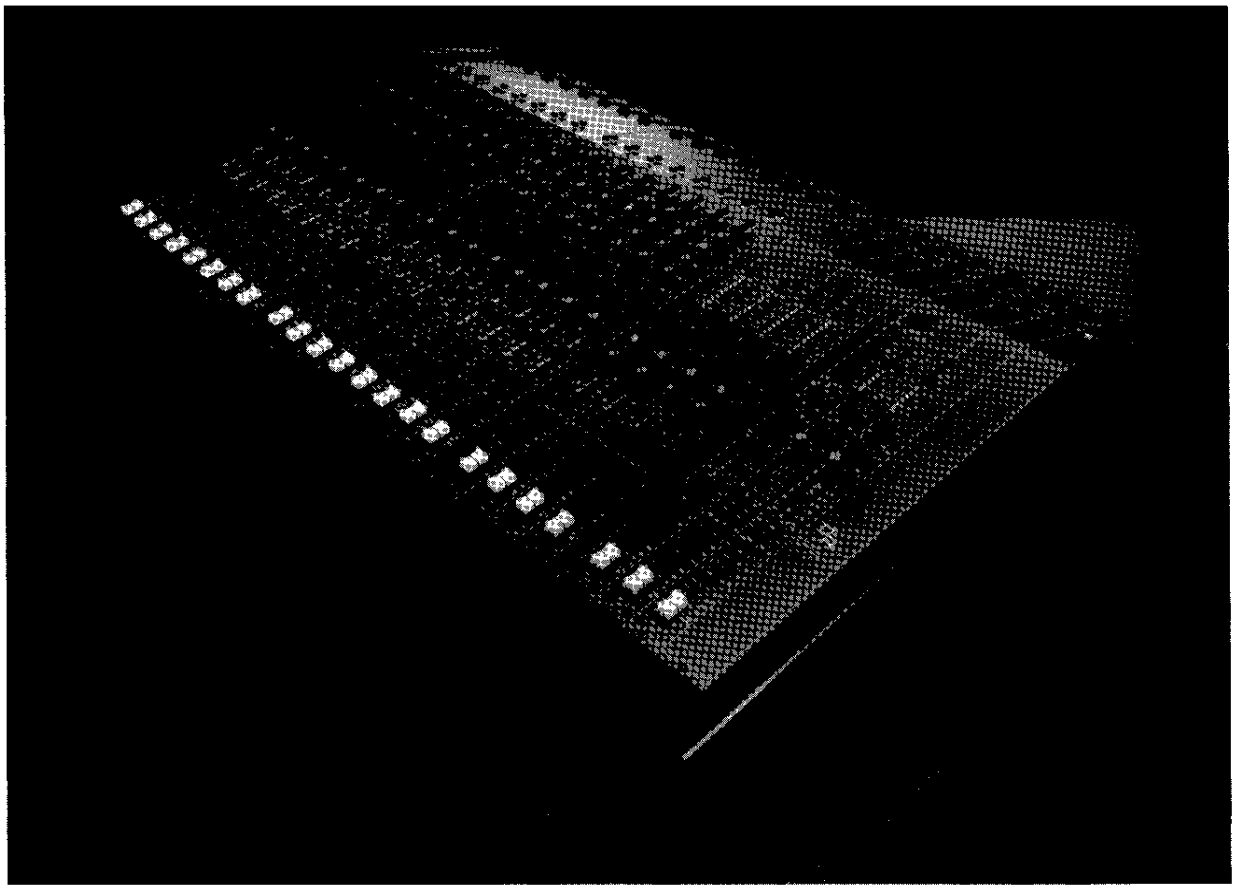
"900 SERIES"

USER MANUAL



Series 900

The D ¢ R series 900 is the latest development in mixing desk design. It was designed to supply the increased demand for a 4 and 8 output PA / recording desk.

The 900 series are housed in fantastic consoles. With optional V.U.housing it gives you together with the 100 mm faders an attractive, professional desk.
To give more insight into the capabilities of the desk we shall begin by describing the input channel.

Each channel has as standard an extremely low-noise, electronically balanced mic-amp on XLR with high hum rejection, utilizing the succesful combination of bi-polar low-noise P.N.P.transistors with high slew-rate Bi-Fet opamps. This low-noise input-stage is bypassed by the mic/ line switch which changes the XLR input into an unbalanced line-level input.

In the last 4 or 8 channels (depending on your order) a remix switch is fitted, which brings in the multitrack signal without patching.

Beside the XLR input there is also an "insert" jack for insertion of ancillary equipment such as compressors, noise gates, extra equalizers and so on. The gain control has a range of more than 40 dB which is sufficient for any incoming signal.

The equalizer section spans the whole audio spectrum, the high shelves at 10 kHz and the low at 70 Hz, whilst the mid-section is sweepable from 200 Hz to 7000 Hz, an enormous range. An equalizer on/ off switch is optional.

The desk has 3 Aux sends. Aux 1 is intended to be used as foldback send and therefore wired pre-fader. Aux 2 and 3 are intended to be used as effect sends.

The pan-pot adjusts the signal from left to right with a decrease of -3 dB down in the centre which is standard studio practice for mono compatability.

Below the pan-pot is the routing section which can simultaneously send the signal to all the outputs if desired. On a desk with 4 group outputs routing facility, 5 to 8 is not fitted (it can be fitted later if desired).

Then there is the solo switch for pre-fade listening of the signal and the mute switch. A peak led lights when the signal is +4 dB below clipping level. The 900 series has a carbon track, long travel fader, which is extremely smooth in operation.

Subgroup

The 900 series have 4 or 8 very comprehensive subgroups. Each subgroup has an in and output for the multitrack recorder with an input sensitivity of -10 dBV (0 dBu is optional).

Insertion on the subgroup is made by the "insert" jack while a 13-segment ledbar can be switched between the in and output of the multitrack.

Beside the monitoring level and the pan-pot, the output group has all the Aux sends as do the channels, which makes this desk a pleasure to use. Another innovative feature is the "sub" switch.

When normally a desk of this type is used in P.A.situations with subgrouping, the signal has to pass the monitor pot and pan-pot as well. In the 900 series the signal coming from the channel will pass only the subgroup fader and feeds directly the master mixing amps (subgroup 1-3-5-7 to left and subgroup 2-4-6-8 to right). The monitoring section is now available as effect return.

The tape switch of the multitrack signal makes a stereo master monitoring possible. The solo switch speaks for itself and a 100 mm long travel fader completes the subgrouping.

The master section has three long travel faders, one for Aux 1 and the other two for master left and right. These 3 master sections have electronically balanced outputs on XLR connectors. The Aux sends 2 and 3 have rotary master controls.

Monitoring is done through a stereo (headphone) amp with a stereo/mono comparison switch and a two-track switch to monitor the recorded stereo mixdowns. A balanced talkback-amp with XLR input is standard. The returns of Aux 2 and 3 have pan-pots and routing and their own solo switches. The master ledbars are of the peak reading type, as opposed to the subgroup ledbars which have a VU type characteristic.

All the electronics include the very latest development in low-noise, high-output, Bi- Fet op-amps. A completely new approach to limiting of above audio frequencies, through passive filtering (in place of the standard active filtering) gives this console an incredible transparancy through its absence of transient distortion.

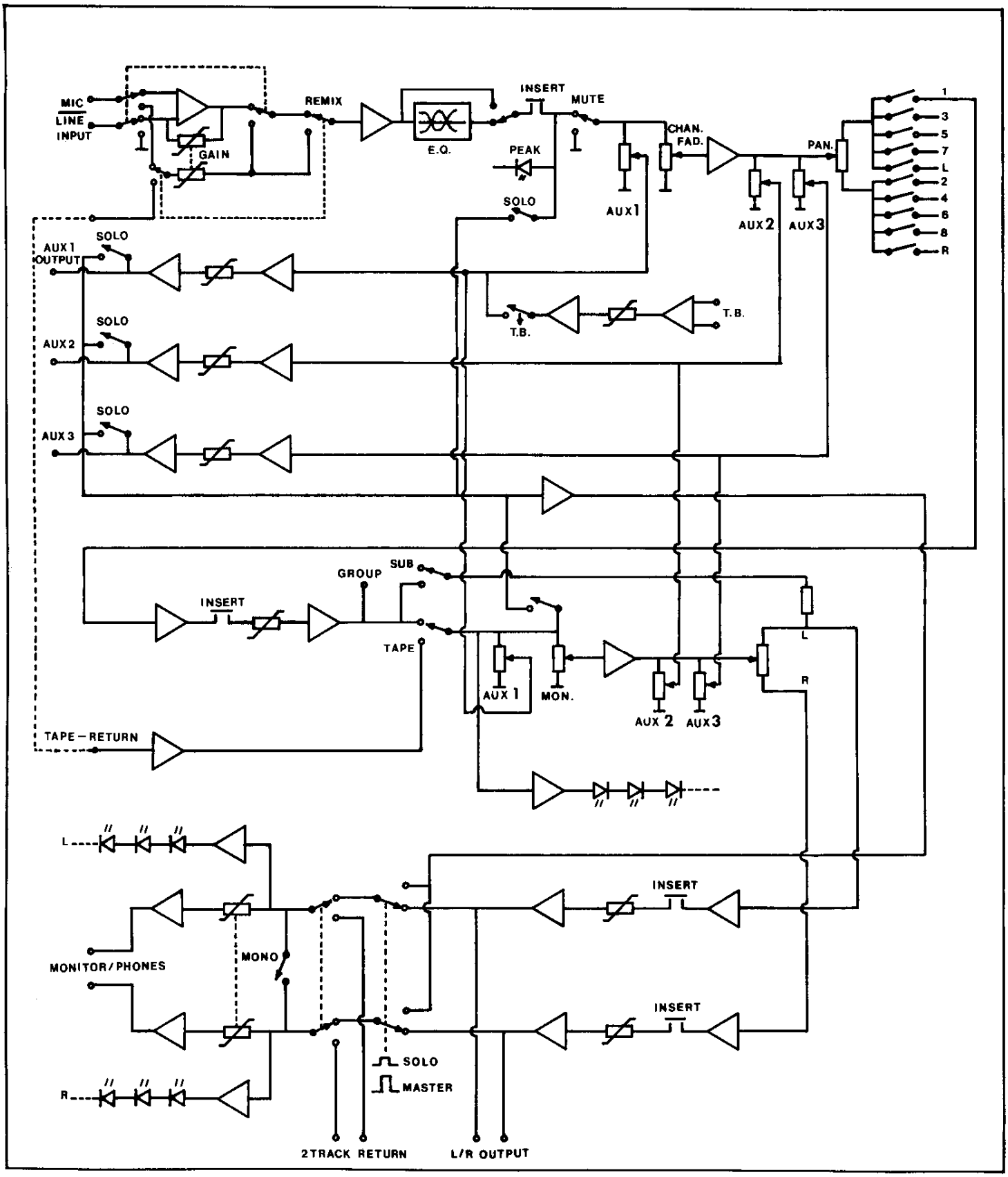
We critically damped every integrated circuit at 40.000 Hz square wave (to achieve complete elimination of overshoot and or ringing and slewing). This way of designing the electronics in our mixing consoles contributes to their superb transparency throughout the audio range.

Cosmetics

The desk itself is a marvelous combination of dark-grey coloured inerasable lettering. The mixer is housed in an attractive, veneered console but can also be delivered mounted in a flightcase, or with a mounted eye-level housing intended for V.U. and phase meters.

The mixer is available in the following configurations:

8 into 4 into 2
16 into 4 into 2
24 into 4 into 2
16 into 8 into 2
24 into 8 into 2


MIC
LINE
INPUT
GAIN
REMIX
E.Q.
INSERT
MUTE
PEAK
SOLO
AUX1
CHAN. FAD.
PAN.
AUX2
AUX3
1
3
5
7
L
2
4
6
8
R
AUX1 OUTPUT
SOLO
AUX2
AUX3
T.B.
GROUP
SUB
INSERT
TAPE
MON.
TAPE – RETURN
MONITOR/PHONES
MONO
SOLO
MASTER
2TRACK RETURN
L/R OUTPUT

SPECIFICATIONS

INPUTS

mic impedance 2 kOhm balanced CMMR at 50 Hz -70 dB
line impedance 10 kOhm unbalanced
max mic input sensitivity -70 dBu
max line input sensitivity -20 dBu
Aux returns -10 dBu at 10 kOhm
tape in -10 dBv (0 dBu optional) at 10 kOhm

INSERTS

0 dBu at 100 Ohm output impedance and 10 kOhm input impedance

OUTPUTS

left/right/Aux 1/2/3 : +4 dBu at 100 Ohm balanced
subgroup 0 dBu at 100 Ohm unbalanced

NOISE

mic input at max gain -126,5 dB 20 - 20.000 Hz
output noise master fader down -92 dBu
output noise master fader up -78 dBu (16 channels)

FREQUENCY RESPONSE

20 - 20.000 Hz 0,025 dB (-3 dB at 80.000 Hz)

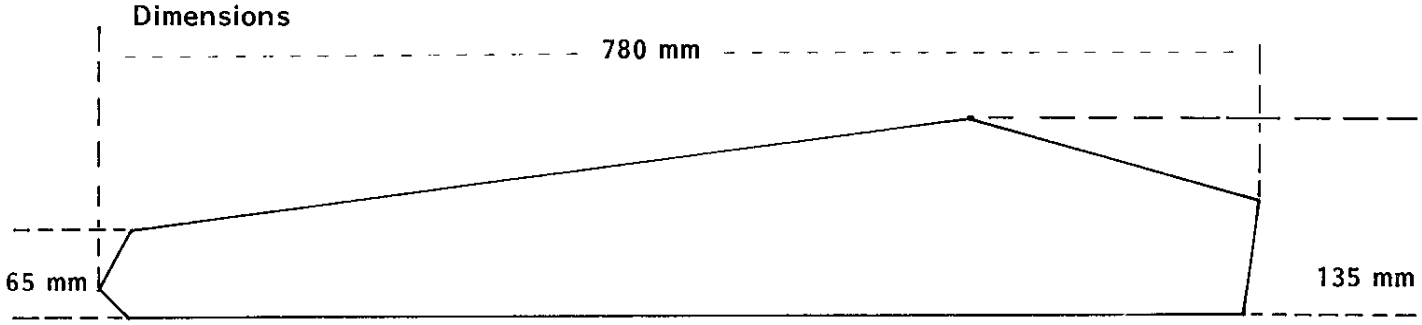
EQUALISATION

± 18 dB at 15.000 Hz shelve (± 16 dB at 10 kHz)
± 18 dB from 200 Hz to 7000 Hz bell curve Q 2,5
± 18 dB at 50 Hz shelve (± 16 dB at 70 Hz)

OVERALL

total harmonic distortion less than 0,039 % or less at any level
max gain through desk 84 dB
after the channel fader is 10 dB of gain available.

Dimensions



Width

8-4-2	740 mm
16-4-2	1080 mm
24-4-2	1420 mm
16-8-2	1260 mm
24-8-2	1600 mm

Options

A.L.P.S. faders
Penny and Giles faders
stereo channels(with R.I.A.A.)
extra monitor returns in subgroup
fader start switches

We reserve the right to modify or change designs without prior notice.

Zojuist heeft u een mengtafel van het merk D / R in ontvangst genomen . De gebruikte onderdelen zijn van hoge kwaliteit en staan in voor een lange levensduur en betrouwbare werking van Uw mengpaneel.

Wanneer na het bestuderen van deze handleiding nog vragen rijzen, aarzelt U dan niet kontakt met ons op te nemen,ook ingeval van mogelijke storingen. Wij zullen al het mogelijke doen om U tot volledige tevredenheid te stemmen.

Wij wensen U een langdurig en creatief gebruik van dit mengpaneel.

D / R Electronica BV
BEDIENINGORGANEN

BEDIENINGSORGANEN EN HUN FUNCTIES

MIC

De microfooningang van de 900 serie is standaard voorzien van XLR type connectoren zonder vergrendeling. De aansluiting van de microfoon behoort als volgt te geschieden.
pin 1. aarde
pin 2. in faze signaal.
pin 3. uit faze signaal.
De microfooningang is geschikt voor symmetrische aansluiting van microfoons. Alleen deze vorm van aansluiten garandeert U een storingsvrije weergave. Asymmetrische of ongebalanceerde aansluiting is ook mogelijk, dan laat U Pin 3 vrij. Deze vorm van aansluiten heeft geen invloed op de versterking;alleen het stooronderdrukkingsvermogen van de electronisch gebalanceerde mic-versterker wordt op deze wijze niet benut. Dus 2 binnen aders in uw microfoonkabel betekent symmetrisch en 1 binnenader a- symmetrisch. De microfooningang is geschikt voor laag-ohmige microfoons met impedantie van 200 - 600 Ohm.

LINE

Lijn niveau signalen (van taperecorders/ versterkers) kunnen eveneens op de XLR connector aangesloten worden. Voorwaarde is wel dat de microfoon/ lijn schakelaar ingedrukt is.
De lijningang is a-symmetrisch en als volgt bedraad:
1. aarde
2. signaal
3. pin 3 ligt evenals pin 1 aan aarde.

REMIX

De remix schakelaar zult U alleen in de laatste 4/ 8 kanalen vinden. Deze schakelaar verbindt het betreffende kanaal met de tape return jack in het sub gedeelte, bijvoorbeeld bij een in 4 tafel , sub 4 met de remix toets van het laatste kanaal, sub 3 met de voorlaatste remix toets enz. De remix functie is niet anders dan een extra line ingang van een kanaal.

GAIN

Deze knop zorgt voor de aanpassing van alle binnenkomende signalen aan het nominale niveau in de mengtafel wat 0 dBu is (0,775 Volt). Ieder signaal dat binnenkomt moet zo ingeregeld worden dat de kanaalfader in het gearceerde gebied gezet kan worden. Bij extreem sterke microfoonsignalen kan door omschakelen naar "line" de gevoeligheid verder verlaagd worden.

INSERTION

Deze stereo jack aansluiting heeft als doel U de mogelijkheid te geven om randapparatuur per kanaal aan te sluiten. Wij hebben in ons programma een hele range geschikte randapparatuur zoals compressors, noise gates, parametrische equalizers etc., welke ideaal aanpassen op dit insertie punt. Het insertiepunt is opgenomen na de equalizer. De aansluiting is als volgt:Tip:uitgaand signaal, Ring: terugkomend signaal. Bij aansluiting van de stereo jack op een randapparaat zult U absoluut 2-aderig individueel afgeschermde kabel moeten gebruiken, daar anders de in en uitgang van het aangesloten apparaat in een afscherming ligt, wat mogelijk oscillatie teweeg kan brengen. Geschikte kabel is bijvoorbeeld 2-aderig pick-up kabel. U kunt ook het insertiepunt gebruiken om een pre-fader signaal af te nemen zonder de signaalketen te onderbreken. U soldeert de top en de ring van de stereojack aan elkaar, samen met de signaal draad.

TOONREGELING

Hoogregeling : De hoge tonen regeling heeft een zeer ruim regelbereik van + en - 18 dB bij 15.000 Hz. Het is wel zaak om deze extreme regel mogelijkheid met zorg te gebruiken. Indien U fors hoog ophaalt zonder dat voldoende program-informatie aanwezig is in dit gebied, zal dit resulteren in een toename van de grondruis welke wel versterkt wordt, terwijl het aanwezige signaal in een ander frequentie-gebied zit.

De midden toonregeling is van het type sweep equalizer. Dit betekent dat U niet alleen de amplitude met + en - 18 dB kunt regelen maar tevens de frequentie kunt uitkiezen tussen 200 en 7000 Hz. Middels deze enorme range kunt U ieder toonregelingprobleem met gemak de baas.

De lage toonregeling heeft eveneens een bereik van + en - 18 dB bij 50 Hz., wat ook betekent dat deze regeling met zorg bediend moet worden De gehele equalizer kan, indien U voor deze optie gekozen heeft, in en uitgeschakeld worden.

AUX

De Aux regelingen zijn bedoeld als extra regelingen van het signaal welke via somversterkers naar buiten komen. Aux 1 is bedoeld om een onafhankelijke monitor/ foldback mix te creeren. De niveaus van deze Aux 1 knoppen worden niet beinvloed door de Fader-stand. Aux 2 en 3 zijn na de fader aangesloten en dientengevolge wel afhankelijk van de fader-stand. Deze Aux sends zijn bedoeld om effect apparatuur zoals galm, echo etc. op aan te sluiten. De verhouding tussen direkt signaal en het effect zal intact blijven bij verandering van de fader stand.

PAN-POT

Onder de Aux 1/ 2/ 3 sends bevindt zich de panorama regeling welke U de mogelijkheid geeft het signaal van links via midden naar rechts te laten bewegen, waardoor met meerdere kanalen een "stereo beeld" ontstaat naar eigen inzicht en smaak.
Direct onder de pan-pot bevindt zich de "routing" dit is een soort verzend-afdeling van het ingangskanaal. Deze bestaat uit 2 dan wel 4 toetsen, afhankelijk van het feit of U een "4 uit" of een "8 uit" tafel besteld heeft. Iedere routing toets stuurt het signaal gelijktijdig naar 2 sub-groepen, de keuze tussen 1-2 3-4 5-6 of 7-8 wordt dan gemaakt door de pan-pot geheel naar links dan wel geheel naar rechts te draaien. links-om betekent naar sub-groep 1-3 - 5-7 , rechtsom naar 2-4 - 6-8 . Elke tussenstand zal een verhouding van het signaal in de gekozen 2 subgroepen geven, hiermede kunt U een stereo balans creeren. De L-R toets zorgt dat het signaal direct naar de stereo-hoofduitgang gaat. Dit kan eventueel gelijktijdig met de sub-groep routing.

SOLO

De solo toets biedt de mogelijkheid tot voor-afluistering van een kanaal zonder enige beinvloeding van het signaal. Tevens is signaalniveau controle mogelijk op beide ledbars. Er kunnen meerdere solo toetsen tegelijk ingedrukt worden doch de niveau-indicatie is dan niet meer juist, daar de niveaus zich vanzelfsprekend optellen.

MUTE

De mute toets biedt U de mogelijkheid om alle "signaal verzending" uit het kanaal te onderbreken. Dit betekent dus geen Aux 1, 2, 3 en routing. De solo toets en peak aanwijzing blijven in functie.

PEAK

Deze led (Licht Emitterende Diode)licht op zodra een signaal in het betreffend kanaal een niveau bereikt van + 18 dB. Dit is 18 dB boven het nominale niveau en 4 dB onder het clippunt (vervormings moment). Hoewel er nog 4 dB over is voor er echt vervorming gaat optreden is het zeer aan te bevelen ervoor te zorgen dat deze leds slechts sporadisch oplichten. U moet deze leds echt zien als een duidelijke waarschuwing dat er een te hoog signaal niveau heerst, waar U onmiddellijk iets aan moet doen, wilt U niet te maken krijgen met vervorming.

VOLUME-REGELING

Deze is uitgevoerd met een 100 mm schuif potentiometer.

SUBGEDEELTE

De subkanalen zijn geschikt gemaakt voor aansluiting van 4 dan wel 8 spoor multitrack recorders. De group-output jack aan de achterzijde heeft een uitgangsniveau van 0 dBu en is bedoeld om aan te sluiten op de ingang van multitrack recorder. De uitgang van de multitrack wordt. dan weer aangesloten op de tape-return jack. De insert heeft dezelfde functie als in de kanalen, de tip voert het uitgaand signaal en de ring het terugkomend signaal. De subgroep bezit een 13 delige ledbar met VU karakteristieken, wat betekent dat de ledbar voor een niveau aanwijzing van 0 dB er vanaf -20 dB 300mSec over doet. Het is een gemiddelde waarden-niveau indicatie. Pulsvormige signalen bij percussie-instrumenten zullen te laat aangegeven worden. Om deze te bewaken zult U de master ledbars bij moeten schakelen welke peak gedrag hebben. De Aux 1, 2 en 3 hebben dezelfde functie als in het kanaal. Alleen nu zijn ze voor en na de monitor geschakeld en niet rondom de fader. De pan-pot is na de monitor regeling geschakeld en brengt het signaal direct naar de left/ right master.

SUB

De subtoets is een bijzonder handig toetsje middels deze toets is het mogelijk het binnenkomende signaal uit de kanalen via de fader direct op de links/ rechts master te zetten, zonder tussenkomst van de monitor send pan-pot. Dit betekent dat nu de monitor sectie vrij is als return voor effect-apparatuur via de tape return.

TAPE

De tape toets is de ingangskeuze schakelaar van de monitorsectie, hij kiest tussen de group-output en de tape return voor en na de multi track recorder dus.

SOLO

De solo toets volgt de tape schakelaar bij voor-afluistering. De subgroep fader regelt het totaal signaal wat vanaf de kanaal routing komt en- naar de group output gaat.

SOMGEDEELTE

Het somgedeelte bestaat uit 3 segmenten. Het linker segment bevat van boven naar beneden. De Aux 1 XLR output welke gebalanceerd is , pin 1 is aarde, pin 2 is het in faze signaal en pin 3 het uitfaze signaal. Het niveau is + 4dBu. Indien U deze uitgang a-symmetrisch aan wilt sluiten moet U pin 3 vrijlaten , dus niet aan aarde leggen, dit kan stuk gaan van de uitgangsversterker tot gevolg hebben.

2 TRACK RETURN

Deze stereo jack (tip links , ring rechts) is een geschakelde ingang van de master monitor sectie en bedoeld om de master stereo uitgang van een recorder op aan te sluiten.

MONITOR / PHONES
De stereo jack (tip links/ ring rechts) is de uitgang van de monitor sectie en bedoeld voor koptelefoons (600 ohm) of een monitor eindversterker.

T.B.INGANG
De talkback-ingang is een op XLR aangesloten symmetrische versterker. 1 is aarde, 2 infaze, 3 uitfaze. In het geval dat U een a-symmetrische microfoon aan wilt sluiten, moet U nu wel pin 3 aan aarde leggen.

MASTER / SOLO

Deze schakelaar is de ingangskeuze schakelaar van de parallel geschakelde monitor sectie en ledbars. U kiest tussen luisteren en bewaken (ledbars) van de stereo master uitgang , of een ingedrukte solo toets.

TALKBACK VOLUME

Deze knop regelt het volume van het talk-back signaal naar de Aux 1 uitgang. De master Aux 1 fader heeft voorrang op de T.B. niveau-regelaar.

AUX 2,3 RETURNS
Deze volume regelaars regelen het eventueel aangesloten terugkomend signaal van effect apparatuur naar de Aux 1 som versterkers.

MONITOR
Dit is de totaal volume regelaar van de stereo-monitor sectie. Het stereo signaal is mono te schakelen voor controle van stereo/ mono comptabiliteit. De 2 track toets schakelt de monitor ingang om naar de stereo master recorder voor naband controle.

SOLO
De solo toets geeft U de mogelijkheid om het totaal signaal van de Aux 1 af te luisteren via het solo systeem.

AUX 1

De master fader regelt het totaal volume van de Aux 1 som versterkers.

Het 2e en 3e segment zijn in grote lijnen identiek, van boven naar beneden verzorgen zij de volgende functies:
De master outputs zijn symmetrisch op XLR, pin 1 is aarde pin 2 is infaze, pin 3 uitfaze. Ook hier geldt met nadruk, dat bij a-symmetrische aansluiting pin 3 niet kortgesloten mag worden naar aarde, daar anders de mogelijkheid ontstaat dat de lijnversterker stuk gaat.
De insert geeft weer de mogelijkheid om randapparatuur aan te sluiten. Tip is uitgaand signaal, ring return signaal. Aux send 2 en 3 zijn symmetrisch uitgevoerd op stereo jacks, tip is infaze en de ring uitfaze.
WAARSCHUWING gebruik hier geen mono jacks bij a-symmetrische aansluiting maar alleen stereo jacks. Bij een mono jack sluit U weer het uitfaze kontakt aan op aarde, wat stuk gaan kan veroorzaken van de uitgangsop-amp. De ring dus vrijlaten.

AUX RETURN 2 EN 3 zijn de ingangen voor de randapparatuur. Deze ingangen zijn a-symmetrisch, alleen de top en aarde zijn dus aangesloten. De ledbars zijn piek- aanwijzende instrumenten en zijn 6dB onder het 0dB niveau geijkt. Dit is om ondersturing van tape of P.A. te voorkomen.

AUX SENDS 2 en 3 zijn de master sends van de effect sends uit de kanalen en subgroepen. De solo toetsen kunnen de signalen hoorbaar en zichtbaar maken via de monitor uitgang en de ledbars.

AUX 2 en 3 RETURNS.

Deze returns zijn er om signalen van aangesloten randapparatuur mee te regelen. Na deze volume regeling is het mogelijk dit signaal te panoramerenen vervolgens te routen naar de subgroepen en/ of masters. Deze returns kunnen via de solo toetsen voorafgeluisterd worden. Is het niveau te weinig dan moet dit in eerste instantie op het randapparaat geregeld worden en dan pas bij de returns zelf. De master faders regelen het gesommeerde signaal komend van de L.R. routing toetsen en alle pan-pots uit het subgedeelte alsmede daar waar de sub toetsen gedrukt zijn.

OPTIES

In geval van montage van -20dB en faze omkeerschakelaars zullen boven de remix toetsen nog 2 toetsen komen, het verste weg is de faze schakelaar en dan de -20dB schakelaar. Deze beide toetsen werken alleen op de mic-ingang. Indien u een toongenerator heeft laten monteren is dit een 1kHz generator met een aan/ uit toets boven de ledbar. Het signaal uit deze generator zal op alle group- outputs komen en de de left/ right masters.

VOEDING

De netaansluiting is geschikt voor 220 Volt 50/ 60 Hz aansluiting. Indien de aan/ uitschakelaar ingedrukt wordt zullen de onderste leds van de ledbar aan gaan ter indikatie dat de voedingsspanning aanwezig is. De netzekering zult U op de voedingsprint vinden na verwijdering van de bodem d.m.v. 4/ 6 schroeven. De waarde is 1 Amp traag. Neemt U eerst de netsteker uit het stopkontakt.

FADER START SWITCHES

De schakelaars worden zo gemonteerd dat bij het infaden een microswitch geactiveerd wordt. De bedrading wordt in principe niet aangebracht daar dit teveel afhankelijk is van Uw gebruiks-situatie.

MULTICONNECTOR

De aansluiting van de multiconnector vindt U achterin de gebruiksaanwijzing.

AANSLUITINGEN VOOR P.A. -GEBRUIK

Sluit Uw microfoons als volgt aan:
XLR pluggen 1. aarde
2. in faze
3. uit faze

Gebruik bij voorkeur altijd symmetrisch aangesloten microfoons om minimale last van stoorsignalen te ondervinden. Verbindt Uw P.A.versterkers middels enkel of dubbel-aderig afgeschermde kabel met de master outputs left/ right van de mengtafel. Indien U symmetrisch werkt moet U aan een kant van de kabel de afscherming niet doorverbinden, dit om aardlussen te voorkomen. Werkt U a-symmetrisch, dan sluit U wel de afscherming aan punt 1 aan en de binnenader aan pin 2 van de XLR. De netaarde mag nu niet aangesloten worden aan beide apparaten. Het niveau is +4 dBu op de left/ right master outputs als ook op de Aux uitgangen welke eveneens symmetrisch zijn. U moet erop letten dat de uitgangen niet onder de 1kOhm belast worden. Op de Aux 1 uitgang sluit U de Buhne monitor versterker aan (Foldback) terwijl Uw effect apparatuur aangesloten wordt tussen de Aux 2 send en return en de Aux 3 send en return. De koptelefoon/ monitor versterker wordt met de headphones jack verbonden.

AANSLUITINGEN VOOR MULTITRACK GEBRUIK.

Sluit alles aan als bij P.A. gebruik. Sluit de ingang van uw multitrack aan op de group output en de uitgang op de tape return. Dit zijn a-symmetrische aansluitingen. De master recorder wordt aangesloten tussen de XLR left/ right outputs en de stereo 2 track return. I.p.v. een koptelefoon sluit U nu een afluister-versterker aan op de monitor/ phones jack, tip is links en ring is rechts.Indien U toch een koptelefoon aansluit dan is het zaak een hoogohmige koptelefoon aan te sluiten,400 ohm of hoger.

IN GEBRUIKSTELLING

- Zorg allereerst dat alle faders in hun ruststand staan bij het teken oneindig.
- Gain potmeter op 0
- Toonregeling in de middenstand (o).
- Aux sends 1/ 2/ 3 op 0
- Pan-pot in de middenstand.
- Alle druktoetsen in hun hoogste stand.
- Alle volumeregelingen in het somgedeelte eveneens op 0 (linksom).
- Overtuig U van de juiste netspanning, te weten 220 Volt 50/ 60 Hz.
- Sluit de mengtafel aan op het lichtnet en schakel de netschakelaar in.
- De onderste leds zullen nu oplichten ten teken dat er spanning aanwezig is.

INREGELING

- Schuif de masterfader naar de stand 0 (maximaal dus)
- Schuif eveneens een kanaalfader naar de "0"-stand in een kanaal waarop een microfoonsignaal aanwezig is en gebruik de routing. - Druk de master/ solo toets naar solo en druk tevens de solotoets in van het kanaal waarvan U de fader heeft opgeschoven.
- Door de gain potmeter langzaam naar rechts te draaien zal de ledbar op gaan lichten. Het af en toe door de nul-indicatie heen-
  schieten van het signaal heeft geen gevolgen voor wat betreft oversturing in de mengtafel.

De toonregeling kan gebruikt worden indien nodig. Het inregelen van de sweep equalizer gaat als volgt: Zet de volume regelaar van de middenfrequenties maximaal en kies met de frequentie keuzeknop die stand waarbij het signaal goed klinkt. Draai nu de volume- regelaar terug en voeg slechts de benodigde hoeveelheid versterking toe die nodig is. (verzwakken kan ook mogelijk zijn).

LET OP

Bij sterke ophaal van bepaalde frequenties wordt de versterking in het kanaal te groot en moet dit weer gecorrigeerd worden met de "gain"knop, daar anders oversturing kan optreden en de uitsturingsruimte in het kanaal verkleind wordt. U heeft nu 1 kanaal ingeregeld voor wat betreft niveau en klankkleur. Dit kunt U nu voor meerdere kanalen doen, waarna het eigenlijke mixen pas begint.

HANDIGE TIPS

Het inregelen van de multitrack kan eenvoudig gebeuren door via de interne toongenerator het ingangs-niveau van de recorder zo in te stellen dat een 0 indicatie bereikt wordt. Door nu de recorder in opname te zetten en de tape toets in het sub gedeelte in te drukken kan direct het naband-signaal gelezen worden op de ledbars. Als dit niveau te hoog dan wel te laag is moet dit op de recorder bijgeregeld worden tot voor/ na band middels de tape-toets geen niveau verschil meer geeft.

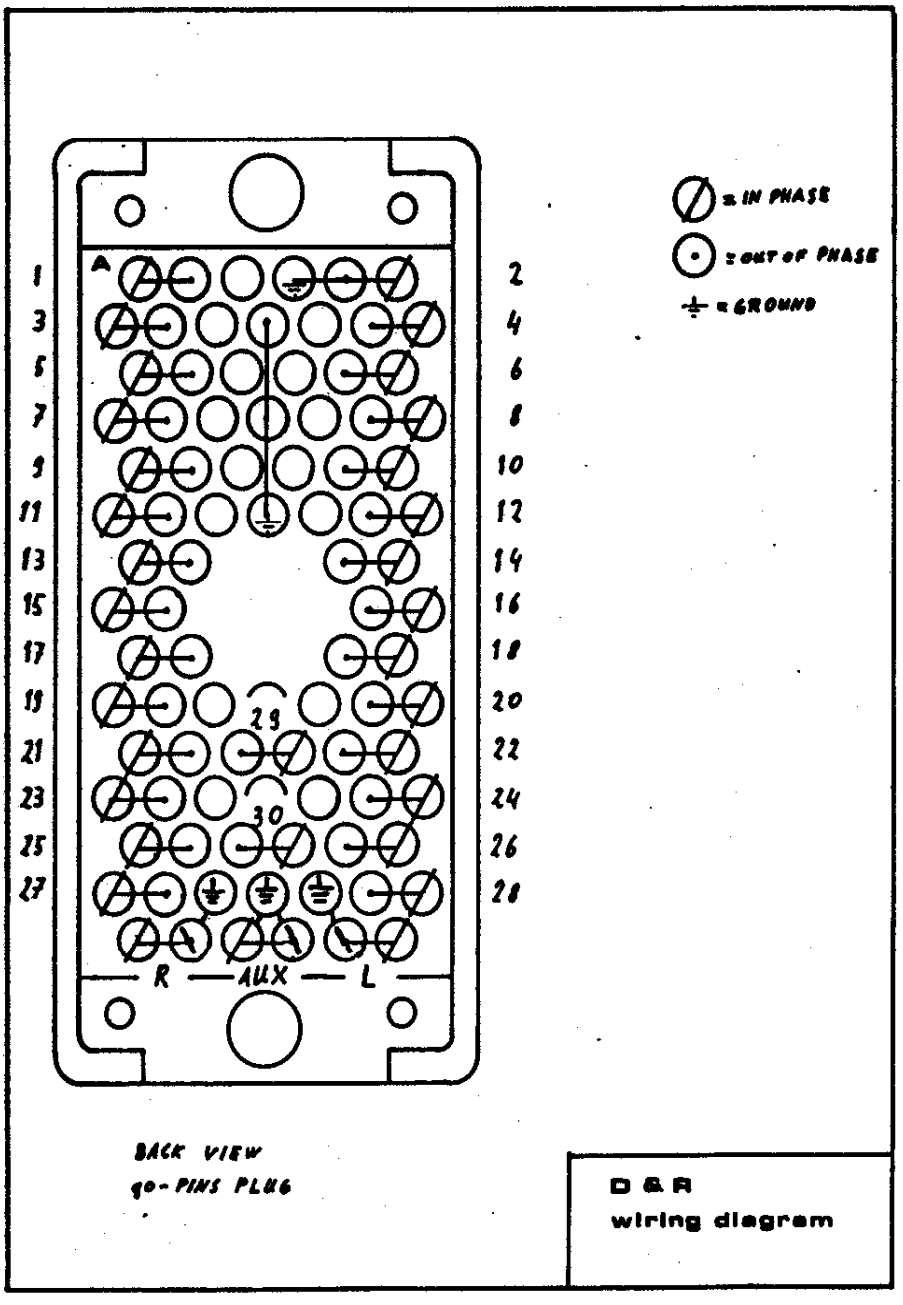
Effect toevoegen zonder Aux sends te gebruiken.

In P.A. situaties en remix situaties kunt U middels de volgende situatie een extra effect toevoegen. Rout de betreffende signalen, vocals bijv. naar de subgroup en druk de sub toets in. Het kanaal signaal gaat nu direct via de sub fader naar de master outputs. Als U nu een galm unit via de group output aan stuurt en de return met de tape return verbind (sub 1 of 2 mono of stereo) vervolgens de tape toetsen drukt, dan heeft U galm toegevoegd via de monitorpotmeter en de pan-pot zonder gebruikmaking van een Aux send.

GARANTIE BEPALINGEN

D & R Electronica B.V. verplicht zich gedurende een jaar na aankoop alle defecten, optredend bij normaal gebruik, te verhelpen en alle kosten van materiaal en arbeidsloon voor haar rekening te nemen. Onder geen enkele voorwaarde zal D & R Electronica B.V. verantwoordelijk gesteld kunnen worden voor welke schade dan ook, direct dan wel indirect veroorzaakt door haar producten.

Wij wensen U nogmaals een plezierig gebruik.



D&R Electronica b.v.

manufacturer of: recording - broadcast - p.a. - mixingdesks - signal processors

BELANGRIJK

Aanvulling bij de gebruiksaanwijzing van D&R 900 series mengpaneel.

Aansluitgegevens van:
1) Group out: de aansluiting bestaat uit een stereo jack-plug, met de volgende bedrading: Ring +4 dBu
Top -10 dBv

2) Tape return: de aansluiting bestaaat eveneens uit een stereo jack-plug, met de volgende bedrading: Ring +4 dBu
Top -10 dBu

Wellicht ten overvloede: de insertiepunten werken op 0 dBu.

WAARSCHUWING!

Voor de group out en de tape return mogen alleen stereo jack pluggen gebruikt worden. Deze bestaan uit een tip, ring en aardlip. Indien mono jack pluggen gebruikt worden werkt het mengpaneel niet meer op standaard signaal niveau's.

Er dient gekozen te worden tussen één van beide mogelijkheden, +4 dBu dan wel -10 dBv.
Het is mogelijk om beide te gebruiken.

IMPORTANT

Supplement to your users manual of the D&R 900 series mixing console.

Wiring for:
1) Group out: use for connection a stereo jack, connect it as follows: Ring: +4 dBu
Top: -10 dBv
2) Tape return: use for connection a stereo jack too, connect as follows: Ring : +4 dBu
Top : -10 dBv
3) The insertionpoint level is fixes at 0 dBu.

WARNING

For the group out and tape return only stereo jacks can be used.
Stereo jacks have three connections, mono jacks only two. If mono jacks are being used, the D&R 900 series mixing console will not work with the proper standard signal levels.

A choice has to be made between the two connections, that means +4 dBu or -10 dBv.
It is not possible to use both simultaneously.

product safety

This product is manufactured with the highest standards and is double checked in our quality control department for reliability in the "HIGH VOLTAGE" section.

CAUTION

- Never remove any panels, or open this equipment. No user servicable parts inside.
- Equipment power supply must be grounded at all times.
- Only use this product as described, in user manual or brochure.
- Do not operate this equipment in high humidity or expose it to water or other liquids.
- Check the AC power supply cableto assure secure contact.
- Have your equipment checked yearly by a qualified dealer service center.
- Hazardous electrical shock can be avoided by carefully following the above rules.

EXTRA CAUTION FOR LIVE SOUND

Ground all equipment using the ground pin in the AC power supply cable. Never remove this pin. Ground loops should be eliminated only by use of isolation transformers for all inputs and outputs. Replace any blown fuse with the same type and rating only after equipment has been disconnected from AC power. If problem persists, return equipment to **qualified service technician.**

Please carefully read the followig information

Especially in sound equipment on stage the fllowing information is essential to know. An electrical shock is caused by voltage and current, actually it is the current that causes the shock. In practise the higher the voltage the higher the current will be and the higher the shock.

But there is another thing to consider and it is resistance. When the resistance (in Ohms) is high between two poles, the current will be low and vica versa.

All three of these; voltage, current, and resistance are important in determining the effect of an electrical shock. **However, the severity of a shock is primarily determined by the amount of current flowing through a person.h**

A person can feel a shock because the muscles in a body respond to electrical current and because the heart is a muscle it can affect, when the current is high enough. Current can also be fatal when it causes the chest muscles to contract and stop breathing.

At what potential is current dangereous. Well the first feeling of current is a tingle at 0.001 Amp of current. The current between 0.1 Amp and 0.2 Amp is fatal.

Imagine that your home fuses of 20 Amp can handle 200 times more current than is necessary to kill. How does resistance affect the shock a person feels. Atypical resistance between one hand to the other in "dry" condition could well over 100,000 Ohm. **If you are playing on stage your body is perspiring pefusely and your body resistance is lowered by more than 50%. This is a situation in which current can easily flow.** Current will flow when there is a difference in ground potential between equipment on stage and in the P.A. system.

Please do check if there is any potential between the housing of the mikes and the guitar/synth amps, which will be linked by your body on stage. Imagine, a guitar in your hand and your lips close to the mike! A ground potential difference of above 10 volts is not unusual, in improperly wired buildings it can possibly be as high as 240 volts. Allthough removing the ground wire sometimes cures a system hum, it will create a very hazardeous situation for the performing musician.

Always earth all your equipment by the grounding pin in your mains plug. Hum loops should only be cured by proper wiring and isolation input/output transformers.

Replace fuses always with the same type and rating after the equipment has been turned off and unplugged. If the fuse blows again you have an equipment failure, do not use it again and return it to your dealer for repair.

And last but not least Be carefull not to touch a person being shocked as you, yourself could also be shocked. Once removed from the shock, have someone send for medical help immediately.

Always keep the above mentioned information in mind when using electrically powered equipment.

The D ¢ R 900 series
User's Manual.

Only components of the highest quality have been used in your new D ¢ R mixer to operational life.

If you have any questions after reading this manual or should any faults develop, do not hesitate to contact us. We shall do everything possible to assure your complete satisfaction.

We hope that this mixer will give you long and pleasurable service.

D ¢ R Electronics Limited.

Detailed description

Mic

A standard XLR socket is used on the 900 series for the microphone with connections as follows:
pin 1 earth
pin 2 in phase
pin 3 out of phase
The inputs are designed for microphones connected symmetrically. This being the only way of connecting microphones that guarantees interference-free reproduction. Unbalanced or a-symmetrical connection of microphones is possible, however, when necessary and in such cases Pin 3 of the XLR plug is left unconnected. This will have no effect upon the amplification factor but the interference-suppression circuits in the electronically balanced mic-amplifier will be inoperative. A twin-core screened cable on a microphone means that it is intended for symmetrical connection. One with single core screened cable is intended for a-symmetrical connection.

Line

Line level signals (tape recorders amplifiers etc.) are connected via the same XLR socket as the microphone but with the Mic-line switch in the Line mode. The Line input is a-symmetric and connections are as follows:
Pin 1 Earth
Pin 2 Signal
Pin 3 as pin 1 is connected to earth.

Remix

The remix appears only in the last 4-8 channels. This switch connects the channel concerned with the tape-return jack in the sub- section. For example:in a desk with 4 sub-sections the remix switch of the last channel connects it to subsection 4, the remix switch of the last but one channel with sub-section 3 and so on. The remix function is simply an extra line input on the channels concerned.

Gain

With the gain control the incoming signal is set to the nominal level of 0dB (0.775 Volt). Each signal must be adjusted with it's gain control so that the channel fader can be set in the heavily lined part of it's range. With extremely high amplitude signals from a microphone source the Mic-Line switch can be put in the line mode in order to reduce sensitivity.

Insertion Detailed

stereo-jack insertion socket makes it possible to connect up auxilliary equipment to each channel separately. We can offer a wide range of auxilliary equipment such as compressors, noise gates, parametric-equalizers and so on. All of which are suitable for connection to the insertion points of the channels. The insection points are post E.Q. and connections are made as follows: Tip is the outgoing signal (send) Ring is the return signal (return). It is essential that independently screened conductors are used for the send and return signals in order to prevent oscillations between the input and the output of the auxilliary unit.

Insertion cont.

The insertion jack can also be used as a pre-fader signal output without breaking the signal path. To do this connect the tip and ring of the stereo jackplug together along with the outgoing signal lead.

Tone correction

The high frequency tone correction control has a very large operating range between + & - 18 dB at 15 k.Hz. It is advisable to use this control with caution as if the setting is high without the program information having a sufficiently high frequency content the result will be an excessive amplification of background noise.

Middle

The middle frequency tone correction uses two potentiometers and is of the sweep equalizer type. This means that you not only have control over the amplitude form + to - 18 dB but also the operative frequency which can be varied from 200 Hz. to 7000 Hz. With such an enormous range it is possible to master almost any E.Q. problem easily.

Low

The low frequency tone correction has likewise an amplitude range of from + to - 18dB and operates at 50 Hz. This control must also be used with care making sure that the program information has a low frequency content before it is set high.

Aux

The Aux potentiometers are intended to give extra control over the signal appearing at the output of the summing amplifiers. Aux 1:makes it possible to create an independent monitor-foldback mix. The settings of these controls are not influenced by the channel fader positions as they are pre-faders wired.
Aux 2 & 3: unlike Aux 1 these two Aux outputs are post-faders wired and therefore their levels are dependent upon the setting of the channel fader. They are designed for use with various effects units such as echo reverberation. The relationship between the direct signal and the effect's signal will not be altered by changes in fader position.

Pan-Pot

Beneath the Aux pots 1,2 and 3 we have the panorama control which is used to shift the signal to the left or right via the centre thereby making it possible to create a stereo picture to ones own preference when several channels are used.

Routing

Immediately beneath the pan-pot we have the routing switches. These are used to route the signal through to the sub-section of the mixer. The routing comprises two or four switches depending upon whether your desk has 4 or 8 outputs. Each switch routes the signal to one of several pairs of sub-sections and the choice of which single sub-section channel of each pair the signal should appear on is made by means of the pan-pot.

By rotating the pan-pot to the left signal will appear on the odd numbered channels 1-3-5-7, whilst rotating it to the right places the signal on the even numbered channels 2-4-6-8. Any setting inbetween completely left or right will place a proportion of the signal on each of the two subsections thereby making it possible to create a stereo balance.

L-R

The Left-Right switch below the routing switches sends the signal directly to the stereo master output. This switch can be used at the same time as the sub-group routing switches.

Solo

By means of the solo switch it is possible to listen to any channel without influencing the signal. At the same time it is possible to check signal levels on bot led-bars. More than one solo switch may be pressed at once but because of the addition of the two signals that takes place the led-bars will no longer give a useful reading.

Mute

The mute switch, as it's name suggests, offers the possibility of muting the signal on the channel concerned and thus removing the signal from Aux 1, 2 en 3 and the routing circuits whilsts leaving the solo switch and the peak-level indicator unaffected.

Peak

This led (light emitting diode) lights up when a signal in the channel concerned reachtes a level of + 18dB. This is 18dB above the nominal and 4dB below the clipping point or distorion point. Although there is a four decibel (4dB) headroom before overload occurs it is advisable to ensure that the led only lights up occasionally. When lit these leds must be seen as a clear indication that too high a signal level is present and steps must be taken to correct this in order to prevent distortion.

Volume Control

This is by means of a 100 m.m. fader.

Sub-sections

The sub-section channels are designed for use with 4 or 8 track recorders. The group output jacks at the rear of the mixer have an output level of 0 dB and are intended for connection to the inputs of a multi-track recorder. The output of the multi-track recorder is then returned to the mixer via the tape return jacks.

Insertion

The insertion jacks have the same function as in the channels. The Tip is the send and the ring is the return.

Led-bar

The sub-section channels are fitted with a 13 segment led-bar with V.U. characteristics which means that the led-bar takes 300 m.sec. to register a change from -20dB to 0 dB. It is a mean level indicator. Pulse waveforms such as percussion instruments would not be registered adequately on this led-bar and for such signals the master led-bar should be used which is a peak-level indicator, as apposed to mean-level.

Aux

These have again the same functions as in the channels but here they are switched pre and post the monitor and not the fader.

Pan-pot

The pan-pot is switched, post the monitor potentiometer and places the signal on the Left-Right master directly.

Sub

The sub switch is an extremely handy device by means of which it is possible to place the incoming signal from the channel via the fader straight on to the left-right master without it passing through the monitor pan-pot. This means that the monitor section remains free to be used as a return for effects units via the tape-return.

Tape

The tape switch is used to choose between two possible inputs, the group-output or the tape-return i.e. pre and post the multi-track recording.

Solo

The solo-switch makes PFL (pre-fader listening) monitoring of which ever signal is routed through the Tape-switch possible.

Fader

The sub-group fader controls the total signal which comes from the channel on it's way to the group-output.

The Master Section

The master section consists of three parts. First a description of the one on the left:
The Aux 1 XLR output is a symmetrical output with connections as follows:
Pin 1 Earth
Pin 2 In phase
Pin 3 Out-of phase
The output level of this signal is 4 dBu. If an a-symmetrical from this socket is required pin 3 should be left without a connection and NOT under any cirsumstances connected to earth as this will result in damage to the output amplifier.

2 Track Return

This stereo-jack (tip left, ring right) is a switched input from the monitor section and is designed for connection to the master-stereo output of a tape recorder.

Monitor-Phones

This stereo jack is the output of the monitor section and is intended for use with 600 ohm headphones or a power-slave amplifier.

Talkback Input

By means of this XLR connector a balanced-line microphone is plugged into the symmetrical input for Talkback purposes. The connections are as follows:
Pin 1 Earth
Pin 2 Inphase
pin 3 Out of phase

If you wish to use an a-symmetrical microphone then pin 3 must in this case be connected to earth.

Master solo

By means of this switch one of two signals may be monitored, either the Master Stereo Output or a signal from any channel where a solo switch has been pressed.

Talkback Volume

This knob sets the volume of the talkback signal going to the Aux 1 output. The Aux 1 fader over-rides the talkback level control.

Aux 2 & 3 Returns

These volume controls adjust the levels of any effect-unit return signals before they enter the Aux 1 summing amplifier.

Monitor

This is the master volume control for the complete stereo monitor section. The stereo signal is switchable to mono for convenient checking of stereo-mono compatibility.

The 2 Track Switch

This switches the monitor-input to the stereo master recorder for post-tape signal monitoring.

Solo

The solo switch makes it possible to listen to the total Aux 1 signal via the solo system.

Master fader

This master fader adjusts the volume of the Aux 1 summing amplifiers.

Master Section 2 & 3

The second and third Master amplifiers are in many ways identical with the one discribed above. From top to bottom their controls are as follows: The master outputs appear at their XLR sockets and are connected:
Pin 1 Earth
Pin 2 In phase
Pin 3 Out of phase
Again with these outputs if an a-symmetric output is required Pin 3 must not be connected to earth but instead should be left unconnected otherwise damage may occur to the line amplifiers.

Insertion

The insertion is as before intended for the connection of auxilliary equipment, Tip send, Ring return.

Aux 2 & 3

The next jack sockets are for the Aux 2 & 3 sends and the ones below these for the return signals. The sends are symmetrical, tip in phase ring out of phase and the returns are a-symmetrical, signal on tip of jack.

CAUTION

Do not use mono jack-plugs in any stereo jack-sockets. Only stereo-jacks may be used without damage occuring to the output amplifiers of symmetrical outputs as mono-jacks connect the ring to earth i.e. the out of phase signal to earth thereby forming a shortcircuit. If an a-symmetrical output is required use a stereo jack plug but leave the ring unconnected.

The Led-bars

The led-bars are peak indicators and are calibrated 6dB below the 0db level hereby making it possible to see if the tape or P.A. is being fed with sufficient signal.

Aux Sends 2 & 3 Controls

This is the master send control for the effects sends from the channels and the sub-groups.

Solo switch

This switch makes audible and visual monitoring possible via the monitor output and the led-bars.

Aux 2 & 3 Return controls

These controls are used to set the level of the return signals from any effects units which may be connected to the Aux send jacks. Below the return potentiometers we have the pan controls by means of which it is possible to pan the returning signals from the effects units. These returns can be pre-fader monitored by means of the solo switches.

Routing

The return signals can further be routed by the routing switches to the subgroups and the masters.

Master fader

The master faders adjust the combined signal levels from the Left-Right routing switches and the pan-pots in the sub-sections as well as those where the sub-switches have been pressed.

Signal Level

In the case of the return signal level being too low from the effect units, in the first instance, attempt to adjust this on the units themselves before increasing the levels with the mixer's return controls

Optional Extras

In the case where a -20 dB and a phase reverse switch have been fitted to your desk as optional extras two more switches will be present above the remix switches. The one adjacent to the remix switches is the -20 dB switch and above that will be found the phase-reverse switch. Both these switches affect only the Mic. inputs

Tone generator

If you have chosen as an optional extra a tone-generator for your mixer its on-off switch will be found above the ledbars. It provides a 1 kHz signal to all group outputs and the Left-Right masters.

Power Supply

The mains cable of the power supply should be connected to a 220 Volts 50-60 hz power source.

Power supply cont.

When switched on the lowest leds on the led-bars should light up.

Fuse

The mains fuse is situated inside the mixer on the power supply printed-circuit board and is located by removing the 4or6 screws which hold the base-plate in place. It is a 1 amp. slow-blow type fuse. Before removing the base-plate DISCONNECT the mixer from the mains supply.

Fader Start switches

These switches are mounted so that by "fade in" a microswitch is activated. The wiring of these switches is not done in the factory as this is dependent upon individual requirements.

Multi connector

The wiring diagram for these appears at the end of this booklet.

Using with a P.A.

Connect microphones as follows:
Pin 1 Earth
Pin 2 In Phase
Pin 3 Out of Phase
Again use, preferably, balanced-line microphones in order to avoid interference being picked up by the cables. The output of the mixer may be wired symmetrically or a-symmetrically but if wired symmetrically the earth lead should be disconnected at one end of the cable to prevent earth loops. If a-symmetrical connections are used connect Pin 1 of the XLR plug to the screening and Pin 2 to the core of the cable. The main's earth must now only be connected on the mixer or the PA amplifiers but not on both, again in order to prevent earth loops.

Signals Level

The signal level of the outputs of the masters and the Aux outputs is 4 dB u. The outputs must not be fed into of load of less than 1k.ohm.

Aux connections

Aux 1 is used for monitoring (foldback) purposes and it's output should be connected to the monitor amplifier. Aux 2 & 3 are used for auxilliary equipment with connections being made to the various jack-sockets described previously.
The connection to the headphone-monitor output is made with a jack-plug.

Multi-track use

Connect microphones etc. as for P.A. use. Connect the multi-track inputs to the group outputs and the multitrack outputs to the tape-returns on the mixer. These are a-symmetrical. The master recorder is connected between the XLR left-right outputs and the stereo 2 track-return. In place of headphones connect now a monitor amplifier to the monitor-phones output jack. The tip is the left and the ring is the right channel connection. If, however, you do wish to use a head-phone set it must be 400 ohms or above.

Setting up

Firstly set all the faders to the infinity symbol on the level markings. Set the gain pots to zero. Set the tone controls to their centre zero positions. Turn the Aux sends 1, 2 and 3 to zero. Set all the push-button switches in their highest positions. Set all volume controls in the summing sections to zero. Check the mains supply is 220 Volts 50-60 Hz. Plug in the mains plug, switch on and now the first leds in the led-bars should light up.

Adjusting for use

Set the master fader to the '0' position I.e. maximum. Set the fader to '0' position on a channel where a signal is present and route the signal with the routing switches.

Put the Master-solo switch in the solo position and press the solo switch in the channel which has it's fader set high. Turn the gain control clockwise and the led-bars should light up. It is acceptable if the led-bars indicate a signal above 0dB occasionally. This does not necessarily mean the mixer is being overloaded. The tone control can now be adjusted as necessary.
The sweep equalizer is adjusted as follows: Set the amplitude control to maximum or minimum depending upon whether you wish to increase of decrease amplification of a particular band of frequencies. Now adjust the frequency selection control to the desired frequency, further adjusting the amplitude control so as to obtain the necessary amount of lift or cut of those frequencies. Caution: By adjusting the amplitude control of the sweep E.Q. to a high setting the over all amplification of the channel may increase thus making it necessary to re-adjust the gain control in order to prevent distortion.

Now you have set-up your first channel as far as levels and tone correction are concerned. The same procedure is now repeated for the other channels and mixing, proper, begins.

Tips

The setting up of the multi-track is simplified by using the mixer's internal tone-generator. The input levels of the recorder are adjusted for a '0' indication. By now putting the recorder in the 'records' mode and pressing the tape switches in the sub-sections the post-tape signal can be read on the led-bars. If this level is too high or low adjustment must be made on the recorder's controls until there is no difference in registered signal levels when the tape switch is switched from pre to post-tape signals.

Creating an extra Aux send-return.
When using the mixer for PA or remixing it is possible to make use of another facility which offers an extra Aux send & return. Route the signal concerned, for example vocals, to the subgroup and press the sub-switch. The channel signal will now be routed via the sub-group fader straight to the master outputs. If you now feed an effect unit (e.g.reverb) from the group output and connect the return signal to the Tape-return jack (sub 1 or 2 mono or stereo) and press the tape switch the reverb return signal can be adjusted by the monitor and pan-pot controls. This all without making use of the Aux sends & returns.

Guarantee

Your 900 series mixing desk is guaranteed for one year after date of purchase against all defects resulting from errors in workmanship or faulty materials provided the mixer has been installed properly and employed correctly. Under the terms of the above conditions all repairs will be carried out free of charge by D & R Electronics B.V. service engineers.
Under no cirsumstances shall D & R Electronics BV be held liable for damage resulting either directly or indirectly from any of its products.

OPTION FOR 900 SERIES AUDIO MIXERS

Extra remix facilities

We have created the opportunity for using a 900 series 8-4-2 for instance, with a 8 track recorder.The subgroup section has been fitted double, if you have choosen for this option.

You will find in the subgroupsection tandem potentiometers. The beneath knob still owns the same functions a described in this manuel. The tape button controls only these 4 tape returns, therefore track 1 to 4.
The upper knobs of the potentiometers are fitted for the extension to track 5 to 8. You now have 4 extra tape returns.

IMPORTANT
The mixing console does not own 4 extra tape outputs. For recording track 5 up to 8 on your multitrack recorder, you have to patch the 4 output channels of the mixer to the channels 5 - 8 of your recorder.

The extra tape returns are situated, seen from the rear, the upper 4 jack inputs of the sub section. They are not indicated on the housing.

Ofcourse applies this all also for 900 mixers with 8 outputs. The number of tape returns will be extended up to 16. The possibilities are the same as described above.

product safety

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CAUTION

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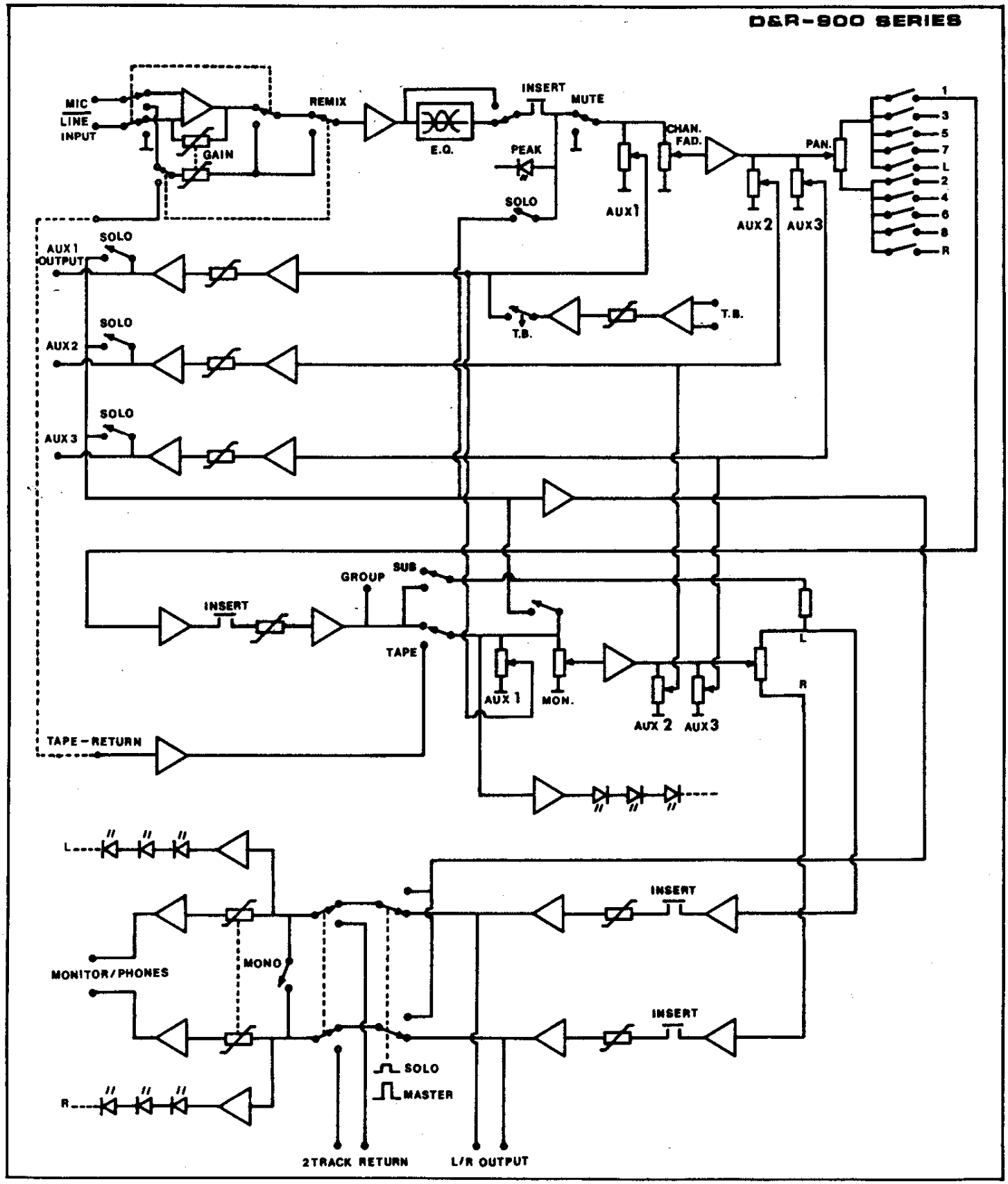
Always keep the above mentioned information in mind when using electrically powered equipment.

"900 SERIES"

SERVICE MANUAL



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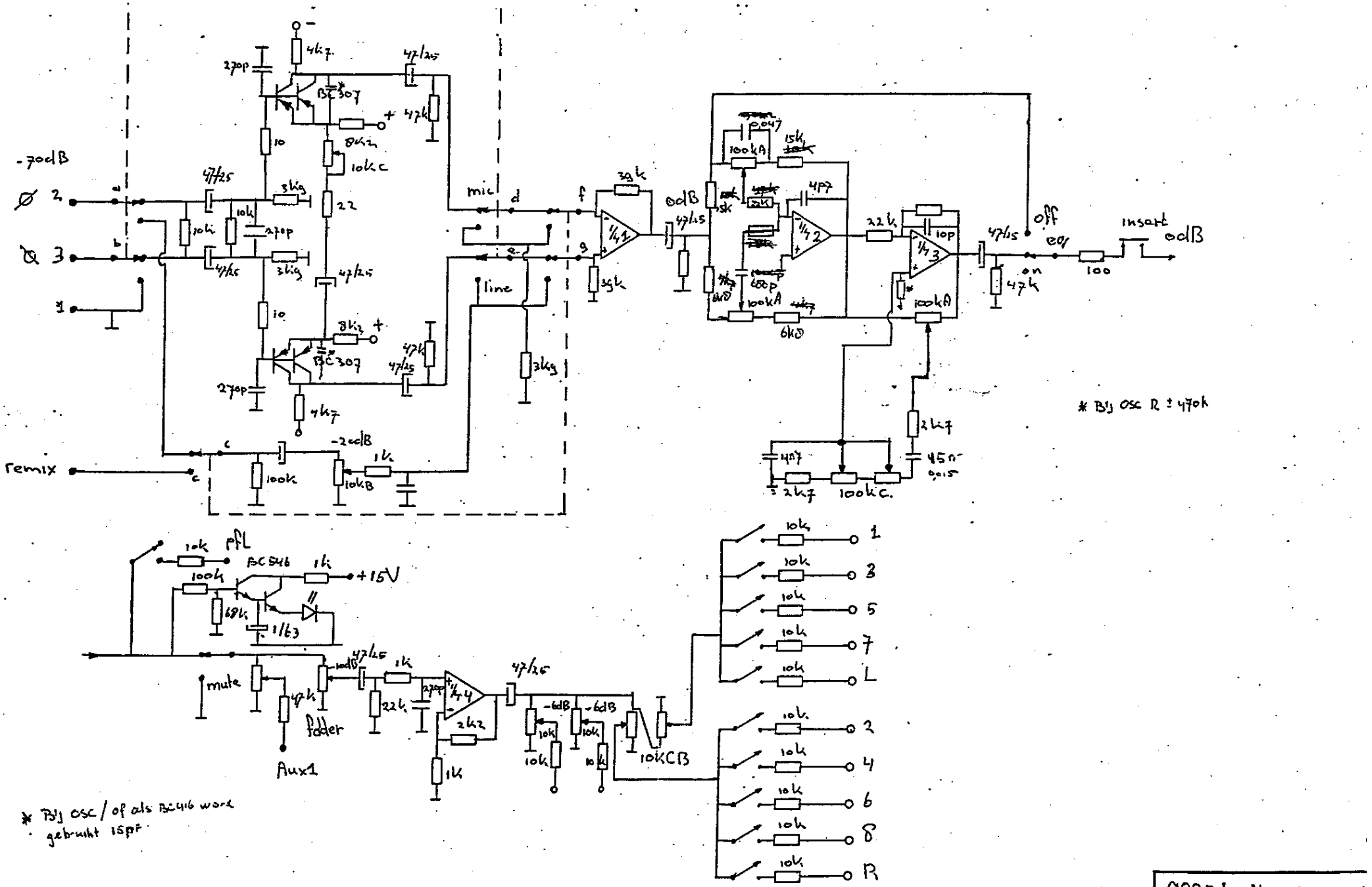

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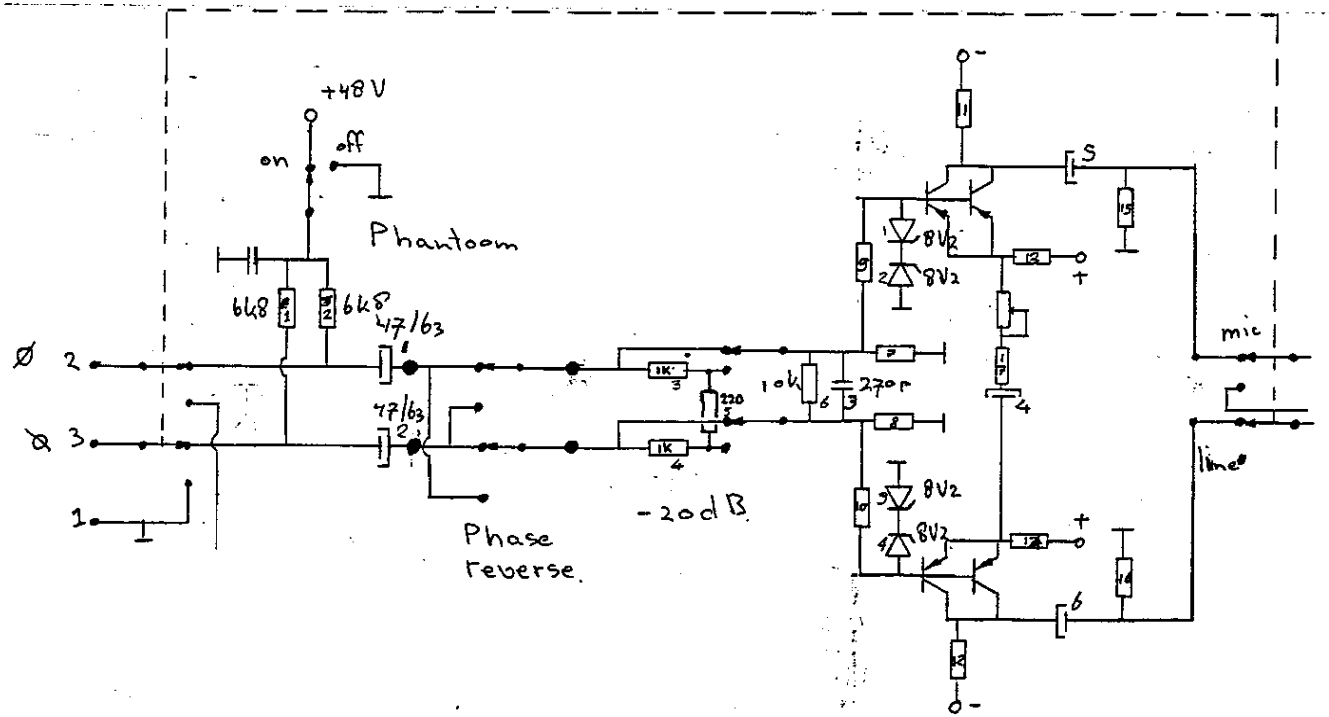
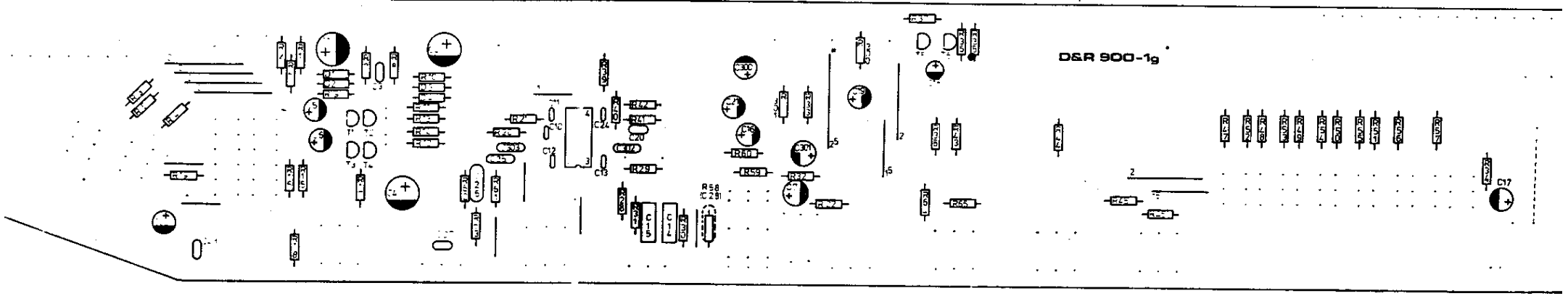
Channel	



900-1
options


D&R 900-1g

== ELECTRONICA B.V.
produktie en ontwikkeling van
geluidsmengpanelen en accessoires

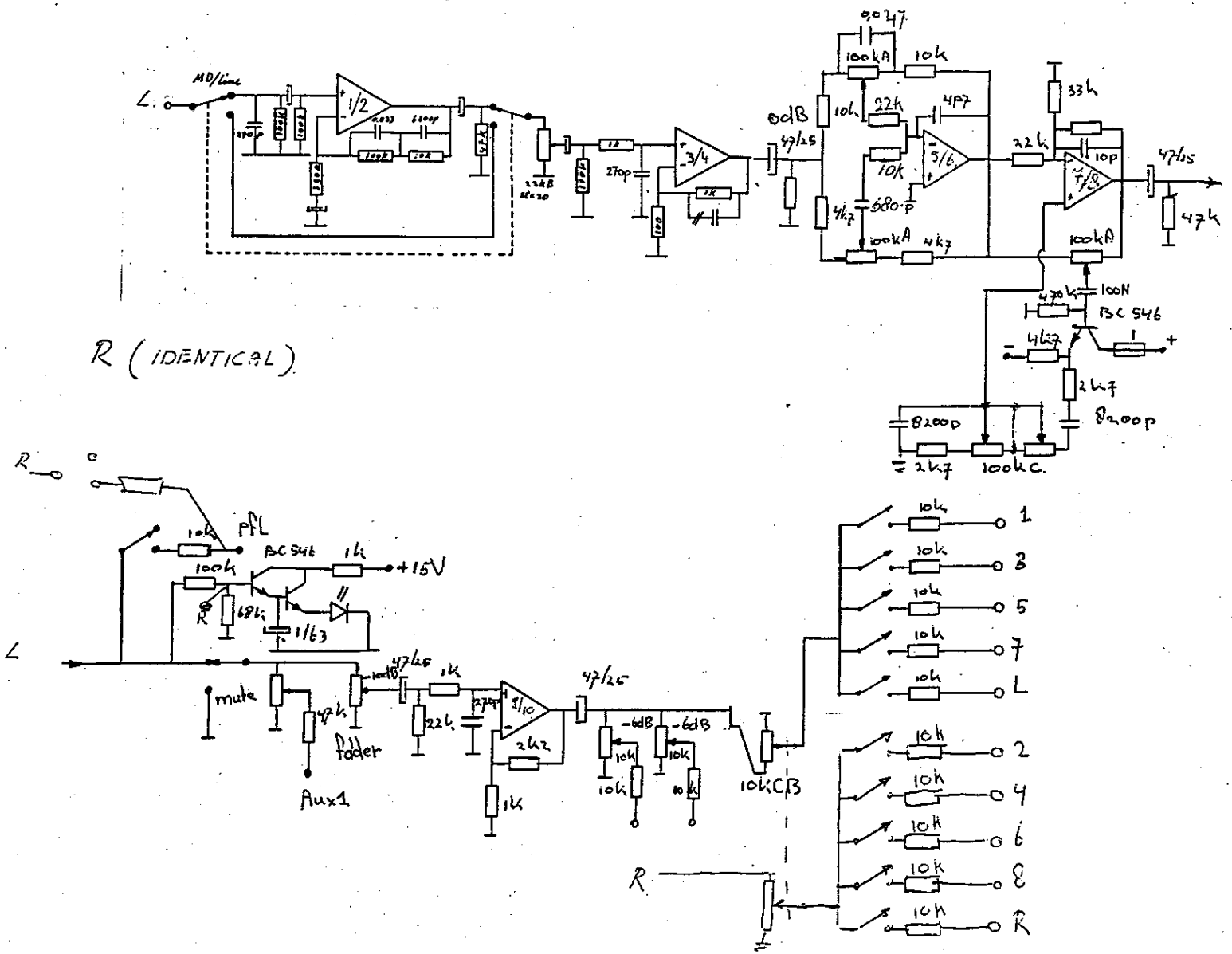
Date: 09-05-1986 R & D department

PARTLIST : 900-1 MONO CHANNEL print index:g

PartNr	Value	Notes	ArtNr
R1	6 k 81	1% met.film	0846
R2	6 k 81	1% met.film	0846
R3	1 k 0	5%	0729
R4	1 k 0	5%	0729
R5	220 E	5%	0721
R6	10 k	5%	0741
R7	3 k 9	5%	0736
R8	3 k 9	5%	0736
R9	10 E	5%	0705
R10	10 E	5%	0705
R11	4 k 7	5% met.film	0801
R12	4 k 7	5% met.film	0801
R13	8 k 2	5% met.film	0802
R14	8 k 2	5% met.film	0802
R15	47 k	5%	0749
R16	47 k	5%	0749
R17	22 E	5%	0709
R18	1 k 0	5%	0729
R19	3 k 9	5%	0736
R20	39 k	5%	0748
R21	39 k	5%	0748
R22	47 k	5%	0749
R23	15 k	5%	0743
R24	6 k 8	5%	0739
R25	15 k	5%	0743
R26	22 k	5%	0745
R27	6 k 8	5%	0739
R28	22 k	5%	0745
R29	22 k	5%	0745
R30	2 k 7	5%	0734
R31	2 k 7	5%	0734
R32	47 k	5%	0749
R33	100 E	5%	0717
R34	47 k	5%	0749
R35	100 k	5%	0753
R36	68 k	5%	0751
R37	1 k 8	5%	0732
R38	47 k	5%	0749
R39	22 k	5%	0745
R40	1 k 0	5%	0729
R41	10 k	5%	0741
R42	22 k	5%	0745
R43	10 k	5%	0741
R44	10 k	5%	0741
R45	3 k 9	5%	0736
R46	3 k 9	5%	0736
R47	10 k	5%	0741

	R48	10 k	5%	0741
	R49	10 k	5%	0741
	R50	10 k	5%	0741
	R51	10 k	5%	0741
	R52	10 k	5%	0741
	R53	10 k	5%	0741
	R54	10 k	5%	0741
	R55	10 k	5%	0741
	R56	10 k	5%	0741
	R57	10 k	5%	0741
only in 1g				
	R58 (=>C28)	12 k (0.033)	5%	0742
	R59	1 k 0 (10 k)	5%	0729/0741
	R60	10 k	5%	0741
	R61	47 k	5%	0749
	R62	47 k	5%	0749
	R63	6 k 8	5%	0739
	R64	10 k	5% (opt.)	0741
	R65	10 k	5% (opt.)	0741
	R300	10 E	5%	0705
	R301	10 E	5%	0705
	C1	47 / 63	elco	0289
	C2	47 / 63	elco	0289
	C3	270 p	ker	0230
	C4	220 / 16-25	elco	0290
	C5	47 / 25	elco	0287
	C6	47 / 25	elco	0287
	C7	47 / 25	elco	0287
	C8	0.047	poly	0258
	C9	680 p	poly	0245
	C10	4 p 7	ker	0209
	C11	4 p 7	ker	0209
	C12	4 p 7	ker	0209
	C13	4 p 7	ker	0209
	C14	0.015	poly	0254
	C15	4700 p	poly	0250
	C16	47 / 25	elco	0287
	C17	47 / 25	elco	0287
	C18	1 / 63	elco	0279
	C19	47 / 25	elco	0287
	C20	270 p	ker	0230
	C21	47 / 25	elco	0287
	C22	47 / 25	elco	0287
	C23	270 p	ker	0230
	C24	4 p 7	ker	0209
only in 1g				
	C25	0.047 (0.012)	poly	0258/0244
	C26	3300 p	poly	0249
	C27	100 p	ker	0225
	C28	0.033	poly (opt.)	0257
	C300	47 / 25	elco	0287
	C301	47 / 25	elco	0287
	C302	0.1 / 63	ker	0241
	C303	0.1 / 63	ker	0241
	T1-T4	BC 560/416	PNP	0327
	T5,T6	BC 546	NPN	0328
	A1-A4	TL 074	bifet	0305
	D1-D4	5v6	zener	0351

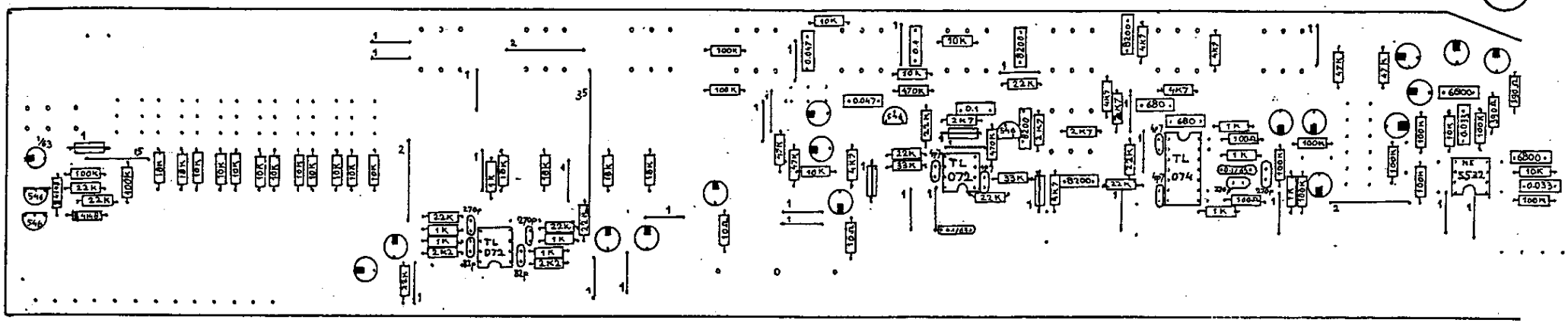
gain	P1	10 kCB	15mm stereo	0106
high	P2	10 kA	15mm mono	0103
mid swp	P3	2x100 kC	15mm stereo	0118
mid	P4	10 kA	15mm mono	0103
low	P5	4.7 kA (2x100kC+4k7A)	12.5mm mono	0082/0119
aux1	P6	10 kB	15mm mono	0104
aux2	P7	10 kB (2x47kB con.)	15mm mono	0104/0112
aux3	P8	10 kB (2x47kB con.)	15mm mono	0104/0112
pan	P9	10 kA	15mm stereo	0128
	F1	10 kB NOBLE	100mm mono fader	0138
	S1	2 x 2 switch	FOXN2UEE	0400
	S2	2 x 2 switch	FOXN2UEE	0400
	S3	4 x 2 switch	FOXN4UEE	0401
	S4	4 x 2 switch	FOXN4UEE	0401
	S5	2 x 2 switch	FOXN2UEE	0400
	S6	2 x 2 switch	FOXN2UEE	0400
	S7	2 x 2 switch	FOXN2UEE	0400
	S8	2 x 2 switch	FOXN2UEE	0400
	S9	2 x 2 switch	FOXN2UEE	0400
	S10	2 x 2 switch	FOXN2UEE	0400
	S11	2 x 2 switch	FOXN2UEE	0400
	J1	XLR 3p female	plastic	0424
	J2	Cliff break	plastic	0432

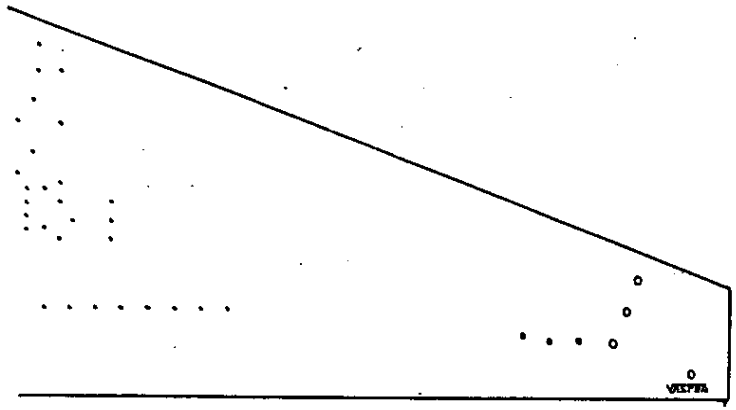


900-1

STEREO Channel

900-ST a

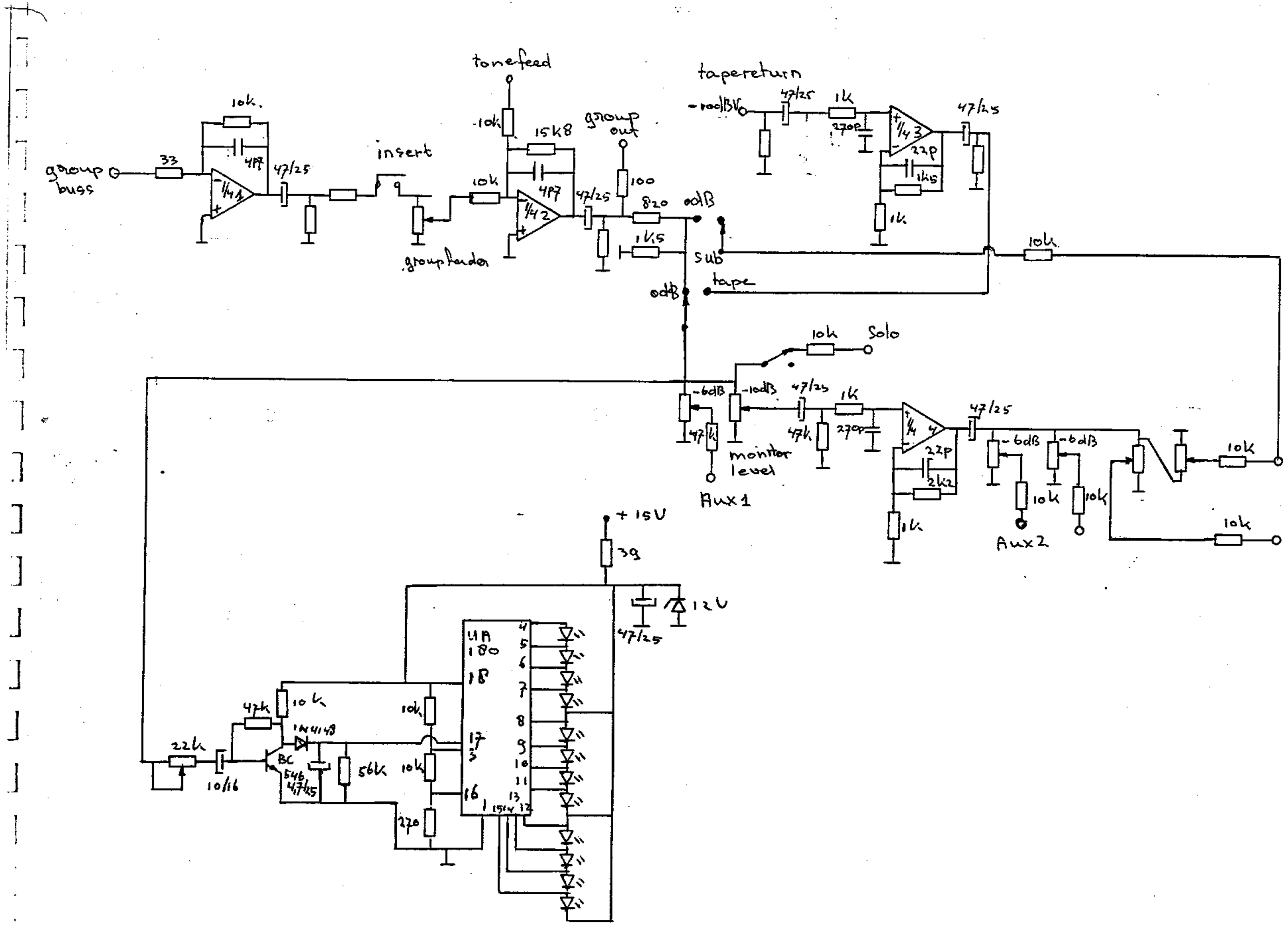




Draadbrug	1 cm		30
Draadbrug	1.5 cm		1
Draadbrug	2 cm		3
Draadbrug	3.5 cm		1
Weerst 5%	10	-	2
Weerst 5%	100	-	2
Weerst 5%	390	-	2
Weerst 5%	1k0	-	9
Weerst 5%	2k2	-	2
Weerst 5%	2k7	-	4
Weerst 5%	3k9	-	2
Weerst 5%	4k7	-	6
Weerst 5%	10k	-	16
Weerst 5%	18k	-	6
Weerst 5%	22k	-	12
Weerst 5%	33k	-	2
Weerst 5%	47k	-	4
Weerst 5%	100k	-	12
Weerst 5%	470k	-	2
Diode. 1N4148 sgn		-	2

Cond ker	4p7	-	4
Cond ker	82pF	-	2
Cond ker	270pF	-	4
Cond ker	0.1/63v	-	2
Cond	680pF pol	-	2
Cond	6800pF pol	-	2
Cond	8200pF pol	-	4
Cond	0.033uF pol	-	2
Cond	0.047uF pol	-	2
Cond	0.1 uF pol	-	2
BC 546	NPN	-	4
Elco	1 /63	-	1
Elco	47 /25	-	16
Ic TL	072 bifet	-	2
Ic TL	074 bifet	-	1
Ic NE	5532 lowns	-	1

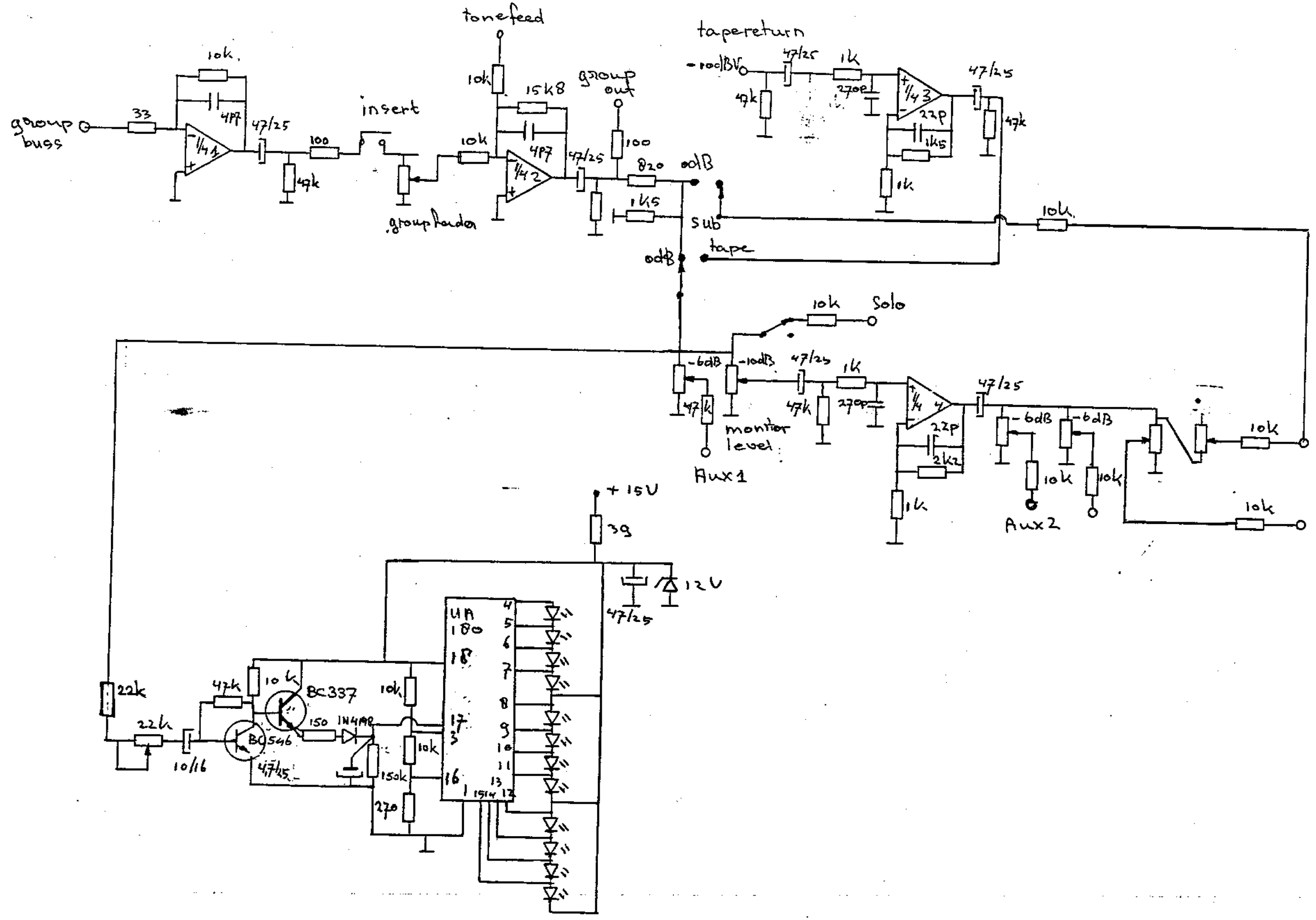
16 JUNI 1986



group buss
33
10k.
4P7
1/4 1
47/25
insert
9
groupfader
tonefeed
-10k
15k8
10k
4P7
1/4 2
47/25
group out
100
820
1k5
0dB
sub
tape
0dB
tapereturn
-10dBV
47/25
1k
270p
1/4 3
22p
1k5
1k
47/25
10k
10k
Solo
-6dB
-10dB
47/25
1k
47k
270p
1/4 4
22p
2k2
1k
47k
monitor level
Aux 1
47/25
-6dB
-6dB
10k
10k
Aux 2
10k
10k
+15V
39
47/25
12V
UA 180
22k
10/16
47k
10k
1N4148
BC 546
47/25
56k
10k
10k
270

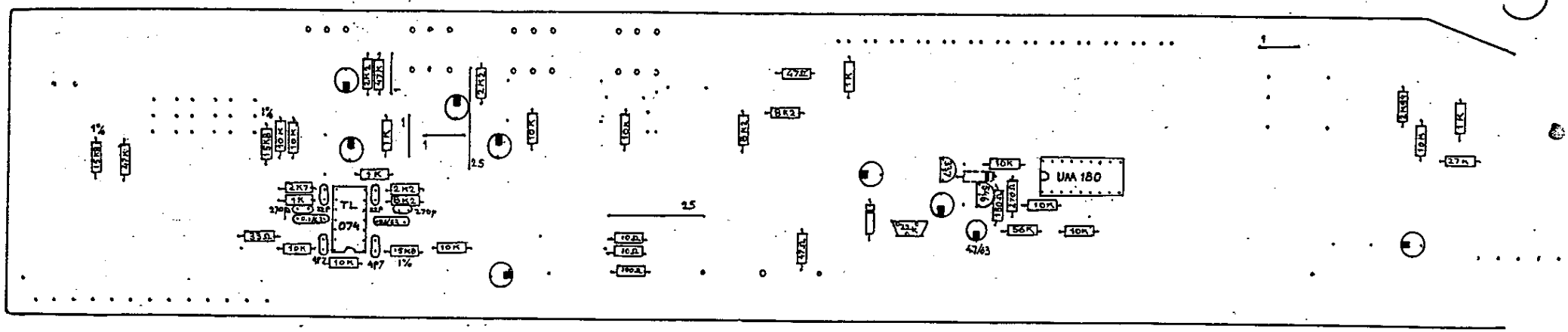
900-2

group


tonefeed
tapereturn
-10dBV
group buss
33
10k.
4P7
1/4 1
47/25
47k
100
insert
groupfader
10k
15k8
4P7
1/4 2
group out
100
820
0dB
1k5
sub
tape
1k
270p
1/4 3
22p
1k5
1k
10k
Solo
-6dB
-10dB
monitor level
Aux 1
1/4 4
2k2
Aux 2
+15V
39
12V
UA 180
BC337
BC546
1N4148
150
150k
270
22k
10/16
47/25

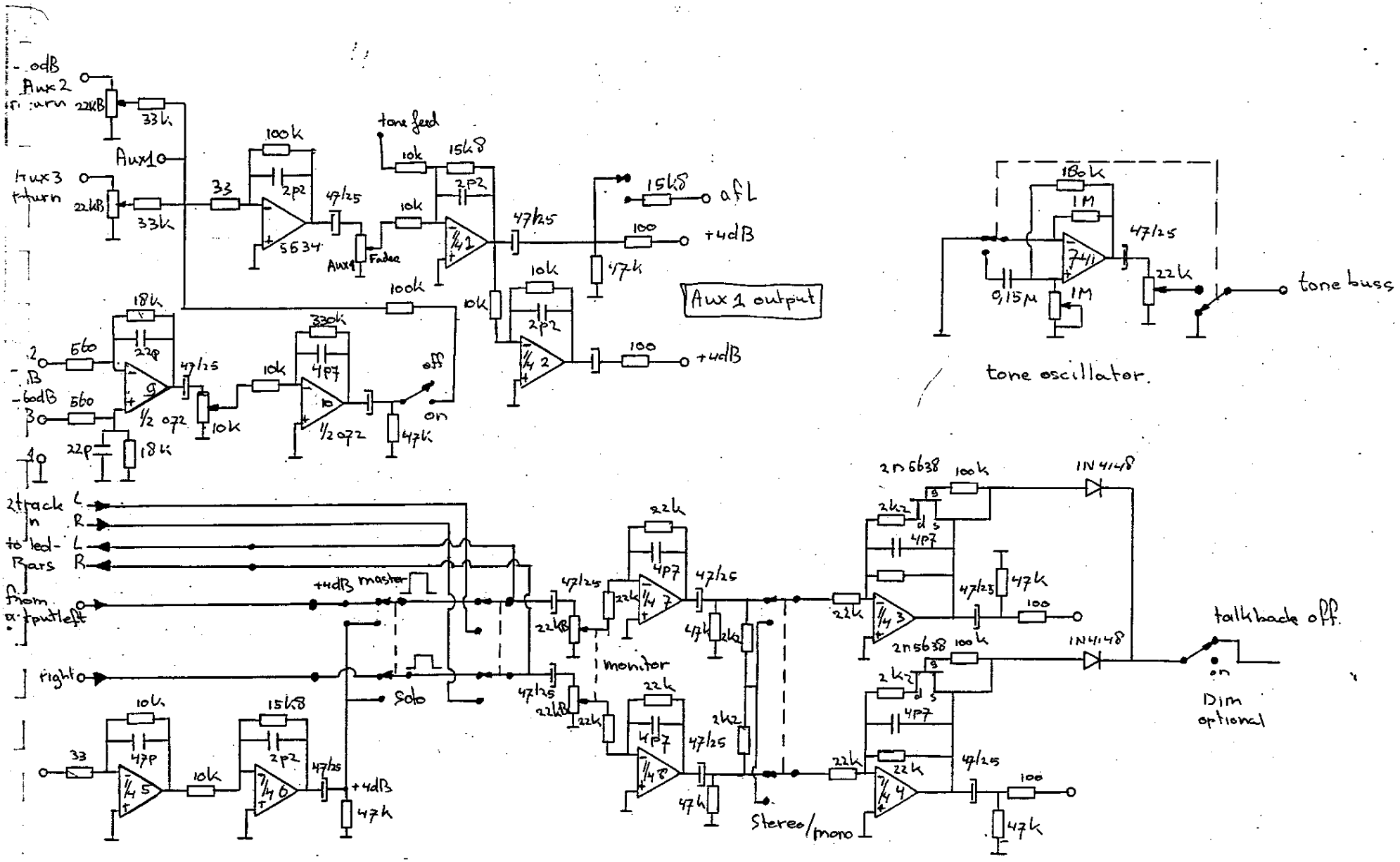
900-2

group



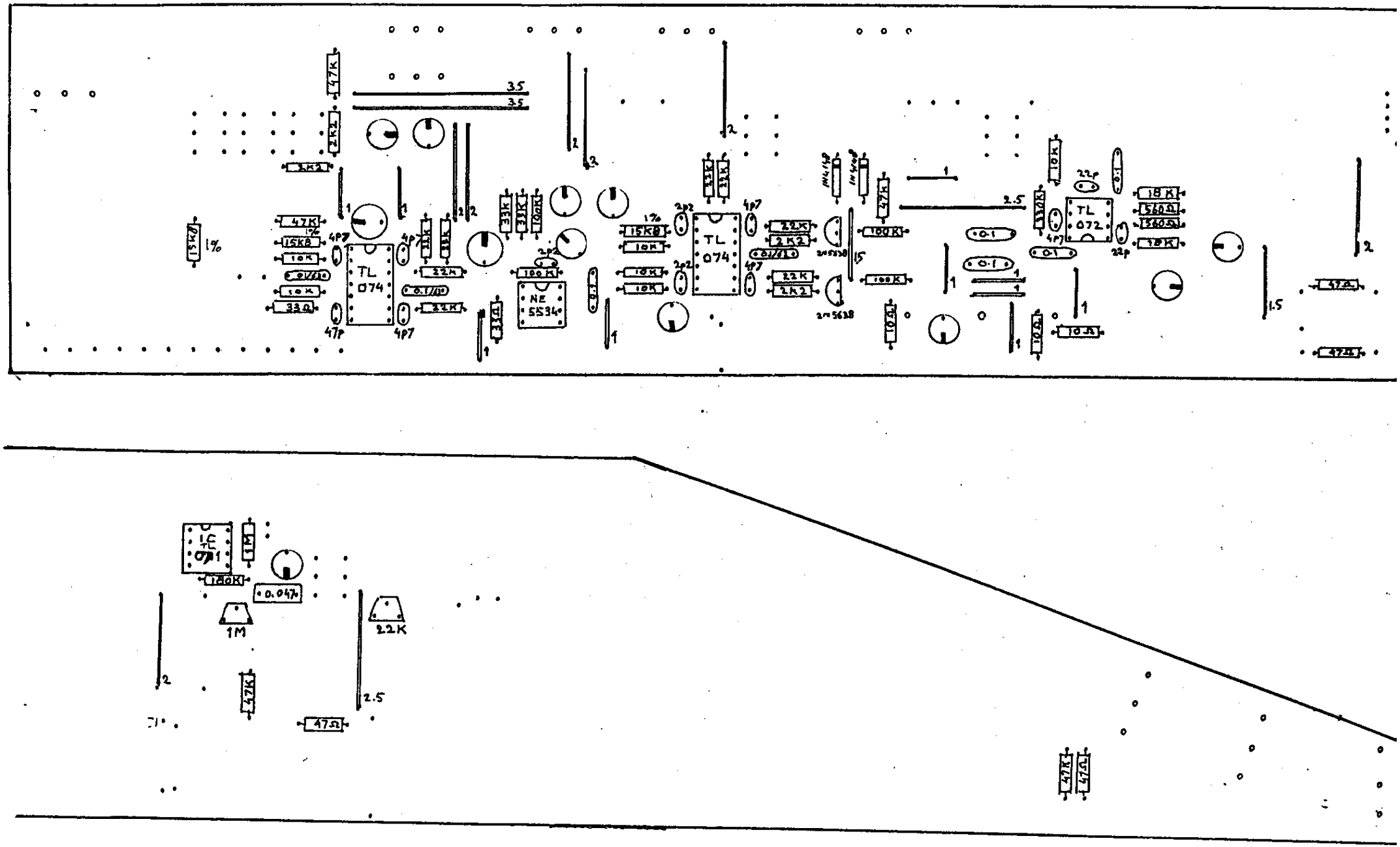
Draadbrug	1cm		4x
Draadbrug	2,5cm		2x
Weerstand	10	-	2x
Weerstand	33	-	1x
Weerstand	47	-	2x
Weerstand	100	-	1x
Weerstand	150	-	1x
Weerstand	270	-	1x
Weerstand	1k0	-	5x
Weerstand	2k2	-	3x
Weerstand	2k7	-	1x
Weerstand	8k2	-	2x
Weerstand	10k	-	11x
Weerstand	27k	-	1x
Weerstand	47k	-	3x
Weerstand	56k	-	1x
Weerstand	82k	-	1x
Weerst 1%	2k92	-	1x
Weerst 1%	15k8	-	3x

Cond 4p7	ker	-	2x
Cond 22p	ker	-	2x
Cond 270p	ker	-	2x
Cond 0,1/63v	ker	-	2x
BC 337			1x
BC 546	NPN		1x
Diode 1N4148	sgn	-	1x
Zenerdiode 12v		-	1x
Ic TL 074	bifet	-	1x
Ic UAA 180	led12	-	1x
Ic voet 14 pins		-	1x
Ic voet 18 pins		-	1x
Inst.pot 22k	m	-	1x
Elco 4.7/63		-	1x
Elco 47/25		-	8x



goo-3
Master I

900-3a



== ELECTRONICA B.V.
produktie en ontwikkeling van
geluidsmengpanelen en accessoires

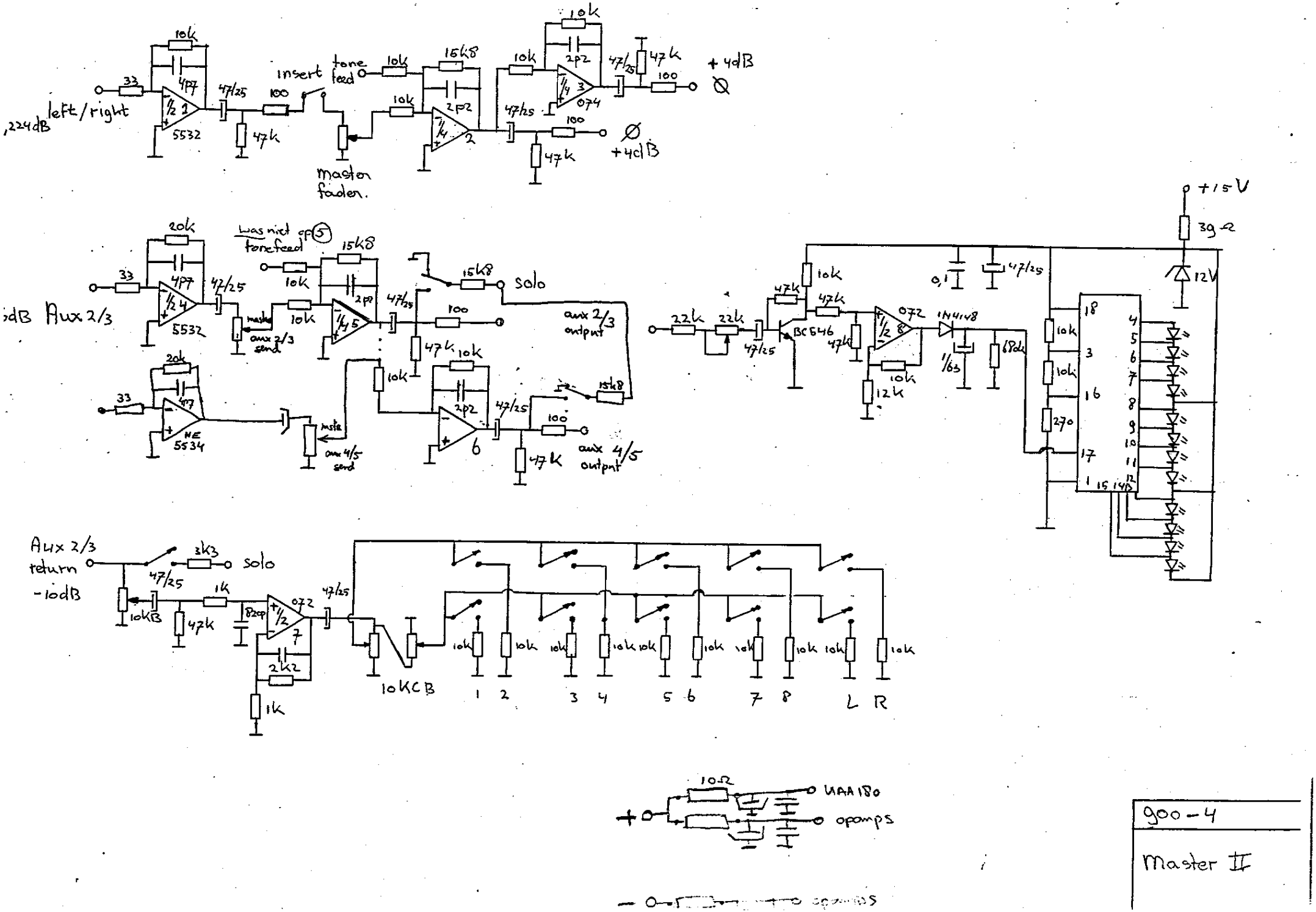
Date: 25-06-1986 R & D department

PARTLIST : 900-3 AUX 1 + MONITOR + TALKBACK print index: b

	PartNr	Value	Notes	ArtNr
auxl	R1	33 k	5%	0747
	R2	33 k	5%	0747
	R3	33 E	5%	0711
	R4	100 k	5%	0753
auxfdr	R5	10 k	5%	0741
	R6	10 k	5%	0741
	R7	15 k 8	1%	0853
	R8	-----		
	R9	100 E	5%	0717
	R10	15 k 8	1%	0853
	R11	10 k	5%	0741
	R12	10 k	5%	0741
	R13	100 E	5%	0717
talkbck	R14	560 E	5%	0726
	R15	560 E	5%	0726
	R16	18 k	5%	0744
	R17	18 k	5%	0744
	R18	10 k	5%	0741
	R19	330 k	5%	0759
	R20 (added in 3b)	47 k	5%	0749
	R21	100 k	5%	0753
solo	R22	33 E	5%	0711
	R23	10 k	5%	0741
	R24	10 k	5%	0741
	R25	15 k 8	1%	0853
	R26	47 k	5%	0749
Rmonit.	R27	22 k	5%	0745
	R28	22 k	5%	0745
	R29	47 k	5%	0749
	R30	2 k 2	5%	0733
	R31	22 k	5%	0745
	R32	2 k 2	5%	0733
	R33	22 k	5%	0745
	R34	100 k	5%	0753
	R35	47 k	5%	0749
	R36	100 E	5%	0717
Lmonit.	R37	22 k	5%	0745
	R38	22 k	5%	0745
	R39	47 k	5%	0749
	R40	2 k 2	5%	0733
	R41	22 k	5%	0745
	R42	2 k 2	5%	0733
	R43	22 k	5%	0745
	R44	100 k	5%	0753
	R45	47 k	5%	0749
	R46	100 E	5%	0717
oscill.	R47	12 k 1	1%	0851
	R48	12 k 1	1%	0851
	R49	12 k 1	1%	0851
	R50	12 k 1	1%	0851

	R51	56 k	5%	0749
	R52	4 k 7	5%	0737
	R53	100 E	5%	0717
	R54	47 k	5%	0749
	R55	47 k	5%	0749
	R56	47 k	5%	0749
supply	R300	10 E	5%	0705
	R301	10 E	5%	0705
	R302	100 E	5%	0717
aux1	C1	2 p 2	ker	0205
	C2	47 / 25	elco	0287
auxfdr	C3	2 p 2	ker	0205
	C4	47 / 25	elco	0287
	C5	2 p 2	ker	0205
	C6	47 / 25	elco	0287
talkbck	C7	22 p	ker	0217
	C8	22 p	ker	0217
	C9	0.1 u	poly	0261
	C10	4 p 7	ker	0209
	C11	0.1 u	poly	0261
solo	C12	47 p	ker	0217
	C13	2 p 7	ker	0205
	C14	47 / 25	elco	0287
Rmonit.	C15	47 / 25	elco	0287
	C16	4 p 7	ker	0209
	C17	47 / 25	elco	0287
	C18	4 p 7	ker	0209
	C19	47 / 25	elco	0287
Lmonit.	C20	47 / 25	elco	0287
	C21	4 p 7	ker	0209
	C22	47 / 25	elco	0287
	C23	4 p 7	ker	0209
	C24	47 / 25	elco	0287
oscill.	C25	0.01 u	poly	0253
	C26	0.01 u	poly	0253
	C27	0.01 u	poly	0253
	C28	0.01 u	poly	0253
	C29	47 / 25	elco	0287
	C30	0.68 u	poly	0267
	C31	47 / 25	elco	0287
supply	C300	47 / 25	elco	0287
	C301	47 / 25	elco	0287
	C302	0.1 / 63	ker	0241
	C303	0.1 / 63	ker	0241
	C304	100 / 25	elco	0292
dim	D1	IN4148	sgn	0342
	D2	IN4148	sgn	0342
dim	T1	2N5638	switchFET	0338
	T2	2N5638	switchFET	0338
oscill.	T3	BC 546	NPN	0328
	T4	BC 546	NPN	0328
auxfdr+				
monit.	A1-A4	TL 074	biFET opamp	0305
pfl+mon.	A5-A8	TL 074	biFET opamp	0305
talkbck	A9+A10	TL 072	biFET opamp	0304
aux I	A11	NE 5532	low noise opamp	0307
oscill.	VR1	4 k 7	mini trim	0144
	VR2	47 k	mini trim	0147
talkbck	P1	10 k B	15mm mono	0104
aux2ret	P2	10 k B	15mm mono	0104
aux3ret	P3	10 k B	15mm mono	0104
monit.	P4	22 k B 2x	15mm stereo	0109

oscill.	S1		2 x 2	FOX N2UEE	0400
mst/sol	S2		2 x 2	FOX N2UEE	0400
talkbck	S3		2 x 2	FOX N2UEE	0400
mono	S4		2 x 2	FOX N2UEE	0400
2-track	S5		2 x 2	FOX N2UEE	0400
aux1sol	S6		2 x 2	FOX N2UEE	0400
phantom	S7	(optional)	2 x 2	FOX N2UEE	0400
aux1	J1		XLR 3 pin	male plastic	0423
2-track	J2		jack stereo	CLIFF plastic	0433
monit.	J3		jack stereo	CLIFF plastic	0433
talkbck	J4		XLR 3 pin	female plastic	0424
osc.ins	J5	(optional)	jack stereo	CLIFF plastic	0433



900-4

Master II

== ELECTRONICA B.V.

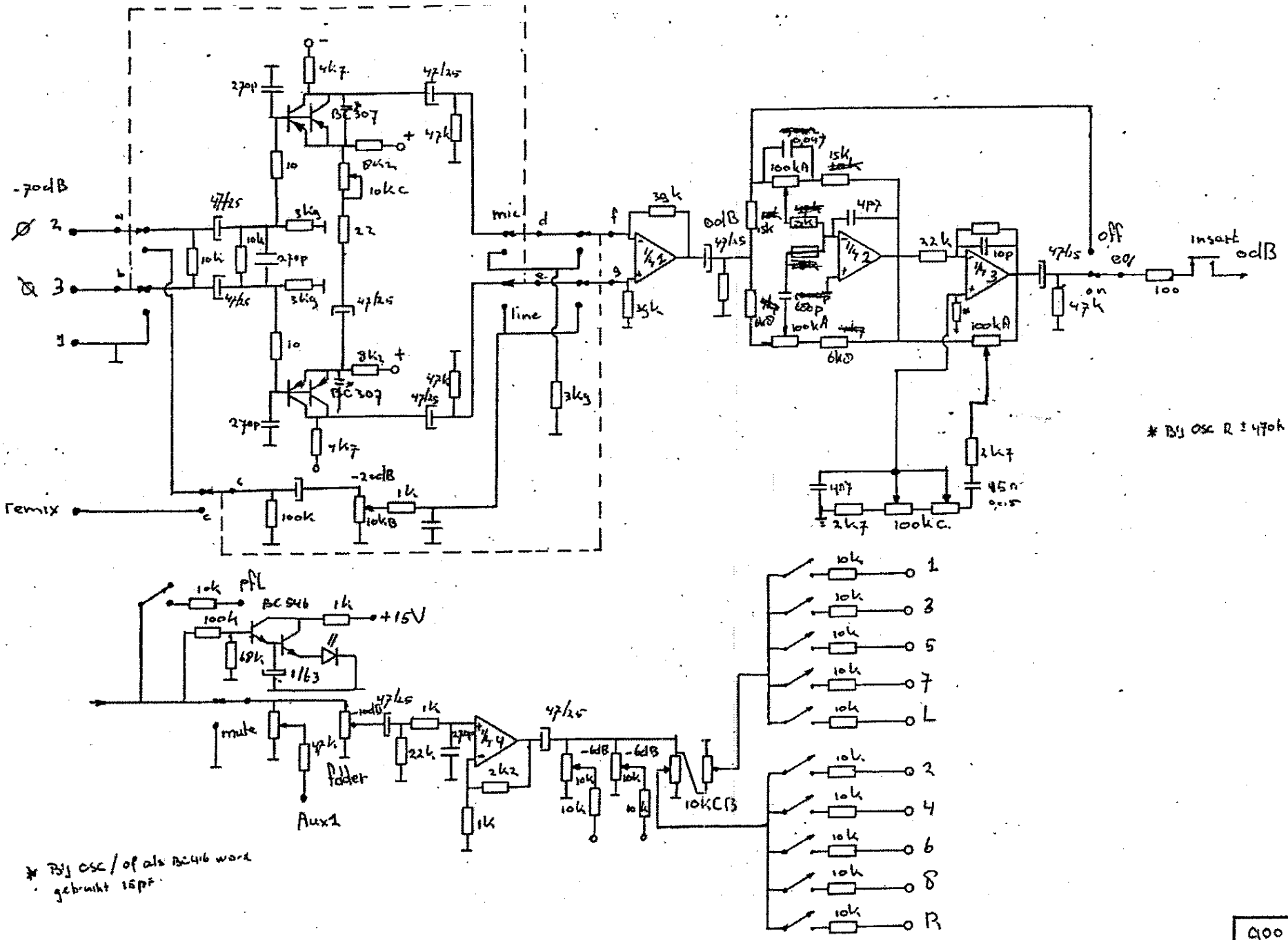
produktie en ontwikkeling van geluidsmengpanelen en accessoires

Date: 20-11-1986 R & D department

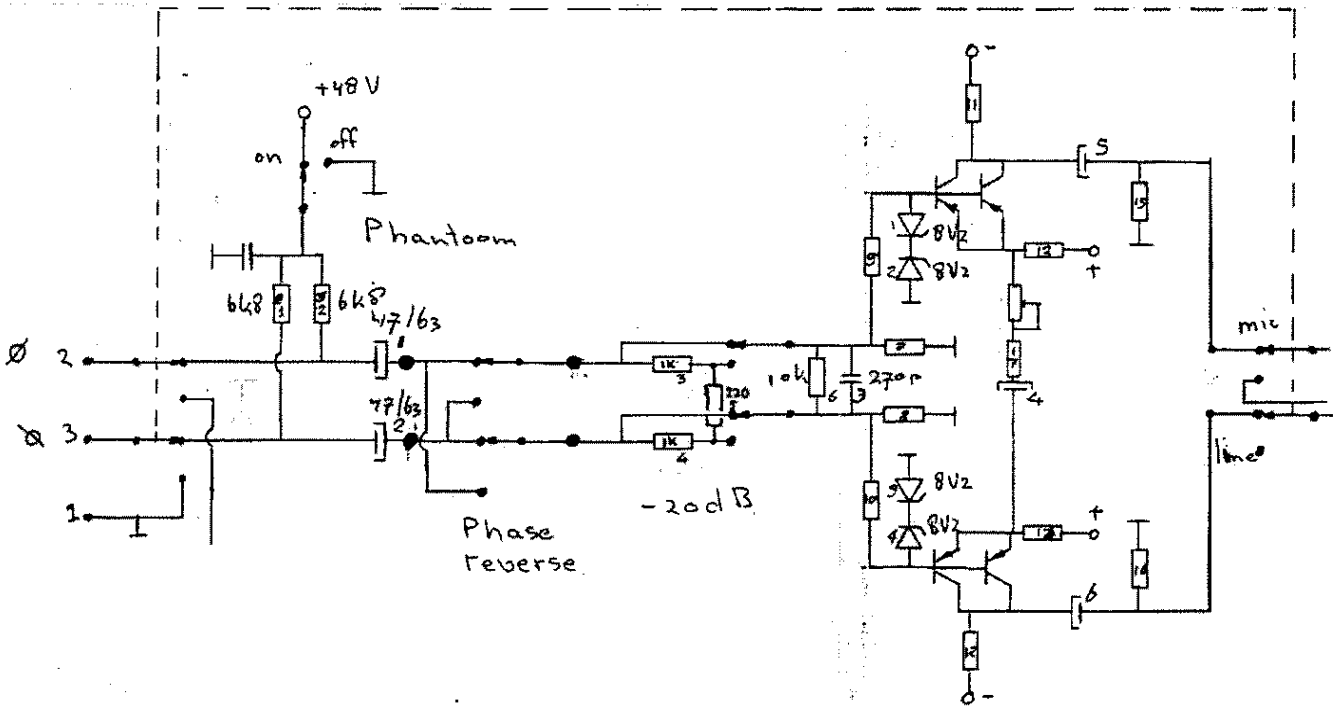
PARTLIST : 900-4 LEFT/RIGHT MASTER printindex : b

	PartNr	Value	Notes	ArtNr
L/R mix	R1	33E	5%	0711
	R2	10k	5%	0741
	R3	47k	5%	0749
	R4	100E	5%	0717
	R5	10k	5%	0741
	R6	10k	5%	0741
	R7	15k8	1%	0853
in phs	R8	47k	5%	0749
	R9	100E	5%	0717
out phs	R10	10k	5%	0741
	R11	10k	5%	0741
	R12	47k	5%	0749
	R13	100E	5%	0717
aux2/3	R14	33E	5%	0711
	R15	20k0	1%	0856
	R16	10k	5%	0741
	R17	10k	5%	0741
	R18	15k8	1%	0853
	R19	47k	5%	0749
	R20	100E	5%	0717
afl 2/3	R21	15k8	1%	0853
aux 4/5	R22	10k	5%	0741
	R23	10k	5%	0741
	R24	47k	5%	0749
	R25	100E	5%	0717
afl 4/5	R26	15k8	1%	0853
aux 4/5	R27	33E	5%	0711
	R28	20k0	1%	0856
2/3 ret	R29	3k3	5%	0735
	R30	47k	5%	0749
	R31	1k0	5%	0729
	R32	1k0	5%	0729
	R33	2k2	5%	0733
	R34	10k	5%	0741
	R35	10k	5%	0741
	R36	10k	5%	0741
	R37	10k	5%	0741
	R38	10k	5%	0741
	R39	10k	5%	0741
	R40	10k	5%	0741
	R41	10k	5%	0741
	R42	10k	5%	0741
	R43	10k	5%	0741
led L/R	R44	22k	5%	0745
	R45	47k	5%	0749
	R46	10k	5%	0741
	R47	47k	5%	0749
	R48	47k	5%	0749

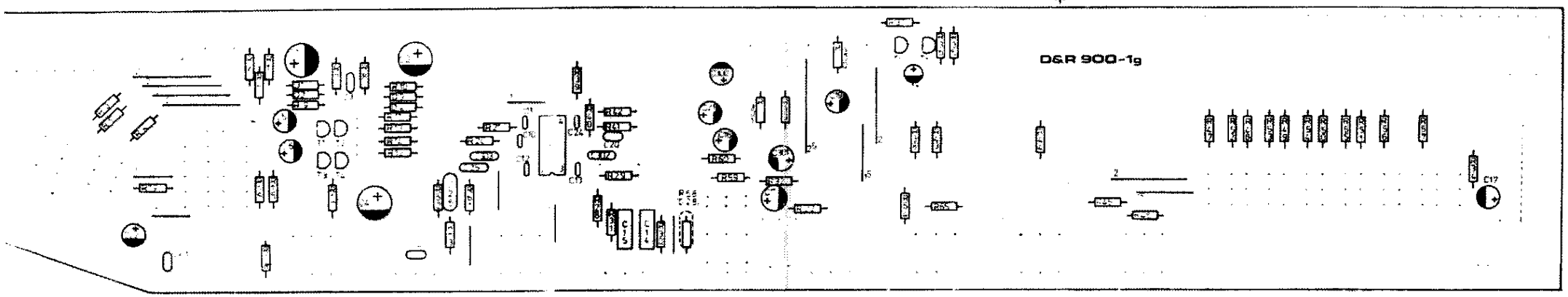
	R50	10k	5%	0741
	R51	680E	5%	0727
	R52	10k	5%	0741
	R53	10k	5%	0741
	R54	270E	5%	0722
tonebss	R55	10k	5%	0741
led L/R	R56	1k0	5%	0729
	R57	47k	5%	
	R57	47k	5%	0749
	R58	47k	5%	0749
+V1	R300	10E	5%	0705
-V1	R301	10E	5%	0705
+V2	R302	39E	5%	0712
L/R mix	C1	4p7	ker	0209
	C2	47/25	rad	0287
	C3	2p2	ker	0205
in phs	C4	47/25	rad	0287
out phs	C5	2p2	ker	0205
	C6	47/25	rad	0287
aux 2/3	C7	4p7	ker	0209
	C8	47/25	rad	0287
	C9	2p2	ker	0205
	C10	47/25	rad	0287
	C11	2p2	ker	0205
	C12	47/25	rad	0287
	C13	4p7	ker	0209
	C14	47/25	rad	0287
2/3 ret	C15	47/25	rad	0287
	C16	820p	ker	0235
	C17	4p7	ker	0209
	C18	47/25	rad	0287
led L/R	C19	47/25	rad	0287
	C20	1/63	rad	0279
+V1	C300	47/25	rad	0287
-V1	C301	47/25	rad	0287
+V1	C302	0.1/63	ker	0241
-V1	C303	0.1/63	ker	0241
+V2	C304	47/25	rad	0287
-V2	C305	0.1/63	ker	0241
led L/R	D1	1N 4148	sgn.rect	0342
	D2-D11	LED green	5x2mm	0389
	D12-D14	LED red	5x2mm	0390
	D300	12 V	zener	0353
led L/R	TR1	BC 546	NPN	0328
	A1+A4	NE 5532	low noise	0307
	A2,A3,A5,A6	TL 074	biFET opamp	0305
	A7+A8	TL 072	biFET opamp	0304
	A9	TL 071	biFET opamp	0303
	IC1	UAA 180	12-segm. leddr.	0308
	VR1	22k	1-turn minitrim	0146
aux 2/3	P1 (standard)	47kB	mono 15mm	0110
aux2/3+4/5	P1 (optional)	2x 47kB	concentr.15mm	0112
ret 2/3	P2	10kB	mono 15mm	0884
	P3	10kCB	stereo 15mm	0106
aux 4/5	S1 (optional)	2x2 switch	ALPS	0400
aux 2/3	S2	2x2 switch	ALPS	0400
ret 2/3	S3-S8	2x2 switch	ALPS	0400
L/R out	J1	XLR 3pin male	plastic chass.	0423
insert	J2	JACK break	CLIFF	0432
aux2/3+4/5	J3	JACK stereo	CLIFF	0433
ret 2/3	J4	JACK break	CLIFF	0432

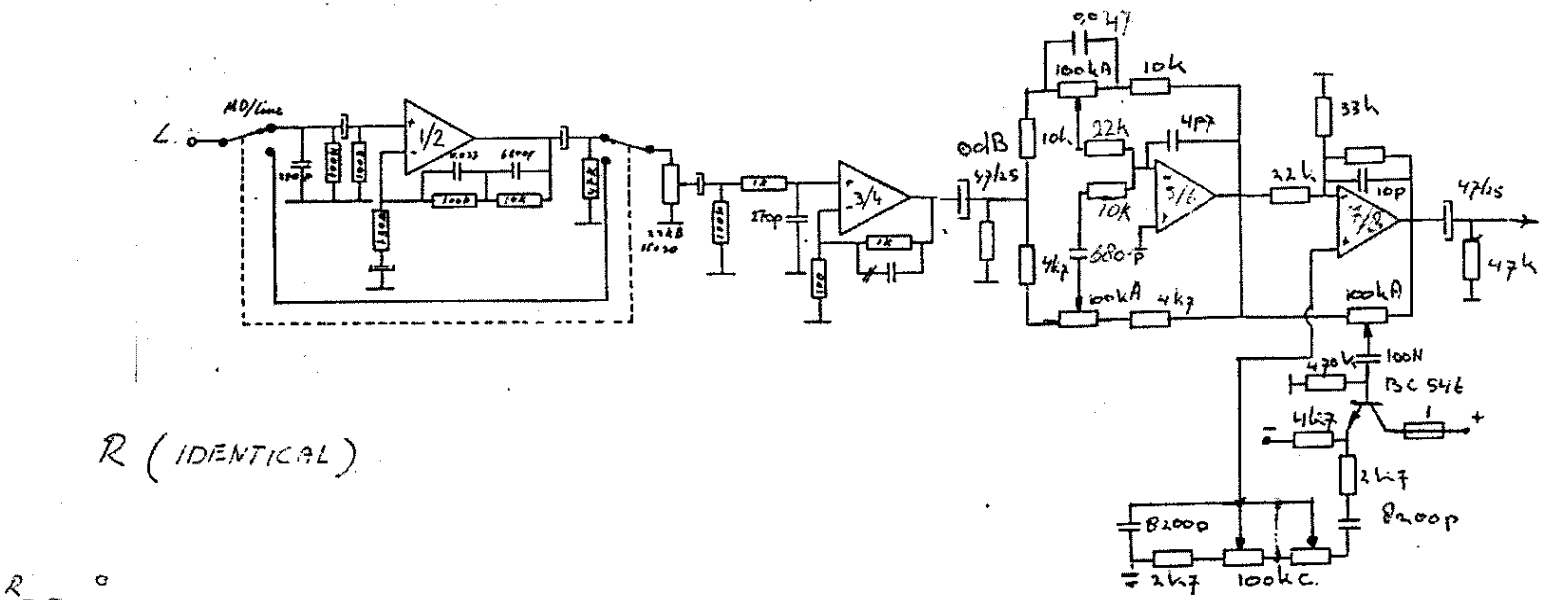


900 - 1	Nieuw
Channel	

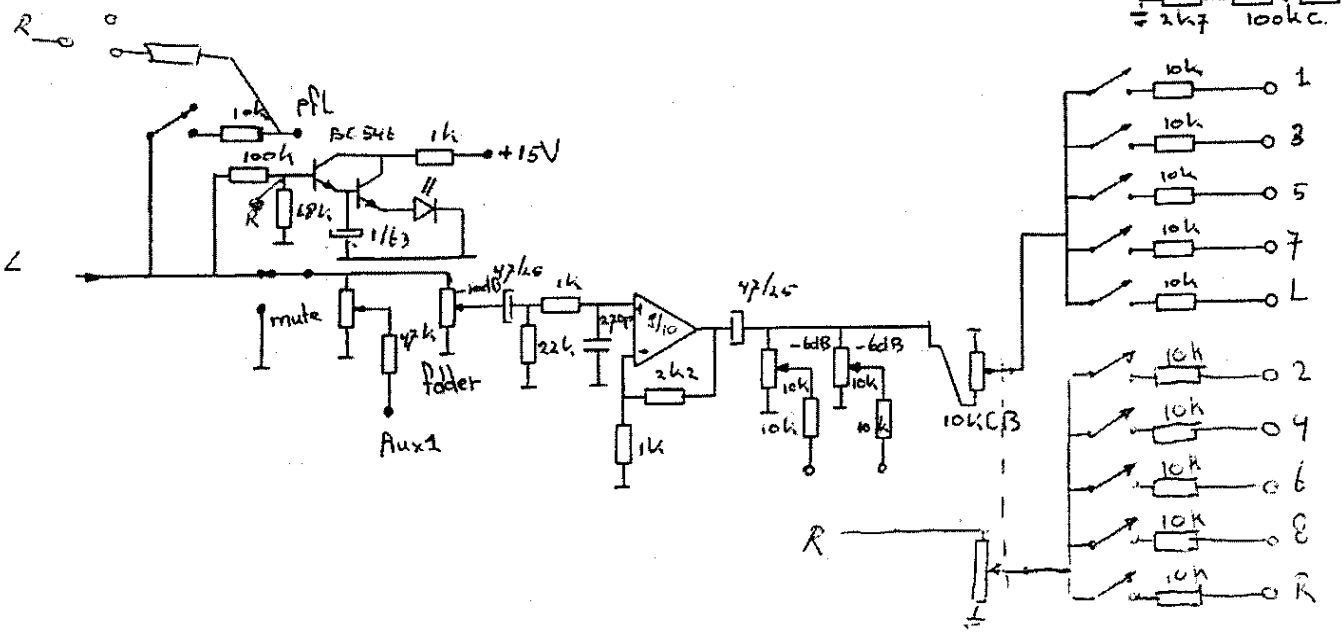


goo-1
options


D&R 900-1g

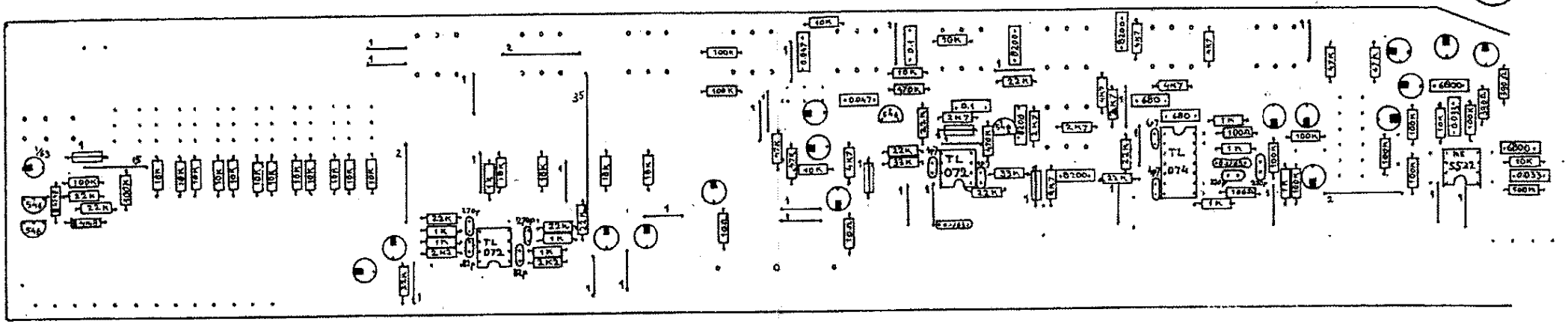


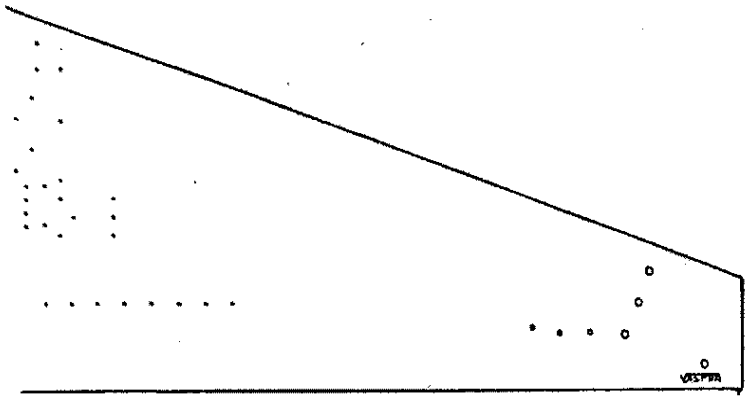
R (IDENTICAL)



900-1
STEREO Channel

900-ST a





Draadbrug	1 cm		30
Draadbrug	1.5 cm		1
Draadbrug	2 cm		3
Draadbrug	3.5 cm		1
Weerst 5%	10	-	2
Weerst 5%	100	-	2
Weerst 5%	390	-	2
Weerst 5%	1k0	-	9
Weerst 5%	2k2	-	2
Weerst 5%	2k7	-	4
Weerst 5%	3k9	-	2
Weerst 5%	4k7	-	6
Weerst 5%	10k	-	16
Weerst 5%	18k	-	6
Weerst 5%	22k	-	12
Weerst 5%	33k	-	2
Weerst 5%	47k	-	4
Weerst 5%	100k	-	12
Weerst 5%	470k	-	2
Diode 1N4148 sgn		-	2

Cond ker	4p7	-	4
Cond ker	82pF	-	2
Cond ker	270pF	-	4
Cond ker	0.1/63v	-	2
Cond	680pF pol	-	2
Cond	6800pF pol	-	2
Cond	8200pF pol	-	4
Cond	0.033uF pol	-	2
Cond	0.047uF pol	-	2
Cond	0.1 uF pol	-	2
BC 546	NPN	-	4
Elco	1 /63	-	1
Elco	47 /25	-	16
Ic TL	072 bifet	-	2
Ic TL	074 bifet	-	1
Ic NE	5532 lowns	-	1

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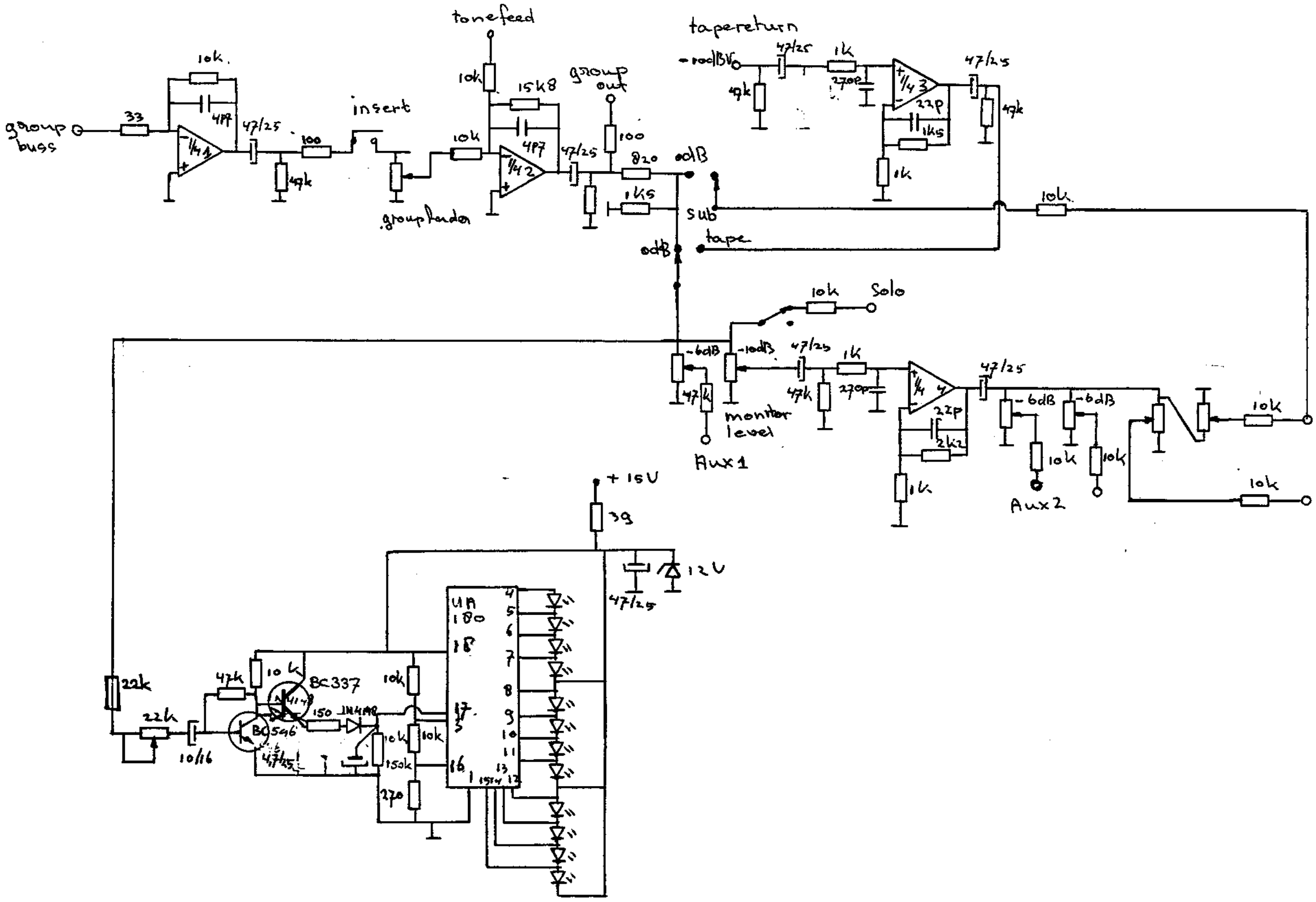
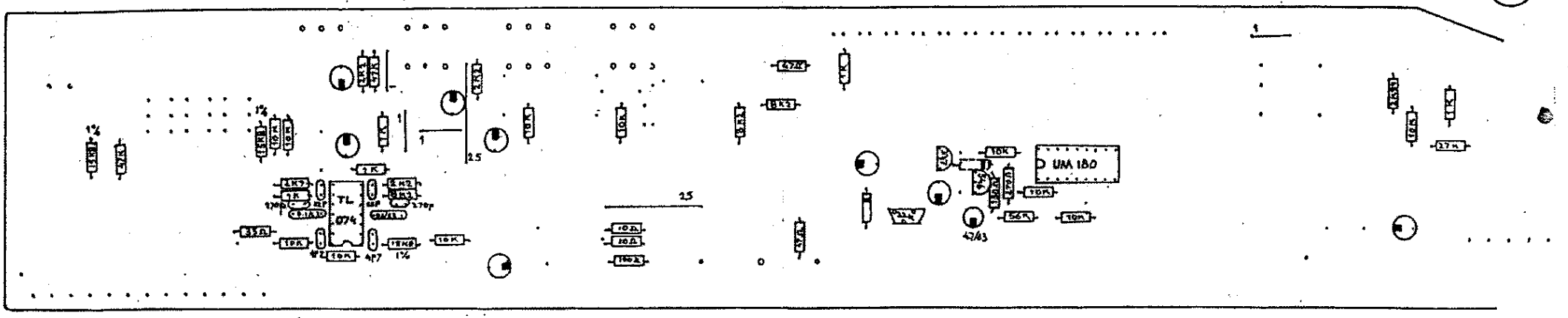

group buss
33
10k
4P7
1/4 1
47/25
100
47k
insert
group fader
tonefeed
10k
15k8
4P7
1/4 2
47/25
group out
100
820
0dB
1k5
sub
tape
0dB
taperetturn
-10dBV
47/25
1k
270p
47k
1/4 3
22p
1k5
1k
47/25
47k
10k
Solo
10k
-6dB
-10dB
47/25
1k
47k
270p
1/4 4
22p
2k2
1k
47k
monitor level
Aux1
47/25
-6dB
-6dB
10k
10k
Aux2
10k
10k
+15V
39
47/25
12V
UA 180
BC337
BC546
1N4148
150
47k
10k
10k
10k
150k
270
22k
22k
10/16
47/25

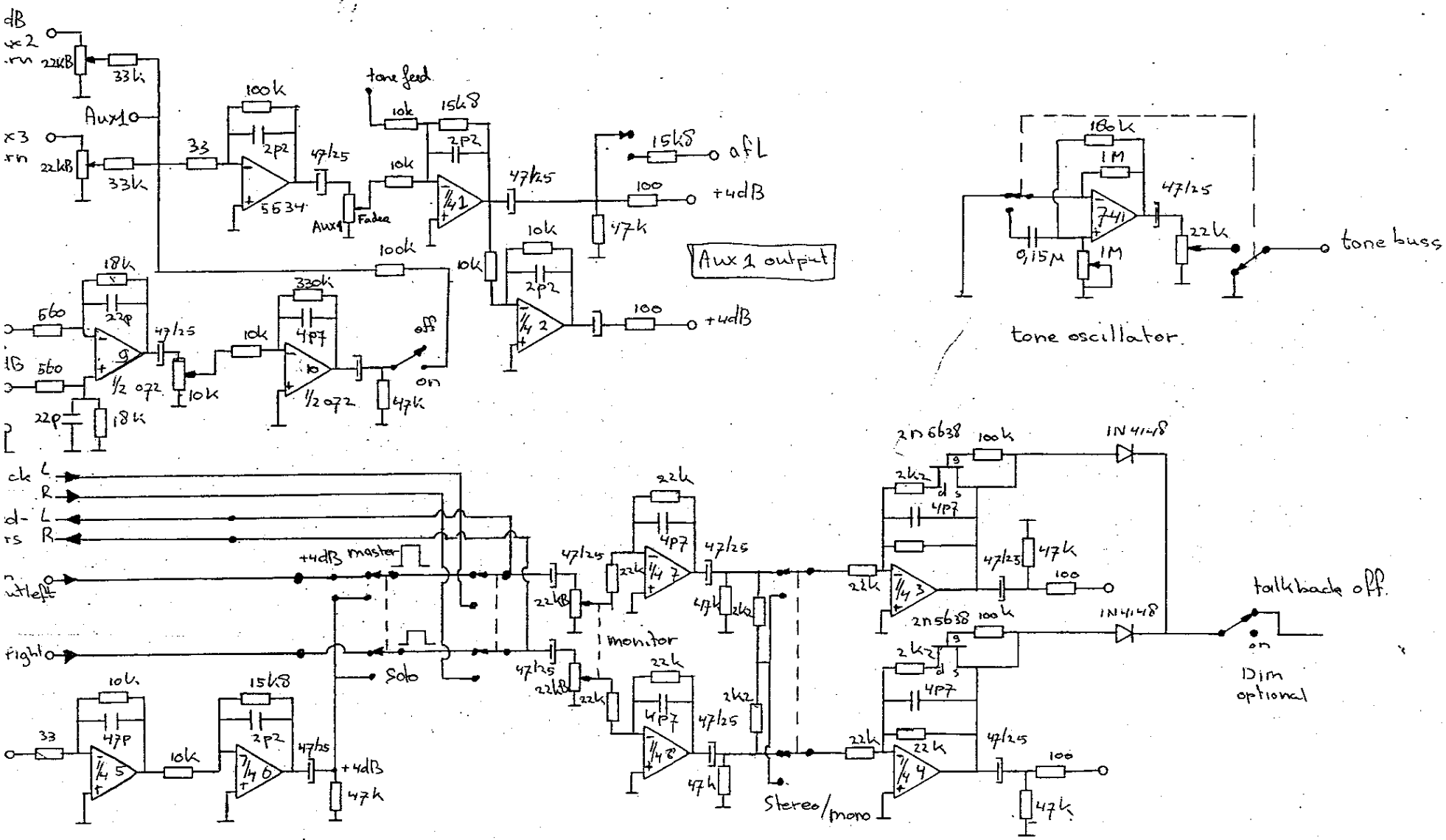
goo-2

group

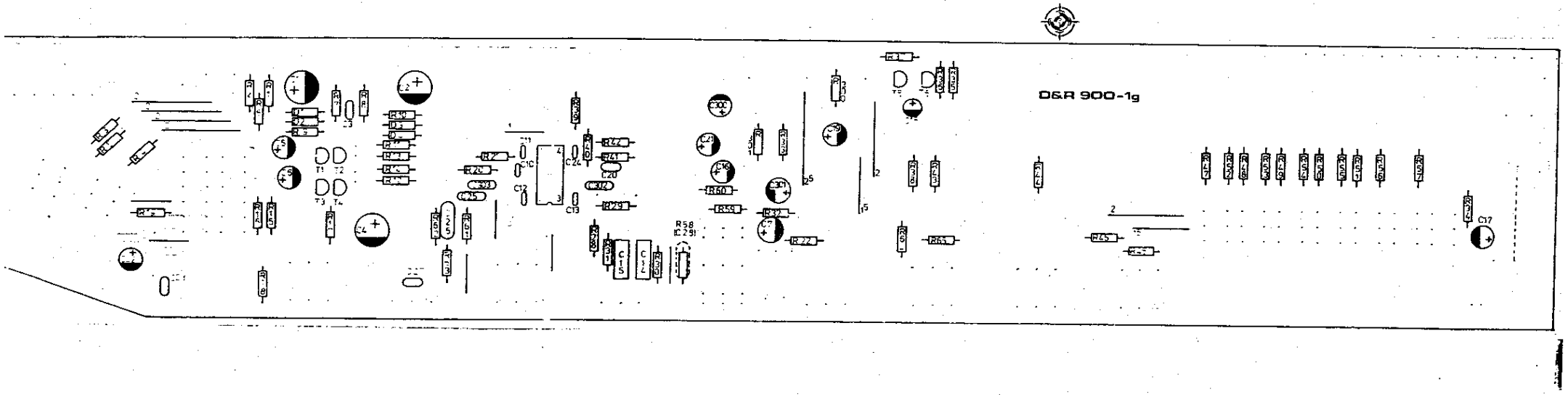


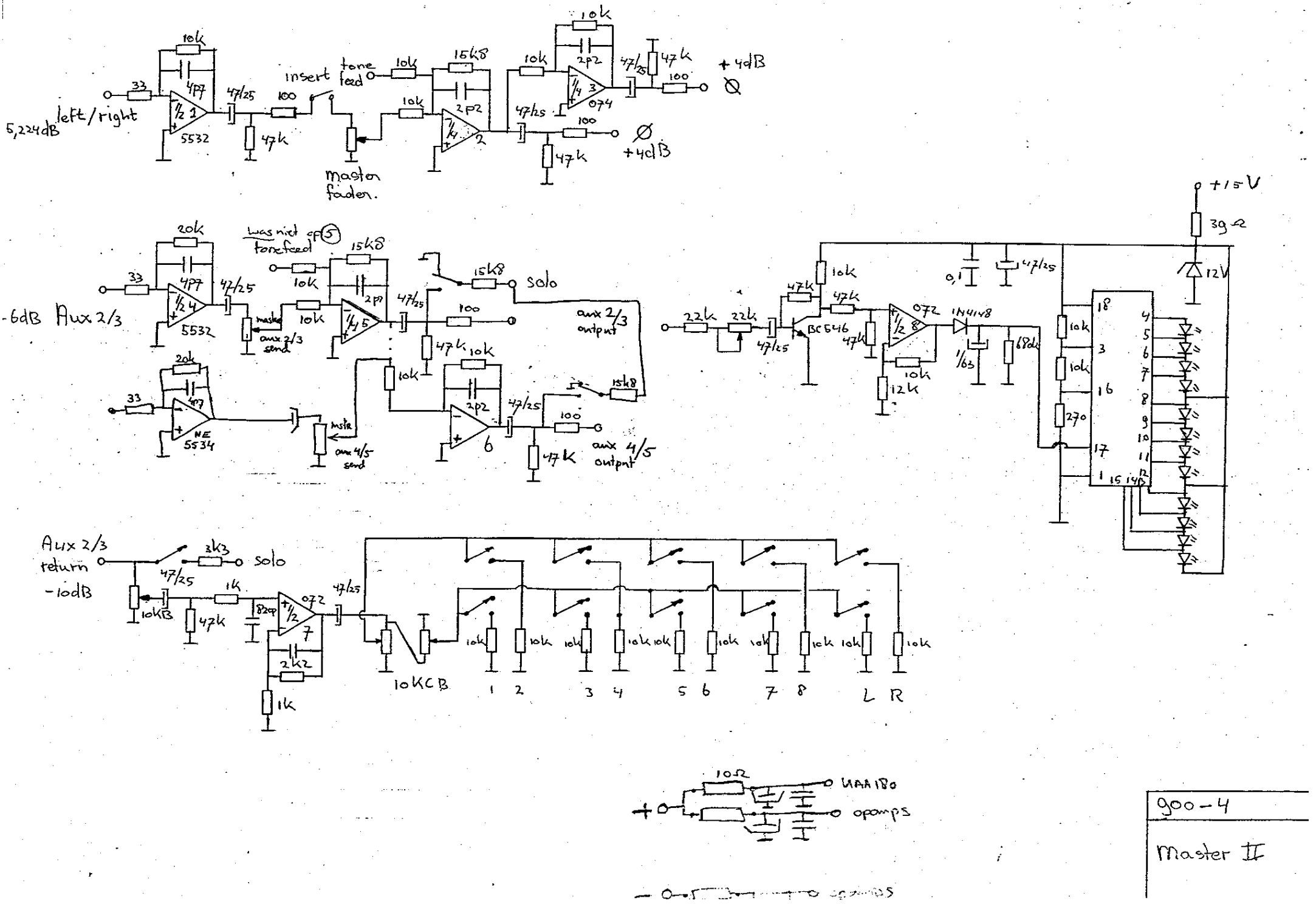
Draadbrug	**1cm**		**4x**
Draadbrug	**2,5cm**		**2x**
Weerstand	10	-	2x
Weerstand	33	-	1x
Weerstand	47	-	2x
Weerstand	100	-	1x
Weerstand	**150**		**1x**
Weerstand	270	-	1x
Weerstand	1k0	-	5x
Weerstand	2k2	-	3x
Weerstand	2k7	-	1x
Weerstand	8k2	-	2x
Weerstand	10k	-	11x
Weerstand	27k	-	1x
Weerstand	47k	-	3x
Weerstand	56k	-	1x
Weerstand	82k	-	1x
Weerst 1%	2k32	-	1x
Weerst 1%	15k8	-	3x

Cond 4o7	ker	-	2x
Cond 22p	ker	-	2x
Cond 270p	ker	-	2x
Cond 0,1/63v	ker	-	2x
BC 337		-	1x
BC 546	NPN	-	1x
Diode :N4148	sgn	-	1x
Zenerdiode 12v		-	1x
Ic TL 074	bifet	-	1x
Ic UAA 180	led12	-	1x
Ic voet 14 pins		-	1x
Ic voet 18 pins		-	1x
Inst.pot 22k	m	-	1x
Elco 4.7/63		-	1x
Elco 47/25		-	8x

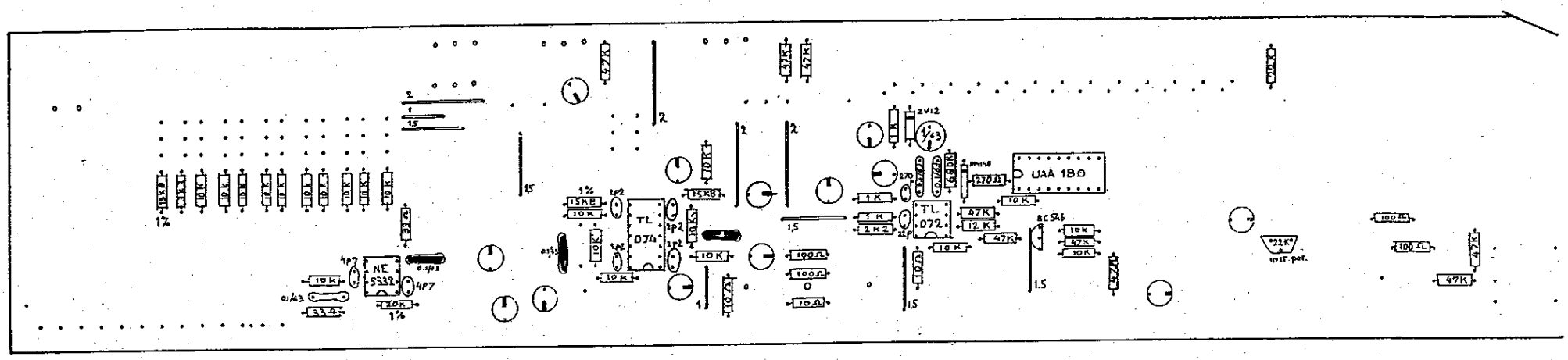


goo-3
Master I


D&R 900-1g

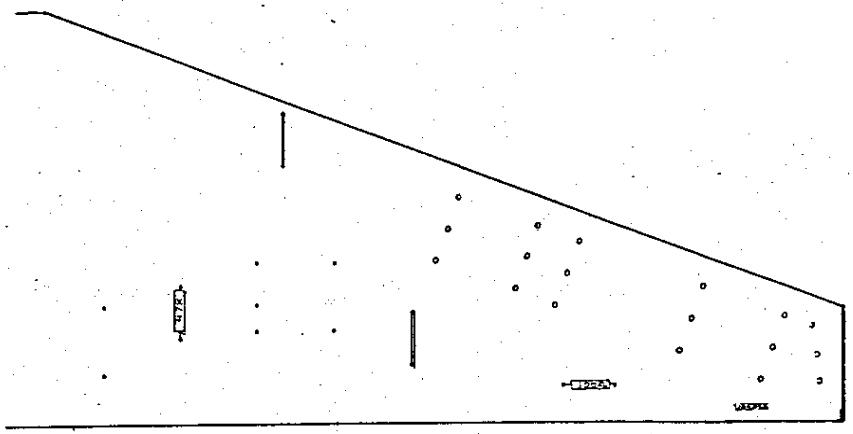


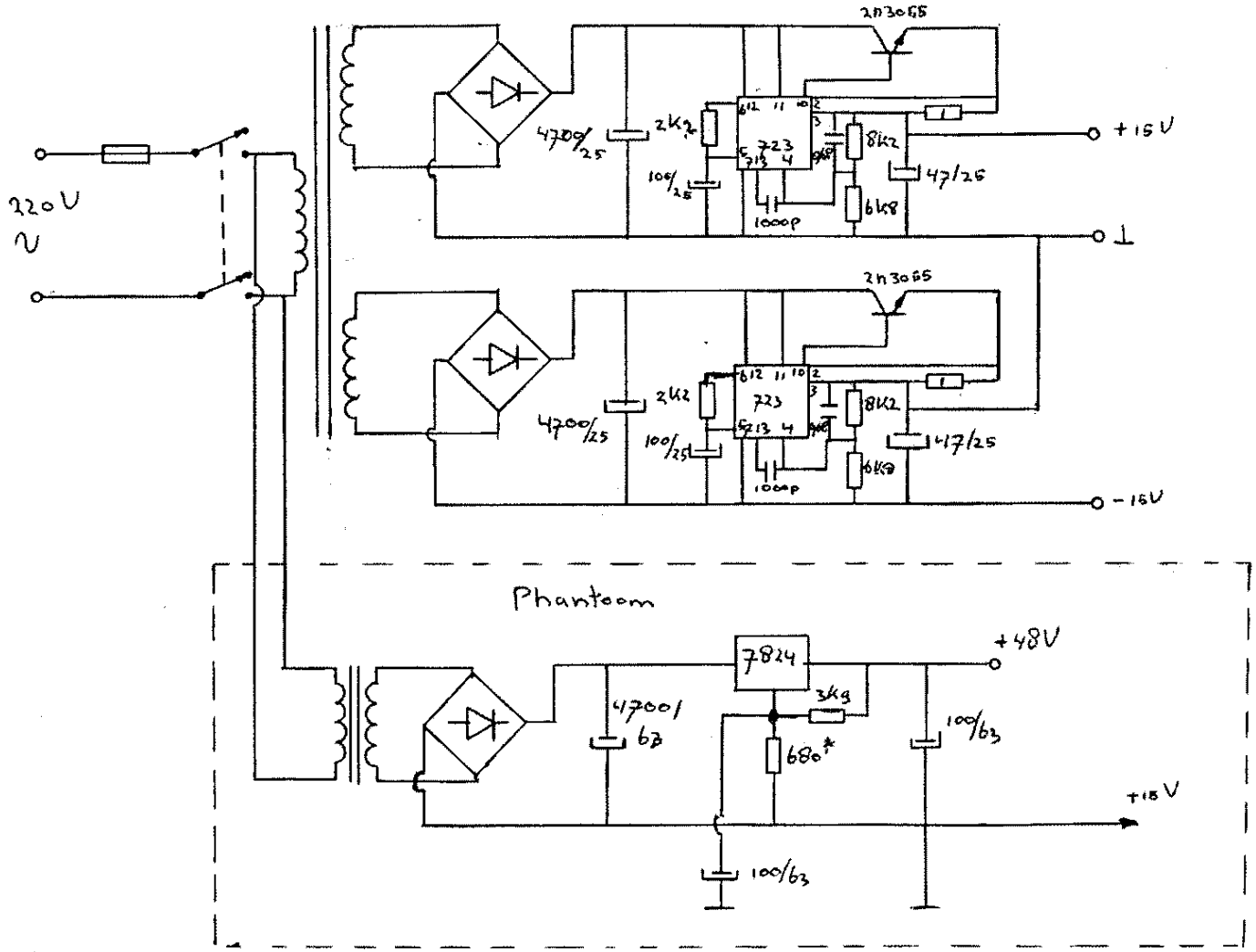
900-4
Master II



Draadbrug	1 cm.	4x
Draadbrug	1,5cm.	5x
Draadbrug	2 cm.	4x
Weerstand	10	3x
Weerstand	33	2x
Weerstand	47	1x
Weerstand	100	5x
Weerstand	270	1x
Weerstand	1k0	3x
Weerstand	2k2	1x
Weerstand	3k3	1x
Weerstand	10k	21x
Weerstand	12k	1x
Weerstand	22k	1x
Weerstand	47k	9x
Weerstand	680k	1x
Weerst 1%	15k8	3x
Weerst 1%	28k0	1x

Cond 2p2	ker	4x
Cond 4p7	ker	2x
Cond 22p	ker	1x
Cond 270p	ker	1x
Cond 0.1/63v	ker	4x
BC 546	NPN	1x
Diode 1N4148	sgn	1x
Zenerdiode 12v		1x
Ic TL 072	bifet	1x
Ic TL 074	bifet	1x
Ic NE 5532	lowns	1x
Ic UAA 180	led12	1x
Inst.pot 22k	m	1x
Ic voet 8 pins		2x
Ic voet 14 pins		1x
Ic voet 18 pins		1x
Elco 1/63		1x
Elco 47/25		13x

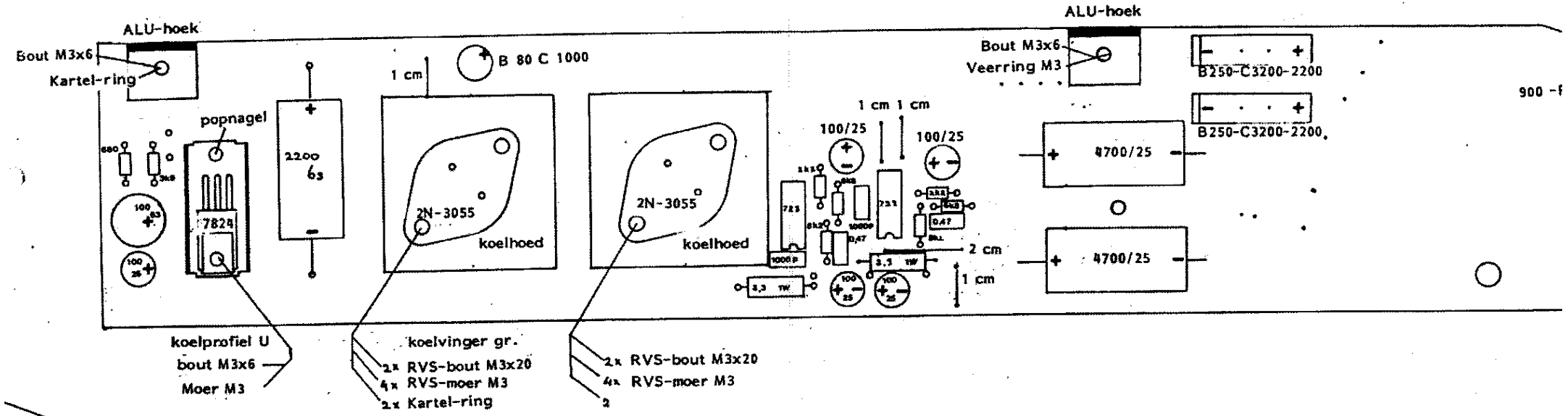


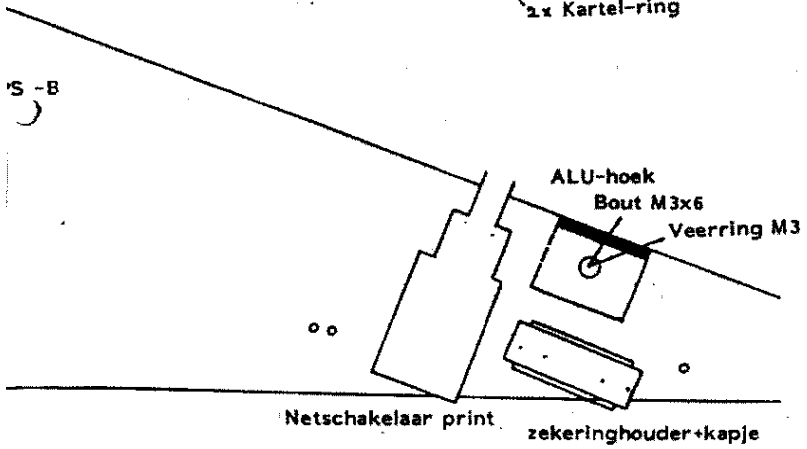


900-5

Power Supply

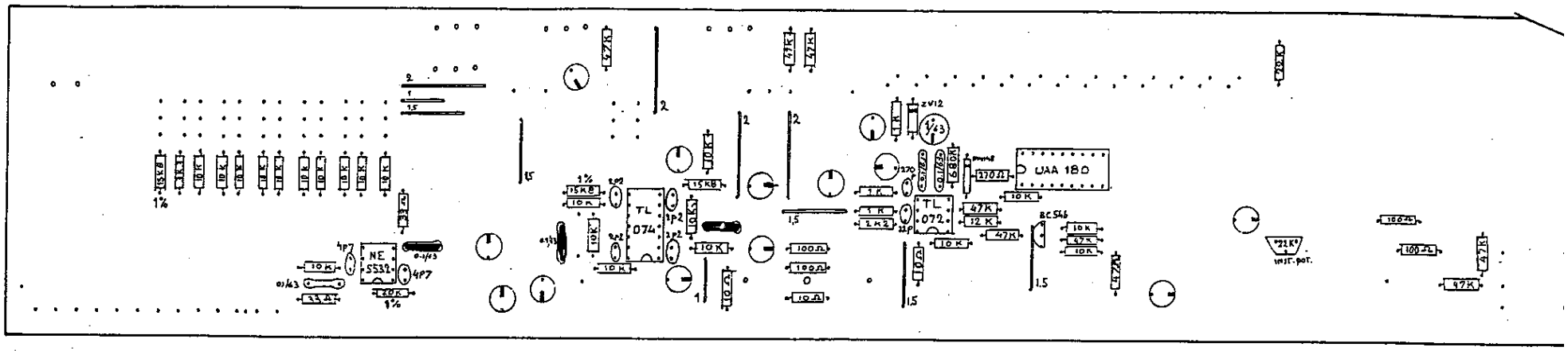
900 PS-b





	Draadbrug	1 cm		3
	"	2 cm		1
	Weerst 5%	2k2	-	2
	Weerst 5%	6k8	-	2
	Weerst 5%	8k2	-	2
	Cond 1000pF pol		-	2
	Cond 0.47 uF pol		-	2
	Elco 100 /25		-	4
	Elco 4700 /40ax		-	2
	Ic 723 var.reg		-	2
	2N 3055 power NPN		-	2
	Brugcel B250C3300		-	2
	Ic voet 14 pins		-	2
0406	- Schak.220V print		-	1

Bout M3x06 zwart	-	2
Kartelring M3	-	4
Zek.clips pri 2x	-	1
Zek.1 A slow	-	1
Koelprof hoed	-	2
Hoek ALU 20x15x2	-	3
Krimpkous4mm/2cm	-	7
Achterk. 900/084	-	2
Bout M3x20 RVS	-	4
Moer M3 RVS	-	8
Koelprof ving.gr	-	2



Draadbrug	1 cm.		4x
Draadbrug	1,5cm.		5x
Draadbrug	2 cm.		4x
Weerstand	10	-	3x
Weerstand	33	-	2x
Weerstand	47	-	1x
Weerstand	100	-	5x
Weerstand	270	-	1x
Weerstand	1k0	-	3x
Weerstand	2k2	-	1x
Weerstand	3k3	-	1x
Weerstand	10k	-	21x
Weerstand	12k	-	1x
Weerstand	22k	-	1x
Weerstand	47k	-	9x
Weerstand	680k	-	1x
Weerst 1%	15k8	-	3x
Weerst 1%	20k0	-	1x

Cond 2n2	ker	-	4x
Cond 4p7	ker	-	2x
Cond 22p	ker	-	1x
Cond 270p	ker	-	1x
Cond 0.1/63v	ker	-	4x
BC 546	NPN	-	1x
Diode 1N4148	sgn	-	1x
Zenerdiode 12v		-	1x
Ic TL 072	bifet	-	1x
Ic TL 074	bifet	-	1x
Ic NE 5532	lowns	-	1x
Ic UAA 180	led12	-	1x
Inst.pot 22k	m	-	1x
Ic voet 8 pins		-	2x
Ic voet 14 pins		-	1x
Ic voet 18 pins		-	1x
Elco 1/63.		-	1x
Elco 47/25		-	13x