Digital Loudspeaker Box 70DSS930

/00S/05S/17S

Service
Service
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Service Manual

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4822 725 23911

PHILIPS

PCS 57 702

SPECIFICATION

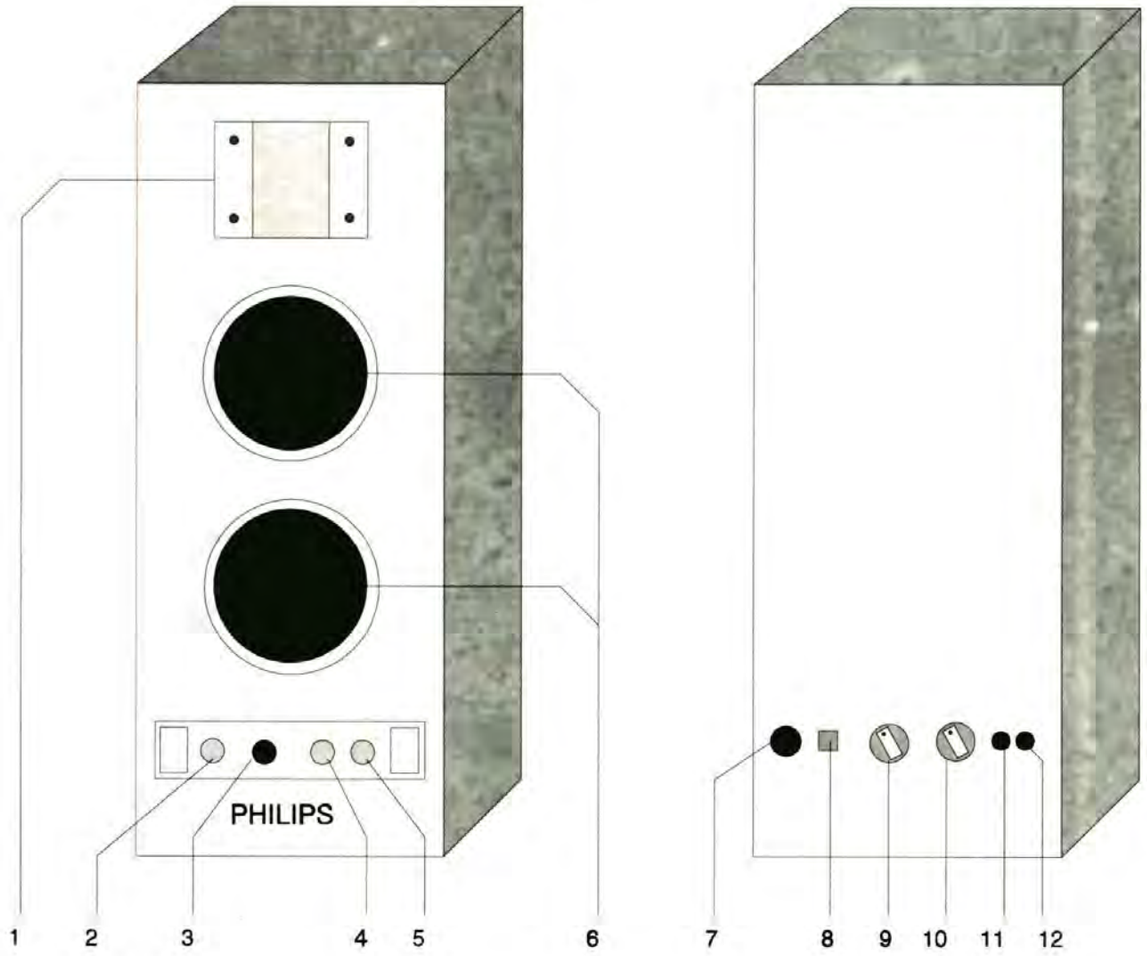
General:

Mains voltage	:220V	50Hz	for/00
	:240V	50Hz	for/05
	:120V	60Hz	for/17
Power consumption	:≤170W at 80W output power		
	:≤15W at stand by		
Dimensions:(wxhxd)	:220x565x330 mm		
System	:2 way closed, digital, active		
Speakers	:2 x 5 1/4" woofer/midrange		
	:1 x Isophase tweeter		
Connectors	:1 x cinch coaxial digital input (500mV 75Ω digital format)		
	:1 x cinch coaxial digital output (500mV 75Ω digital format)		
Controls	:Left/Right/Mono	Rotary	
	:System A/B/C	Rotary	
Leds indications	:Red/Green	On/Standby/RC-Acknowledge	
	:Red	Overload high	
	:Yellow	Phase compensation on/off	
Maximum combination of DSS	:12		

Amplifier:

Output power woofer	:80W at 8Ω D=≤0,05% (IEC)
tweeter	:10W at 8Ω D=≤0,05% (IEC)
Music power Low	:320W(paek)
High	:40W (paek)
Woofer channel	:G class
Tweeter channel	:AB class
Frequency response	:50Hz -20kHz ≤2dB
Input sensitivity:	
Woofer channel	:170mV for 80W into 8Ω output
Tweeter channel	:60mV for 10W into 8Ω output
Input impedance	:2k2

CONTROLS & CONNECTIONS



		Pos.nr.
1	Tweeter	
2	ON/Standby led	D6411
3	I.R.Eye	D6414
4	Protect tweeter led	D6413
5	Phase compensation on/off	D6412
6	Woofer 1 - 2	

		Pos.nr.
7	Fixed mainscord	
8	Power on/off	1409
9	Switch system A/B/C rotory	1402
10	Switch L/R/mono rotory	1401
11	DSS IN connector	1405
12	DSS OUT connector	1405

CIRCUIT DESCRIPTION

DSS - LINK

The purpose of the DSS-link is to send digital control information as well as digital audio information over only one line.
The digital audio - information or EBU signal is uni-directional, i.e. from the DSS-link IN to the DSS-link OUT, while the digital control information is bidirec-tional.

Both signals (EBU and control) are frequency multiplexed. The control information is a low frequency signal, while the audio information is a high frequency signal. By means of a high-pass filter (C2401, R3402 and C2402) the audio information can be extracted from this composed signal, while the control information can be extracted with a low-pass filter (R3408, C2404 and R3414). The host controller (IC7507) puts controle information on the bus, via a low-pass filter (R3409, C2405 and R3415)

The digital audio information (EBU) is extracted by a passive high-pass filter, restored by the non buffered inverters (IC7401) and so mixed by the control informa-tion to the DSS link OUT. For the control information you have to see the bus as one long wire. Each buscircuit hangs on this wire and can transmit as well as receive control information. Via the opamp LM324 and the diode BAV74 the control information of the bus is filtered out and passed on to the Host controller. The information coming from the Host is then placed on the bus via the opamp LM324. The circuit build round the transistor 7416 provides a sharp descending ramp of the control information.

ADIC

ADIC stands for Audio Digital Input Circuit. This circuit (IC7500) provides the decoding and the separation of the EBU-format into audio information and sub-code information. The sub-code information that is generated by an EBU source, e.g. a CD player, contains information about this source, like sample frequency, serial copy management . The PLL-circuit, build around a LC-oscillator (5500,7502,6500,2509) sees to it that the ADIC is synchronised with the incoming EBU signal. Depending on the sample frequency the freqneucy of the LC oscillator varies from 8,192MHz at 32kHz sample frequency till 12,288MHz at 48kHz sampling frequency . The ADIC generates all necessary clock signals so that the whole DSP motherboard is synchronised.
In this configuration, the ADIC gives the decoded information directly to the Host controller. The subcode information that is decoded, is the sample frequency and deëmphasis ON/OFF.

DSP ADD-ON

The DSP Add-ON board consists of the DSP processor (7550) and an Eprom (7551).
The Eprom contains the program for the DSP processor as well as all coefficients for the digital filtering.
The DSP processor is the heart of the DSS930. The functions described below are processed by the processor:
- channel selection : on the back of the DSS930 there is a rotary switch you can put in three positions, left, right or mono.The position of this switch is read by the Host controller, which passes this information to the DSP. Depending on the swith position, the DSP takes only the left or right channel or adds both channels and divides this result by two to reproduce a mono signal.
-compensation on: when the compensation is on (the compensation led lights up), the DSP processes the signal in such a way that the overall amplitude-curve, acoustically measured, stays in a margine of +/- 2dB and the phase-characteristic remains linear within +/- 20°.
-compensation out (tone regulation): when the compensation is switched off (only possible via DSC950) the DSP processor loads other coefficients to use simple tone regulations, +/-5dB for bass as well as treble.
-digitale silence: when there is a 'silence' in the audio signal that is below a fixed treshold level and lasts longer than 8 seconds, the DSP activates the analoge mute line.

UPSAMPLE FILTER AND BITSTREAM DIGITAL-ANALOG COVERTOR

The upsample filter (7503) fullfills the following functions:
-eight times oversampling, digital deëmphasis filtering on three sample frequencies and (fine tuning of the) volume regulation.
-The bitstream DAC (7504) converts the digital audio data into analoge signals.

VOLUME CONTROL AND TWEETER PROTECT

The analoge attenuators (3450,3456,3452,3458, 3454 and 3460 for woofer channel and 3451, 3457,3453,3459 3455 and 3461 for tweeter channel) on the end of the DSP motherboard, provides a rough volume control in steps of 8dB. The three attenuators are weighed binairy, this means that the first attenuator (3450 and 3456 for the woofer) attenuates 8dB, the second (3452 and 3458 for the woofer) 16dB and the third (3454 and 3460 for the woofer) 24dB.
Combinations of these three attenuators gives attenuation between 8dB and 56dB in steps of 8dB.The fine steps of 2dB between these rough steps are regulated by the upsample filter.
The tweeter protect circuit sees that the isofase tweeter can not be damaged.
-This circuit limites the amplitude and provides soft clipping. The second opamp 7508 is a level comparator that continiously looks at the signal. When the amplitude of the signal rises above the reference voltage the transistor 7521 is switched off, where as the first opamp 7808 gets the signal and antiphase limits and soft clippes the output signal.

GB

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

NL

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

D

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

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati 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 pieces de rechange identiques à celles spécifiées.

Pour votre sécurité, ces documents doivent etre utilisés par des specialistes agrées, seuls habilités à réparer votre appareil en panne.

WARNINGS

GB WARNING

All ICs and many other semi conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.When reparing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

NL WAARSCHUWING

Alle ICs en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD)
Onzorgvuldig behandelen tijden 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.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber electrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait étre considérablement écourtée par le fait qu'aucune precaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien étre relié au meme potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller á ce que les composants ainsi que les outils que l'on utilise soient également á ce potentiel.

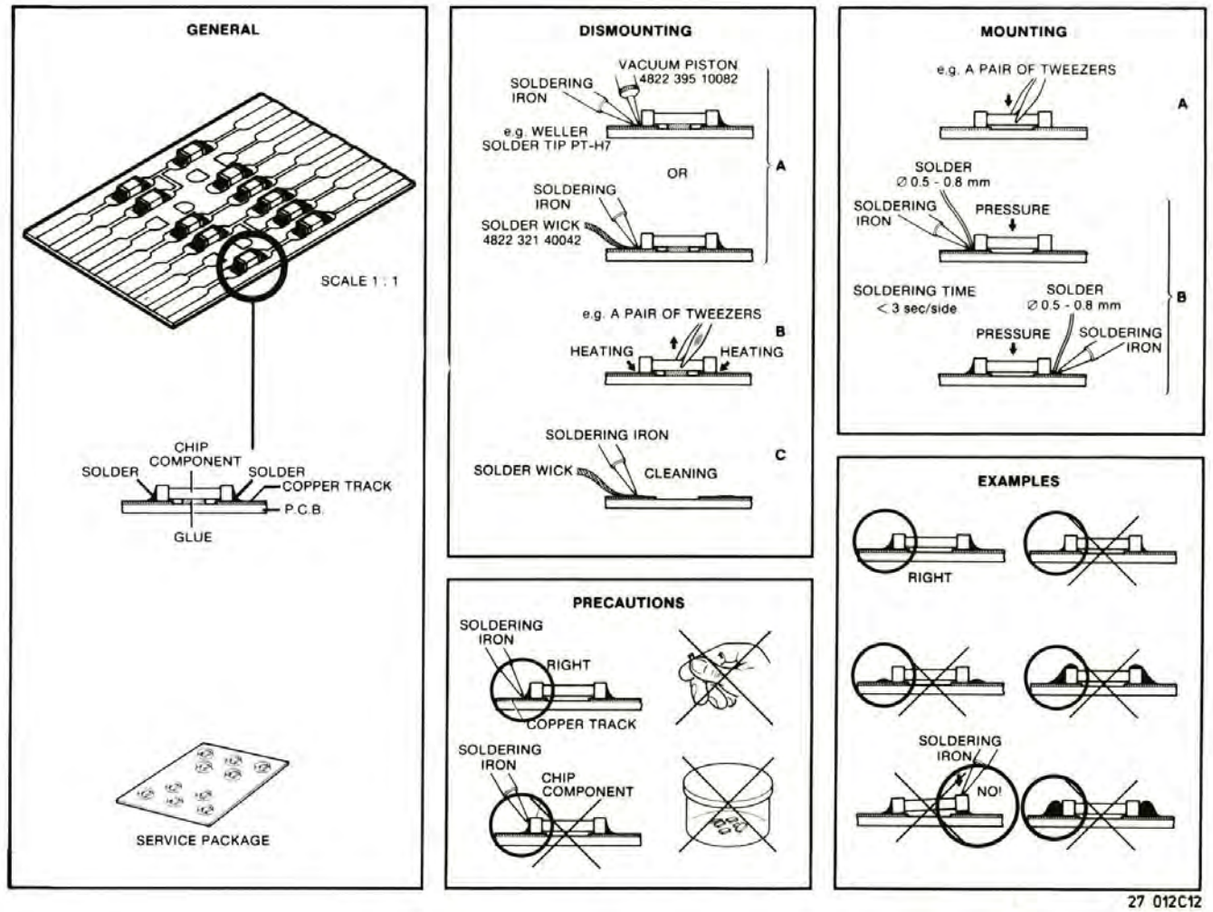
I AVERTIMENTO

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.

SERVICE HINTS

In the set chip components have been applied.

For disassembly of chip components see the figure bellow.



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SERVICING HINTS

Servicing the speakers:

Take off the front grill from the loudspeakerbox.

Tweeter:

Remove the four screw protections by using a point.
Prick the screw protection in the middle and pull it out.
Unscrew the tweeter and replace it.
Remark: You need four new screwprotections!

Woofers:

Pull the ornamental ring off and clear him from the old glue rests.
Unscrew the woofer and take it apart.
Remove also the gluerests on the front of the box.
A woodchisel could be helpfull but, beware for scratches and damages.
Replace the woofer and cleave the ornamental ring back on his place, use there for rectavit-glue.

The coil:

To have acces to the ferrite coil, you need to remove the isophase tweeter.
The coil is mounted in the box by a PZD headed screw.

Led unit and frontplate:

Remove the two screwcaps. Pull it out using a flat screwdriver but beware for scratches on the frontplate.
Unscrew and you will have acces to the led unit.
We remark that in case a full disconnection or replacement of it is needed, the bottemplate aswell as the backplate of the loudspeakerbox must be demounted.
Laying the box on his side could be helpfull in this action.
When you assemble the backplate in to the loudspeakerbox beware that the cables are well positioned.

Explanation of the abbreviations

ADIC	= Audio Digital Input Circuit
BCLK	= Bit Clock
BS DAC	= Bitstraem Digital to Analog converter
BIC	= Bus Interface Circuit
DATA IN	= Data in
DATA OUT	= Data out
DIG CONTROL	= Digital control
DSP HOST BUS	= Digital Signal Processor to Host processor Bus
EBU	= European Broadcast Union
EBU DISABLE	= European Broadcast Union Disable
FRAME SYNC	= Frame Synchronisation
HOST DSP BUS	= Host processor to Digital Signal processor Bus
IR EYE	= Infra Red Eye
MUTE	= Mute (active low)
Ph COMP LED	= Phase Compensation led
PWR FAILURE	= Power Failure
RESET	= Reset (active low)
STBY	= Standby (active low)
STBY/ON LED	= Standby on Led
STEREO R	= Stereo Right
STEREO L	= Stereo Left
TW PROT LED	= Tweeter Protect Led
WCLK	= Word Clock
+5 S	= +5 Volt switched

SERVICE TEST PROGRAM

GENERAL

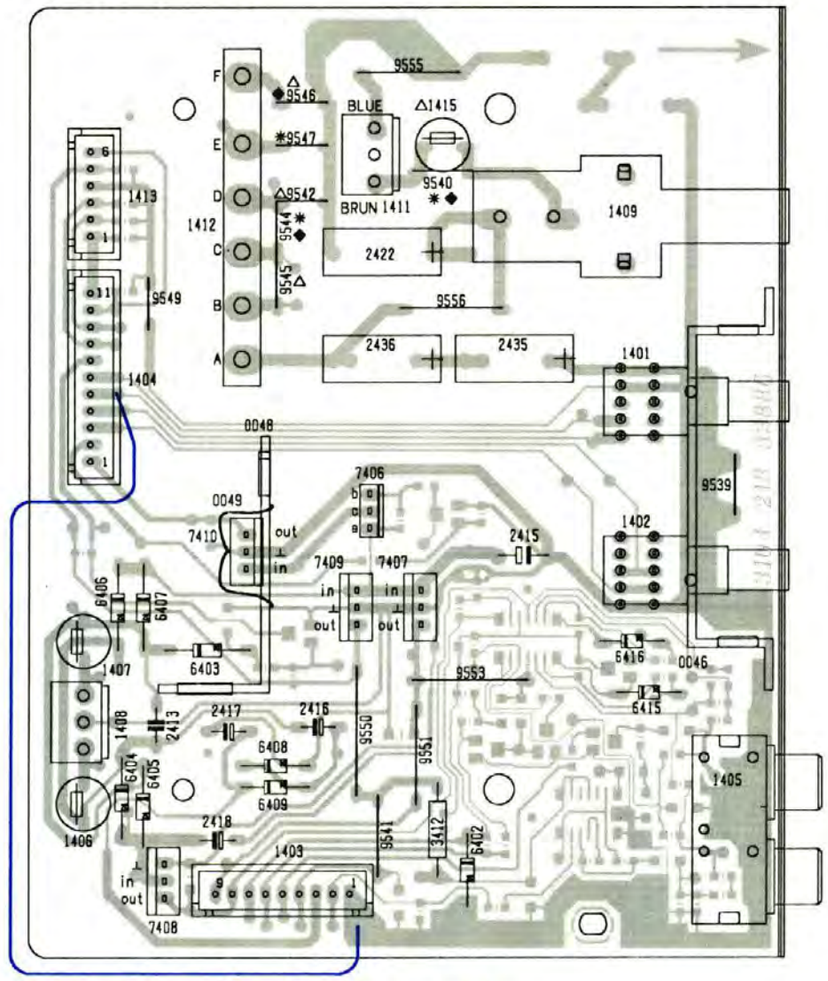
With this testprogram we can generate two sinuses,one from 5,12kHz for the tweeter circuit and one from 170Hz for the woofer circuit

To go on the testmode we have to connect first on the interface and power suppy board (see fig 1) on plug 1404 pin 4 and pin 5 to massa,and put the speakers switch 1402 in position B and channel switch 1401 in position Left.
When this is done put the power on.

To go out of this mode switch power off,and disconnect the pins 4 and 5 on plug 1404 from massa and put power back on.

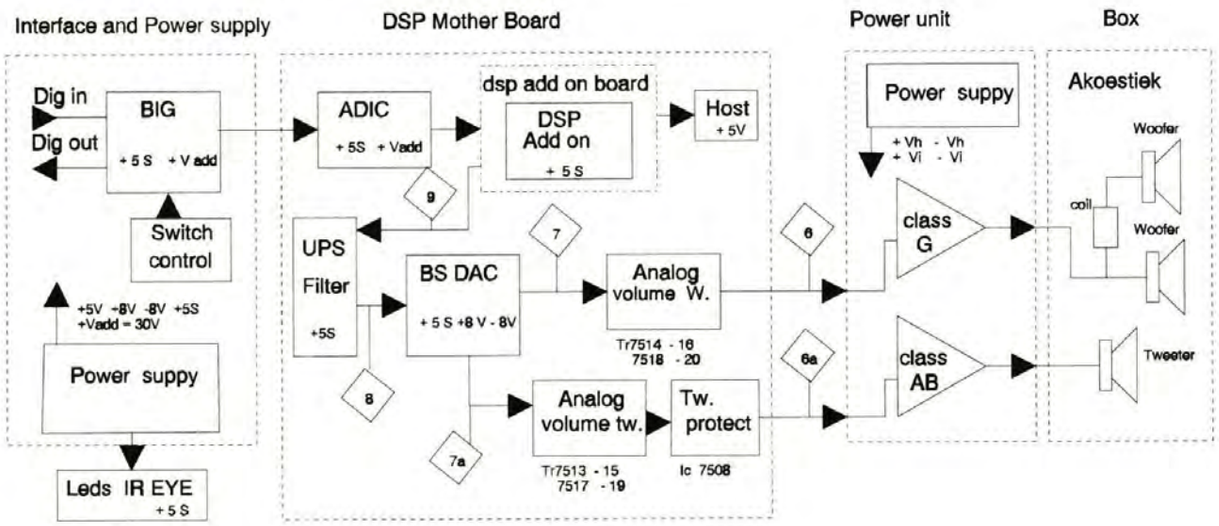
Out of the service test program we can let the box work with out the DSP board.Connect on plug 1504 pin 3 and pin 9 so that we can let the box work without the DSP board.
When the box works with out the DSP board then you must be careful with the high frequency for the tweeter not to be damaged.

Fig 1



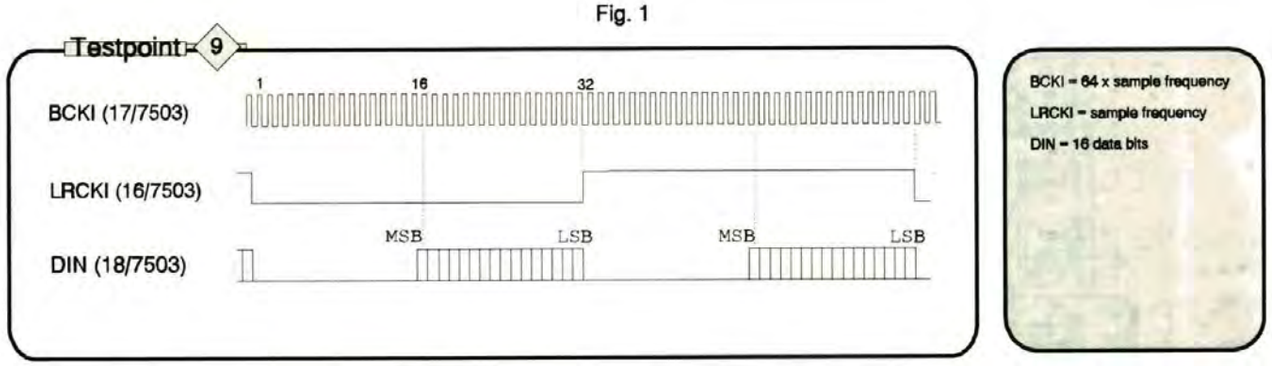
Connection for Service mode

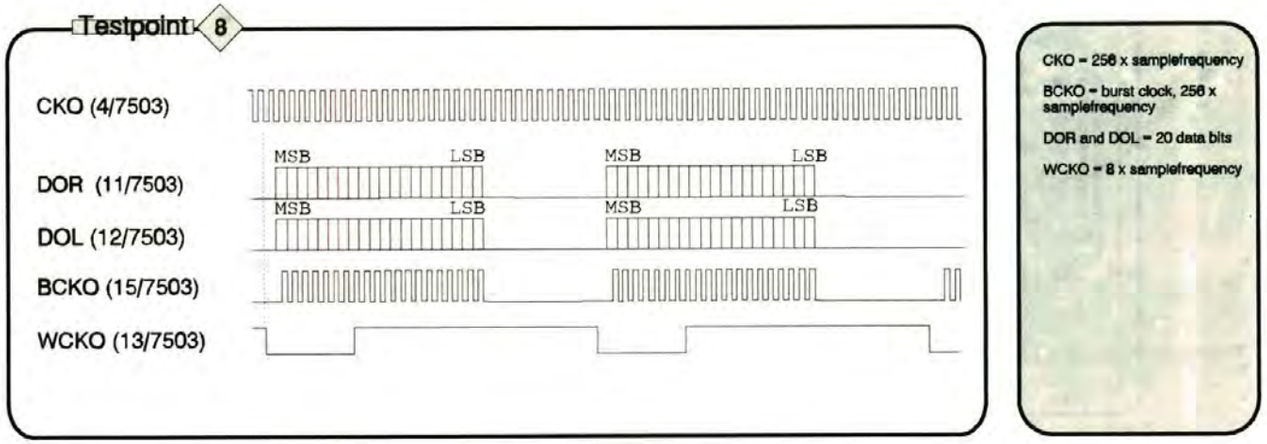
BLOCK DIAGRAM



Test point 8 and 9 see fig 1

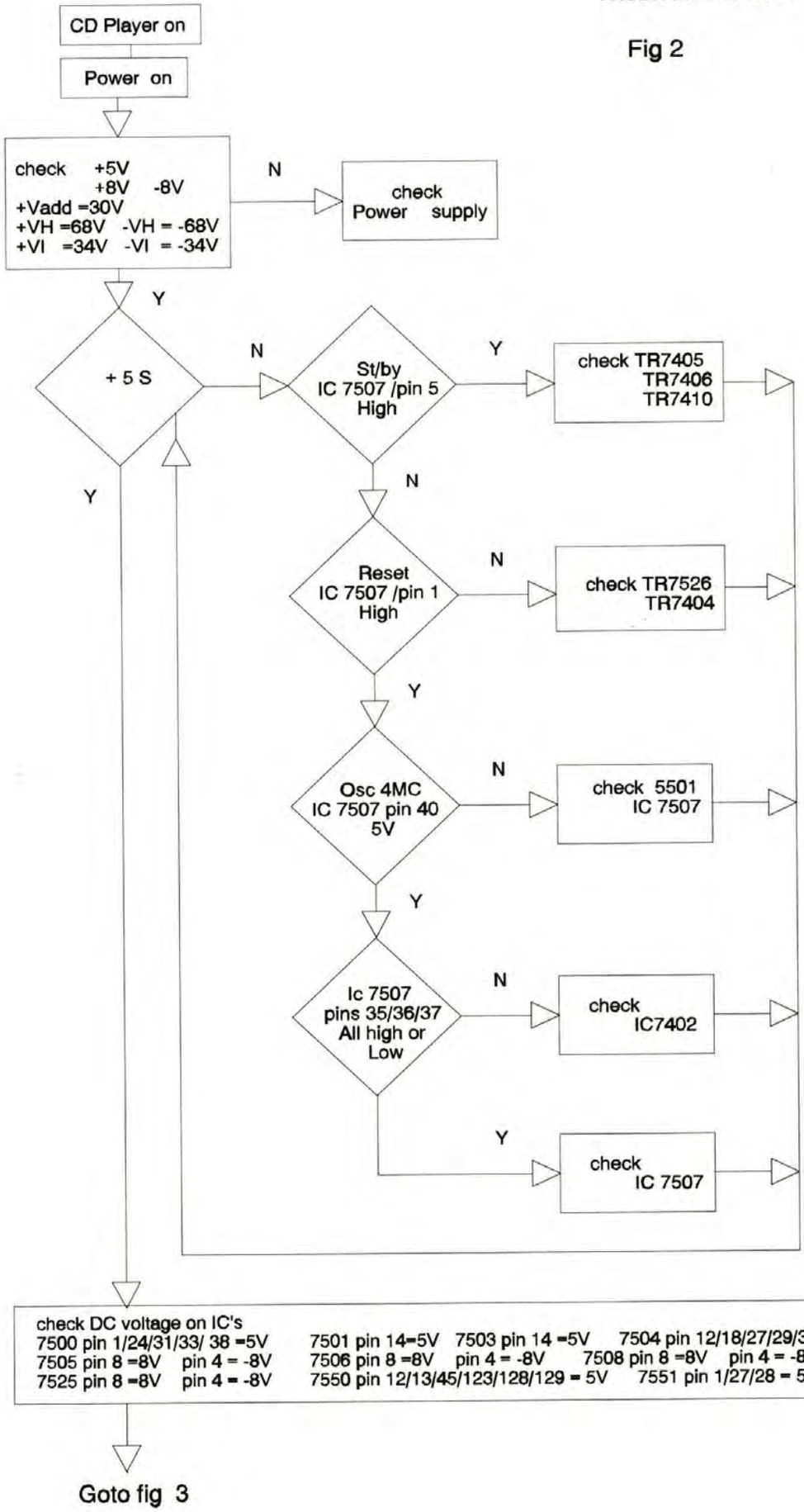
Fig. 1





FAULTFINDING TREE

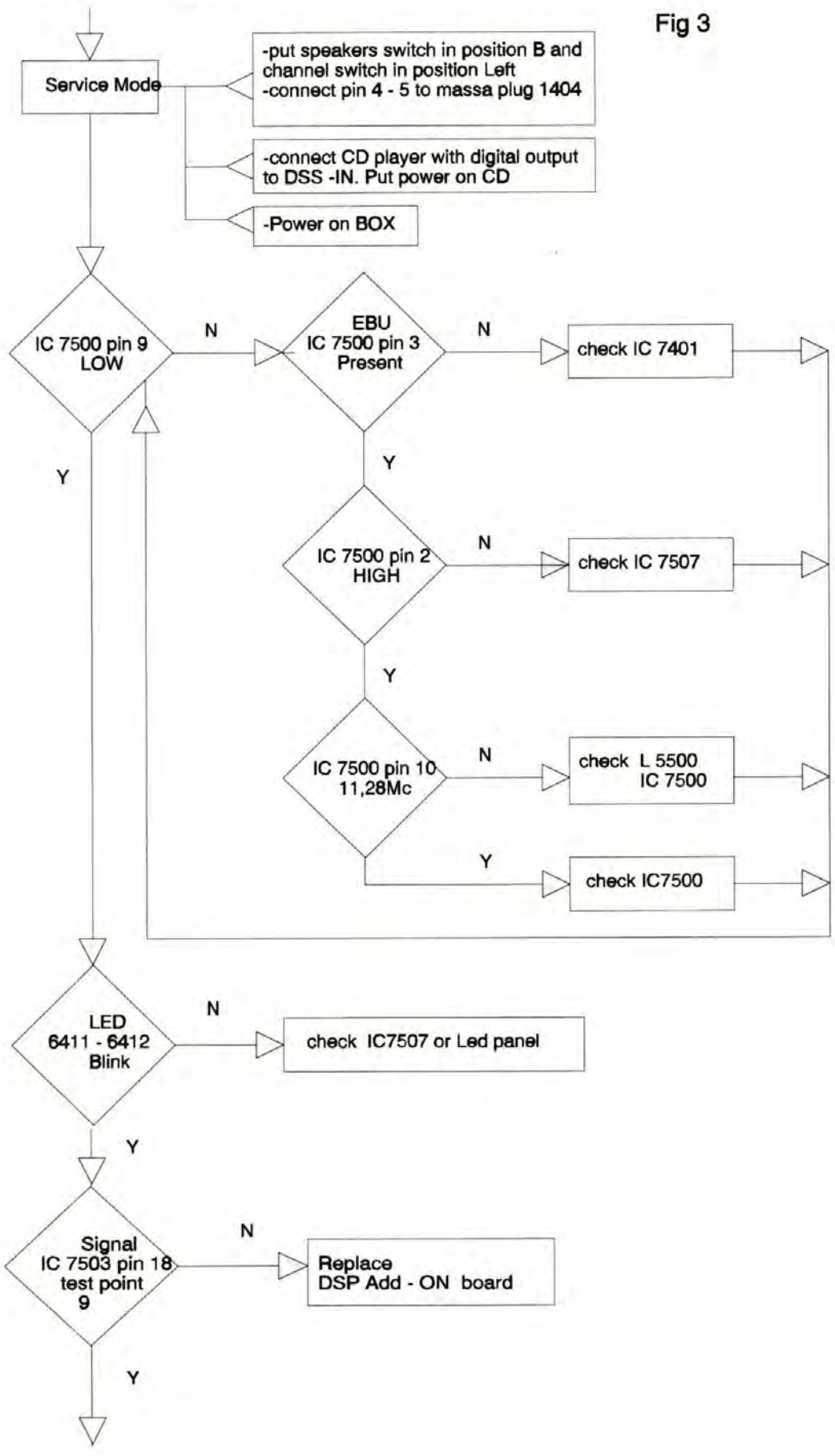
Fig 2



Goto fig 3

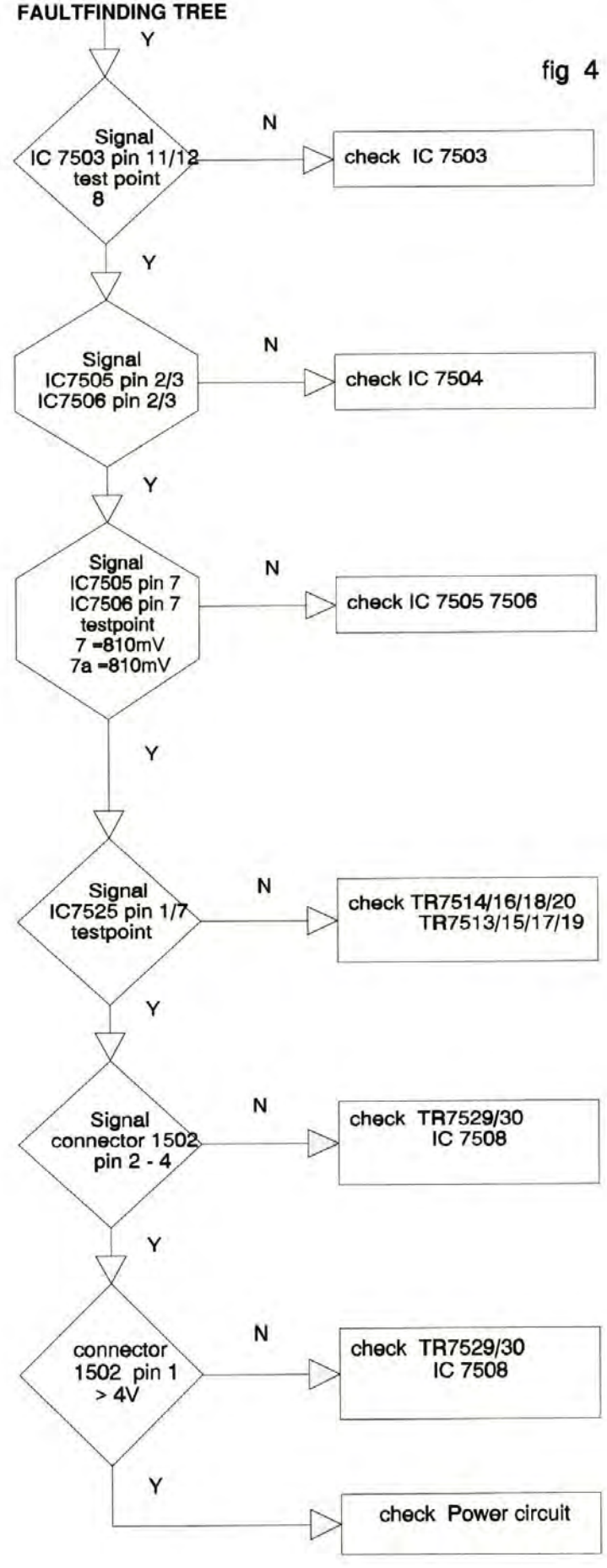
FAULTFINDING TREE

Fig 3

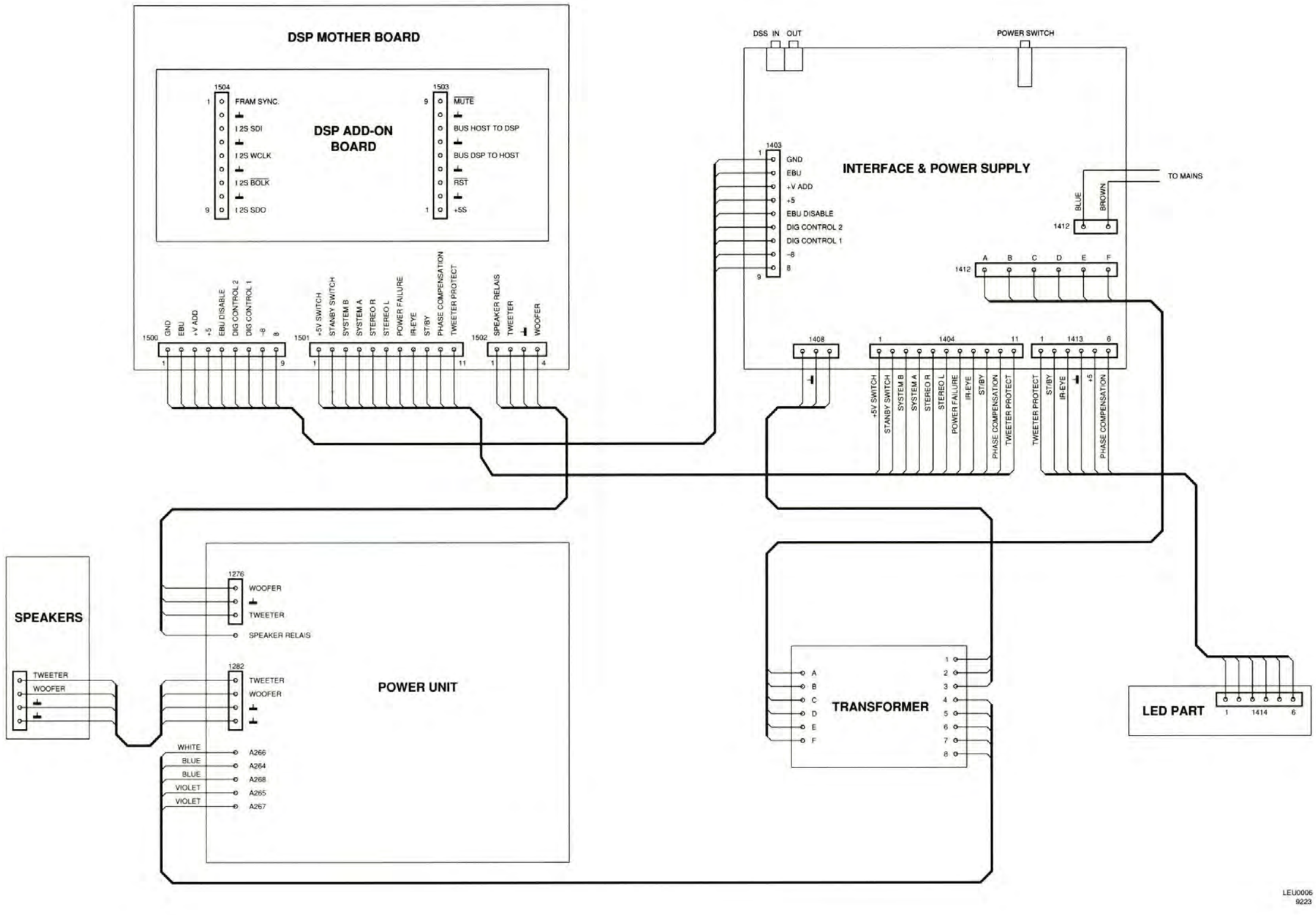


FAULTFINDING TREE

fig 4



WIRING DIAGRAM



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9223

INTERFACE & POWER SUPPLY

DSS IN — DSS OUT

EBU Signal = 48kHz - SAMPLE frequency
or 44.1kHz - SAMPLE frequency
or 32kHz - SAMPLE frequency
Vpp = 0.5V

EBU — 5V EBU Disable — 0V

Dig. Controle — Dig. Controle

0.65V, 60 µs — 1.25V, 444 µs or 888 µs

0V = NO COMMUNICATION
DURING COMMUNICATION
444 µs or 888 µs

0V = STBY
0.7V = ON

TO 1500 DSP MOTHER BOARD

1403: GND, EBU, +Vadd, +5, EBU DISABLE, DIG CONTROL 2, DIG CONTROL 1, –8, +8

1404: +5 SWITCHED, STANDBY SWITCH, SYSTEM B, SYSTEM A, STEREO R, STEREO L, POWER FAILURE, IR-EYE, STBY / ON, PHASE COMP, TWEETER PROTECT

TO 1501 DSP MOTHER BOARD

1413: TWEETER PROTECT, STBY / ON, IR-EYE, GND, +5, PHASE COMP

TO 1414 LED PART

GREEN = VOLTAGE AND SIGNALS WITH EBU SIGNAL
RED = VOLTAGE WITHOUT SIGNALS

TO TRAFO 5001 POWER UNIT

1V, 3V, 5V, 5V — 350ns

1411 MAINS — 1409 — 2422 47n — 2435 470p — 2436 470p — 1412: 9547, 9544, 9546, 9542, 9545 — F 120V/240V, E 100V/220V, D 120V, C 0V, B 0V, A THERMAL FUSE — TO TRAFO 5001 POWER UNIT

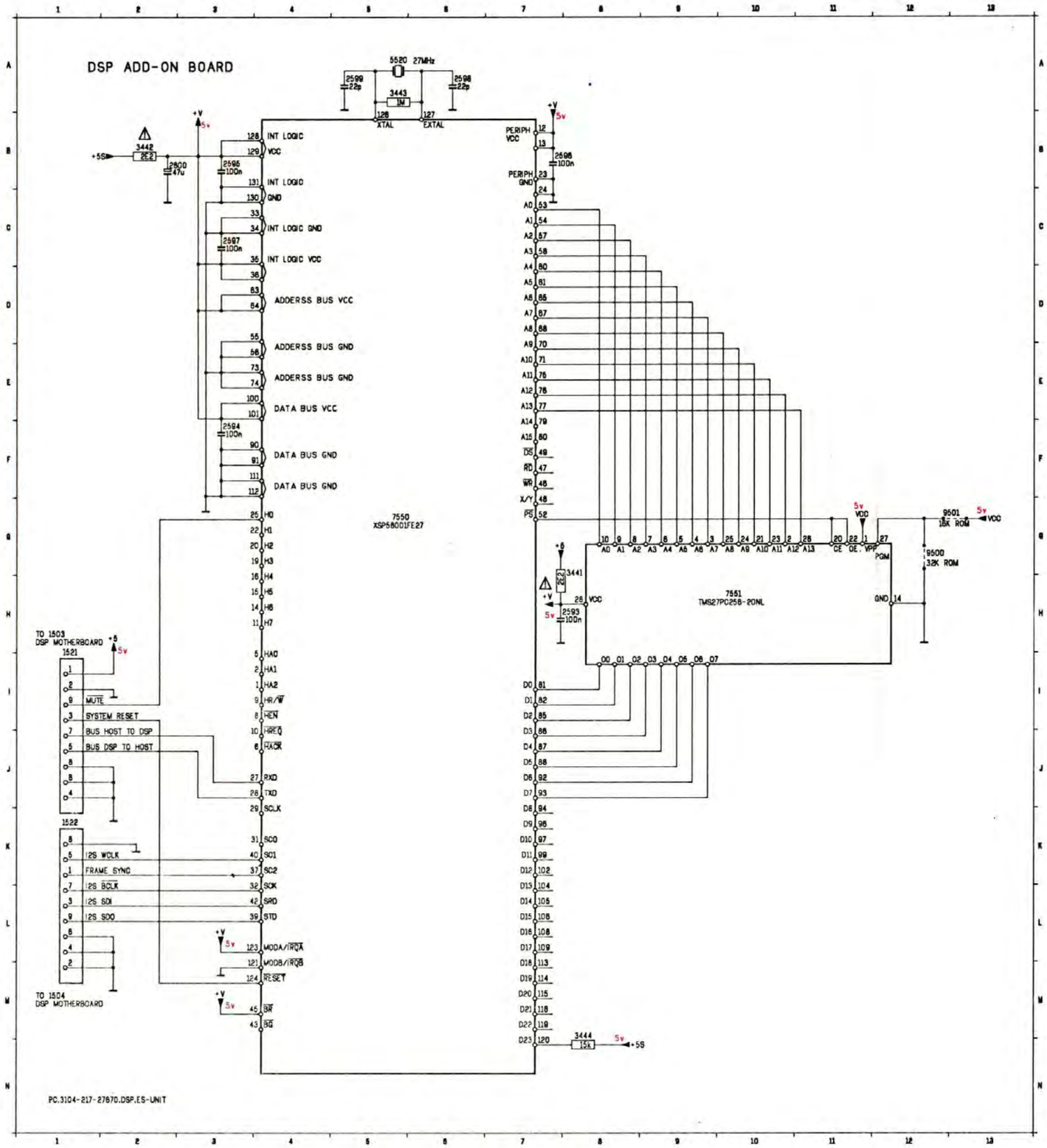
/00 VERSION

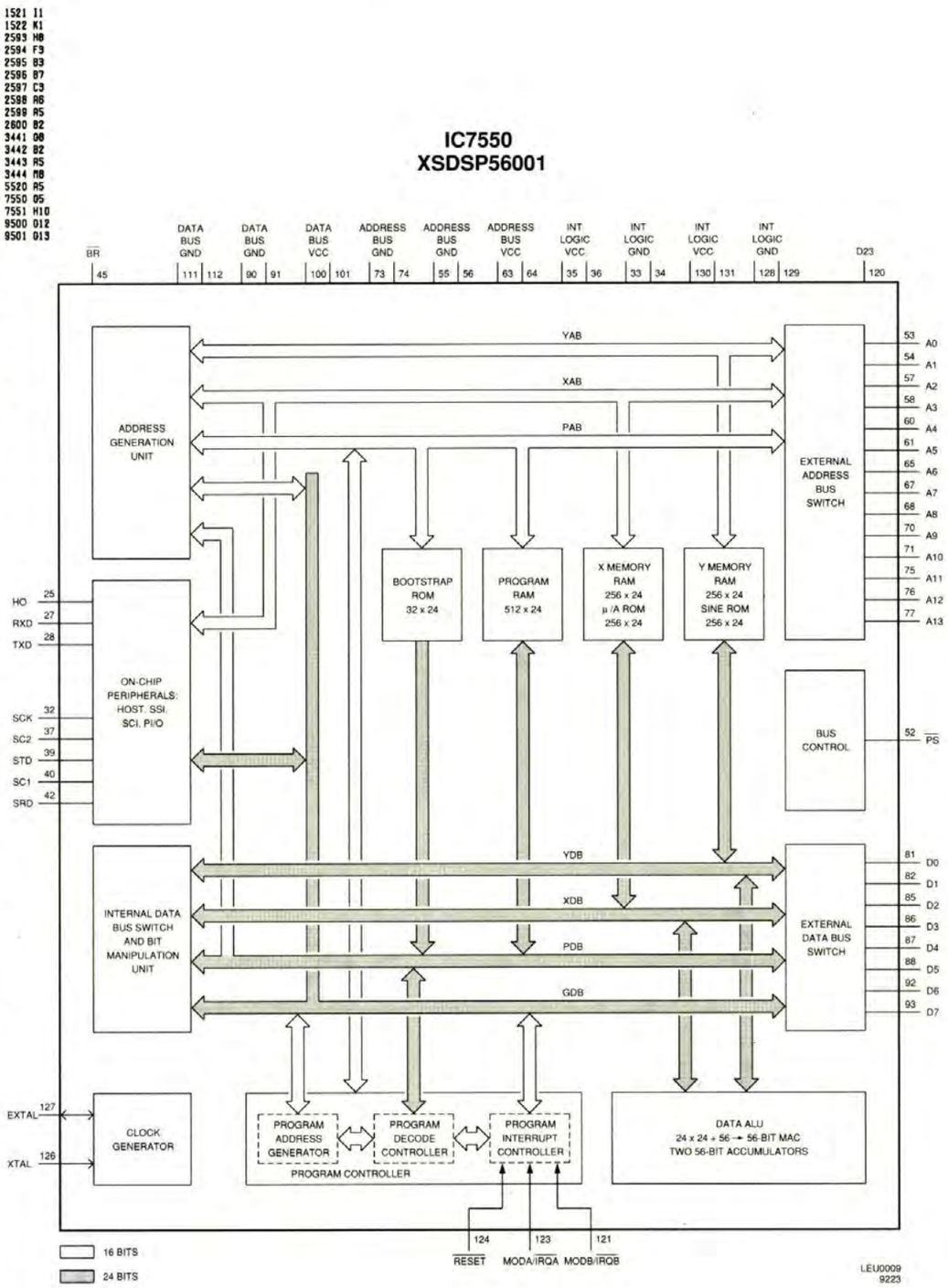
/05 VERSION

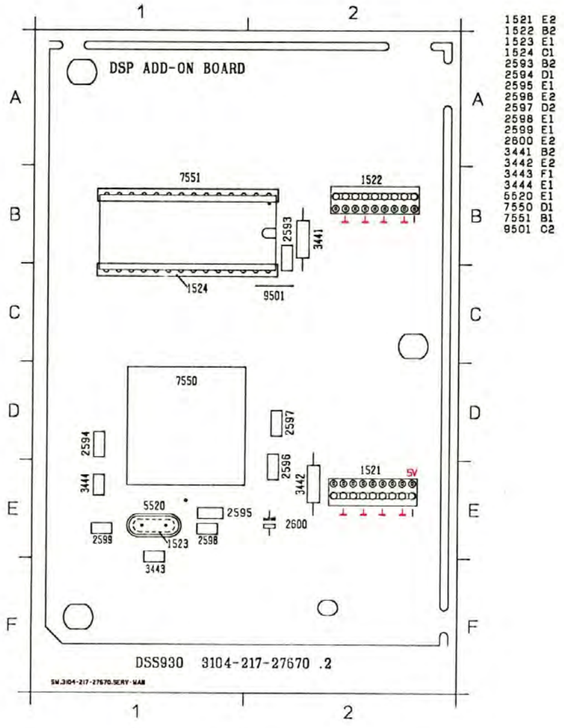
1415 2.5A

/17 VERSION

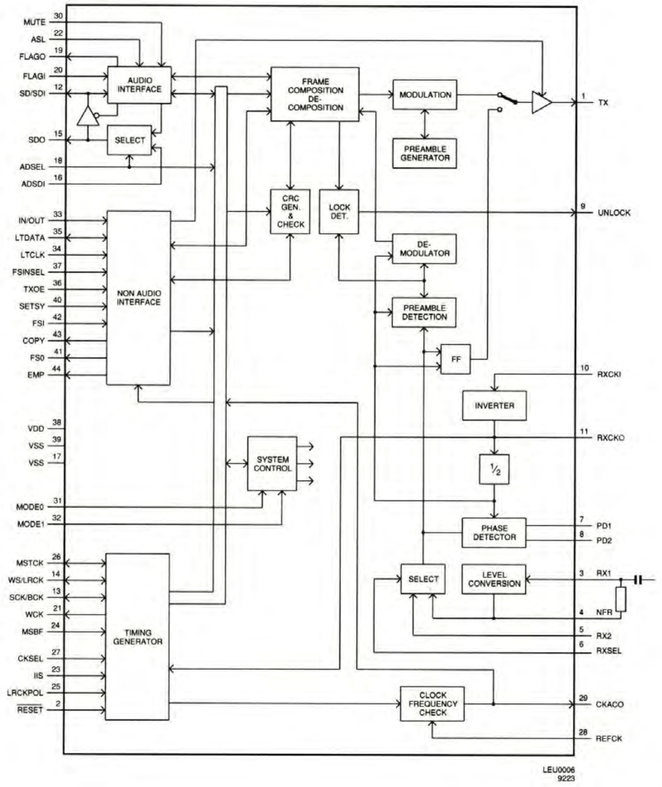
LEU0001
9215


DSP ADD-ON BOARD
5520 27MHz
3443 1M
XTAL
EXTAL
INT LOGIC
VCC
INT LOGIC
GND
INT LOGIC GND
INT LOGIC VCC
ADDERSS BUS VCC
ADDERSS BUS GND
ADDERSS BUS GND
DATA BUS VCC
DATA BUS GND
DATA BUS GND
7550
XSP56001FE27
7551
TMS27PC256-20NL
9501
16K ROM
9500
32K ROM
TO 1503
DSP MOTHERBOARD
1521
MUTE
SYSTEM RESET
BUS HOST TO DSP
BUS DSP TO HOST
1522
I2S WCLK
FRAME SYNC
I2S BCLK
I2S SDI
I2S SDO
TO 1504
DSP MOTHERBOARD
MODA/IRQA
MODB/IRQB
RESET
BR
BG
PERIPH VCC
PERIPH GND
PC.3104-217-27670.DSP.ES-UNIT

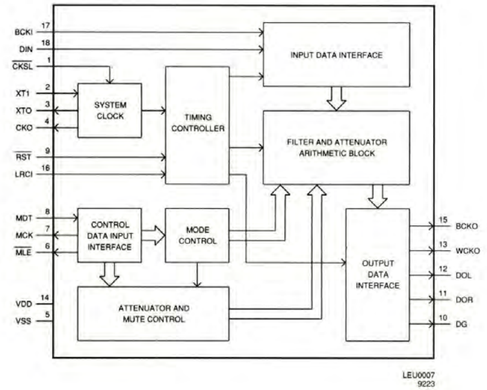

IC7550
XSDSP56001
DATA BUS GND
DATA BUS GND
DATA BUS VCC
ADDRESS BUS GND
ADDRESS BUS GND
ADDRESS BUS VCC
INT LOGIC VCC
INT LOGIC GND
INT LOGIC VCC
INT LOGIC GND
BR
D23
YAB
XAB
PAB
ADDRESS GENERATION UNIT
EXTERNAL ADDRESS BUS SWITCH
BOOTSTRAP ROM 32 x 24
PROGRAM RAM 512 x 24
X MEMORY RAM 256 x 24 µ /A ROM 256 x 24
Y MEMORY RAM 256 x 24 SINE ROM 256 x 24
ON-CHIP PERIPHERALS: HOST, SSI, SCI, PI/O
BUS CONTROL
YDB
XDB
PDB
GDB
INTERNAL DATA BUS SWITCH AND BIT MANIPULATION UNIT
EXTERNAL DATA BUS SWITCH
CLOCK GENERATOR
PROGRAM ADDRESS GENERATOR
PROGRAM DECODE CONTROLLER
PROGRAM INTERRUPT CONTROLLER
PROGRAM CONTROLLER
DATA ALU
24 x 24 + 56 → 56-BIT MAC
TWO 56-BIT ACCUMULATORS
HO
RXD
TXD
SCK
SC2
STD
SC1
SRD
EXTAL
XTAL
RESET
MODA/IRQA
MODB/IRQB
16 BITS
24 BITS
LEU0009
9223



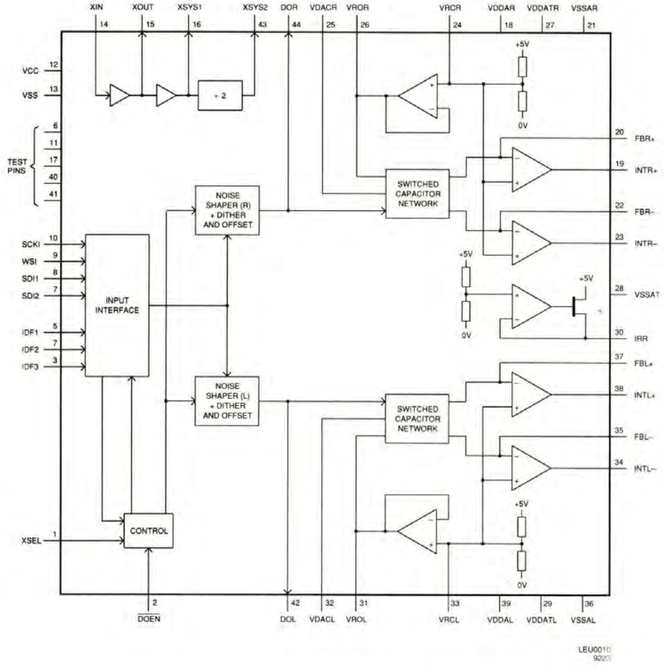
IC7500
M51581FP



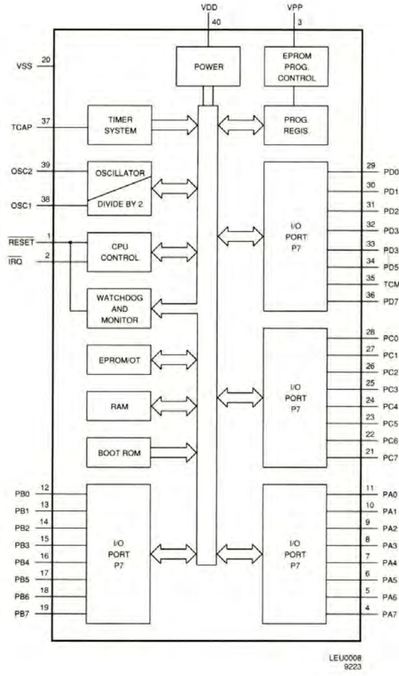
IC7503
SM5840AP



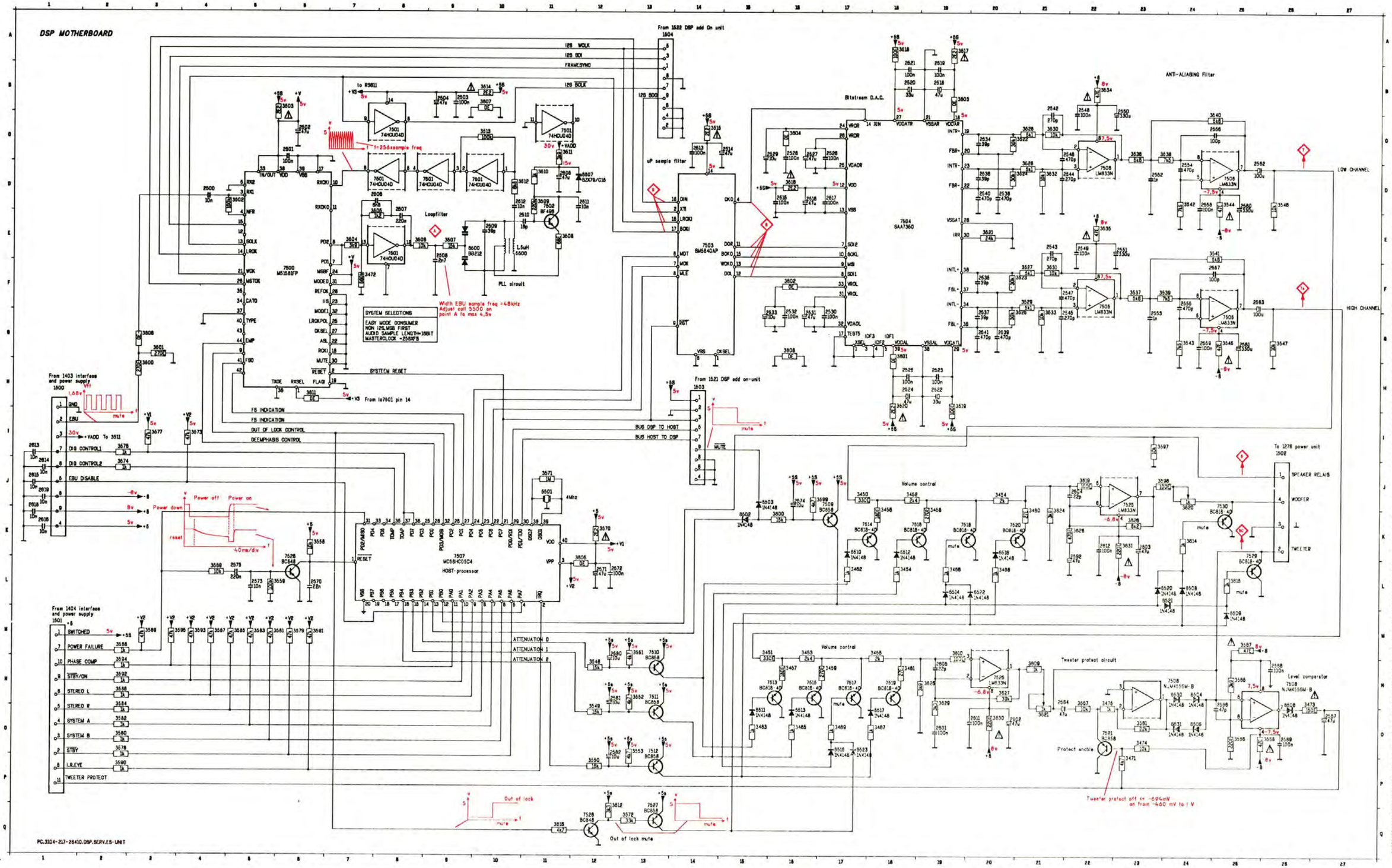
IC7504
SAA7350



IC7507
MCM68HC05C4

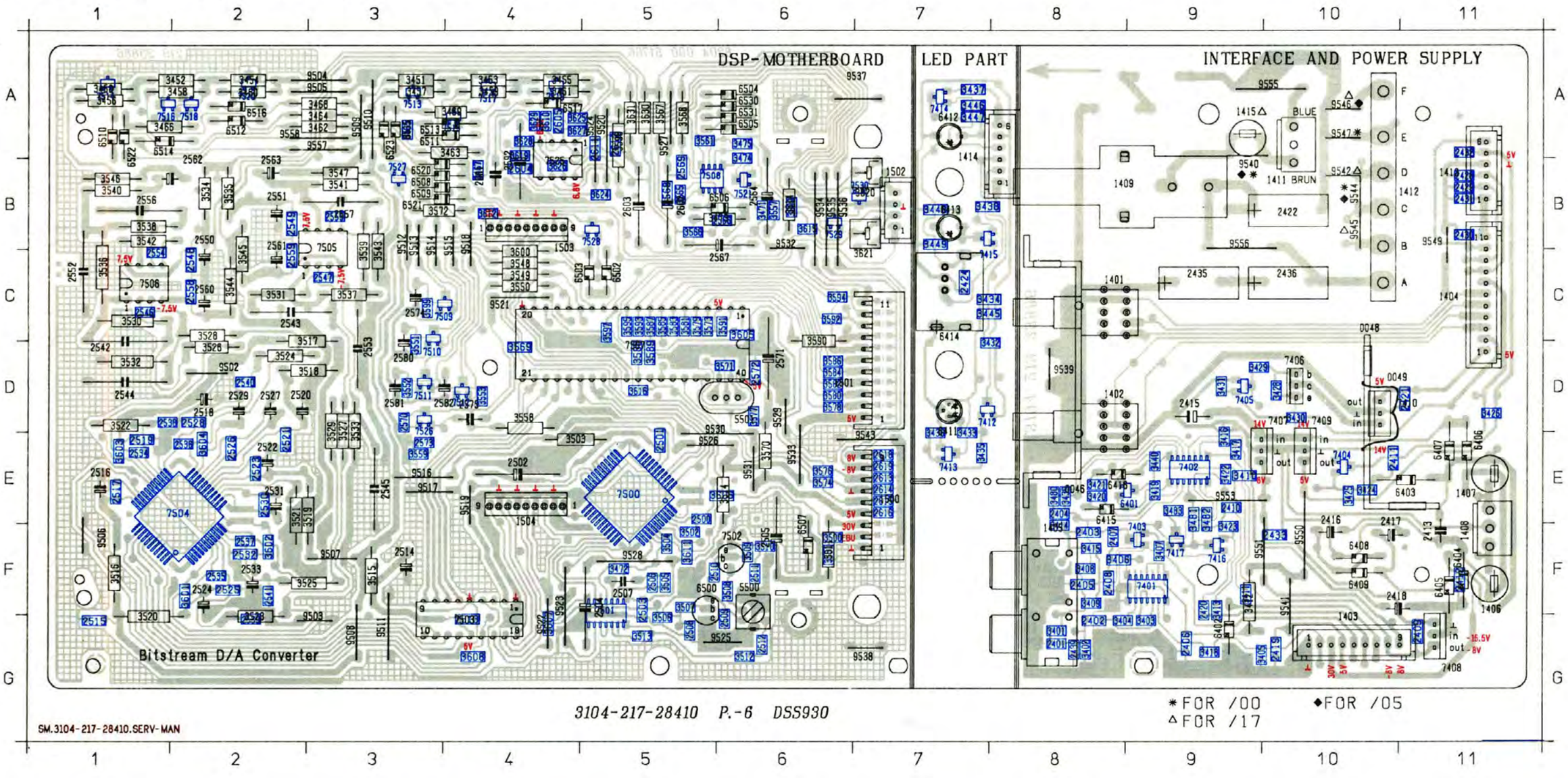


DSP MOTHERBOARD



1500 H1	3518 H18	7508 N26	
1501 M1	3519 H19	7508 J17	
1502 I26	3520 H18	7510 R13	
1503 H14	3521 E20	7511 K13	
1504 H13	3522 C20	7512 D13	
2500 D4	3523 F20	7513 K18	
2501 D8	3524 D20	7514 K17	
2502 G6	3525 D20	7515 K16	
2503 B9	3526 C21	7516 K18	
2504 B9	3527 F21	7517 N17	
2505 D11	3528 D21	7518 K19	
2506 D7	3529 F21	7519 N18	
2507 E8	3530 C21	7520 K20	
2508 E8	3531 F21	7521 G22	
2509 E10	3532 D21	7525 J23	
2510 E10	3533 D21	7525 N20	
2511 D12	3534 B22	7526 L8	
2512 D10	3535 E22	7527 D13	
2513 C14	3536 C23	7528 B12	
2514 C15	3537 F23	7529 K25	
2515 D16	3538 C23	7530 J25	
2516 D18	3539 F23		
2517 D17	3540 C24		
2518 B19	3541 E24		
2519 B19	3542 D24		
2520 B18	3543 D24		
2521 B18	3544 D25		
2522 H19	3545 D25		
2523 H19	3546 D26		
2524 H18	3547 G26		
2525 H18	3548 H12		
2526 C17	3549 D12		
2527 C18	3550 P12		
2528 C18	3551 N13		
2529 C15	3552 N13		
2530 G17	3553 D13		
2531 D18	3557 N22		
2532 D16	3558 K6		
2533 D15	3559 L5		
2534 C20	3561 D23		
2535 F20	3565 N25		
2536 C20	3566 D25		
2537 D20	3567 M25		
2538 D20	3568 D26		
2539 D20	3569 L4		
2540 D20	3570 K12		
2541 D20	3571 J11		
2542 B21	3572 G13		
2543 E21	3573 I4		
2544 C21	3574 J2		
2545 G21	3578 I2		
2546 C21	3577 I3		
2547 F21	3578 D2		
2548 B22	3579 M6		
2549 E22	3580 D2		
2550 B23	3581 M5		
2551 E23	3582 D2		
2552 D23	3583 M5		
2553 G23	3584 D2		
2554 D24	3585 M5		
2555 F24	3586 N2		
2556 C24	3587 M4		
2557 F24	3588 M2		
2558 D24	3589 M3		
2559 D24	3590 P2		
2560 D25	3591 M6		
2561 D25	3592 N2		
2562 D25	3593 M4		
2563 F25	3594 N2		
2564 N21	3595 M3		
2565 N25	3597 I23		
2567 D27	3598 J23		
2568 N26	3599 J18		
2569 D26	3600 K16		
2570 L6	3601 G18		
2571 L12	3602 F18		
2572 L12	3603 H19		
2573 L5	3604 C16		
2574 L12	3605 L12		
2575 L5	3606 D3		
2580 M12	3607 B10		
2581 N12	3608 G18		
2582 D12	3609 N21		
2583 K22	3610 M19		
2601 D18	3611 H6		
2602 D20	3612 D12		
2603 K23	3614 K24		
2604 J22	3615 L25		
2605 N19	3616 Q11		
2611 D20	3619 J22		
2612 K22	3620 J24		
2613 I1	3621 D21		
2614 J1	3624 K21		
2615 J1	3625 N19		
2616 K1	3626 K23		
2618 K1	3627 N20		
2619 J1	3628 K22		
3450 J17	3629 N18		
3451 M15	3630 D20		
3452 J18	3631 K23		
3453 M16	3501 J11		
3454 J20	6500 E8		
3455 M18	6502 K15		
3456 K18	6503 J15		
3457 N16	6504 N24		
3458 K19	8505 D24		
3459 N17	8506 N28		
3460 K21	8507 D12		
3461 N18	8508 L24		
3462 L17	8509 M25		
3463 D15	8510 K17		
3464 L18	8511 D15		
3465 D18	8512 K18		
3466 L19	8513 D18		
3467 D18	8514 L18		
3468 L20	8515 D17		
3469 D17	8516 K20		
3471 P23	8517 D18		
3472 F7	8520 L23		
3473 N26	8521 L24		
3474 D23	8522 L20		
3475 N22	8523 D17		
3500 H3	8530 K24		
3501 G3	8531 D24		
3502 D5	7500 F6		
3503 B6	7501 C11		
3504 E7	7501 C8		
3505 E7	7501 D10		
3506 E8	7501 D8		
3507 E8	7501 D8		
3508 E11	7502 D8		
3509 D11	7502 D11		
3510 D11	7503 E14		
3511 C11	7504 D18		
3512 D10	7505 F22		
3513 C10	7506 D25		
3514 B10	7508 D22		
3515 C14	7501 D25		
3516 D16	7507 L9		
3517 R19	7508 N24		

0046 E8	1500 E6	2514 F3	2553 D3	2602 B5	3464 A3	3524 D2	3541 B3	3600 C4	6412 A7	6513 A3	7503 G4	9514 B3	9531 E6	9549 B11	
0048 C10	1501 D8	2516 E1	2556 B1	2603 B5	3466 A1	3525 F3	3542 B1	3614 B6	6413 B7	6514 A1	7505 C3	9515 B4	9532 B6	9550 F10	
0049 D10	1502 B7	2518 D2	2557 B3	3412 F9	3468 A3	3526 D2	3543 C3	3620 B7	6414 C7	6515 A3	7506 C1	9516 E3	9533 E6	9551 F10	
1401 C8	1503 B4	2520 D2	2560 C2	3450 A1	3469 A4	3527 D3	3544 C2	3621 C7	6415 E8	6516 A2	7507 D5	9517 E3	9534 B6	9553 E9	
1402 D8	1504 E4	2522 E2	2561 B2	3451 A3	3473 B6	3528 C2	3545 C2	3630 A5	6416 E8	6517 A4	7525 B4	9518 B4	9535 B6	9555 A10	
1403 G10	2413 F11	2524 F2	2562 B2	3452 A2	3503 E4	3529 D3	3546 B1	3631 A5	6500 F5	6520 B3	9502 D2	9519 E4	9536 B6	9556 B9	
1404 C11	2415 D9	2527 D2	2563 B2	3453 A4	3511 F6	3530 C1	3547 B3	5500 F6	6502 C5	6521 B3	9503 G3	9520 A5	9537 A7	9557 A3	
1405 F8	2416 F10	2529 D2	2564 B6	3454 A2	3514 E6	3531 C2	3548 C4	5501 D6	6503 C5	6522 A1	9504 A3	9521 C4	9538 G7	9558 A2	
1406 F11	2417 E10	2531 E2	2567 C6	3455 A4	3515 F3	3532 D1	3549 C4	6402 G9	6504 A6	6523 A3	9505 A3	9522 G4	9539 D8		
1407 E11	2418 F10	2533 F2	2571 D6	3456 A1	3516 F1	3533 D3	3550 C4	6403 E11	6505 A6	6530 A6	9506 F1	9523 F4	9540 B9		
1408 F11	2422 B10	2542 D1	2574 C3	3457 A3	3517 D3	3534 B2	3558 D4	6404 F11	6506 B6	6531 A6	9507 F3	9524 A5	9541 F10		
1409 B8	2435 C9	2543 C2	2575 D4	3458 A2	3518 D3	3535 B2	3567 A5	6405 F11	6507 F6	7406 D10	9508 G3	9525 G6	9542 B10		
1411 B10	2436 C10	2544 D1	2580 D3	3459 A4	3519 E3	3536 C1	3568 A5	6406 E11	6508 B3	7407 D10	9509 A3	9526 E5	9543 E7		
1412 B11	2502 E4	2545 E3	2581 D3	3480 A2	3520 G1	3537 C3	3570 E8	6407 E11	6509 B3	7408 G11	9510 A3	9527 A5	9544 B10		
1413 B11	2504 F5	2550 B2	2582 D4	3461 A4	3521 E2	3538 B1	3572 B3	6408 F10	6510 A1	7409 D10	9511 G3	9528 F5	9545 B10		
1414 B7	2505 F6	2551 B2	2592 B4	3462 A3	3522 D1	3539 C3	3590 D6	6409 F10	6511 A3	7410 D11	9512 B3	9529 D6	9546 A10		
1415 A9	2507 F5	2552 C1	2601 B4	3463 A4	3523 G2	3540 B1	3598 A5	6411 D7	6512 A2	7502 F6	9513 B3	9530 E5	9547 A10		

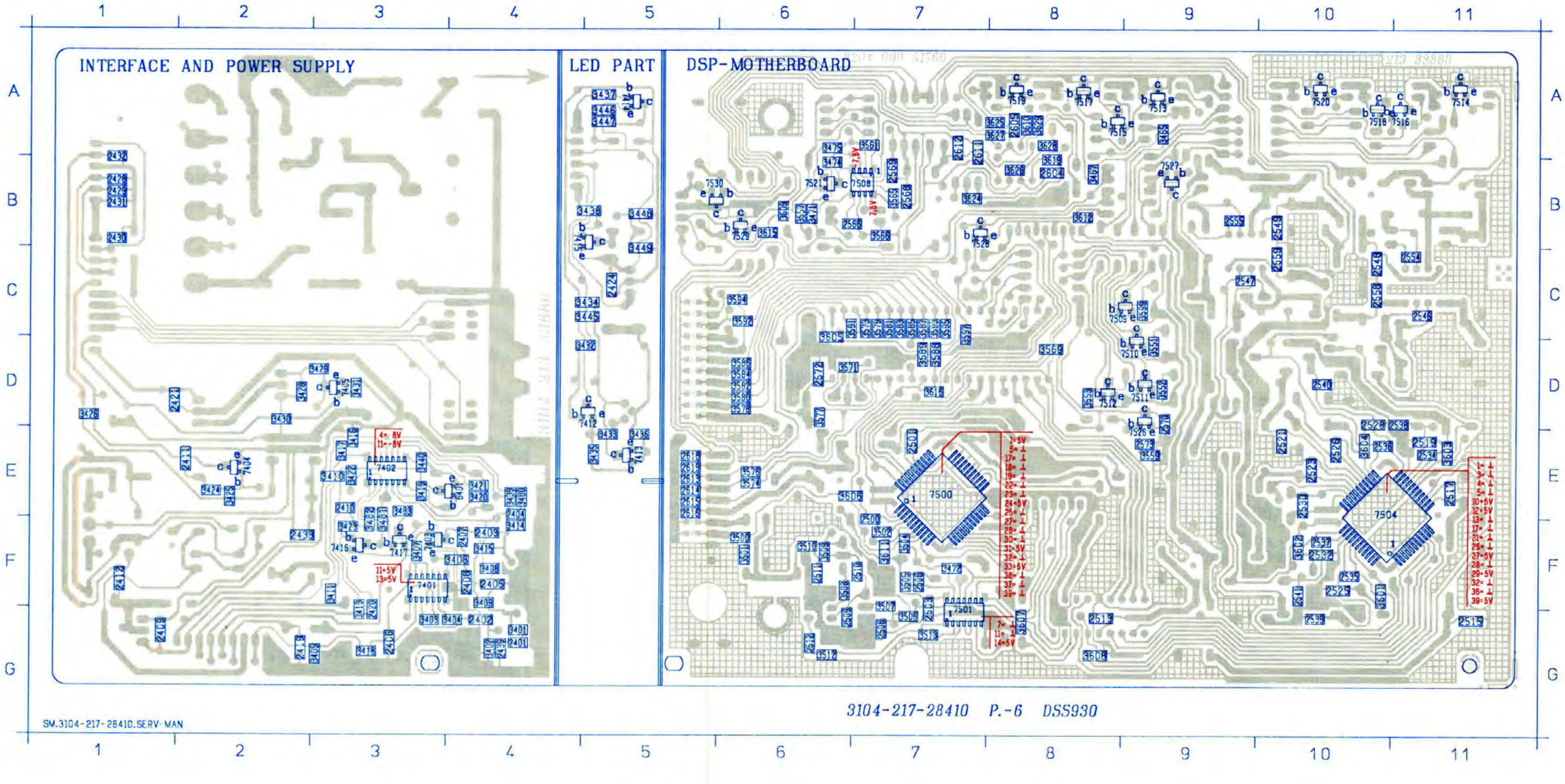


3104-217-28410 P.-6 DSS930

*FOR /00 ◆FOR /05
△FOR /17

SM.3104-217-28410.SERV-MAN

2401 G4	2421 D2	2509 G6	2532 F10	2555 B9	2614 E5	3410 E3	3425 E2	3440 E3	3482 F3	3551 D9	3578 D6	3593 C7	3610 A8	7402 E3	7509 C8	7527 B9
2402 G4	2424 C5	2510 F7	2534 E11	2558 C10	2615 E5	3411 F3	3426 D1	3445 C5	3483 E3	3552 D9	3579 C7	3594 C6	3611 F7	7403 F3	7510 D9	7528 B7
2403 F4	2428 B1	2511 F6	2535 F10	2559 C10	2616 E5	3413 G3	3428 D2	3446 A5	3500 F6	3553 D8	3580 D6	3595 C7	3612 B8	7404 E2	7511 D9	7529 B6
2404 F4	2429 B1	2512 G6	2536 E10	2566 B8	2618 E5	3414 F4	3429 D3	3447 A5	3501 F6	3557 B6	3581 C7	3597 C7	3615 B8	7405 D3	7512 D8	7530 B5
2405 F4	2430 B1	2513 G8	2537 F10	2568 B7	2619 E5	3415 F4	3430 D2	3448 B5	3502 F7	3559 E9	3582 D6	3599 C9	3616 D7	7412 D5	7513 A9	
2406 G3	2431 B1	2515 G11	2538 D11	2569 B7	3401 G4	3416 E3	3431 D3	3449 C5	3504 F7	3561 A7	3583 C7	3601 F10	3619 B8	7413 E5	7514 A11	
2407 F4	2432 B1	2517 E11	2539 G10	2570 D9	3402 G4	3417 E3	3432 D5	3465 A9	3505 F7	3565 B7	3584 D6	3602 F10	3624 B7	7414 A5	7515 A8	
2408 F4	2433 F2	2519 E11	2540 D10	2572 D8	3403 G3	3418 G3	3433 E5	3467 B8	3506 G7	3566 B7	3585 C7	3603 E11	3625 A8	7415 B4	7516 A11	
2409 G1	2439 G4	2521 E10	2541 F10	2573 E9	3404 G4	3419 E3	3434 C5	3471 B6	3507 G7	3569 D8	3586 D6	3604 E10	3626 B8	7416 F3	7517 A8	
2410 E3	2500 F7	2523 E10	2546 C11	2604 B8	3405 G3	3420 E4	3435 E5	3472 F7	3508 F6	3571 D6	3587 C7	3605 D6	3627 A8	7417 F3	7518 A10	
2411 E2	2501 E7	2525 F10	2547 C9	2605 A8	3406 F4	3421 E4	3436 E5	3474 B6	3509 F6	3573 C7	3588 D7	3606 E6	3628 A8	7500 E7	7519 A8	
2412 F1	2503 F7	2526 E10	2548 C10	2611 A7	3407 F3	3422 E3	3437 A5	3475 A6	3510 F6	3574 E6	3589 D7	3607 G8	3629 A8	7501 G7	7520 A10	
2419 G2	2506 F7	2528 D10	2549 B10	2612 A7	3408 F4	3423 F3	3438 B5	3480 E4	3512 G6	3576 E6	3591 C7	3608 G8	6401 E4	7504 E10	7521 B6	
2420 G3	2508 G7	2530 E10	2554 C11	2613 E5	3409 F4	3424 E2	3439 E4	3481 F3	3513 G7	3577 D6	3592 C6	3609 B6	7401 F3	7508 B7	7526 E9	



POWER UNIT

1276 from motherboard

WOOFER

TWEETER

SPEAKER RELAIS

To R3357

From R3261

Output protection circuit

Relay

RELAY3

To box 1282

TWEETER

WOOFER

Power trafo

6001

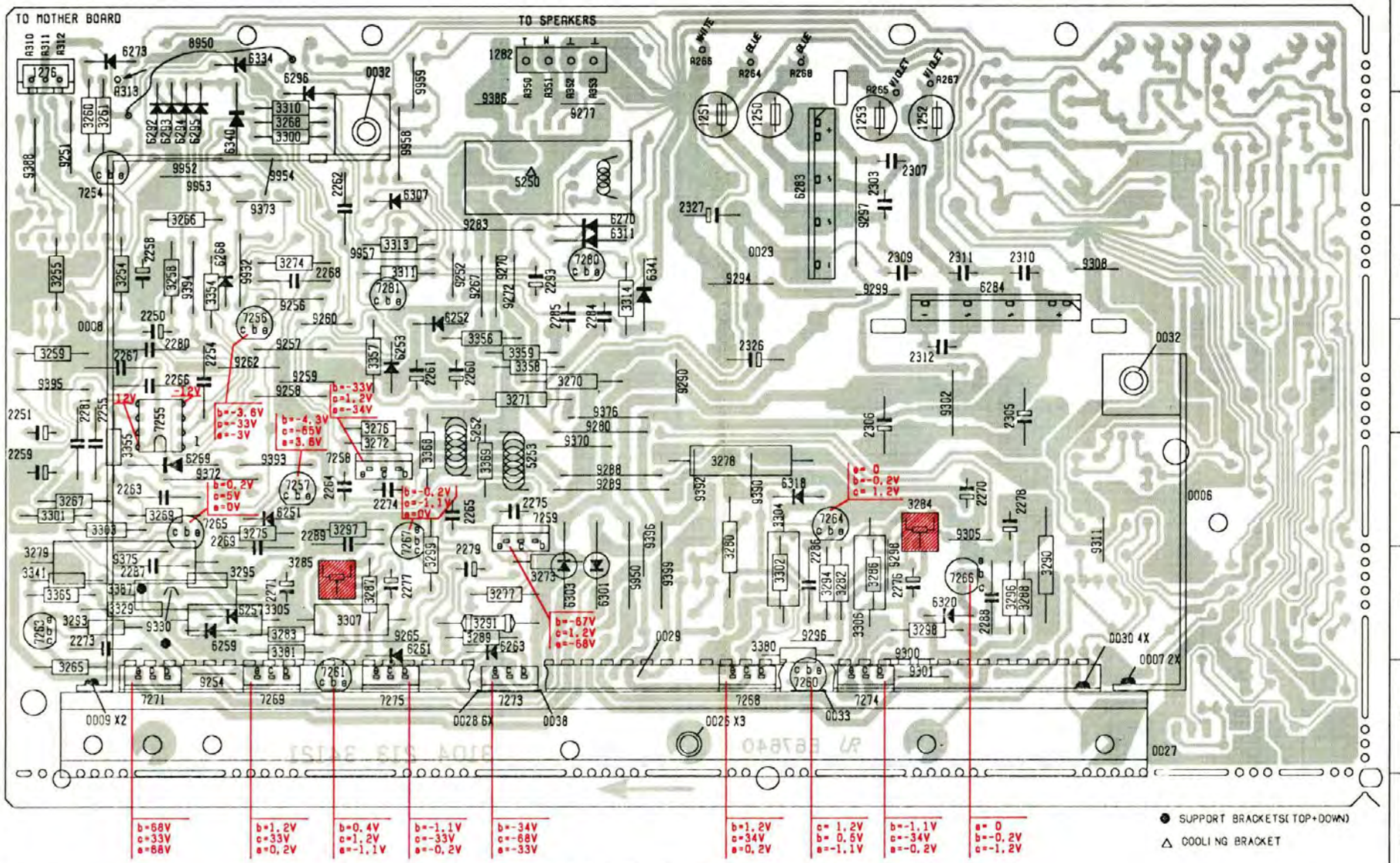
* Quisent current adjust 3285 to 6mV DC Voltage

* Before to adjust input A310(Woofer) and A312(tweeter) connected to ground Then adjust current within 10 sec after switching power on

* Fuses 1250,1252,1253,1551
FOR /00 : T2A
FOR /17 : TR5 MINIFUSE 12.5A/125V UL
FOR /05 : T2A

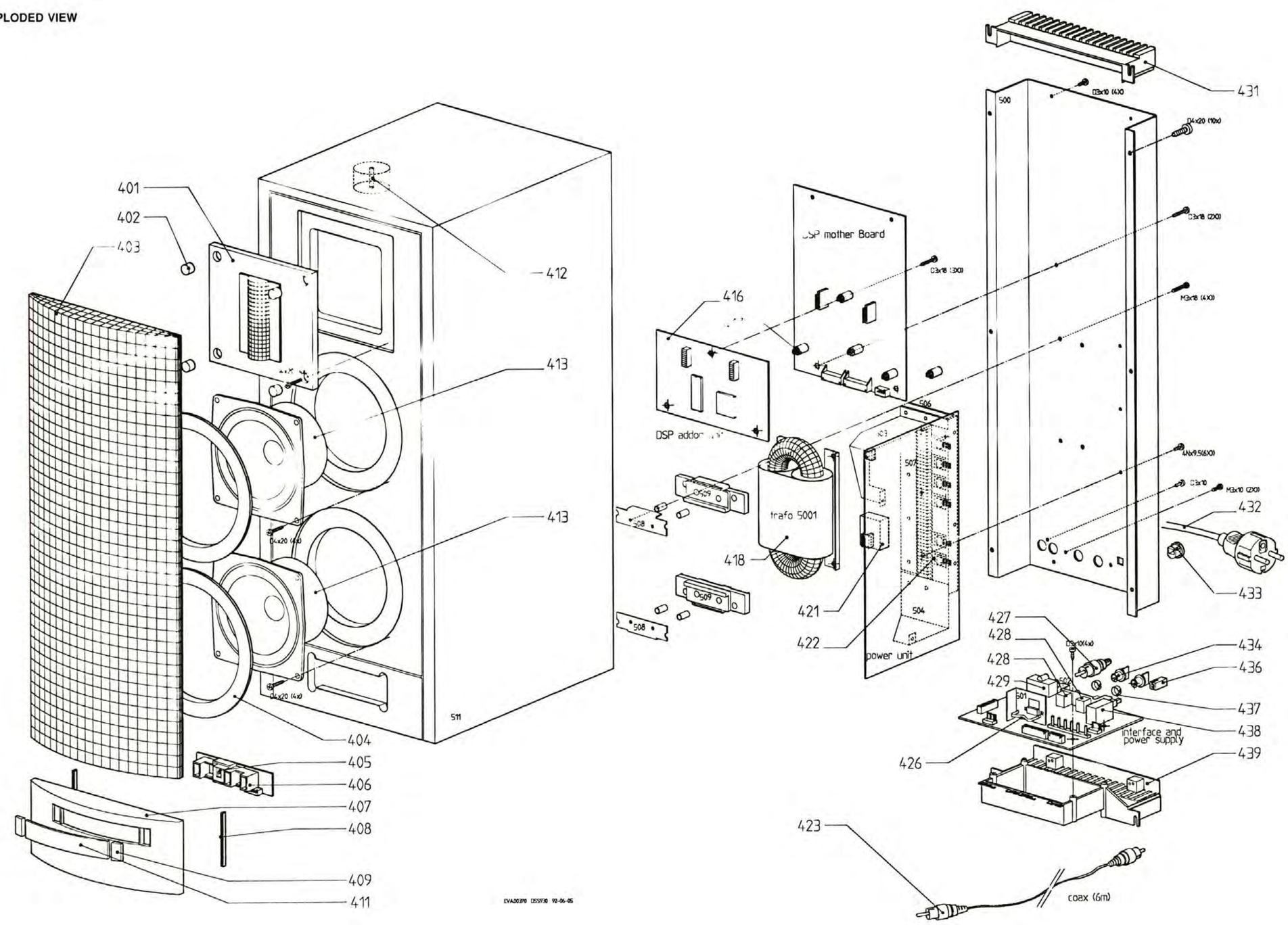
1250	J18	3368	J12
1251	L18	3369	C12
1252	K18	3380	I11
1253	L18	3381	C11
2250	I4	3387	A9
2251	C3	5001	J19
2254	I5	5001	J19
2255	C5	5250	E16
2258	L5	5252	J12
2259	F5	5253	C12
2260	H5	6251	D7
2261	B6	6252	I6
2262	L6	6253	B7
2263	E6	6257	B9
2264	K7	6259	B9
2265	E7	6261	E9
2266	H6	6263	E9
2267	B6	6268	K5
2268	I8	6269	D6
2269	C8	6270	A16
2270	G8	6273	H4
2271	A8	6283	J16
2273	B11	6284	K16
2274	K8	6292	L5
2275	D8	6293	F5
2276	J10	6294	L4
2277	C10	6295	F4
2278	L9	6295	F7
2279	F9	6301	B12
2280	I4	6303	E12
2281	C5	6307	B18
2284	J13	6311	A17
2285	D13	6318	I10
2286	J11	6320	K10
2287	C11	6334	F8
2288	J11	6340	G3
2289	D11	6341	A18
2293	A18	7254	G3
2303	J17	7255	C6
2305	K15	7255	I6
2306	L15	7256	I7
2307	J16	7257	C7
2309	J17	7258	K8
2310	K16	7259	E8
2311	K17	7260	J8
2312	K17	7261	C9
2326	J15	7263	A10
2327	K15	7264	I10
3254	I3	7265	C10
3255	C3	7266	J10
3258	J4	7267	D10
3259	C4	7268	I12
3260	G4	7271	A11
3261	G3	7273	E11
3265	A10	7274	K11
3266	L5	7275	D11
3267	E5	7280	B17
3268	K6	7281	C19
3269	E6		
3270	H6		
3271	A6		
3272	L7		
3273	F7		
3274	I8		
3275	C8		
3276	L8		
3277	F8		
3278	G9		
3279	A9		
3280	H9		
3282	I9		
3283	C9		
3284	J9		
3285	C9		
3286	K9		
3287	D9		
3288	L9		
3289	E9		
3290	L9		
3291	F9		
3293	B11		
3294	J10		
3295	C10		
3296	J10		
3297	D10		
3298	J11		
3299	D11		
3300	L8		
3301	I6		
3302	I11		
3303	C11		
3304	J12		
3305	C12		
3306	J12		
3307	D12		
3310	G5		
3311	C18		
3313	B18		
3314	B18		
3329	B10		
3341	B11		
3354	K5		
3355	L5		
3356	H6		
3357	B7		
3358	J13		
3359	D13		
3365	B11		

POWER UNIT



0008	E8	3270	D4	6301	F4	9399	F4
0007	G7	3271	D3	6303	F4	9932	C2
0008	D1	3272	E3	6307	B3	9950	F4
0009	G1	3273	F4	6311	C4	9952	B2
0023	C5	3274	C2	6318	E5	9953	B2
0026	G5	3275	E2	6320	F6	9954	B2
0027	G7	3276	D3	6334	A2	9957	C3
0028	G3	3277	F3	6340	B2	9958	B3
0029	F4	3278	E5	6341	C4	9959	A3
0030	F7	3279	F1	7254	B1		
0032	A3	3280	E5	7255	D1		
0032	D7	3282	F5	7256	D2		
0033	G5	3283	F2	7257	E2		
0038	G4	3284	E6	7258	E2		
1250	B5	3285	F2	7259	E4		
1251	B5	3286	F6	7260	G5		
1252	B6	3287	F3	7261	G2		
1253	B6	3288	F6	7263	F1		
1278	A1	3289	F3	7264	E5		
1282	A3	3290	F7	7265	E2		
2250	C1	3291	F3	7266	F6		
2251	D1	3293	F1	7267	E3		
2254	D2	3294	F5	7268	G5		
2255	D1	3295	F2	7269	G2		
2258	C1	3296	F6	7271	G1		
2259	E1	3297	E2	7273	G3		
2260	D3	3298	F6	7274	G6		
2261	D3	3299	F3	7275	G3		
2262	B2	3300	B2	7280	C4		
2263	E1	3301	E1	7281	C3		
2264	E2	3302	F5	8950	A2		
2265	E3	3303	E1	9251	B1		
2266	D1	3304	E5	9252	C3		
2267	D1	3305	F2	9254	G2		
2268	C2	3306	F6	9256	C2		
2269	E2	3307	F2	9257	D2		
2270	E6	3310	B2	9258	D2		
2271	F2	3311	C3	9259	D2		
2273	F1	3313	C3	9260	D2		
2274	E3	3314	C4	9262	D2		
2275	E4	3329	F1	9265	F3		
2278	F6	3341	F1	9267	C3		
2277	F3	3354	C2	9270	C3		
2278	E6	3355	E1	9272	C3		
2279	F3	3356	D3	9277	B4		
2280	D1	3357	D3	9280	D4		
2281	D1	3358	D4	9283	C3		
2284	C4	3359	D4	9288	E4		
2285	C4	3365	F1	9289	E4		
2286	F5	3368	E3	9290	D4		
2287	F1	3369	E3	9294	C5		
2288	F6	3380	F5	9296	F5		
2289	E2	3381	F2	9297	C6		
2293	C4	3387	F1	9298	F6		
2303	B6	5250	B4	9299	C6		
2305	D6	5252	D3	9300	F6		
2306	D6	5253	E4	9301	G6		
2307	B6	6251	F2	9302	D6		
2309	C6	6252	D3	9305	E6		
2310	C6	6253	D3	9308	C7		
2311	C6	6257	F2	9311	E7		
2312	D6	6259	F2	9330	F1		
2326	D5	6261	F3	9370	E4		
2327	C5	6263	F3	9372	E2		
3254	C1	6268	C2	9373	C2		
3255	C1	6269	E2	9375	F1		
3258	C1	6270	C4	9376	D4		
3259	D1	6273	A1	9386	B3		
3260	B1	6283	B5	9388	B1		
3261	B1	6284	C6	9390	E5		
3265	G1	6292	B1	9392	E5		
3266	C2	6293	B1	9393	E2		
3267	E1	6294	B2	9394	C2		
3268	B2	6295	B2	9395	D1		
3269	E1	6296	A2	9396	E4		

EXPLODED VIEW



MECHANICAL PARTS

401	4822 240 70246	TWEETER AD21601
402	4822 502 30599	PROTECTION
403	4822 458 40559	GRILLE
404	4822 460 10971	RING ORNAMENTAL
405	4822 214 52009	IR EYE GP1U58XP
406	4822 256 91888	LED HOLDER
407	4822 445 30228	FRONT
408	4822 466 40637	MOUNTING STRIP
409	4822 454 12813	PLATE ORNAMENTAL
411	4822 450 61857	WINDOW
412	4822 158 20462	FERRITE COIL
413	4822 240 50321	WOOFER AD51602
416	4822 214 51989	DSP BOARD
417	4822 532 52454	FIXING STUD
418	4822 146 31105	MAINS TRAFO
420	4822 466 82923	RUBBER BLOCK
421	4822 280 70366	RELAY
423	4822 321 61536	COAX CABLE 75Ω
426	4822 492 63051	SPRING CLIP
427	4822 264 30327	CINCH PLUG 75Ω
428	4822 273 20367	ROTARY SWITCH
429	4822 267 41064	SOCKET
431	4822 458 30627	COOL ORNAMENTAL ASSY
432	4822 321 10845	CORD SET
432	4822 321 10865	CORD SET /05
432	4822 321 10825	CORD SET /17
433	4822 325 80498	BUSH
434	4822 410 60119	KNOB
436	4822 410 61963	POWER BUTTON
437	4822 492 61974	SPRING
438	4822 276 13224	POWER SWITCH
439	4822 458 30628	COOL ORNAM.ASSY DOWN
	4822 736 21363	I.F.U DSS930
	4822 218 10447	REMOTE CONT.RH6860

MISCELLANEOUS

1002	4822 214 51989	DSP BOARD
1250	4822 071 52002	FUSE T 2A
1250	4822 252 51121	FUSE T 2,5A /17
1251	4822 071 52002	FUSE T 2A
1251	4822 252 51121	FUSE T 2,5A /17
1252	4822 071 52002	FUSE T 2A
1252	4822 252 51121	FUSE T 2,5A /17
1253	4822 071 52002	FUSE T 2A
1253	4822 252 51121	FUSE T 2,5A /17
1401	4822 273 20367	ROTARY SWITCH
1402	4822 273 20367	ROTARY SWITCH
1405	4822 267 41064	SOCKET
1406	4822 071 55001	FUSE T 500MA
1406	4822 253 10146	FUSE T 500MA /17
1407	4822 071 55001	FUSE T 500MA
1407	4822 253 10146	FUSE T 500MA /17
1409	4822 276 13224	POWER SWITCH
1415	4822 252 51121	FUSE T 2,5A /17
1524	5322 255 44047	IC SOCKET 28P

CAPACITORS

2250	4822 124 40242	1µF 20% 63V
2251	4822 124 40177	47µF 20% 10V
2254	4822 122 10172	220pF 10% 50V
2255	4822 122 10172	220pF 10% 50V
2258	4822 124 40244	2,2µF 20% 63V
2259	4822 124 41997	470µF 10V
2260	4822 124 41643	100µF 20% 16V
2261	4822 124 41643	100µF 20% 16V
2262	4822 122 31435	470pF 10% 50V
2263	4822 122 10172	220pF 10% 50V
2264	4822 126 11307	180pF 10% 500V
2265	4822 126 11307	180pF 10% 500V
2266	4822 122 31693	560pF 10% 50V
2267	4822 122 31693	560pF 10% 50V
2268	4822 122 10173	820pF 10% 50V
2269	4822 122 10173	820pF 10% 50V
2270	4822 124 42151	100µF 50V
2271	4822 124 42151	100µF 50V
2273	4822 122 31435	470pF 10% 50V
2274	4822 126 11308	47pF 5% 500V
2275	4822 126 11308	47pF 5% 500V
2276	4822 124 41584	100µF 20% 10V
2277	4822 124 41584	100µF 20% 10V
2278	4822 124 41596	22µF 20% 50V
2279	4822 124 41596	22µF 20% 50V
2280	4822 122 31465	270pF 10%
2281	4822 122 31465	270pF 10%
2284	4822 121 43526	47nF 5% 100V
2285	4822 121 43526	47nF 5% 100V
2286	4822 126 11311	4,7nF 50V
2287	4822 126 11311	4,7nF 50V
2288	4822 126 11311	4,7nF 50V
2289	4822 126 11311	4,7nF 50V
2293	4822 124 40246	4,7µF 20% 63V
2303	4822 121 43875	47nF 5% 250V
2305	4822 124 41998	2200µF 50V
2306	4822 124 41998	2200µF 50V
2307	4822 121 43875	47nF 5% 250V
2309	4822 121 43875	47nF 5% 250V
2310	4822 121 42007	100nF 10% 100V
2311	4822 121 42007	100nF 10% 100V
2312	4822 121 42007	100nF 10% 100V
2326	4822 124 41986	3300µF 80V
2327	4822 124 41986	3300µF 80V
2401	5322 122 31865	1,5nF 10% 63V
2402	4822 122 31965	220pF 5% 63V
2403	4822 122 31759	18nF
2404	5322 122 31863	330pF 5% 50V
2405	4822 122 32442	10nF 50V
2406	4822 122 33496	100nF 10% 63V
2407	4822 122 33893	18nF 10% 63V
2408	4822 122 31965	220pF 5% 63V
2409	4822 122 33496	100nF 10% 63V
2410	5322 122 31863	330pF 5% 50V
2411	4822 122 33496	100nF 10% 63V
2412	4822 122 32542	47nF 10% 63V
2413	4822 121 43526	47nF 5% 100V
2415	4822 124 40784	3300µF 20% 16V
2416	4822 124 41525	100µF 20% 25V
2417	5322 124 21189	100µF 20% 40V
2418	4822 124 22263	220µF 20% 25V
2419	4822 122 33496	100nF 10% 63V
2420	5322 122 32659	33pF 5% 50V
2421	4822 122 33496	100nF 10% 63V
2422	4822 121 70087	47nF 250V
2424	4822 122 33496	100nF 10% 63V
2428	4822 122 33177	10nF 20% 50V
2429	4822 122 33177	10nF 20% 50V
2430	4822 122 33177	10nF 20% 50V
2431	4822 122 33177	10nF 20% 50V
2432	4822 122 33177	10nF 20% 50V
2433	4822 122 33496	100nF 10% 63V
2435	4822 122 33284	470pF 20% 400V DC
2436	4822 122 33284	470pF 20% 400V DC
2439	5322 122 31863	330pF 5% 50V
2500	4822 122 33177	10nF 20% 50V
2501	4822 122 33496	100nF 10% 63V
2502	4822 124 22027	47µF 20% 25V
2503	4822 122 33496	100nF 10% 63V
2504	4822 124 22027	47µF 20% 25V

2505	4822 124 22027	47µF 20% 25V
2506	5322 122 31866	6,8nF 10% 63V
2507	4822 121 42408	220nF 5% 63V
2508	5322 126 10223	4,7nF 10% 63V
2509	5322 122 32966	39pF 5% 50V
2510	5322 122 32965	18pF 5%NPO 50V
2511	4822 122 33177	10nF 20% 50V
2512	4822 122 33177	10nF 20% 50V
2513	4822 122 33496	100nF 10% 63V
2514	4822 124 40433	47µF 20% 25V
2515	4822 122 33496	100nF 10% 63V
2516	4822 124 40433	47µF 20% 25V
2517	4822 122 33496	100nF 10% 63V
2518	4822 124 40433	47µF 20% 25V
2519	4822 122 33496	100nF 10% 63V
2520	4822 124 40272	33µF 20% 16V
2521	4822 122 33496	100nF 10% 63V
2522	4822 124 40272	33µF 20% 16V
2523	4822 122 33496	100nF 10% 63V
2524	4822 124 40433	47µF 20% 25V
2525	4822 122 33496	100nF 10% 63V
2526	4822 122 33496	100nF 10% 63V
2527	4822 124 40433	47µF 20% 25V
2528	4822 122 33496	100nF 10% 63V
2529	4822 124 40435	10µF 20% 50V
2530	4822 122 33496	100nF 10% 63V
2531	4822 124 40433	47µF 20% 25V
2532	4822 122 33496	100nF 10% 63V
2533	4822 124 40435	10µF 20% 50V
2534	5322 122 32966	39pF 5% 50V
2535	5322 122 32966	39pF 5% 50V
2536	5322 122 32966	39pF 5% 50V
2537	5322 122 32966	39pF 5% 50V
2538	5322 122 32268	470pF 10% 50V
2539	5322 122 32268	470pF 10% 50V
2540	5322 122 32268	470pF 10% 50V
2541	5322 122 32268	470pF 10% 50V
2542	4822 121 51569	270pF 1% 400V
2543	4822 121 51569	270pF 1% 400V
2544	4822 121 51569	270pF 1% 400V
2545	4822 121 51569	270pF 1% 400V
2546	5322 122 34099	470pF 10% 63V
2547	5322 122 34099	470pF 10% 63V
2548	4822 122 33496	100nF 10% 63V
2549	4822 122 33496	100nF 10% 63V
2550	4822 124 40849	330µF 20% 16V
2551	4822 124 40849	330µF 20% 16V
2552	4822 121 50591	1nF 1% 630V
2553	4822 121 50591	1nF 1% 630V
2554	5322 122 34099	470pF 10% 63V
2555	5322 122 34099	470pF 10% 63V
2556	4822 121 51288	100pF 630V
2557	4822 121 51288	100pF 630V
2558	4822 122 33496	100nF 10% 63V
2559	4822 122 33496	100nF 10% 63V
2560	4822 124 40849	330µF 20% 16V
2561	4822 124 40849	330µF 20% 16V
2562	4822 124 41525	100µF 20% 25V
2563	4822 124 41525	100µF 20% 25V
2564	4822 124 22027	47µF 20% 25V
2566	5322 122 32452	47pF 5% 63V
2567	4822 124 22027	47µF 20% 25V
2568	4822 122 33496	100nF 10% 63V
2569	4822 122 33496	100nF 10% 63V
2570	5322 122 32654	22nF 10% 63V
2571	4822 124 22027	47µF 20% 25V
2572	4822 122 33496	100nF 10% 63V
2573	4822 122 33177	10nF 20% 50V
2574	4822 124 40435	10µF 20% 50V
2575	4822 121 42408	220nF 5% 63V
2580	4822 124 40435	10µF 20% 50V
2581	4822 124 40435	10µF 20% 50V
2582	4822 124 40435	10µF 20% 50V
2592	4822 124 22027	47µF 20% 25V
2593	4822 122 33496	100nF 10% 63V
2594	4822 122 33496	100nF 10% 63V
2595	4822 122 33496	100nF 10% 63V
2596	4822 122 33496	100nF 10% 63V
2597	4822 122 33496	100nF 10% 63V
2598	5322 122 32658	22pF 5% 50V
2599	5322 122 32658	22pF 5% 50V
2600	4822 124 40433	47µF 20% 25V
2601	5322 121 42386	100nF 5% 63V
2602	4822 124 22027	47µF 20% 25V
2603	4822 124 22027	47µF 20% 25V
2604	5322 122 32658	22pF 5% 50V
2605	5322 122 32658	22pF 5% 50V
2611	4822 122 33496	100nF 10% 63V
2612	4822 122 33496	100nF 10% 63V
2613	4822 122 33177	10nF 20% 50V
2614	4822 122 33177	10nF 20% 50V
2615	4822 122 33177	10nF 20% 50V
2616	4822 122 33177	10nF 20% 50V
2618	4822 122 33177	10nF 20% 50V
2619	4822 122 33177	10nF 20% 50V

RESISTORS

3254	4822 116 52224	470Ω 5% 0,5W
3255	4822 050 21002	1k 1% 0,6W
3258	4822 116 52224	470Ω 5% 0,5W
3259	4822 050 21002	1k 1% 0,6W
3260	4822 050 22203	22k 1% 0,6W
3261	4822 050 21003	10k 1% 0,6W
3265	4822 050 21002	1k 1% 0,6W
3266	4822 050 28209	82Ω 1% 0,6W
3267	4822 050 21801	180Ω 1% 0,6W
3268	4822 050 24702	4k7 1% 0,6W

3269	4822 050 21003	10k 1% 0,6W
3270	4822 053 10122	1k2 5% 1W
3271	4822 053 10122	1k2 5% 1W
3272	4822 052 10681	680Ω 5% 0,33W
3273	4822 052 10681	680Ω 5% 0,33W
3274	4822 050 22202	2k2 1% 0,6W
3275	4822 050 22202	2k2 1% 0,6W
3276	4822 052 10689	68Ω 5% 0,33W
3277	4822 052 10689	68Ω 5% 0,33W
3278	4822 053 12152	1k5 5% 3W
3279	4822 112 41112	1k5 5% 5,8W
3280	4822 053 10152	1k5 5% 1W
3282	4822 050 22202	2k2 1% 0,6W
3283	4822 050 22202	2k2 1% 0,6W
3284	4822 101 10927	TRIM 470Ω
3285	4822 101 10927	TRIM 470Ω
3286	4822 050 28201	820Ω 1% 0,6W
3287	4822 050 28201	820Ω 1% 0,6W
3288	4822 052 10302	3k 5% 0,33W
3289	4822 053 10302	3k 5% 1W
3290	4822 053 10222	2k2 5% 1W
3291	4822 053 11222	2k2 5% 2W
3293	4822 051 10101	100Ω 2% 0,25W
3294	4822 050 21501	150Ω 1% 0,6W
3295	4822 050 28209	82Ω 1% 0,6W
3296	4822 050 21501	150Ω 1% 0,6W
3297	4822 050 28209	82Ω 1% 0,6W
3298	4822 116 52217	270Ω 5% 0,5W
3299	4822 050 23901	390Ω 1% 0,6W
3300	4822 050 22202	2k2 1% 0,6W
3301	4822 050 24702	4k7 1% 0,6W
3302	4822 050 26801	680Ω 1% 0,6W
3303	4822 116 52224	470Ω 5% 0,5W
3304	4822 113 80596	0Ω33 5% 3W
3305	4822 113 80596	0Ω33 5% 3W
3306	4822 113 80596	0Ω33 5% 3W
3307	4822 113 80596	0Ω33 5% 3W
3310	4822 050 28203	82k 1% 0,6W
3311	4822 050 22203	22k 1% 0,6W
3313	4822 050 22203	22k 1% 0,6W
3314	4822 050 22202	2k2 1% 0,6W
3329	4822 116 52224	470Ω 5% 0,5W
3341	4822 050 22204	220k 1% 0,6W
3354	4822 116 52224	470Ω 5% 0,5W
3355	4822 116 52224	470Ω 5% 0,5W
3356	4822 051 10101	100Ω 2% 0,25W
3357	4822 051 10101	100Ω 2% 0,25W
3358	4822 052 10478	4Ω7 5% 0,33W
3359	4822 052 10478	4Ω7 5% 0,33W
3365	4822 050 22204	220k 1% 0,6W
3368	4822 052 10109	10Ω 5% 0,33W
3369	4822 052 10109	10Ω 5% 0,33W
3380	4822 052 10229	22Ω 5% 0,33W
3381	4822 052 10109	10Ω 5% 0,33W
3387	4822 113 80595	1k5 5% 3W
3401	4822 051 20339	33Ω 5% 0,1W
3402	4822 051 20271	270Ω 5% 0,1W
3403	4822 051 10102	1k 2% 0,25W
3404	4822 051 20332	3k3 5% 0,1W
3405	4822 051 20271	270Ω 5% 0,1W
3406	4822 051 10331	330Ω 2% 0,25W
3407	4822 051 20222	2k2 5% 0,1W
3408	4822 051 20222	2k2 5% 0,1W
3409	4822 051 20101	100Ω 5% 0,1W
3410	4822 051 20222	2k2 5% 0,1W
3411	4822 051 20221	220Ω 5% 0,1W
3412	4822 052 10478	4Ω7 5% 0,33W
3413	4822 051 20562	5k6 5% 0,1W
3414	4822 051 20222	2k2 5% 0,1W
3415	4822 051 20101	100Ω 5% 0,1W
3416	4822 051 20562	5k6 5% 0,1W
3417	4822 051 20223	22k 5% 0,1W
3418	4822 051 20271	270Ω 5% 0,1W
3419	4822 051 20223	22k 5% 0,1W
3420	4822 051 20224	220k 5% 0,1W
3421	4822 051 20224	220k 5% 0,1W
3422	4822 051 20221	220Ω 5% 0,1W
3423	4822 051 20123	12k 5% 0,1W
3424	4822 051 20334	330k 5% 0,1W
3425	4822 051 20334	330k 5% 0,1W
3426	4822 051 20223	22k 5% 0,1W
3428	4822 051 20103	10k 5% 0,1W
3429	4822 051 20222	2k2 5% 0,1W
3430	4822 051 20103	10k 5% 0,1W
3431	4822 051 20103	10k 5% 0,1W
3432	4822 051 20181	180Ω 5% 0,1W
3433	4822 051 20181	180Ω 5% 0,1W
3434	4822 051 10561	560Ω 2% 0,25W
3435	4822 051 20103	10k 5% 0,1W
3436	4822 051 20103	10k 5% 0,1W
3437	4822 051 10562	5k6 2% 0,25W
3438	4822 051 10562	5k6 2% 0,25W
3439	4822 051 20225	2M2 5% 0,1W
3440	4822 051 20223	22k 5% 0,1W
3441	4822 052 10228	2Ω2 5% 0,33W
3442	4822 052 10228	2Ω2 5% 0,33W
3443	4822 051 20105	1M 5% 0,1W
3444	4822 051 20153	15k 5% 0,1W
3445	4822 051 10561	560Ω 2% 0,25W
3446	4822 051 10561	560Ω 2% 0,25W
3447	4822 051 10561	560Ω 2% 0,25W
3448	4822 051 10561	560Ω 2% 0,25W
3449	4822 051 10561	560Ω 2% 0,25W
3450	4822 050 23301	330Ω 1% 0,6W
3451	4822 050 23301	330Ω 1% 0,6W
3452	4822 050 22402	2k4 1% 0,6W
3453	4822 050 22402	2k4 1% 0,6W
3454	4822 050 22002	2k 1% 0,6W

3455	4822 050 22002	2k 1% 0,6W
3456	4822 050 21801	180Ω 1% 0,6W
3457	4822 050 21801	180Ω 1% 0,6W
3458	4822 050 22701	270Ω 1% 0,6W
3459	4822 050 22701	270Ω 1% 0,6W
3460	4822 050 22709	27Ω 1% 0,6W
3461	4822 050 22709	27Ω 1% 0,6W
3462	4822 050 21002	1k 1% 0,6W
3463	4822 050 21002	1k 1% 0,6W
3464	4822 050 21002	1k 1% 0,6W
3465	4822 051 10102	1k 2% 0,25W
3466	4822 050 21002	1k 1% 0,6W
3467	4822 050 21002	1k 1% 0,6W
3468	4822 050 21002	1k 1% 0,6W
3469	4822 050 21002	1k 1% 0,6W
3471	4822 051 20472	4k7 5% 0,1W
3472	4822 051 20564	560k 5% 0,1W
3473	4822 050 21501	150Ω 1% 0,6W
3474	4822 051 20103	10k 5% 0,1W
3475	4822 051 10102	1k 2% 0,25W
3480	4822 051 20225	2M2 5% 0,1W
3481	4822 051 10104	100k 2% 0,25W
3482	4822 051 10105	1M 5% 0,25W
3483	4822 051 20109	10Ω 5% 0,1W
3500	4822 051 20271	270Ω 5% 0,1W
3501	4822 051 20271	270Ω 5% 0,1W
3502	4822 051 20104	100k 5% 0,1W
3503	4822 052 10228	2Ω2 5% 0,33W
3504	4822 051 20392	3k9 5% 0,1W
3505	4822 051 20122	1k2 5% 0,1W
3506	4822 051 20103	10k 5% 0,1W
3507	4822 051 20153	15k 5% 0,1W
3508	4822 051 20689	68Ω 5% 0,1W
3509	4822 051 20224	220k 5% 0,1W
3510	4822 051 10102	1k 2% 0,25W
3511	4822 050 23902	3k9 1% 0,6W
3512	4822 051 20682	6k8 5% 0,1W
3513	4822 051 20104	100k 5% 0,1W
3514	4822 052 10228	2Ω2 5% 0,33W
3515	4822 052 10228	2Ω2 5% 0,33W
3516	4822 052 10228	2Ω2 5% 0,33W
3517	4822 052 10228	2Ω2 5% 0,33W
3518	4822 051 10101	100Ω 2% 0,25W
3519	4822 051 10101	100Ω 2% 0,25W
3520	4822 052 10228	2Ω2 5% 0,33W
3521	4822 050 22403	24k 1% 0,6W
3522	4822 050 23003	30k 1% 0,6W
3523	4822 050 23003	30k 1% 0,6W
3524	4822 050 23003	30k 1% 0,6W
3525	4822 050 23003	30k 1% 0,6W
3526	4822 050 25102	5k1 1% 0,6W
3527	4822 050 25102	5k1 1% 0,6W
3528	4822 050 25102	5k1 1% 0,6W
3529	4822 050 25102	5k1 1% 0,6W
3530	4822 050 21003	10k 1% 0,6W
3531	4822 050 21003	10k 1% 0,6W
3532	4822 050 21003	10k 1% 0,6W
3533	4822 050 21003	10k 1% 0,6W
3534	4822 050 24709	47Ω 1% 0,6W
3535	4822 050 24709	47Ω 1% 0,6W
3536	4822 050 25602	5k6 1% 0,6W
3537	4822 050 25602	5k6 1% 0,6W
3538	4822 050 27502	7k5 1% 0,6W
3539	4822 050 27502	7k5 1% 0,6W
3540	4822 050 25602	5k6 1% 0,6W
3541	4822 050 25602	5k6 1% 0,6W
3542	4822 050 27502	7k5 1% 0,6W
3543	4822 050 27502	7k5 1% 0,6W
3544	4822 050 24709	47Ω 1% 0,6W
3545	4822 050 24709	47Ω 1% 0,6W
3546	4822 050 21003	10k 1% 0,6W
3547	4822 050 21003	10k 1% 0,6W
3548	4822 116 52244	15k 5% 0,5W
3549	4822 116 52244	15k 5% 0,5W
3550	4822 116 52244	15k 5% 0,5W
3551	4822 051 20472	4k7 5% 0,1W
3552	4822 051 20472	4k7 5% 0,1W
3553	4822 051 20472	4k7 5% 0,1W
3557	4822 051 20103	10k 5% 0,1W
3558	4822 050 21003	10k 1% 0,6W
3559	4822 051 20103	10k 5% 0,1W
3561	4822 051 20223	22k 5% 0,1W
3565	4822 051 20392	3k9 5% 0,1W
3566	4822 051 20221	220Ω 5% 0,1W
3567	4822 050 24709	47Ω 1% 0,6W
3568	4822 050 24709	47Ω 1% 0,6W
3569	4822 051 10103	10k 2% 0,25W
3570	4822 052 10228	2Ω2 5% 0,33W
3571	4822 051 20105	1M 5% 0,1W
3572	4822 050 13303	33k 1% 0,4W
3573	4822 051 20473	47k 5% 0,1W
3574	4822 051 10102	1k 2% 0,25W
3576	4822 051 10102	1k 2% 0,25W
3577	4822 051 20473	47k 5% 0,1W
3578	4822 051 10102	1k 2% 0,25W
3579	4822 051 20473	47k 5% 0,1W
3580	4822 051 10102	1k 2% 0,25W
3581	4822 051 20473	47k 5% 0,1W
3582	4822 051 10102	1k 2% 0,25W
3583	4822 051 20473	47k 5% 0,1W
3584	4822 051 10102	1k 2% 0,25W
3585	4822 051 20473	47k 5% 0,1W
3586	4822 051 10102	1k 2% 0,25W
3587	4822 051 20473	47k 5% 0,1W
3588	4822 051 10102	1k 2% 0,25W
3589	4822 051 10473	47k 2% 0,25W
3590	4822 050 21002	1k 1% 0,6W
3591	4822 051 20473	47k 5% 0,1W

3592	4822 051 10102	1k 2% 0,25W
3593	4822 051 20473	47k 5% 0,1W
3594	4822 051 10102	1k 2% 0,25W
3595	4822 051 20473	47k 5% 0,1W
3597	4822 051 20103	10k 5% 0,1W
3598	4822 051 10101	100Ω 2% 0,25W
3599	4822 051 20472	4k7 5% 0,1W
3600	4822 116 52244	15k 5% 0,5W
3601	4822 051 10008	0Ω 5% 0,25W
3602	4822 051 10008	0Ω 5% 0,25W
3603	4822 051 10008	0Ω 5% 0,25W
3604	4822 051 10008	0Ω 5% 0,25W
3605	4822 051 10008	0Ω 5% 0,25W
3606	4822 051 10008	0Ω 5% 0,25W
3607	4822 051 10008	0Ω 5% 0,25W
3608	4822 051 10008	0Ω 5% 0,25W
3609	4822 051 10102	1k 2% 0,25W
3610	4822 051 20101	100Ω 5% 0,1W
3611	4822 051 10008	0Ω 5% 0,25W
3612	4822 051 20332	3k3 5% 0,1W
3614	4822 050 21002	1k 1% 0,6W
3615	4822 051 10102	1k 2% 0,25W
3616	4822 051 20472	4k7 5% 0,1W
3619	4822 051 20101	100Ω 5% 0,1W
3620	4822 100 11348	1k 30%LIN
3621	4822 100 11348	1k 30%LIN
3624	4822 051 20392	3k9 5% 0,1W
3625	4822 051 20392	3k9 5% 0,1W
3626	4822 051 20822	8k2 5% 0,1W
3627	4822 051 20393	39k 5% 0,1W
3628	4822 051 20471	470Ω 5% 0,1W
3629	4822 051 20332	3k3 5% 0,1W
3630	4822 050 22201	220Ω 1% 0,6W
3631	4822 050 22201	220Ω 1% 0,6W

COILS

5001	4822 146 31105	TRAFO
5250	4822 280 70366	RELAY
5252	4822 157 62255	COIL 18,5 TURNS
5253	4822 157 62255	COIL 18,5 TURNS
5500	4822 156 30492SW	COIL
5501	4822 242 72527	CST 4 MHz
5520	4822 242 81217	CST 27MHz

DIODES

6251	4822 130 34499	BZX79-C20
6252	4822 130 61219	BZX79-C10
6253	4822 130 61219	BZX79-C10
6257	4822 130 30842	BAV21
6259	5322 130 34563	BZX79-C2V7
6261	4822 130 80235	BZX79-C3V3
6263	4822 130 30842	BAV21
6268	4822 130 30621	1N4148
6269	4822 130 30621	1N4148
6270	4822 130 30621	1N4148
6273	4822 130 34167	BZX79-C6V2
6283	4822 130 82079	D3SBA20
6284	4822 130 82079	D3SBA20
6292	4822 130 30621	1N4148
6293	4822 130 30621	1N4148
6294	4822 130 30621	1N4148
6295	4822 130 30621	1N4148
6296	4822 130 30621	1N4148
6301	4822 130 83032	BYV28-50/20
6303	4822 130 83032	BYV28-50/20
6307	4822 130 30621	1N4148
6311	4822 130 30621	1N4148
6318	4822 130 30621	1N4148
6320	4822 130 30621	1N4148
6334	4822 130 30621	1N4148
6340	4822 130 30621	1N4148
6341	4822 130 30861	BZX79-C7V5
6401	4822 130 80937	BAV74
6402	4822 130 34174	BZX79-C4V7
6403	4822 130 30621	1N4148
6404	5322 130 30684	1N4002
6405	5322 130 30684	1N4002
6406	5322 130 30684	1N4002
6407	5322 130 30684	1N4002
6408	4822 130 30621	1N4148
6409	4822 130 30621	1N4148
6411	4822 209 72895	LED TLUV5300
6412	4822 130 83065	LED TLHY6405BT12Z
6413	4822 130 83064	LED TLHR6405BT12Z
6414	4822 214 52009	GP1U58XP
6415	4822 130 30621	1N4148
6416	4822 130 30621	1N4148
6500	4822 130 31129	BB212
6502	4822 130 30621	1N4148
6503	4822 130 30621	1N4148
6504	4822 130 30621	1N4148
6505	4822 130 30621	1N4148
6506	4822 130 30621	1N4148
6507	4822 130 34281	BZX79-C15
6508	4822 130 30621	1N4148
6509	4822 130 30621	1N4148
6510	4822 130 30621	1N4148
6511	4822 130 30621	1N4148
6512	4822 130 30621	1N4148
6513	4822 130 30621	1N4148
6514	4822 130 30621	1N4148
6515	4822 130 30621	1N4148
6516	4822 130 30621	1N4148
6517	4822 130 30621	1N4148

6520	4822 130 30621	1N4148
6521	4822 130 30621	1N4148
6522	4822 130 30621	1N4148
6523	4822 130 30621	1N4148
6530	4822 130 30621	1N4148
6531	4822 130 30621	1N4148

TRANSISTORS & IC's

7254	4822 130 44197	BC558B
7255	4822 209 83274	NJM4560D
7256	4822 130 41691	BC556B
7257	4822 130 41691	BC556B
7258	5322 130 44413	BF457
7259	5322 130 44413	BF457
7260	4822 130 40937	BC548B
7261	4822 130 40937	BC548B
7263	4822 130 44503	BC547C
7264	4822 130 40937	BC548B
7265	4822 130 40937	BC548B
7266	4822 130 44197	BC558B
7267	4822 130 44197	BC558B
7268	5322 130 42363	BDT63B
7269	4822 130 62269	BDT65C
7271	4822 130 62268	BDT64
7273	4822 130 62268	BDT64
7274	5322 130 44926	BDT62B
7275	5322 130 61575	BDT64C
7280	4822 130 44461	BC546B
7281	4822 130 40937	BC548B
7401	4822 209 30704	MC74HCU04D
7402	4822 209 31615	LM324AD
7403	4822 130 42616	BC818-40
7404	5322 130 42136	BC848C
7405	4822 130 61207	BC848
7406	5322 130 61573	BD676
7407	4822 209 72554	MC7808CT
7408	4822 209 82112	MC7908CT
7409	4822 209 71579	TY40408
7410	4822 209 71579	TY40408
7412	4822 130 61207	BC848
7413	4822 130 61207	BC848
7414	4822 130 61207	BC848
7415	4822 130 61207	BC848
7416	5322 130 41982	BC848B
7417	5322 130 41982	BC848B
7500	4822 209 30718	M51581FP
7501	4822 209 30704	MC74HCU04D
7502	4822 130 63046	BF496
7503	4822 209 31381	SM5840AP
7504	4822 209 31086	SAA7350
7505	4822 209 83163	LM833N
7506	4822 209 83163	LM833N
7507	4822 209 31483	MICRO COMPUTER
7508	4822 209 31378	NJM4556M
7509	5322 130 42012	BC858
7510	5322 130 42012	BC858
7511	5322 130 42012	BC858
7512	5322 130 42012	BC858
7513	4822 130 42616	BC818-40
7514	4822 130 42616	BC818-40
7515	4822 130 42616	BC818-40
7516	4822 130 42616	BC818-40
7517	4822 130 42616	BC818-40
7518	4822 130 42616	BC818-40
7519	4822 130 42616	BC818-40
7520	4822 130 42616	BC818-40
7521	5322 130 42012	BC858
7525	4822 209 83163	LM833N
7526	4822 130 61207	BC848
7527	5322 130 42012	BC858
7528	4822 130 61207	BC848
7529	4822 130 42616	BC818-40
7530	4822 130 42616	BC818-40
7550	4822 209 31379	XSP56001FE27
7551	4822 209 31377	TMS27PC256-20NL

Service
Service
Service

Product Service Group CE Audio

Service Information

GB
To adapt the service manual the following sheets have been added/changed.

F
Afin de pouvoir adapter le "manual service" les feuillets suivants ont été soit modifiés, soit ajoutés.

NL
Voor het aanpassen van de service manual zijn de onderstaande pagina's toegevoegd/gewijzigd.

D
Zür anpassung des Service Manual sind die nachstehenden Seiten hinzugefügt/geändert.

I
Le seguenti pagine sono state cambiate/aggiunte allo scopo di adattare il Manuale di Servizio.

ADAPTION OF SERVICE MANUAL 70DSS930 Codnr:4822 725 23911

DSS 930 : Service values for woofer & tweeter trimming.

1. Measurement setup.

Requiered apparatus : 1 Digital System Controller : DSC 950
1 Sine-generator.
1 AC (milli)Voltmeter (20kohm/V) (Freqrange : 20...20kHz.)

Settings : *DSC950 : Source : CD, analog input., Right Channel, Speakers A ON.
Level Adjust : 0 dB.
Compensation : ON. (Red LED shining.)
Volume : -20 dB.
Balance : Mid.

*Sine Generator : Woofer trimming : f = 700 Hz. Level : 0.5 Vrms.
Tweeter trimming : f = 7 kHz. Level : 0.5 Vrms.
*DSS 930: System A, Channel Right,Dummy load (75 ohm) at output terminal.

2.Remark.

As the woofer sensitivity remains ratherly constant during production, it will be almost unneccesary to trim the woofer sensitivity adjust potentiometer.
Only the tweeters for service will have a sticker whereon is mentioned the sensitivity.
The woofers for service use are exactly the same as those used for production of the DSS 930.
The tweeters are specially selected ones, each carefully measured.

3.Procedure.

When the whole setup is switched on, a 700 Hz. must come out of the woofers.
The measured voltage across the amplifier output terminals must be :
If a woofer must be replaced, watch out for correctly phase connecting. The + (red dot) of the woofer must be connected with the hot side of the amplifier.
Idem for the tweeter.
Voltages are measured with speakers connected.

Adjust the tweeter level referring to the following table :
This level must be measured across the amplifier output terminals.

*Voltage on woofer terminals : @ 0.7 kHz. : 1.403 Vrms. Adjust with R3620

*Voltage on tweeter terminals @ 7.0 kHz. Adjust with R3621

Sensitivity	Level
91.0 dB --->	0.860 Vrms.
90.5 ---------->	0.911
90.0 ---------->	0.956
89.5 ---------->	1.023
89.0 ---------->	1.084
88.5 ---------->	1.148
88.0 ---------->	1.216
87.5 ---------->	1.287
87.0 ---------->	1.363
86.5 ---------->	1.444
86.0 ---------->	1.529

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Product Service Group CE Audio

Service Information

During production the following changes were made :

70DSS930 all version

To improve reduction radiation change:
- capacitor item 2403 from 18nF to 33nF 4822 112 31981
- capacitor item 2407 from 18nF to 22nF 5322 122 32654
- resistor item 3574 change from 1k to 10R 4822 051 20109
- delete capacitor item 2435,2436
- add on dsp motherboard capacitor item 2620 10nF 4822 122 33177 between pin 3 plug 1500 and massa.
- add on dsp motherboard capacitor item 2630 10nF 4822 122 33177 between pin 1 plug 1501 and massa.

To improve safety requirements capacitor item 2422 change from 47nF to 0,01µF 4822 121 70087

To improve adaption for functionality of DSS-Link change :
- capacitor item 2405 from 10nF to 18nF 4822 122 31759
- capacitor item 2410 from 330pF to 8,2nF 4822 122 33336
- resistor item 3410 from 1/10W to 1/8W 2k2 4822 051 20222
- resistor item 3423 from 12k to 6k8 4822 051 20682
- resistor item 3481 from 100k to 12k 4822 051 10123
- resistor item 3482 from 1M to 330k 4822 051 10334
- resistor item 3566 from 220R to 180R 4822 051 20181
- resistor item 3626 from 8k2 to 2k7 4822 051 20272
- resistor item 3627 from 39k to 12k 4822 051 20123

Service
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Service

Product Service Group CE Audio

Service Information

The 70DSS930 the Japan version **/06B** has been introduced
We refer to the Service manual 70DSS930 codnr.4822 725 23911 ,except the following changes:

Position	Codenumber	Description
418	4822 146 31197	MAINS TRAFO /06
432	4822 321 10919	CORD SET /06

70DSS930
A92-266

Service
Service
Service

Product Service Group CE Audio

Service Information

During production the following changes were made :

70DSS930 all version

To improve reduction radiation change:
capacitor item 2403 from 18nF to 33nF 4822 112 31981
capacitor item 2407 from 18nF to 22nF 5322 122 32654
resistor item 3574 change from 1k to 10R 4822 051 20109
delete capacitor item 2435,2436
add on dsp motherboard capacitor item 2620 10nF 4822 122 33177 between pin 3 plug 1500 and massa.
add on dsp motherboard capacitor item 2630 10nF 4822 122 33177 between pin 1 plug 1501 and massa.

To improve safety requirements capacitor item 2422 change from 47nF to 0,01µF 4822 121 70087

To improve adaption for functionality of DSS-Link change :
capacitor item 2405 from 10nF to 18nF 4822 122 31759
capacitor item 2410 from 330pF to 8,2nF 4822 122 33336
resistor item 3410 from 1/10W to 1/8W 2k2 4822 051 20222
resistor item 3423 from 12k to 6k8 4822 051 20682
resistor item 3481 from 100k to 12k 4822 051 10123
resistor item 3482 from 1M to 330k 4822 051 10334
resistor item 3566 from 220R to 180R 4822 051 20181
resistor item 3626 from 8k2 to 2k7 4822 051 20272
resistor item 3627 from 39k to 12k 4822 051 20123

1992-09-02 4822 725 23935

PCS 57 802