 5600 A2
- 5601 A2
- 5602 A2
- 9600 A2



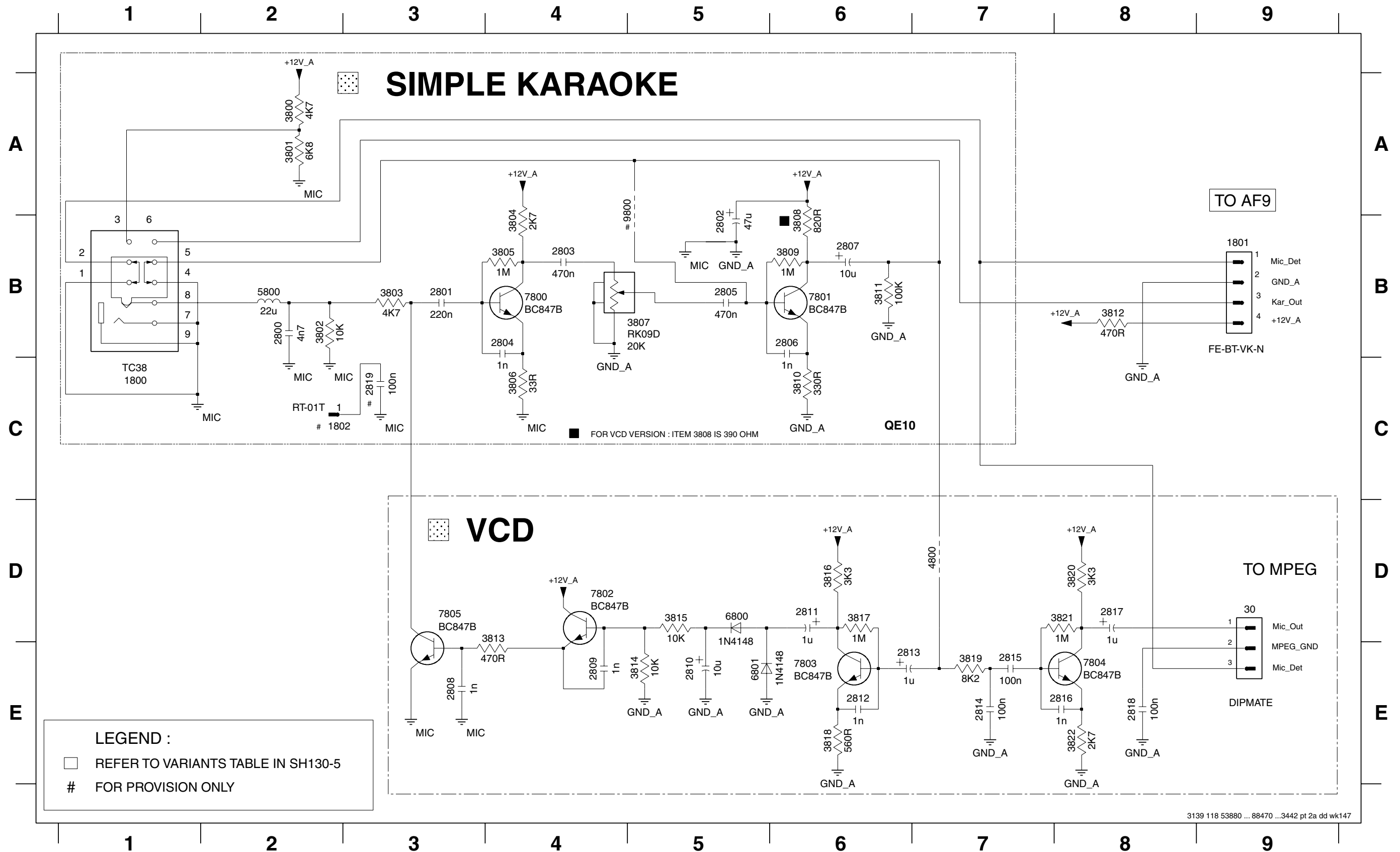
- 2600 A2
- 2601 A1
- 2602 A2
- 2603 A2



- 1600 C1
- 1601 B3
- 1602 A3
- 2600 A2
- 2601 A3
- 2602 A2
- 2603 A2
- 5600 B2
- 5601 B2
- 5602 A2
- 9600 A2

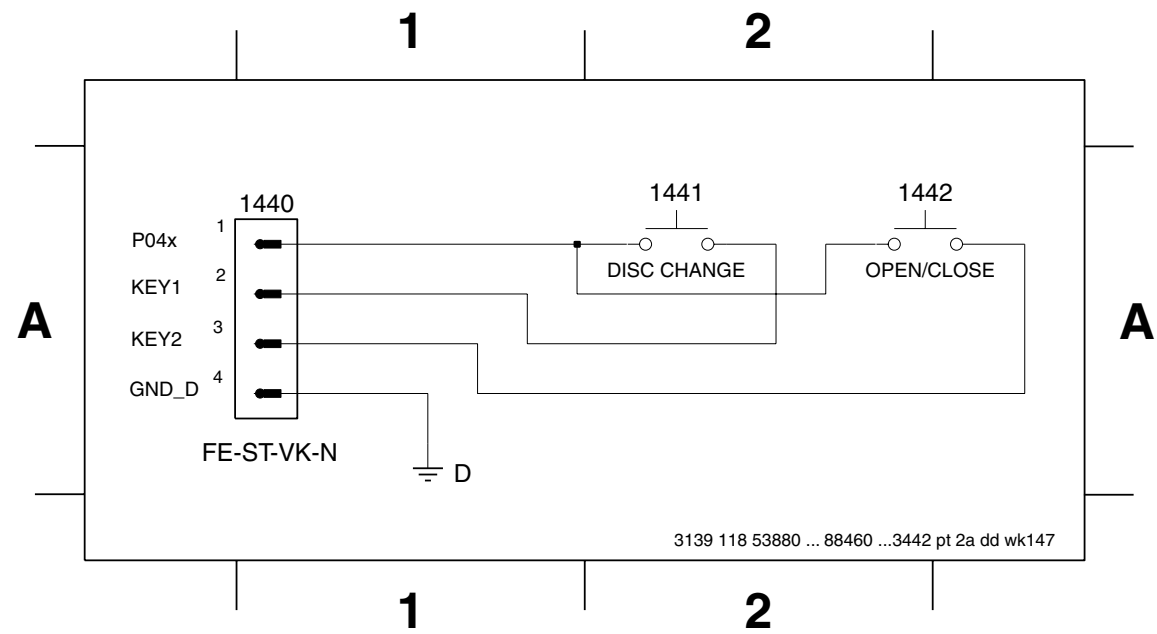
KARAOKE PART - CIRCUIT DIAGRAM

30 D9	1802 C2	2802 B5	2805 B5	2808 E3	2811 D6	2814 E7	2817 D8	3800 A2	3803 B3	3806 C4	3809 B6	3812 B8	3815 D5	3818 E6	3821 D8	5800 B2	7800 B4	7803 E6	9800 A5
1800 C1	2800 B2	2803 B4	2806 B6	2809 E4	2812 E6	2815 E7	2818 E8	3801 A2	3804 B4	3807 B4	3810 C6	3813 D4	3816 D6	3819 E7	3822 E8	6800 D5	7801 B6	7804 E8	
1801 B9	2801 B3	2804 B4	2807 B6	2810 E5	2813 E6	2816 E8	2819 C3	3802 B2	3805 B4	3808 B6	3811 B6	3814 E5	3817 D6	3820 D8	4800 D7	6801 E5	7802 D4	7805 D3	



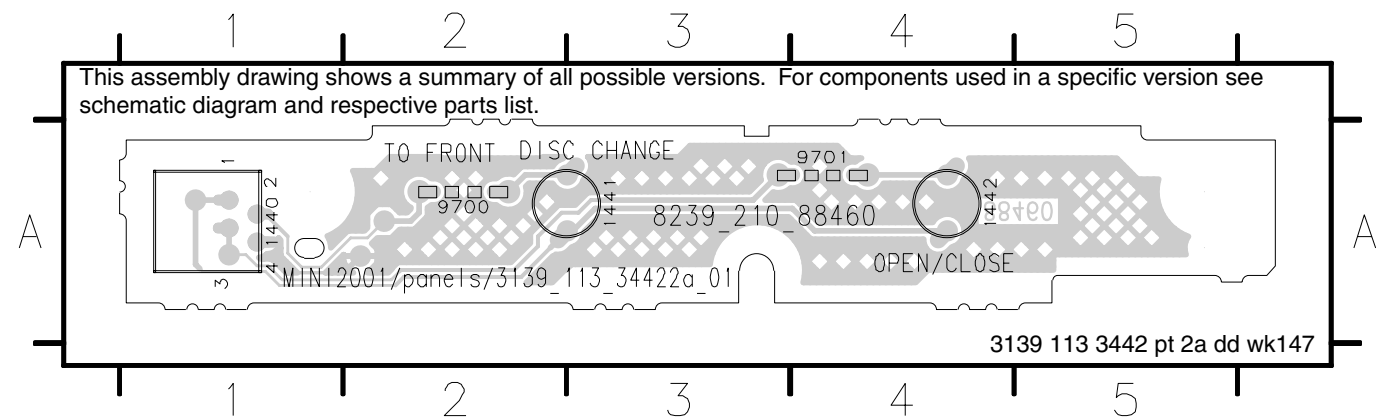
KEY-CDC PART - CIRCUIT DIAGRAM

1440 A1 1441 A2 1442 A2



KEY-CDC BOARD - COMPONENT LAYOUT

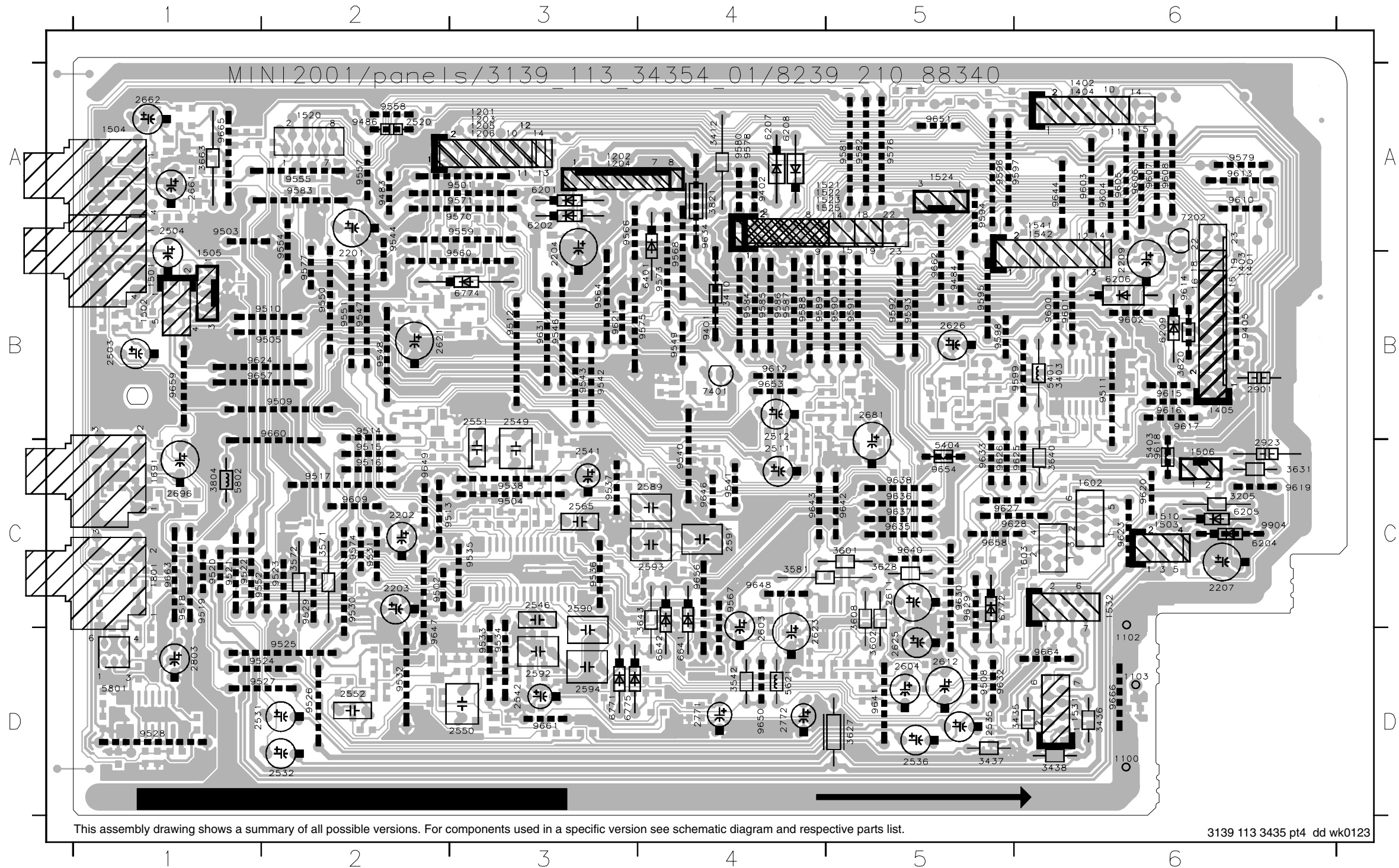
1440 A1 1441 A3 1442 A4 9700 A2 9701 A4



AF9 BOARD

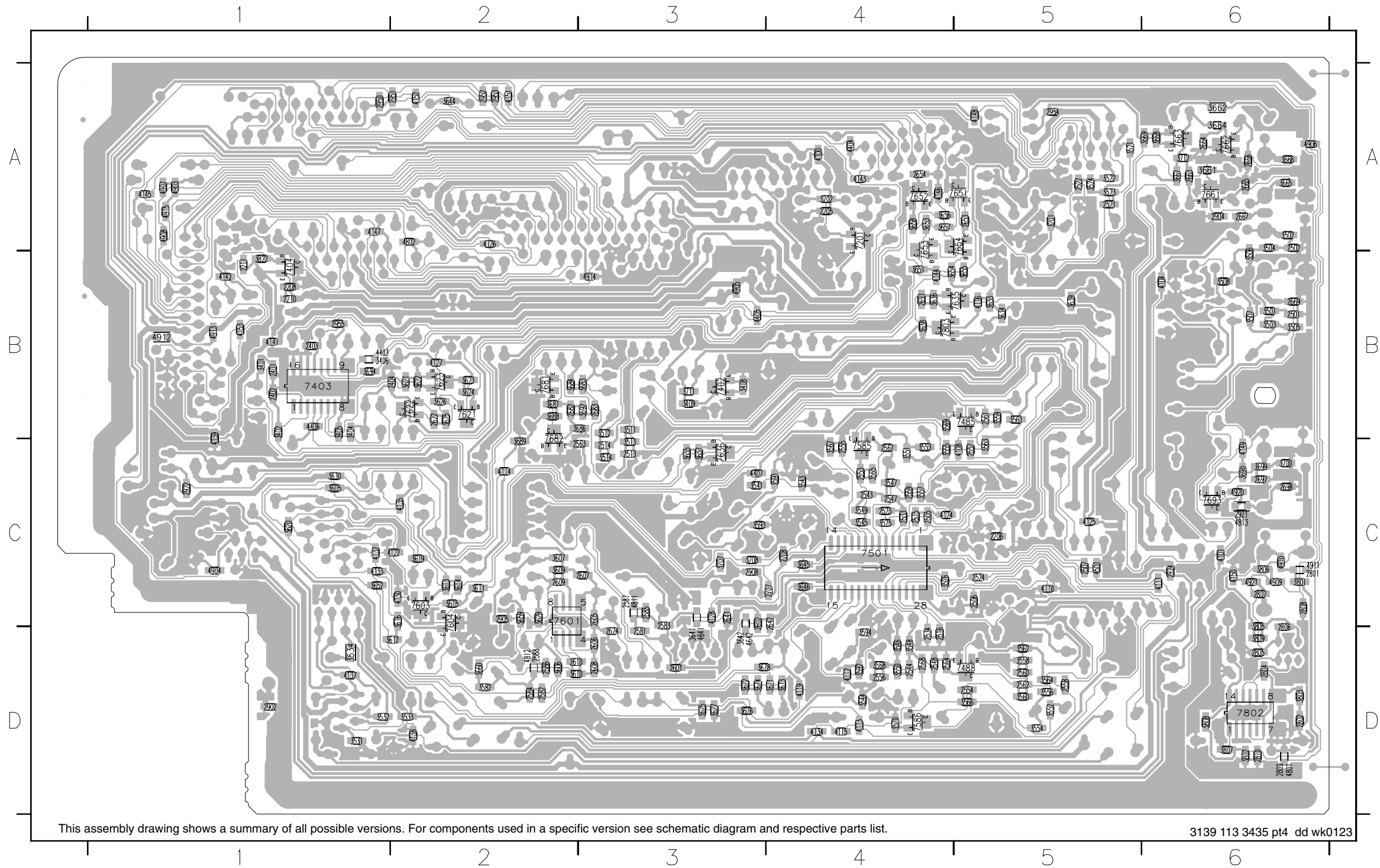
AF9 BOARD - COMPONENT LAYOUT

1100 D6	1503 C6	1603 C6	2535 D5	2603 D4	2923 C6	3627 D5	6202 A3	9401 B4	9513 C2	9529 C2	9547 B2	9570 A3	9587 B4	9603 A6	9620 C6	9637 C5	9657 B1
1102 D6	1504 A1	1691 C1	2536 D5	2604 D5	3205 C6	3628 C5	6204 C6	9402 A4	9514 B2	9530 C2	9548 B2	9571 A3	9588 B4	9604 A6	9621 B3	9638 C5	9658 C5
1103 D6	1505 B1	1801 C1	2541 C3	2611 C5	3403 B6	3631 C6	6205 C6	9405 B6	9515 C2	9531 C2	9549 B4	9573 B4	9589 B4	9605 A6	9623 C6	9640 C5	9659 B1
1201 A3	1506 C6	2201 B2	2542 D3	2612 D5	3410 B4	3640 C6	6206 B6	9483 A2	9516 C2	9532 D2	9550 B2	9574 C2	9590 B5	9606 A6	9624 B1	9641 D5	9660 B2
1202 A3	1510 C6	2202 C2	2546 C3	2621 B2	3412 A4	3643 C4	6207 A4	9484 B5	9517 C2	9533 D3	9551 B2	9575 B4	9591 B5	9607 A6	9625 C6	9642 C5	9661 D3
1203 A3	1520 A2	2203 C2	2549 B3	2623 D4	3435 D6	3663 A1	6208 A4	9486 A2	9518 C1	9534 D3	9552 C1	9576 A5	9592 B5	9608 A6	9626 C5	9643 C4	9662 B5
1204 A3	1521 A5	2204 B3	2550 D3	2625 D5	3436 D6	3804 C1	6209 B6	9501 A3	9519 C1	9535 C3	9554 A2	9577 B2	9593 B5	9609 C2	9627 C5	9644 A6	9663 C1
1205 A3	1522 A5	2207 C6	2551 B3	2626 B5	3437 D5	3820 B6	6401 B4	9502 C1	9520 C1	9536 C3	9555 A2	9578 A4	9594 A5	9610 A6	9628 C5	9646 C4	9664 D6
1206 A3	1523 A5	2209 B6	2552 D2	2661 A1	3438 D6	3821 A4	6641 D4	9503 A1	9521 C1	9537 C3	9557 A2	9579 A6	9595 B5	9612 B4	9629 C5	9647 D2	9665 A1
1401 B6	1524 A5	2503 B1	2565 C3	2662 A1	3542 D4	5401 B6	6642 D4	9504 C3	9522 C1	9538 C3	9558 A2	9580 A4	9596 A5	9613 A6	9630 C5	9648 C4	9666 D6
1402 A6	1525 A5	2504 A1	2589 C4	2681 B5	3571 C2	5403 C6	6771 D3	9505 B2	9523 C2	9540 C4	9559 A3	9581 A5	9597 A6	9614 B6	9631 B3	9649 C2	9904 C6
1403 B6	1531 D6	2511 C4	2590 C3	2696 C1	3572 C2	5404 C5	6772 C5	9508 D5	9524 D2	9541 C4	9560 B3	9582 A5	9598 B5	9615 B6	9632 D5	9650 D4	
1404 A6	1532 C6	2512 B4	2591 C4	2771 D4	3581 C4	5621 D4	6774 B3	9509 B2	9525 D2	9542 B3	9564 B3	9583 A2	9599 B6	9616 B6	9633 C5	9651 A5	
1405 B6	1541 A6	2520 A2	2592 D3	2772 D4	3601 C5	5801 D1	6775 D3	9510 B2	9526 D2	9543 B3	9566 A3	9584 B4	9600 B6	9617 B6	9634 A4	9653 B4	
1501 B1	1542 A6	2531 D1	2593 C4	2803 D1	3602 D5	5802 C1	7202 A6	9511 B6	9527 D2	9544 A2	9567 C4	9585 B4	9601 B6	9618 C6	9635 C5	9654 C5	
1502 B1	1602 C6	2532 D2	2594 D3	2901 B6	3608 C5	6201 A3	7401 B4	9512 B3	9528 D1	9546 B3	9568 B4	9586 B4	9602 B6	9619 C6	9636 C5	9656 C4	

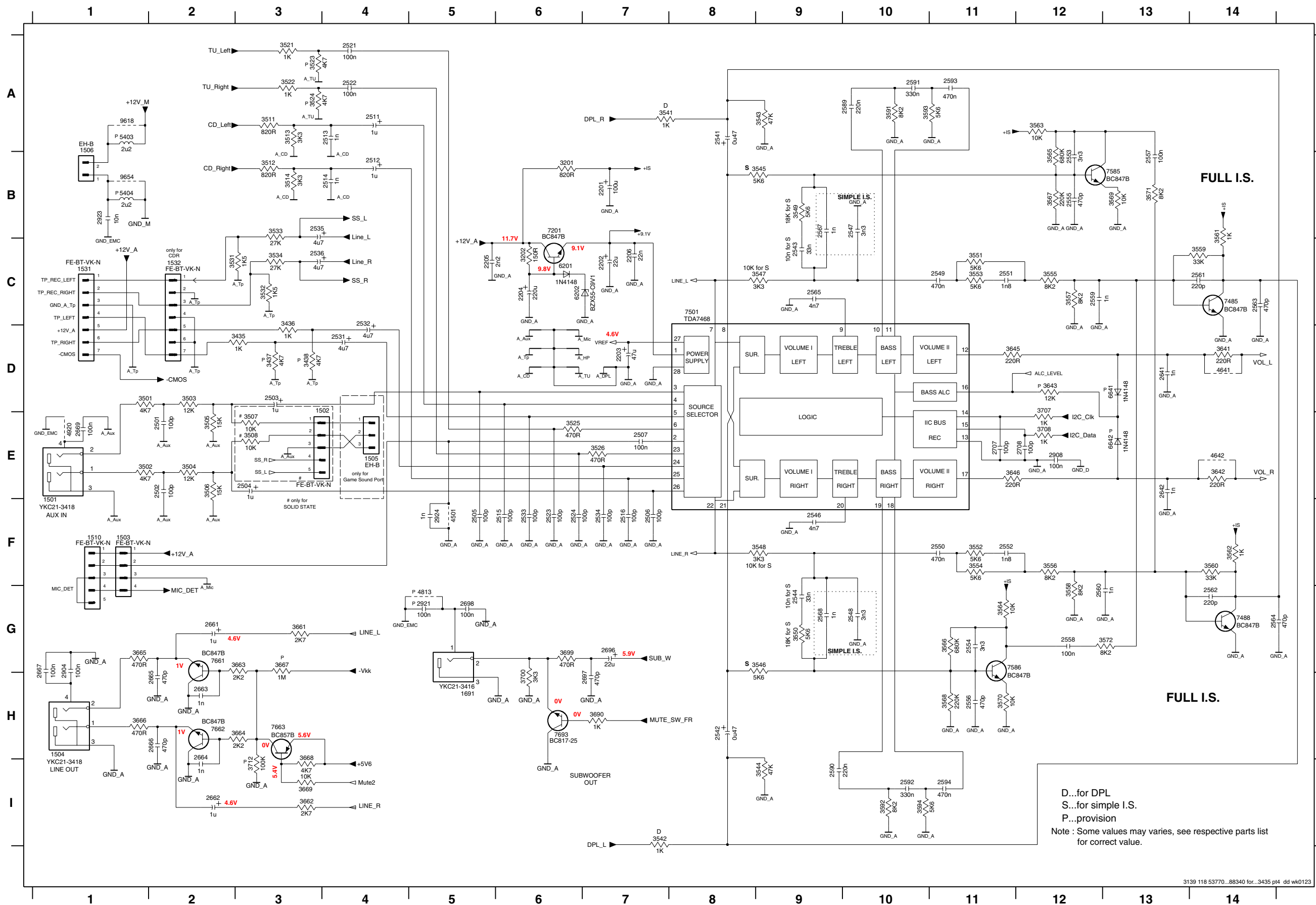


AF9 BOARD - CHIP LAYOUT

2205 A4	2523 C4	2567 C4	2641 C3	2805 D6	3202 A4	3521 A5	3552 D5	3591 C4	3624 B2	3654 B4	3676 D3	3803 D6	4124 C4	4148 A5	4904 C1	7501 C4	7693 C6
2206 C5	2524 C5	2568 D4	2642 C4	2806 D6	3401 B1	3522 A5	3553 C4	3592 D4	3625 B2	3655 B5	3677 D3	3805 C6	4125 C5	4149 C6	4905 B3	7585 C4	7802 D6
2208 B1	2533 C4	2581 D3	2653 A5	2807 C6	3402 B1	3523 A5	3554 D5	3593 C3	3626 B2	3656 A4	3678 D3	3806 C6	4126 A2	4150 C6	4906 A6	7586 D4	7803 B4
2210 B1	2534 D4	2582 D2	2654 A4	2808 C6	3404 B1	3524 A5	3555 C4	3594 D4	3629 C2	3657 A4	3683 B3	3807 D6	4127 B2	4151 A2	4907 A1	7601 C2	
2211 B1	2543 C4	2583 C3	2663 A6	2809 D6	3405 B1	3525 C4	3556 D5	3605 C1	3630 C1	3658 A4	3684 B2	3808 D6	4128 C3	4152 A2	4908 A1	7603 C2	
2401 B1	2544 D4	2584 D2	2664 A6	2810 D6	3406 B1	3526 C4	3557 C4	3606 D2	3633 B5	3659 C2	3686 B3	3809 D6	4130 C2	4153 B1	4909 C6	7604 C2	
2402 B1	2547 C4	2585 C3	2665 A6	2902 D1	3408 B3	3531 D1	3558 D5	3607 C2	3634 B5	3660 D2	3687 B2	3822 B1	4132 C1	4403 B1	4910 C6	7621 B2	
2403 B1	2548 D4	2586 D2	2666 A6	2904 A6	3409 B3	3532 D1	3559 B5	3609 C2	3635 C3	3661 A6	3688 B2	4100 A4	4133 C1	4404 A4	4911 C6	7622 B2	
2404 B2	2553 C4	2587 C3	2667 A6	2905 C2	3501 B6	3533 D2	3560 D5	3610 D2	3636 B4	3662 A6	3689 C2	4101 C6	4134 D4	4405 B3	4912 B1	7623 B2	
2501 B6	2554 D5	2588 D2	2669 B6	2908 C3	3502 A6	3534 D1	3561 B5	3611 C2	3637 C3	3664 A6	3690 C6	4104 B6	4135 C2	4406 B1	4913 B1	7635 B5	
2502 A6	2555 C4	2601 D3	2682 B2	2921 C6	3503 B6	3541 C3	3562 D5	3612 D2	3638 B4	3665 A6	3692 B3	4108 C5	4137 D1	4407 C3	4914 B3	7636 C3	
2505 C4	2556 D4	2602 C3	2683 B3	2922 C1	3504 A6	3543 C4	3563 C5	3613 C2	3639 B5	3666 A6	3694 B1	4110 C5	4138 D2	4501 C5	4915 A1	7651 A5	
2506 C5	2557 C5	2605 C3	2691 B4	2924 C6	3505 B6	3544 D4	3564 D5	3614 C2	3641 D3	3667 A6	3699 C6	4111 C6	4139 B1	4641 D3	4920 C6	7652 A4	
2507 C5	2558 D5	2606 D3	2697 C6	2950 A1	3506 B6	3545 C4	3565 C4	3615 C2	3642 D3	3668 A6	3700 C6	4112 D4	4141 B1	4642 D3	4921 C6	7653 A4	
2513 C3	2559 C4	2607 C3	2698 C6	2951 A2	3507 B6	3546 D4	3566 D5	3616 C2	3644 A2	3669 A6	3707 C3	4113 D4	4142 B1	4801 D6	7201 A4	7654 A5	
2514 C3	2560 D5	2608 D3	2707 C4	2952 A2	3508 B6	3547 C4	3567 C4	3619 C2	3645 C4	3671 D4	3708 C3	4114 C2	4143 A4	4802 A2	7402 B3	7661 A6	
2515 C4	2561 B5	2609 C2	2708 C4	2953 A2	3511 B3	3548 D4	3568 D4	3620 C1	3646 C4	3672 D3	3711 B3	4115 D4	4144 B4	4811 C3	7403 B1	7662 A6	
2516 D4	2562 D5	2610 D2	2801 C6	2954 A5	3512 B3	3549 D4	3569 B4	3621 B2	3651 B4	3673 D4	3712 A6	4116 B5	4145 A1	4812 D2	7404 B1	7663 A6	
2521 A5	2563 C3	2622 B2	2802 D6	2955 B1	3513 C3	3550 D4	3570 D4	3622 B2	3652 C1	3674 D3	3801 C6	4119 D4	4146 A4	4813 C6	7485 B5	7681 B2	
2522 A5	2564 D4	2624 D3	2804 D6	3201 A5	3514 C3	3551 C4	3582 D2	3623 B2	3653 A4	3675 D3	3802 D6	4122 C2	4147 A1	4903 A1	7488 D5	7682 B2	

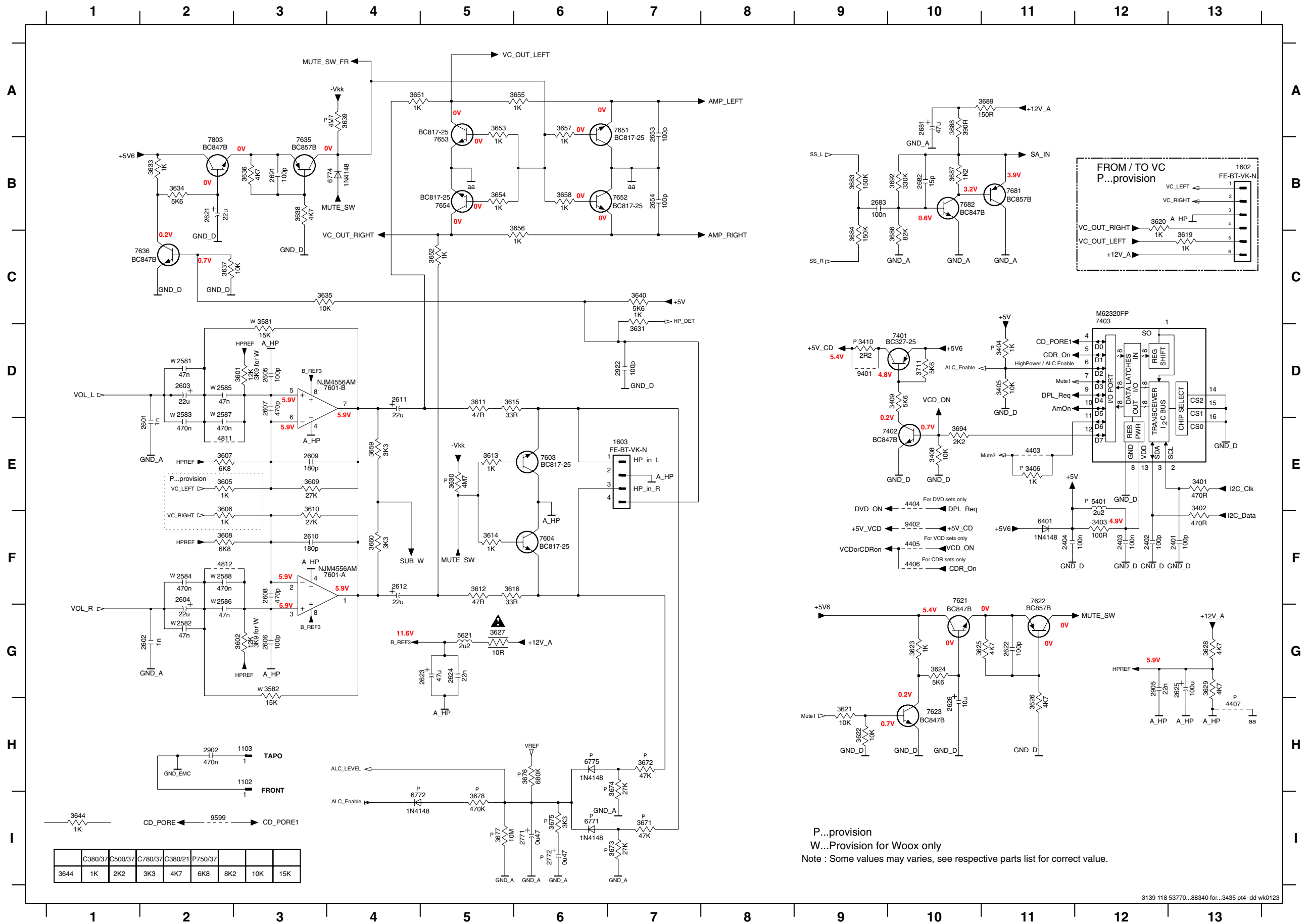


AF9 BOARD - CIRCUIT DIAGRAM (PART 1)



1501 E1	3511 A3
1502 E3	3512 B3
1503 F1	3513 A3
1504 H1	3514 B3
1505 E4	3521 A3
1506 A1	3522 A3
1510 F1	3523 A3
1531 C1	3524 A3
1532 C2	3525 E6
1691 H5	3526 E7
2201 B7	3531 C2
2202 C7	3532 C3
2203 D7	3533 B3
2204 C6	3534 C3
2205 C5	3541 A7
2206 C7	3542 I7
2501 E2	3543 A9
2502 E2	3544 I9
2503 D3	3545 B9
2504 E3	3546 G9
2505 F5	3547 C9
2506 F7	3548 F9
2507 E7	3549 B9
2511 A4	3550 G9
2512 B4	3551 C11
2513 A4	3552 F11
2514 B4	3553 C11
2515 F6	3554 F11
2516 F7	3555 C12
2521 A4	3556 F12
2522 A4	3557 C12
2523 F6	3558 G12
2524 F6	3559 C14
2531 D4	3560 F14
2532 C4	3561 B14
2533 F6	3562 F14
2534 F7	3563 A12
2535 B3	3564 G11
2536 C3	3565 B12
2541 A8	3566 G11
2542 H8	3567 B12
2543 G9	3568 H11
2544 C9	3569 B13
2546 F9	3570 H11
2547 B10	3571 B13
2548 G10	3572 G13
2549 C11	3591 A10
2550 F11	3592 I10
2551 C11	3593 A10
2552 F11	3594 I10
2553 B12	3641 D14
2554 G11	3642 E14
2555 B12	3643 D12
2556 H11	3645 D11
2557 B13	3646 E11
2558 G12	3661 G3
2559 C12	3662 I3
2560 G12	3663 G3
2561 C14	3664 H3
2562 G14	3665 G1
2563 C14	3666 H1
2564 G14	3667 G3
2565 C9	3668 I3
2567 B9	3669 I3
2568 G9	3690 H7
2589 A10	3699 G6
2590 I9	3700 H6
2591 A10	3707 E12
2592 I10	3708 E12
2593 A11	3712 I3
2594 I11	4501 F5
2641 D13	4641 D14
2642 E13	4642 E14
2661 G2	4813 G5
2662 I2	4920 E1
2663 H2	5403 A1
2664 I2	5404 B1
2665 H2	6201 C6
2666 H2	6202 C6
2667 G1	6641 D13
2669 E1	6642 E13
2696 G7	7201 B6
2697 H7	7488 C14
2698 G5	7489 G14
2707 E11	7501 C8
2708 E12	7585 B13
2904 G1	7586 G11
2908 E12	7661 G2
2921 G5	7662 H2
2923 B1	7663 H3
2924 F5	7693 H6
3201 B6	9618 A1
3202 C6	9654 B1
3435 D3	
3436 D3	
3437 D3	
3438 D3	
3501 D1	
3502 E1	
3503 D2	
3504 E2	
3505 E2	
3506 E2	
3507 E3	
3508 E3	

AF9 BOARD - CIRCUIT DIAGRAM (PART 2)



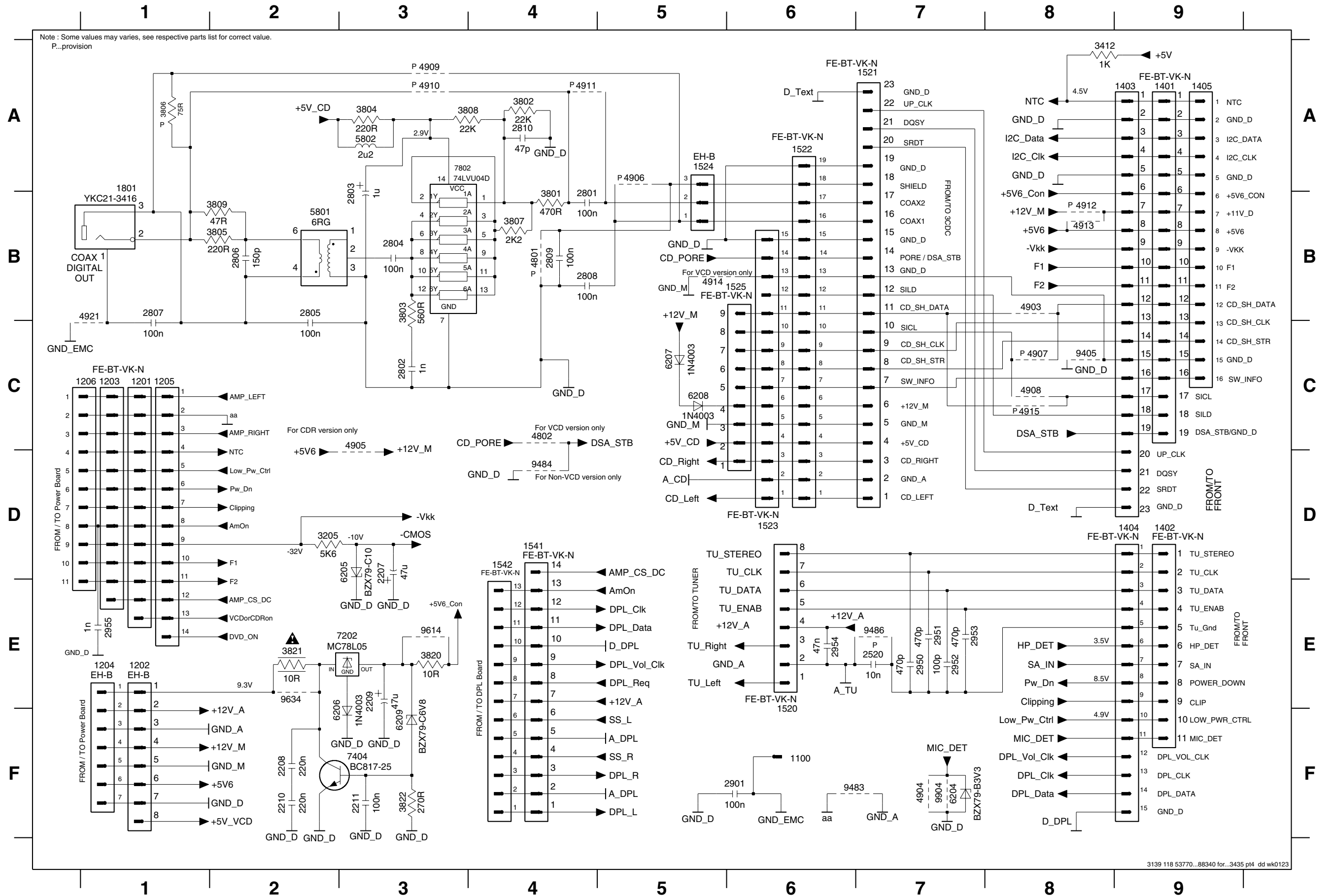
	C380/37	C500/37	C780/37	C380/21	P750/37		
3644	1K	2K2	3K3	4K7	6K8	8K2	10K

P...provision
W...Provision for Woox only
Note : Some values may varies, see respective parts list for correct value.

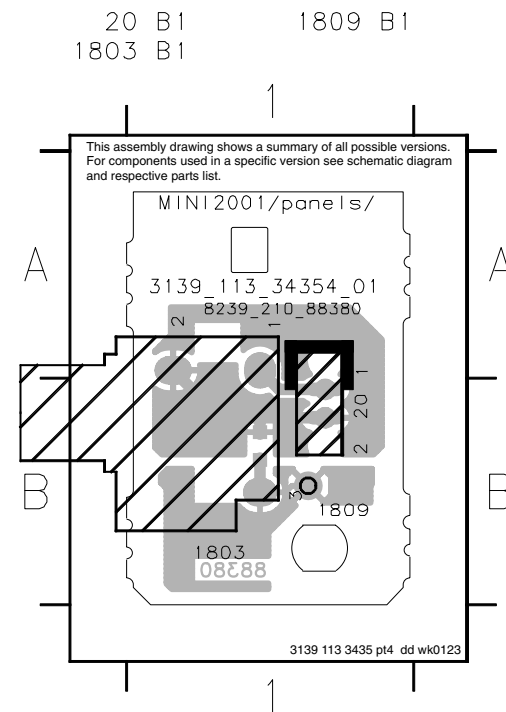
- 1102 H3
- 1103 H3
- 1602 B13
- 1603 E7
- 2401 F13
- 2402 F12
- 2403 F12
- 2404 F11
- 2581 D2
- 2582 G2
- 2583 D2
- 2584 F2
- 2585 D2
- 2586 F2
- 2587 D2
- 2588 F2
- 2601 E2
- 2602 G2
- 2603 D2
- 2604 F2
- 2605 D3
- 2606 G3
- 2607 D3
- 2608 F3
- 2609 E3
- 2610 F3
- 2611 D4
- 2612 F4
- 2621 B2
- 2622 G11
- 2623 G5
- 2624 G5
- 2625 G13
- 2626 H10
- 2653 A7
- 2654 B7
- 2681 A10
- 2682 B10
- 2683 B9
- 2691 B3
- 2711 I6
- 2721 I6
- 2902 H2
- 2905 G12
- 2922 D7
- 3401 E13
- 3402 E13
- 3403 F12
- 3404 D11
- 3405 D11
- 3406 E11
- 3408 E10
- 3409 D10
- 3410 D9
- 3581 D3
- 3582 G3
- 3601 D3
- 3602 G3
- 3605 E2
- 3606 F2
- 3607 E2
- 3608 F2
- 3609 E3
- 3610 F3
- 3611 D5
- 3612 F5
- 3613 E5
- 3614 F5
- 3615 D5
- 3616 F5
- 3619 C13
- 3620 B12
- 3621 H9
- 3622 H9
- 3623 G10
- 3624 G10
- 3625 G10
- 3626 H11
- 3627 G5
- 3628 G13
- 3629 G13
- 3630 E5
- 3631 D7
- 3633 B2
- 3634 B2
- 3635 C3
- 3636 B3
- 3637 C2
- 3638 B3
- 3639 A4
- 3640 C7
- 3644 I1
- 3651 A4
- 3652 C5
- 3653 A5
- 3654 B5
- 3655 A6
- 3656 C6
- 3657 A6
- 1102 H3
- 1103 H3
- 1602 B13
- 1603 E7
- 2401 F13
- 2402 F12
- 2403 F12
- 2404 F11
- 2581 D2
- 2582 G2
- 2583 D2
- 2584 F2
- 2585 D2
- 2586 F2
- 2587 D2
- 2588 F2
- 2601 E2
- 2602 G2
- 2603 D2
- 2604 F2
- 2605 D3
- 2606 G3
- 2607 D3
- 2608 F3
- 2609 E3
- 2610 F3
- 2611 D4
- 2612 F4
- 2621 B2
- 2622 G11
- 2623 G5
- 2624 G5
- 2625 G13
- 2626 H10
- 2653 A7
- 2654 B7
- 2681 A10
- 2682 B10
- 2683 B9
- 2691 B3
- 2711 I6
- 2721 I6
- 2902 H2
- 2905 G12
- 2922 D7
- 3401 E13
- 3402 E13
- 3403 F12
- 3404 D11
- 3405 D11
- 3406 E11
- 3408 E10
- 3409 D10
- 3410 D9
- 3581 D3
- 3582 G3
- 3601 D3
- 3602 G3
- 3605 E2
- 3606 F2
- 3607 E2
- 3608 F2
- 3609 E3
- 3610 F3
- 3611 D5
- 3612 F5
- 3613 E5
- 3614 F5
- 3615 D5
- 3616 F5
- 3619 C13
- 3620 B12
- 3621 H9
- 3622 H9
- 3623 G10
- 3624 G10
- 3625 G10
- 3626 H11
- 3627 G5
- 3628 G13
- 3629 G13
- 3630 E5
- 3631 D7
- 3633 B2
- 3634 B2
- 3635 C3
- 3636 B3
- 3637 C2
- 3638 B3
- 3639 A4
- 3640 C7
- 3644 I1
- 3651 A4
- 3652 C5
- 3653 A5
- 3654 B5
- 3655 A6
- 3656 C6
- 3657 A6

AF9 BOARD - CIRCUIT DIAGRAM (PART 3)

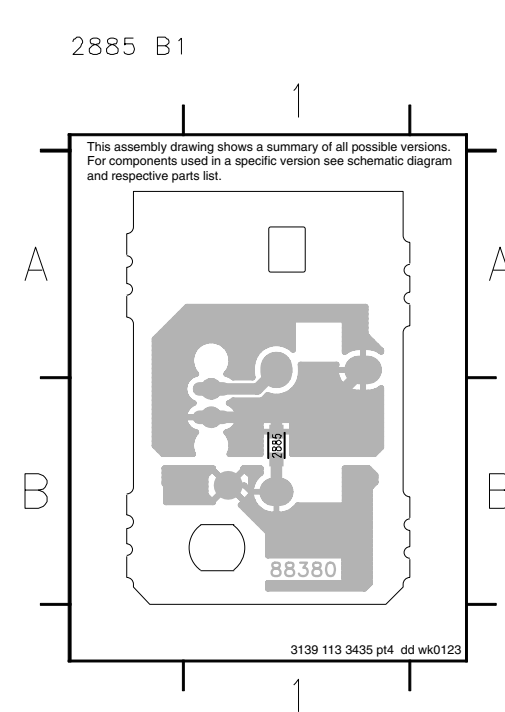
1100 F6 1203 C1 1206 C1 1403 A9 1520 E6 1523 D6 1541 D4 2207 D3 2210 F2 2801 B4 2804 B3 2807 B1 2810 A4 2951 E7 2954 E6 3412 A8 3803 B3 3806 A1 3809 B2 3822 F3 4903 B8 4906 A5 4909 A3 4912 B8 4915 C8 5802 A3 6206 F3 6209 F3 7802 A3 9484 D4 9634 E2
 1201 C1 1204 E1 1401 A9 1404 D9 1521 A7 1524 A5 1542 D4 2208 F2 2211 F3 2802 C3 2805 B2 2808 B4 2901 F6 2952 E7 2955 E1 3801 B4 3804 A3 3807 B4 3820 E3 4801 B4 4904 F7 4907 C8 4910 A3 4913 B8 4921 B1 6204 F7 6207 C5 7202 E3 9405 C8 9486 E7 9904 F7
 1202 E1 1205 C1 1402 D9 1405 A9 1522 A6 1525 B5 1801 A1 2209 E3 2520 E7 2803 B3 2806 B2 2809 B4 2950 E7 2953 E7 3205 D2 3802 A4 3805 B2 3808 A3 3821 E2 4802 C4 4905 C3 4908 C8 4911 A4 4914 B5 5801 B2 6205 D3 6208 C5 7404 F3 9483 F6 9614 E3



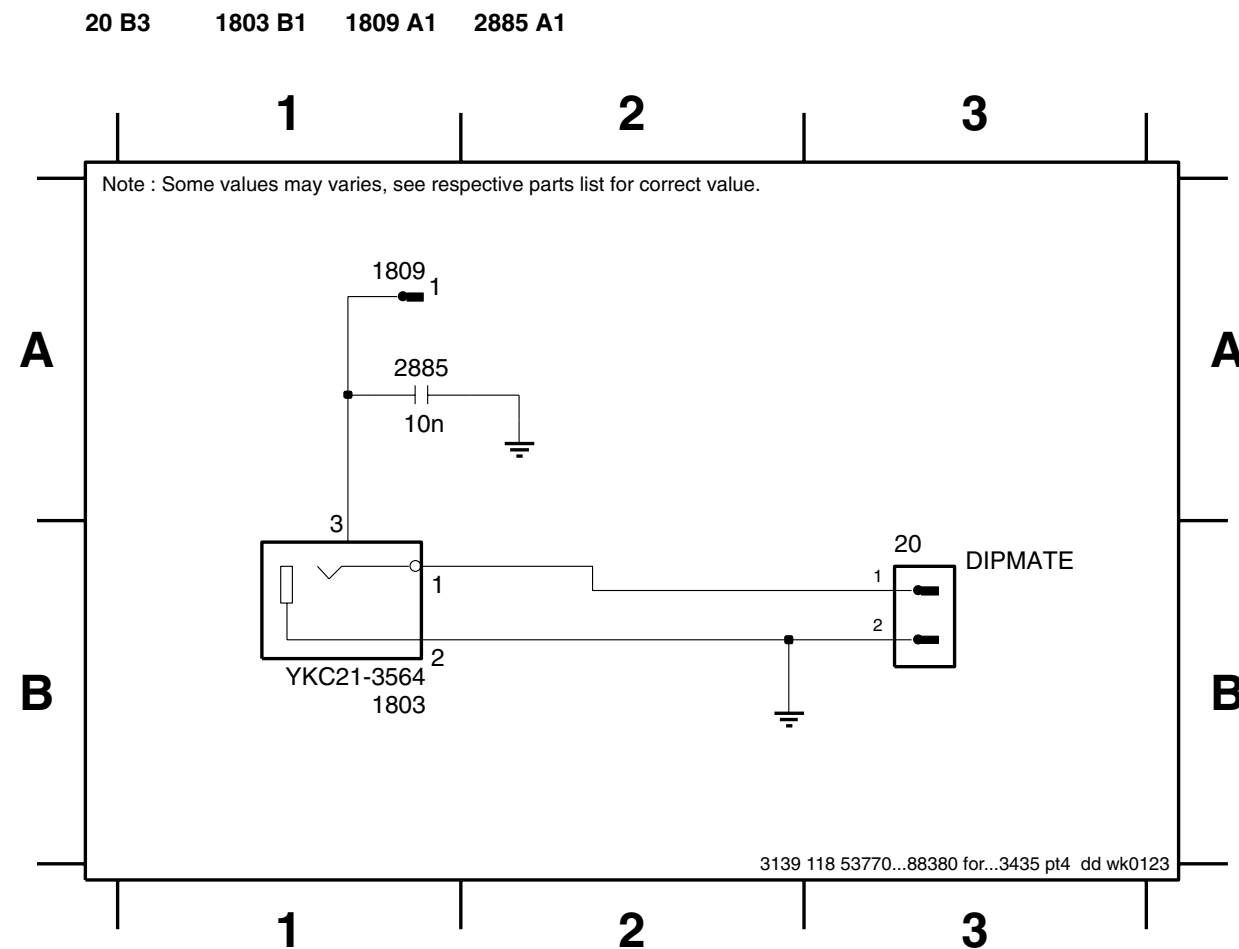
VIDEO OUT CINCH BOARD - COMPONENT LAYOUT



VIDEO OUT CINCH BOARD - CHIP LAYOUT



VIDEO OUT CINCH PART - CIRCUIT DIAGRAM



TAPE ADJUSTMENT & CHECK TABLE

	TEST CASSETTE	RECORDER MODE	MEASURE ON	READ ON	ADJUST	
					with	to
ADJUST MOTOR SPEED						
NORMAL SPEED	SBC420 3150Hz	PLAY B	1 or 2	frequency counter	3620	3150Hz +/- 0.5%
		PLAY A	LEFT RIGHT		check	3150Hz -0.8/+1.8%
CHECK WOW & FLUTTER						
DECK A & B	SBC420 3150Hz	PLAY	1 or 2	W&F-meter	check	<0.4 % DIN
ADJUST AZIMUTH						
DECK A & B	SBC420 10kHz	PLAY FWD	1 or 2	mV-meter	left hand screw	max. output level & left=right
		PLAY REV #	LEFT RIGHT		right hand screw	
CHECK PLAYBACK FREQUENCY RESPONSE						
DECK A & B	SBC420	PLAY	1 or 2	mV-meter	check	limits see fig.1
ADJUST BIAS CURRENT						
DECK B	SBC419A^	RECORD	5 or 6	mV-meter	3773	995mV
	SBC420		LEFT RIGHT		check	750mV +/- 1.5dB
CHECK OVERALL FREQUENCY RESPONSE AND DISTORTION						
Inject 3mV signals 100Hz, 250Hz, 1kHz, 10kHz, 12.5kHz via 3 or 4	SBC419A^ or SBC420	RECORD B				
	RECORDED CASSETTE	PLAY B	1 or 2	mV-meter	check	limits see fig. 2 *
Inject 1kHz 8.85mV via 3 or 4	SBC419A^ or SBC420	RECORD B				
	RECORDED CASSETTE	PLAY B	1 or 2	THD-meter	check	<3% *

SBC419A^ : 4822 397 30069
SBC420 : 4822 397 30071

For Auto-reverse version only
* If high frequencies are not within limits, decrease bias and re-measure.
If distortion is too high, increase bias and re-measure
^ Not applicable for Ferro version

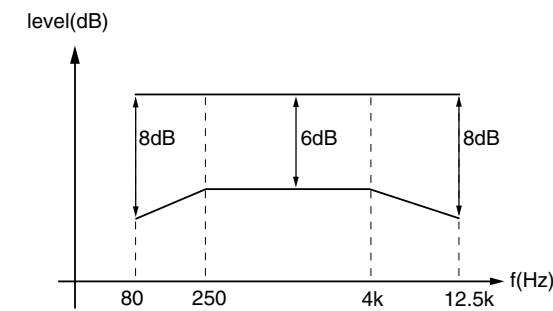


figure. 1

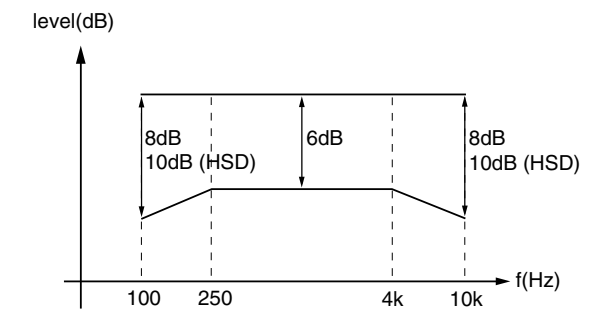
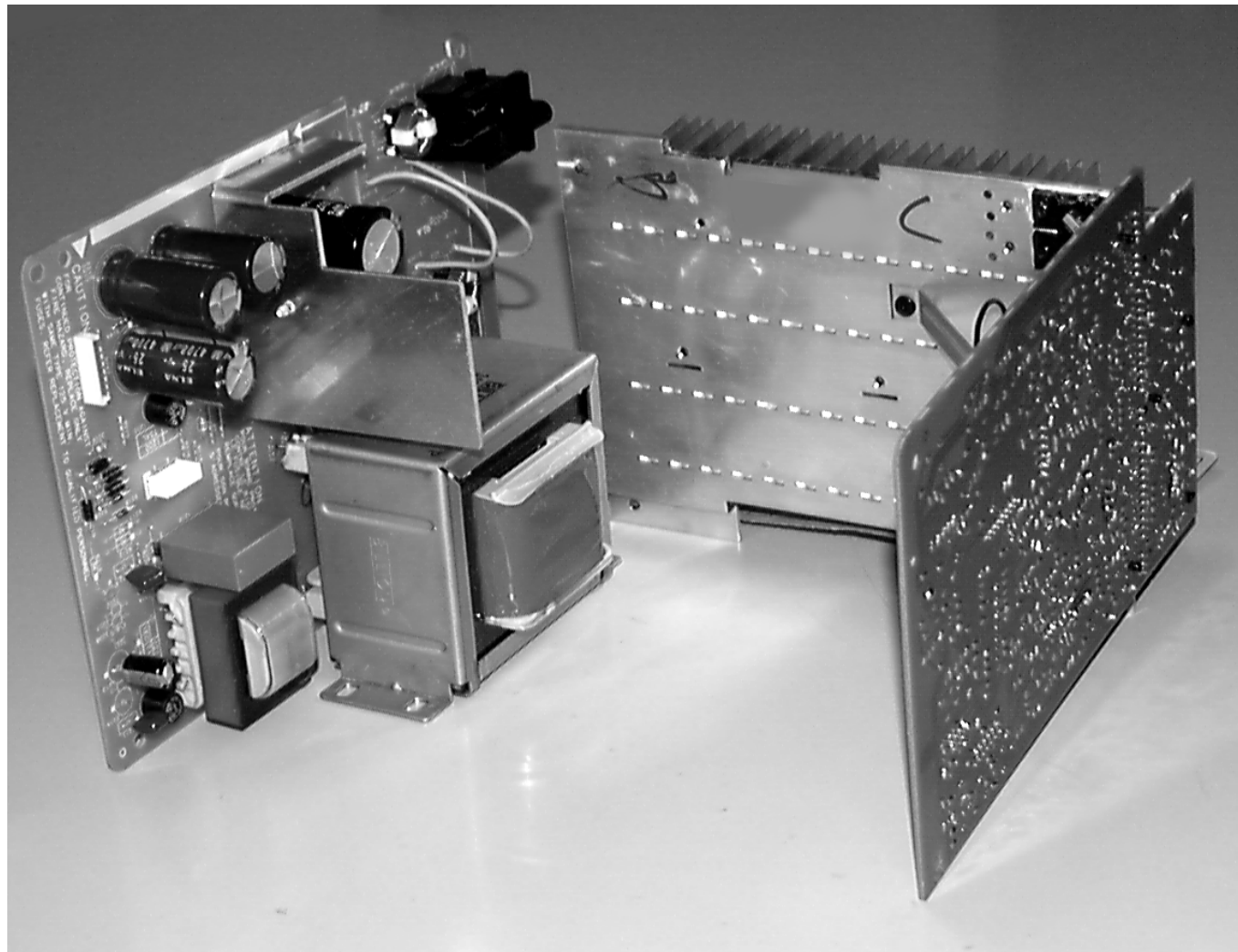


figure. 2



POWER 2001 Module

(30 - 70W Version)

stage .9

TABLE OF CONTENTS

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Circuit details:

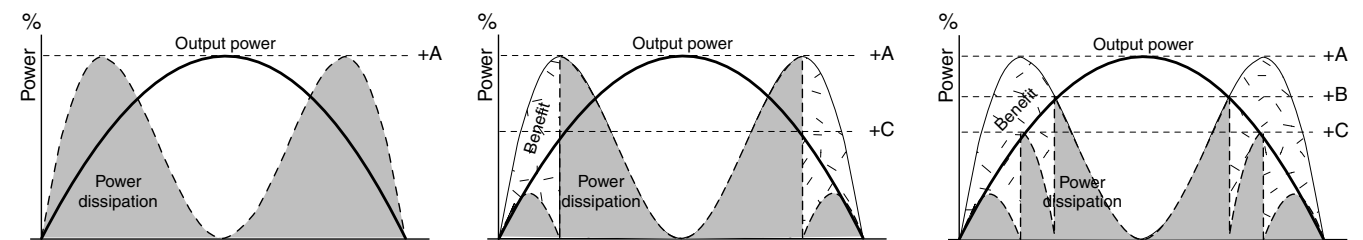
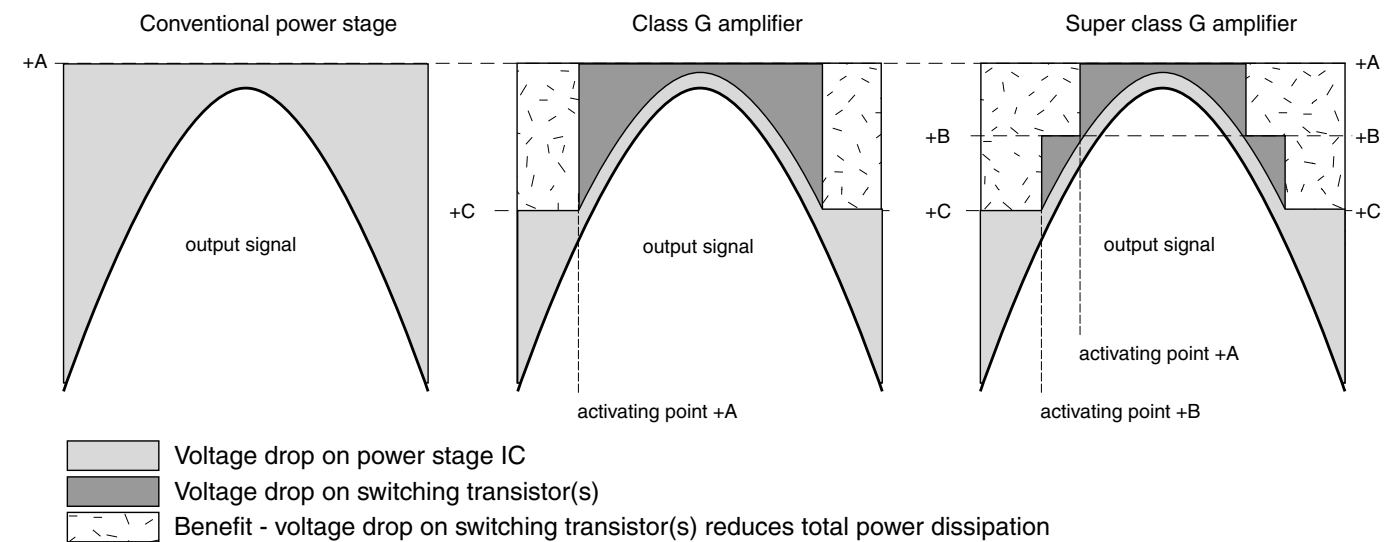
Amplifier:

Attention: In the POWER 2001 module the power amplifier IC AN7591 is used as a bridge-amplifier.
 Any connection from output to ground will destroy the output stages!

- Via the AMP_ON control line, connected to pins 6 (Stby), the power amplifiers are switched on/off by the μ P.
 High level (approx. 4,5V): power amplifiers switched on
 Low level (approx. 0V): power amplifiers switched off
- Super class G - operation

The power amplifiers operate as so-called super class G - amplifiers:
 The supply pins 12 (Vcc) are not just connected to one fixed DC-supply as in conventional amplifiers.
 Dependent on the output power there are three different DC-voltages supplied to the power amplifiers:
 => +C1 (+20V) for low output power
 => +B1 (+29V) for medium output power
 => +A1 (+41V) for high output power

Principle / benefit of Super Class G



Circuit details continued:

• **Low power standby feature**

An additional small standby transformer, reduces power consumption in standby-mode. In case power is switched on, the control line ECO is low → relay 1210 is activated → contacts 1 and 2 are closed → transformer 5001 is connected to mains. When the set is switched off (standby) the control line ECO is high → relay 1210 is not activated → main transformer is disconnected. Via standby transformer and rectifiers 6210-6214 the supply voltage LOW_PWR_SUP is substituted. This voltage is always available and so the microprocessor is kept running.

• **DC voltages +A1, +B1, +C1**

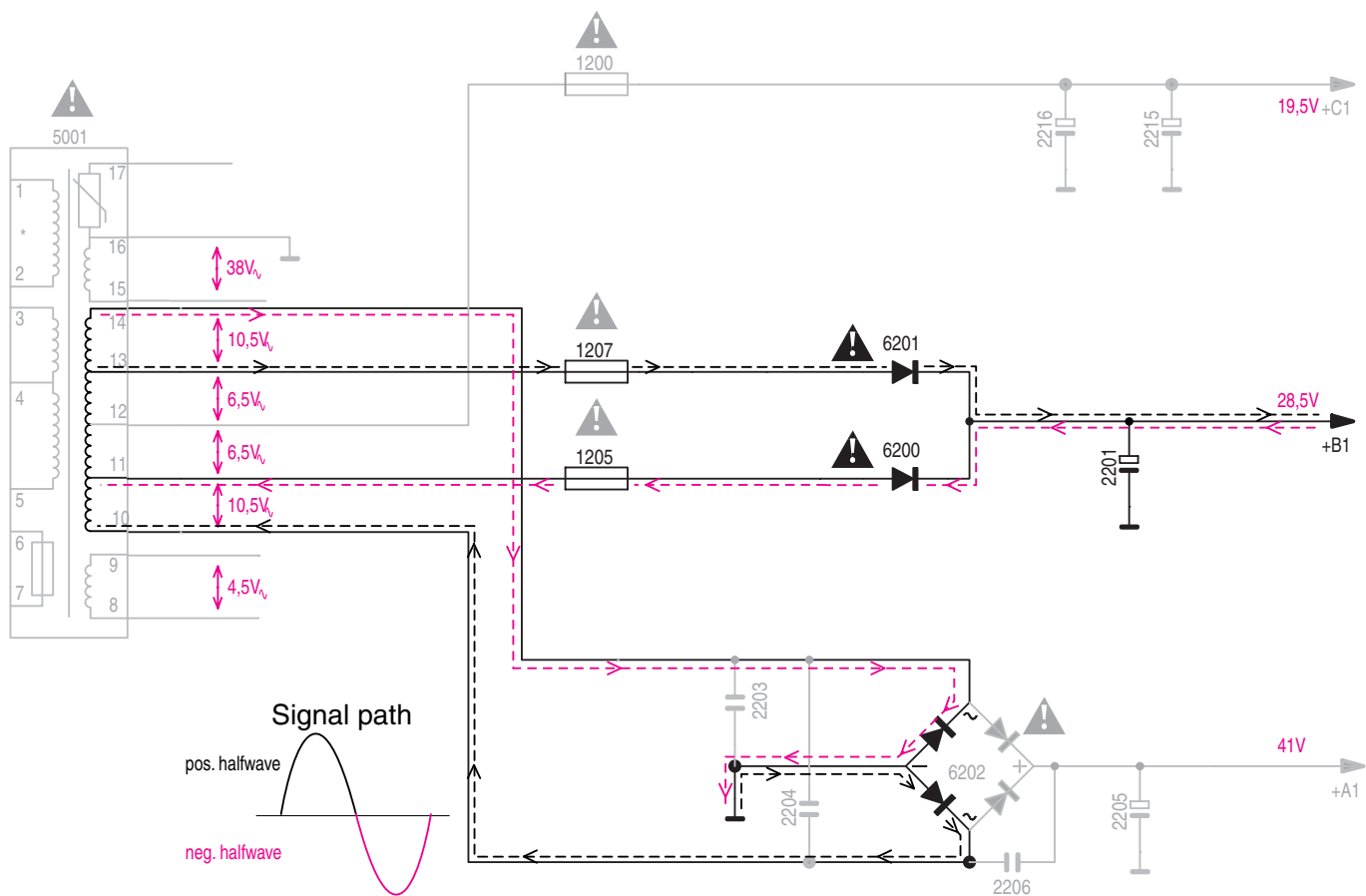
These voltages supply the Super Class G amplifier, described on previous page. The whole power supply is optimized for the special characteristic of this type of amplifier. For that reason several “tricky” details have been applied to ensure optimal efficiency and symmetrical load to the mains transformer.

Generation of +A1

Common full wave rectifying with bridge rectifier 6202, using 100% secondary winding of mains transformer (pin 10-14).

Generation of +B1

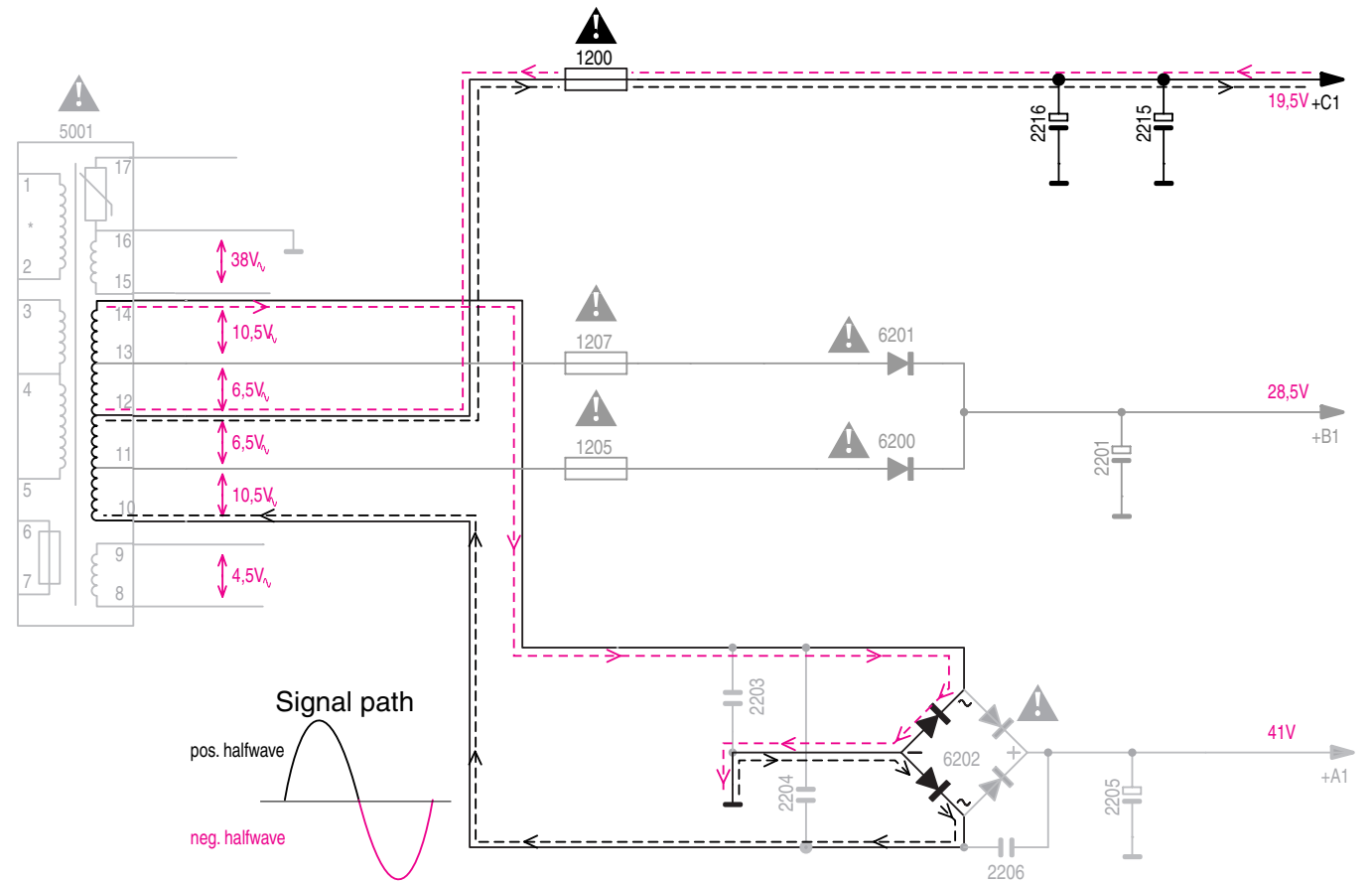
The supply for +B1 consists of one full wave rectifier: – 2 diodes of bridge rectifier 6202, with 6200(6220 in parallel) 6201(6221 in parallel) for generation of +B1 using approx. 70% secondary winding of mains transformer (pin 10-13 respectively pin 11-14). As example for generation of +B1 see picture 1.



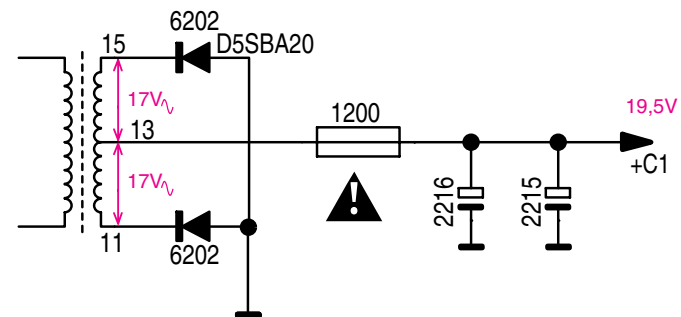
picture 1

Generation of +C1

Full wave rectifying with 2 diodes of bridge rectifier 6202, using 50% secondary winding of mains transformer (pin 13-15/13-11). See picture 2 below.

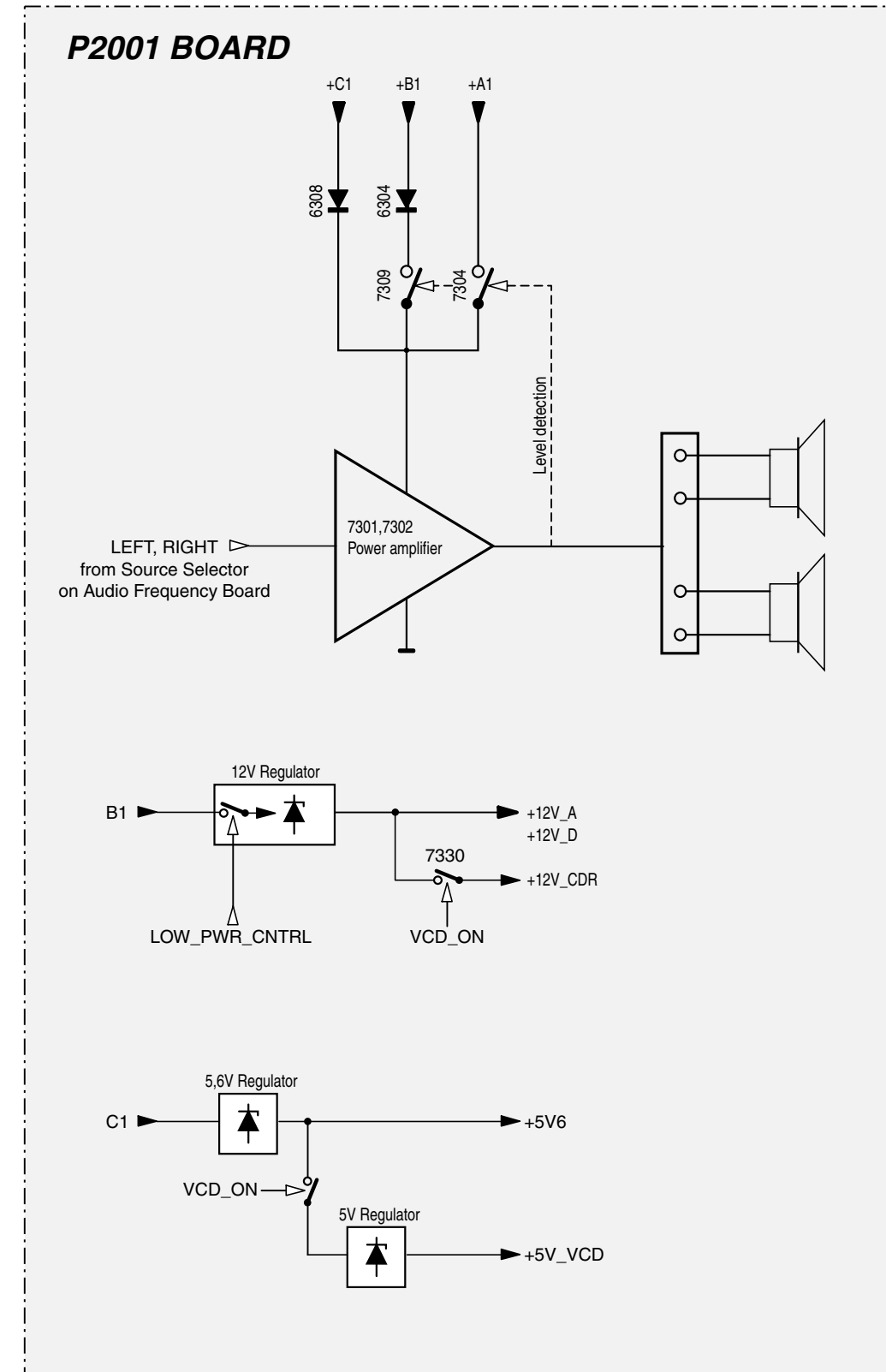
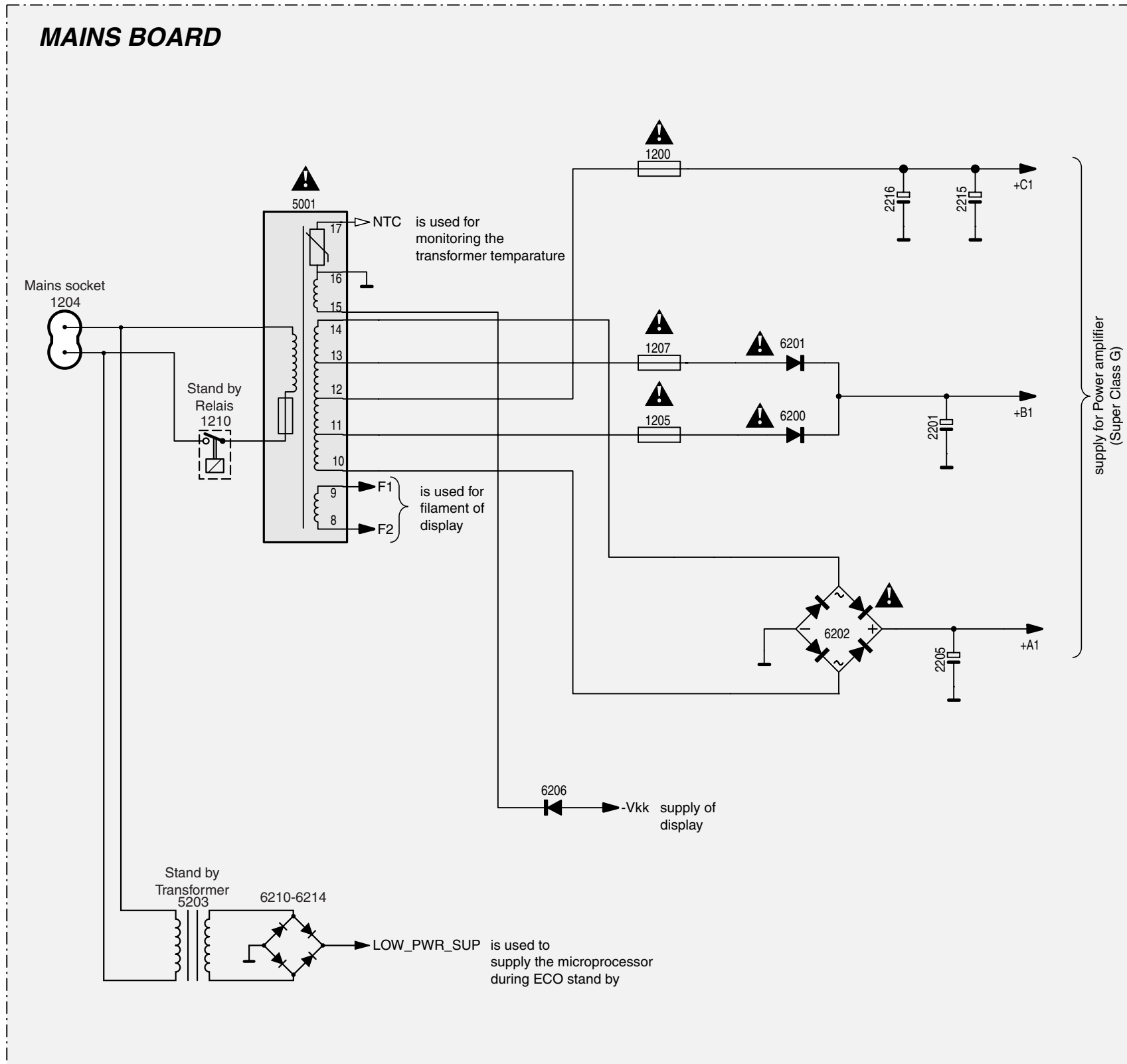


simplified:

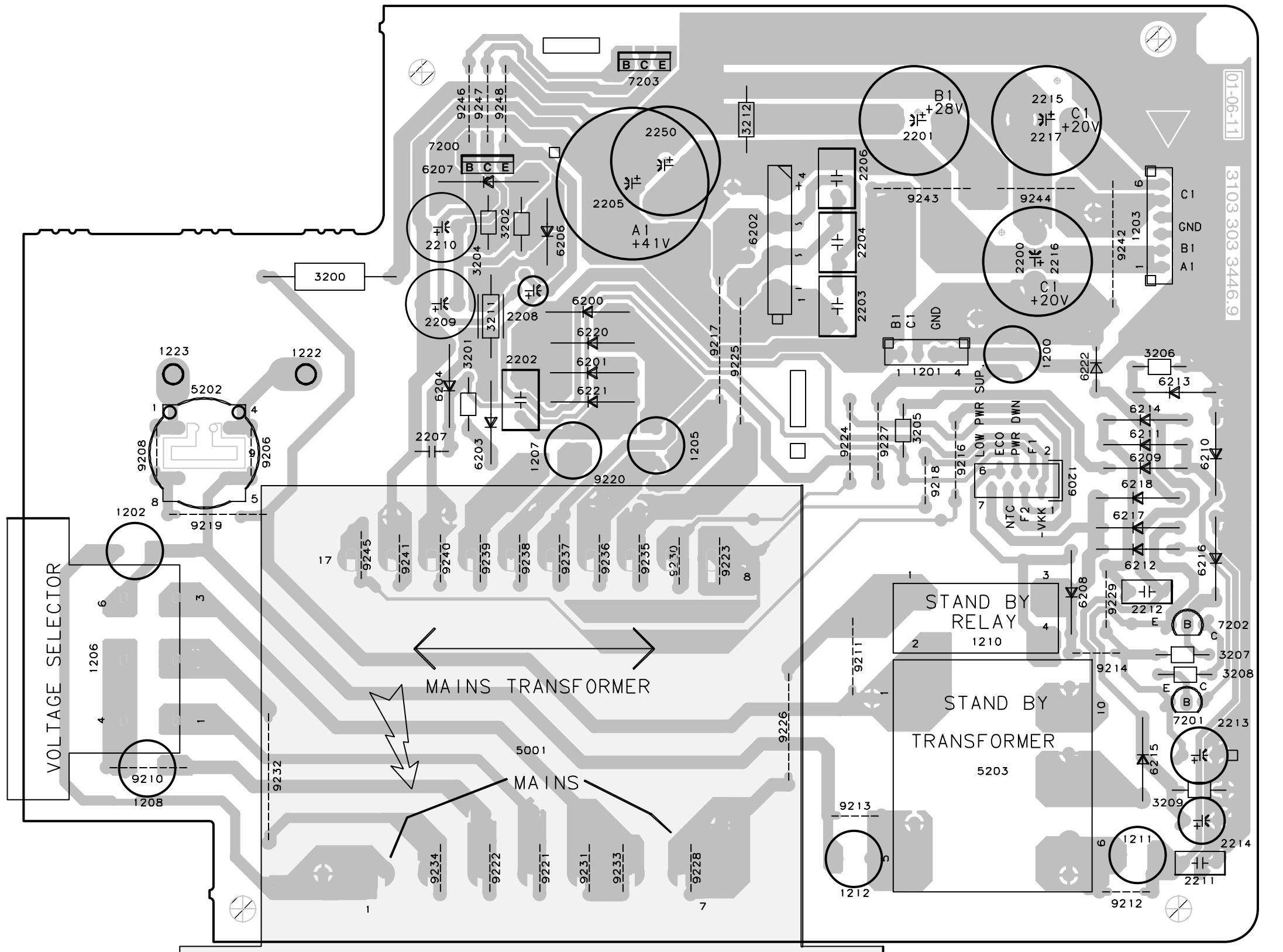


picture 2

Block Diagram

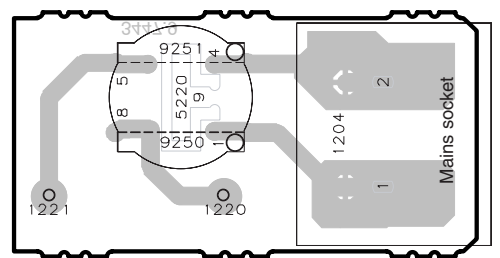


Mains Board Copperside view



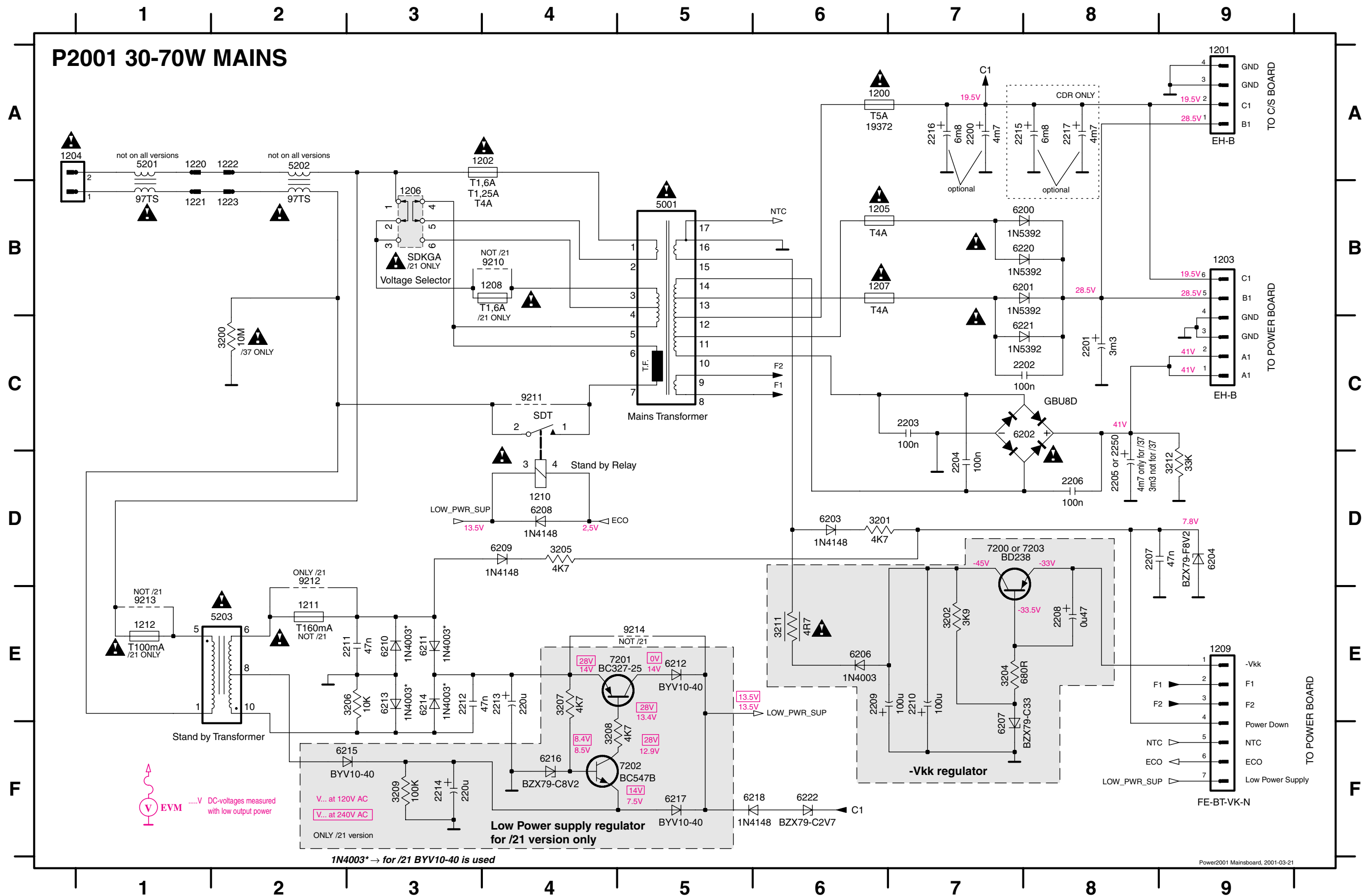
1200 B5	6210 C5
1201 B4	6211 B5
1202 C1	6212 C5
1203 A5	6213 B5
1205 B3	6214 B5
1206 C1	6215 D5
1207 C3	6216 C5
1208 D1	6217 C5
1209 C5	6218 C5
1210 C5	6220 B3
1211 D5	6221 B3
1212 D4	6222 B5
1222 B2	7200 A2
1223 B1	7201 D5
2200 B5	7202 C5
2201 A4	7203 A3
2202 B3	9206 B2
2203 B4	9208 B1
2204 B4	9210 D1
2205 B3	9211 D4
2206 A4	9212 D5
2207 B2	9213 D4
2208 B3	9214 C5
2209 B2	9216 B4
2210 B2	9217 B3
2211 D5	9218 C4
2212 C5	9219 C1
2213 D5	9220 C3
2214 D5	9221 D3
2215 A5	9222 D3
2216 B5	9223 C4
2217 A5	9224 B4
2250 A3	9225 B4
3200 B2	9226 D4
3201 B2	9227 B4
3202 B3	9228 D3
3204 A3	9229 C5
3205 B4	9230 C3
3206 B5	9231 D3
3207 C5	9232 D2
3208 C5	9233 D3
3209 D5	9234 D2
3211 B3	9235 C3
3212 A4	9236 C3
5001 C2	9237 C3
5202 B1	9238 C3
5203 D5	9239 C3
6200 B3	9240 C2
6201 B3	9241 C2
6202 B4	9242 B5
6203 B2	9243 A4
6204 B2	9244 A5
6206 B3	9245 C2
6207 A2	9246 A2
6208 C5	9247 A2
6209 C5	9248 A3

Mains Socket



This assembly drawing shows a summary of all possible versions.
 For components used in a specific version see schematic diagram respectively partslist.

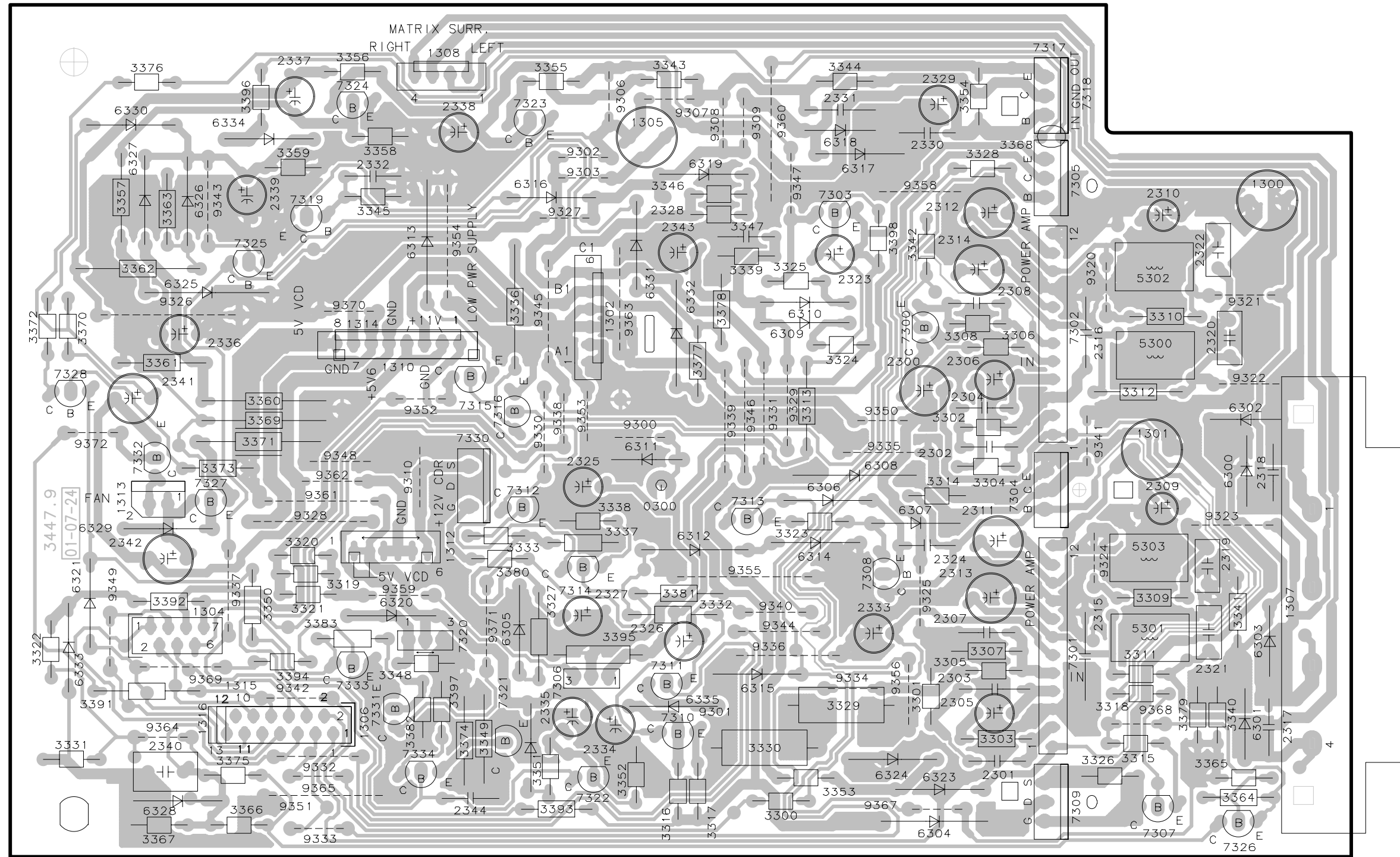
1200 A6	1207 B6	1222 A2	2204 D7	2210 E7	2216 A7	3204 E7	3211 E6	6201 B8	6208 D4	6214 E3	6221 C8	9208 B2	9215 F6
1201 A9	1208 B4	1223 B2	2205 D8	2211 E3	2217 A8	3205 E4	3212 D9	6202 C8	6209 E4	6215 F3	7200 D7	9210 B4	
1202 A4	1209 E9	2200 A7	2206 D8	2212 E3	2250 D8	3206 E3	5001 C5	6203 D6	6210 E3	6216 F4	7201 E4	9211 C4	
1203 B9	1210 D4	2201 C8	2207 D8	2213 E4	3200 C2	3207 E4	5202 A2	6204 D9	6211 E3	6217 F5	7202 F5	9212 D2	
1205 B6	1211 E2	2202 C8	2208 E8	2214 F3	3201 D6	3208 F4	5203 E1	6206 E6	6212 E5	6218 F6	7203 D7	9213 E1	
1206 B3	1212 E1	2203 C7	2209 E6	2215 A7	3202 E7	3209 F3	6200 B8	6207 F7	6213 E3	6220 B8	9206 A2	9214 E5	



0300 B3	1307 B5	1316 C1	2306 A4	2313 B4	2320 A5	2327 B3	2334 C3	2341 B1	3303 C4	3310 A5	3317 C3	3324 A3	3331 C1	3340 C5	3347 A3	3354 A4	3361 A1	3368 A4	3375 C1	3382 C2	7301 C4
1300 A5	1308 A2	2300 B4	2307 C4	2314 A4	2321 C5	2328 A3	2335 C2	2342 B1	3304 B4	3311 C5	3318 C5	3325 A3	3332 B3	3341 B5	3348 C2	3355 A2	3362 A1	3369 B1	3376 A1	3383 C1	7302 A4
1301 B5	1310 A2	2301 C4	2308 A4	2315 C4	2322 A5	2329 A4	2336 A1	2343 A3	3305 C4	3312 B5	3319 B1	3326 C5	3333 B2	3342 A4	3349 C2	3356 A1	3363 A1	3370 A1	3377 B3	3391 C1	7303 A3
1302 A3	1312 B2	2302 B4	2309 B5	2316 A4	2323 A3	2330 A4	2337 A1	2344 C2	3306 A4	3313 B3	3320 B1	3327 B2	3336 A2	3343 A3	3350 B1	3357 A1	3364 C5	3371 B1	3378 A3	3392 B1	7304 B4
1304 C1	1313 B1	2303 C4	2310 A5	2317 C5	2324 B4	2331 A3	2338 A2	3300 C3	3307 C4	3314 B4	3321 B1	3328 A4	3337 B3	3344 A3	3351 C2	3358 A2	3365 C5	3372 A1	3379 C5	3393 C2	7305 A4
1305 A3	1314 A2	2304 B4	2311 B4	2318 B5	2325 B2	2332 A2	2339 A1	3301 C4	3308 A4	3315 C5	3322 C1	3329 C3	3338 B3	3345 A2	3352 C3	3359 A1	3366 C1	3373 B1	3380 B2	3394 C1	7306 C2
1306 C2	1315 C1	2305 C4	2312 A4	2319 B5	2326 C3	2333 B4	2340 C1	3302 B4	3309 B5	3316 C3	3323 B3	3330 C3	3339 A3	3346 A3	3353 C3	3360 B1	3367 C1	3374 C2	3381 B3	3395 C2	7307 C5

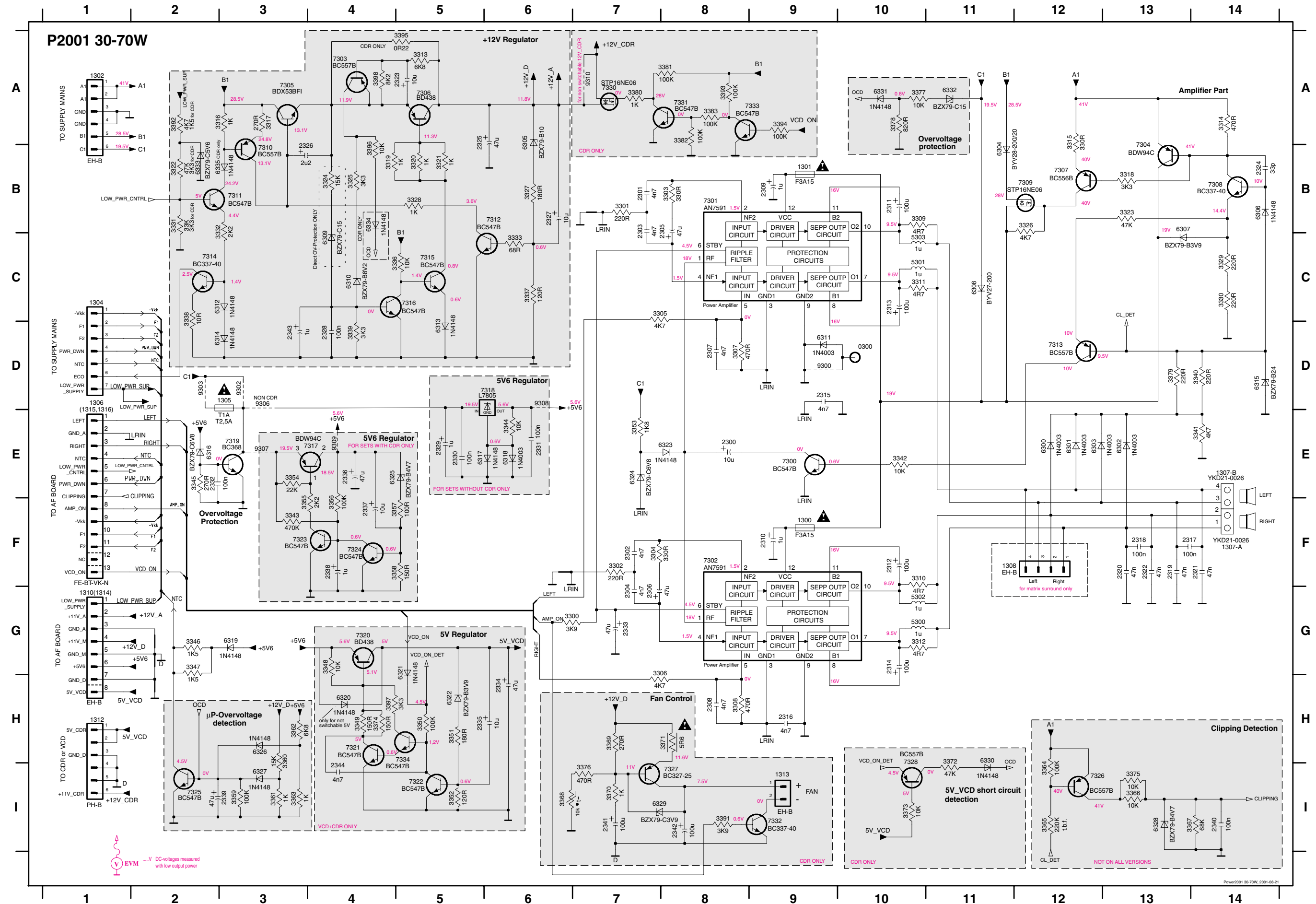
3396 A1	7308 B4
3397 C2	7309 C4
3398 A4	7310 C3
5300 A5	7311 C3
5301 B5	7312 B2
5302 A5	7313 B3
5303 B5	7314 B3
6300 B5	7315 B2
6301 C5	7316 B2
6302 B5	7317 A4
6303 C5	7318 A4
6304 C4	7319 A1
6305 C2	7320 C2
6306 B3	7321 C2
6307 B4	7322 C2
6308 B3	7323 A2
6309 A3	7324 A1
6310 A4	7325 A1
6311 B3	7326 C5
6312 B3	7327 B1
6313 A2	7328 B1
6314 B3	7330 B2
6315 C3	7331 C2
6316 A2	7332 B1
6317 A4	7333 C1
6318 A3	7334 C2
6319 A3	9300 B3
6320 B2	9301 C3
6321 B1	9302 A2
6322 C2	9303 A2
6323 C4	9306 A3
6324 C4	9307 A3
6325 A1	9308 A3
6326 A1	9309 A3
6327 A1	9310 B2
6328 C1	9320 A4
6329 B1	9321 A5
6330 A1	9322 B5
6331 A3	9323 B5
6332 A3	9324 B4
6333 C1	9325 B4
6334 A1	9326 A1
6335 C3	9327 A2
7300 A4	9328 B1
	9329 B3
	9330 B2
	9331 B3
	9332 C1
	9333 C1
	9334 C3
	9335 B4
	9336 C3
	9337 B1
	9338 B2
	9339 B3
	9340 B3
	9341 B4
	9342 C1
	9343 C3
	9345 A2
	9346 B3
	9347 A3
	9348 B1
	9349 C1
	9350 B4
	9351 C1
	9352 B2
	9353 B2
	9354 A2
	9355 B3
	9356 C4
	9358 A4
	9359 B2
	9360 A3
	9361 B1
	9362 B1
	9363 A3
	9364 C1
	9365 C1
	9367 C4
	9368 C5
	9369 C1
	9370 A1
	9371 C2
	9372 B1

Power Board Copperside view



This assembly drawing shows a summary of all possible versions.
 For components used in a specific version see schematic diagram respectively partslist.

0300	D10	1307-a	F14	1315	D1	2305	B8	2312	F10	2319	F13	2326	B3	2333	G7	2340	I14	3303	B8	3310	F10	3317	A3	3324	B4	3331	B2	3340	D14	3347	G2	3354	E3	3361	I3	3368	I6	3375	I13	3382	A8	6300	E12	6307	B13	6314	D2	6321	H5	6328	I13	7302	F8	7309	B12	7316	C5	7323	F3	7331	A8	9306	D4
1300	F9	1307-b	E14	1316	D1	2306	G7	2313	C10	2320	F13	2327	B6	2334	H6	2341	I7	3304	F7	3311	C10	3318	B13	3325	B4	3332	B3	3341	E10	3348	G4	3355	F3	3362	I3	3369	H7	3376	I7	3383	A8	6301	E12	6308	C11	6315	D14	6322	H5	6329	I7	7303	A4	7310	B3	7317	E3	7324	F4	7332	F4	9307	D4
1301	B9	1308	F12	2300	E8	2307	D8	2314	G10	2321	F14	2328	D4	2335	H5	2342	I8	3305	C7	3312	G10	3319	B4	3326	B12	3333	C6	3342	E10	3349	H4	3356	F4	3363	I3	3370	I7	3377	A10	3384	A8	6302	E13	6309	C4	6316	F5	6323	E8	6330	H11	7304	A3	7311	B3	7318	D6	7325	I2	9300	D9	9310	A5
1302	A1	1310	G1	2301	B7	2308	H8	2315	D9	2322	F13	2329	E5	2336	E4	2343	D3	3306	H7	3313	A5	3320	B6	3327	B6	3334	C5	3343	F3	3350	H7	3357	H8	3364	I12	3371	H8	3378	A10	5300	G10	6303	E12	6310	C4	6317	E6	6324	E7	7305	A9	7312	B6	7319	F6	7326	I12	9302	D3				
1304	C1	1312	H1	2302	F7	2309	B9	2316	H9	2323	A4	2330	E5	2337	F4	2344	B4	3307	D8	3314	A14	3321	B5	3328	B3	3335	C6	3344	E5	3351	H5	3358	F5	3365	I12	3372	I11	3379	D13	5301	C10	6304	B11	6311	D9	6318	E6	6325	E5	6332	A11	7306	A5	7313	D12	7320	G4	7327	H4	9303	D2		
1305	D3	1313	I9	2303	B7	2310	F9	2317	F13	2324	A4	2331	E6	2338	F4	2345	B2	3308	H8	3315	A12	3322	B2	3329	C14	3336	C2	3345	F5	3352	I5	3359	I3	3366	I13	3373	I10	3380	A7	5302	G10	6305	A6	6312	C2	6319	G3	6326	H2	6333	E9	7307	B12	7314	C2	7321	H4	7328	H10	9304	D3		
1306	E1	1314	G1	2304	G7	2311	B10	2318	F13	2325	A5	2332	F5	2339	I2	2346	F7	3309	B10	3316	A3	3323	B13	3330	C14	3337	D4	3346	G2	3353	E7	3360	H3	3367	I14	3374	H4	3381	A8	5303	C10	6306	B14	6313	D5	6320	H4	6327	H3	7301	B8	7308	B14	7315	C5	7322	I5	7330	A7	9305	E3		



ELECTRICAL PARTSLIST POWER2001 MODULE

MISCELLANEOUS					CAPACITORS				
1200 ▲	2422 086 10963	FUSE RAD 5A 250V IEC			2328	4822 126 12882	100nF	20%	50V
1202 ▲	4822 071 51252	FUSE 1.25A for sets without 5203			2329	4822 124 21913	1µF	20%	63V
1202 ▲	4822 071 51602	FUSE 1.6A for sets with 5203			2330	4822 126 12882	100nF	20%	50V
1202 ▲	4822 253 10126	FUSE T4A			2331	4822 126 12882	100nF	20%	50V
1204 ▲	2422 030 00328	MAINS SOCKET /37			2332	4822 126 12882	100nF	20%	50V
1204 ▲	4822 265 31015	MAINS SOCKET /21, /22			2333	4822 124 40433	47µF	20%	25V
1205 ▲	2422 086 10786	FUSE RAD 4A 250V IEC			2334	4822 124 40433	47µF	20%	25V
1206 ▲	2422 129 16478	VOLTAGE SELECTOR			2335	4822 124 40248	10µF	20%	63V
1207 ▲	2422 086 10786	FUSE RAD 4A 250V IEC			2336	4822 124 40433	47µF	20%	25V
1208 ▲	4822 071 51252	FUSE 1.25A for sets without 5203			2337	4822 124 40248	10µF	20%	63V
1208 ▲	4822 071 51602	FUSE 1.6A for sets with 5203			2338	4822 124 21913	1µF	20%	63V
1209	4822 267 10953	FLEX FOIL CONNECTOR 7P			2339	4822 124 40433	47µF	20%	25V
1210 ▲	4822 280 10382	STAND 1P 9V			2341	4822 124 23052	100µF	20%	16V
1211 ▲	2422 086 10771	FUSE RAD 160mA 250V IEC			2342	4822 124 23052	100µF	20%	16V
1212 ▲	4822 071 51001	FUSE 100mA			2343	4822 124 21913	1µF	20%	63V
1300 ▲	4822 252 11225	FUSE F3.15A IEC 250V			RESISTORS				
1301 ▲	4822 252 11225	FUSE F3.15A IEC 250V			3200	4822 053 21106	10MΩ	5%	0,5W
1304	4822 267 10953	FLEX FOIL CONNECTOR 7P			3201	4822 116 52283	4,7kΩ	5%	0,5W
1305 ▲	4822 071 51002	FUSE T1A for sets without 5203			3202	4822 116 52276	3,9kΩ	5%	0,5W
1305 ▲	4822 071 52502	FUSE T2,5A for sets with 5203			3204	4822 116 52228	680Ω	5%	0,5W
1306	4822 267 10738	FFC-CONNECTOR 13P			3205	4822 116 52283	4,7kΩ	5%	0,5W
1307	4822 267 31176	SPEAKER TERMINAL			3206	4822 050 21003	10kΩ	2%	0,25W
5203 ▲	3103 308 30600	STANDBY TRANSFORMER /21			3207	4822 116 52283	4,7kΩ	5%	0,5W
5203 ▲	3103 308 30610	STANDBY TRANSFORMER /22			3208	4822 116 52283	4,7kΩ	5%	0,5W
5203 ▲	3103 308 30800	STANDBY TRANSFORMER /37			3209	4822 116 52234	100kΩ	5%	0,5W
8010	3139 110 34600	FLEX FOIL CABLE 7Pin, 280mm			3211	4822 052 10478	4,7Ω	5%	NFR
	4822 492 11735	SPRING FIXATION TRANSISTOR			3212	4822 050 23303	33kΩ	1%	0,6W
CAPACITORS					3300	4822 116 52276	3,9kΩ	5%	0,5W
2200	4822 124 12012	4700µF	20%	25V	3301	4822 116 83872	220Ω	5%	0,5W
2201	4822 124 42367	3300µF	20%	35V	3302	4822 116 83872	220Ω	5%	0,5W
2202	5322 121 42386	100nF	5%	63V	3303	4822 116 52219	330Ω	5%	0,5W
2203	5322 121 42386	100nF	5%	63V	3304	4822 116 52219	330Ω	5%	0,5W
2204	5322 121 42386	100nF	5%	63V	3305	4822 116 52283	4,7kΩ	5%	0,5W
2205	4822 124 80415	4700µF	20%	50V only for /37	3306	4822 116 52283	4,7kΩ	5%	0,5W
2206	5322 121 42386	100nF	5%	63V	3307	4822 116 83883	470Ω	5%	0,16W
2207	4822 122 33449	47nF	30%	50V	3308	4822 116 83883	470Ω	5%	0,16W
2208	5322 124 41948	0,47µF	20%	50V	3309	4822 050 24708	4,7Ω	1%	0,6W
2209	2020 012 93547	100µF	20%	63V	3310	4822 050 24708	4,7Ω	1%	0,6W
2211	4822 121 43526	47nF	5%	100V	3311	4822 050 24708	4,7Ω	1%	0,6W
2212	4822 121 43526	47nF	5%	100V	3312	4822 050 24708	4,7Ω	1%	0,6W
2213	4822 124 11769	220µF	20%	50V	3313	4822 116 83961	6,8kΩ	5%	0,16W
2214	4822 124 40207	100µF	20%	25V	3314	4822 116 83883	470Ω	5%	0,16W
2217	4822 124 12012	4700µF	20%	25V	3315	4822 116 52219	330Ω	5%	0,5W
2250	2020 012 93774	3300µF	20%	50V not for /37	3316	4822 050 11002	1kΩ	5%	0,2W
2300	4822 124 40248	10µF	20%	63V	3317	4822 116 83876	270Ω	5%	0,16W
2301	4822 126 11714	4,7nF	20%	16V	3318	4822 116 52269	3,3kΩ	5%	0,5W
2302	4822 126 11714	4,7nF	20%	16V	3319	4822 050 11002	1kΩ	5%	0,2W
2303	4822 126 11714	4,7nF	20%	16V	3320	4822 050 11002	1kΩ	5%	0,2W
2304	4822 126 11714	4,7nF	20%	16V	3321	4822 050 11002	1kΩ	5%	0,2W
2305	4822 124 40433	47µF	20%	25V	3322	4822 116 83884	47kΩ	5%	0,16W not for CDR
2306	4822 124 40433	47µF	20%	25V	3322	4822 116 52269	3,3kΩ	5%	0,16W for CDR only
2307	4822 126 11714	4,7nF	20%	16V	3323	4822 116 83884	47kΩ	5%	0,16W
2308	4822 126 11714	4,7nF	20%	16V	3324	4822 116 52244	15kΩ	5%	0,5W
2309	4822 124 21913	1µF	20%	63V	3325	4822 116 52269	3,3kΩ	5%	0,5W
2310	4822 124 21913	1µF	20%	63V	3326	4822 116 52283	4,7kΩ	5%	0,5W
2311	4822 124 40207	100µF	20%	25V	3327	4822 116 52213	180Ω	5%	0,5W
2312	4822 124 40207	100µF	20%	25V	3328	4822 050 11002	1kΩ	5%	0,2W
2313	4822 124 40207	100µF	20%	25V	3329	4822 053 11221	220Ω	5%	2W
2314	4822 124 40207	100µF	20%	25V	3330	4822 053 11221	220Ω	5%	2W
2315	4822 126 11714	4,7nF	20%	16V	3331	4822 050 23303	33kΩ	1%	0,6W not for CDR
2316	4822 126 11714	4,7nF	20%	16V	3331	4822 116 52269	3,3kΩ	5%	0,16W for CDR only
2317	4822 126 12882	100nF	20%	50V	3332	4822 116 52256	2,2kΩ	5%	0,16W
2318	4822 126 12882	100nF	20%	50V	3333	4822 116 52199	68Ω	5%	0,16W
2319	4822 121 43526	47nF	5%	100V	3336	4822 050 21003	10kΩ	2%	0,25W
2320	4822 121 43526	47nF	5%	100V	3337	4822 116 52206	120Ω	5%	0,5W
2321	4822 121 43526	47nF	5%	100V	3338	4822 116 52176	10Ω	5%	0,5W
2322	4822 121 43526	47nF	5%	100V	3339	4822 116 52269	3,3kΩ	5%	0,5W
2323	4822 124 40248	10µF	20%	63V	3340	4822 116 83872	220Ω	5%	0,5W
2324	4822 122 33069	33pF	5%	50V	3341	4822 116 52283	4,7kΩ	5%	0,5W
2325	4822 124 40433	47µF	20%	25V	3342	4822 050 21003	10kΩ	2%	0,25W
2326	4822 124 22652	2,2µF	20%	50V	3343	4822 116 52285	470kΩ	5%	0,5W
2327	4822 124 40248	10µF	20%	63V	3344	4822 050 21003	10kΩ	2%	0,25W

ELECTRICAL PARTSLIST POWER2001 MODULE

RESISTORS					DIODES		
3345	4822 116 83876	270Ω	5%	0,16W	6300	4822 130 31878	1N4003G
3346	4822 116 52243	1,5kΩ	5%	0,16W	6301	4822 130 31878	1N4003G
3347	4822 116 52243	1,5kΩ	5%	0,16W	6302	4822 130 31878	1N4003G
3348	4822 050 21003	10kΩ	2%	0,25W	6303	4822 130 31878	1N4003G
3349	4822 116 52213	180Ω	5%	0,5W	6304	9340 550 66112	BYV28-200/24
3350	4822 050 21003	10kΩ	2%	0,25W	6305	4822 130 61219	BZX79-C10
3351	4822 116 83868	150Ω	5%	0,5W	6306	4822 130 30621	1N4148
3352	4822 116 52206	120Ω	5%	0,5W	6307	3198 010 53980	BZX79-B3V9
3353	4822 116 52249	1,8kΩ	5%	0,16W	6308	5322 130 31938	BYV27-200
3354	4822 116 52257	22kΩ	5%	0,5W	6309	4822 130 34281	BZX79-C15
3355	4822 116 52256	2,2kΩ	5%	0,16W	6310	3198 010 58280	BZX79-B8V2
3356	4822 116 52234	100kΩ	5%	0,5W	6311	4822 130 31878	1N4003G
3357	4822 116 52175	100Ω	5%	0,5W	6312	4822 130 30621	1N4148
3358	4822 116 83868	150Ω	5%	0,5W	6313	4822 130 30621	1N4148
3359	4822 116 52234	100kΩ	5%	0,5W	6314	4822 130 30621	1N4148
3360	4822 116 52244	15kΩ	5%	0,5W	6315	4822 130 34398	BZX79-C24
3361	4822 050 11002	1kΩ	5%	0,2W	6316	4822 130 34278	BZX79-C6V8
3362	4822 116 83961	6,8kΩ	5%	0,16W	6317	4822 130 30621	1N4148
3363	4822 050 11002	1kΩ	5%	0,2W	6318	4822 130 31878	1N4003G
3368	2322 640 63103	10kΩ	NTC		6319	4822 130 30621	1N4148
3369	4822 116 83876	270Ω	5%	0,16W	6321	4822 130 30621	1N4148
3370	4822 050 11002	1kΩ	5%	0,2W	6322	3198 010 53980	BZX79-B3V9
3371	4822 052 10568	5,6Ω	5%	0,33W	6323	4822 130 30621	1N4148
3372	4822 116 83884	47kΩ	5%	0,16W	6324	4822 130 34278	BZX79-C6V8
3373	4822 050 21003	10kΩ	2%	0,25W	6325	4822 130 34174	BZX79-B4V7
3374	4822 116 52213	180Ω	5%	0,5W	6326	4822 130 30621	1N4148
3376	4822 116 83883	470Ω	5%	0,16W	6327	4822 130 30621	1N4148
3377	4822 050 21003	10kΩ	2%	0,25W	6329	4822 130 31981	BZX79-B3V9
3378	4822 116 52231	820Ω	5%	0,5W	6330	4822 130 30621	1N4148
3379	4822 116 83872	220Ω	5%	0,5W	6331	4822 130 30621	1N4148
3380	4822 050 11002	1kΩ	5%	0,2W	6332	4822 130 34281	BZX79-C15
3381	4822 116 52234	100kΩ	5%	0,5W	6333	4822 130 34173	BZX79-B5V6
3382	4822 116 52234	100kΩ	5%	0,5W	6335	4822 130 30621	1N4148
3383	4822 116 52234	100kΩ	5%	0,5W	TRANSISTORS		
3391	4822 116 52276	3,9kΩ	5%	0,5W	7200	4822 130 40917	BD238
3392	4822 116 52283	4,7kΩ	5%	0,5W not for CDR	7201	4822 130 41246	BC327-25
3392	4822 116 52243	1,5kΩ	5%	0,5W for CDR only	7202	4822 130 40959	BC547B
COILS					7300	4822 130 40959	BC547B
5202	4822 157 11832	400µH			7303	4822 130 44568	BC557B
5220	4822 157 11832	400µH			7304	4822 130	

SET BLOCK DIAGRAM

