Digital Receiver FR310

Service
Service
Service

00U/01U/02U/05U/08U/10U

Service Manual

Contents **page**

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

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Subject to modification (GB) 4822 725 23094

PHILIPS

Specification

General:

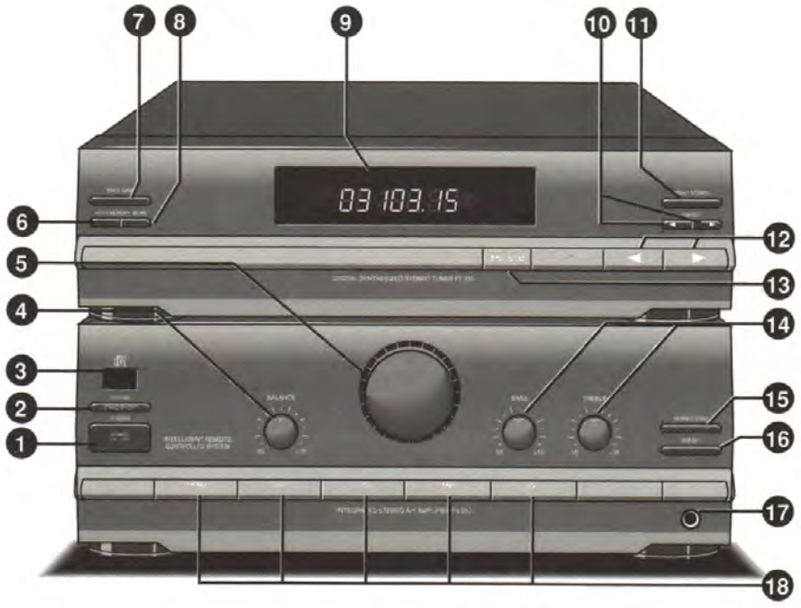
Mains voltage	:	220V / 50Hz for /00, /02, /08
	:	240V / 50Hz for /05, /10
	:	230V / 50Hz for /01
	:	120V / 60Hz for /17
Power consumption	:	≤ 150W at 2x32W output power
	:	≤ 22W in stand by
Supply out (for CCD310)	:	+14V stab.
	:	+12V unstab.
	:	-12V unstab.
	:	4,1V AC on -20V for FTD
	:	-25V for FTD

Tuner:	FM	MW	LW
Tuning range	87,5 - 108 MHz	522 - 1611 kHz (not for /17) 530 - 1700 kHz (only for /17)	148 - 284 kHz
Aerial input	75 Ω (not for /17) 300 Ω (only for /17)	Frame aerial (pos 430)	Frame aerial (pos 430)
IF	10,7 MHz ± 25 kHz	450 kHz ± 1 kHz	450 kHz ± 1 kHz
Sensitivity	4 µV (2 µV typ.)	3 mV/m (2 mV/m typ.)	6 mV/m (not guaranteed above 250 kHz)
Image rejection ratio	30 dB (40 dB typ.)	27 dB (30 dB typ.)	40 dB (43 dB typ.)
-3 dB limiting point	5 µV (2 µV typ.)		

Amplifier:

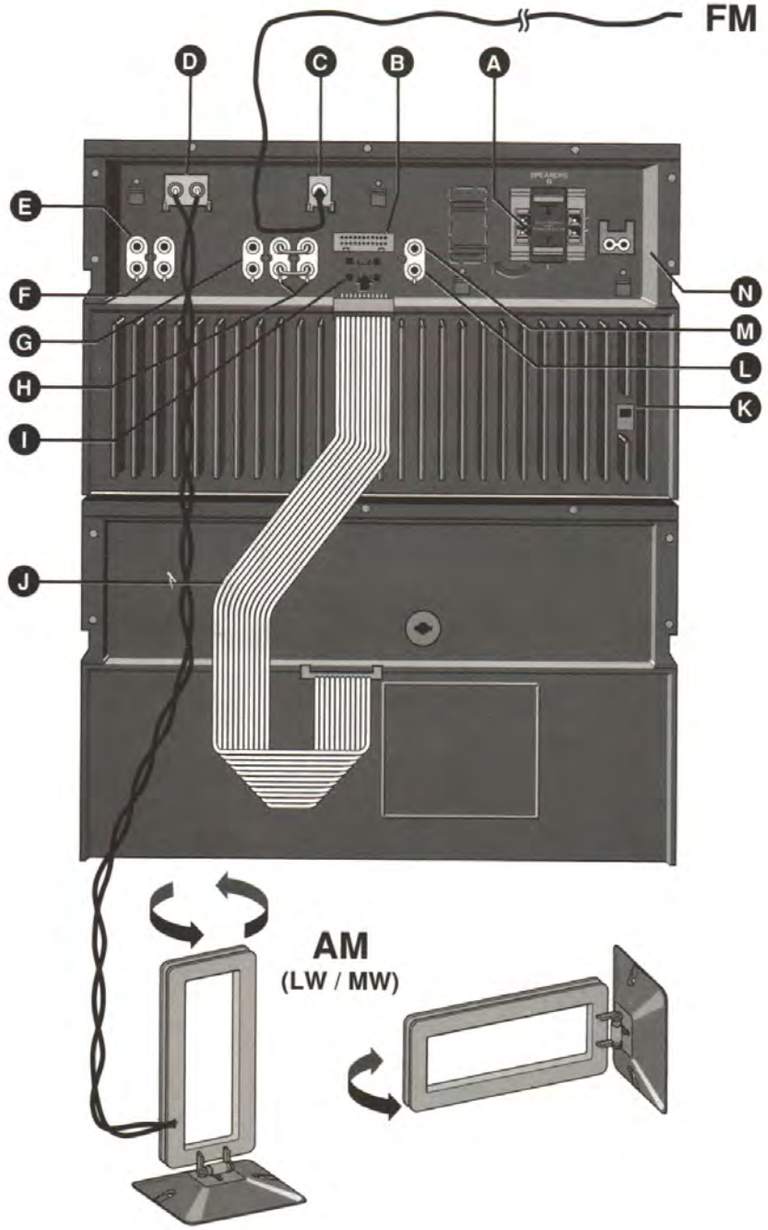
Output power	:	2 x 32W at 8Ω D=0,7% (from 63 Hz to 12,5 kHz)
	:	2 x 25W at 8Ω D=0,09% (measured at 1 kHz)
Music power	:	2 x 52W at 8Ω
Headphone	:	6,3mm stereo jack 3V into 1kΩ 350mV into 8Ω
Power stage protection	:	AC no
	:	DC yes
	:	Temperature no
	:	Shortcircuit yes
Frequency response	:	20 Hz - 20 kHz ± 2 dB
Tone control	:	Bass from +10 dB to -10 dB ± 2 dB at 80 Hz
	:	Treble from +10 dB to -10 dB ± 2 dB at 10 kHz
Input sensitivity	:	CD 350 mV
	:	TV 200 mV
	:	PHONO 2,5 mV
	:	TAPE 580 mV
	:	Equal. 250 mV
Output voltage	:	TAPE 250 mV
	:	Equal. 250 mV
	:	Rec out 250 mV

Connections & Controls



1)	Power ON/OFF	1271
2)	Stand by	1463
3)	IR-eye	6441
4)	Balance pot	3525
5)	Volume pot	3526
	Indicator LED	6001
6)	Auto Memory	1462
7)	Wave band	1464
8)	Auto scan	1466
9)	FTD	1451
10)	Preset UP/DOWN	1468/1471
11)	Mono/Stereo	1469

12)	Frequ. UP/DOWN		1461/1465
13)	Memory OPEN/CLOSE		1467
14)	Bass/Treble		3511/3512
15)	Surround		1501
16)	Bass expansion (DBB)		1502
17)	Headphone		1400
18)	Source selector	PHONO	1419
		TUNER	1415
		CD	1416
		TAPE	1417
		TV	1418



A)	Speaker terminal	1272
B)	Tape IN/OUT	1554
C)	FM aerial 75Ω	1101
D)	AM frame aerial	1102
E)	PHONO	1551
F)	TV	1551
G)	Rec out	1553

H)	Equalizer IN/OUT	15:
I)	Holes to store equalizer bridges	
J)	Connection to CCD310	
K)	Voltage selector (not in all versions)	
L)	Easy link	1561
H)	RC5	1561
N)	Mains socket	1273

DISMANTLING OF POWER BOARD

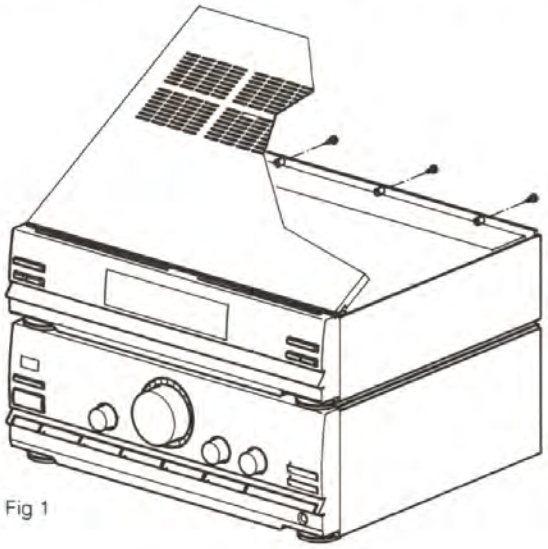


Fig 1

1) Loosen 3x Torx 10 screws (see figure 1).
2) Remove top (see figure 1).
3) Loosen 9x Torx 10 screws and 6x Torx M4x10 on rear part (see figure 2).
4) Remove Power lever (pos 417). Only snapped on power switch.
5) Bring the upper rear part in an upright position (see figure 3).
6) Loosen 5 screws (3x Torx M4x10, 2x Torx 10).

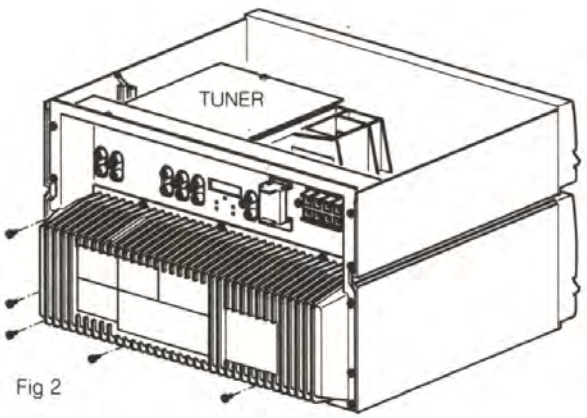


Fig 2

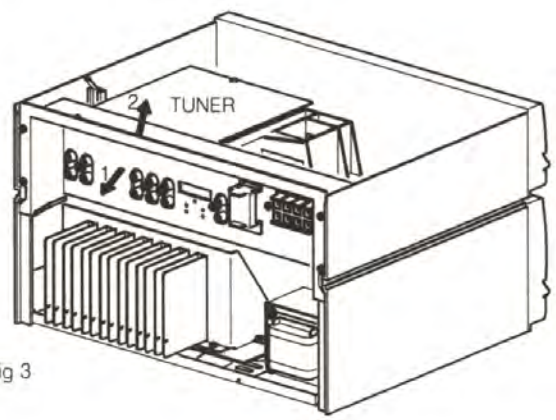


Fig 3

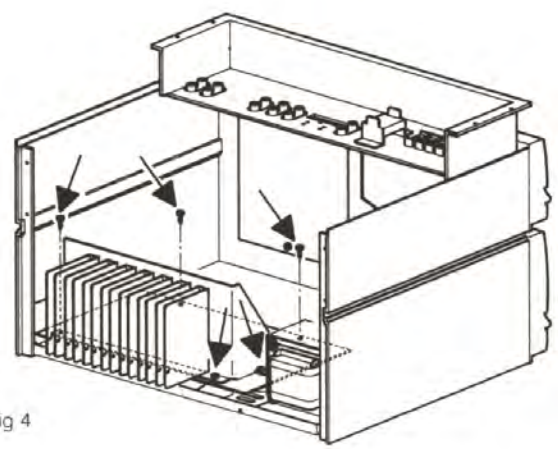


Fig 4

EVA.01205
T28/047

DISMANTLING OF TUNER PANEL

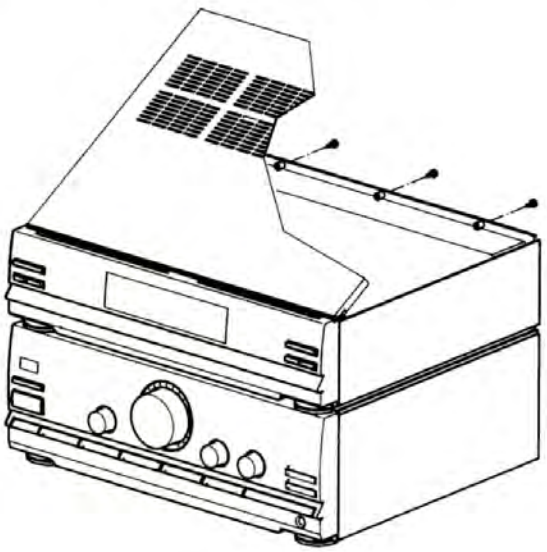


Fig.1

1) Loosen 3x Torx 10 screws (see figure 1).
2) Remove top (see figure 1).
3) Loosen 4x Torx 10 screws on aerial terminals (see figure 2).
4) Loosen 1x Torx 10 on printed circuit board (see figure 3).
5) Bend the hidden snaps (shown in fig. 2) with a small screw driver sidewards while pulling the PCB as shown in figure 3.

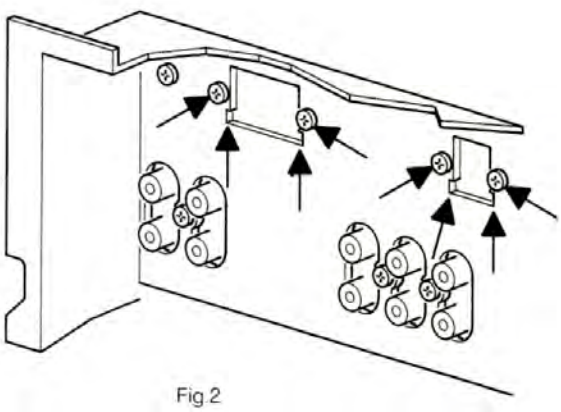


Fig.2

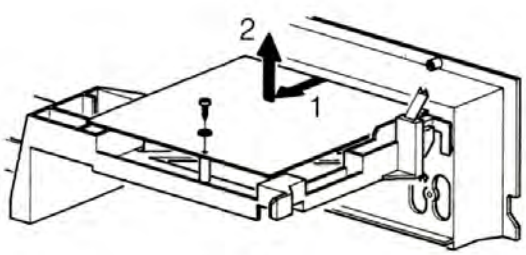


Fig.3

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T05–045

DISMANTLING OF OUTPUT PANEL

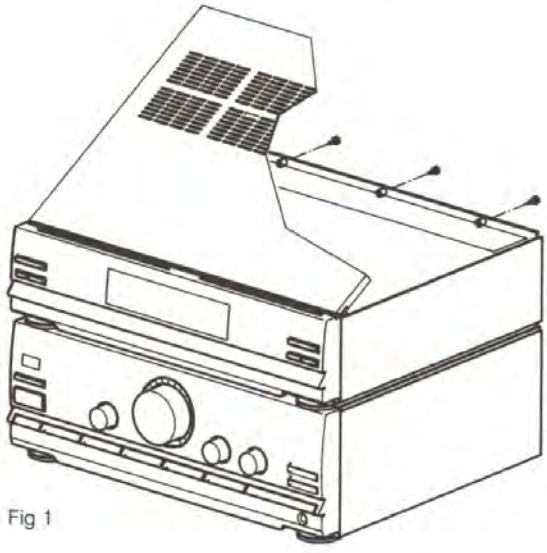


Fig 1

1) Loosen 3x Torx 10 screws (see figure 1).
2) Remove top (see figure 1).
3) Remove Power lever (pos 417). Only snapped on power switch.
4) Remove 3x Torx 10 (see figure 2).
5) Remove PCB as shown in figure 3.

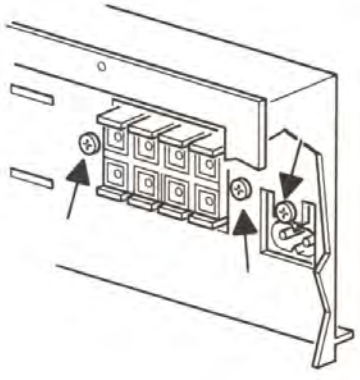


Fig 2

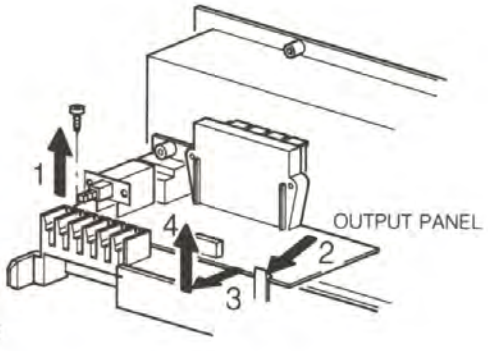


Fig 3

EVA.01206
T28/047

DISMANTLING OF SOURCE SELECTOR

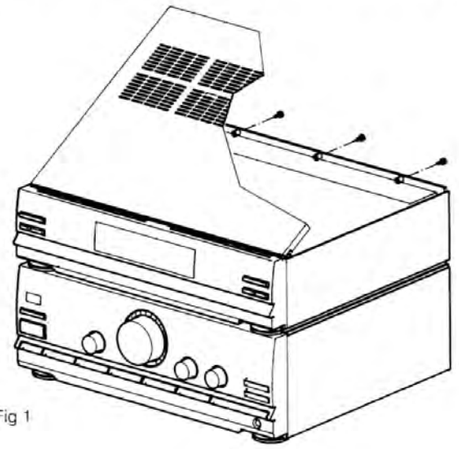


Fig 1

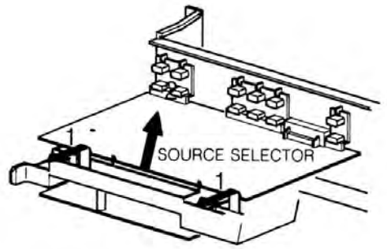


Fig 5

1) Loosen 3x Torx 10 screws (see figure 1).
2) Remove top (see figure 1).
3) Loosen 9x Torx 10 screws and 6x Torx M4x10 on rear part (see figure 2).
4) Remove Power lever (pos 417). Only snapped on power switch.
5) Bring the upper rear part in an upright position (see figure 3).
6) Loosen 5x Torx 10 screws (see figure 4). Remove equalizer bridges.
7) Loosen two snaps (see figure 5) and remove PCB.

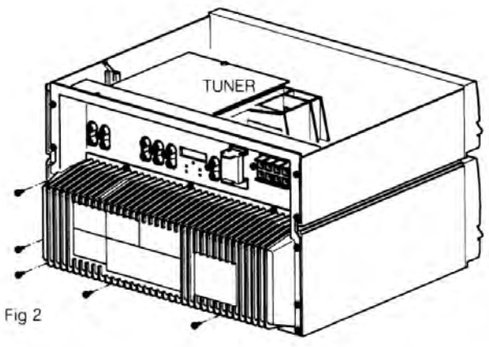


Fig 2

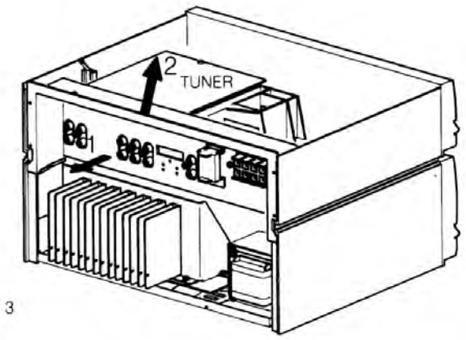


Fig 3

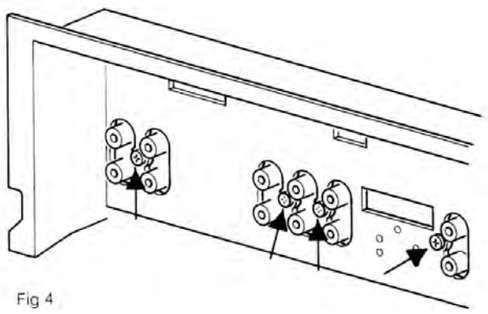


Fig 4

EVA.01204
T28/047

ACCESS TO FRONT PANELS

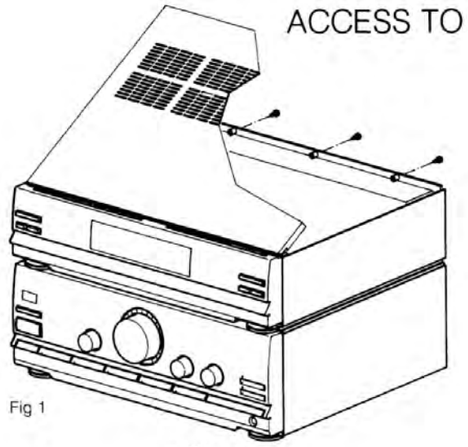


Fig 1

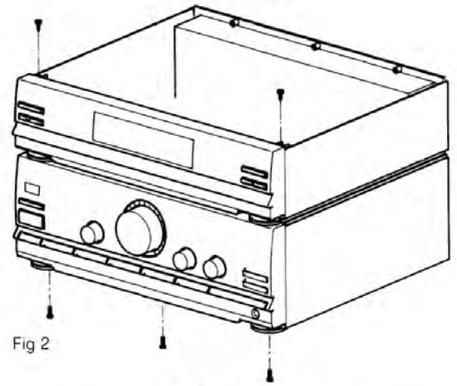


Fig 2

1) Loosen 3x Torx 10 screws (see figure 1).
2) Remove top (see figure 1).
3) Loosen 2x Torx 10 - front/side panels (see figure 2).
4) Loosen 3x Torx M4x10 on bottom (see figure 2).
5) Loosen two snaps on side panels (see figure 3).

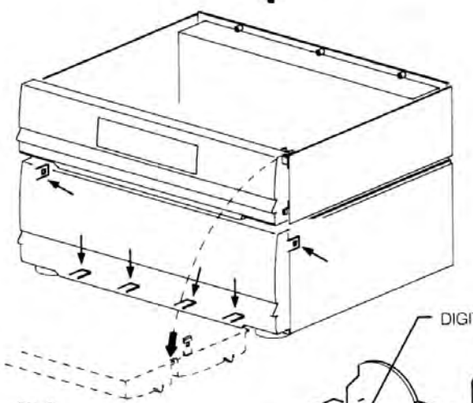
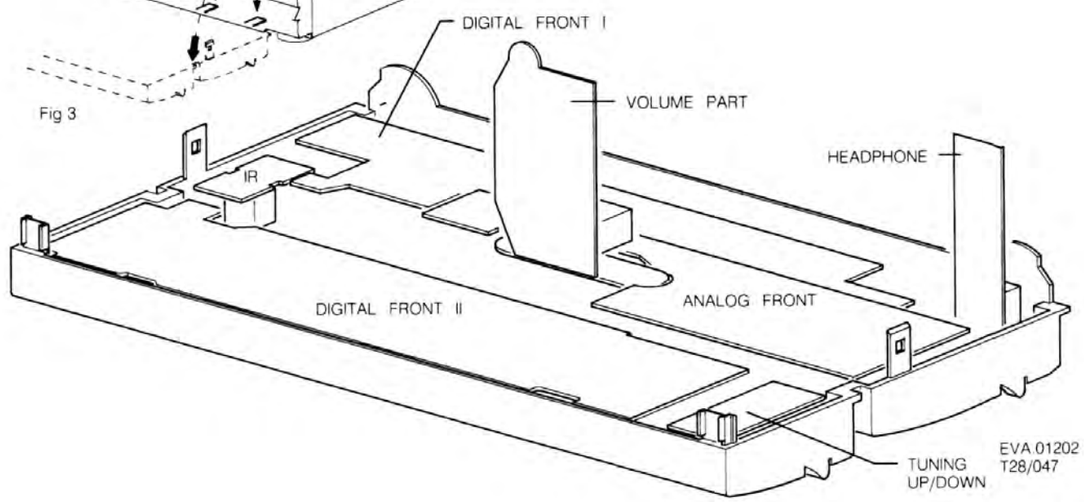
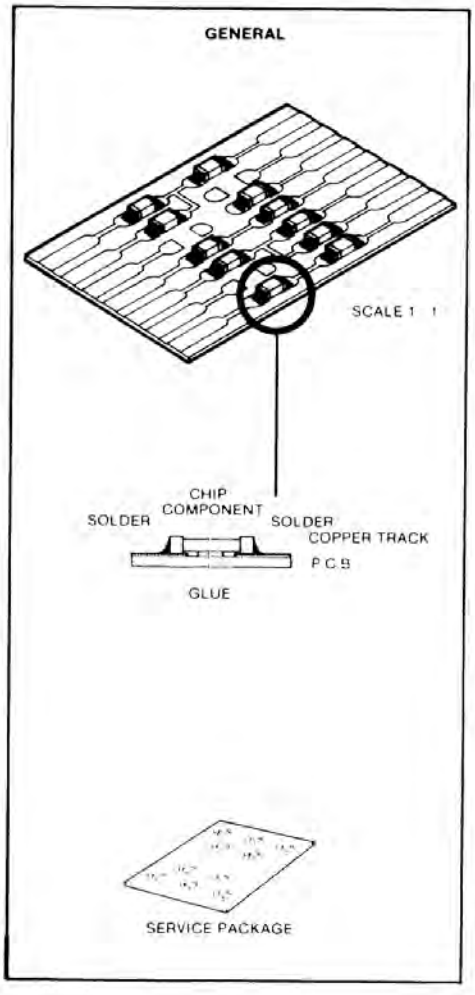
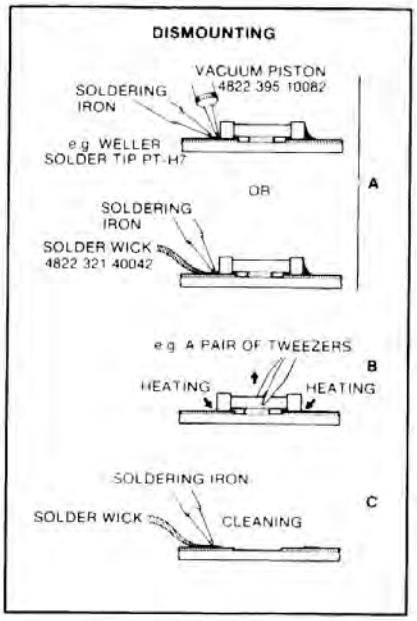


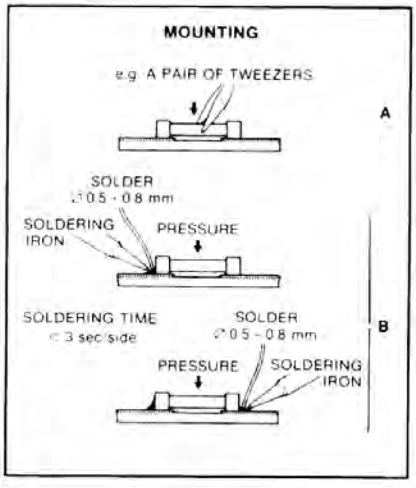
Fig 3

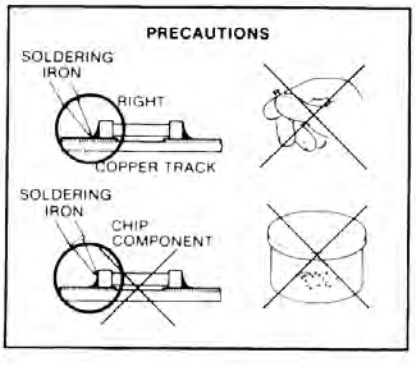


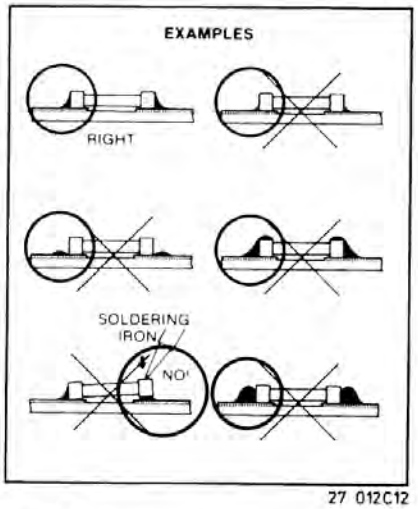
EVA.01202
T28/047











27 012C12

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 enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D **WARNUNG**

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

D

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

NL

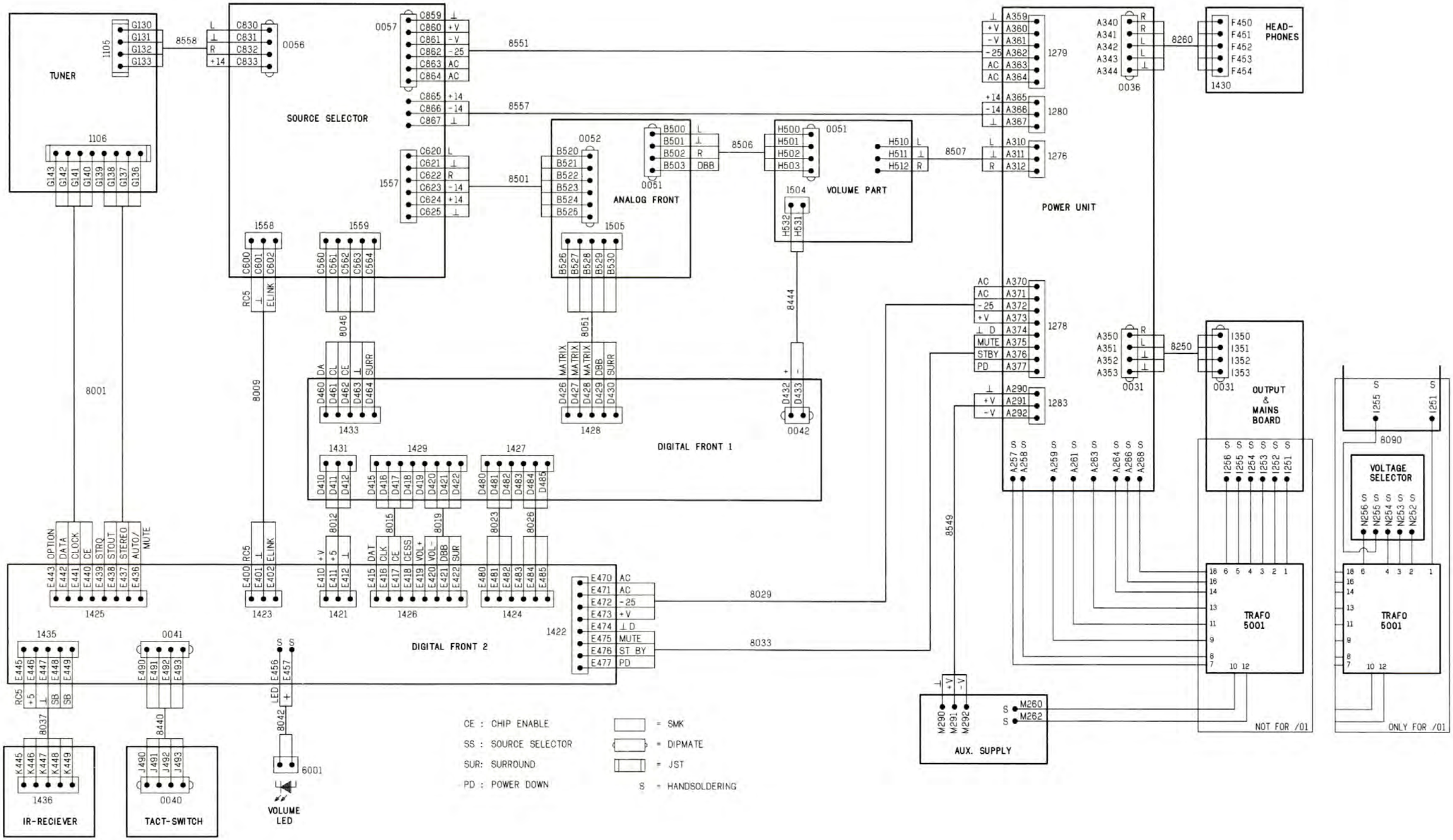
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

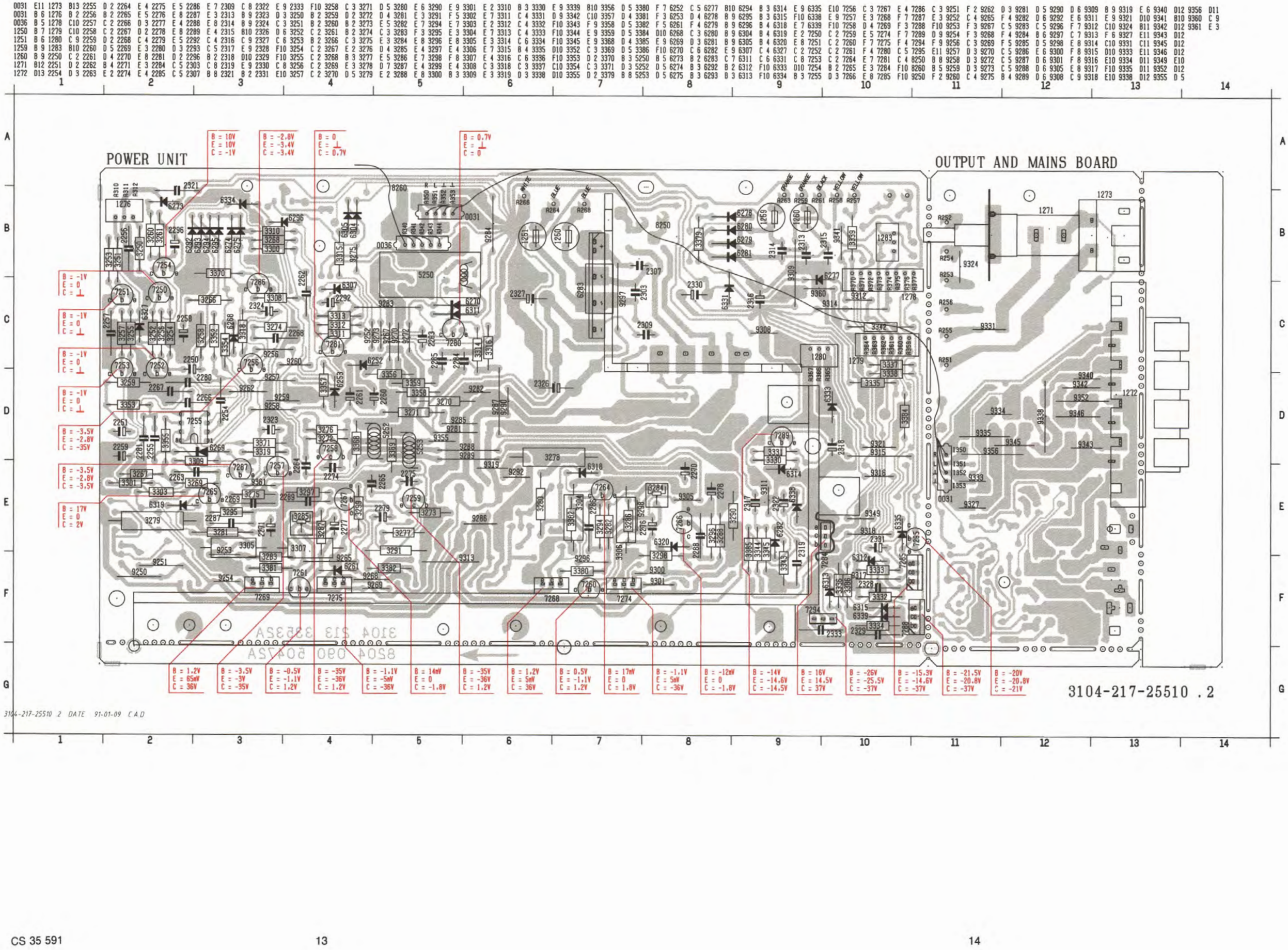
I

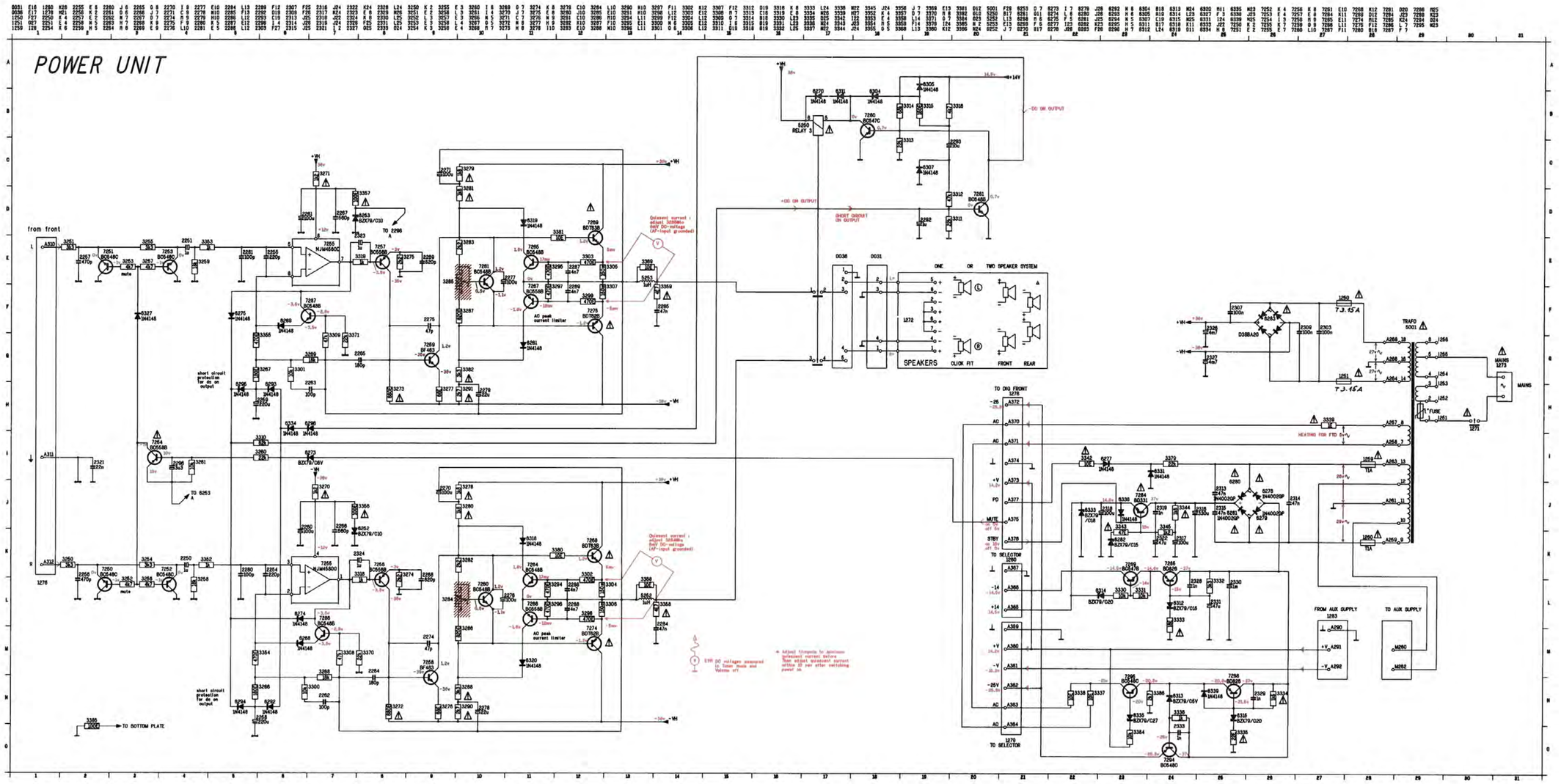
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

F

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

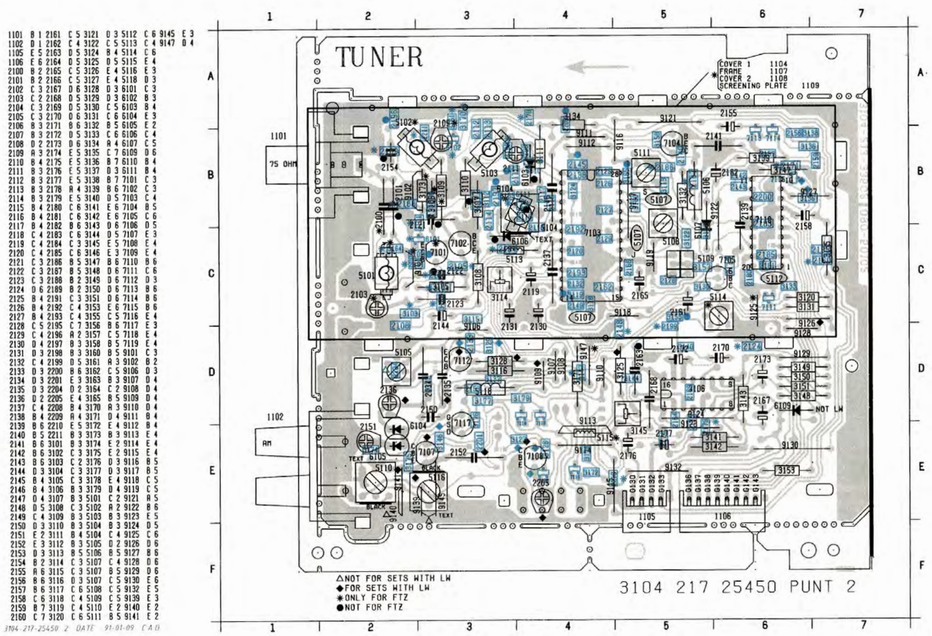

TUNER
1105
G130
G131
G132
G133
8558
L
R
+14
C830
C831
C832
C833
0056
1106
G143 G142 G141 G140 G139 G138 G137 G136
8001
SOURCE SELECTOR
0057
C859 ⊥
C860 +V
C861 -V
C862 -25
C863 AC
C864 AC
8551
C865 +14
C866 -14
C867 ⊥
8557
1557
C620 L
C621 ⊥
C622 R
C623 -14
C624 +14
C625 ⊥
8501
0052
B520
B521
B522
B523
B524
B525
ANALOG FRONT
0051
B500 L
B501 ⊥
B502 R
B503 DBB
8506
H500
H501
H502
H503
VOLUME PART
1504
H532
H531
H510 L
H511 ⊥
H512 R
8507
POWER UNIT
1279
1280
1276
1278
1283
A359 ⊥
A360 +V
A361 -V
A362 -25
A363 AC
A364 AC
A365 +14
A366 -14
A367 ⊥
A310 L
A311 ⊥
A312 R
A370 AC
A371 AC
A372 -25
A373 +V
A374 ⊥ D
A375 MUTE
A376 STBY
A377 PD
A290 ⊥
A291 +V
A292 -V
A340 R
A341 R
A342 L
A343 L
A344 ⊥
0036
8260
F450 F451 F452 F453 F454
HEAD-PHONES
1430
A350 R
A351 L
A352 ⊥
A353 ⊥
0031
8250
1350 1351 1352 1353
OUTPUT & MAINS BOARD
A257 A258 A259 A261 A263 A264 A266 A268
1256 1255 1254 1253 1252 1251
1255
1251
8090
VOLTAGE SELECTOR
N256 N255 N254 N253 N252
TRAFO 5001
NOT FOR /01
ONLY FOR /01
1558
1559
C600 C601 C602
C560 C561 C562 C563 C564
RC5 ⊥ ELINK
8009
8046
DA CL CE ⊥ SURR
D460 D461 D462 D463 D464
1433
B526 B527 B528 B529 B530
1505
8051
MATRIX MATRIX MATRIX DBB SURR
D426 D427 D428 D429 D430
1428
8444
D432 D433
0042
1431
1429
1427
DIGITAL FRONT 1
D410 D411 D412
D415 D416 D417 D418 D419 D420 D421 D422
D480 D481 D482 D483 D484 D485
8012
8015
8019
8023
8026
OPTION DATA CLOCK CE STRO STOUT STEREO AUTO/MUTE
E443 E442 E441 E440 E439 E438 E437 E436
1425
E400 RC5
E401 ⊥
E402 ELINK
1423
E410 +V
E411 +5
E412 ⊥
1421
E415 DAT
E416 CLK
E417 CE
E418 CESS
E419 VOL+
E420 VOL-
E421 DBB
E422 SUR
1426
E480 E481 E482 E483 E484 E485
1424
E470 AC
E471 AC
E472 -25
E473 +V
E474 ⊥ D
E475 MUTE
E476 ST BY
E477 PD
1422
DIGITAL FRONT 2
8029
8033
8549
1435
E445 E446 E447 E448 E449
RC5 +5 ⊥ SB SB
8037
K445 K446 K447 K448 K449
1436
IR-RECIEVER
0041
E490 E491 E492 E493
8440
J490 J491 J492 J493
0040
TACT-SWITCH
S S
E456 E457
LED +
8042
6001
VOLUME LED
⊥ +V -V
M290 M291 M292
S M260
S M262
AUX. SUPPLY
CE : CHIP ENABLE
SS : SOURCE SELECTOR
SUR: SURROUND
PD : POWER DOWN
= SMK
= DIPMATE
= JST
S = HANDSOLDERING




POWER UNIT
from front
TO BOTTOM PLATE
short circuit protection for dc on output
AC peak current limiter
SPEAKERS
ONE OR TWO SPEAKER SYSTEM
QUICK FIT
FRONT
REAR
TRAFO 5001
MAINS
TO DIG FRONT
TO SELECTOR
FROM AUX SUPPLY
TO AUX SUPPLY
HEATING FOR FTD
GHOST CIRCUIT ON OUTPUT
DC ON OUTPUT

TUNER Adjustment table

Waverange	Input frequency	Input	Set tuned to	Adjust	Output	Scope / Voltmeter
VARICAP ALIGNMENT						
FM 87,5 - 108 MHz			108 MHz	5104	◇1	8V ± 50 mV
			87,5 MHz	check		2,7V ± 400 mV
AM (2-band version) 530 - 1700 kHz [1]			1700 kHz	2136		7,6V ± 100 mV
			530 kHz	check		1V ± 200 mV
LW 148 - 284 kHz			284 kHz	5105		8,4V ± 200 mV
MW (3-band version) 522 - 1611 kHz [2]			1611 kHz	2136		8,5V ± 100 mV
FM - RF [3]						
FM	87,5 MHz mod = 1 kHz Δf = 22,5 kHz	◇A	87,5 MHz	5103	◇2	max.
				5101 [4] 5102 [4]		
	108 MHz mod = 1 kHz Δf = 22,5 kHz		108 MHz	2111		
				2102 [4] 2109 [4]		
FM - IF						
FM	108 MHz Δf = 500 kHz as low as possible		108 MHz	5111		symmetrical and max. height
STEREO DECODER						
FM	98 MHz carrier 1 mV	◇A	98 MHz	3145	◇3	19 kHz ± 50 Hz
SEARCH SENSITIVITY						
FM	98 MHz carrier 12 µV	◇A	98 MHz	3114	◇4	adjust so that voltage switches from low to high
FM	98 MHz carrier 15 µV	◇A	99 MHz or 97 MHz	check		press DOWN or UP and check that set stops at 98 MHz
FM Autostore [5]	98 MHz carrier 350 µV	◇A	99 MHz or 97 MHz	check		press DOWN or UP and check that set stops at 98 MHz
AM - IF						
MW	522 kHz [6] Δf = 10 kHz as low as possible	◇B via 100nF	522 kHz	5108	◇2	symmetrical and max. height
AM - RF						
MW mod = 1 kHz 30% AM	558 kHz	◇C	558 kHz	5110	◇2	max.
	1494 kHz		1494 kHz	2151		
LW mod = 1 kHz 30% AM	155 kHz		155 kHz	5116		max.
	270 kHz		270 kHz	2205		



‡ Repeat

1) used in AUSTRALIA, CANADA and USA versions.

2) used in European versions.

3) For all sets except /02 adjust coil 5101 for nominal position (top of core approx. 3mm from topedge coil).

4) only for FTZ versions

5) Connect G136 to GND to switch set into Autostore sensitivity

6) via low impedance (5Ω) direct to pin 10 of 7103 (see fig. 1).

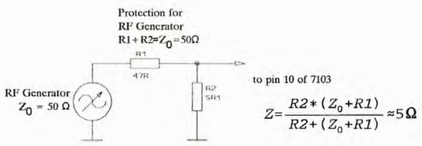
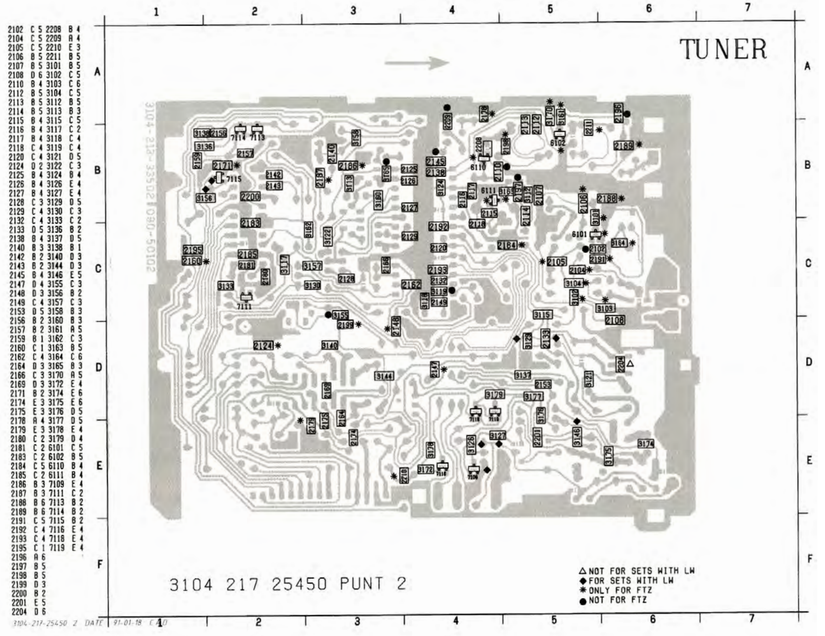
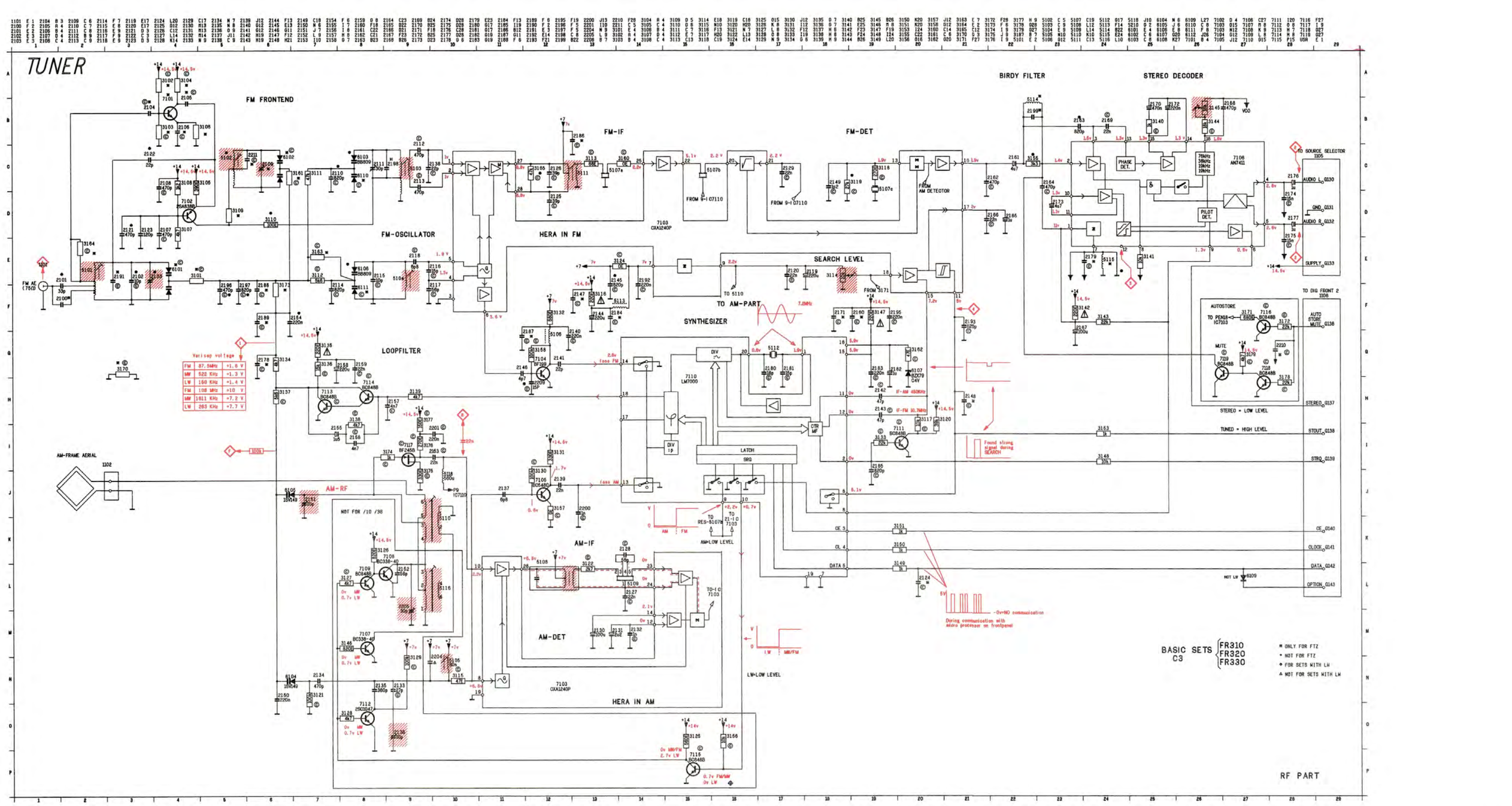


Fig. 1




TUNER
FM FRONTEND
FM-IF
FM-DET
BIRDY FILTER
STEREO DECODER
FM-OSCILLATOR
HERA IN FM
SEARCH LEVEL
TO AM-PART
SYNTHESIZER
LOOPFILTER
AM-FRAME AERIAL
AM-RF
AM-IF
AM-DET
HERA IN AM
AM-LOW LEVEL
LW-LOW LEVEL
RF PART
BASIC SETS C3
FR310
FR320
FR330
* ONLY FOR FTZ
* NOT FOR FTZ
* FOR SETS WITH LW
* NOT FOR SETS WITH LW

DIGITAL FRONT 2

TO DIG FRONT 1

FROM POWER

STAND BY

MUTE

POWER DOWN

TO VOL LED

TO SOURCE SELECT

EASY LINK

IR RECIEVER

PART K

TIMER OSC

OSC

TMP470870

INPUT PORT

I/O PORT R3

OUTP PORT P0

I/O PORT P7

OUTP PORT P1

I/O PORT R9

I/O PORT R6

OUTP. PORT P2

I/O PORT R8

OUTP. PORT P2

INP. PORT R8

CPU

VFT DRIVER CONTROL

AUTO MEMO
WAVE BAND
FREQ DOWN
FREQ UP
AUTO SCAN
MEMO C/C

TO TACT SWITCH PANEL

TO DIGITAL FRONT 1

TO TUNER

STEREO
STEREO SIGNAL
FIELD
STEREO REQUEST
CE LM7000
DATA
CLK
OPTION
DBB/LOUDN
SURROUND
VOL UP
VOL DOWN
CE LED
CE SS
DATA
CLK

7481 ST24C02 MEMORY CMOS SERIAL EPROM

MEMORY
MW LW
FM AM
TIMER
STEREO
KHzMHz

TACT SWITCH

FREQ UP
FREQ UP
MONO/STEREO
PRES DOWN

HEADPHONE

FROM POWER UNIT

DIGITAL FRONT 1

TO DIGITAL FRONT 2

TO ANALOG FRONT

SURROUND
DBB/LOUDN

TUNER
CD
TAPE
TV
PHONO

FROM DIGITAL FRONT 2

8-stage shift and store register

7401

MOTOR

TO SOURCE SELECT

TO DIG FRONT 1

DBB/LOUDN
SURROUND
VOL UP
VOL DOWN
CE LED
CE SS
DATA
CLK

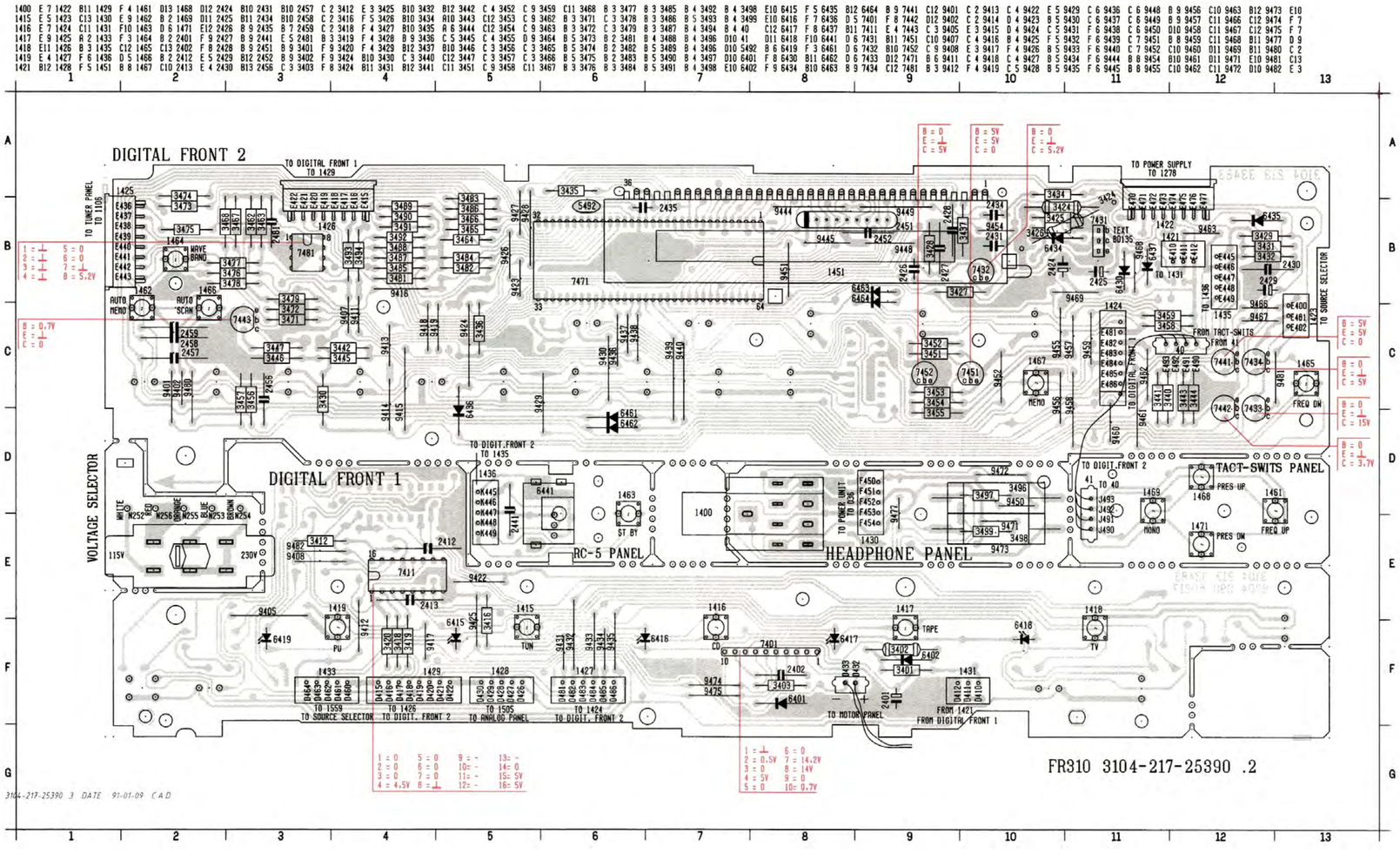
8-stage shift and store register

7411 74HCT4094

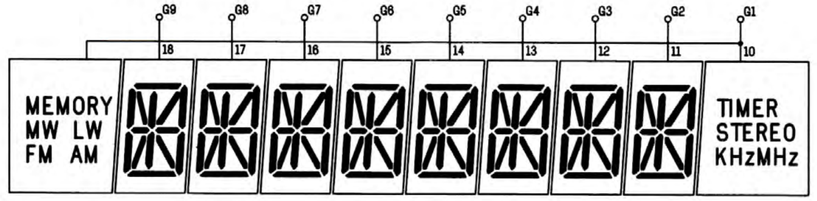
TUN CD TAPE TV PU VCR

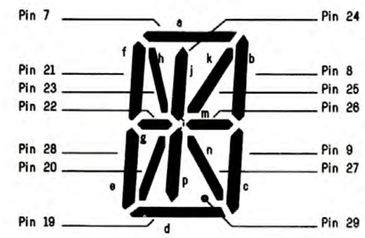
LT3P82AL T3P82AL T3P82AL T3P82AL T3P82A

STATUS : TUNER ON
SURROUND : OFF
LOUDNESS : ON



GRID ASSIGMENT





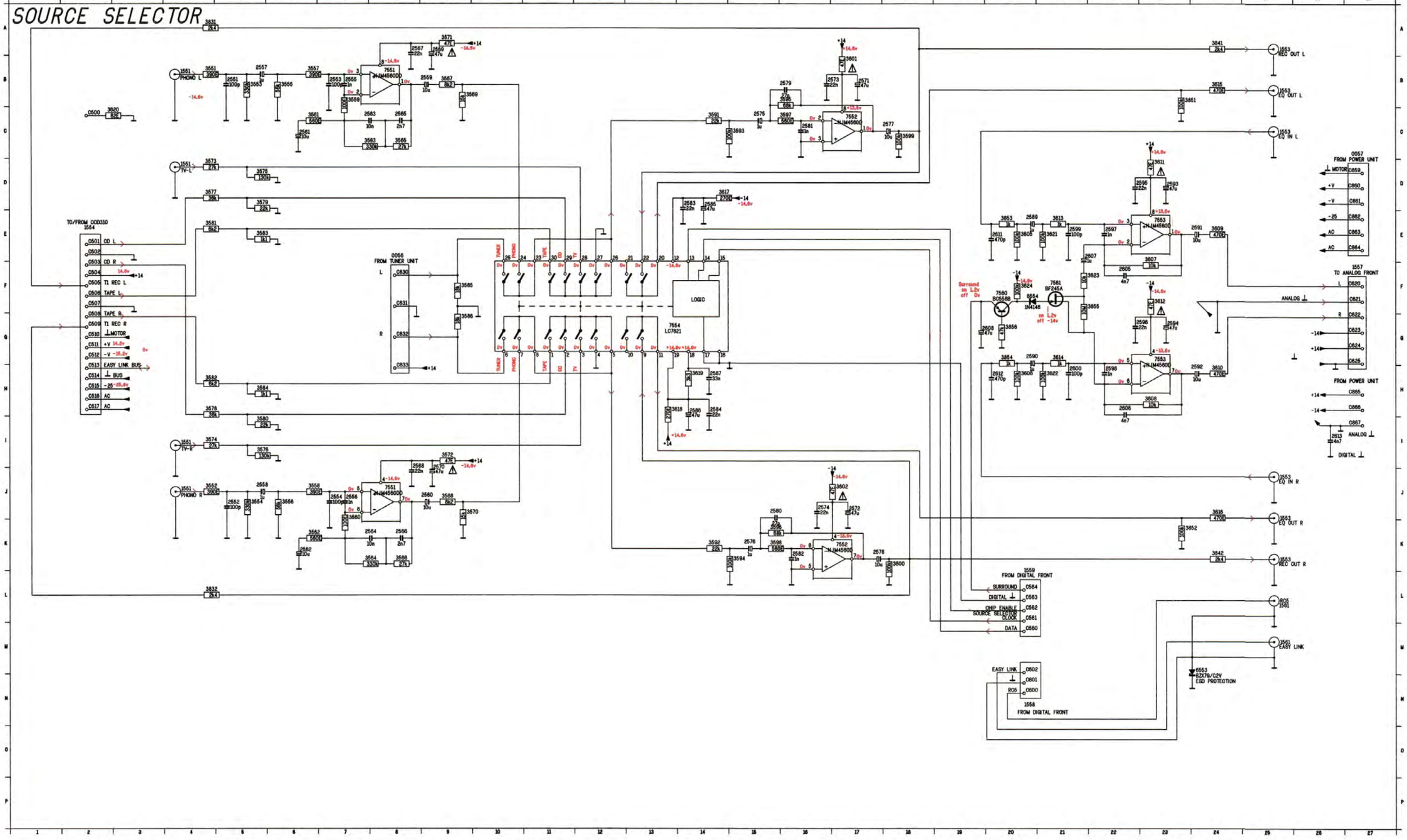
PIN CONNECTION

PIN NO	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F 2	F 2	N P	N P	N C	P 15	P 14	P 13	P 12	P 11	P 10	P 9	P 8	P 7	P 6	P 5	P 4	G 9	G 8	G 7	G 6	G 5	G 4	G 3	G 2	G 1	P 3	P 2	P 1	N C	N C	N P	N P	F 1	F 1

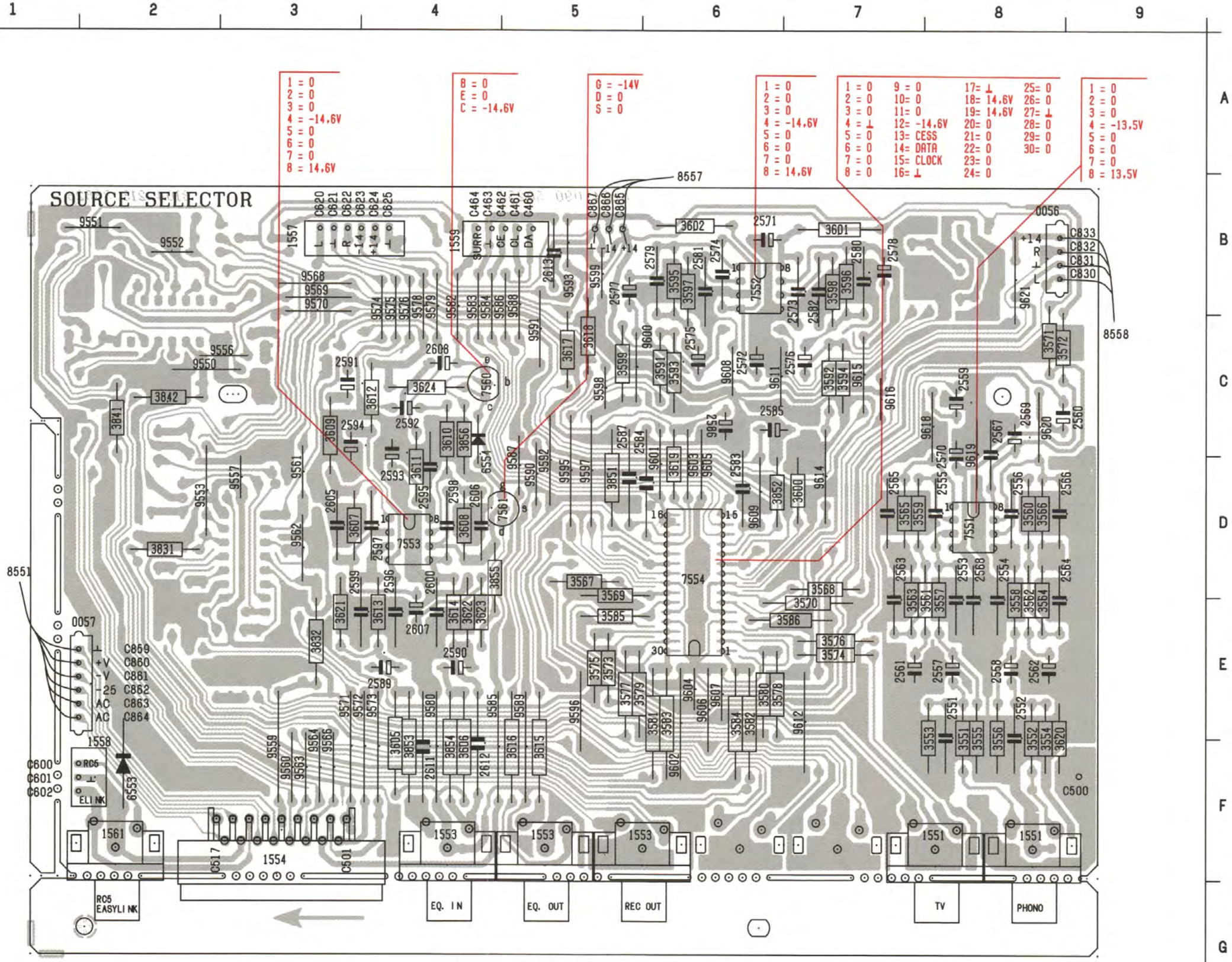
ANODE CONNECTION

	G9	G8	G7	G6	G5	G4	G3	G2	G1
P1	a	a	a	a	a	a	a	a	TIMER
P2	b	b	b	b	b	b	b	b	STEREO
P3	c	c	c	c	c	c	c	c	kHz
P4	d	d	d	d	d	d	d	d	MHz
P5	e	e	e	e	e	e	e	e	MEMORY
P6	f	f	f	f	f	f	f	f	MW
P7	g	g	g	g	g	g	g	g	LW
P8	h	h	h	h	h	h	h	h	FM
P9	j,p	j,p	j,p	j,p	j,p	j,p	j,p	j,p	AM
P10	k	k	k	k	k	k	k	k	-
P11	m	m	m	m	m	m	m	m	-
P12	n	n	n	n	n	n	n	n	-
P13	r	r	r	r	r	r	r	r	-
P14	.	.	.	.	.	.(lower)	.	.	-
P15	-	-	-	-	-	-(upper)	-	-	-

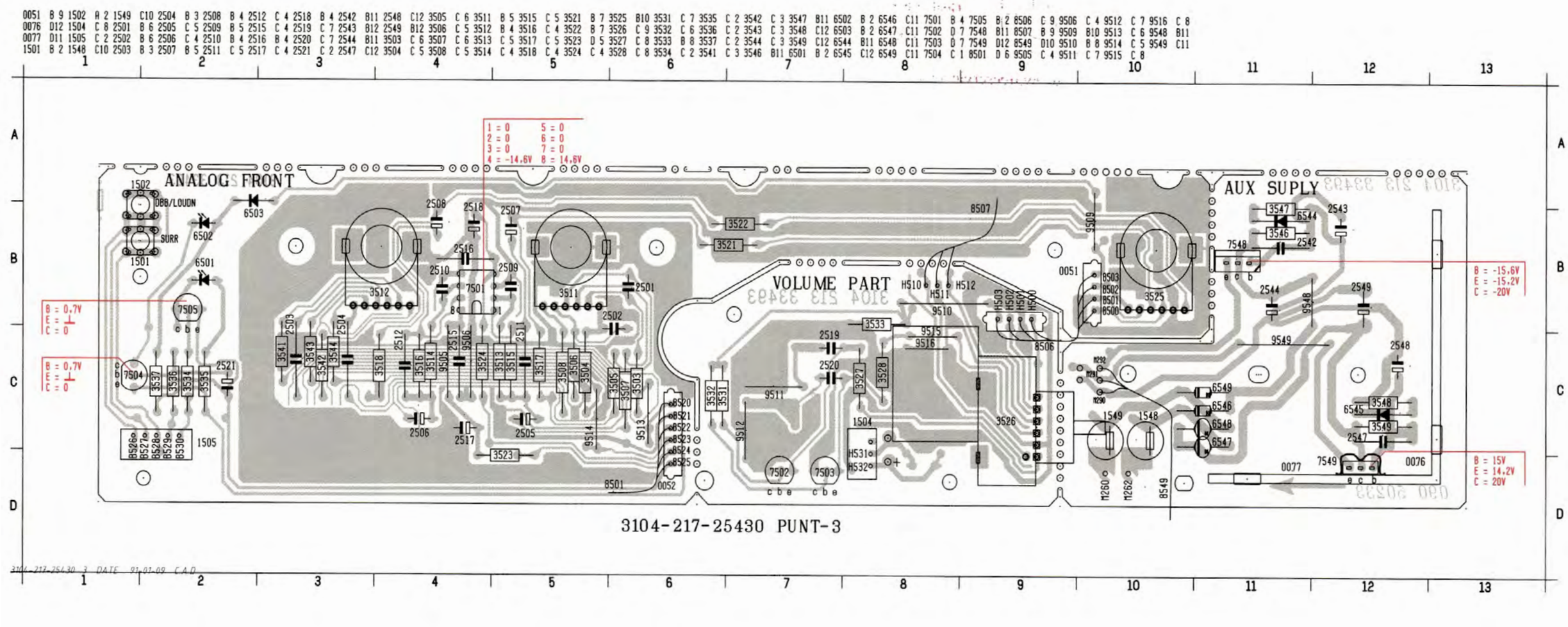
SOURCE SELECTOR



0056	B	8	3558	E	8	7553	D 4
0057	E	2	3559	D	7	7554	D 6
1551	F	8	3560	D	8	7560	C 4
1551	F	8	3561	E	8	7561	D 5
1553	F	4	3562	E	8	9550	C 2
1553	F	5	3563	E	7	9551	B 2
1553	F	5	3564	E	8	9552	B 2
1554	F	3	3565	D	7	9553	D 2
1557	B	3	3566	D	8	9556	C 3
1558	F	2	3567	D	5	9557	D 3
1559	B	4	3568	D	7	9559	F 3
1561	F	2	3569	E	5	9560	F 3
2551	E	8	3570	E	7	9561	D 3
2552	E	8	3571	C	8	9562	D 3
2553	D	8	3572	C	9	9563	F 3
2554	D	8	3573	E	5	9564	F 3
2555	D	8	3574	E	7	9566	F 3
2556	D	8	3575	E	5	9568	B 3
2557	E	8	3576	E	7	9569	B 3
2558	E	8	3577	E	5	9570	B 3
2559	C	8	3578	E	6	9571	E 3
2560	C	9	3579	E	6	9572	E 4
2561	E	7	3580	E	6	9573	E 4
2562	E	8	3581	E	6	9574	B 4
2563	D	7	3582	E	6	9575	B 4
2564	D	9	3583	E	6	9576	B 4
2565	D	7	3584	E	6	9578	B 4
2566	D	9	3585	E	5	9579	B 4
2567	C	8	3586	E	7	9580	E 4
2568	D	8	3591	C	6	9582	B 4
2569	C	8	3592	C	7	9583	B 4
2570	C	8	3593	C	6	9584	B 4
2571	B	6	3594	C	7	9585	E 4
2572	C	6	3595	B	6	9586	B 5
2573	B	7	3596	B	7	9587	D 5
2574	B	6	3597	B	6	9588	B 5
2575	C	6	3598	B	7	9589	E 5
2576	C	7	3599	C	5	9590	D 5
2577	B	5	3600	D	7	9591	C 5
2578	B	7	3601	B	7	9592	D 5
2579	B	6	3602	B	6	9593	B 5
2580	B	7	3605	F	4	9595	D 5
2581	B	6	3606	F	4	9596	E 5
2582	B	7	3607	D	3	9597	D 5
2583	D	6	3608	D	4	9598	C 5
2584	C	6	3609	C	3	9599	B 5
2585	C	6	3610	C	4	9600	C 6
2586	C	6	3611	D	4	9601	D 6
2587	C	5	3612	C	4	9602	F 6
2589	E	4	3613	E	4	9603	D 6
2590	E	4	3614	E	4	9604	E 6
2591	C	3	3615	F	5	9605	D 6
2592	C	4	3616	F	5	9606	E 6
2593	D	4	3617	C	5	9607	E 6
2594	C	3	3618	C	5	9608	C 6
2595	D	4	3619	D	6	9609	D 6
2596	D	4	3620	E	8	9611	C 6
2597	D	4	3621	E	3	9612	E 7
2598	D	4	3622	E	4	9614	D 7
2599	D	3	3623	E	4	9615	C 7
2600	D	4	3624	C	4	9616	C 7
2605	D	3	3831	D	2	9618	C 8
2606	D	4	3832	E	3	9619	C 8
2607	E	4	3841	C	2	9620	C 8
2608	C	4	3842	C	2	9621	B 8
2611	F	4	3851	D	5		
2612	F	4	3852	D	6		
2613	B	5	3853	F	4		
3551	E	8	3854	F	4		
3552	E	8	3855	D	4		
3553	E	8	3856	C	4		
3554	E	8	6553	F	2		
3555	E	8	6554	D	4		
3556	E	8	7551	D	8		
3557	E	8	7552	B	6		



3104-217-25480 .3 DATE 91-01-09 C.A.D


ANALOG FRONT
AUX SUPLY
VOLUME PART
1 = 0 5 = 0
2 = 0 6 = 0
3 = 0 7 = 0
4 = -14,6V 8 = 14,6V
B = 0,7V
E = 0
C = 0
B = -15,6V
E = -15,2V
C = -20V
B = 15V
E = 14,2V
C = 20V
3104-217-25430 PUNT-3
3104-217-25430-3 DATE 91-01-09 CAD

ANALOG FRONT

0052 FROM SOURCE SELECTOR
L
R
-14
+14
B520
B521
B522
B523 → -14.8
B524 → +14.8
B525

BA88 2501
27n
3503 12k
3511 A 50k
3505 12k
3507 15k
2503 1n2
3541 4k7
3543 4k7
3512 A 50k TREBLE

14.8v +14
3523 47E
2515 22n
2517 47u
3517 470E
3513 560E
2509 1n
7501 NJM4560D
8 4.8v
2 0v
3 0v
1 0v
2505 1u
2507 10u
3521 100E
3515 560k
2511 56p
3525 A 10k BALANCE

0051 TO VOLUME
B500
B501
B502
B503

-14.8v -14
3524 47E
2518 22n
2518 47u
BA88 2502
27n
3504 12k
3511 B 50k
3508 12k
3508 15k
2504 1n2
3542 4k7
3544 4k7
3512 B 50k TREBLE

3518 470E
3514 560E
2510 1n
7501 NJM4560D
4 4.8v
6 0v
5 0v
7 0v
2506 1u
2508 10u
3522 100E
3516 560k
2512 56p
3525 B 10k BALANCE

14.8v +14
3535 820E
8501 LT3P82A
3537 820E
6503 BZX79/C8V
8502 LT3P82A

1505 FROM DIGITAL FRONT
SURROUND B630
DBB LOUNDNESS B629
B628
B627
B626
1501 SURR
1502 DBB LOUNDNESS
on =0.7v off= 0v
7505 BC548B
3534 1k
7504 BC548B
3536 1k
2521 47u

VOLUME PART

0051 TO ANALOG FRONT
H500
H501
H502
H503

1504 TO DIGITAL FRONT
H532
H531
MOTOR
3526 A 20k
3527 15k
3531 1k off=0.7v on = 0v
7502 BC338-40
2519 180n
3526 B 20k
3528 15k
3532 1k
7503 BC338-40
3533 100k off=0.7v on = 0v
2520 180n

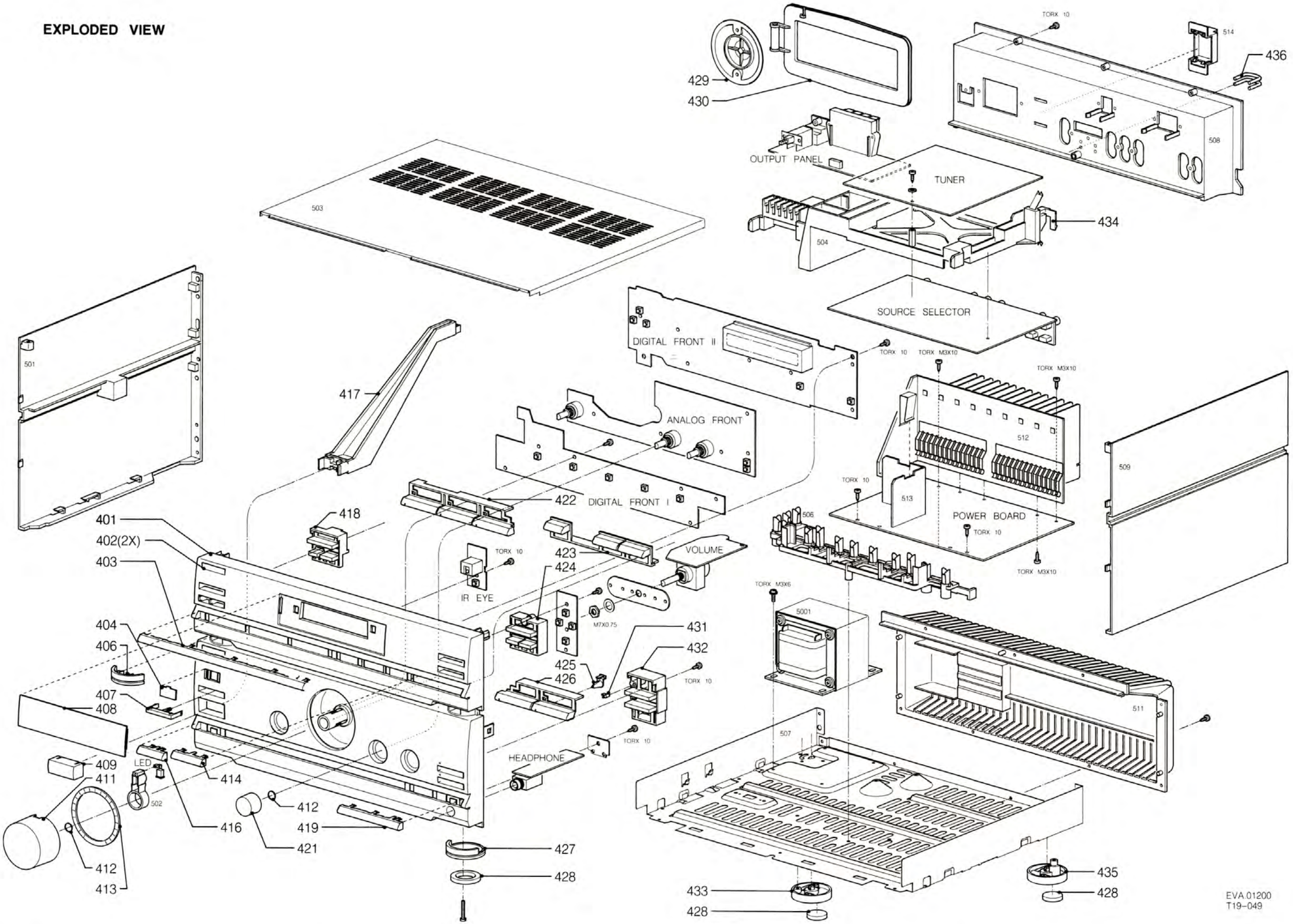
TO POWER PANEL
H510 L
H511
H512 R

AUX SUPPLY

TO POWER PANEL M291 +V
M290
7549 BD331 14.2v 20v 18v
8546 BYV27-50
1549 1A8
FROM TRAFO M280 30v~
8547 BYV27-50
1548 1A8
M282
3549 1k
2547 1n
8545 BZX79/C15
3548 47E
2548 100u
2549 4m7

TO POWER PANEL M292 -V
7548 BD826 -15.2v -20v -15.6v
8548 1N4001GP
8549 1N4001GP
3546 1k
2542 1n
8544 BZX79/C15
3547 47E
2543 100u
2544 1m

EXPLODED VIEW



MECHANICAL PARTS

401	4822 426 51465	FRONT PRINTED
402	4822 459 10887	WORDMARK "PHILIPS"
403	4822 454 12703	FAKE STRIP PRESETS
404	4822 450 61675	WINDOW REMOTE
406	4822 462 71743	FOOT TUNER
407	4822 410 61099	BUTTON STAND BY
408	4822 450 61676	WINDOW TUNER
409	4822 410 61098	CAP POWER BUTTON
411	4822 411 61765	KNOB VOLUME
412	4822 492 63086	SPRING KNOB FIXATION
413	4822 450 61677	WINDOW VOLUME
414	4822 410 61093	FAKE BUTTON TUNER
416	4822 410 61094	FAKE BUTTON SELECTOR
417	4822 535 93188	POWER ROD
418	4822 417 11131	BUTTON WAVE BAND
419	4822 410 61095	FAKE BUTTON VCR
421	4822 413 51364	KNOB (BASS TREB BAL)
422	4822 417 11135	KNOB PHONO/TUNER/CD
423	4822 417 11133	BUTTON MEMORY/FREQU.
424	4822 417 11134	BUTTON MONO/STEREO
425	4822 466 70717	LIGHT DIFFUSOR SELEC
426	4822 417 11136	BUTTON TAPE/TV
427	4822 462 71744	FOOT (AMPLIFIER)
428	4822 462 41783	RUBBER FOOT BACK/FRO
429	4822 462 71749	LOOP ANTENNA FOOT
430	4822 303 40055	AM FRAME AERIAL
431	4822 466 70716	LIGHT DIFFUSOR SURR.
432	4822 417 11132	BUTTON SURROUND
433	4822 462 41784	FOOT REARSIDE LEFT
434	4822 492 70854	EARTH SPRING
435	4822 462 41785	FOOT REARSIDE RIGHT
436	4822 404 21141	EQUALIZER BRIDGE
	4822 321 10249	MAINSCORD SET EUROPE
	4822 321 10561	MAINSCORD SET GB
	4822 321 10523	MAINSCORD AUSTRALIA

MISCELLANEOUS

	4822 218 10389	REMOTE CONTROL (IR)
	4822 267 10274	UHF SOCKET (for /05)
1101	4822 267 31128	COAX,ANTENNA 75 OHM
1102	4822 267 31306	TERMINAL (AM AERIAL)
1250	4822 071 53152	FUSE T3,15A
1251	4822 071 53152	FUSE T3,15A
1259	4822 071 51002	FUSE T1A
1260	4822 071 51002	FUSE T1A
1271	4822 276 13055	SWITCH
1272	4822 267 31308	TERMINAL (2xSPEAKER)
1273	4822 265 20291	MAINS SOCKET
1400	4822 267 30968	PHONE SOCKET
1415	4822 276 13066	TACT SWITCH
1416	4822 276 13066	TACT SWITCH
1417	4822 276 13066	TACT SWITCH
1418	4822 276 13066	TACT SWITCH
1419	4822 276 13066	TACT SWITCH
1451	4822 130 90953	DISPLAY (FTD)
	4822 256 91755	DISPLAY HOLDER
1461	4822 276 13066	TACT SWITCH
1462	4822 276 13066	TACT SWITCH
1463	4822 276 13066	TACT SWITCH
1464	4822 276 13066	TACT SWITCH
1465	4822 276 13066	TACT SWITCH
1466	4822 276 13066	TACT SWITCH
1467	4822 276 13066	TACT SWITCH
1468	4822 276 13066	TACT SWITCH
1469	4822 276 13066	TACT SWITCH
1471	4822 276 13066	TACT SWITCH
1501	4822 276 13066	TACT SWITCH
1502	4822 276 13066	TACT SWITCH
1548	4822 071 51602	FUSE T1.6A
1549	4822 071 51602	FUSE T1.6A
1551	4822 266 30293	CHINCH SOCKET
1554	4822 267 31307	CHINCH SOCKET
1561	4822 267 20416	CHINCH SOCKET PLATE
5001	4822 146 30973	MAINS TRANSFORMER
5250	4822 280 70366	RELAY MINIAT. 36V DC

DIODES

	4822 130 82489	GL2PR9 (LED RED)
	4822 130 81643	BB804
	5322 130 31684	BB809
	4822 130 81673	1SV149(B)
	4822 130 34174	BZX79-C4V7
	4822 130 30621	1N4148
	4822 130 61219	BZX79-C10
	4822 130 34167	BZX79-C6V2
	5322 130 30684	1N4002
	4822 130 34281	BZX79-C15
	4822 130 82079	D3SBA20
	4822 130 34233	BZX79-B5V1
	5322 130 31504	BZX79-C20
	4822 130 31024	BZX79-C18
	4822 130 34379	BZX79-C27
	4822 130 81007	LED LT3P82A
	4822 130 81254	IR-EYE
	4822 130 30862	BZX79-C9V1
	4822 130 31438	1N4001
	5322 130 32184	BYV27-50
	4822 130 31253	BZX79-C2V4

TRANSISTORS

	4822 130 60163	2SC1047
	4822 130 60093	2SA838B
	4822 130 44154	BF199
	4822 130 40937	BC548B
	5322 130 44779	BC338-40
	5322 130 41982	BC848
	4822 130 41024	BF245B
	4822 130 44196	BC548C
	4822 130 44197	BC558B
	4822 130 41691	BC556B
	4822 130 42607	BF483
	5322 130 42363	BDT63B
	5322 130 44926	BDT62B
	4822 130 44503	BC547C
	4822 130 42629	BD331
	4822 130 41774	BD826
	4822 130 40959	BC547B
	4822 130 40824	BD136
	4822 130 40823	BD135

INTEGRATED CIRCUITS

	4822 209 72744	CXA1240P
	4822 209 71321	AN7411
	4822 209 71331	LM7000
	4822 209 83274	NJM4560D
	4822 209 63667	BA6229 MOTOR DRIVER
	4822 209 61522	PC74HCT4094P
	4822 209 63666	uP
	4822 209 62098	ST24C02CP
	4822 209 70157	NJM4560DD
	4822 209 72748	LC7821

COILS

5101	4822 156 30947	RF COIL 1,5 TURNS
5102	4822 156 30947	RF COIL 1,5 TURNS
5103	4822 156 30947	RF COIL 1,5 TURNS
5104	4822 157 60284	NOT FOR /02
5104	4822 157 53199	ONLY FOR /02
5105	4822 157 63031	AM OSC. (NOT /01)
5105	4822 157 63158	AM OSC (ONLY /01)
5106	4822 157 53192	0,22uH
5107	4822 242 72096	CER.FILT.KIT 10,7MHz
5108	4822 157 63029	AM IF COIL
5109	4822 242 71878	CERAM.RES. 450kHz
5110	4822 157 63033	MW AERIAL (NOT /01)
5110	4822 157 63159	MW AERIAL (ONLY /01)
5111	4822 157 63028	FM IF (NOT /02)
5111	4822 157 63163	FM IF (ONLY /02)
5112	4822 242 72976	QUARTZ 2,7MHz
5113	4822 157 60147	COIL 2,2uH
5114	4822 158 60509	BIRDY FILTER
5115	4822 157 60147	COIL 2,2uH
5116	4822 157 63032	LW AERIAL COIL
5118	4822 152 20699	560uH
5252	4822 157 62255	COIL 18,5 TURNS
5253	4822 157 62255	COIL 18,5 TURNS
5492	4822 242 73769	CER.RES. 4,194MHz

RESISTORS

3105	4822 050 23901	390R	1%	0,6W
3106	4822 116 52224	470R	5%	0,5W
3107	4822 116 52921	4k7	1%	0,6W
3111	4822 050 24703	47k	1%	0,6W
3114	4822 100 11141	10k TRIM POT		
3116	4822 050 22201	220R	2%	0,25W
3120	4822 050 23903	39k	1%	0,6W
3125	4822 116 52921	4k7	1%	0,6W
3128	4822 116 52921	4k7	1%	0,6W
3131	4822 050 23301	330R	2%	0,25W
3132	4822 050 26801	680R	1%	0,6W
3134	4822 116 52921	4k7	1%	0,6W
3135	4822 050 22201	220R	2%	0,25W
3139	4822 116 52921	4k7	1%	0,6W
3142	4822 050 22201	220R	2%	0,25W
3143	4822 051 10223	22k	2%	0,25W
3145	4822 100 11141	10k TRIM POT		
3147	4822 050 22201	220R	2%	0,25W
3149	4822 050 21002	1k	1%	0,6W
3150	4822 050 21002	1k	1%	0,6W
3151	4822 050 21002	1k	1%	0,6W
3153	4822 050 21002	1k	1%	0,6W
3171	4822 050 26801	680R	1%	0,6W
3173	4822 050 21002	1k	1%	0,6W
3250	4822 050 23302	3k3	1%	0,6W
3251	4822 050 23302	3k3	1%	0,6W
3252	4822 116 52921	4k7	1%	0,6W
3253	4822 116 52921	4k7	1%	0,6W
3254	4822 050 23302	3k3	1%	0,6W
3255	4822 050 23302	3k3	1%	0,6W
3256	4822 116 52921	4k7	1%	0,6W
3257	4822 116 52921	4k7	1%	0,6W
3258	4822 050 21803	18k	1%	0,6W
3259	4822 050 21803	18k	1%	0,6W
3260	4822 051 10223	22k	2%	0,25W
3266	4822 050 21801	180R	1%	0,6W
3267	4822 050 21801	180R	1%	0,6W
3268	4822 050 21803	18k	1%	0,6W
3269	4822 050 21803	18k	1%	0,6W
3270	4822 053 10122	1k2	5%	1W
3271	4822 053 10122	1k2	5%	1W
3272	4822 052 10681	680R	5%	0,33W
3273	4822 052 10681	680R	5%	0,33W
3274	4822 050 22202	2k2	1%	0,6W
3275	4822 050 22202	2k2	1%	0,6W
3276	4822 050 16809	68R	1%	0,4W
3277	4822 050 16809	68R	1%	0,4W
3278	4822 053 12182	1k8	5%	3W
3279	4822 053 12182	1k8	5%	3W
3280	4822 050 21802	1k8	1%	0,6W
3281	4822 050 21802	1k8	1%	0,6W
3282	4822 050 22202	2k2	1%	0,6W
3283	4822 050 22202	2k2	1%	0,6W
3284	4822 101 10927	470R POTMETER		
3285	4822 101 10927	470R POTMETER		
3286	4822 050 28201	820R	1%	0,6W
3287	4822 050 28201	820R	1%	0,6W
3288	4822 050 23302	3k3	1%	0,6W
3290	4822 053 10272	2k7	5%	1W
3291	4822 053 10272	2k7	5%	1W
3294	4822 116 52224	470R	5%	0,5W
3295	4822 116 52224	470R	5%	0,5W
3296	4822 116 52224	470R	5%	0,5W
3297	4822 116 52224	470R	5%	0,5W
3298	4822 116 52224	470R	5%	0,5W
3299	4822 116 52224	470R	5%	0,5W
3302	4822 116 52224	470R	5%	0,5W
3303	4822 116 52224	470R	5%	0,5W
3304	4822 113 80525	0R15	10%	3W
3305	4822 113 80525	0R15	10%	3W
3306	4822 113 80525	0R15	10%	3W
3307	4822 113 80525	0R15	10%	3W

RESISTORS

3308	4822 050 24703	47k	1%	0,6W	3430	4822 116 52921	4k7	1%	0,6W
3309	4822 050 24703	47k	1%	0,6W	3431	4822 050 22202	2k2	1%	0,6W
3310	4822 116 52866	82k	1%	0,6W	3434	4822 116 80311	4,7R	5%	NFR
3311	4822 051 10223	22k	2%	0,25W	3435	4822 116 80311	4,7R	5%	NFR
3312	4822 050 24703	47k	1%	0,6W	3436	4822 116 52921	4k7	1%	0,6W
3313	4822 051 10223	22k	2%	0,25W	3440	4822 050 24703	47k	1%	0,6W
3314	4822 050 26803	68k	1%	0,6W	3441	4822 050 24703	47k	1%	0,6W
3315	4822 050 21501	150R	1%	0,6W	3442	4822 116 52921	4k7	1%	0,6W
3316	4822 116 52921	4k7	1%	0,6W	3443	4822 050 24703	47k	1%	0,6W
3318	4822 050 21002	1k	1%	0,6W	3444	4822 050 21803	18k	1%	0,6W
3319	4822 050 21002	1k	1%	0,6W	3447	4822 050 23301	330R	2%	0,25W
3332	4822 050 23302	3k3	1%	0,6W	3451	4822 050 24703	47k	1%	0,6W
3333	4822 116 80562	10R	5%	NFR	3452	4822 050 24703	47k	1%	0,6W
3334	4822 050 21502	1k5	1%	0,6W	3453	4822 116 52921	4k7	1%	0,6W
3335	4822 116 80335	47R	5%	NFR	3454	4822 050 24703	47k	1%	0,6W
3336	4822 050 21002	1k	1%	0,6W	3455	4822 050 21803	18k	1%	0,6W
3337	4822 053 10109	10R	5%	1W	3462	4822 116 52921	4k7	1%	0,6W
3338	4822 053 10109	10R	5%	1W	3463	4822 116 52921	4k7	1%	0,6W
3339	4822 052 10108	1R	5%	0,33W	3464	4822 116 52921	4k7	1%	0,6W
3342	4822 116 80562	10R	5%	NFR	3465	4822 116 52921	4k7	1%	0,6W
3343	4822 116 80335	47R	5%	NFR	3466	4822 116 52921	4k7	1%	0,6W
3344	4822 050 21802	1k8	1%	0,6W	3468	4822 050 22704	270k	1%	0,6W
3345	4822 050 21202	1k2	1%	0,6W	3471	4822 050 21002	1k	1%	0,6W
3352	4822 050 21002	1k	1%	0,6W	3472	4822 050 21002	1k	1%	0,6W
3353	4822 050 21002	1k	1%	0,6W	3473	4822 050 21002	1k	1%	0,6W
3354	4822 116 52224	470R	5%	0,5W	3474	4822 050 21002	1k	1%	0,6W
3355	4822 116 52224	470R	5%	0,5W	3475	4822 050 21002	1k	1%	0,6W
3358	4822 116 80311	4,7R	5%	NFR	3476	4822 050 21002	1k	1%	0,6W
3359	4822 116 80311	4,7R	5%	NFR	3477	4822 050 21002	1k	1%	0,6W
3368	4822 116 80562	10R	5%	NFR	3478	4822 050 21002	1k	1%	0,6W
3369	4822 116 80562	10R	5%	NFR	3479	4822 116 52234	100k	5%	0,5W
3370	4822 051 10223	22k	2%	0,25W	3481	4822 116 52921	4k7	1%	0,6W
3371	4822 051 10223	22k	2%	0,25W	3482	4822 116 52921	4k7	1%	0,6W
3379	4822 051 10223	22k	2%	0,25W	3483	4822 116 52921	4k7	1%	0,6W
3380	4822 116 80562	10R	5%	NFR	3484	4822 116 52921	4k7	1%	0,6W
3381	4822 116 80562	10R	5%	NFR	3485	4822 050 21002	1k	1%	0,6W
3382	4822 050 23302	3k3	1%	0,6W	3486	4822 050 21002	1k	1%	0,6W
3386	4822 116 52263	2k7	5%	0,5W	3487	4822 116 52921	4k7	1%	0,6W
3401	4822 116 82366	2R2	5%		3488	4822 116 52921	4k7	1%	0,6W
3402	4822 053 10159	15R	5%	1W	3489	4822 116 52921	4k7	1%	0,6W
3412	4822 116 80311	4,7R	5%	NFR	3490	4822 116 52921	4k7	1%	0,6W
3416	4822 051 10221	220R	2%	0,25W	3491	4822 050 21002	1k	1%	0,6W
3418	4822 050 21002	1k	1%	0,6W	3492	4822 050 21002	1k	1%	0,6W
3419	4822 050 21002	1k	1%	0,6W	3493	4822 050 21002	1k	1%	0,6W
3420	4822 050 21002	1k	1%	0,6W	3494	4822 050 21002	1k	1%	0,6W
3424	4822 053 11109	10R	5%	2W	3496	5322 113 44016	330R	5%	3,5W
3425	4822 050 22202	2k2	1%	0,6W	3497	4822 050 28209	82R	1%	0,6W
3426	4822 050 14709	47R	1%	0,4W	3498	5322 113 44016	330R	5%	3,5W
3428	4822 116 52234	100k	5%	0,5W	3499	4822 050 28209	82R	1%	0,6W
3429	4822 050 25603	56k	1%	0,6W	3503	4822 050 21203	12k	1%	0,6W

RESISTORS

3504	4822 050 21203	12k	1%	0,6W	3571	4822 116 80335	47R	5%	NFR
3505	4822 050 21203	12k	1%	0,6W	3572	4822 116 80335	47R	5%	NFR
3506	4822 050 21203	12k	1%	0,6W	3573	4822 116 52264	27k	5%	0,5W
3507	4822 116 52244	15k	5%	0,5W	3574	4822 116 52264	27k	5%	0,5W
3508	4822 116 52244	15k	5%	0,5W	3575	4822 050 21304	130k	1%	0,6W
3511	4822 102 10422	POTMETER 2x 50kX			3576	4822 050 21304	130k	1%	0,6W
3512	4822 102 10422	POTMETER 2x 50kX			3577	4822 050 23603	36k	1%	0,6W
3515	4822 050 25604	560k	1%	0,6W	3578	4822 050 23603	36k	1%	0,6W
3516	4822 050 25604	560k	1%	0,6W	3579	4822 051 10223	22k	2%	0,25W
3517	4822 116 52224	470R	5%	0,5W	3580	4822 051 10223	22k	2%	0,25W
3518	4822 116 52224	470R	5%	0,5W	3581	4822 050 26202	6k2	1%	0,6W
3521	4822 116 52224	470R	5%	0,5W	3582	4822 050 26202	6k2	1%	0,6W
3522	4822 116 52224	470R	5%	0,5W	3583	4822 050 21101	110R	1%	0,6W
3523	4822 116 80335	47R	5%	NFR	3584	4822 050 21101	110R	1%	0,6W
3524	4822 116 80335	47R	5%	NFR	3585	4822 050 21803	18k	1%	0,6W
3525	4822 102 10413	POTMETER 2x 10kX			3586	4822 050 21803	18k	1%	0,6W
3526	4822 102 10414	POTM. 2x20kB			3591	4822 051 10223	22k	2%	0,25W
3527	4822 050 21502	1k5	1%	0,6W	3592	4822 051 10223	22k	2%	0,25W
3528	4822 050 21502	1k5	1%	0,6W	3593	4822 116 52234	100k	5%	0,5W
3531	4822 050 21002	1k	1%	0,6W	3594	4822 116 52234	100k	5%	0,5W
3532	4822 050 21002	1k	1%	0,6W	3595	4822 050 26803	68k	1%	0,6W
3533	4822 116 52234	100k	5%	0,5W	3596	4822 050 26803	68k	1%	0,6W
3534	4822 050 21002	1k	1%	0,6W	3599	4822 116 52234	100k	5%	0,5W
3535	4822 050 28201	820R	1%	0,6W	3600	4822 116 52234	100k	5%	0,5W
3536	4822 050 21002	1k	1%	0,6W	3601	4822 116 80335	47R	5%	NFR
3537	4822 050 28201	820R	1%	0,6W	3602	4822 116 80335	47R	5%	NFR
3541	4822 116 52921	4k7	1%	0,6W	3605	4822 116 52234	100k	5%	0,5W
3542	4822 116 52921	4k7	1%	0,6W	3606	4822 116 52234	100k	5%	0,5W
3543	4822 116 52921	4k7	1%	0,6W	3609	4822 116 52224	470R	5%	0,5W
3544	4822 116 52921	4k7	1%	0,6W	3610	4822 116 52224	470R	5%	0,5W
3546	4822 050 21002	1k	1%	0,6W	3611	4822 116 80335	47R	5%	NFR
3547	4822 116 80335	47R	5%	NFR	3612	4822 116 80335	47R	5%	NFR
3548	4822 116 80335	47R	5%	NFR	3613	4822 050 21002	1k	1%	0,6W
3549	4822 050 21002	1k	1%	0,6W	3614	4822 050 21002	1k	1%	0,6W
3551	4822 050 23901	390R	1%	0,6W	3615	4822 116 52224	470R	5%	0,5W
3552	4822 050 23901	390R	1%	0,6W	3616	4822 116 52224	470R	5%	0,5W
3553	4822 116 52272	330k	5%	0,5W	3617	4822 116 52217	270R	5%	0,5W
3554	4822 116 52272	330k	5%	0,5W	3618	4822 116 52217	270R	5%	0,5W
3555	4822 050 25603	56k	1%	0,6W	3619	4822 050 23302	3k3	1%	0,6W
3556	4822 050 25603	56k	1%	0,6W	3620	4822 050 28209	82R	1%	0,6W
3557	4822 050 23901	390R	1%	0,6W	3621	4822 116 52234	100k	5%	0,5W
3558	4822 050 23901	390R	1%	0,6W	3622	4822 116 52234	100k	5%	0,5W
3563	4822 116 52272	330k	5%	0,5W	3624	4822 116 52234	100k	5%	0,5W
3564	4822 116 52272	330k	5%	0,5W	3831	4822 050 12402	2k4	1%	0,4W
3565	4822 116 52264	27k	5%	0,5W	3832	4822 050 12402	2k4	1%	0,4W
3566	4822 116 52264	27k	5%	0,5W	3841	4822 050 12402	2k4	1%	0,4W
3567	4822 116 52303	8k2	5%	0,5W	3842	4822 050 12402	2k4	1%	0,4W
3568	4822 116 52303	8k2	5%	0,5W	3851	4822 116 52234	100k	5%	0,5W
3569	4822 116 52244	15k	5%	0,5W	3852	4822 116 52234	100k	5%	0,5W
3570	4822 116 52244	15k	5%	0,5W	3853	4822 050 21002	1k	1%	0,6W

RESISTORS

3854	4822	050	21002	1k	1%	0,6W	3856	4822	050	24703	47k	1%	0,6W
3855	4822	050	21006	10M	1%	0,6W							

CHIP RESISTORS

3101	4822	051	20473	47k	5%	0,1W	3165	4822	051	20473	47k	5%	0,1W
3102	4822	051	20333	33k	5%	0,1W	3170	4822	051	10008	JUMPER		
3103	4822	051	10472	4k7	2%	0,25W	3172	4822	051	20223	22k	5%	0,1W
3104	4822	051	10102	1k	2%	0,25W	3174	4822	051	10102	1k	2%	0,25W
3108	4822	051	10122	1k2	2%	0,25W	3175	4822	051	10331	330R	2%	0,25W
3109	4822	051	10101	100R	2%	0,25W	3176	4822	051	20271	270R	5%	0,1W
3110	4822	051	10101	100R	2%	0,25W	3177	4822	051	10151	150R	2%	0,25W
3112	4822	051	20562	5k6	5%	0,1W	3178	4822	051	20223	22k	5%	0,1W
3112	4822	051	20008	CHIP JUMPER			3179	4822	051	10472	4k7	2%	0,25W
3113	4822	051	20689	68R	5%	0,1W	3261	4822	051	10103	10k	2%	0,25W
3115	4822	051	10479	47R			3300	4822	051	10103	10k	2%	0,25W
3117	4822	051	10103	10k	2%	0,25W	3301	4822	051	10103	10k	2%	0,25W
3118	4822	051	20271	270R	5%	0,1W	3330	4822	051	10103	10k	2%	0,25W
3119	4822	051	20273	27k	5%	0,1W	3331	4822	051	10103	10k	2%	0,25W
3121	4822	051	20104	100k	5%	0,1W	3356	4822	051	10101	100R	2%	0,25W
3122	4822	051	10272	2k7	2%	0,25W	3357	4822	051	10101	100R	2%	0,25W
3124	4822	051	10008	JUMPER			3384	4822	051	10103	10k	2%	0,25W
3126	4822	051	10472	4k7	2%	0,25W	3385	4822	051	10101	100R	2%	0,25W
3127	4822	051	20472	4k7	5%	0,1W	3427	4822	051	10103	10k	2%	0,25W
3129	4822	051	20104	100k	5%	0,1W	3432	4822	051	10103	10k	2%	0,25W
3130	4822	051	20104	100k	5%	0,1W	3445	4822	051	10103	10k	2%	0,25W
3133	4822	051	20223	22k	5%	0,1W	3446	4822	051	10103	10k	2%	0,25W
3136	4822	051	10153	15k	2%	0,25W	3456	4822	051	10103	10k	2%	0,25W
3137	4822	051	20562	5k6	5%	0,1W	3457	4822	051	10103	10k	2%	0,25W
3138	4822	051	20472	4k7	5%	0,1W	3458	4822	051	10103	10k	2%	0,25W
3140	4822	051	10102	1k	2%	0,25W	3459	4822	051	10103	10k	2%	0,25W
3141	4822	051	10103	10k	2%	0,25W	3467	4822	051	10103	10k	2%	0,25W
3144	4822	051	20183	18k	5%	0,1W	3513	4822	051	10561	560R	2%	0,25W
3146	4822	051	10821	820R	2%	0,25W	3514	4822	051	10561	560R	2%	0,25W
3148	4822	051	10103	10k	2%	0,25W	3559	4822	051	10101	100R	2%	0,25W
3155	4822	051	20332	3k3	5%	0,1W	3560	4822	051	10101	100R	2%	0,25W
3156	4822	051	10103	10k	2%	0,25W	3561	4822	051	10561	560R	2%	0,25W
3157	4822	051	10008	JUMPER			3562	4822	051	10561	560R	2%	0,25W
3158	4822	051	20104	100k	5%	0,1W	3597	4822	051	10561	560R	2%	0,25W
3160	4822	051	10008	JUMPER			3598	4822	051	10561	560R	2%	0,25W
3161	4822	051	20473	47k	5%	0,1W	3607	4822	051	10103	10k	2%	0,25W
3162	4822	051	20479	47R	5%	0,1W	3608	4822	051	10103	10k	2%	0,25W
3163	4822	051	20562	5k6	5%	0,1W	3623	4822	051	10103	10k	2%	0,25W
3164	4822	051	20008	CHIP JUMPER									

CAPACITORS

2100	4822	122	31555	120pF	5%	50V	2111	4822	125	50355	4,2-20pF	(only/02)	
2101	4822	122	10179	33pF	5%	50V	2115	5322	122	32481	15pF	5%	50V
2103	4822	125	50355	4,2-20pF	VARIABLE		2116	5322	122	32481	15pF	(not /02)	
2109	4822	125	50355	4,2-20pF	VARIABLE		2117	5322	122	32967	5,6pF	(not /02)	
2111	4822	125	60102	30pF var.	(not/02)		2119	4822	124	41554	220uF	20%	10V

CAPACITORS

2121	4822	122	31435	470pF	10%	50V	2263	4822	122	10183	100pF	5%	50V
2122	4822	122	31385	22pF	5%	50V	2264	4822	126	11307	180pF	10%	500V
2123	4822	122	31555	120pF	5%	50V	2265	4822	126	11307	180pF	10%	500V
2128	5322	122	32967	5,6pF	5%	50V	2266	4822	122	31693	560pF	10%	50V
2130	4822	124	40178	100uF	20%	10V	2267	4822	122	31693	560pF	10%	50V
2131	4822	124	40244	2,2uF	20%	63V	2268	4822	122	10173	820pF	10%	50V
2134	5322	121	50999	470pF	(not /01)		2269	4822	122	10173	820pF	10%	50V
2134	4822	121	51381	560pF	(only /01)		2270	4822	124	41525	100uF	20%	25V
2135	4822	121	43253	360pF	1%	400V	2271	4822	124	41525	100uF	20%	25V
2136	4822	125	60101	10pF	VARIABLE		2274	4822	126	11308	47pF	5%	500V
2137	4822	122	10436	6,8pF	10%	50V	2275	4822	126	11308	47pF	5%	500V
2139	4822	122	10166	22nF	30%	16V	2276	4822	124	40178	100uF	20%	10V
2141	4822	122	31385	22pF	5%	50V	2277	4822	124	40178	100uF	20%	10V
2144	4822	124	41554	220uF	20%	10V	2278	4822	124	22633	22uF	20%	35V
2146	4822	122	32096	4,7pF	10%	50V	2279	4822	124	22633	22uF	20%	35V
2150	4822	121	42408	220nF	5%	63V	2280	4822	122	10183	100pF	5%	50V
2151	4822	125	60101	10pF	VARIABLE		2281	4822	122	10183	100pF	5%	50V
2151	4822	125	60102	30pF	VARIABLE		2284	5322	121	42491	47nF	5%	100V
2152	4822	121	43861	56pF	1%	63V	2285	5322	121	42491	47nF	5%	100V
2154	4822	121	42408	220nF	5%	63V	2286	4822	126	11311	4,7nF		50V
2155	4822	124	41631	1,5uF	20%	50V	2287	4822	126	11311	4,7nF		50V
2158	4822	124	40196	220uF	20%	16V	2288	4822	126	11311	4,7nF		50V
2161	4822	124	40246	4,7uF	20%	63V	2289	4822	126	11311	4,7nF		50V
2163	4822	122	10173	820pF	10%	50V	2292	4822	124	40242	1uF	20%	63V
2165	4822	124	40242	1uF	20%	63V	2293	4822	124	40248	10uF	20%	63V
2167	4822	124	41643	100uF	20%	16V	2296	4822	124	40749	3,3uF	20%	63V
2168	5322	121	50999	470pF	1%	400V	2303	4822	121	42007	100nF	10%	100V
2170	4822	124	40239	0,47uF	20%	63V	2307	4822	121	42007	100nF	10%	100V
2172	4822	124	41987	0,22uF	20%	63V	2309	4822	121	42007	100nF	10%	100V
2173	4822	124	40246	4,7uF	20%	63V	2313	5322	121	42491	47nF	5%	100V
2176	4822	124	40242	1uF	20%	63V	2314	5322	121	42491	47nF	5%	100V
2177	4822	124	40242	1uF	20%	63V	2315	5322	121	42491	47nF	5%	100V
2180	5322	122	32965	18pF	5%	50V	2316	4822	124	42116	330uF	20%	50V
2181	5322	122	32481	15pF	5%	50V	2317	5322	124	21189	100uF	20%	40V
2182	4822	124	40242	1uF	20%	63V	2318	4822	124	41643	100uF	20%	16V
2198	5322	122	32481	15pF	5%	50V	2319	4822	122	10158	1nF	10%	50V
2204	4822	122	32596	TRIM CAP	5,2pF-30pF		2321	4822	122	10166	22nF	30%	16V
2205	4822	125	60102	30pF	VARIABLE		2322	4822	124	40433	47uF	20%	25V
2209	5322	122	32481	15pF	5%	50V	2323	4822	124	40242	1uF	20%	63V
2250	4822	124	40242	1uF	20%	63V	2324	4822	124	40242	1uF	20%	63V
2251	4822	124	40242	1uF	20%	63V	2326	4822	124	42117	4700uF	20%	50V
2254	4822	122	10172	220pF	10%	50V	2327	4822	124	42117	4700uF	20%	50V
2255	4822	122	10172	220pF	10%	50V	2328	4822	122	10158	1nF	10%	50V
2256	4822	122	31435	470pF	10%	50V	2329	4822	122	10158	1nF	10%	50V
2257	4822	122	31435	470pF	10%	50V	2330	4822	124	42125	1000uF	20%	50V
2258	4822	124	41554	220uF	20%	10V	2331	4822	124	40433	47uF	20%	25V
2259	4822	124	41554	220uF	20%	10V	2333	4822	122	10158	1nF	10%	50V
2260	4822	124	41643	100uF	20%	16V	2401	4822	124	41678	22uF	20%	25V
2261	4822	124	41643	100uF	20%	16V	2402	4822	122	10177	10nF	20%	25V
2262	4822	122	10183	100pF	5%	50V	2412	4822	122	10166	22nF	30%	16V

CAPACITORS

2413	4822 122 31435	470pF	10%	50V	2557	4822 124 40242	1uF	20%	63V
2424	4822 124 21694	1000uF	20%	10V	2558	4822 124 40242	1uF	20%	63V
2425	4822 124 40248	10uF	20%	63V	2559	4822 124 40248	10uF	20%	63V
2426	4822 121 42408	220nF	5%	63V	2560	4822 124 40248	10uF	20%	63V
2427	4822 122 10177	10nF	20%	25V	2561	4822 124 40248	10uF	20%	63V
2428	4822 122 10166	22nF	30%	16V	2562	4822 124 40248	10uF	20%	63V
2429	4822 124 40244	2,2uF	20%	63V	2563	4822 122 10177	10nF	20%	25V
2430	4822 122 10166	22nF	30%	16V	2564	4822 122 10177	10nF	20%	25V
2431	4822 121 51252	470nF	5%	63V	2565	4822 126 11309	2,7nF	10%	50V
2434	4822 121 51252	470nF	5%	63V	2566	4822 126 11309	2,7nF	10%	50V
2435	4822 121 51252	470nF	5%	63V	2567	4822 122 10166	22nF	30%	16V
2441	4822 122 10166	22nF	30%	16V	2568	4822 122 10166	22nF	30%	16V
2451	4822 121 90058	CAP NETWORK 8x100pF			2569	4822 124 41506	47uF	20%	16V
2452	4822 122 10183	100pF	5%	50V	2570	4822 124 41506	47uF	20%	16V
2456	4822 122 31435	470pF	10%	50V	2571	4822 124 41506	47uF	20%	16V
2457	4822 122 31435	470pF	10%	50V	2572	4822 124 41506	47uF	20%	16V
2458	4822 122 31435	470pF	10%	50V	2573	4822 122 10166	22nF	30%	16V
2459	4822 122 31435	470pF	10%	50V	2574	4822 122 10166	22nF	30%	16V
2481	4822 122 10166	22nF	30%	16V	2575	4822 124 40242	1uF	20%	63V
2501	4822 121 43187	27nF	10%	63V	2576	4822 124 40242	1uF	20%	63V
2502	4822 121 43187	27nF	10%	63V	2577	4822 124 40248	10uF	20%	63V
2503	4822 122 10185	1,2nF	10%	50V	2578	4822 124 40248	10uF	20%	63V
2504	4822 122 10185	1,2nF	10%	50V	2579	4822 122 10215	27pF	5%	50V
2505	4822 124 40242	1uF	20%	63V	2580	4822 122 10215	27pF	5%	50V
2506	4822 124 40242	1uF	20%	63V	2581	4822 122 10158	1nF	10%	50V
2507	4822 124 40248	10uF	20%	63V	2582	4822 122 10158	1nF	10%	50V
2508	4822 124 40248	10uF	20%	63V	2583	4822 122 10166	22nF	30%	16V
2509	4822 126 11183	1nF	20%	50V	2584	4822 122 10166	22nF	30%	16V
2510	4822 126 11183	1nF	20%	50V	2585	4822 124 41506	47uF	20%	16V
2511	4822 122 33997	56pF	5%		2586	4822 124 41506	47uF	20%	16V
2512	4822 122 33997	56pF	5%		2587	4822 126 10003	33nF	30%	50V
2515	4822 122 10166	22nF	30%	16V	2589	4822 124 40242	1uF	20%	63V
2516	4822 122 10166	22nF	30%	16V	2590	4822 124 40242	1uF	20%	63V
2517	4822 124 41506	47uF	20%	16V	2591	4822 124 40248	10uF	20%	63V
2518	4822 124 41506	47uF	20%	16V	2592	4822 124 40248	10uF	20%	63V
2519	4822 121 51356	180nF	10%	63V	2593	4822 124 41506	47uF	20%	16V
2520	4822 121 51356	180nF	10%	63V	2594	4822 124 41506	47uF	20%	16V
2521	4822 124 22794	47uF	20%	10V	2595	4822 122 10166	22nF	30%	16V
2542	4822 122 10158	1nF	10%	50V	2596	4822 122 10166	22nF	30%	16V
2543	4822 124 41525	100uF	20%	25V	2597	4822 122 10158	1nF	10%	50V
2544	4822 124 42118	1000uF	20%	25V	2598	4822 122 10158	1nF	10%	50V
2547	4822 122 10158	1nF	10%	50V	2599	4822 122 10183	100pF	5%	50V
2548	4822 124 41525	100uF	20%	25V	2600	4822 122 10183	100pF	5%	50V
2549	4822 124 42119	4700uF	20%	25V	2605	4822 122 10176	4,7nF	10%	50V
2551	4822 122 10183	100pF	5%	50V	2606	4822 122 10176	4,7nF	10%	50V
2552	4822 122 10183	100pF	5%	50V	2607	4822 124 40242	1uF	20%	63V
2553	4822 122 10183	100pF	5%	50V	2608	4822 124 22794	47uF	20%	10V
2554	4822 122 10183	100pF	5%	50V	2611	4822 122 31435	470pF	10%	50V
2555	4822 122 10158	1nF	10%	50V	2612	4822 122 31435	470pF	10%	50V
2556	4822 122 10158	1nF	10%	50V	2613	4822 122 10176	4,7nF	10%	50V

CHIP CAPACITORS

2102	5322 122 32448	10pF	5%	50V	2156	4822 122 33339	4,7nF	10%	50V
2104	5322 122 32658	22pF	5%	50V	2157	4822 122 33339	4,7nF	10%	50V
2105	5322 122 32531	100pF	5%	50V	2159	5322 122 32654	22nF	10%	63V
2106	4822 122 31727	470pF	5%	63V	2160	4822 122 31727	470pF	5%	63V
2107	4822 122 31727	470pF	5%	63V	2162	4822 122 31727	470pF	(not /02)	
2108	4822 122 31727	470pF	5%	63V	2162	4822 122 32142	270pF	(only /02)	
2110	4822 122 32765	820pF	10%	63V	2164	5322 122 34099	470pF	(not /02)	
2112	4822 122 31727	470pF	5%	63V	2164	4822 122 33173	560pF	(only /02)	
2113	4822 122 31727	470pF	5%	63V	2166	5322 122 32654	22nF	10%	63V
2114	4822 122 32765	820pF	10%	63V	2169	5322 122 32654	22nF	10%	63V
2115	5322 122 32448	10pF	5%	50V	2171	4822 122 31727	470pF	5%	63V
2116	5322 122 32658	22pF	(only /02)		2174	4822 122 33543	15nF	10%	
2117	4822 122 32139	12pF	(only /02)		2175	4822 122 33543	15nF	10%	
2118	4822 122 32507	6,8pF	(not /02)		2178	4822 122 33173	560pF	10%	63V
2118	4822 122 31971	10pF	(only /02)		2179	5322 122 32654	22nF	10%	63V
2120	5322 122 32654	22nF	10%	63V	2183	4822 122 32927	220nF	10%	63V
2124	4822 122 31727	470pF	5%	63V	2184	4822 122 31727	470pF	5%	63V
2125	5322 122 32966	39pF	(not /02)		2185	4822 122 32765	820pF	10%	63V
2125	5322 122 33538	150pF	(only /02)		2186	4822 122 31727	470pF	5%	63V
2126	5322 122 32966	39pF	(not /02)		2187	4822 122 31727	470pF	5%	63V
2126	5322 122 33538	150pF	(only /02)		2188	4822 122 31727	470pF	5%	63V
2127	5322 122 32654	22nF	10%	63V	2189	4822 122 31965	220pF	5%	
2129	5322 122 32654	22nF	10%	63V	2191	5322 122 32448	10pF	5%	50V
2132	5322 122 34123	1nF	10%	50V	2192	4822 122 32927	220nF	10%	63V
2133	4822 122 31825	27pF	10%	50V	2193	4822 122 32765	820pF	10%	63V
2138	4822 122 32482	22pF	5%	63V	2195	4822 122 32927	220nF	10%	63V
2140	4822 122 32927	220nF	10%	63V	2196	5322 122 32268	470pF	10%	50V
2142	5322 122 32452	47pF	5%	50V	2197	4822 122 32765	820pF	10%	63V
2143	5322 122 32452	47pF	5%	50V	2199	5322 122 33538	150pF	5%	63V
2145	4822 122 32765	820pF	10%	63V	2200	5322 122 31647	1nF	10%	63V
2147	5322 122 32268	470pF	10%	50V	2201	4822 122 32927	220nF	10%	63V
2148	4822 122 31727	470pF	5%	63V	2210	5322 122 32268	470pF	10%	50V
2149	5322 122 33537	1,2pF	5%	63V	2211	5322 122 32448	10pF	5%	50V
2153	5322 122 32654	22nF	10%	63V					