Service
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Service Manual

COMPACT disc DIGITAL AUDIO

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CLASS 1
LASER PRODUCT

Published by BB 0105 Service Audio Printed in The Netherlands Subject to modification

GB 3139 785 22660

PHILIPS

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SERVICE TEST PROGRAM

To start service test program hold ▶| & Aux depressed while plugging in the mains cord

Display shows the ROM version "S-Vyy" (Main menu)

S refers to Service Mode

V refers to Version

yy refers to Software version number of the µProcessor (counting up from 01 to 99)

TUNER TEST

TUNER Button pressed? N

Y

Display Tuner Version "ccc"

TUNER Button pressed? N

Service frequencies are copied to the RAM (see Table 1) Tuner works normally except:

PROGRAM button

Disconnect Mains cord ? N

Y

Service Mode left

QUARTZ TEST

|◄ Button pressed? N

Y

Display shows 32K Output at (Front Display Board) pin 19 of uP = 2048Hz

|◄ Button pressed? N

Y

Display shows 12M Output at (Front Display Board) pin 19 of uP = 2,929.6875Hz

■ Button pressed? N

Y

SERVICE PLAY MODE

STANDBY-ON Button pressed? N

Y

Set is in Service PLAY Mode.

In case of failures, error codes according to Table 2 will be displayed.

The Service Play Mode is intended to detect and identify the failures in the CD Mode.

In this mode the electronics will still function even when an error is detected so that repair activities can be carried out.

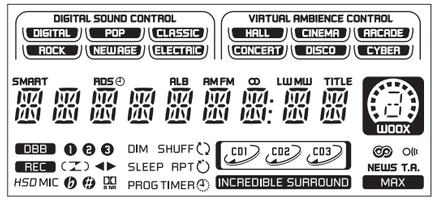

Figure 1

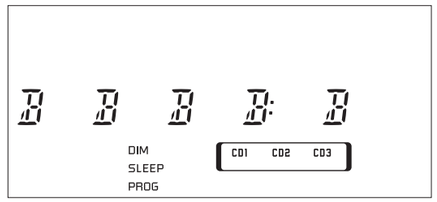

Figure 2

DISPLAY TEST

▶ Button pressed? N

Y

Display shows Figure 1 and switch all LEDs on (except ECO POWER & VU Volume LEDs), and full VU deflection.

▶ Button pressed? N

Y

Display shows Figure 2 and switch alternate LEDs on (see Table 3), and partial VU deflection.

■ Button pressed? N

Y

LEDs	FW-C500 , FW-C550	FW-C700 , FW-C720 FW-C780	FW-P750
DISC 1	On	On	On
DISC 3	On	On	On
TAPE	On	On	On
TUNER	On	On	On
CENTRE			On
SURROUND LEFT			On
STEREO RIGHT			On
VAC	On	On	On
DBB	On		On
VU BACK LIGHT	On	On	On
VU VOLUME	On	On	On

Table 3

Various other Tests

PRESET	Europe "EUR"	East Eur. "EAS"	East Eur. Extended-band "EAS"	USA "USA"	Oversea "OSE"
1	87.5MHz	87.5MHz	65.81MHz	87.5MHz	87.5MHz
2	108MHz	108MHz	108MHz	108MHz	108MHz
3	531kHz	531kHz	74MHz	530kHz	531/530kHz*
4	1602kHz	1602kHz	87.5MHz	1700kHz	1602/1700kHz*
5	558kHz	558kHz	531kHz	560kHz	558/560kHz*
6	1494kHz	1494kHz	1602kHz	1500kHz	1494/1500kHz*
7	153kHz	87.5MHz	558kHz	98MHz	87.5MHz
8	279kHz	87.5MHz	1494kHz	87.5MHz	87.5MHz
9	198kHz	87.5MHz	98MHz	87.5MHz	87.5MHz
10	98MHz	87.5MHz	70.01MHz	87.5MHz	87.5MHz
11	87.5MHz	98MHz	65.81MHz	87.5MHz	98MHz

Table 1

Note: * Depending on the selected grid frequency (9 or 10kHz)
By holding the TUNER and ►► buttons depressed while switching on the Mains supply, one of the undermentioned features will be activated:
- the tuning grid frequency is toggled between 9kHz and 10kHz for the Oversea (/21) version.
- the extended FM1 (65.81MHz - 74MHz) is toggled on and off for East Eur. (/34) version.

Error code	Error Description
E1000	Focus Error Triggered when the focus could not be found within a certain time when starting up the CD or when the focus is lost for a certain time during play.
E1001	Radial Error Triggered when the radial servo is off-track for a certain time during play.
E1002	Sledge In Error The sledge did not reach its inner position (inner-switch is still close) before approximately 6 Sec. have passed by. Inner-switch or sledge motor problem.
E1003	Sledge Out Error The sledge did not come out of its inner position (inner-switch is still open) before approximately 250 mSec. have passed by. Inner-switch or sledge motor problem.
E1005	Jump-offtrack error Triggered in normal play when the jump destination could not be found within a certain time. When this error occurred, software will try to recover by initiating the jump command again. If it is recoverable, the disc will continue to play.
E1006	Subcode Error Triggered when a new subcode was missing for a certain time during play.
E1007	PLL Error The Phase Lock Loop could not lock within a certain time.
E1008	Turntable Motor Error Generated when the CD could not reached 75% of speed during startup within a certain time. Discmotor problem.
E1020	Focus Search Error The focus point has not been found within a certain time.
E1070	The carousel switch is not open within certain time. This can happen when either the switch is defective and closed all the time, or when the carousel is blocked when located exactly at a disc position.
E1071	The carousel position switch did not close within a certain time. This can happen when the switch is defective and never closes electrically, or when the carousel is blocked in between two disc positions. The time-out is approximately 5 Sec.
E1079	The drawer could not enter the inside position is opening again. This can be caused because the drawer is blocked by something and cannot go fully inside, or the drawer switch is defective and does not close.

Table 2

TEST	*Activated with*	*ACTION*
EEPROM TEST	►► ■ to Exit	A test pattern will be sent to the EEPROM. "PASS" is displayed if the uProcessor read back the test pattern correctly, otherwise "ERROR" will be displayed.
EEPROM FORMAT TEST	◄◄	Load default data. Display shows "NEW" for 1 second. ***Caution!*** ***All presets from the customer will be lost!!***
ROTARY ENCODER TEST	Rotary Volume Knob or Jog Shuttle Knob	Display shows value for 2 seconds. Values increases or decreases in steps of 1 until 0 (Min.) or 40 (Max.) is reached.
LEAVE SERVICE TESTPROGRAM	Disconnect mains cord	

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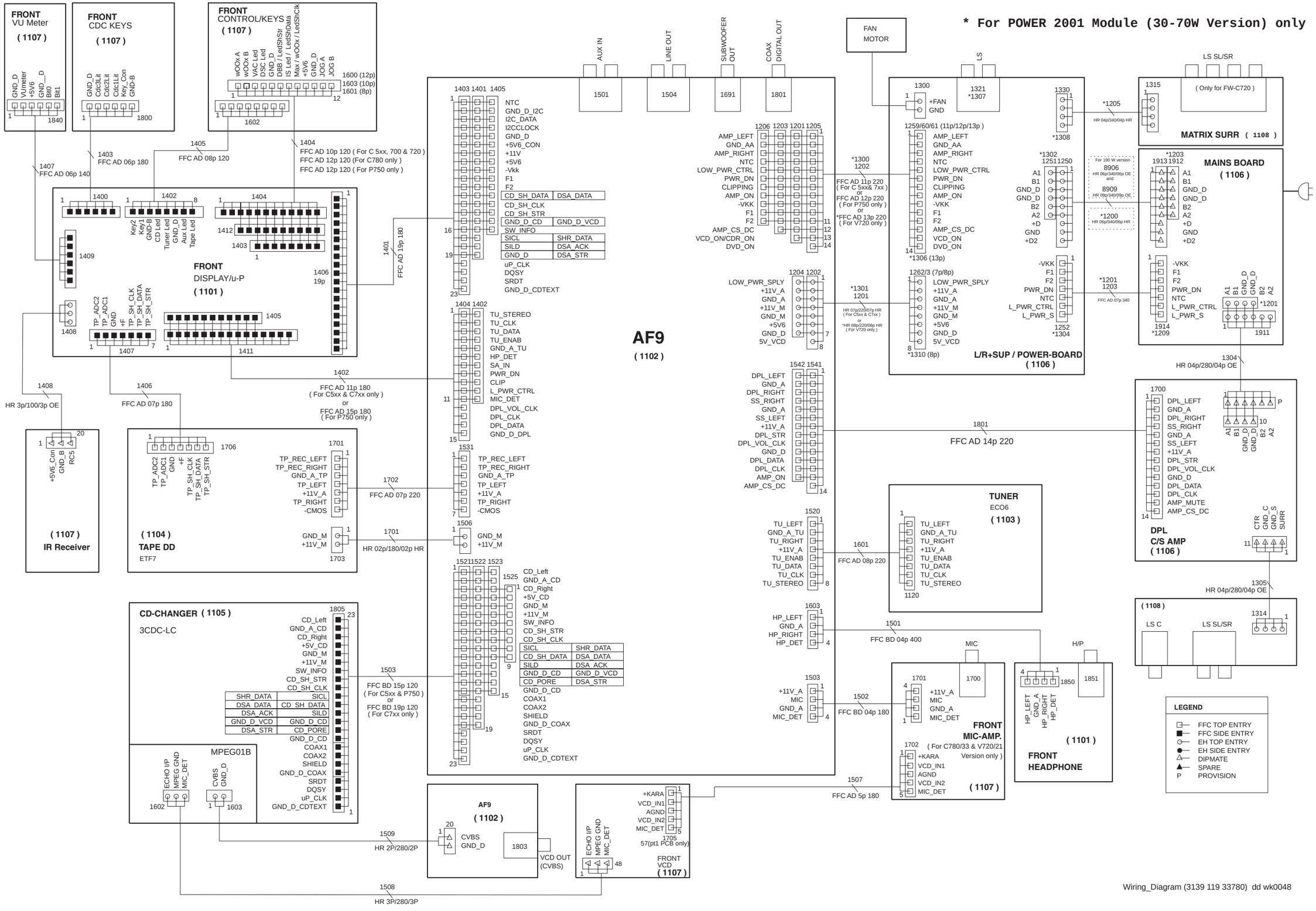
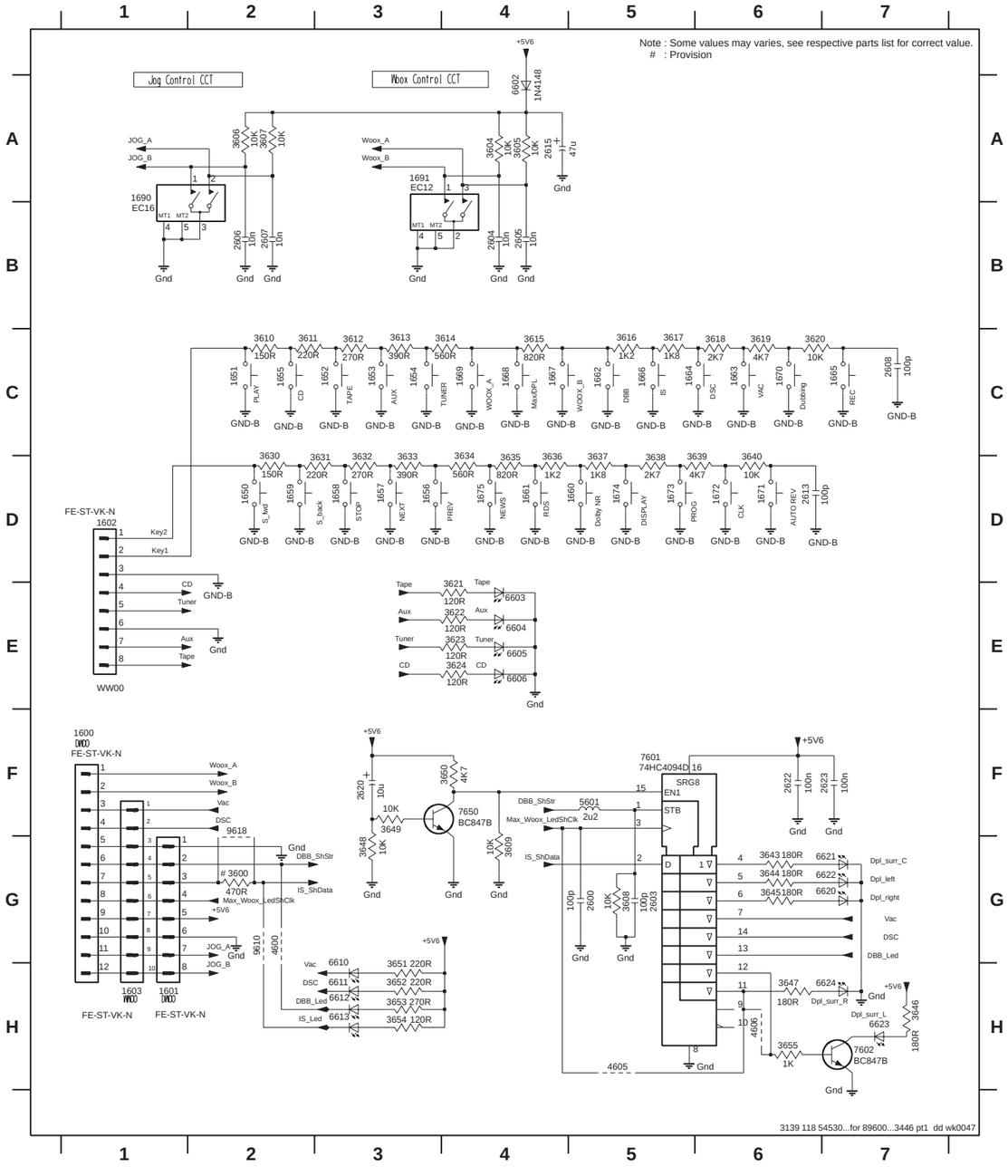
SET WIRING DIAGRAM



Wiring_Diagram (3139 119 33780) dd wk0048



FRONT CONTROL BOARD - CIRCUIT DIAGRAM

1600 F1
1601 H1
1602 D1
1603 H1
1650 D2
1651 C2
1652 C3
1653 C3
1654 C3
1655 C2
1656 D3
1657 D3
1658 D3
1659 D2
1660 D4
1661 D4
1662 C5
1663 C6
1664 C5
1665 C7
1666 C5
1667 C4
1668 C4
1669 C4
1670 C6
1671 D6
1672 D6
1673 D5
1674 D5
1675 D4
1690 A1
1691 A3
2600 G5
2603 G5
2604 B4
2605 B4
2606 B2
2607 B2
2608 C7
2613 D6
2615 A4
2620 F3
2622 F6
2623 F7
3600 G2
3604 A4
3605 A4
3606 A2
3607 A2
3608 G5
3609 G4
3610 C2
3611 C2
3612 C3
3613 C3
3614 C4
3615 C4
3616 C5
3617 C5
3618 C6
3619 C6
3620 C6
3621 E4
3622 E4
3623 E4
3624 E4
3630 C2
3631 D3
3632 D3
3633 D3
3634 C4
3635 D4
3636 D4
3637 D5
3638 D5
3639 D6
3640 D6
3643 G6
3644 G6
3645 G6
3646 H7
3647 H6
3648 G3
3649 F3
3650 F4
3651 G3
3652 H3
3653 H3
3654 H3
3655 H6
4600 G2
4605 H5
4606 H6
5601 F5
6602 A4
6603 E4
6604 E4
6605 E4
6606 E4
6610 G3
6611 H3
6612 H3
6613 H3
6620 G7
6621 G7
6622 G7
6623 H7
6624 H7
7601 F5
7602 H7
7650 F4
9610 G2
9618 F2

Note : Some values may varies, see respective parts list for correct value.
: Provision

3139 118 54530...for 89600...3446 pt1 dd wk0047

IR-EYE BOARD - COMPONENT LAYOUT

20 A2
2860 A2
3862 A2
7800 A1
9600 A1

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

3139 113 3446 pt1 dd wk0047

IR-EYE BOARD - CHIP LAYOUT

2861 A1
2862 A2
3860 A1
3861 A2

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

3139 113 3446 pt1 dd wk0047

IR-EYE BOARD - CIRCUIT DIAGRAM

20 A1
2860 A2
2861 B1
2862 A1
3860 A1
3861 A2
3862 B2
7800 A2

Note : Some values may varies, see respective parts list for correct value.

3139 118 54530...for 89660...3446 pt1 dd wk0047

FRONT DISPLAY BOARD - CIRCUIT DIAGRAM

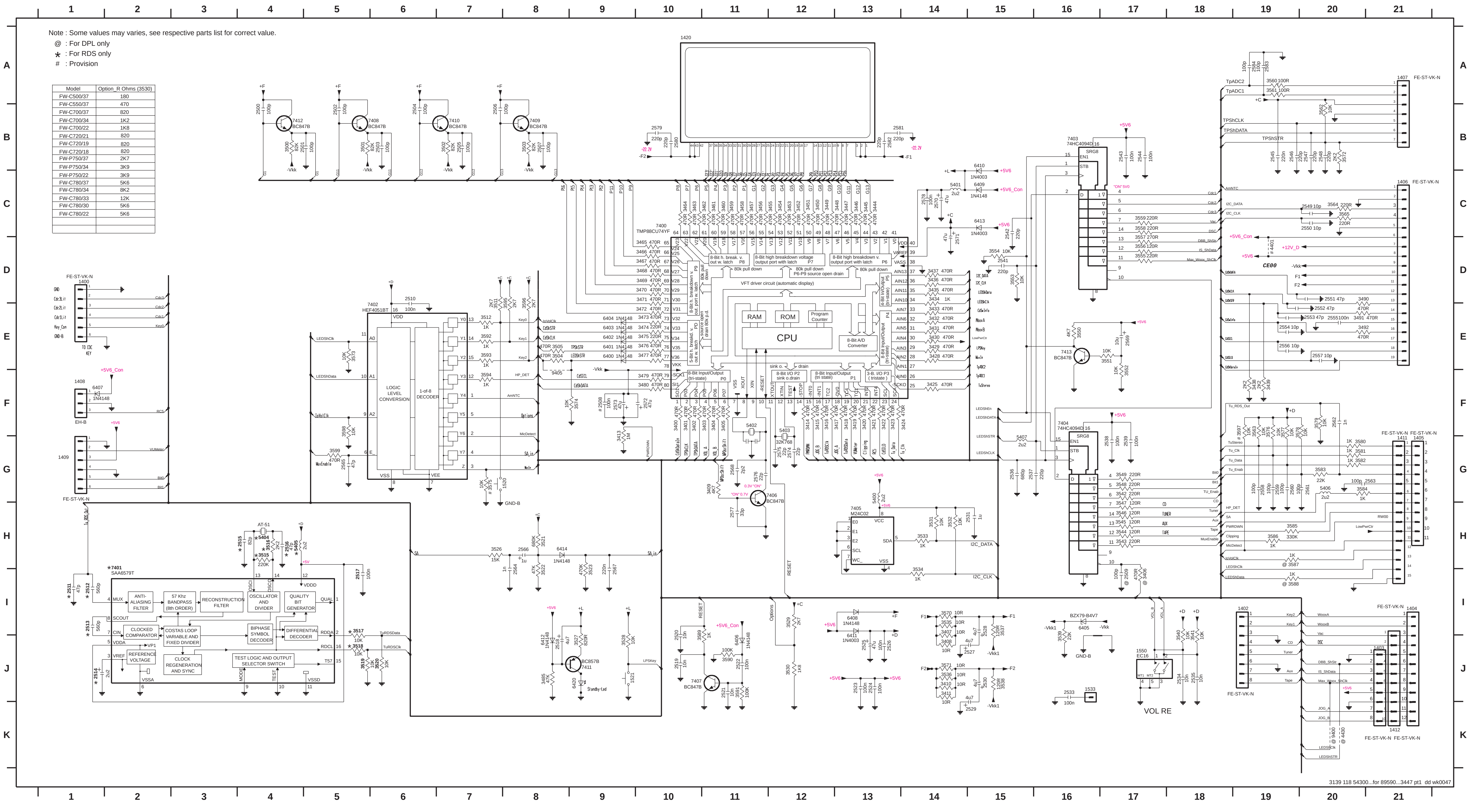
1400 D1	1407 A21	1520 G8	2502 B5	2508 F9	2514 J1	2520 J10	2526 J13	2533 J16	2539 G17
1402 I19	1408 F1	1521 J9	2503 B6	2509 I17	2515 H4	2521 J11	2527 J15	2534 J18	2541 D15
1403 J21	1409 G1	1533 J16	2504 B6	2510 D6	2516 H4	2522 J11	2528 I15	2535 J18	2542 C15
1404 I21	1411 G21	1550 J17	2505 B7	2511 I1	2517 I5	2523 J13	2529 K15	2536 G15	2543 B17
1405 G21	1412 K21	2500 B4	2506 B7	2512 I1	2518 J8	2524 J13	2530 J15	2537 G15	2544 B17
1406 C21	1420 A10	2501 B5	2507 B8	2513 I1	2519 J10	2525 J13	2531 H15	2538 G17	2545 B19

2546 B19	2552 E20	2558 G19	2564 I8	2570 C14	2576 G11	2582 B13	3403 F11	3409 G11	3416 F12
2547 B20	2553 E20	2559 G19	2565 G5	2571 D14	2577 H11	2583 A19	3404 F11	3410 J14	3417 F13
2548 B20	2554 E19	2560 G19	2566 H8	2572 F10	2578 C14	2584 A19	3405 F11	3411 J14	3418 F13
2549 C20	2555 E20	2561 G20	2567 I9	2573 F9	2579 B10	3400 F10	3406 I17	3413 G9	3419 F13
2550 C20	2556 E19	2562 F20	2568 G11	2574 G12	2580 B10	3401 F10	3407 I14	3414 F12	3420 F13
2551 D20	2557 E20	2563 G21	2569 E17	2575 G12	2581 B13	3402 F10	3408 J14	3415 F12	3421 F13

3422 F13	3430 E14	3436 D14	3446 C13	3452 C12	3458 C11	3464 C10	3470 D10	3476 E10	3491 E20
3423 F13	3431 E14	3437 D14	3447 C13	3453 C12	3459 C11	3465 D10	3471 D10	3477 E10	3492 E20
3424 F13	3432 E14	3438 F19	3448 C13	3454 C12	3460 C11	3466 D10	3472 E10	3479 F10	3500 B4
3425 F14	3433 E14	3439 F19	3449 C12	3455 C12	3461 C11	3467 D10	3473 E10	3480 F10	3501 B5
3428 E14	3434 D14	3444 C13	3450 C12	3456 C11	3462 C11	3468 D10	3474 E10	3485 J8	3502 B7
3429 E14	3435 D14	3445 C13	3451 C12	3457 C11	3463 C10	3469 D10	3475 E10	3490 D20	3503 B8

3504 E8	3517 I5	3523 I9	3531 H14	3537 I15	3543 H17	3549 G17	3555 D17	3561 A19	3571 J14
3505 E8	3518 J5	3526 H7	3532 H14	3538 J15	3544 H17	3550 E16	3556 D17	3562 B20	3572 B20
3511 E7	3519 J5	3527 J9	3533 H14	3539 J16	3545 H17	3551 E17	3557 D17	3563 F19	3573 E5
3512 E7	3520 J6	3528 J9	3534 I14	3540 J18	3546 H17	3552 F17	3558 C17	3564 C20	3574 F9
3515 H4	3521 H8	3529 I12	3535 I14	3541 J18	3547 G17	3553 D15	3559 C17	3565 C20	3575 G7
3516 H4	3522 I8	3530 J12	3536 J14	3542 G17	3548 G17	3554 D15	3560 A19	3570 I14	3576 F19

3577 F19	3583 G20	3589 J10	3595 E8	4430 K20	5405 H4	6403 E9	6409 C15	6420 J9	7405 H13	7411 J9
3578 F19	3584 G20	3590 J11	3596 E8	5400 G13	5406 G20	6404 E9	6410 B15	7400 C10	7406 G11	7412 B4
3579 F20	3585 H19	3591 J11	3597 F19	5401 C14	5407 G15	6405 I16	6411 I13	7401 I2	7407 J10	7413 E16
3580 G20	3586 H19	3592 E7	3598 F5	5402 F11	6400 E9	6406 J11	6412 J8	7402 E5	7408 B5	9400 K20
3581 G20	3587 H19	3593 E7	3599 G5	5403 F12	6401 E9	6407 F1	6413 C15	7403 B16	7409 B8	9405 F8
3582 G20	3588 I19	3594 F7	4401 D19	5404 H4	6402 E9	6408 I13	6414 H8	7404 F16	7410 B7	



Note : Some values may varies, see respective parts list for correct value.
@ : For DPL only
* : For RDS only
# : Provision

Model	Option_R Ohms (3530)
FW-C500/37	180
FW-C550/37	470
FW-C700/37	820
FW-C700/34	1K2
FW-C700/22	1K8
FW-C720/21	820
FW-C720/19	820
FW-C720/18	820
FW-P750/37	2K7
FW-P750/34	3K9
FW-P750/22	3K9
FW-C780/37	5K6
FW-C780/34	8K2
FW-C780/33	12K
FW-C780/30	5K6
FW-C780/22	5K6

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TUNER BOARD ECO6 / SYSTEMS NON CENELEC

VERSION PROGRAMMING COMPONENTS

VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW	X				
/00 /02 FM/MW		X	X		X
/01 FM/MW		X		X	X
/14 FM-OIRT/MW		X	X		X
/17 FM/AM	X			X	X
/06 FM-Japan/AM				X	X

X component mounted

VERSION DETECTION

LEGEND

ⓟ...for provision only
USA ... for USA version only
E-EU ... for East European version only
J ... for Japanese version only

...V FM mode stereo
...V MW mode
V EVM ...V LW mode
voltages measured while set is tuned to a strong transmitter

Signal path
FM
AM
MPX (Audio Frequency)
AF - left/right

ECO6 Sys-non Cenelec, 000911

TUNER BOARD ECO6 / SYSTEMS-CENELEC

VERSION PROGRAMMING COMPONENTS

VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW	☒				
/00 /02 FM/MW		☒	☒		☒
/01 FM/MW		☒		☒	☒
/14 FM-OIRT/MW	☒		☒		☒
/17 FM/AM	☒			☒	☒

☒ component mounted

1101	A2	6106	D4
1102	B1	6107	G13
1103	E2	6120	C13
1110	B2	7101	C8
1120	E14	7103	H8
1130	A2	7104	D2
1131	C2	7105	F4
1132	F13	7109	H3
2102	B1	7110	H12
2105	A2	7111	C13
2106	E3	7112	G12
2107	E4	7122	H4
2108	G3	7124	H7
2109	G3	T102	B2
2118	H6	T103	B2
2119	H6	T104	B6
2120	H6	T105	E2
2122	I6	T106	E2
2123	H6	T107	C3
2124	H6	T109	D5
2125	H6	T110	D5
2127	E7	T111	E5
2128	B8	T112	F7
2129	C7	T113	A9
2130	F11	T114	B11
2131	F8	T116	F10
2132	F8	T117	F13
2133	F8	T118	G11
2134	I8	T120	F13
2135	I9	T121	F13
2136	H14	T122	E13
2137	H13	T123	E13
2138	F9	T124	G14
2139	G9	T125	F14
2140	G9	T126	F13
2141	F10	T127	F13
2143	G12	T140	F11
2144	G11	T141	F10
2145	E11	T142	F10
2146	E12		
2147	E12		
2148	E12		
2149	H7		
2150	A10		
2159	D5		
2161	C11		
2162	H12		
2163	D11		
2164	G10		
2165	C7		
2166	E11		
2167	E11		
2169	G8		
2190	C3		
2191	C3		
3105	D5		
3108	D2		
3109	G4		
3123	H3		
3125	H2		
3128	H3		
3132	G4		
3134	H6		
3137	H7		
3141	E7		
3142	E6		
3143	G7		
3144	G8		
3145	F8		
3146	G13		
3150	H12		
3151	H12		
3152	G14		
3153	G13		
3154	F13		
3155	G12		
3156	C12		
3157	D12		
3158	E13		
3159	D13		
3160	D13		
3161	D13		
3167	F12		
3168	F11		
3169	E11		
3170	D12		
3171	G12		
3172	G12		
3176	H7		
3180	I3		
3190	B6		
3191	B7		
3192	B6		
3193	B4		
3194	C4		
3195	C3		
4101	E2		
4102	F3		
4104	H5		
5102	E3		
5103	F2		
5109	B9		
5110	B10		
5111	A9		
5112	A11		
5114	B11		
5115	E7		
5119	G9		
5121	E11		
5122	H5		
5123	G5		
6105-1	E4		
6105-2	G6		

LEGEND

* ... only assembled in FM/AM-version
ⓟ...for provision only
USA ... for USA version only
LW ... for LW version only

SMD jumper
41xx
0R

Ⓥ EVM

...V FM mode stereo
▭ ...V MW mode
⬚ ...V LW mode
voltages measured while set is tuned to a strong transmitter

Signal path
— FM
-·- AM
- - - MPX (Audio Frequency)
⇨ AF - left/right

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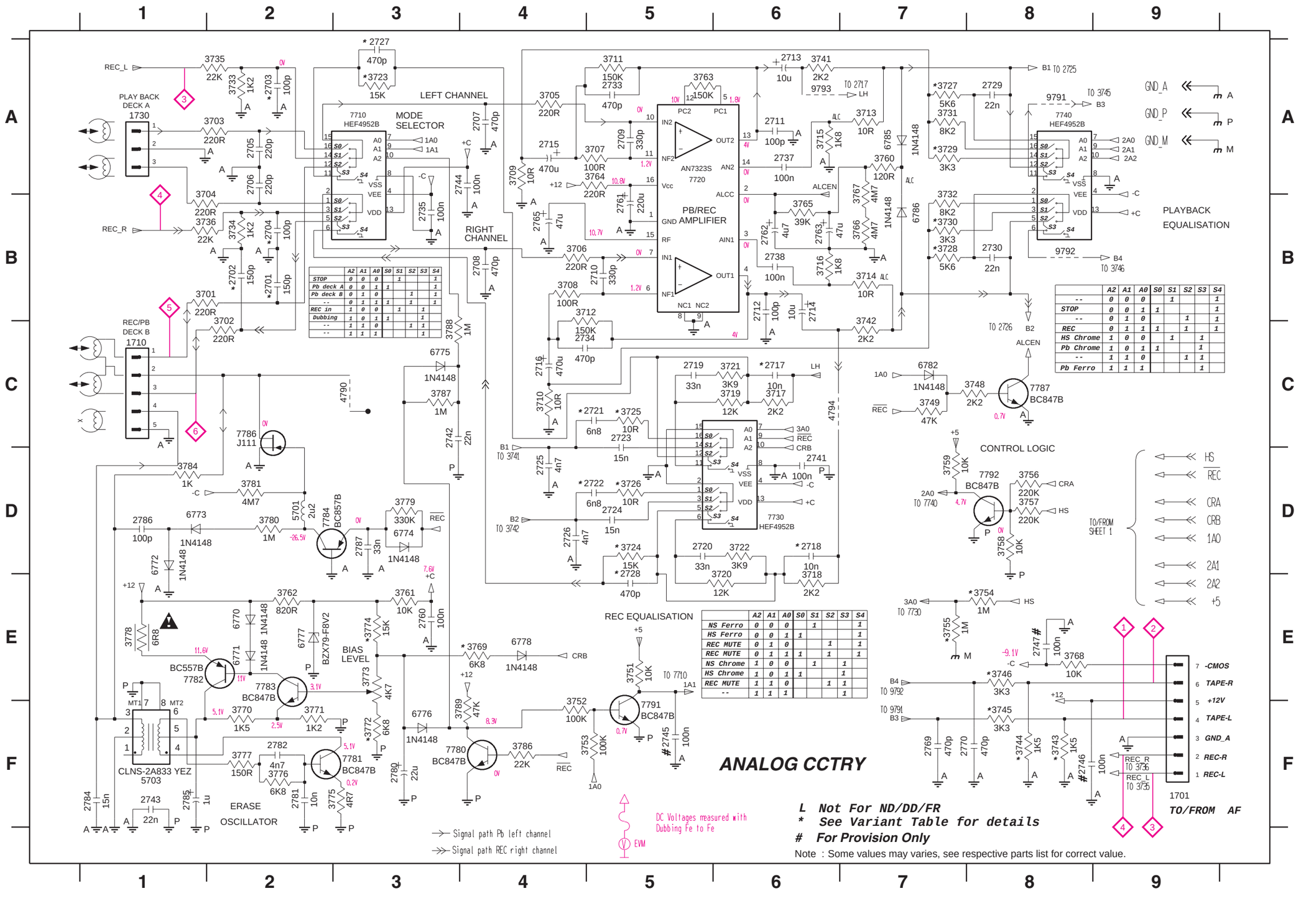
ANALOG CIRCUIT

1701 F9	2705 A2	2712 B6	2719 C5	2726 D4	2735 B3	2745 F5	2765 B4	2785 F1	3705 A4	3712 B4	3719 C6	3726 D5	3733 A2	3744 F8	3753 F5	3760 A7	3767 A7	3774 E3	3781 D2	4794 C6	6774 D3	6786 B7	7782 E1	9791 A8
1710 C1	2706 A2	2713 A6	2720 D5	2727 A3	2737 A6	2746 F8	2769 F7	2786 D1	3706 B4	3713 A7	3720 E6	3727 A7	3734 B2	3745 F8	3754 E8	3761 E3	3768 E8	3775 F3	3784 D1	5701 D2	6775 C3	7710 A3	7783 E2	9792 B8
1730 A1	2707 A4	2714 B6	2721 C5	2728 E5	2738 B6	2747 E8	2770 F8	2787 D3	3707 A5	3714 B7	3721 C6	3728 B7	3735 A2	3746 E8	3755 E7	3762 E2	3769 E4	3776 F2	3786 F4	5703 F1	6776 F3	7720 A5	7784 D2	9793 A6
2701 B2	2708 B4	2715 A4	2722 D5	2729 A8	2741 D6	2760 E3	2780 F3	3701 B1	3708 B4	3715 A6	3722 D6	3729 A7	3736 B1	3748 C8	3756 D8	3763 A5	3770 F2	3777 F2	3787 C3	6770 E2	6777 E2	7730 D6	7786 C2	
2702 B2	2709 A5	2716 C4	2723 C5	2730 B8	2742 C3	2761 B5	2781 F2	3702 C2	3709 A4	3716 B6	3723 A3	3730 B7	3741 A6	3749 C7	3757 D8	3764 A5	3771 F2	3778 E1	3788 C3	6771 E2	6778 E4	7740 A8	7787 C8	
2703 A2	2710 B5	2717 C6	2724 D5	2733 A5	2743 F1	2762 B6	2782 F2	3703 A2	3710 C4	3717 C6	3724 D5	3731 A7	3742 C7	3751 E5	3758 D8	3765 B6	3772 F3	3779 D3	3789 F4	6772 D1	6782 C7	7780 F4	7791 F5	
2704 B2	2711 A6	2718 D6	2725 D4	2734 C4	2744 A4	2763 B6	2784 F1	3704 B1	3711 A5	3718 E6	3725 C5	3732 B7	3743 F8	3752 F4	3759 D7	3766 B7	3773 E3	3780 D2	4790 C3	6773 D1	6785 A7	7781 F3	7792 D8	



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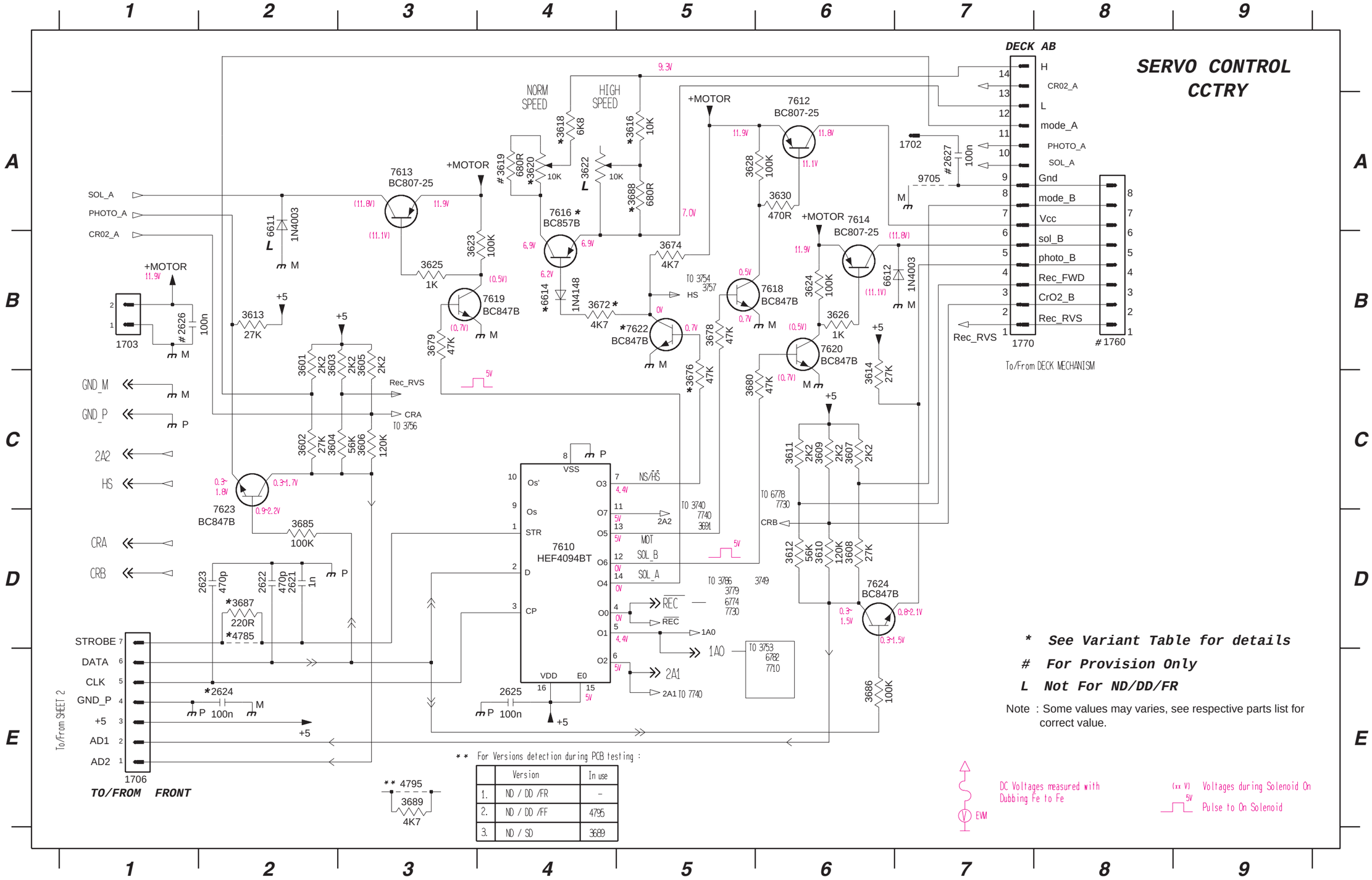
SERVO CONTROL CIRCUIT

1702 A7 1760 B8 2622 D2 2625 E4 3601 B2 3604 C2 3607 C6 3610 D6 3613 B2 3618 A4 3622 A4 3625 B3 3630 A6 3676 C5 3680 C5 3687 D2 4785 D2 6612 B6 7612 A6 7616 A4 7620 B6 7624 D6
1703 B1 1770 B7 2623 D2 2626 B1 3602 C2 3605 B3 3608 D6 3611 C6 3614 C6 3619 A4 3623 B3 3626 B6 3672 B4 3674 B5 3679 B3 3686 E6 3689 E3 4795 E3 6611 A2 6614 B4 7610 D4 7614 A6 7618 B6 7622 B5 9705 A7
1706 E1 2621 D2 2624 E2 2627 A7 3603 B2 3606 C3 3609 C6 3612 D6 3616 A5 3620 A4 3624 B6 3628 A5 3674 B5 3679 B3 3685 E6 3688 E3 4795 E3 6611 A2 6614 B4 7610 D4 7614 A6 7619 B6 7623 B5



10-7

3CDC-LC-MB-DA11

part 1

CD Drive DA11T3C

Laser power control / HF-Amplifier

7801
TZA1024 / TZA1025

Signal Processor

7877
SAA7324 / SAA7325

to part 2
7805

from part 2

to part 2
3770, 3780

to/from part 2
1805/7874
(µP-interface)

to/from part 2
7876
(CD-TEXT IC)

to dig. out circuitry
on part 2

FOCUS
TRACK
SLIDE

DISC MOTOR 1

DISC MOTOR 2

ESD sensitive lines!

U >400mV
->Laser damaged !

Focus search
Service step 2

EYE-PATTERN

800mVpp

TB = 0,5µs/div

for CD_DA : 0V
for CD_RW : 0,7V

for CD_DA : 0V
for CD_RW : 3V

for provision only

only for digital out versions
(in combination with Quartz)

for basic version

for Coax out versions

33R for digital out version

11,3 MHz
for CD TEXT only

Innersw
from 1801

Innersw
to 7877/63

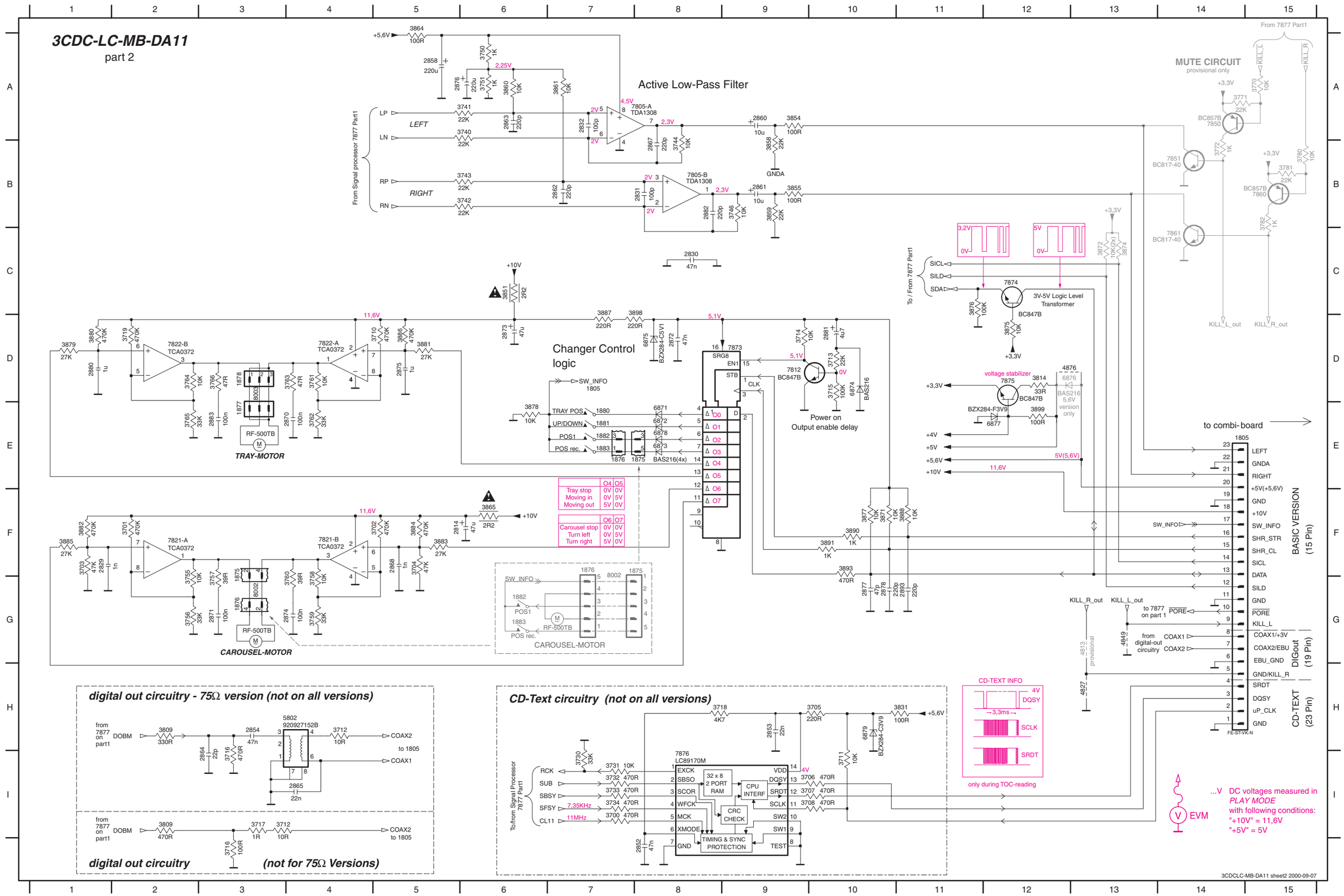
. . . V DC voltages measured in
PLAY MODE
with following conditions:
"+10V" = 11,6V
"+5V" = 5V

#.... for provision only

3CDC LC-MB-DA11 sh1, 2000-01-11

10-9

1805	E14	1880	E7	2831	B8	2861	B9	2870	E4	2877	G10	3372	C13	3705	H10	3713	D10	3730	I7	3743	B6	3757	G3	3764	D2	3781	B15	3855	B9	3871	F10	3881	D5	3888	F11	4827	H13	6874	D10	7805-B	B8	7851	B14
1850	G3	1881	E7	2832	A7	2862	B7	2871	G3	2878	G10	3374	C13	3706	I10	3714	D9	3732	I7	3744	B8	3758	G4	3765	E2	3782	B15	3858	B9	3875	D12	3882	F1	3890	F10	4849	G13	6875	D8	7812	D9	7860	B15
1875	E8	1882	E7	2852	I8	2863	A6	2872	D8	2880	D1	3700	I7	3707	I10	3715	D10	3733	I7	3746	B9	3759	G4	3766	D3	3809	H2	3859	B9	3876	C11	3883	F5	3891	F10	4876	D12	6876	D12	7821-A	F2	7861	C14
1876	E7	1883	E7	2853	H9	2864	I3	2873	D6	2881	D10	3701	F2	3708	I10	3716	I3	3734	I7	3750	A6	3760	G4	3770	A15	3814	D12	3860	A6	3877	F10	3884	F5	3893	E12	5802	H4	6877	E12	7821-B	F4	7873	D9
1877	E3	2814	F6	2854	H3	2865	I4	2874	G4	2882	B8	3702	F5	3710	D5	3718	H8	3740	A6	3751	A6	3761	D4	3771	A14	3831	H11	3861	A7	3878	E6	3885	F1	3898	D7	6871	E8	6878	E8	7822-A	D4	7874	C12
1878	D3	2829	F2	2858	A5	2867	B8	2875	D5	2883	E3	3703	F1	3711	I10	3719	D2	3741	A6	3755	G2	3762	E4	3772	B14	3851	C6	3864	A5	3879	D1	3886	D5	3899	E12	6872	E8	6879	H10	7822-B	D2	7875	D12
1878	G3	2830	C8	2860	A9	2868	F5	2876	A6	2893	G11	3704	F5	3712	H4	3730	I7	3742	B6	3756	G2	3763	D4	3780	B15	3854	A9	3865	F6	3880	D1	3887	D7	4813	G13	6873	E8	7805-A	A7	7850	A14	7876	I8



11-5

P2001 30-70W MAINS

1204 not on all versions 5201 97TS 1220 1221 1222 1223 not on all versions 5202 97TS

1202 T1,6A T1,25A T4A

1206 SDKGA /21 ONLY Voltage Selector

NOT /21 9210 1208 T1,6A /21 ONLY

3200 10M /37 ONLY

5001 Mains Transformer T.F. NTC F2 F1

9211 SDT Stand by Relay 1210

LOW_PWR_SUP 13.5V 6208 1N4148 2,5V ECO

1200 T5A 19372

1205 T4A

1207 T4A

C1 19.5V 2216 6m8 2200 4m7 optional 2215 6m8 2217 4m7 optional CDR ONLY

6200 1N5392 6220 1N5392 6201 1N5392 6221 1N5392 2202 100n 28.5V

GBU8D 6202 2203 100n 2204 100n 2206 100n 41V 2205 or 2250 4m7 only for /37 3m3 not for /37 3212 33K 2201 3m3

1201 EH-B GND GND C1 B1 19.5V 28.5V TO C/S BOARD

1203 EH-B C1 B1 GND GND A1 A1 19.5V 28.5V 41V TO POWER BOARD

6203 1N4148 3201 4K7

6209 1N4148 3205 4K7

7.8V 2207 47n BZX79-F8V2 6204

7200 or 7203 BD238 -45V -33V -33.5V 3202 3K9 2208 0u47 3211 4R7 6206 1N4003 3204 680R 6207 BZX79-C33 2209 100u 2210 100u -Vkk regulator

1209 FE-BT-VK-N -Vkk F1 F2 Power Down NTC ECO Low Power Supply LOW_PWR_SUP TO POWER BOARD

ONLY /21 9212 1211 T160mA NOT /21

NOT /21 9213 1212 T100mA /21 ONLY

5203 Stand by Transformer

2211 47n 6210 1N4003 6211 1N4003 3206 10K 6213 1N4003 6214 1N4003 2212 47n 2213 100u

9214 NOT /21 7201 BC327-25 28V 14V 0V 14V 6212 1N4003 3207 4K7 28V 13.4V 3208 4K7 8.4V 8.5V 28V 12.9V 7202 BC547B 14V 7.5V 6215 1N4003 6216 BZX79-C8V2 3209 100K 2214 100u 6217 1N4003 6218 1N4148 9215 C1

13.5V 13.5V LOW_PWR_SUP

Low Power supply regulator for /21 version only

V... at 120V AC

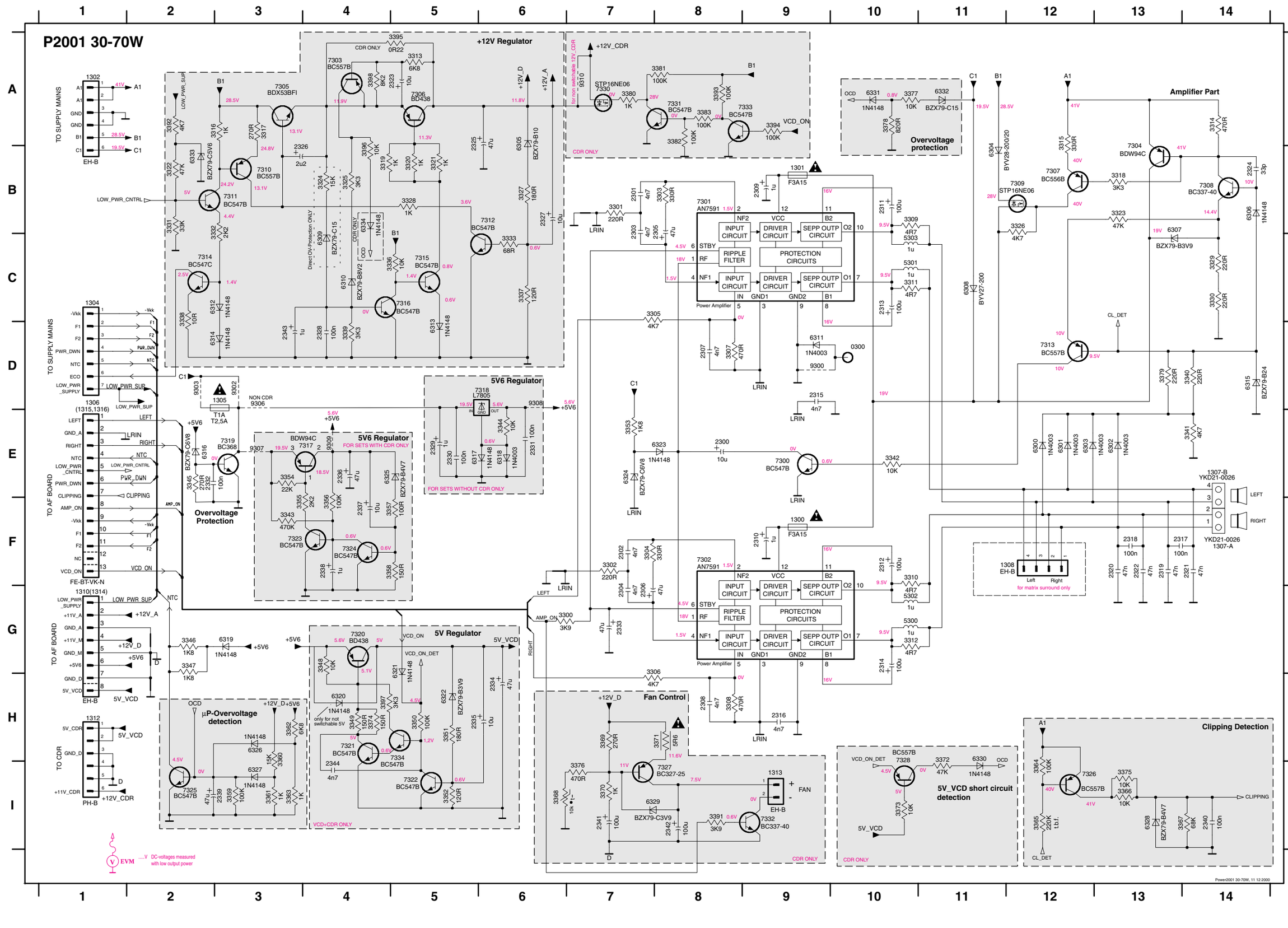
V... at 240V AC

ONLY /21 version

EVM .....V DC-voltages measured with low output power

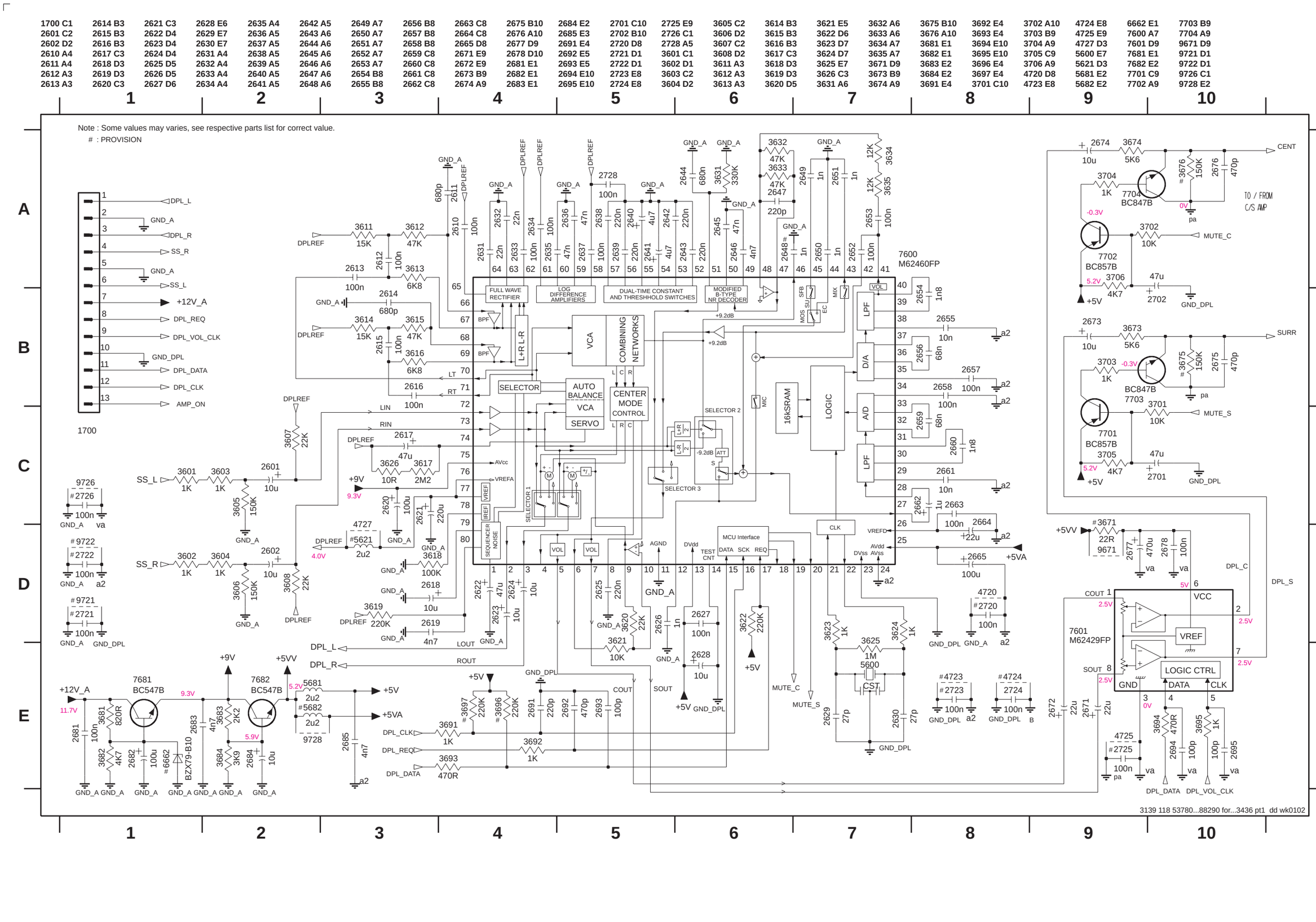
Power2001 Mainsboard, 15 12 2000

11-7



11-9

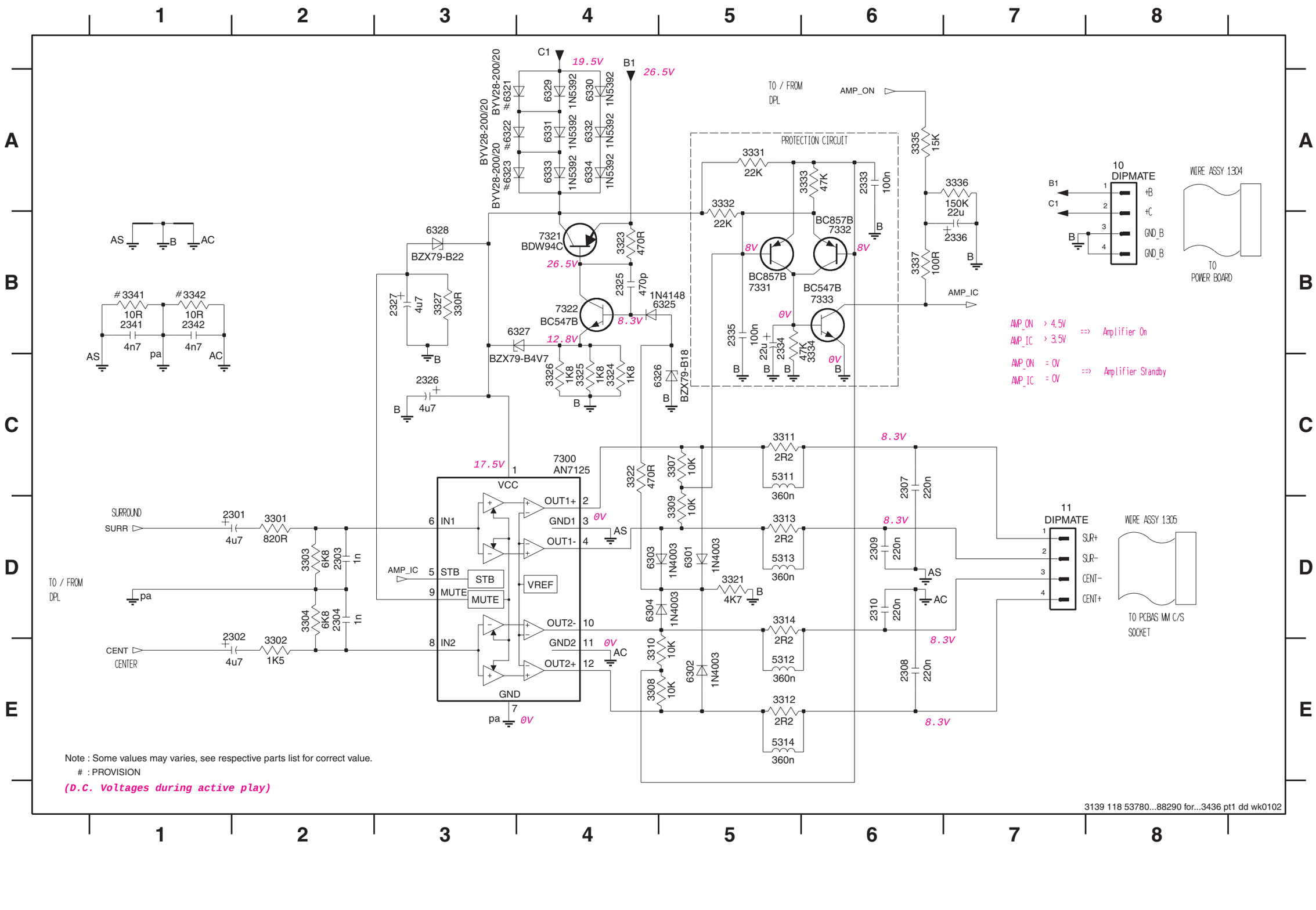
Circuit Diagram Dolby Pro Logic Part



11-10

Circuit Diagram Center/Surround Amplifier Part

10 A8	2303 D2	2309 D6	2327 B3	2336 B7	3302 E2	3308 E4	3312 E5	3322 C4	3326 C4	3333 A6	3337 B6	5312 E5	6302 E5	6322 A3	6327 B4	6331 A4	7300 C4	7332 B6
11 D7	2304 D2	2310 D6	2333 A6	2341 B1	3303 D2	3309 D5	3313 D5	3323 B4	3327 B3	3334 B6	3341 B1	5313 D5	6303 D4	6323 A3	6328 B3	6332 A4	7321 B4	7333 B6
2301 D2	2307 C6	2325 B4	2334 B5	2342 B1	3304 D2	3310 E4	3314 D5	3324 C4	3331 A5	3335 A6	3342 B1	5314 E5	6304 D4	6325 B5	6329 A4	6333 A4	7322 B4	
2302 E2	2308 E6	2326 C3	2335 B5	3301 D2	3307 C5	3311 C5	3321 D5	3325 C4	3332 A5	3336 A7	5311 C5	6301 D5	6321 A3	6326 C5	6330 A4	6334 A4	7331 B5	



Note : Some values may varies, see respective parts list for correct value.

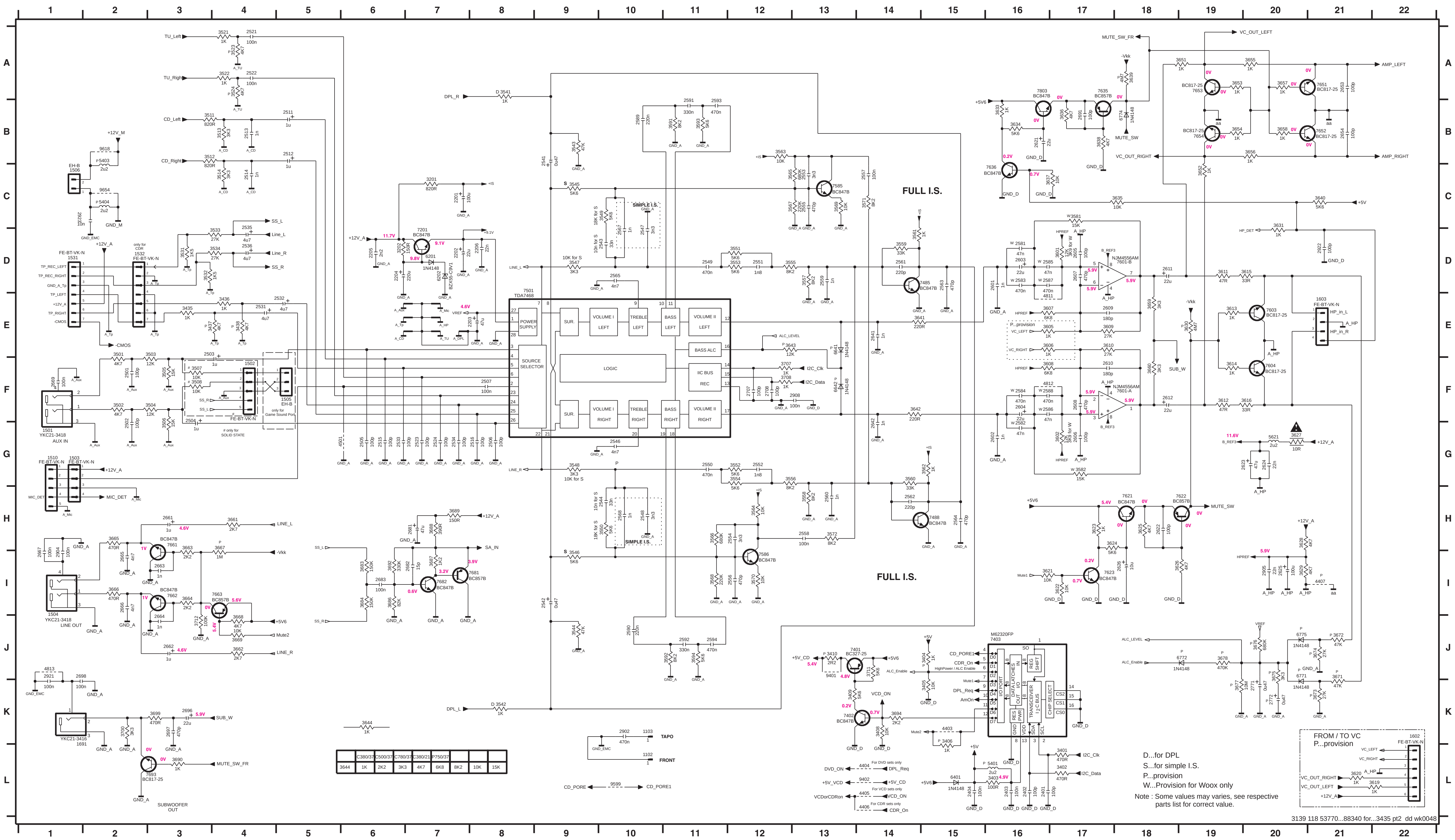
: PROVISION

(D.C. Voltages during active play)

12-4

AF9 BOARD - CIRCUIT DIAGRAM (PART 1)

1102 L10	1531 D1	2205 D6	2504 G3	2516 G8	2535 D4	2549 D11	2558 H13	2568 H10	2589 B10	2604 F16	2621 B16	2654 B21	2681 H7	2771 K20	3201 C7	3409 K13	3504 F3	3521 A4	3542 K8	3551 D12	3560 G14	3569 C13	3594 J11	3611 D19	3622 I17	3631 C20	3641 E14	3656 B20	3665 H2	3675 J20	3689 H7	3712 J3	4813 J1	6642 F13	7485 D14	7621 H18	7661 H3	9599 L10
1103 K10	1532 D2	2206 D8	2505 G6	2521 A4	2536 D4	2550 G11	2559 D13	2581 D16	2590 J10	2605 D17	2622 H18	2661 H3	2682 I7	2772 K20	3202 D6	3410 J13	3505 F3	3522 A4	3543 B9	3552 G12	3561 D14	3570 I12	3601 D17	3612 F19	3623 H17	3633 B16	3642 F14	3657 A20	3666 I2	3676 J20	3690 L3	4403 K15	5401 L16	6771 J20	7488 H15	7622 H18	7662 I3	9618 B2
1501 G1	1602 K22	2401 L16	2506 G8	2522 A4	2541 B9	2551 D12	2560 H13	2582 G16	2591 A11	2606 G17	2623 G20	2662 J3	2683 I6	2902 K10	3401 L17	3435 E3	3506 G3	3523 A4	3544 J9	3553 D12	3562 G15	3571 C14	3602 G17	3613 E19	3624 H17	3634 B16	3643 E12	3658 B20	3667 H4	3677 K19	3692 I6	4404 L14	5403 B2	6772 J19	7501 D8	7623 I17	7663 I4	9654 C2
1502 F4	1603 E21	2402 L16	2507 F8	2523 G7	2542 I9	2552 G12	2561 D14	2583 D16	2592 J11	2607 D17	2624 G20	2663 I3	2691 B17	2904 I1	3402 L17	3436 E4	3507 F3	3524 A4	3545 C9	3554 G12	3563 B12	3572 H13	3605 E16	3614 F19	3625 H18	3635 C18	3644 K6	3659 E18	3668 J4	3678 J19	3694 K14	4405 L14	5404 C2	6774 B18	7585 C13	7635 A17	7681 I7	
1503 G1	1691 K2	2403 L16	2511 B5	2524 G7	2543 D10	2553 C13	2562 H14	2584 F16	2593 A11	2608 F17	2625 I20	2664 J3	2696 K3	2905 I20	3403 L16	3437 E3	3508 F3	3531 D3	3546 I9	3555 D12	3564 H12	3581 C17	3606 E16	3615 D20	3626 I18	3636 B17	3651 A19	3660 F18	3669 J4	3683 I6	3699 K3	4406 L14	5621 G20	6775 J20	7586 I12	7636 C16	7682 I7	
1504 I1	2201 C7	2404 L15	2512 B5	2531 E4	2544 H10	2554 H12	2563 D15	2585 D16	2594 J11	2609 E17	2626 I18	2665 I2	2697 K3	2908 F13	3404 J15	3438 E4	3511 B3	3532 D3	3547 D9	3556 G12	3565 C12	3582 G17	3607 E16	3616 F20	3627 G20	3637 C16	3652 C19	3661 H4	3671 J21	3684 I6	3700 K2	4407 I21	6201 D7	7201 C7	7601-A F18	7651 A21	7693 L3	
1505 F5	2202 D7	2501 F2	2513 B4	2532 E5	2546 G10	2555 C13	2564 H15	2586 F16	2601 D16	2610 F17	2641 E14	2666 I2	2698 J1	2921 J1	3405 K15	3501 E2	3512 B3	3533 D4	3548 G9	3557 D13	3566 H11	3591 B11	3608 F16	3619 L22	3628 H20	3638 B17	3653 A19	3662 J4	3672 J21	3686 I6	3707 F12	4501 G6	6202 D7	7401 J14	7601-B D18	7652 B21	7803 A16	
1506 C1	2203 E8	2502 G2	2514 C4	2533 G6	2547 D10	2556 I12	2565 D10	2587 D16	2602 G16	2611 D18	2642 G14	2667 I1	2707 F12	2922 D21	3406 K15	3502 F2	3513 B4	3534 D4	3549 C10	3558 H13	3567 C12	3592 J11	3609 E17	3620 L21	3629 I20	3639 A18	3654 B19	3663 H3	3673 K21	3687 I7	3708 F12	4811 E16	6401 L15	7402 K13	7603 E20	7653 A19	9401 J13	
1510 G1	2204 D6	2503 E3	2515 G6	2534 G7	2548 H10	2557 C14	2567 D10	2588 F16	2603 D16	2612 F18	2653 A21	2669 F1	2708 F12	2923 C1	3408 K14	3503 E3	3514 C4	3541 A8	3550 H10	3559 D14	3568 I11	3593 B11	3610 E17	3621 I16	3630 E19	3640 C21	3655 A20	3664 I3	3674 J21	3688 H7	3711 J14	4812 F16	6641 E13	7403 J16	7604 F20	7654 B19	9402 L14	



12-5

AF9 BOARD - CIRCUIT DIAGRAM (PART 2)